

# CUCM IM and Presence Service Connection Problems to an External Database with an Oracle Database



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## Introduction

This document describes how to troubleshoot problems you might encounter when you connect to an Oracle database for IM and Presence Service on Cisco Unified Communications Manager (CUCM).

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of database setup for IM and Presence Service on Cisco Unified Communications Manager.

### Components Used

The information in this document is based on database setup for IM and Presence Service on Cisco Unified Communications Manager.

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.

# Problem 1. Failure to Establish a Connection to an External Oracle Database

## Solution

For any Oracle database connection problem, first check that you have completed these steps:

1. Created the tablespace.
2. Created a database user.
3. Granted permissions to the database user.

**Tip:** For more information, see Oracle Installation and Setup.

4. Verified the tablespace.
  - a. Check that you use the correct username, password, and tablespace combination. In order to determine the tablespace available for your Oracle database, execute this query as SYSDBA:

```
SELECT DEFAULT_TABLESPACE FROM DBA_USERS WHERE USERNAME = 'lower_case_username';
```

**Note:** The username must be capitalized and in single quotes (a string literal) in order for this command to succeed, even if you defined the user with lowercase characters.

- b. Make sure that you use the correct default port numbers and that there is no firewall between the database and the IM and Presence Service node. The default port number for Oracle is 1521, and the default port number for Oracle with Secure Sockets Layer (SSL) enabled is 2482. You can choose a different port number if required; however, it must match the available port on the external database server. Change the port number only if it conflicts with other services. For a list of available ports, refer to TCP and UDP Port Usage Guide for Cisco Unified Communications Manager.

**Note:** Even though Internet Control Message Protocol (ICMP)/ping gets through, establishing a database connection uses different ports.

- c. Verify that the Cisco XCP Router has restarted, that it has configured the database, and that it runs.

5. Verified the status of the Oracle database connection with an execution of these commands from the root:

```
ORACLE_HOME=/usr/lib/oracle/client_1/ export PATH="$ORACLE_HOME/bin:$PATH"
export LD_LIBRARY_PATH="$ORACLE_HOME/lib:$LD_LIBRARY_PATH" sqlplus
username/password@dsn
The data source name (dsn) value can be obtained from the
$ORACLE_HOME/network/admin/tnsnames.ora file
```

**Caution:** If IM and Presence Service connects to an external database server with the use of IPv6, ensure that the enterprise parameter is configured for IPv6 and that Eth0 is set for IPv6 on each node in the deployment; otherwise, the connection to the external database server fails. The message archiver and Cisco XCP Text Conference Manager will be unable to connect to the external database and will fail. For information about how to configure IPv6 on IM and Presence Service, refer to Configuration and Administration of IM and Presence Service on Cisco Unified Communications Manager.

**Note:** In compliance with Extensible Messaging and Presence Protocol (XMPP) specifications, the IM and Presence Service node uses UTF8 character encoding. This allows the node to operate using many languages simultaneously and to display special language characters correctly in the client interface. If you want to use Oracle with the node, you must configure it to support UTF8.

**Note:** When you choose Oracle as the database type, the **Enable SSL** check box becomes active. When the **Enable SSL** check box, or the resulting **Certificate** drop-down field, is modified, a notification to restart the corresponding service assigned to the external database is sent. A message that concerns either Cisco XCP Message Archiver or Cisco XCP Text Conference Manager is generated. The certificate for which you must enable SSL must be uploaded to the **cup-xmpp-trust** store. You must wait 15 minutes for the certificate to propagate to all the nodes of the IM and Presence Service cluster. If you do not wait, the SSL connection on nodes where the certificate has not propagated fails. If the certificate is missing or has been deleted from the **cup-xmpp-trust** store, an alarm is raised in the Cisco Unified Communications Manager Real Time Monitoring Tool (RTMT).

## Problem 2. The Cisco XCP Message Archiver Fails to Start Once the Compliance Features are Configured

### Solution

Unassign the external database from the node and re-assign it, even if the **System Configuration Troubleshooter** window shows that the status of the external database connection is OK.

# Problem 3. The Cisco Text Conference Manager Service Fails to Start Once the Persistent Chat Feature is Configured

## Solution

Unassign the external database from the node and re-assign it, even if the *System Configuration Troubleshooter* window shows that the status of the external database connection is OK.

## Verify External Database Connection Status on IM and Presence Service

IM and Presence Service provides this status information on an external database:

- Database reachability – Verifies that IM and Presence Service can ping an external database.
- Database connectivity – Verifies that IM and Presence Service has successfully established an Open Database Connectivity (ODBC) connection with the external database.

*Note:* IM and Presence Service generates an alarm if it loses the ODBC connection to an external database.

## Procedure

1. Log in to the Cisco Unified Communications Manager IM and Presence Administration user interface. Choose *Messaging > External Server Setup > External Databases*.
2. Click *Find*.
3. Choose the external database entry that you want to view.
4. Verify that there are check marks beside each of the result entries for the external database in the *External Database Status* section.