**Exporting and Importing AWR snapshot data**

The AWR tables contains a wealth of important performance data which can be very useful in performance tuning trend analysis and also when comparing performance between two seperate periods of time.

AWR data is stored in the WRH$ and DBA\_HIST tables in the SYSAUX tablespace. There could be performance implications if these tables were to grow too large in size or if the retention was increased beyond the default of 7 days.

A good solution is to have a central repository and move statistical AWR data periodically to this central repository database using the Oracle supplied awrextr.sql and awrload.sql scripts which can be found in the $ORACLE\_HOME/rdbms/admin directory.

The AWR History is by default maintained for 7 days and the data is gathered in the AWR repository tables every hour by default.

The current snapshot retention settings and data gathering frequency can be determined by the query shown below. Note in this case the default settings of 7 days and 1 hour is displayed.

SQL> select to\_char(snap\_interval,'DD'),to\_char(retention,'DD') FROM dba\_hist\_wr\_control;

TO\_CHAR(SNAP\_INTER TO\_CHAR(RETENTION,

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+00000 01:00:00.0 +00007 00:00:00.0;

The AWR default settings can be modified using the DBMS\_WORKLOAD\_REPOSITORY package as shown below. In this case the retention is being increased to 30 days and the interval to every 30 minutes.

BEGIN  
DBMS\_WORKLOAD\_REPOSITORY.modify\_snapshot\_settings(  
retention => 43200,  
interval => 30);  
END;  
/  
**Extracting AWR data**

Create a directory

SQL> CREATE DIRECTORY AWR\_DATA AS  
2 ‘/u01/oracle/’;

Directory created.

**SQL> @?/rdbms/admin/awrextr.sql**

The script will list the information we need to provide to it

AWR EXTRACT

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~ This script will extract the AWR data for a range of snapshots ~

~ into a dump file. The script will prompt users for the ~

~ following information: ~

~ (1) database id ~

~ (2) snapshot range to extract ~

~ (3) name of directory object ~

~ (4) name of dump file ~

After entering the range of snapshot ids, we will need to provide the directory location where the data pump export file will be located. We need to also enter the dumpfile name as well.

Note: the script will autiomatically append a ‘.dmp’ to the data punp export file name. So we need to just enter the dumpfile name without any extension.

Specify the Directory Name

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Directory Name Directory Path

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ADMIN\_DIR /u01/oracle/product/10.2.0/rmand/md/admin

AWR\_DATA /u01/oracle/

DATA\_PUMP\_DIR /u01/oracle/product/10.2.0/rmand/admin/rmand/dpdu

mp/

ORACLE\_OCM\_CONFIG\_DIR /u01/oracle/product/10.2.0.4/rmand/ccr/state

WORK\_DIR /u01/oracle/product/10.2.0/rmand/work

Choose a Directory Name from the above list (case-sensitive).

Enter value for directory\_name: AWR\_DATA

Using the dump directory: AWR\_DATA

Specify the Name of the Extract Dump File

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The prefix for the default dump file name is awrdat\_11369\_11383.

To use this name, press to continue, otherwise enter

an alternative.

Enter value for file\_name: awrexp

After the export is complete, we will need to ftp the data pump dump file awrexp.dmp to the target server where our central repository database is located.

**Loading AWR Data**

On the repository database, we will create a directiory AWR\_DATA as well and the ensure that the DIRECTORY\_PATH corresponds to the directory where the awrexport.dmp file is located.

Also, a temporary staging schema AWR\_STAGE is created. Objects are first imported into this staging schema and then inserted into the WR$ and DBA\_HIST AWR historical tables.

We will need to provide information about the directory location, dump file and the staging schema name

**@?/rdbms/admin/awrload.sql**

AWR LOAD

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~ This script will load the AWR data from a dump file. The ~

~ script will prompt users for the following information: ~

~ (1) name of directory object ~

~ (2) name of dump file ~

~ (3) staging schema name to load AWR data into ~

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While specifying the dumpfile name we need to only provide the file name without the .dmp extension

Specify the Name of the Dump File to Load

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Please specify the prefix of the dump file (.dmp) to load:

We need to specify the default tablespace and temporary tablespace for this staging user. Note – this user will be dropped once the load is completed.

Choose the AWR\_STAGE users's default tablespace. This is the

tablespace in which the AWR data will be staged.

TABLESPACE\_NAME CONTENTS DEFAULT TABLESPACE

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MGMT\_ECM\_DEPOT\_TS PERMANENT

MGMT\_TABLESPACE PERMANENT

PATROL PERMANENT

SYSAUX PERMANENT \*

USERS PERMANENT

Pressing will result in the recommended default

tablespace (identified by \*) being used.

Enter value for default\_tablespace:

Using tablespace SYSAUX as the default tablespace for the AWR\_STAGE

Choose the Temporary tablespace for the AWR\_STAGE user

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Choose the AWR\_STAGE user's temporary tablespace.

TABLESPACE\_NAME CONTENTS DEFAULT TEMP TABLESPACE

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TEMP TEMPORARY \*

Pressing will result in the database's default temporary

tablespace (identified by \*) being used.

Enter value for temporary\_tablespace:

Using tablespace TEMP as the temporary tablespace for AWR\_STAGE

... Creating AWR\_STAGE user

if we look at the import log file, we will see that data is first imported into the AWR\_STAGE schema and then from here it is inserted into the WRH$ and other DBA\_HIST tables.

Processing object type TABLE\_EXPORT/TABLE/TABLE\_DATA

. . imported "AWR\_STAGE"."WRH$\_SQL\_PLAN" 3.845 MB 11494 rows

. . imported "AWR\_STAGE"."WRH$\_SQLTEXT" 1.012 MB 569 rows

. . imported "AWR\_STAGE"."WRH$\_SYSMETRIC\_SUMMARY" 156.8 KB 2025 rows

.......

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Append Data for "AWR\_STAGE".WRH$\_SGASTAT.

INSERT /\*+ APPEND \*/ INTO SYS.WRH$\_SGASTAT (SNAP\_ID, DBID, INSTANCE\_NUMBER, NAME, POOL, BYTES) SELECT SNAP\_ID,

3228342000, INSTANCE\_NUMBER, NAME, POOL, BYTES FROM "AWR\_STAGE".WRH$\_SGASTAT WHERE DBID = :c\_dbid

... appended 388 rows

If we now query the DBA\_HIST\_SNAPSHOT table, we see that it contains the data for two DBID’s – this shows that AWR history data is available in the repository database for two databases.

SQL> select distinct dbid from dba\_hist\_snapshot;

DBID

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3228342000

3892233981