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Pinning Objects to Improve Apps Performance

To keep database packages in the Oracle database's System Global Area (SGA) shared pool is called pinning. One exception is that pinning is not useful or needed in later Oracle database versions such as 10g and above, since those releases offer automatic shared memory management.

Oracle Applications requires space in the ORACLE System Global Area (SGA) for stored packages and functions. If SGA space is fragmented, there may not have enough space to load a package or function. We should pre-allocate space in the SGA shared pool for packages, functions, and sequences by "pinning" them.

Pinning objects in the shared pool can increase database performance, if it is done correctly. Since pinned objects reside in the SQL and PL/PLSQL memory areas, they do not need to be loaded and parsed from the database, which saves time.

What objects to be pinned into the shared pool?

Most performance improvement can be gained from pinning large, frequently used packages. Pinned objects are expensive in terms of memory space, since other not-pinned objects need this memory space, too. In general do not pin all objects or rarely used objects - this could even decrease database performance.

We should always pin the following packages, which are owned by SYS:

STANDARD
DBMS_STANDARD
DBMS_UTILITY
DBMS_DESCRIBE
DBMS_OUTPUT

And other SYS packages that are often used (DBMS_LOCK, DBMS_ALERT, etc.).

The Applications objects that need to be pinned are very difficult to identify and will vary from site to site. To identify the objects for pinning, we need to know which objects are being executed the most. To do this, let the system run long enough to reach a steady state (several days to a week).

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Then initiate a SQL*Plus session as system (or sys or apps) and run the following script \$AD_TOP/sql/ADXCKPIN.sql. This will spool object execution and reload statistics into the output file ADXCKPIN.lst.

How do we pin object into shared pool?

The pl/sql scripts \$AD_TOP/sql/ADXGNPIN.sql (packages, functions) and ADXSPDNS.sql (sequences) generate pinning scripts, which can be executed in Sql*Plus. Please do not run them without editing them, otherwise the scripts would try to pin all objects. Create our own script to pin the packages and pin them in a descending order according to their size.

The pl/sql command to pin a package (i.e. FNDCP_TMSRV) manually is:

```
SQL> execute dbms_shared_pool.keep('APPS.FNDCP_TMSRV');
```