

# Enterprise Database Integration with CRS Server

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## Introduction

This document describes how you can integrate an enterprise database (for example, Microsoft SQL, Oracle, or IBM DB2) with Cisco Customer Response Solutions (CRS) Server in a Cisco IP Contact Center (IPCC) environment.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco CallManager
- Cisco CRS
- Cisco CRS Editor
- Database Overview
- Open Data Base Connection (ODBC)

### Components Used

The information in this document is based on these software and hardware versions:

- Cisco CallManager version 3.x and later
- Cisco CRS version 3.x to 3.5(3)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

### Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

# Background Information

This section provides information on enterprise databases that are supported.

## Supported Enterprise Databases

The tested and supported enterprise databases that can be integrated with CRS include:

- Microsoft SQL Server version 7
- Microsoft SQL Server version 2000
- Oracle version 8i
- Oracle version 9i
- Sybase Adaptive Server version 12
- IBM DB2 version 7.2

## Integration

Except Microsoft SQL Server 7 and 2000, all the other supported enterprise databases require the installation of their respective database clients on the CRS Server.

## Install the Database Client

Complete these steps:

1. Install the database client on the CRS Server. The procedure varies based on the enterprise database that you use.
2. Install the required ODBC drivers.

## Integrate the Database Client

You must define an ODBC Data Source Name (DSN) before an application script can use information from a database. The DSN informs Microsoft Windows about how to connect the application server to an enterprise database. Complete these steps in order to set up a DSN:

1. On the script server, select **Start > Programs > Administrative Tools > Data Sources (ODBC)**.

The ODBC Data Source Administrator window is displayed.

2. Click the **System DSN** tab.
3. Click **Add**.

The Create New Data Source window is displayed.

4. Select the driver for which you want to set up a data source.

For example, to create a DSN for Microsoft SQL Server, select **SQL Server**.

5. Click **Finish**.

The Create a New Data Source to *Driver* window is displayed. For example, if you chose **SQL Server** in the previous step, the Create a New Data Source to SQL Server window is displayed.

6. Complete these steps in the Create a New Data Source to *Driver* window:

- a. Type a name for the new data source in the Name field.

Ensure that the name you type here matches the value entered in the Data Source Name field in the Customer Response Applications (CRA) Administration web interface.

- b. Type an appropriate description in the Description field.

The information that you type in the Description field enables the application designer to identify the purpose of the data source.

- c. Select the host name or IP address from the Server list.

The host name or IP address that you select represents the computer where the enterprise database resides.

7. Click **Next**.

Another Create a New Data Source to *Driver* window is displayed.

8. Select **Windows NT** or **SQL Server** as the preferred authentication method.
9. Click **Client Configuration** to configure the connection between the CRA Server and the computer where the enterprise database resides.

The Client Configuration window is displayed.

10. Select **TCP/IP network libraries**.
11. Type a user name in the Login ID field and a password in the Password field.

Make a note of the user name and password you choose. You require the user name and password in order to complete the enterprise database configuration.

12. Click **Next** to complete the DSN configuration, and to test connectivity to the selected data source.
13. Add the new data source to the Database Subsystem. Complete these steps:

- a. Select **Subsystems > Database** from the CRA Administration menu bar.

The Enterprise Database Subsystem Configuration web page is displayed.

- b. Click the **Add a New Datasource** hyperlink.

Another Enterprise Database Subsystem Configuration web page is displayed.

- c. Type the name of the ODBC data source in the Data Source Name field.
- d. Type a user name in the Username field. The user name you type here is used to connect to the enterprise database.
- e. Type a password in the Password and Confirm Password fields. This password is used to connect to the enterprise database.
- f. Type an appropriate number in the Maximum Number of Connections field. The number represents the maximum number of simultaneous connections allowed to connect to the database.
- g. Click **Add** to apply changes.

The initial Enterprise Database Subsystem Configuration web page is displayed again, with details of the data source you just added.

## Limitations

A view is a virtual table that displays a subset of a table. Alternatively, a view combines two or more tables into a single view.

If you use views correctly, you can design a database application with views to always allow users to access data. When you use views, you need to assign permissions only to the views, and not to individual tables. Efficient use of views can save time, especially when each view provides a peek into two or more tables. Most

importantly, views solve the important issue of security.

However, the CRS application does not support database view access. The CRS application supports only access to actual database tables. Therefore, you can retrieve and manipulate database information from the actual database tables, and not from views.

## Related Information

- **Cisco Customer Response Applications Developer Guide (3.0): Developing Database Scripts**
  - **Technical Support and Documentation – Cisco Systems**
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