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PRIMAVERA

Oracle P6 Reporting Database R2 Checklist

INTRODUCTION

Review the details of this checklist before installing the Oracle P6 Reporting Database. Without reviewing the checklist there is an increased chance of failure because of a missed configuration item. There are specific details on environment settings that need to be considered such as memory, disk space, etc.

1.0 PRE-INSTALLATION: FOR SQL SERVER PLATFORM ☐

- ☐ **1.1** Did you download P6 Reporting Database software for the correct operating system?
- ☐ **1.2** JRE Versions
 - ☐ **1.2.1** Do you have the correct JRE Version Installed (see Tested Configuration)?
 - ☐ **1.2.2** Do you have the correct JRE platform (x86 versus x64) installed for the operating system?
- ☐ **1.3** Connection to the EPPM Database
 - ☐ **1.3.1** Can you connect to the EPPM Database from this machine?
 - ☐ **1.3.2** Is the EPPM database a v6.2, v6.2.1, v7.0 database? Note: To determine this, execute the following select statement as SA or PRIVUSER: *select database_version from prefer;*
- ☐ **1.4** Is the Oracle Gateway (10g or 11g) Installed?
- ☐ **1.5** Can you make a connection through the Oracle Gateway to the P6 EPPM database? Note: To determine this, execute a SELECT statement through the Oracle Gateway.

2.0 PRE-INSTALLATION: FOR ORACLE PLATFORM ☐

- ☐ **2.1** Did you download P6 Reporting Database software for the correct operating system?
- ☐ **2.2** JRE Versions
 - ☐ **2.2.1** Do you have the correct JRE Version Installed (see Tested Configuration)?
 - ☐ **2.2.2** Do you have the correct JRE platform (x86 versus x64) installed for the operating system?
- ☐ **2.3** Connection to the EPPM Database
 - ☐ **2.3.1** Can you connect to the EPPM Database from this machine?
 - ☐ **2.3.2** Is the EPPM database a v6.2, v6.2.1, v7.0 database? Note: To determine this, execute the following select statement as ADMUSER or PRIVUSER: *select database_version from prefer;*
- ☐ **2.4** Is the Oracle Database version the same on all servers (Stage, ODS & Star)?

3.0 PRE-INSTALLATION: FOR CONFIGURING STAGE\ETL SERVER ☐

- ☐ **3.1** Did you review the following 'Reporting Database Planning and Sizing' whitepaper for sizing and spacing guidelines:
- <http://www.oracle.com/us/products/applications/primavera/p6-reporting-database-wp-399110.pdf>
- ☐ **3.2** Connection to the P6 EPPM and Reporting Databases
 - ☐ **3.2.1** Can you connect to the P6 EPPM database?
 - ☐ **3.2.2** If using SQL Server, can you connect to the P6 EPPM database through the Gateway?
 - ☐ **3.2.3** Can you connect to the Stage database instance?
 - ☐ **3.2.4** Can you connect to the ODS database Instance?
 - ☐ **3.2.5** Can you connect to the Star database instance?
 - ☐ **3.2.6** Is TNSNAMES correctly configured with all instances?
- ☐ **3.3** Is the ORACLE_HOME path defined on server running the ETL scripts so SQLldr can be found?
- ☐ **3.4** Can you make a successful JDBC and OCI connection on the Stage/ETL Server? Note: This can be tested using a sample JAVA application.
- ☐ **3.5** Does user running scripts on this server have Read, Write permissions to install directory? Note: On UNIX systems, be sure to create and install as 'Oracle' user.
- ☐ **3.6** Do all servers reside in same datacenter with Gigabit Ethernet connection between servers?
- ☐ **3.7** Available Core Processors
 - ☐ **3.7.1** Does each ETL Process Server have 8-12 cores?
 - ☐ **3.7.2** Does each database server have 8-10 cores?
- ☐ **3.8** Running on 64-bit to allow for large memory allocations?
- ☐ **3.9** Is the Java Max Heap setting set at a minimum of 4 GB of memory, with more allocation if available, for the java process?
- ☐ **3.10** Is the Bulk Load files location from ETL process set to a location with a large amount of available disk? Note: These files can become extremely large depending on the size of the database. Ranges from a few gigs to many tens of gigabytes of available space is necessary.
- ☐ **3.11** Is the Oracle TNSPING utility in the path of the Stage server? Note: This is a requirement on the Stage server.
- ☐ **3.12** Is one of the following tested Operating Systems being used:
 - Oracle Enterprise Linux 4.0 and 5.0
 - Solaris 10 SPARC (64 bit)(English)
 - IBM AIX (64 bit)(English only)
 - HP-UX PA-RISC (64 bit)(English only)
 - Windows 2008 Server
 - Windows 2003 Server SP2

4.0 PRE-INSTALLATION: FOR STAGE DATABASE ☐

- ☐ **4.1** Did you review the following 'Reporting Database Planning and Sizing' whitepaper for sizing and spacing guidelines:
- <http://www.oracle.com/us/products/applications/primavera/p6-reporting-database-wp-399110.pdf>
- ☐ **4.2** Stage Tablespace
 - ☐ **4.2.1** Does a tablespace called STAGE_DAT1 exist?
 - ☐ **4.2.2** Is the tablespace set with Auto Extend On?
 - ☐ **4.2.3** Is the tablespace extent management local?
- ☐ **4.3** Stage Tablespace Characterset
 - ☐ **4.3.1** Is the character set set to UTF8 or WE8MSWIN1252? Note: AL32UTF8 character set is not supported.
 - ☐ **4.3.2** Is the character set set as the same character set of the P6 EPPM database?
- ☐ **4.4** Is the Stage tablespace set to be at least 2x the size of the P6 EPPM database?
- ☐ **4.5** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate database settings?

- ☐ **4.6 UNDO Tablespace**
 - ☐ **4.6.1** Are datafiles set to autoextensible?
 - ☐ **4.6.2** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **4.6.3** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the UNDO Tablespace settings?
- ☐ **4.7** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the SGA settings on the database? Note: For larger customers, 8 GB is required.
- ☐ **4.8** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the Archive Log Mode on the database? Note: This should be in NON archive log mode.
- ☐ **4.9 TEMP Tablespace**
 - ☐ **4.9.1** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **4.9.2** Execute following SQL to verify: `select s.tablespace_name, f.file_name, f.maxbytes, f.autoextensible from dba_data_files f inner join dba_tablespaces s on s.tablespace_name = f.tablespace_name where s.tablespace_name like '%STAGE%';`
- ☐ **4.10** Are both block buffer and individual process memory available?
- ☐ **4.11** Is the Database Instance setup using Dedicated Server (not Shared Server)?
- ☐ **4.12** Is the recommended minimal value set for the MEMORY_TARGET variable:
 - For an Oracle 11g database, the recommended minimum MEMORY_TARGET is 2 GB.
 - For an Oracle 10g, set SGA_TARGET to the same minimum value.
 - For all other versions, let the database server manage its own memory.
- ☐ **4.13** Can you make a successful JDBC and OCI connection on the Stage Server? Note: This can be tested using a sample JAVA application.
- ☐ **4.14** Is one of the following tested Database Versions being used:
 - Oracle 10.2.0.4
 - Oracle 11.1.0.7
 - Oracle 11.2.0.1

5.0 PRE-INSTALLATION: FOR ODS DATABASE ☐

- ☐ **5.1** Did you review the following 'Reporting Database Planning and Sizing' whitepaper for sizing and spacing guidelines:
 - <http://www.oracle.com/us/products/applications/primavera/p6-reporting-database-wp-399110.pdf>
- ☐ **5.2 ODS Tablespace**
 - ☐ **5.2.1** Does a tablespace called ODS_DAT1 exist?
 - ☐ **5.2.2** Is the tablespace set with Auto Extend On?
 - ☐ **5.2.3** Is the tablespace extent management local?
- ☐ **5.3 ODS Tablespace Characterset**
 - ☐ **5.3.1** Is the character set set to UTF8 or WE8MSWIN1252? Note: AL32UTF8 character set is not supported.
 - ☐ **5.3.2** Is the character set set to the same character set as the P6 EPPM database?
- ☐ **5.4** Is the ODS tablespace set to be at least 2.5x the size of the P6 EPPM database? Note: The size of the STAGE Spreads will have a big impact on how large the ODS database will become.
- ☐ **5.5** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate database settings?
- ☐ **5.6 UNDO Tablespace**
 - ☐ **5.6.1** Are datafiles set to autoextensible?
 - ☐ **5.6.2** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **5.6.3** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the UNDO Tablespace settings?
- ☐ **5.7** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the SGA settings on the database? Note: For larger customers, 8 GB is required.
- ☐ **5.8** Have you run the database scripts (listed in the Appendix A2 section at end of document) for queries to validate the Archive Log Mode on the database? Note: This should be in NON archive log mode.
- ☐ **5.9 TEMP Tablespace**
 - ☐ **5.9.1** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **5.9.2** Execute following SQL to verify: `select s.tablespace_name, f.file_name, f.maxbytes, f.autoextensible from dba_data_files f inner join dba_tablespaces s on s.tablespace_name = f.tablespace_name where s.tablespace_name like '%ODS%';`
- ☐ **5.10** Are both block buffer and individual process memory available?
- ☐ **5.11** Is the Database Instance setup using Dedicated Server (not Shared Server)?
- ☐ **5.12** Is the recommended minimal value set for the MEMORY_TARGET variable:
 - For an Oracle 11g database, the recommended minimum MEMORY_TARGET is 2 GB.
 - For an Oracle 10g, set SGA_TARGET to the same minimum value.
 - For all other versions, let the database server manage its own memory.
- ☐ **5.13** Can you make a successful JDBC and OCI connection on the ODS Server? Note: This can be tested using a sample JAVA application.
- ☐ **5.14** Is one of the following tested Database Versions being used:
 - Oracle 10.2.0.4
 - Oracle 11.1.0.7
 - Oracle 11.2.0.1

6.0 PRE-INSTALLATION: FOR STAR DATABASE ☐

- ☐ **6.1** Did you review the following 'Reporting Database Planning and Sizing' whitepaper for sizing and spacing guidelines:
 - <http://www.oracle.com/us/products/applications/primavera/p6-reporting-database-wp-399110.pdf>
- ☐ **6.2 Star Tablespace**
 - ☐ **6.2.1** Does a tablespace called STAR_DAT1 exist?
 - ☐ **6.2.2** Is the tablespace set with Auto Extend On?
 - ☐ **6.2.3** Is the tablespace extent management local?

- ☐ **6.3 Star Tablespace Characterset**
 - ☐ **6.3.1** Is the character set set to UTF8 or WE8MSWIN1252? Note: AL32UTF8 character set is not supported.
 - ☐ **6.3.2** Is the character set set to the same character set as the P6 EPPM database?
- ☐ **6.4** Is the Star tablespace set to be at least the same size of the P6 EPPM database?
- ☐ **6.5** Have you run the database scripts listed in the Appendix A2 section at end of document for queries to validate database settings?
- ☐ **6.6 UNDO Tablespace**
 - ☐ **6.6.1** Are datafiles set to autoextendible?
 - ☐ **6.6.2** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **6.6.3** Have you run the database scripts listed in the Appendix A2 section at end of document for queries to validate the UNDO Tablespace settings?
- ☐ **6.7** Have you run the database scripts listed in the Appendix A2 section at end of document for queries to validate the SGA settings on the database? Note: For larger customers, 8 GB is required.
- ☐ **6.8** Have you run the database scripts listed in the Appendix A2 section at end of document for queries to validate the Archive Log Mode on the database? Note: This should be in NON archive log mode.
- ☐ **6.9 TEMP Tablespace**
 - ☐ **6.9.1** Are maxbytes set at OS maximum? Note: Typically 32 GB, minimum 2 files, 3 to 5 files for larger customers
 - ☐ **6.9.2** Execute following SQL to verify: select s.tablespace_name, f.file_name, f.maxbytes, f.autoextendible from dba_data_files f inner join dba_tablespaces s on s.tablespace_name = f.tablespace_name where s.tablespace_name like '%STAR%';
- ☐ **6.10** Are both block buffer and individual process memory available?
- ☐ **6.11** Is the Database Instance setup using Dedicated Server (not Shared Server)?
- ☐ **6.12** Is the recommended minimal value set for the MEMORY_TARGET variable:
 - For an Oracle 11g database, the recommended minimum MEMORY_TARGET is 2 GB.
 - For an Oracle 10g, set SGA_TARGET to the same minimum value.
 - For all other versions, let the database server manage its own memory.
- ☐ **6.13** Can you make a successful JDBC and OCI connection on the Star Server? Note: This can be tested using a sample JAVA application.
- ☐ **6.14** Is one of the following tested Database Versions being used:
 - Oracle 10.2.0.4
 - Oracle 11.1.0.7
 - Oracle 11.2.0.1

7.0 INSTALLATION: INSTALLER AND CONFIGURATION

- ☐ **7.1** Did you review the P6 Reporting Database Administrator Guide: Installation and Configuration sections?
- ☐ **7.2** Are the JAVA_HOME and PATH definition requirements set? Note: JAVA_HOME is used by the Oracle Universal Installer to launch the config.cmd(.sh) and without this set the config will not launch. For Example, In Windows, set JAVA_HOME=C:\Program Files\Java\jre1.6.0_18
- ☐ **7.3** Did you determine what your date range for your data warehouse should be? Note: This should be determined before running the installer. This date range will include spread data and the start date and rolling date range of your data warehouse. See the *Administrator's Guide* for more information.
- ☐ **7.4** Did you determine a reasonable date range setting? Note: If you set an extremely large data range this will result in a very large amount of spread data requiring more database space, more hard drive space for temp files, increased run times, etc. Please consider your date range carefully. Spreads outside of the date range will be combined into one bucket at the beginning and end of the date range.
- ☐ **7.5 Star Installation**
 - ☐ **7.5.1** Did you determine what your Project Trend Interval will be? Note: This will be how your project history is stored. See the Administrator Guide for more information.
 - ☐ **7.5.2** Did you determine which activity, project, and resource codes you will be using before installation? Note: Dynamic codes are available for slicing data in OBI. For more information see the P6 Reporting Database, P6 Analytics Users Guide:
 - Matching Criteria/Regular expression: The name of the code as registered in Project Management.
 - Name: The display name for the code name label in OBI.
 - Description: The display name for the code value label in OBI.
- ☐ **7.6** Did you consider the available disk space when you set the Logging level? Note: If DEBUG is set, the logs can become extremely large - many gigs. Generally INFO is fine for a logging level unless troubleshooting is an issue.
- ☐ **7.7** Is the Java Max Heap setting set at a minimum of 4 GB of memory, with more allocation if available, for the java process? Note: The Administrator Guide default for the Maximum Java Heap Size (MB) parameter is 1,204MB. The minimum value is 512MB. The value assigned must be a multiple of 512MB. However, the referenced Whitepaper for this is 1 GB, noting that this may be inadequate for many datasets and may cause failures in the ETLCalc process. The referenced Whitepaper recommends starting with a minimum of 4 GB of memory for the Java process.
- ☐ **7.8 Connection Information**
 - ☐ **7.8.1** Do you have the P6 EPPM privuser username/password information available?
 - ☐ **7.8.2** Do you have the Stage, ODS and Star instances System username/password information available?
- ☐ **7.9** Did you determine which P6 EPPM users will be reporting users? Note: Reporting users will have a database user created for them. That means you must set the report_user_flag field to 'Y' on the USERS table in the P6 EPPM database for all those users who will become reporting users. It is unlikely all users will be reporting users so you may not want to set to 'Y' for all because this will create a database user in the ODS instance for every P6 EPPM user with this flag.
- ☐ **7.10** Have Financial Periods been defined before running the P6 Reporting Database Processes? Note: If the Project Trend intervals will be set based on the P6 EPPM Financial Period, the Financial Period must be set before running the P6 Reporting Database processes. For information on setting and determining Financial Periods, see *P6 Analytics User's Guide*.
- ☐ **7.11** Is the Bulk Load files location for ETL process set to a location with a large amount of available disk? Note: These files can become extremely large depending on the size of the database. Ranges from a few gigs to many tens of gigabytes of available space is necessary.
- ☐ **7.12** When creating the Oracle stageuser, odsuser, staruser ensure they meet Oracle database user requirements for users and passwords.

8.0 INSTALLATION: RUNNING THE PROCESSES ☐

- ☐ **8.1** RunETL Process is dependent upon the standard Oracle SYS.DBMS_RANDOM package be granted EXECUTE to PUBLIC. Is this grant currently available?
- ☐ **8.2** The installation home directory contains a file called runetl.bat (or runetl.sh). Running this file will begin the installation process of 5 other main files: 1) CreateDBs, 2) Extract, 3) Transfer, 4) Load, 5) LoadSTAR. These files can be found in the scripts folder, and run individually if needed.
- ☐ **8.3** The installation home directory contains the log and html file for the ETL process. Here you can view status of process and if the process completed successfully.

9.0 POST-INSTALLATION: AFTER THE PROCESSES ARE COMPLETE ☐

- ☐ **9.1** In the scripts and installation home directory is an incremental.bat(.sh). This will bring your ODS and Star in line with changes made on the PMDB database. This should be scheduled appropriately and during off peak hours, usually overnight. Incremental can take several hours to run depending on amount of changes.
- ☐ **9.2** Setup a job to run incremental at your designated time.
- ☐ **9.3** Review Of Log Files
 - ☐ **9.3.1** In the Reporting Database installation directory review the etlprocess.log and etlprocess.html log to ensure processes completed successfully.
 - ☐ **9.3.2** After the incremental process is run an incremental.log and incremental.html log will be created.
 - ☐ **9.3.3** See *Reporting Database Administrator's Guide* for more information on logs.

APPENDIX A1: OTHER DOCUMENTATION SOURCES ☐

- ☐ **A1.0** Sizing and Planning Oracle Whitepaper: Primavera P6 Analytics and Primavera P6 Reporting Database 2.0: Planning and Sizing, May 2010 - <http://www.oracle.com/us/products/applications/primavera/p6-reporting-database-wp-399110.pdf>
- ☐ **A2.0** Reporting Database Admin Guide: http://download.oracle.com/docs/cd/E16281_01/Reporting_Database/R2andAnalytics/P6ReportingDatabaseAdminGuide.pdf
- ☐ **A3.0** Reporting Database Tested Configurations: http://download.oracle.com/docs/cd/E16281_01/Tested_Configurations/testedcfg.htm
- ☐ **A4.0** Reporting Database Users Guide: http://download.oracle.com/docs/cd/E16281_01/Reporting_Database/R2andAnalytics/P6ReportingDatabaseUserGuide.pdf

APPENDIX A2: DATABASE SCRIPTS FOR VALIDATIONS ☐

- ☐ **A2.1 SGA (Memory) Validation**
Note: - For larger customers 8 GB is required.
Script: - SQL> SELECT * FROM v\$sgainfo;
 - SQL> show sga
- ☐ **A2.2 Check archive log mode**
Note: - For ERDB, the database should be in non-archive mode.
Script: - SQL> SELECT log_mode FROM v\$database;
- ☐ **A2.3 Processes Init Parameter**
Note: - Minimum of 300 is required.
Script: - SQL> show parameter process
- ☐ **A2.4 Temp Tablespace Validation**
Note: - Recommend minimum 2 files with file size set at the OS maximum, typically 32 GB.
 - Create 3 files for the temp tablespace for larger customers.
Script: - SQL> select TABLESPACE_NAME, FILE_ID, BYTES_USED, BYTES_FREE from V\$TEMP_SPACE_HEADER;
- ☐ **A2.5 UNDO Tablespace Validation**
Note: - Datafile should be autoextensible.
 - Maxbytes should be set at OS maximum, typically 32 GB.
 - Minimum 2 files; 3 to 5 files for larger customers.
Script: - SQL> select s.tablespace_name, f.file_name, f.maxbytes, f.autoextensible from dba_data_files f inner join dba_tablespaces s on s.tablespace_name = f.tablespace_name where s.tablespace_name like '%UNDO%';
- ☐ **A2.6 Tablespaces for Stage, ODS and Star**
Note: - Datafile should be autoextensible.
 - Maxbytes should be set at OS maximum, typically 32 GB.
 - Minimum 2 files; 3 to 5 files for larger customers.
Script: - SQL> select s.tablespace_name, f.file_name, f.maxbytes, f.autoextensible from dba_data_files f inner join dba_tablespaces s on s.tablespace_name = f.tablespace_name where s.tablespace_name like '%STAGE%' or s.tablespace_name like '%ODS%' or s.tablespace_name like '%STAR%';