BUSINESS OBJECTS®

Crystal Enterprise

Working with Oracle in Crystal Enterprise

Overview

This document describes how to use an Oracle database server in conjunction with a Crystal Enterprise (CE) system.

Contents

Introduction

This document shows how to confirm that an Oracle User ID used by the APS/CMS in the CE system meets the minimum requirements to connect to the Oracle database server. This ensures that the CE system remains stable and reliable.

After reading this document, you will be able to:

1. Understand the APS/CMS requirements when using Oracle to store the CE system's database tables.

2. How to test your Oracle User ID to work with CE correctly.

The APS/CMS - What is it and What Does it Do?

NOTE	APS = Automated Processing Scheduler (Seagate Info, Crystal Enterprise 8.0, 8.5, 9.0)
	CMS = Crystal Management Server (Crystal Enterprise 10)

The APS/CMS is responsible for three general tasks:

- Maintaining security in the CE system

- Managing CE objects

- Managing CE services

For more information on the APS/CMS, please refer to the Administrator's Guide (Admin.pdf) found in the doc(s) folder of your Crystal Enterprise CD.

The APS/CMS requires a constant connection to the database server hosting the CE system database tables. In this case, it will be your Oracle database server.

To determine which versions of Oracle are supported in your version of CE, go to http://support.businessobjects.com/search and search for the following documents:

- Crystal Enterprise 8.0 - c2009003

- Crystal Enterprise 8.5 - c2011138

- Crystal Enterprise 9.0 - c2012552

- Crystal Enterprise 10.0 - ce10_supported_platforms.pdf

When using Oracle as the CE system database, the following points are important to remember:

- The User ID that the APS/CMS uses to connect to Oracle needs **Create**, **Delete**, **Update** and **Create Procedure** rights to the CE system database tables.

- The User ID should not be able to see any other CE system database tables from another schema. By doing so, more than one CE system can house its system database tables on the same Oracle server. Each CE system on the Oracle server must have a unique User ID.

- Other schemas should not be able to see your CE system database tables.

- The User ID needs to be the schema owner of the CE system database tables.

NOTE	A schema is a logical collection of database objects (tables, views, indexes) grouped according to the User ID owning the objects.
	For example, Bob.table1 and Christine.table1 are two different tables existing in two different schemas.

How to Confirm that the Database User ID Has Sufficient Rights

If the User ID does not have **Create**, **Delete**, **Update** and **Create Procedure** rights to the CE system database tables, the APS/CMS will not function correctly.

The following steps outline how to test if your User ID has sufficient rights:

NOTES	If you are unable to perform any of the following steps, you will need to contact your Oracle database administrator (DBA) to get the appropriate permissions/rights for your User ID.
	If you are able perform these steps successfully, then the APS/CMS User ID you are testing has the permissions it needs to allow CE to function correctly.
	Back up your Oracle database prior to trying these tests.

1. Connect to your Oracle database through SQL+ using the User ID that the APS/CMS will use.

2. Create a table using the following SQL statement:

```
CREATE TABLE MAJORS (Major_Id Number(4) Primary Key, Major
Char(15) Not Null, Hrsrqd Number(5) check (Hrsrqd >=125),
        Degree Char(5) Not Null);
```

3. Insert a record into the table using the following SQL statement:

```
INSERT INTO MAJORS (Major_Id, Major, Hrsrqd, Degree)
Values(12, 'PSY',256,'BBA');
```

4. Update the record in the table using the following SQL statement:

```
UPDATE MAJORS set major_id=24 where Major_id=12;
```

5. Delete the record in the table using the following SQL statement:

```
DELETE FROM MAJORS WHERE MAJOR_ID=24;
```

6. Drop the table using the following SQL statement:

```
DROP TABLE MAJORS;
```

If you are able to complete the above steps successfully, then your User ID has sufficient **Create**, **Delete**, and **Update** rights.

If the User ID that the APS/CMS is using can see other CE system database tables stored in other schemas in addition to the ones it created, CE may be unstable.

To test to see if your schema can see any other CE system tables, perform the following steps:

1. Connect to the Oracle database server using SQL+ with the User ID that the APS/CMS will be using.

2. To see a list of tables the user owns, use the following SQL statement:

```
SELECT * FROM CAT;
```

You will see the following result:

```
SQL> SELECT * FROM cat;

TABLE_NAME              TABLE_TYPE

------------------------        ------------

APS_INFOOBJECTS2     TABLE

APS_IDNUMBERS2       TABLE

APS_VERSIONINFO      TABLE
```

NOTE	In CE 10, the above TABLE_NAME values are prefixed with "CMS_" rather than "APS_".

3. To see if there are other CE tables from other schemas that the User ID can see, use the following SQL statements:

For CE 8.0, 8.5, and 9.0:

ce_oracle.pdf

```
SELECT Table_Name, Owner from All_Tables WHERE Table_Name
Like ('APS%');
```

For CE 10.0:

```
SELECT Table_Name, Owner from All_Tables WHERE Table_Name
Like ('CMS%');
```

Ensure each statement above does not return any tables owned by other users.

The following is a sample result for CE 9.0:

```
SQL> SELECT Table_Name, Owner from All_Tables WHERE
Table_Name Like ('APS%');


TABLE_NAME              OWNER
------------------------    ------------
APS_INFOOBJECTS2    CE-ORA
APS_IDNUMBERS2      CE-ORA
APS_VERSIONINFO     CE-ORA
APS_INFOOBJECTS2    REPORTER
APS_IDNUMBERS2      REPORTER
APS_VERSIONINFO     REPORTER
APS_INFOOBJECTS2    CRYSTAL
APS_IDNUMBERS2      CRYSTAL
APS_VERSIONINFO     CRYSTAL
```

NOTE	In CE 10, the above TABLE_NAME values are prefixed with "CMS_" rather than "APS_".

The above step does not test to see if other users can see your CE system's tables.

If the tables are listed more than once under separate schema owners, as they are in the above sample output, it will cause instability in the CE system. In that case, it is recommended that the DBA be contacted to modify the permissions so that each user only sees the tables they own.

NOTE	To highlight text in a PDF document for copying and pasting code, click the **Text Select Tool** toolbar button in Adobe Acrobat.
	This procedure applies to Adobe Acrobat 4.0 and 5.0.

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