Contact Center Anywhere Installation Guide

Version 8.1.1

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ORACLE

Contents

1 What's New in This Release

What's New in Contact Center Anywhere Installation Guide, Version 8.1.1

Table 1 lists New Product Features in the Contact Center Anywhere Installation Guide, Version 8.1.1.

Table 1. New Product Features in Contact Center Anywhere Installation Guide, Version 8.1.1

Topic	Description
Deploying CCA Web Applications on Oracle 10g Application Server (OAS 10g) on page 39.	You can now deploy CCA Web applications on an Oracle 10g Application Server.
To create a TNS name for the Oracle 9i database on Solaris 9/ Red Hat AS4 on page 24.	CCA now supports Red Hat Enterprise Linux AS4.
See the *Contact Center Anywhere Release Notes, Version 8.1.1* for dual database configuration instructions.	Dual database configuration for TCIP Bus.

2 CCA Overview and Requirements

This chapter describes the architecture overview of the CCA application and the software requirements to run a CCA system. It also describes a brief overview of the CCA installation procedures described in later chapters. This chapter includes the following topics:

CCA Architecture Overview

Contact Center Anywhere (CCA) is a multi-channel e-contact center solution. It is built on a carrier-grade architecture designed to address the concerns of unique provisioning, scalability, reliability, and economies of scale of Telcos and other service providers, who want to deploy hosted contact center technology in their networks.

Architecturally, CCA is split into four tiers, as shown in Figure 1.

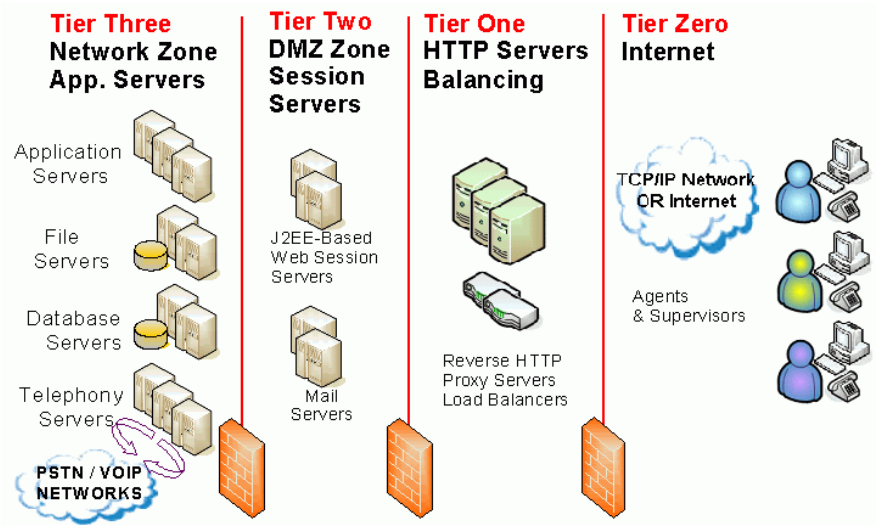

Figure 1. CCA Architecture Overview

Tier Zero

Tier Zero is also referred to as the *Internet Zone* or the *User Zone*. This is where agents, supervisors, and administrators reside along with their respective interfaces. There are several communication threads that connect CCA to these users. For example, there is a session established between their PCs, using their Web-based interface, and the Web servers in the Tier One and Tier Two Zones. This session is supported over HTTP typically using port 80 (or user defined), or its more secure cousin, HTTPS, typically using port 443 on the firewall. Likewise, chat communications flow over HTTP and emails travel based 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, making CCA easy to implement, install, and maintain.

Agents and supervisors are also connected to the platform by the telephony network (either PSTN or Voice Over IP). When customers' calls flow through the Telephony Servers in Tier Three from the network, a second call from one of Telephony Servers is placed to the appropriate agent and then they are patched together. Tier Zero of the architecture is where the CCA client applications reside and where connectivity to the *outside world* happens. Agents and the supervisors may be located wherever a broadband Internet connection or private network connection is available. This means Tier Zero extends into the home of remote agents.

Tier One

In reality, this is an optional tier that can be collapsed together into the Tier Two/DMZ zone. It shows how CCA fits into an overall multi-tiered communications infrastructure used by many companies. For example, many companies with distributed users and multiple sites, use a set of HTTP servers as the user interface to their DMZ zone, where various Web-based session servers reside. There are two reasons for doing this; namely load balancing and HTTP caching.

The interface handling and caching is 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 HTTP servers is not part of the traditional CCA implementation, but usually exists in larger corporate environments.

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

- Balancing the HTTP stream traffic amongst multiple HTTP.J2EE servers,
- Off-loading of HTTPS-to-HTTP de-encryption (SSL encryption), and
- Failover functions of re-directing HTTPS sessions from one HTTP/J2EE server to another.

CCA works with the Cisco CSS11500 content switch, which offers these three load balancing functions. Other gear may work as long as a persistent or sticky session from the Load Balancer can be maintained for each HTTP/J2EE server, but these are not certified.

Tier Two

This is where CCA's J2EE-based session servers live. A traditional firewall implementation in most corporate networks includes a DMZ zone to provide maximum security. DMZ access is based on rules set up by a security administrator, who dictates what communications are allowed through the DMZ zone to the internal Network Zone. CCA is engineered to work properly within this structure.

Client applications access the J2EE Web Session Server(s) supporting CCA using the standard port 80 for HTTP or port 443 for HTTPS. The J2EE Web Session Servers then request data and services from the application servers (in Tier Three/Network Zone) using port 9001 on the Company LAN. This traffic can be limited, using a firewall, to only accept traffic on that port from the specific Web server. No traffic is ever given the ability to directly reach the corporate data or application servers directly.

One of the most critical components of the CCA application is the J2EE Web Session Server. Located in the Tier Two/DMZ Zone, the J2EE Web Session Server handles all requests from all users and customers located in the Tier Zero/Internet & User Zone. These J2EE Web Session Servers handle dynamic information and act as the main entry to the system.

J2EE Web Session Servers are hosted in a standard computer. These standard computers run four types of software:

- Off-the-shelf Web Server software, such as Oracle Web Session Server or BEA Systems WebLogic
- CCA Application JSP pages
- Servlets and other connectivity software, such as FTP and JDBC software

- A Web services library and interpretive layer. The Web Services interpretive layer acts as a standard interface to the CCA 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. These serve all customers reports and extract data from secondary databases.

The Tier Two/DMZ zone is also a typical zone to house corporate mail servers. These corporate mail servers are not part of the CCA architecture per se, but they interface to CCA to facilitate unified messaging and identifying ACD Email projects.

In some cases, additional physical servers may be placed in the Tier Three/Network Zone to act as Email proxy servers. Do this when corporate Email servers use IMAP/4 protocols are in the Tier Two/DMZ zone. The Email Proxies in the Tier Three/Network Zone perform protocol conversion duties (POP3/SMTP-to-IMAP/4).

Tier Three

The Tier Three, which is also called the *Network Zone*, is where the Application Servers, File Servers, Database Servers, and Telephony Servers reside. The CCA application servers can be classified into separate functional areas or Resources. Each CCA resource is responsible for delivering specific functionality. CCA uses two types of resources in Tier Three; *Shared Resources* and *Dedicated Resource*s.

- *Shared Resources* are common system resources that are used systemwide. 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 it defaults as a shared resource, it is possible to configure a Call Center Server to be used for only one company and to have still other Call Center Servers configured in the same system as shared.
- *Dedicated Resources* are company-specific resources. These dedicated resources use private data that can only be accessed by one company. This is part of CCA's partitioning and data security schema. For example, the ACD Server holds all of the routing rules for Company A. Therefore, it would not be used for Company B. So, Company B has its own, dedicated ACD Server running on its behalf. 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 may have 18 ACD Servers (each for its own 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, the system can be configured to allow each department or line of business to be set up as individual companies.

Software Requirements

Before installing CCA, verify that each software listed in Table 2 is installed on your system.

Table 2. Software Requirements

Item	Requirement
Operating system	One of the following operating system versions: ■ 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
Database server	One of the following database servers: ■ Microsoft SQL Server 2005 Service Pack 3 ■ Oracle 9i Database Server ■ Oracle 10g Database Server
Web server	One of the following Web servers: ■ Sun One ■ Oracle Application Server 10g Release 3. ■ BEA WebLogic 8.1 Service Pack 5.
Client Web browser	One of the following Web browser: ■ Microsoft Internet Explorer 6. ■ Microsoft Internet Explorer 7. ■ Firefox

Table 2. Software Requirements

Item	Requirement
Others	The following softwares must be installed: ■ Sun Java JDK 1.4.2_13 installed on Web server. ■ Sun Java JRE 1.5.0 Update 10 installed on client PC, where Web browser is launches CCA. ■ FTP 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.
Optional tools	■ A media player on 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. ■ SNMP client to receive traps generated by CCA SNMP agent. ■ Converter for wav-to-mp3 installed on the same host with FTP server to run MP3 server.

CCA Installation Overview

The CCA installation process consists of following phases:

- Installing Required Software
- Configuring Database for CCA

  Refer to Chapter 3, which describes how to create database or upgrade an existing database for CCA.
- Installing CCA Server Components

  Refer to Chapter 4, which describes how to install and configure all server resources residing at Tier Three and are CCA requirements.
- Configuring Web Server

  Refer to Chapter 5, which describes how to deploy CCA Web applications on WebLogic 8.1 SP5 and Oracle Application Server 10g Release 3.
- Getting Started With CCA

  Refer to Chapter 6, which describes how to launch and verify a successful installation.

Installing Required Software

Before installing CCA, make sure that all required software listed in "Software Requirements" on page 10 is installed. Table 3 provides reference links to some software required by CCA.

Table 3. Some Required Software Reference Links

Software	Reference Link
Microsoft SQL Server 2000 and 2005	http://support.microsoft.com/kb/303747 http://support.microsoft.com/ph/2855
Oracle 9i Database	http://www.oracle.com/technology/documentation/oracle9i.html
Oracle 10g Database	http://www.oracle.com/technology/pub/articles/smiley_10gdb_install.html
WebLogic 8.1	http://e-docs.bea.com/platform/docs81/install/index.html
Oracle 10g Application Server	http://www.oracle.com/technology/pub/articles/smiley-as10gr3-install.html

3 Configuring the Database

This chapter describes how to create a new database or upgrade an existing database previously used by Contact Center Anywhere. It includes the following topics:

Database Configuration Options

Before installing Version 8.1.1, choose whether to create a new database or upgrade an existing database used by previous CCA versions. When installing a new CCA system, first create a new database. If a previous version of CCA is running and you want to upgrade it to Version 8.1.1, then choose upgrade.

CCA provides three different character sets for your system and you can choose one of them when creating a new database: Latin, Japanese, and Chinese. This guide uses Latin.

This installation guide uses two database servers; Oracle Database Server 9i and Micosoft SQL Server 2000.

NOTE: Before configuring database for CCA, make sure Sun Java JDK 1.4.2_13 is installed on the host used to run the database scripts.

Configuring an Oracle 9i Database for CCA

In the CCA installation package, find the *Database* directory. It has two sub directories; *Oracle* and *SQL Server*. The Oracle directory contains scripts to configure a database on an Oracle database server. The the SQL Server directory is reserved for a Microsoft SQL Server. Each directory has two sub directories; *Automated* and *Patch*. CCA uses Automated when creating a new database and Patch when upgrading an existing database.

To create a new Oracle 9i database

Follow these steps to create a new Oracle 9i database for use with CCA:

1. Copy the database\Oracle\Automated directory from the CCA installation package to the host running database creation scripts.

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

NOTE: Keep the quotation marks (‘’) surrounding the parameters’ value.

- Replace &1 with the password of the sys user.
- Replace &2 with the name of the connection to the database server saved in the tnsnames.ora file. Typically, the tnsnames.ora file resides in `ORACLE_HOME\network\admin`.
- Replace &3 with the name of the table space that will contain all database tables.
- Replace &4 with the path to the location where table space will be created. For example, `C:\oracle\oradata\oracle\twcc81.ora`.
- Replace &5 with the size of the table space. The default size is 500MB.

  NOTE: This value is not a limitation. Furthermore, the database can grow larger than 500MB.
- Replace &6 with the name of the temporary table space that contains temporary data. Temporary data occurs, for example, when executing a complex SELECT statement.
- Replace &7 with the path to the location where the temporary table space will be created. For example, `C:\oracle\oradata\oracle\twcc81tmp.ora`.
- Replace &8 with the size of the temporary table space. The default size is 50MB.
- Replace &9 with the growth size of the temporary table space. The default size is 10MB.
- Replace &10 with the name of the database role that will be created.
- Replace &11 with the user name of the user who has administration privileges on the new database. For example, `admincc811`.
- Replace &12 with the password of user declared in parameter &11.
- Replace &13 with the user name of user who has access to the CCA database. For example, `cc811`.
- Replace &14 with the password of user declared in parameter &13.
- Replace &15 with the database service name (SID).
- Replace &16 with the host name or IP address of the database server.

- Replace &17 with the port that the Oracle 9i database server uses to listen for a new connection. The default port is 1521. If your Oracle 9i database server uses a different port, you must change this default value.

After editing the script file, it returns the following:

```
--  &1 - sys password                sys_password
--  &2 - Database TNS Name           my_db_connection
--  &3 - TWTableSpace                CCA db Table Space
--  &4 - PathTableSpace              Path for the TAW Table Space
--  &5 - TableSpaceSize              500M Initial size of the Table Space
--  &6 - TWTableSpaceTemp            TAW Temporary Table Space
--  &7 - PathTableSpaceTemp          Path for the TAW Temporary Table Space
--  &8 - TableSpaceTempSize          50M Initial size of the Temporary Table Space
--  &9 - TableSpaceTempGrowthSize    10M Temporary Table Space Growtrh 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       Used by the JDBC Connection
-- &16 - Database Hostname           db Hostname --> Use by the JDBC Connection
-- &17 - Database Port Number        db port number --> Use by the JDBC Connection

@CreateDatabase.sql 'syspassword' '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 <buildtype#>
```

3. Open the command line window and type cd to change to the directory containing the UseMe.sql file.
4. Open the Sql Plus console by typing: `sqlplus /nolog`
5. From the Sql Plus command prompt, to run the script file, type `@UseMe.sql`.
6. After the script file completes, check for errors in all of the newly created log files.

To upgrade an older Oracle 9i database for CCA

Follow these steps to upgrade an older Oracle 9i database for CCA:

1. From the installation package, copy the Patch folder for the Oracle 9i Database Server to the host running the database scripts. For example, C:\CCA\database\Oracle\Patch.

2 Use the following guidelines to edit the UseMe_upgrade.sql file (located in the Patch folder) to include the information for upgrading the database:

NOTE: Retain the quotation marks ('') surrounding the parameters' values.

- Replace &1 with the user name of the administrator who owns all the objects (tables, views, indexes, and so on) in the database to be upgraded.
- Replace &2 with the password of the administrator used in previous &1 parameter.
- Replace &3 with the name of the database user the current CCA system uses to access the database.
- Replace &4 with the password of the user used in parameter &3.
- Replace &5 with the database TNS name of the database server.
- Replace &6 with the host name of the database server.
- Replace &7 with the database service name (SID).
- Replace &8 with the listening port of the database server. By default, the Oracle 9i database server listens on port 1521.

After editing the script file, it will return the following:

```
-- &1 - Admin User Username
-- &2 - Admin User Password
-- &3 - CCA db User Username
-- &4 - CCA db User Password
-- &5 - database TNS Name
-- &6 - database hostname
-- &7 - Database Service Name
-- &8 - Database Port Number

@upgrade.sql 'admincc81' 'admincc81' 'cc81' 'cc81' 'oracle' 'support-db' 'cc81' 1521
<buildtype#>
```

3 Open a command line window, type cd, and navigate to the Patch folder.

4 At the command line, open the Sql Plus console by typing `sqlplus /nolog`.

5 At the Sql Plus console, type `@UseMe_upgrade.sql`

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

To create a new database on the MS SQL Server 2000

Follow these steps to create a new MS SQL Server database for use with CCA:

1 From the installation package, copy the Automated directory for the SQL Server to the host running the database scripts. For example, `C:\CCA\database\Sql Server\Automated`.

2 Follow these guidelines to edit the useMe70LatinLanguage.bat file batch to include information for creating the database:

NOTE: If you are installing the Chinese and Japanese languages, use their respective batch files.

- Replace %1 with the host name of the database server.
- Replace %2 with the sa user name. Typically, sa is the default.
- Replace %3 with the password for the sa user.
- Replace %4 with the path to the location where the database files will be created.
- Replace %5 with the database name for CCA. Typically, the default is cc81.
- Replace %6 with the name of the user who will be created, and has access to the database. CCA uses this value to access the database. Typically, the default is cc81.
- Replace %7 with the password you will provide to the user defined in the previous parameter.
- Replace %8 with the port used by the MS SQL Server to listen for new connections. By default, the MS SQL Server listens on port 1433.
- Keep the -remoteDatabase flag False.
- Replace %10 with the language to use. Latin is the default.

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 <database Encoding, default American English, "Japanese_CI_AI" for
Japanese,"Chinese_PRC_Stroke_CI_AI" for Chinese>

java -jar DatabasePopulation.jar -hostname=support-db -username=cc81 -password=cc81
-databasePortNumber=1433 -databaseName=cc81 -saUsername=sa -saPassword=sa -
dbPath=C:\databases -remoteDatabase=false

echo on
```

3 Open a command prompt and run the useMe70LatinLanguage.bat batch file.

4 After the batch file completes, check the newly create log files for errors.

To upgrade the database on the MS SQL Server 2000

Follow these steps to upgrade an older Microsoft SQL Server database for CCA:

1 From the installation package, copy the Patch directory for the MS SQL Server to the host running the database scripts. For example, `C:\CCA\database\Sql Server\Patch`.

2 Use the following guidelines to edit the runmePatch.bat batch file to include information for upgrading the database:

NOTE: For Chinese and Japanese languages, use their respective batch files.

- Replace %1 with the host name of the database server.
- Replace %2 with the sa username. By default, it is sa.
- Replace %3 with the password for the sa user.
- Replace %4 with the name of the CCA database being upgraded.
- Replace %5 with the name of the user who has access to the CCA database being upgraded.
- Replace %6 with the password of the user declared in the previous parameter.
- Replace %7 with the port number used by the MS SQL Server to listen for new connections. By default, the MS SQL Server uses port 1433.

After editing the batch file, it will return the following:

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

rem %2 <The admin users, which is normally sa>

rem %3 <The password for the admin user>

rem %4  <The database name>

rem %5  <CCA db username>

rem %6 <CCA dbpassword>

rem %7 <Database Port Number>  (The sql server default uses 1433.)

rem %8  <flag is Upgrade>

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

echo on
```

3 Open a command line window and run the batch file.

4 After the batch file completes running, check all newly created log files created for errors.

4 Installing CCA Server Components

This chapter describes how to install server components for Contact Center Anywhere. It includes the following topics:

Creating Database Connection to the Application Server

The CCA application server can be classified into separate functional areas or Resources. Each CCA resource is responsible for delivering specific functionality. For example, the *Call Center* resource manages all of the phone call functionality.

You must create a database connection for CCA. The Network Manager and all resources use this database connection to connect to the database and load CCA configuration data. This section describes how to create the database connection using the MS SQL Server 2000 and Oracle 9i on MS Windows 2003 and Solaris 9/Red Hat Enterprise Linux AS4. It includes the following cases:

To create an ODBC data source for the Oracle 9i database

1. From the Windows Start menu, navigate to Programs > Administrative Tools > Data Sources (ODBC).
2. From the ODBC System Administrator System DSN tab, click Add.
3. Select Oracle in OraHome92 from the list and click Finish.

   NOTE: If this option is not available, install Oracle 9i Client Tools.

4 In the Wizard dialog boxes, provide the information in Table 4 and click Next, where appropriate.

Table 4. ODBC data source settings for Oracle 9i Database

Field	Description	Comments
Data Source Name	The name of the data source.	The name cannot include spaces and should be similar to your DB name.
Description	A description of the data source.	For example: Contact Center Anywhere V8.1 Data Source Name
TNS Service Name	The TNS name containing the connection to the database server.	For example: support-db
UserID	The name of Oracle 9i database user. **TIP:** Refer to parameter &13 in database creation script file described in "To create a new Oracle 9i database" on page 15.	For example: cc81

5 Click Test Connection, to verify that the connection is correct.

6 Click OK.

To create a TNS name for the Oracle 9i database on Solaris 9/Red Hat AS4

NOTE: Install the Oracle 9i Client Tool on servers running CCA resources.

1 On the server running CCA resources, edit the tnsnames.ora file to point to the Oracle 9i database server. Typically, this file resides in ORACLE_HOME/network/admin. For example, if your database server is support-db, where SID = oracle, then add this record in the tnsnames.ora file:

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

To create an ODBC data source for the MS SQL server database

1. From the Windows Start menu, navigate to Programs > Administrative Tools > 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 information in Table 5, and click Next, where appropriate.

Table 5. ODBC Data Source Settings for SQL Server

Field	Description	Comments
Name	The name of the data source.	The name cannot include spaces and should be similar to your DB name.
Description	The description of the data source.	For example: Contact Center Anywhere V8.1 Data Source Name
Server	The SQL Server to connect.	For example: support-db
Login	Select the option that specifies the method 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 up 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 CCA database.	For example: cc81
Client Configuration	Confirm that the Client Configuration selection is set for TCP/IP and not for Named Pipes.	

5. Click Next until you get to the last screen and then click Finish.
6. Test the Data Source.

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

Installing CCA Application Files

Follow these steps to install the CCA application server files:

To install CCA application files

1. Create a directory for CCA application files. For example: `C:\ccanywhere` (on Ms Windows) or `/usr/ccanywhere` (on Solaris/Linux).
2. From the CCA installation package, copy the CCA servers directory to the directory that is created in previous step. Verify that the following sub directories exist in the CCA directory:
   - bin
   - lib (only on Solaris/Linux)
   - prompt
   - log
   - tmp
   - Network Manager
3. Add the path to the location of bin directory in CCA directory created in step 1 to your PATH environment variable.
   a. On the desktop, right-click My Computer and select Properties.
   b. Select the Advanced tab and then click Environment Variables.
   c. Select the variable PATH, click Edit, and then add the CCA directory (for example, `c:\ccanywhere\bin`) to the path.

   CAUTION: Make sure type a semicolon(;) before making a new entry.

   For UNIX, you must put both the `ccanywhere/bin` and the `ccanywhere/lib` path in the system environment PATH and LD_LIBRARY_PATH. You can put them in 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=${PATH}:/usr/bin:/usr/ccs/bin:/etc:/opt/sfw/bin:/space/oracle/oracle/bin:/usr/
local/bin:/usr/sbin:/sbin:/space/j2sdk1.4.2_13/bin:/space/j2sdk1.4.2_13/jre/
bin:$CCA_INSTALL_PATH/bin:$CCA_INSTALL_PATH/lib; export PATH

MANPATH=${MANPATH}:/usr/share/man:/usr/local/man:$CCA_INSTALL_PATH;export MANPATH

ulimit -n 4048
```

   NOTE: On Solaris/Linux, for security reasons, do not use a root account to run CCA resources. Create another user account to run CCA resources. Do not forget to change the owner of the CCA directory to the user running CCA resources. Assign write and execute permissions for this directory.

Installing the TCPIP Bus

The CCA application server uses the TCPIP Bus connection to communicate across its resources. This is a critical part of the application. You must install the TCPIP Bus as a service on each host that runs the CCA application server.

To install the TCPIP Bus on MS Windows

1. Open a command line window (Run cmd).
2. From the command line prompt, change current directory to the CCA bin directory. By changing the current working directory to CCA bin directory, you can execute CCA server files without specifying the absolute path to those files.

   For example: `C:\ccanywhere\bin`
3. Install the TCPIP Bus service.
   a. Run: `"tcpipbus -?"` to display its usage:

      Usage: `tcpipbus.exe [-install | -remove | -debug] -aup`

      `-install` (To install TCPIP Bus as a windows service and save the parameter into the registry)

      `-remove` (To remove TCPIP Bus from windows service manager)

      `-debug` (To run TCPIP Bus on the console mode)

      `-a<`*`Database alias`*`>` (Use when creating the ODBC entry)

      `-u<`*`Database user`*`>` (Use when creating the ODBC entry)

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

      NOTE: Make sure that there is no space after -a and -u.

      NOTE: If you are using Oracle 9i Database server, then the database alias and database user must be the same as the information used to create the database connection in "To create an ODBC data source for the Oracle 9i database" on page 23.
4. A prompt appears requesting the ODBC connection password. (The system saves this password in an encrypted format in the Windows registry.)
5. After installing the TCPIP Bus, a registry entry named Telephony@Work TCPIP Bus is created in the Windows registry.

NOTE: In a multi-machine environment, you must install the same TCPIP Bus configuration setup on each machine running CCA resources. You do not need to install a TCPIP Bus for a Web server or Database server.

To install the TCPIP Bus on Solaris/Linux

1. Verify that the LD_LIBRARY_PATH variable includes the path to the location of CCA library directory.

2 Open a terminal, type cd, and navigate to CCA bin directory.

3 Run this command: `tcpipbus -install -aTNSAlias -uDBUuser`

TNSAlias: This is the TNS name saved in tnsname.ora file. This ***must*** match the name you used to create the database connection in "To create a TNS name for the Oracle 9i database on Solaris 9/Red Hat AS4" on page 24.

DBUser: The database user CCA uses. Refer to parameter &13 in "To create a new Oracle 9i database" on page 15.

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

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

6 Change the owner of taw_tcpip_bus.cfg file to the user name used to run CCA server resources, and assign write permission.

CAUTION: Do not start the TCPIP Bus after it finishes installing. You must first add a Host Manager.

7 Add a Host Manager, refer to "Configuring CCA Resources" on page 28.

Configuring CCA Resources

This section describes how to add and run all resources required by CCA using the Network Manager. This section covers the following topics:

Using the Network Manager to Manage CCA Resources

Use the Network Manager to configure, start, and stop CCA resources.

To use the Network Manager to manage CCA resources

TIP: Create a desktop shortcut to the CCA Network Manager, which is typically installed in the CCA\NetworkManager directory, such as C:\ccanywhere\NetworkManager.

1 From the Network Manager directory (such as `C:\ccanywhere\NetworkManager`) run NetworkManager81.exe.

2 Log in using the information you specified during ODBC setup. For example:

Alias = cc81

User = cc81

Password = cc81

NOTE: If you need log files, such as when experiencing problems while running a service, log\NetworkManager.log must already exist.

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

Alias = cc81

User = cc81

Password = cc81

Driver = SQL (if you are using Oracle 91 database, select the Oracle option)

4 From the System tab, which specifies values used for FTP connection, complete the fields and then click OK:

Server Host: FTP server name or IP address.

Server Root Path: Path to the location on the FTP server where CCA will place files. (Use '/' to access the root directory of FTP server.)

File size limit (kb): The maximum size of a file that CCA can put in the FTP server in kilobytes.

Ftp Username: The FTP user name.

Ftp Password: The FTP user's password.

Adding Shared and Dedicated Server Resources

Before adding any resources, add the Host Manager. Each server running CCA resources requires a running Host Manager. The Host Manager creates directories specific to the server it is running for storing and retrieving voice files, greetings, chat, email history, and so on. The Host Manager also assists in the FTP process by helping other resources upload and download required files from the FTP server to the server it is running.

To add shared and dedicated server resources

Add the Host Manager resource using the Add Host Manager dialog box, which automatically appears after completing the system configuration settings.

1 From the Add Host Manager dialog box, enter the machine name to add as a host of the services.

2 Complete the remaining fields in the dialog:

- Host: The host name of server where the Host Manager will be running.

  CAUTION: Do not use 'localhost'.

- Port: Click Suggest.
- Home Directory: The path to the CCA directory, such as `C:\ccanywhere`.
- Location: This is the logical location.
- (Optional) If you are using email, select the Create Library Email check box.
- Select the Create Lib Fax and Prompt check box and then select Dialogic from the right combo box.
- Log Size (kb): 12000
- Number of Logs: 1 - 10
- Trace Level: This is the detail level of the log files generated by Host Manager resource. A valid value is 1, 2, 3, 4, or 5 (where 1 is lowest and 5 is highest).

3. Click Save. The Default Resources dialog box appears, from which you can add all other resources, or you can add them one-by-one later, as described in "If you do not add resources using the Default Resources dialog box, you can use Network Manager to add them." on page 30.
4. From the Default Resources dialog box, Shared tab, select the shared resources you need (according to your server) and click Save. You can select from the following shared resources:
   - Call Center Server
   - Unified Messenger
   - CTI Bridge (for ATM configurations only)
   - Com Switch Manager
   - MCU Server
   - SNMP Agent
   - License Server
   - Redirect Server
5. From the Default Resources dialog box, Dedicated tab, add dedicated resources.
   a. From the drop-down list, select the company to which you will add resources. By default, a company named *ASP Services* already exists. (This company is automatically created when creating the database.)
   b. Select the check box for each dedicated resource to add.

      NOTE: If you do not want to add dedicated resources now, click Save, and add them later.

   c. Click Save.

If you do not add resources using the Default Resources dialog box, you can use Network Manager to add them.

6 Click View by Host (Figure 2) open the Host View.

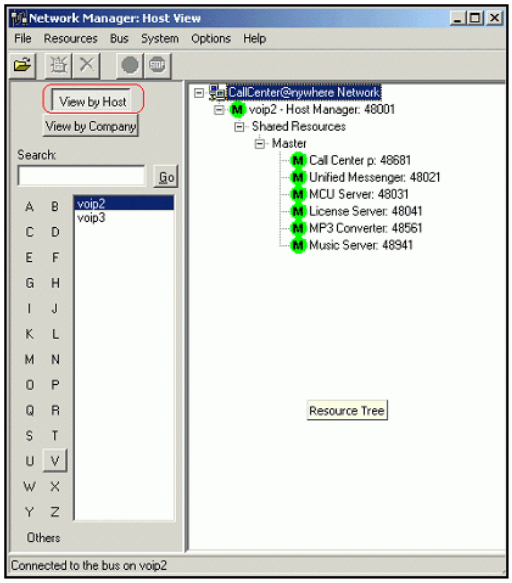

Figure 2. Network Manager - Host view

7 To add a dedicated resource, click View by Company.

8 From the Resources menu, choose Add Resource.

9 In the Add New Server dialog box, complete the following fields:

- Host: Select the computer on which the resource will be loaded.
- Resource ID: This is a numeric, sequential identifier for the resource. (It is automatically assigned when the resource is created.)
- Port: The IP port the resource uses for TCPIP Bus messaging.
- Resource Type: The type of resource to configure.
- Dedicated: If this check box is checked, then the resource is assigned to a single company. If left unchecked, then the resource is available to all companies.
- Resource Mode: Set this to Master or Backup.
- Company: Use only when Dedicated is checked, to identify the company.
- Trace Level: The level of detail written to the logs (where 1 is lowest and 5 is highest).

10 Click Save to add another resource.

Configuring Resources Using Network Manager

Some resources require additional configuration after begin added. These resources include the following:

To configure the Call Center Resource

The Call Center resource serves as the interface between the telephony server resources and the rest of the system. It is responsible for controlling all voice and fax communications as well as IVR routing capabilities. Follow these steps to configure a basic VoIP Call Center resource:

1. From Network Manager, choose the Call Center resource to modify.
2. From the Resources menu, choose 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 configuration, and use the information in Table 6 to complete the fields.

Table 6. Call Center Configuration

Field	Comments
Hardware	Select TAW-VoIP.
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 you require connections to an external PBX.
ANI Validation Size	This value depends upon the country. Typically, for the United States, it is 10.
Auto Answer Call	If not checked, the system rejects calls for undefined projects. If checked, the Call Center accept calls for undefined projects and plays a prompt that the service is unavailable.
Country Code	In the United States, this value is 1.
Nation Prefix	In the United States, this value is 1.1 in US.
Int Prefix	In the United States, this value is 011.
Private Prefix	Leave blank.
Strip Country Code (check box)	Typically, check to remove the country code.

Table 6. Call Center Configuration

Field	Comments
Local Patterns	Set to route calls to a specific call center, to reduce long distance charges.
Dial Plan Group	Use to route calls through specific call centers.
Description	A description of the call center's setup.

6 Click Save and then Configure.

7 From the VoIP dialog box, use the information in Table 7 to complete the fields.

Table 7. VoIP Interface General Configuration

Field	Comments
Host	The IP address of the Call center host. **CAUTION:** If this value is incorrect, one-way audio will result.
Start Port	The Call Center uses a range of ports to pass calls. This is the starting port in that range. Typically, the value is 8000.
Payload	MuLaw is the typical choice. G729 requires a special configuration.
Frame Per Second	This value is always 160.
Sip Port	5060

8 From the VoIP dialog box (Figure 3), double-click in the area beneath Name to continue configuration of the call center.

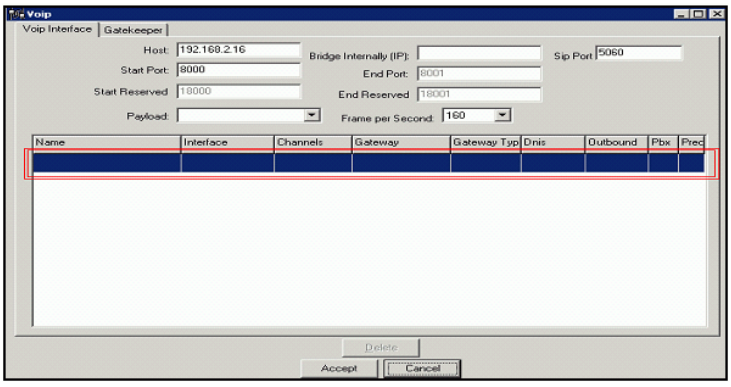

Figure 3. VoIP Dialog Box

9 Use the information in Table 8 to complete the fields.

Table 8. VoIP Interface Configuration

Field	Comments
Name	Specify what you are installing. For example, gateway or agent channels.
Interface	Specify what you are installing and what your gateway is passing to you. Options are SipGateway, Sip, H323Gateway, and H323.
Number of Channels	Set this value to the number of channels the call center plans to use. The number cannot not exceed 120 channels for each server (including the agent channels).
Gateway IP Address	The address of the gateway that is sending the calls.
Gateway Type	Select a Gateway type from Unknown, Audio codes, Quintum, and Cisco.
Default DNIS	Identify the default DNIS to send if a DNIS is not received from a project.
Sip Port	5060
Enable Takeback	If this option is enabled, it prevents a call that is transferred out of the system from tying up a line. **NOTE:** This service must be enabled with your carrier.
Outbound	Select to allow outbound calling from the call center
Predictive	Select to allow predictive calling from the call center.
PBX	Select to allow the call center to act as a PBX.

To configure the Redirect Server Resource

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

1 From Network Manager, choose Redirect Server as the resource to modify.

2 From the Resources menu, choose Modify Resource.

3 From the Resource Information dialog box, click Advanced.

4 From the Redirect Server dialog box (Figure 4), select the call center from the Call Centers Unused list and move it to the Call Centers Used list. Specify the call center to which calls will be routed.

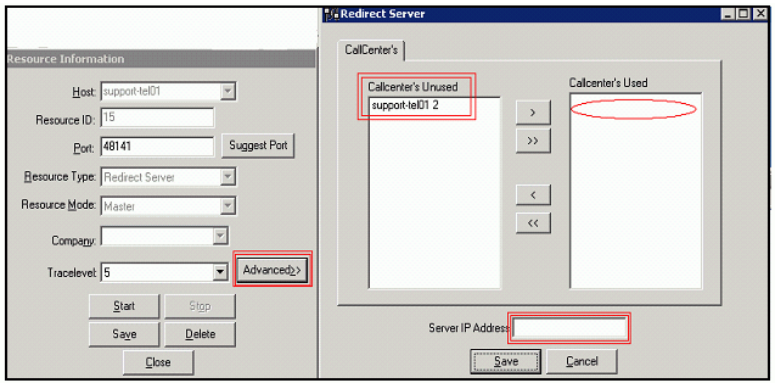

Figure 4. Redirect Server Configuration

5 Enter the Server IP Address. (This is the IP address of the machine where the Redirect Server is installed.)

6 Click Save.

To configure the MP3 Server Resource

The MP3 Server automatically converts all WAV files listed in the QualityControl table and History tables to MP3 format, to facilitate transfer from the File Server to remote users (such as Agents and Supervisors) and to reduce the amount of storage required for these files. Follow theses steps to configure an MP3 server:

NOTE: Before configuring the MP3 Server, you must install an MP3 converter on the same host as the FTP server.

1 From Network Manager, choose MP3 Server as the resource to modify.

2 From the Resources menu, choose Modify Resource.

3 From the Resource Information dialog box, click Advanced.

4 From the MP3 Server dialog box, use the information in Table 9 to complete these fields and then click Save.

Table 9. MP3 Server Configuration

Field	Comments
Enable MP3 Encoding	Select to enable the MP3 conversion option.
Command	Identify the location of the MP3 conversion executable file.
FTP Path	Identify the path to the FTP server share folder. For example, D:\Storage.

To configure the MCU Server Resource

The MCU Server makes conference calls in CCA. Follow these steps to configure a MCU server resource:

1. From Network Manager, choose Redirect as the resource to modify.
2. From the Resources menu, choose Modify Resource.
3. From the Resource Information dialog box, click Advanced.
4. From the MCU Server dialog box, use the information in Table 10 to complete the fields and then click Save.

Table 10. MCU Server Configuration

Field	Comments
IP Address	The IP address of the server hosting the MCU service.
Payload	Mulaw (payload type)
Frame per Second	Typically, this value is 160.
Description	Enter text to help identify the MCU service.

Configuring the CTI Server Resource

The CTI Server (Computer Telephony Interface) serves as the interface between the telephone network resources (Call Center) and the software interface. In effect, this resource is in charge of managing all of the available telephony resources. While the Call Center provides the interface to allow access to the resources, the CTI Server is the system brain that determines what to do with those resources.

To configure the CTI Server Resource

Configuration of the CTI Server resource is similar to configuration of the Redirect resource. However, in the Call Center Unused and Call Centers User dialog boxes, if you do not select any call centers, the application uses all of the call centers in the list by default.

NOTE: If you select a call center then the CTI server will use ***only*** that call center.

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

Starting and Stopping TCPIP Bus

The TCPIP Bus is a key element of the CCA application server. With TCPIP Bus, Web Server and all CCA resources can communicate with each other in real-time.

NOTE: You must start the TCPIP Bus ***before*** starting CCA resources.

In Ms Windows:

- Open the Services control panel from Start > Programs > Administrative tools > Services.
- Navigate to the TAW TCP-IP Bus service.
- On the right menu, click Start to start the TCPIP Bus, or click Stop to stop the service.

In Solaris/Linux:

- Login with a user account allowed to run CCA server resources.
- To start the TCPIP Bus and run as service, use the run command: `nohup tcpipbus &`
- To stop TCPIP Bus:
  - Find the process ID of the running TCPIP Bus by using the command: `ps -e | grep tcpipbus`
  - Kill the TCPIP Bus process using the command: `kill -9 PID` (where PID is the process ID of the running TCPIP Bus)

To start and Stop CCA Resources

Make sure to install and start the TCPIP Bus ***before*** starting any CCA resource.

1. From Network Manager, choose the resource to be started.
2. Click Go. If Go is not available, then the resource is already running and you must click Go to Stop it.

5 Configuring the Web Server

This chapter describes how to configure and deploy CCA Web applications on WebLogic 8.1 SP5 and Oracle 10g Application Server. It includes the following topics:

Deploying CCA Web Applications on Oracle 10g Application Server (OAS 10g)

This section describes how to deploy CCA Web applications on Oracle 10g Application Server Release 3. Oracle 9i database server is used for example. It covers the following topics:

NOTE: Make sure SUN JDK 1.4.2_13 is installed on the Web server.

Creating JDBC Connection Pool on OAS 10g

When you create JDBC Connection Pool, you must identify the name, the connection factory class, the URL, the database user name, and the password of database user.

To create JDBC connection pool on OAS 10g

1. Login the administration console of OAS 10g. The default administrator user name of OAS 10g is `oc4jadmin`. The typical URL is `http://server_name:port/em` with `server_name` as the host name for the OAS 10g server and `port` when installing OAS 10g.
2. From the Administration console home page, click the OAS 10g instance used to deploy CCA Web applications.

3 From the OAS 10g Instance detail page (Figure 5), in the Administrations tab, click the Create JDBC Resources icon.

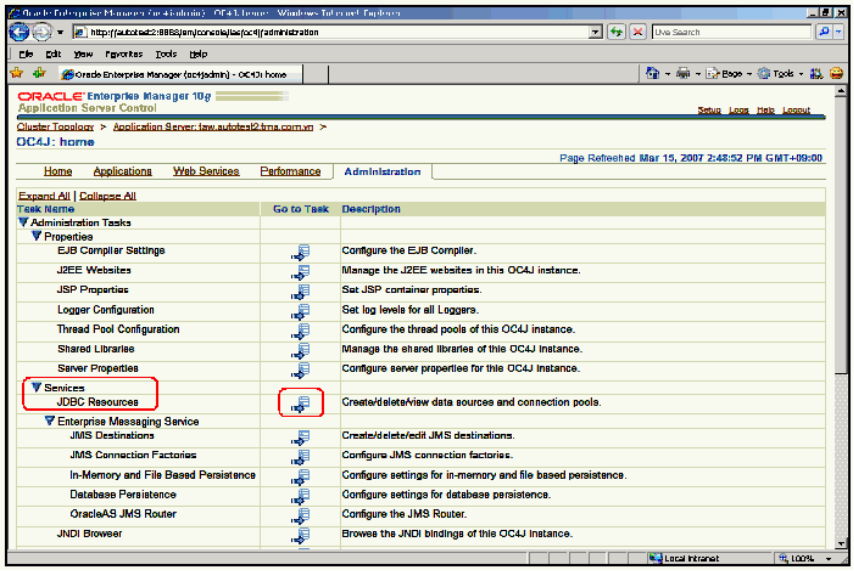

Figure 5. OAS 10g Instance Home Page

4 From the JDBC Resources page, click the Create beneath Connection Pools label.

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

6 From the JBDC Connection Pool detail page, use the information in Table 11 to complete the required fields.

Table 11. OAS 10g JDBC Connection Pool Details

Field Name	Value
Name	The name of the JDBC connection.
Connection Factory Class	oracle.jdbc.pool.OracleDataSource
JBDC URL	jdbc:oracle:thin:@//dbservername:1521/SID Where dbservername is the host name or IP address of the database server and SID is the database service name.
Username	The database user name. **TIP:** Refer to parameter &13 in To create a new Oracle 9i database on page 15.
Password	The password of database user declared in the previous parameter. Select the Use Cleartext Password option.

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

8 Click Finish.

Creating JDBC Data Source on OAS 10g

When you create JDBC data source on OAS 10g, you must identify the name of the data source, the JNDI location, the transaction level, the connection pool, and a login time out value.

To create JDBC data source on OAS 10g

1 Open the JDBC Resource page. (Refer to step 1 through step 3 in "To create JDBC connection pool on OAS 10g" on page 39.)

2 From the JDBC Resources page, click Create beneath Data Sources label.

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

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

- Name: The name of data source.
- JNDI Location: Use the same value with data source name.
- Transaction Level: Global & Local Transaction
- Connection pool: Select the connection pool created previously.
- 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 just created, to verify that it is working correctly.

Deploying CCA Web Applications on OAS 10g

CCA Web Applications deployment on OAS 10g is similar to deployment on WebLogic. Follow these steps to deploy the TAW application.

To deploy CCA Web applications on OAS 10g

1 From the CCA installation package, copy the TAW.war file to the OAS 10g server. For example, `C:\CCA\TAW.war`.

2 Edit the web.xml file in TAW.war\WEB-INF directory. (You may need an unzip tool to access this file.) Change values of context parameters listed in Table 12:

Table 12. Context Parameters To Be Modified in TAW Web.xml File

Context Parameter Name	Parameter Value
applicationPath	The path to the location of TAW directory. For example, C:\bea\user_projects\domains\mydomain\applications\TAW.
URLstoragePath	The URL from which clients will download files for their session. Typically, it is the URL to the Storage directory under the TAW directory. For example, http://server_name/TAW/Storage.
busConnection	Host name or IP address of the server that TCPIPBus is running.
busConnectionBackup	The Host name or IP address of the server that secondary TCPIPBus is running. Leave this blank if you only have one TCPIPBus running.
databaseDatasource	The name of the data source you created in previous section.
databaseUser	The user name of the WebLogic domain user. For example, cc81.
databasePassword	The password of the WebLogic domain user. For example, cc81.
reportServerUrl	http://server_name/TAW
isReportServer	true
logPath	The location where log files will be created. For example, C:\bea\user_projects\domains\mydomain\applications\TAW\WEB-INF\logs\ccanywhere.log

3 From the OAS 10g Instance home page (tab Applications), 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.war in the OAS 10gserver. For example, `C:\CCA\TAW.war`. For the deployment plan, use the default selection.

5 From the Deploy: Application attributes page, complete following fields and then click Next.

- Application name: `TAW`
- Parent Application: default
- Bind Web Module to Site: default Web site
- Context Root: `/TAW`

6 From the Deploy: Deployment settings page, verify that all information is correct and then click Deploy to deploy the TAW application.

7 Wait until OAS 10g finishes deploying the TAW application.

Deploying the CCA Application

Deploying CCA application is similar to deploying the TAW application.

To deploy the CCA application

1. From the installation package, copy the CCA.war file to the OAS 10g server. For example, `C:\CCA\CCA.war`.
2. Edit the web.xml file in the `CCA.war\WEB-INF` directory. Change the values of context parameters listed in Table 13 to the correct information for your system.

   Table 13. Parameters To Be Modified in CCA Web.xml

Context Parameter Name	Parameter Value
applicationPath	The path to the location of CCA directory. For example, C:\bea\user_projects\domains\mydomain\applications\CCA.
URLstoragePath	The URL from which clients will download files for their session. Typically, it is the URL to the Storage directory under the TAW directory. For example, http://webserver/TAW/Storage.
busConnection	The Host name or IP address of the server that the TCPIPBus is running.
busConnectionBackup	The Host name or IP address of the server that the secondary TCPIPBus is running. Leave this blank if you only have one TCPIPBus running.
databaseDatasource	The name of the data source created in the previous section.
databaseUser	The user name of the WebLogic domain user. For example, cc81.
databasePassword	The password of the WebLogic domain user. For example, cc81.

3. Complete steps 3 through step 6 in "Deploying the TAW Application" on page 48 to deploy the CCA.war file.

Deploying Integration Application

Deploying Integration application is similar to deploying TAW application. The only difference is that you do not need to edit the web.xml file. Deploy the Integration.war file by completing steps 1 through 6 in "Deploying the TAW Application" on page 48.

Deploying CCA Web Applications on WebLogic 8.1 SP5

This section describes how to deploy CCA web applications on a WebLogic 8.1 Web server. It covers the following topics:

Creating a New WebLogic Server Domain

Before you can deploy Web applications on a WebLogic Web server, you must first create a WebLogic Server domain. Follow these to create a new server domain on WebLogic 8.1 SP5:

NOTE: Make sure Sun JDK 1.4.2_13 is installed on the Web server.

To create a new WebLogic server domain

1. Click Start > BEA WebLogic Platform 8.1 > Configuration Wizard.
2. From the WebLogic QuickStart page, click Create a new domain configuration.
3. From the Create or Extend a Configuration page, select Create a new WebLogic configuration, and then click Next.
4. From the Select a Configuration Template page, accept the default templates.
5. From the Choose Express or Custom Configuration page, make sure that the Basic WebLogic Server Domain is selected and then click Next.
6. From the Choose Express or Custom Configuration page, make sure that Express is selected and then click Next.
7. From the Configure Administration Username and Password page, set the user name and password for the domain administrator, and then click Next.

   NOTE: You can change the user name and password at a later time.
8. From the Configure Server Start Mode and Java SDK page, select Production mode as the WebLogic configuration startup mode.
   a. In the Java SDK section, select Other Java SDK and then click Browse.
   b. From the browser window, choose the location where the JDK 1.4.2_13 is installed and then click Next.
9. From the Create WebLogic Configuration page, click Create. The Creating Configuration opens.
10. After the configuration creation completes, click Done.
11. Start the application by clicking Start > Programs > BEA WebLogic Platform 8.1 > User Projects > mydomain > Start Server. The application prompts for a username and password in the command window.

Installing WebLogic as a Windows Service

When installing WebLogic 8.1 on a Windows platform, you can optionally install the WebLogic Server Node Manager as a Windows service. The WebLogic Server Node Manager starts and stops managed servers in a domain.

After installing the Node Manager as a Windows service, the service will automatically start the next time you reboot the system. You can also manually start the service from the Windows Services control panel. Follow these steps to install WebLogic as a Windows service:

To install WebLogic as a Windows service

1. Edit the InstallService.cmd file. Find this file in the BEA home directory\user_projects\domains\your_domain_name. For example, `C:\bea\user_projects\domains\mydomain`.
   a. Delete `@rem` from the line `@rem set MEM_ARGS=-Xms32m -Xmx200m`.
   b. Change the settings similar to the following example for a Web server with 1 GB of RAM:

      ```
      -Xms768m -Xmx768m
      ```

      NOTE: If you have additional RAM, then you can reserve additional memory for the service.
   c. Set the jdk path before installing the service.
2. Open a Command Line window (Start > Run, and then type CMD).
3. From the Command Prompt, use the cd command to navigate to the your domain directory. For example, cd `c:\bea\user_projects\domains\mydomain`.
4. Run the `InstallService.cmd` followed by the user name and password used when creating the domain in step 7 in "Creating a New WebLogic Server Domain" on page 44.

   For example: `InstallService.cmd weblogic 123456` (`weblogic` is the user name and `123456` is the password).
5. Start WebLogic using the Windows Services control panel. (The name of the service installed is beasvc_*yourdomainname_myserver*).

Deploying CCA Web Applications on WebLogic

Follow these steps to deploy CCA Web applications on WebLogic:

- Configure the listening port of WebLogic domain server and create a domain login user.
- After creating a WebLogic domain, change the listening port of the domain server, if needed. By default, use port 7001 when creating a domain. To deploy CCA Web applications, you must also create domain user. CCA uses the domain user to access all domain resources, such as connection pool, data source, and so on.

To deploy CCA Web applications on WebLogic

1 Open the BEA WebLogic Server Administration Console using a Web browser, and log in. he WebLogic Console URL is: `http://server_name:7001/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 You can change the HTTP listening port of the domain server.

a Go to: Servers > myserver > General and change Listen Port from 7001 to 80.

b Click Apply.

3 To deploy CCA web applications, we need to create a WebLogic user on the domain. If you do not want to use a long password for the user, you change the password length.

a Go to Page: Security > Realms > myrealm > Providers > Authentication > Default Authenticator > Details.

b Change the Minimum Password Length. For example, change from 8 to 4.

c Click Apply.

4 Create a WebLogic domain user (Figure 6).

Figure 6. Create User Page

a Go to Page: Security > Realms > myrealm > Users.

b Create new login user.

c Complete the required information, and then click Apply to save the information.

Configuring the JDBC Connection Pool

Before deploying CCA Web applications, create a JDBC connection pool to our CCA database. Follow these steps to configure the JDBC connection pool:

To configure the JDBC Connection Pool

1 In Services > JDBC > Connection Pools, click the Configure new JDBC Connection Pool link.

2. From the Database Type drop-down list, select MS SQL Server.
3. From the Database Server drop-down list, select BEA's MS SQL Server Driver (Type 4).
4. Click Continue.
5. From the Define Connection Properties page, enter your database configuration information:
   a. Name: Remove MyJDBC Connection Pool and enter the database name.
   b. Connection Properties:
      - Database Name: The name of CCA database. For example, `cc81`.
      - Hostname: The database server name or IP address. For example, `support-db`.
      - Port: The listening port of database server. By default, the MS SQL Server uses 1433.
      - Database User Name: The name of user who has access to the database. For example, `cc81`. (Refer to parameter %6 in "To create a new database on the MS SQL Server 2000" on page 18.)
      - Password: The password of the database user. For example, `cc81`.
6. Click Next.
7. From the Test Database Connection page, click Test Driver Configuration.
8. Wait for a green Connection Successful message to appear and then click Create and Deploy.
9. After creating the Connection Pool, define the connection configuration of the JDBC connection pool:
   a. Click the Connection Pool just created and then select the Connections tab.
   b. Change the Initial Capacity to 25 and the Maximum Capacity to `50`.
   c. Click Show (located in the bottom right of the page) to display the Advanced Options to edit.

      NOTE: You may need to scroll down the screen to see the options.

   d. Set the Test Frequency to `300`.
   e. Select the check box for Test Reserved Connections.
   f. Set the Connection Creation Retry Frequency to `300`.
   g. Leave other fields as their defaults.
10. Click Apply.

Configuring the JDBC Data Source

After configuring the JDBC data source, you must restart the WebLogic Service.

To configure the JDBC data source

1. In Services > JDBC > Data Sources, click the Configure a new JDBC Data Source link.

2 From the Configure a JDBC Data Source page, enter your database name in both the Name and JNDI Name text boxes.

3 From the Connect to connection pool page Pool Name drop-down list, select the Pool Name created previously.

4 Click Continue.

5 From the Target the Data Source page, click to choose the selection under Independent Servers, and then click Create.

6 Restart the WebLogic Service.

Deploying the TAW Application

When you deploy the TAW application, you must copy and extract the TAW.war file from the CCA installation package.

To deploy the TAW application

1 From the CCA installation package, copy the TAW.war file to the WebLogic domain applications directory. For example, `C:\bea\user_projects\domains\mydomain\applications`.

2 Under the applications directory, create a directory called TAW and extract the TAW.war file into this directory.

3 Delete the TAW.war file.

4 Edit web.xml file to include your system information. Refer to step 4 in “Deploying the TAW Application” on page 48 for the parameters to modify.

5 Connect to the Web based WebLogic console (`http://server_name/console`).

6 Click the Deploy a new Web Application Module link in Deployments > Web Application Modules.

7 In the Deploy a Web Application Module page, select the Applications directory link.

8 From the Select an archive for this Web application module page, select TAW and then click Target Module.

9 From the Review your choices and deploy page, click Deploy.

10 Check log files created in log path to verify that no errors were reported during the application deployment.

Deploying the CCA Application

Deploying the CCA application is similar to deploying the TAW application.

To deploy the CCA application

1. From the CCA installation package, copy the CCA.war file to the WebLogic domain applications directory. For example, `C:\bea\user_projects\domains\mydomain\applications`.
2. Under the applications directory, create a directory called CCA and extract the cca.war file into it.
3. Delete the cca.war file.
4. Edit web.xml file to include your system information. (Refer to Table 2 in step 4 in "Deploying the CCA Application" on page 43 for which parameters to modify.)
5. Connect to the Web based WebLogic console (`http://server_name/console`).
6. Click the Deploy a new Web Application Module link in Deployments > Web Application Modules.
7. In the Deploy a Web Application Module page, select the Applications directory link.
8. From the Select an archive for this Web application module page, select CCA and then click Target Module.
9. From the Review your choices and deploy page, click Deploy.
10. Check the log files created in log path to verify that no errors were reported during the application deployment.

Deploying the Integration Application

The steps for deploying the Integration application are similar to those in the topic Deploying the TAW Application on page 48.

To deploy the Integration application

1. From the CCA installation package, copy the integration.war file to the WebLogic domain applications directory. For example, `C:\bea\user_projects\domains\mydomain\applications`.
2. Under the applications directory, create a directory called integration and extract the integration.war file into it.
3. Delete the integration.war file.
4. Set the cca path in the jnlp file.
5. Deploy the application by completing Step 5 through Step 10 in Deploying the TAW Application on page 48.

6 Getting Started With CCA

After you complete Chapters 3 through 5 to install the CCA application, launch the CCA to verify that it is working correctly. This chapter describes how to launch CCA and verify the CCA installation. It includes the following topics:

Logging in to Administration Manager (AM)

The Administration Manager (AM) is a browser-based software program that allows users to set up, configure, and maintain the CCA multi-media call center.

To log in to Administration Manager

1. Open URL in a Web browser: `http://server_name/TAW`, (where server_name as the host name of the Web server).
2. Login as a Network Administrator, using the default administrator account. This account is created when installing CCA. The default user name and password for this user is `netadmin` and `1234`.
3. Make sure you can log in without any error messages. If you cannot login, review the log files in `TAW/WEB-INF/logs/ccanywhere.log` and locate any error detail which may have occurred during the CCA Web applications deployment.
4. Create an agent. Refer to the *Contact Center Anywhere Administration Manager User's Guide* for instructions.

Logging in to the Integrated Client

The 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

1. Open URL in a web browser: `http://`*`server_name`*`/cca` (where server_name is the name of your server).

2 Click the link appearing in the launch page.

3 Complete the required fields:

- Company Alias: Type the alias of the company.
- Username: Type the agent's user name.
- Password: Type the agent's password.

4 If you receive any error message during login, check the log files in `CCA/WEB-INFO/ccanywhere.log` to find detail of any error during deployment.

Enabling the Partition Feature

Partition is a new feature beginning in CCA version 8.1. A partition is a way for your administrator to segment your call center operations into smaller, more manageable units. A unit is typically a set of projects and workgroups, and other information related to them. Partitioning has two purposes; the first one is of functionality and the second is of security. For example, assigning users to specific partitions means they are able to log in and work only on one of these partitions. Furthermore, a supervisor can monitor and supervise only the partitions to which he or she belongs.

To enable the Partition feature

Since the Partition feature is disabled by default, you must enable it by following these steps:

1 Run the SQL query: Update systempackage set packageconfigurable = 1 where resourcebundlekey='partitions'

2 Commit it after running the query.

3 Enable the Partition in Administration Manager (AM):

a After running the query, log into AM using a Network Administrator account.

b Click Go to and select Package Creator from the drop-down list.

c Edit the package that your company is using. The default is System Package.

d When the Partitions option appears in the Package Configuration page, select the check box for this option, and then click OK.

4 Log out of AM and then log in again to enable the Partition feature.

Communicating With Customers

CCA is a multi-channel e-contact center solution. It enables agents to communicate with customers through many channels such as calls, email, chat, and so on. After installing CCA, make sure these different channels work correctly.

NOTE: Refer to the *Contact Center Anywhere Administration Manager User's Guide* and the *Contact Center Anywhere Integrated User's Guide* for how to make these kinds of interaction.

To make and Test interaction types

1. Log into the Administration Manager. (Refer to "Logging in to Administration Manager (AM)" on page 51.)
2. Create a call, chat, and email project. (Refer to the *Contact Center Anywhere Administration Manager User's Guide*.)
3. Log into the Integrated Client as an agent. (Refer to "Logging in to the Integrated Client" on page 51.)
4. Make sure the agent's status is Available and then make an inbound call to CCA system. Make sure that agent can accept the call.
5. Make an outbound call. Make sure that agent can connect to an outbound number.
6. Send an email interaction. Make sure that agent can receive the email.
7. Send an chat request to CCA system. Make sure that agent can chat with the customer.

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