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Oracle Diagnostic Set

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1 Overview

1.1 Purpose

This diagnostic set collects performance data from Oracle Database 19c instances. The collected data is used to identify performance bottlenecks, analyze resource consumption, and diagnose slow queries.

1.2 Scope

- Single instance Oracle Database 19c
- Linux x86-64 platform
- Non-RAC environment
- Non-CDB architecture

1.3 Collection Methods

Method	Description
AWR	Automatic Workload Repository snapshots
ASH	Active Session History samples
Statspack	Legacy performance tool
Custom	Custo scripts for additional data

2 Prerequisites

2.1 Software

Component	Version
Oracle Database	19c
Operating System	Linux x86-64
Perl	5.10 or higher
Bash	4.2 or higher

2.2 Privileges

Privilege	Purpose
SYSDBA	Full access to AWR and ASH
SELECT ANY DICTIONARY	Read dictionary views
CREATE SESSION	Connect to database

2.3 Disk Space

Item	Size
Collection output	500 MB per day
Analysis output	100 MB per day
Total	600 MB per day

3 Environment Variables

3.1 Required Variables

Variable	Description
ORACLE_HOME	Oracle installation directory
ORACLE_SID	Database instance name
PATH	Must include $ORACLE_HOME/bin
LD_LIBRARY_PATH	Must include $ORACLE_HOME/lib

3.2 Optional Variables

Variable	Default	Description
DIAG_DIR	/home/oracle/diag	Base directory for output
DIAG_DAYS	7	Days of AWR data to collect
DIAG_INTERVAL	60	Seconds between ASH samples
DIAG_ASH_DAYS	1	Days of ASH data to collect

3.3 Setup Script

```
export ORACLE_HOME=/u01/app/oracle/product/19.0.0/dbhome_1
export ORACLE_SID=orcl
export PATH=$ORACLE_HOME/bin:$PATH
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
export DIAG_DIR=/home/oracle/diag
export DIAG_DAYS=7
export DIAG_INTERVAL=60
export DIAG_ASH_DAYS=1
```

4 Directory Structure

```
/home/oracle/diag/
bin/
lib/
sql/
output/
log/
```

5 Collection Scripts

5.1 Main Collection Script

```
./run_collection.sh
```

5.2 Individual Scripts

Script	Purpose
collect_awr.sql	AWR snapshot collection
collect_ash.sql	ASH sample collection
collect_statspack.sql	Statspack collection
collect_sysstat.sql	System statistics
collect_waits.sql	Wait event analysis
collect_sql.sql	SQL statistics
collect_memory.sql	Memory usage
collect_io.sql	I/O statistics
collect_latch.sql	Latch statistics
collect_segments.sql	Segment statistics
collect_tablespace.sql	Tablespace usage
collect_rac.sql	RAC statistics
collect_parallel.sql	Parallel execution
collect_undo.sql	Undo statistics
collect_temp.sql	Temp usage
collect_redo.sql	Redo statistics
collect_archive.sql	Archive log statistics
collect_flashback.sql	Flashback statistics
collect_recyclebin.sql	Recyclebin statistics
collect_sessions.sql	Session statistics
collect_locks.sql	Lock statistics
collect_deadlock.sql	Deadlock statistics
collect_ddl.sql	DDL statistics
collect_dml.sql	DML statistics
collect_plan.sql	Execution plan statistics
collect_bind.sql	Bind variable statistics
collect_cursor.sql	Cursor statistics
collect_parse.sql	Parse statistics
collect_execute.sql	Execute statistics
collect_fetch.sql	Fetch statistics
collect_commit.sql	Commit statistics
collect_rollback.sql	Rollback statistics
collect_checkpoint.sql	Checkpoint statistics
collect_log.sql	Log statistics
collect_buffer.sql	Buffer statistics
collect_pga.sql	PGA statistics
collect_sga.sql	SGA statistics
collect_shared.sql	Shared pool statistics
collect_large.sql	Large pool statistics
collect_java.sql	Java pool statistics
collect_streams.sql	Streams statistics
collect_advanced.sql	Advanced statistics
collect_system.sql	System statistics
collect_instance.sql	Instance statistics
collect_database.sql	Database statistics
collect_tablespace.sql	Tablespace statistics
collect_datafile.sql	Datafile statistics
collect_tempfile.sql	Tempfile statistics
collect_controlfile.sql	Controlfile statistics
collect_redolog.sql	Redolog statistics
collect_archivelog.sql	Archivelog