17. Strokovno srečanje
SIOUG 2012
Kongresni center Hotel Mons Ljubljana, 15. - 17. oktober

SIOUG Slovensko društvo Oracle uporabnikov

Oracle Database Advisors

avtomatska asistenca pri reševanju performančnih težav

Predavatelj

Urh Srečnik <urh.srecnik@abakus.si>

Abakus Plus d.o.o.

ORACLE Certified Associate
Oracle Database 11*g*
Administrator

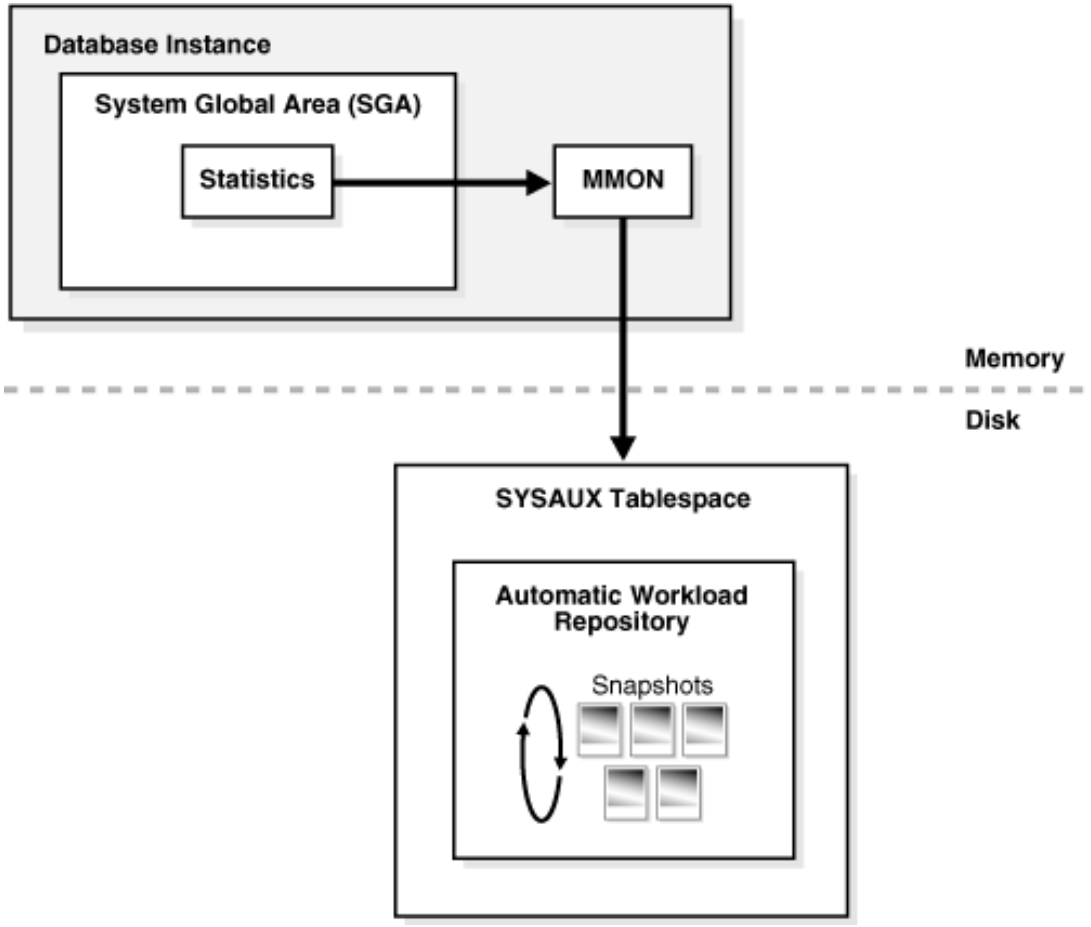
AS Abakus As na disku.

ORACLE Gold Partner
Specialized
Oracle Database

Oracle Advisors: Outline

- AWR & ADDM
- SQL related
  - SQL Tuning
  - SQL Access
  - SQL Performance
  - SQL Repair
  - Segments
- DBA related
  - Memory
  - Undo Management
  - Compression
  - Data Recovery
  - Health Checks
  - Server Alerts

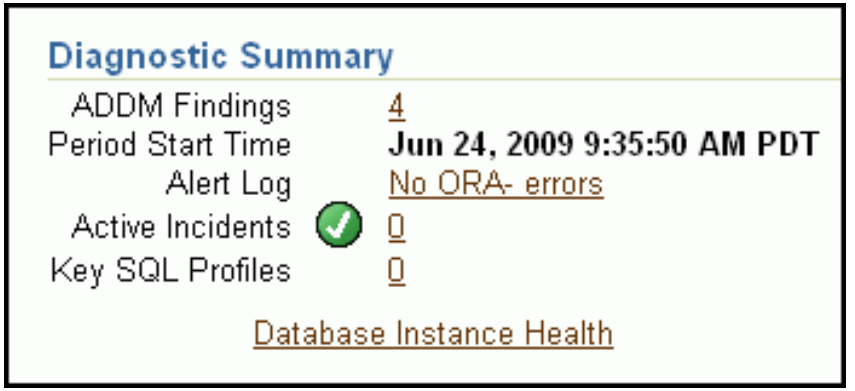
Automatic Workload Repository



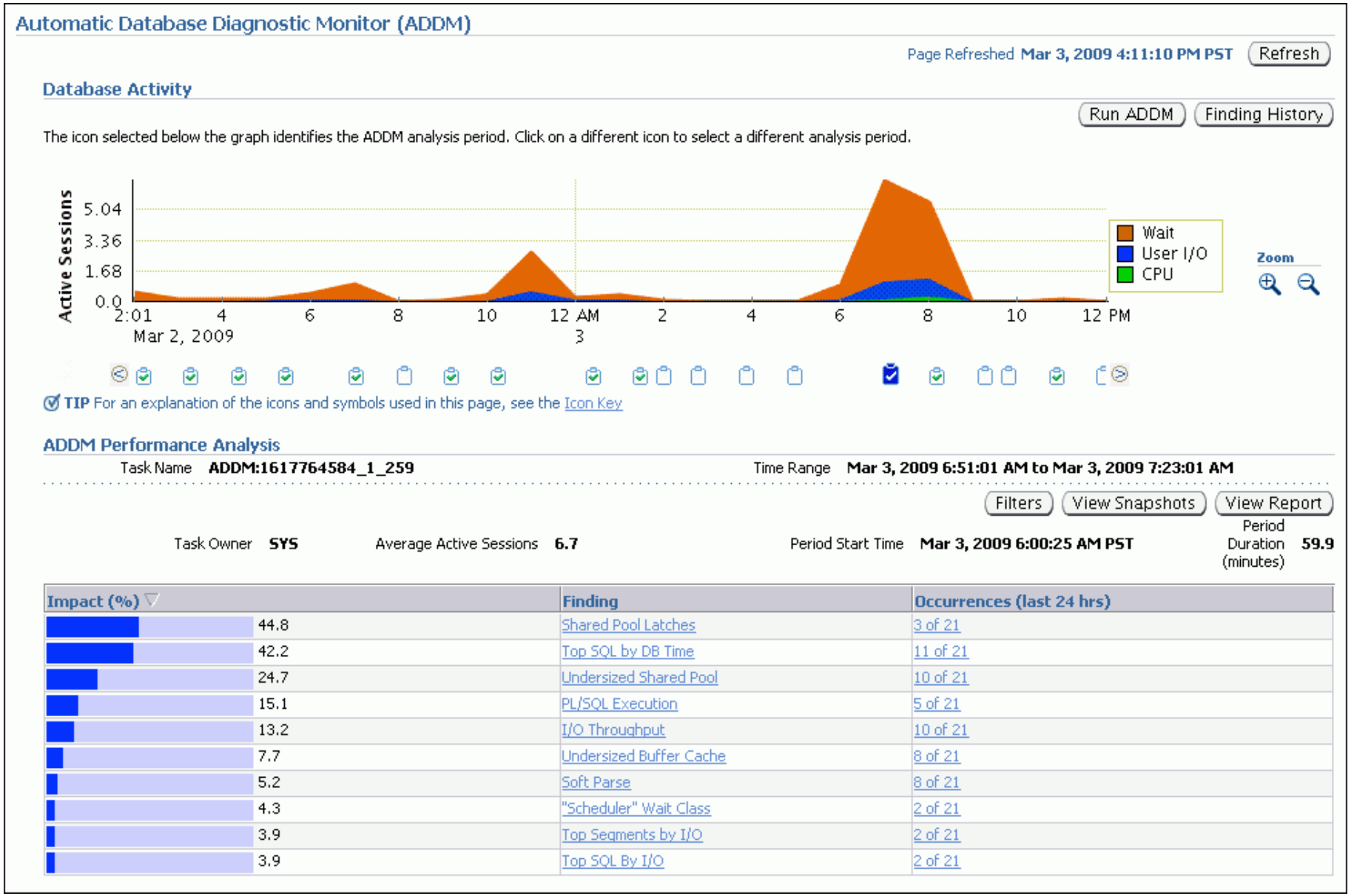
Automatic Database Diagnostic Monitor

- Runs automatically when AWR snapshot is created if
  - `CONTROL_MANAGEMENT_PACK_ACCESS != NONE`
  - `STATISTICS_LEVEL != BASIC`

- Checks
  - Memory issues, CPU bottlenecks, Disk I/O
  - Database configuration
  - Space issues
  - SQL execution



ADDM in Enterprise Manager



ADDM – Sample Report

```
FINDING 1: 31% impact (7798 seconds)
-----------------------------------
```
SQL statements were not shared due to the usage of literals. This resulted in additional hard parses which were consuming significant database time.

```
RECOMMENDATION 1: Application Analysis, 31% benefit
(7798 seconds)
  ACTION: Investigate application logic for possible
    use of bind variables instead of literals.
    Alternatively, you may set the parameter
    "cursor_sharing" to "force".
  RATIONALE: SQL statements with PLAN_HASH_VALUE
    3106087033 were found to be using literals. Look
    in V$SQL for examples of such SQL statements.
```

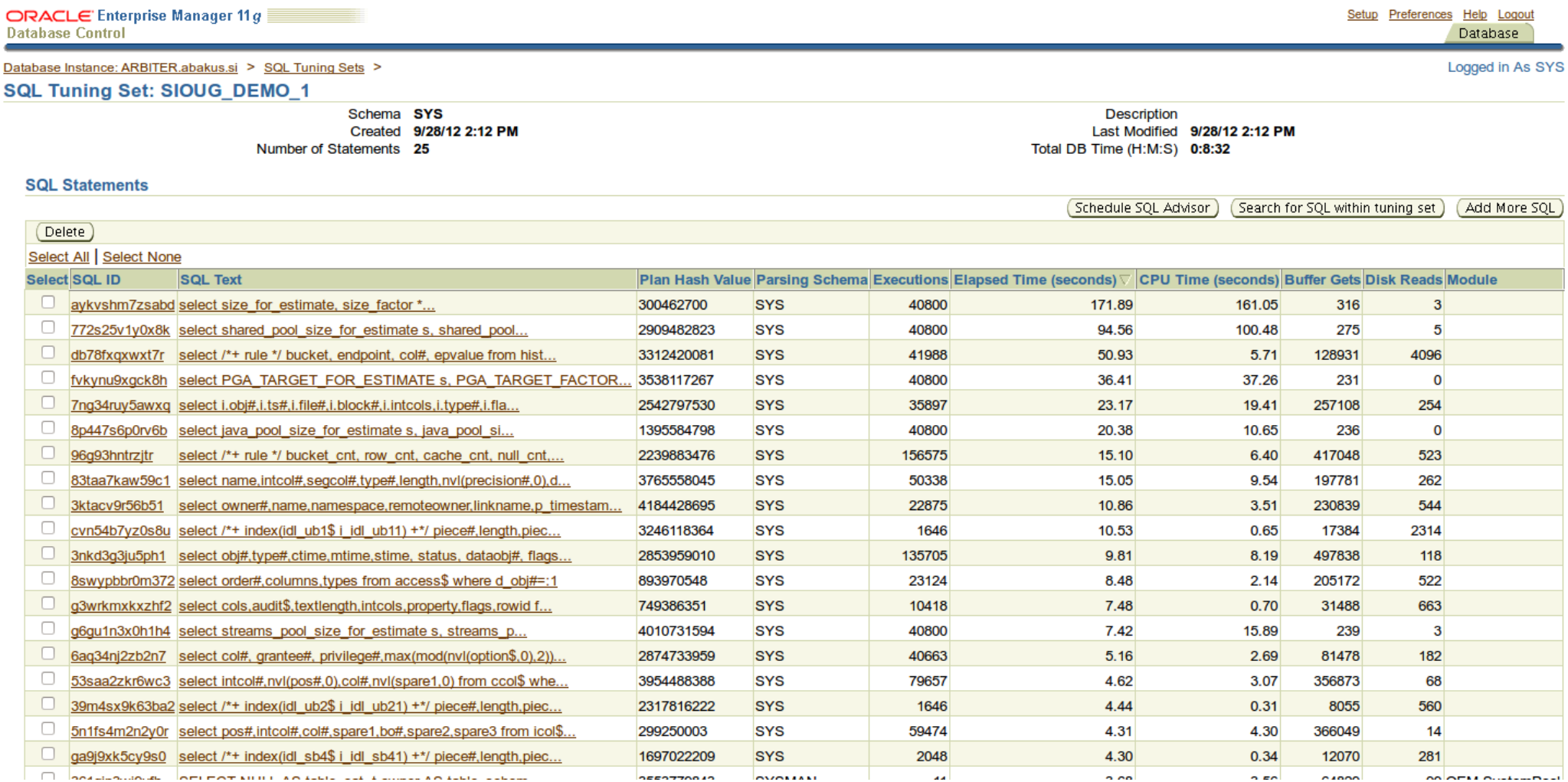
SQL Related Advisors

1. Create SQL Tunning Set
2. Run advisor(s)
3. Check Results

SQL Tuning Set: Data Sources

- SQL Cursor Cache
- AWR Snapshot Range
- SQL Trace Files
- Existing SQL Tunning Set

SQL Tuning Set - EM



Select	SQL ID	SQL Text	Plan Hash Value	Parsing Schema	Executions	Elapsed Time (seconds)	CPU Time (seconds)	Buffer Gets	Disk Reads	Module
☐	aykvshm7zsabd	select size_for_estimate, size_factor *...	300462700	SYS	40800	171.89	161.05	316	3	
☐	772s25v1y0x8k	select shared_pool_size_for_estimate s, shared_pool...	2909482823	SYS	40800	94.56	100.48	275	5	
☐	db78fxqxwxt7r	select /*+ rule */ bucket, endpoint, col#, epvalue from hist...	3312420081	SYS	41988	50.93	5.71	128931	4096	
☐	fvkynu9xgck8h	select PGA_TARGET_FOR_ESTIMATE s, PGA_TARGET_FACTOR...	3538117267	SYS	40800	36.41	37.26	231	0	
☐	7ng34ruy5awxq	select i.obj#,i.ts#,i.file#,i.block#,i.intcols,i.type#,i.fla...	2542797530	SYS	35897	23.17	19.41	257108	254	
☐	8p447s6p0rv6b	select java_pool_size_for_estimate s, java_pool_si...	1395584798	SYS	40800	20.38	10.65	236	0	
☐	96g93hntrzjtr	select /*+ rule */ bucket_cnt, row_cnt, cache_cnt, null_cnt,...	2239883476	SYS	156575	15.10	6.40	417048	523	
☐	83taa7kaw59c1	select name,intcol#,segcol#,type#,length,nvl(precision#,0),d...	3765558045	SYS	50338	15.05	9.54	197781	262	
☐	3ktacv9r56b51	select owner#,name,namespace,remoteowner,linkname,p_timestam...	4184428695	SYS	22875	10.86	3.51	230839	544	
☐	cvn54b7yz0s8u	select /*+ index(idl_ub1$ i_idl_ub11) +*/ piece#,length,piec...	3246118364	SYS	1646	10.53	0.65	17384	2314	
☐	3nkd3g3ju5ph1	select obj#,type#,ctime,mtime,stime, status, dataobj#, flags...	2853959010	SYS	135705	9.81	8.19	497838	118	
☐	8swypbbr0m372	select order#,columns,types from access$ where d_obj#=:1	893970548	SYS	23124	8.48	2.14	205172	522	
☐	g3wrkmxkxzhf2	select cols,audit$,textlength,intcols,property,flags,rowid f...	749386351	SYS	10418	7.48	0.70	31488	663	
☐	g6gu1n3x0h1h4	select streams_pool_size_for_estimate s, streams_p...	4010731594	SYS	40800	7.42	15.89	239	3	
☐	6aq34nj2zb2n7	select col#, grantee#, privilege#,max(mod(nvl(option$,0),2))...	2874733959	SYS	40663	5.16	2.69	81478	182	
☐	53saa2zkr6wc3	select intcol#,nvl(pos#,0),col#,nvl(spare1,0) from ccol$ whe...	3954488388	SYS	79657	4.62	3.07	356873	68	
☐	39m4sx9k63ba2	select /*+ index(idl_ub2$ i_idl_ub21) +*/ piece#,length,piec...	2317816222	SYS	1646	4.44	0.31	8055	560	
☐	5n1fs4m2n2y0r	select pos#,intcol#,col#,spare1,bo#,spare2,spare3 from icol$...	299250003	SYS	59474	4.31	4.30	366049	14	
☐	ga9j9xk5cy9s0	select /*+ index(idl_sb4$ i_idl_sb41) +*/ piece#,length,piec...	1697022209	SYS	2048	4.30	0.34	12070	281	

Running SQL Advisors

- Create Tunning Task
- Specify Tunning Set & parameters
- Execute Tunning Task
- Generate Report

- Drop Tunning Task when finished

Generate Report & Scripts

- **Enterprise Manager**

- `dbms_advisor.get_task_report()`
- `dbms_advisor.get_task_script()`

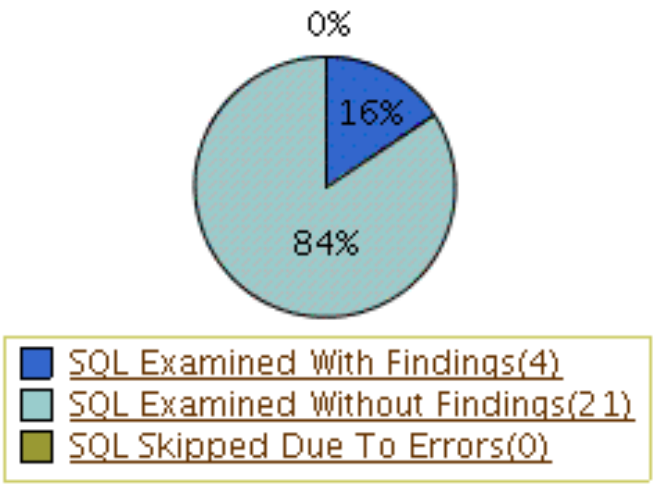
- `DBA_ADVISOR_FINDINGS`
- `DBA_ADVISOR_RECOMMENDATIONS`
- `DBA_ADVISOR_ACTIONS`

SQL Tuning Advisor

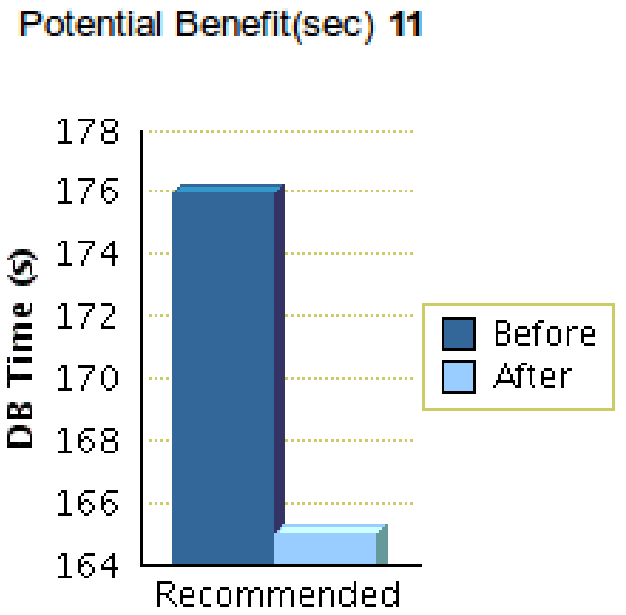
- Statistics Analysis
- SQL Profiling
- SQL Structure Analysis
- Access Path Analysis

SQL Tuning Advisor – EM

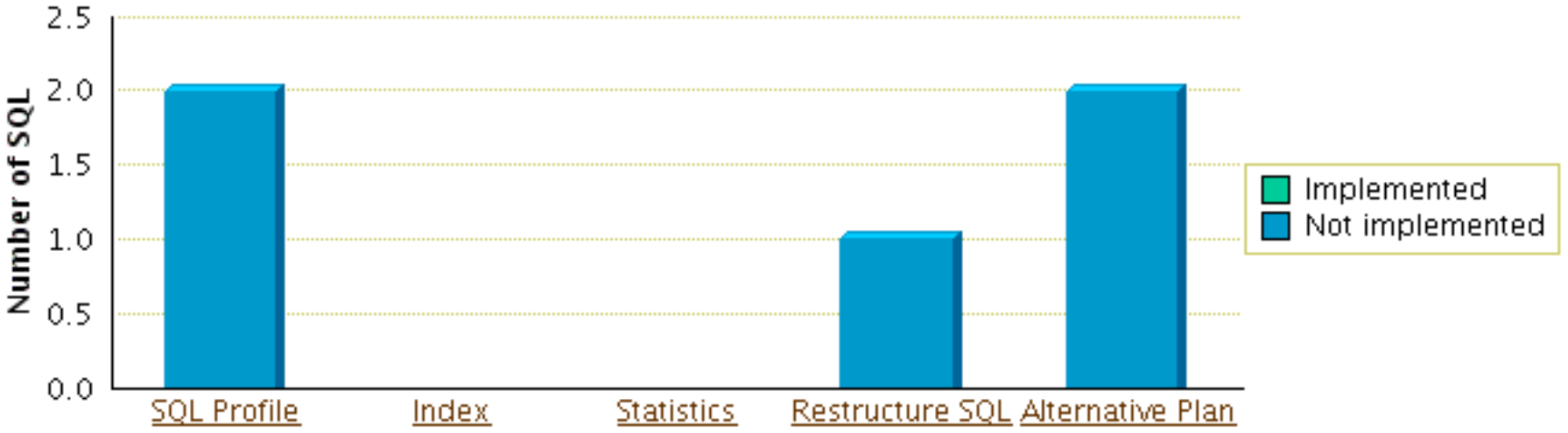
SQL Examined Status



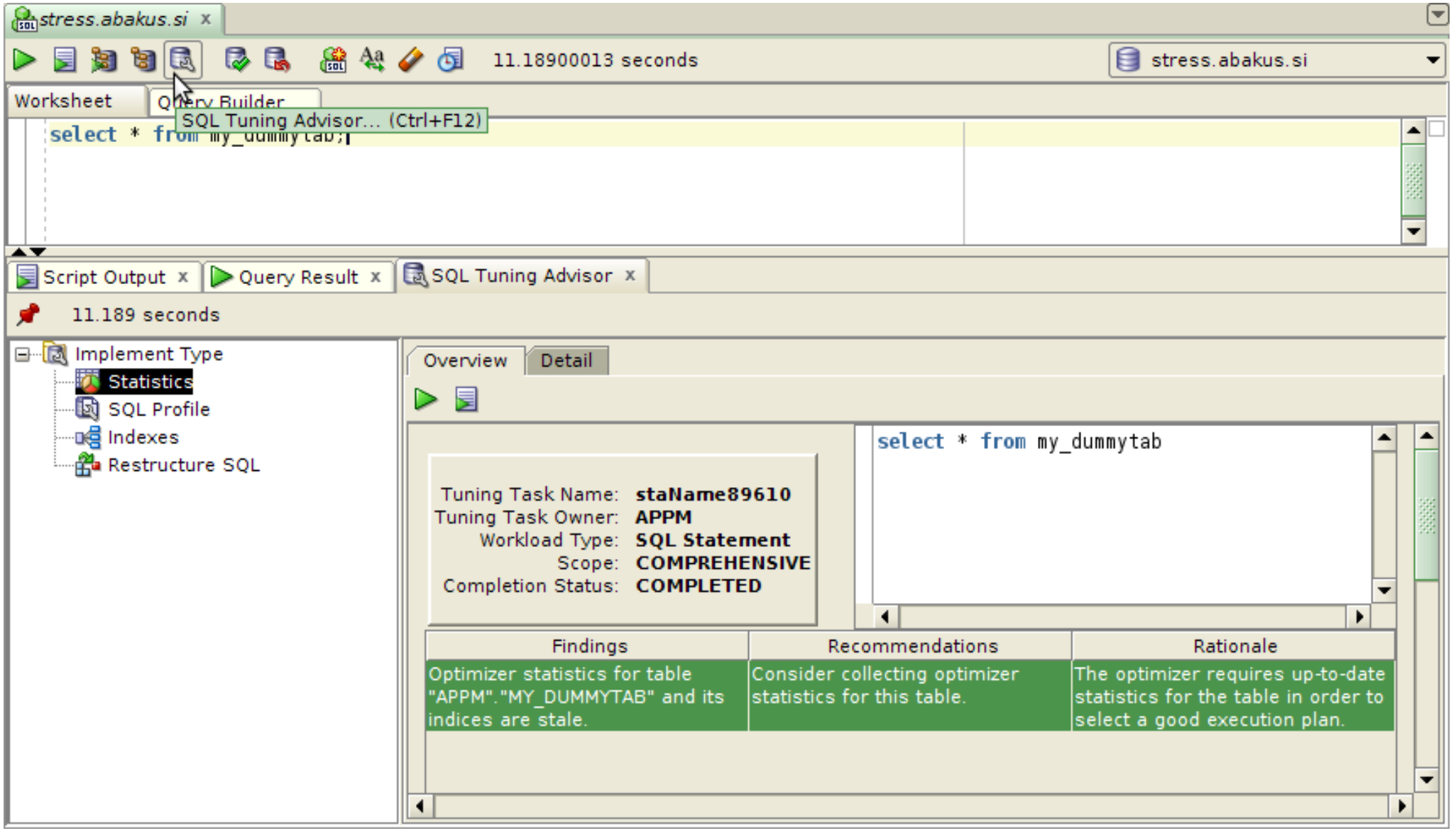
Workload Potential DB Time Benefit (seconds per week)



Breakdown by Finding Type



SQL Tuning Advisor – SQL Developer



SQL Tuning Advisor – PL/SQL

- create_tuning_task
- execute_tuning_task
- report_tuning_task
- drop_tuning_task

```
DECLARE
   l_task_id VARCHAR2(100);
   l_report CLOB;
   c_sql_text CONSTANT VARCHAR2(500) := '
      SELECT * FROM demotab
         WHERE object_name=nvl(:bind_name, ''X'')';

BEGIN
   l_task_id := dbms_sqltune.create_tuning_task (
      sql_text => c_sql_text,
      bind_list => sql_binds(
          anydata.convertVarchar2('DBA_OBJECTS')),
      scope => dbms_sqltune.SCOPE_COMPREHENSIVE);

   dbms_sqltune.execute_tuning_task(l_task_id);

   l_report := dbms_sqltune.report_tuning_task(
      task_name => l_task_id,
      type => dbms_sqltune.TYPE_TEXT,
      level => dbms_sqltune.LEVEL_ALL,
      section => dbms_sqltune.SECTION_ALL);

   dbms_output.put_line(l_report);

   dbms_sqltune.drop_tuning_task(l_task_id);
END;
```

SQL Tuning Advisor - Sample Results

```
1- Statistics Finding
---------------------
  Table "SIOUG2012"."DEMOTAB" was not analyzed.

  Recommendation
  --------------
  - Consider collecting optimizer statistics for this table.
    execute dbms_stats.gather_table_stats(ownname => 'SIOUG2012',
    tabname => 'DEMOTAB', estimate_percent => DBMS_STATS.
    AUTO_SAMPLE_SIZE, method_opt => 'FOR ALL COLUMNS SIZE AUTO');

  Rationale
  ---------
    The optimizer requires up-to-date statistics for the table in
    order to select a good execution plan.
```

SQL Tuning Advisor - Sample Results

```
2- Index Finding (see explain plans section below)
--------------------------------------------------
  The execution plan of this statement can be improved by creating one or
  more indices.

  Recommendation (estimated benefit: 99.97%)
  ------------------------------------------
  - Consider running the Access Advisor to improve the physical schema design
    or creating the recommended index. create index SCOTT.IDX$$_07120001 on
    SCOTT.BIG_TABLE("OWNER");

  Rationale
  ---------
    Creating the recommended indices significantly improves the execution plan
    of this statement. However, it might be preferable to run "Access Advisor"
    using a representative SQL workload as opposed to a single statement. This
    will allow to get comprehensive index recommendations which takes into
    account index maintenance overhead and additional space consumption.
```

SQL Tuning Advisor

```
1- SQL Profile Finding (see explain plans section below)
--------------------------------------------------------
  A potentially better execution plan was found for this
  statement.

  Recommendation (estimated benefit: 33.35%)
  ------------------------------------------
  - Consider accepting the recommended SQL profile.
    execute dbms_sqltune.accept_sql_profile(task_name =>
            'SQL_TUNING_1348835163354', object_id => 21,
            task_owner => 'SYS', replace => TRUE);
```

SQL Tuning Advisor – Sample Results

```
2- Alternative Plan Finding
---------------------------
  Some alternative execution plans for this statement were found by searching
  the system's real-time and historical performance data.

  The following table lists these plans ranked by their average elapsed time.
  See section "ALTERNATIVE PLANS SECTION" for detailed information on each
  plan.

  id plan hash  last seen            elapsed (s)  origin          note
  -- ---------- -------------------- ------------ --------------- ----------------
   1  300462700  2012-09-28/14:05:48        0.004 Cursor Cache

  Information
  -----------
  - Because no execution history for the Original Plan was found, the SQL
    Tuning Advisor could not determine if any of these execution plans are
    superior to it.  However, if you know that one alternative plan is better
    than the Original Plan, you can create a SQL plan baseline for it. This
    will instruct the Oracle optimizer to pick it over any other choices in
    the future.
    execute dbms_sqltune.create_sql_plan_baseline(task_name =>
            'SQL_TUNING_1348835163354', object_id => 2, owner_name => 'SYS',
            plan_hash_value => xxxxxxxx);
```

SQL Tuning Advisor – Sample Results

Compare Explain Plans

Original Explain Plan (Annotated)

Plan Hash Value **3993303771**

Expand All | Collapse All

Operation	Line ID	Object	Object Type	Order	Rows	Bytes	Cost	Tim
SELECT STATEMENT	0			2		57.814	7,067	85
TABLE ACCESS FULL	1	SCOTT.BIG_TABLE	TABLE	1		57.814	7,067	85

New Explain Plan With Index

Plan Hash Value **636441082**

Expand All | Collapse All

Operation	Line ID	Object	Object Type	Order	Rows	Bytes	Cost	Tir
SELECT STATEMENT	0			3		57.814	2	1
TABLE ACCESS BY INDEX ROWID	1	SCOTT.BIG_TABLE	TABLE	2		57.814	2	1
INDEX RANGE SCAN	2	IDX$$_07120001	INDEX	1			1	1

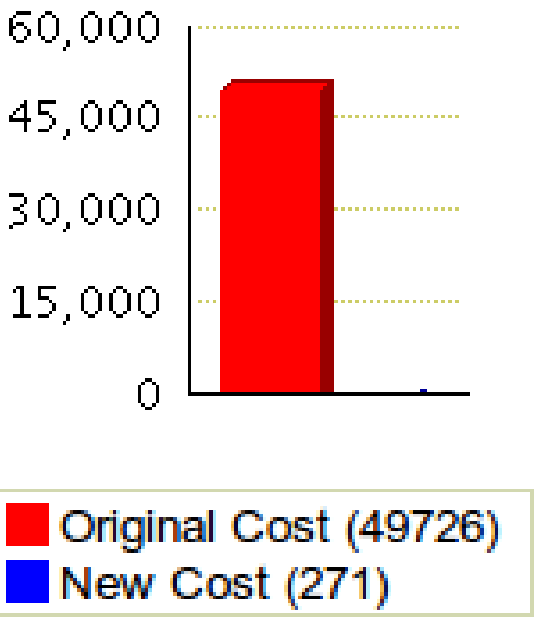
SQL Access Advisor

- Indexes
- Materialized views
- Partitioning

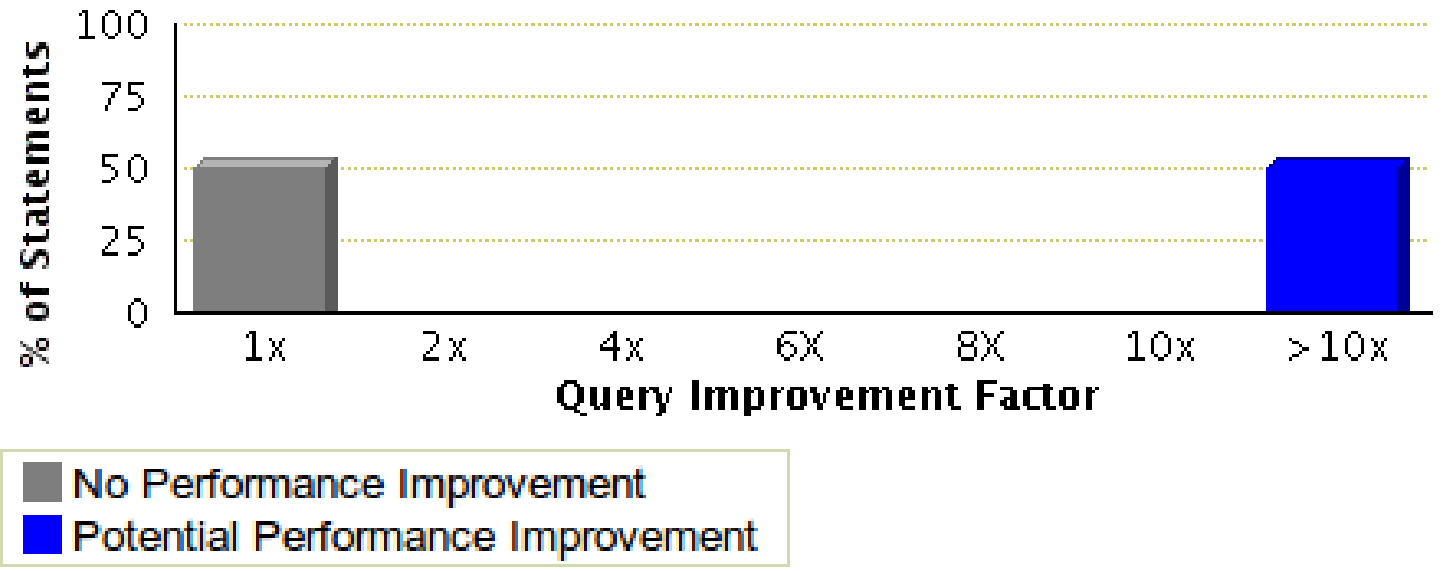
  * requires statistics already gathered!

SQL Access Advisor – EM

Workload I/O Cost



Query Execution Time Improvement



SQL Access Advisor – PL/SQL

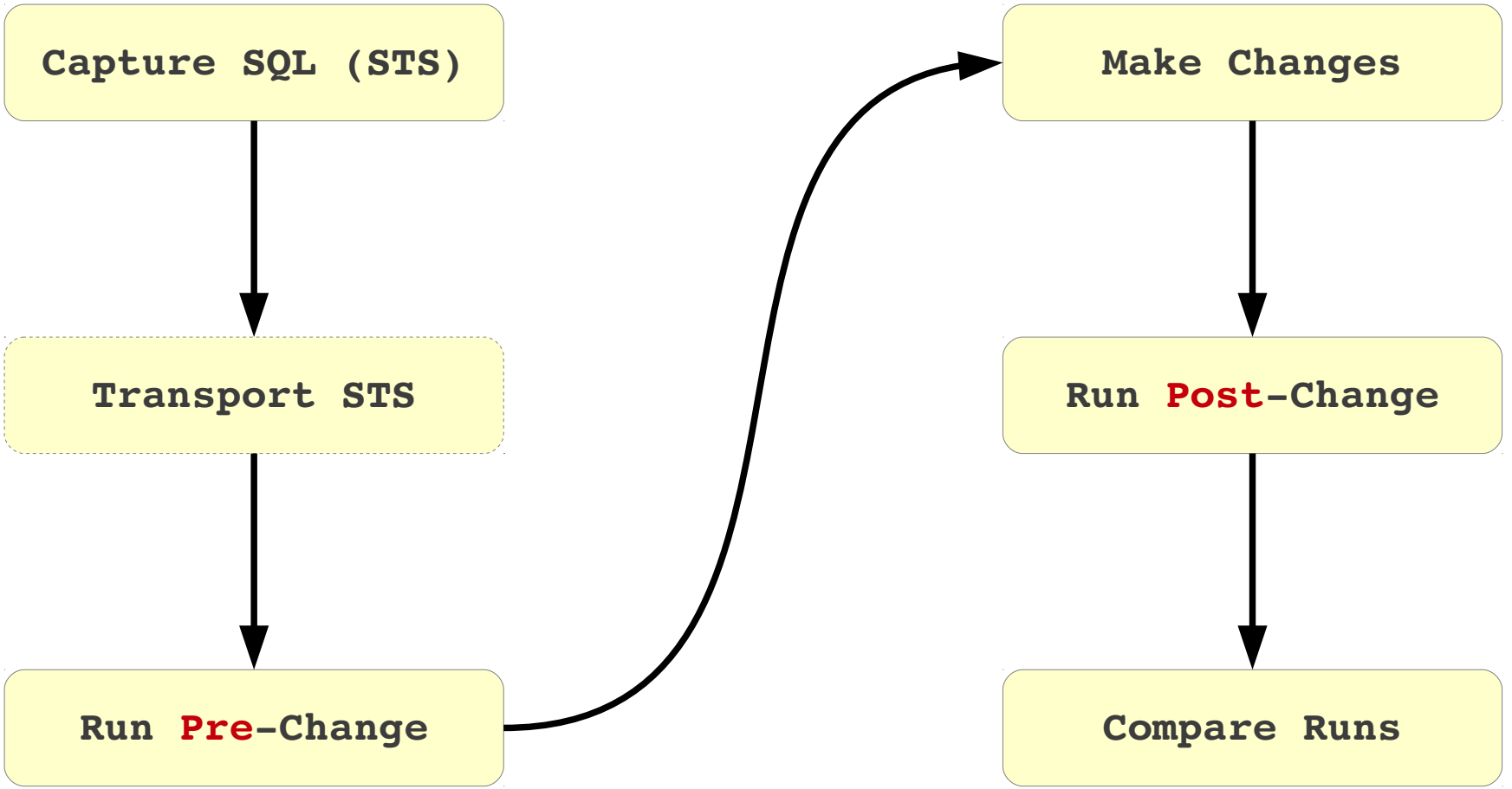
- create_task
- add_sts_ref
- set_task_parameter
- execute_tas
- get_task_script
- delete_task

```
DECLARE
   l_task_name VARCHAR2(100) := NULL;
   l_task_id NUMBER := NULL;
   l_script CLOB := NULL;

BEGIN
   dbms_advisor.create_task(
      advisor_name => dbms_advisor.SQLACCESS_ADVISOR,
      task_name => l_task_name,
      task_id => l_task_id);

   dbms_advisor.add_sts_ref(
      task_name => l_task_name,
      sts_owner => null,
      workload_name => 'SIOUG_2012_1' /* SQL Tuning Set */);

   dbms_advisor.set_task_parameter(l_task_name, 'ANALYSIS_SCOPE', 'ALL');
   dbms_advisor.set_task_parameter(l_task_name, 'MODE', 'COMPREHENSIVE');
   dbms_advisor.set_task_parameter(l_task_name, 'SHOW_RETAINS', 'TRUE');
   dbms_advisor.set_task_parameter(l_task_name, 'WORKLOAD_SCOPE', 'FULL');

   dbms_advisor.execute_task(l_task_name);

   l_script := dbms_advisor.get_task_script(
         task_name => l_task_name,
         type => 'IMPLEMENTATION',
         rec_id => dbms_advisor.advisor_all);

   dbms_advisor.delete_task(l_task_name);
END;
```

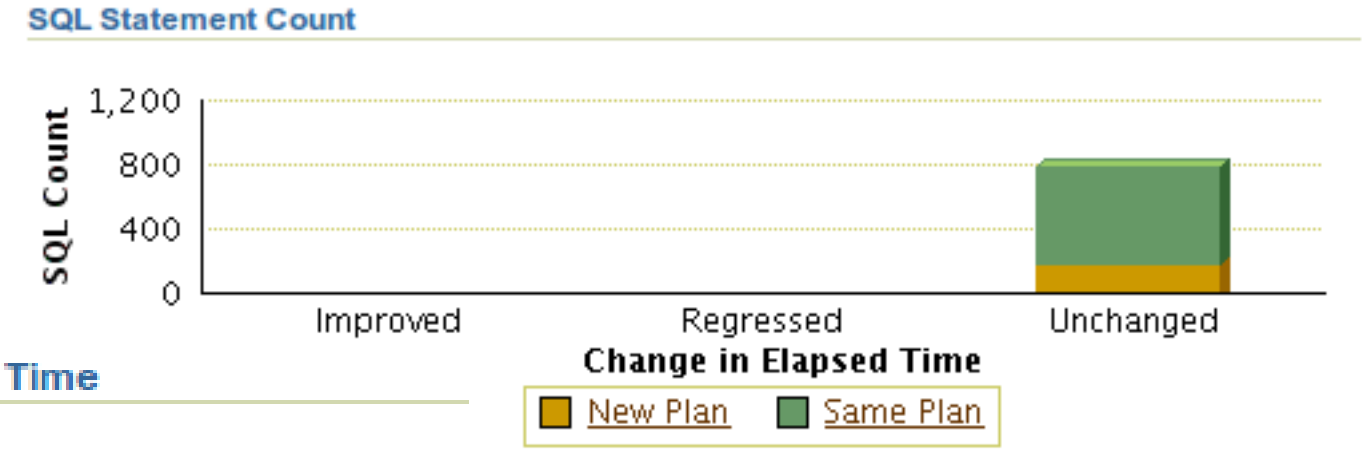
SQL Access Advisor – Sample Results

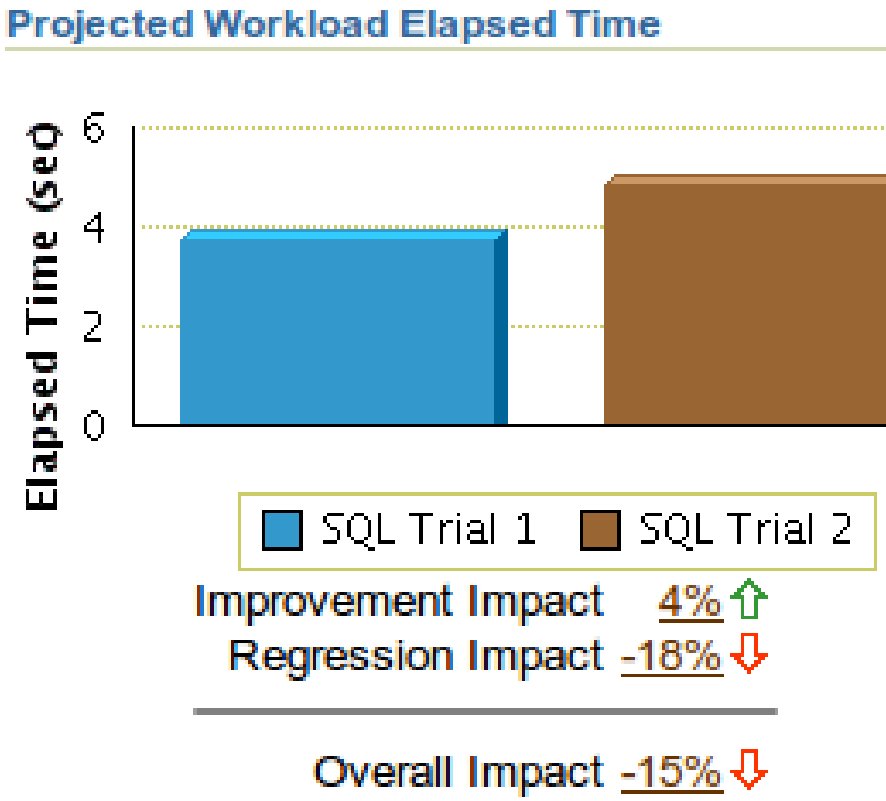
```
== REPORT ==
ORA-13699: Advisor feature is not currently implemented.

== SCRIPT ==
Rem  SQL Access Advisor: Version 11.2.0.3.0 - Production
Rem
Rem  Username:         APPM
Rem  Task:             TASK_1827
Rem  Execution date:
Rem

/* RETAIN INDEX "SCOTT"."BIG_TABLE_IDX1" */

CREATE INDEX "SCOTT"."BIG_TABLE_IDX$$_07230000"
    ON "SCOTT"."BIG_TABLE" ("OWNER") COMPUTE STATISTICS;
```

SQL Performance Analyzer



SQL Performance Analyzer – EM





Top 10 SQL Statements Based on Impact on Workload

	SQL ID	Net Impact on Workload (%)	Elapsed Time (sec)	
			SQL Trial 1	SQL Trial 2
⇩	cvfzdcvq3ck9b	-12.020	0.000	0.000
⇩	bvq6rgwpdt7vf	-2.630	0.000	0.016
⇧	9g485acn2n30m	2.420	0.000	0.000
⇩	gnkrt49h24x8a	-1.320	0.000	0.000
⇧	d98quc32ac7mp	1.280	0.000	0.000
⇩	6jdb8r7gzwzkf	-1.180	0.000	0.044
⇩	3an37r8rshb44	-1.140	0.000	0.021
⇩	13xfq5rcd0jd8	-1.000	0.000	0.005

SQL Performance Analyzer – Report

SUMMARY SECTION

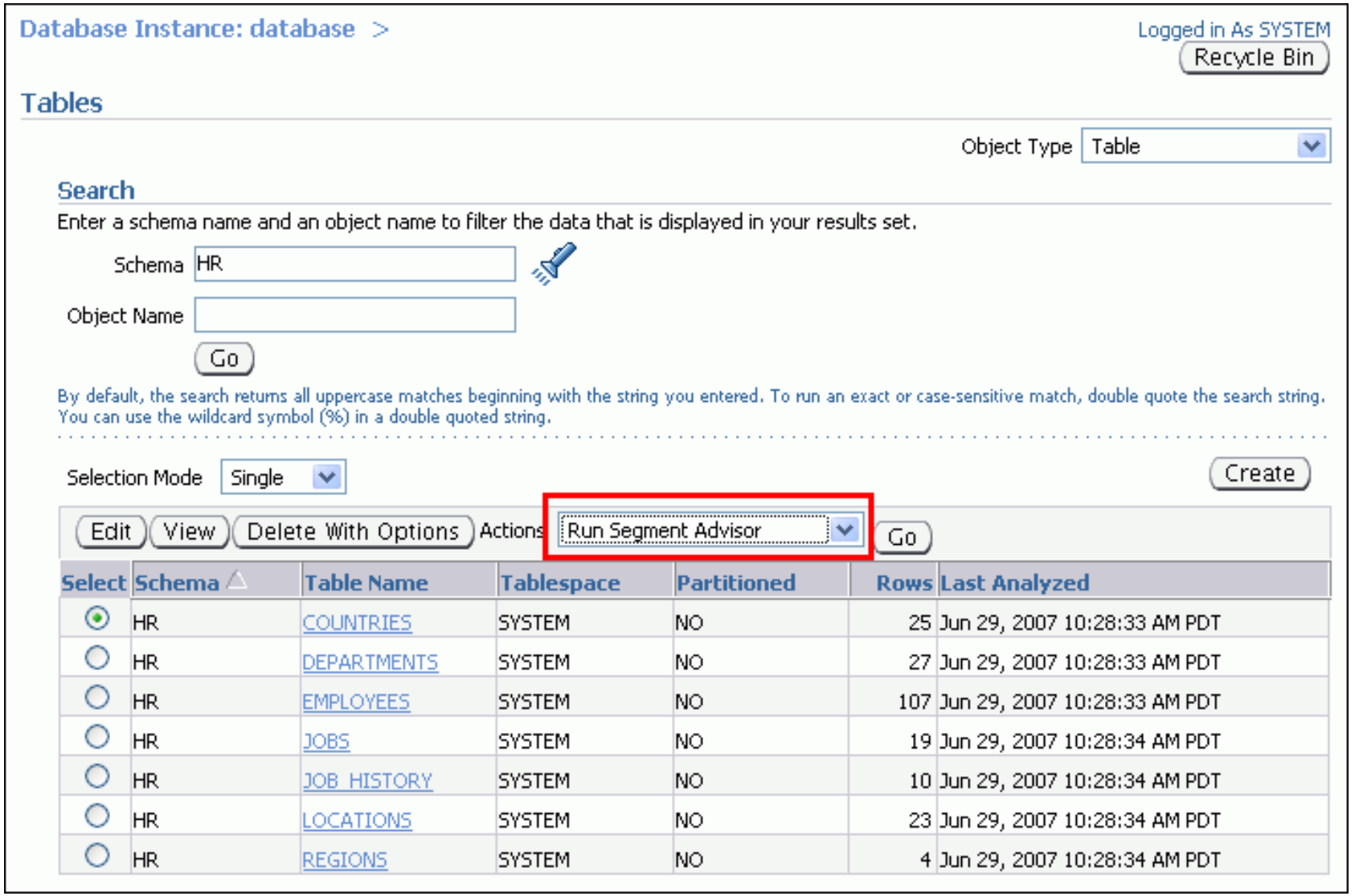
SQL Statements Ordered by Elapsed Time

object ID	SQL ID	Parse Time (s)	Elapsed Time (s)	CPU Time (s)	Buffer Gets	Optimizer Cost
82	dayq182sk41ks	.000445	.265121	.264293	0	1
14	22xz7pnhpn3jj	.000326	.024118	.023662	794	221
38	6snhyt55q03hn	.001005	.016161	.016108	785	211
20	2yb51u0rqs1mv	.429671	.014784	.014775	165	98
68	bt0vcngwaw6zd	.000992	.011291	.011109	2100	21
51	94kszry40n3bt	.000538	.008464	.008332	134	48
83	dcpku53g1c1p5	.00058	.008345	.008109	134	48

Segment Advisor

- Performs segment space usage analysis
- Runs automatically

Segment Advisor – EM



Segment Advisor – PL/SQL

```
DECLARE
   l_task_id NUMBER;
   l_task_name VARCHAR2(100);
   l_object_id NUMBER;

BEGIN
   dbms_advisor.create_task (
      advisor_name => 'Segment Advisor',
      task_name => l_task_name,
      task_id => l_task_id);

   dbms_advisor.create_object (
      task_name => l_task_name,
      object_type => 'TABLE',
      object_id => l_object_id,
      attr1 => 'SIOUG',
      attr2 => 'TEST_TAB',
      attr3 => NULL,
      attr4 => NULL,
      attr5 => NULL);

   dbms_advisor.execute_task(l_task_name);
end;
```

- **create_task()**
- **create_object()**
- **execute_task()**

Segment Advisor – Sample Results

```
EXECUTION_END       ADVISOR_NAME    TASK_NAME STATUS
------------------- --------------- --------- -----------
2012-08-21 15:47:25 Segment Advisor TASK_48   COMPLETED


TASK_NAME TABLE_NAME          INFO
--------- ----------------- ------------------------------
TASK_48   SIOUG.PRODUCTS_1  Enable row movement of the table
                            SIOUG.PRODUCTS_1 and perform shrink,
                            estimated savings is 10886699 bytes.
                            Allocated Space:14680064: Used Space:
                            3793365: Reclaimable Space :10886699:

TASK_48   SIOUG.PRODUCTS_2  The object has chained rows that can
                            be removed by re-org. 55 percent
                            chained rows can be removed by re-org.

TASK_48   SIOUG.PRODUCTS_2  The free space in the object is less
                            than 10MB.. Allocated Space:2097152:
                            Used Space:1765677: Reclaimable Space
                            :331475:
```

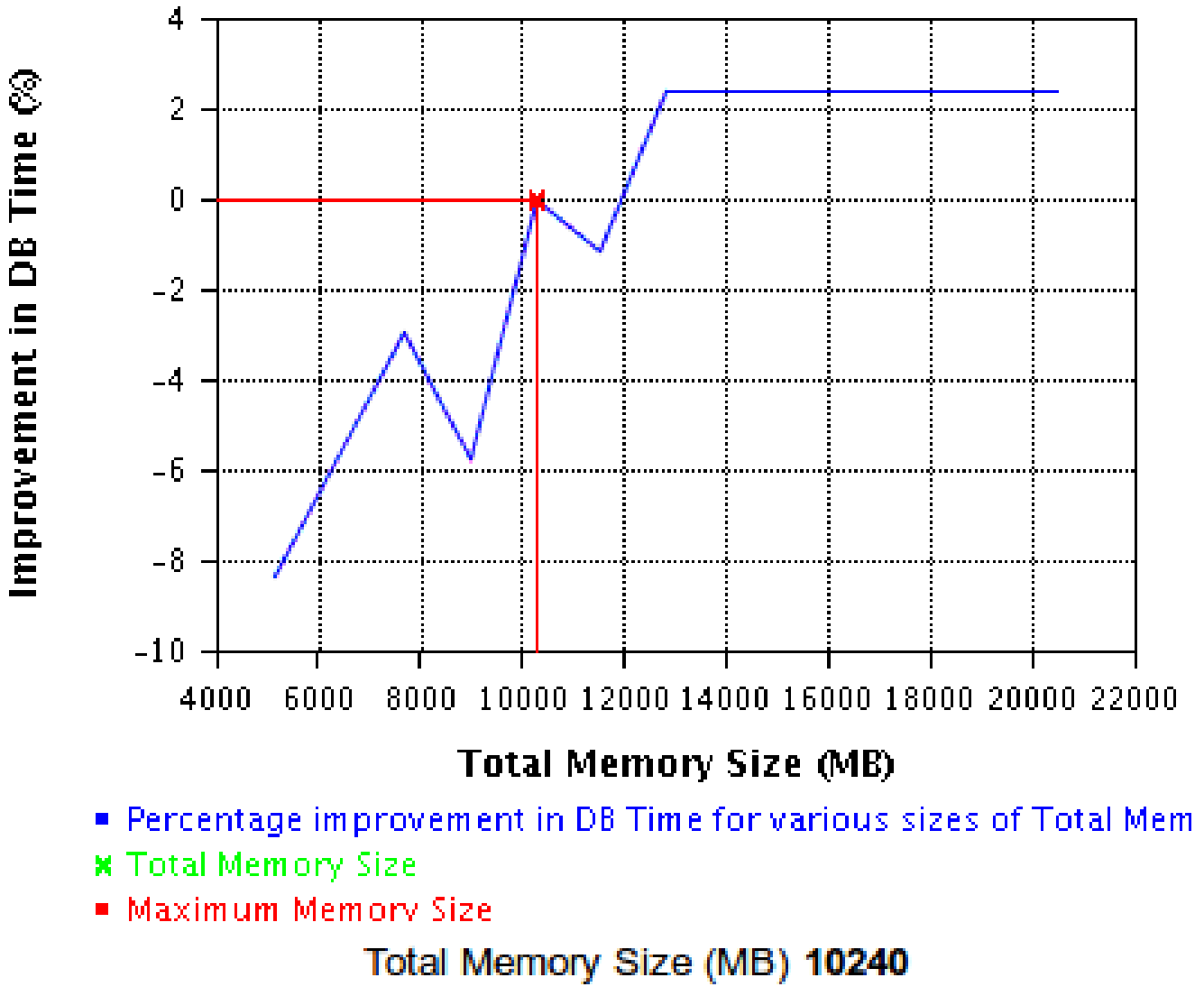
Memory Advisor - Views

- [v$|dba_hist] **memory_target_advice**
- [v$|dba_hist] **pga_target_advice**
- [v$|dba_hist] **sga_target_advice**
- [v$|dba_hist] **shared_pool_advice**
- [v$|dba_hist| **db_cache_advice**

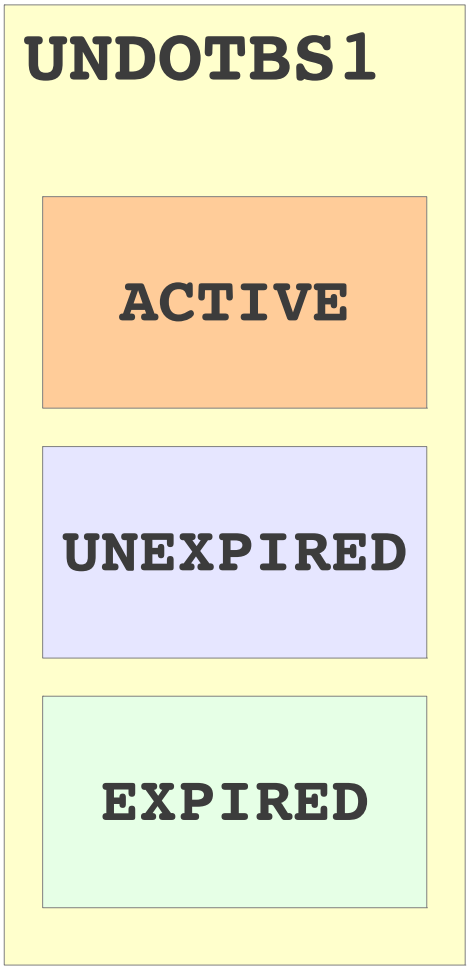
Memory Advisor - SQL

```
SQL> SELECT ... FROM v$memory_target_advice;

MEMORY_SIZE MEMORY_SIZE_FACTOR ESTD_DB_TIME ESTD_DB_TIME_FACTOR
----------- ------------------ ------------ ------------------
       5120                .5       290198             1.0864
       7680               .75       275426             1.0311
       8960              .875       282906             1.0591
      10240                 1       267119                  1
      11520             1.125       270324              1.012
      12800              1.25       260334              .9746
      14080             1.375       260334              .9746
      15360               1.5       260334              .9746
      16640             1.625       260334              .9746
      17920              1.75       260334              .9746
      19200             1.875       260334              .9746
      20480                 2       260334              .9746
```

Memory Advisor - EM Example

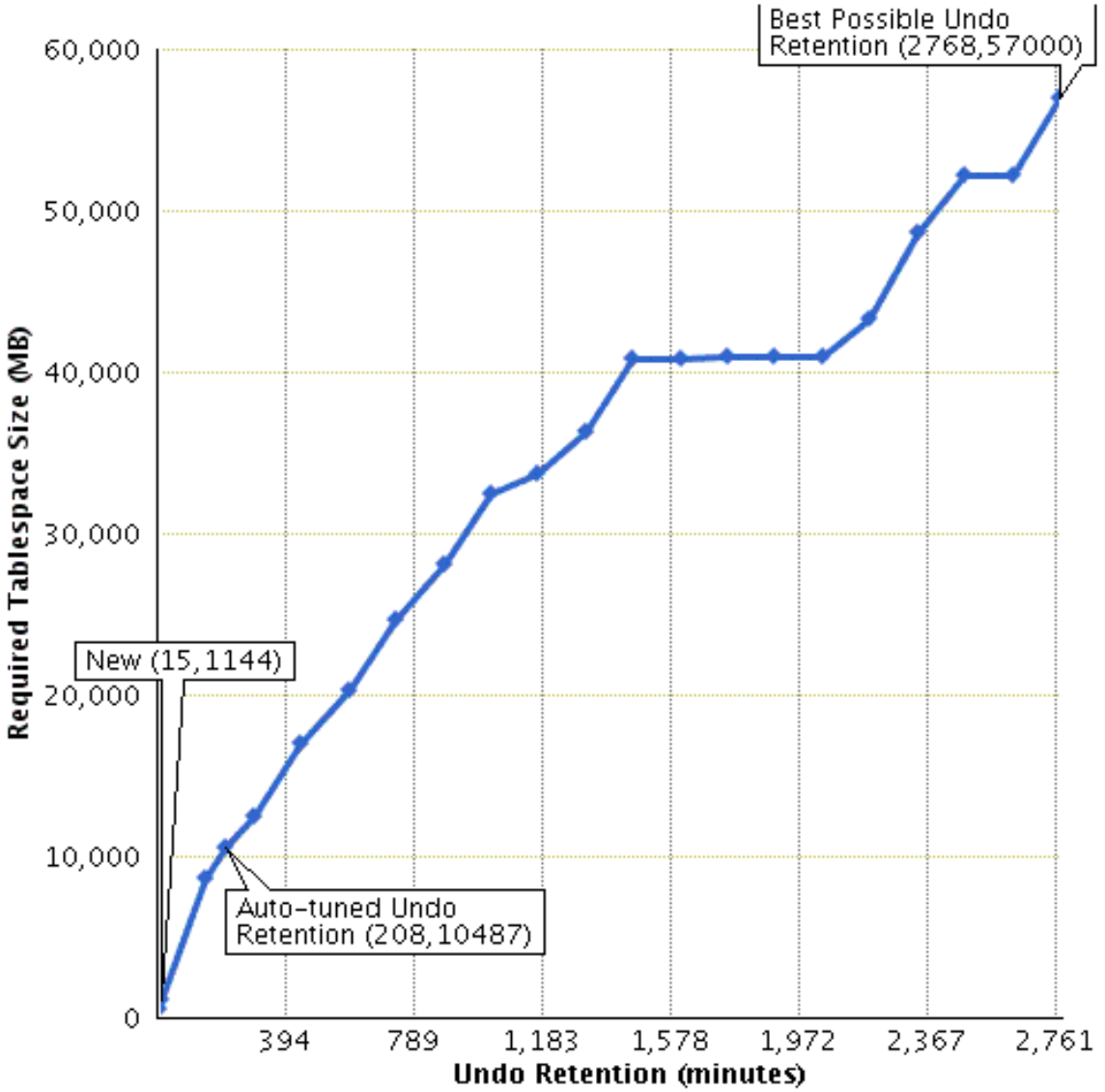


Undo Management Advisor




```
SELECT tablespace_name, status, SUM(blocks)
   FROM dba_undo_extents
   GROUP BY tablespace_name, status;

TABLESPACE_NAME STATUS    BLOCKS [GB]
--------------- --------- -----------
UNDOTBS1        ACTIVE           0.13
UNDOTBS1        EXPIRED          1.63
UNDOTBS1        UNEXPIRED       31.91
UNDOTBS2        ACTIVE           0.02
UNDOTBS2        EXPIRED          0.56
UNDOTBS2        UNEXPIRED         9.8
```

Undo Management Advisor

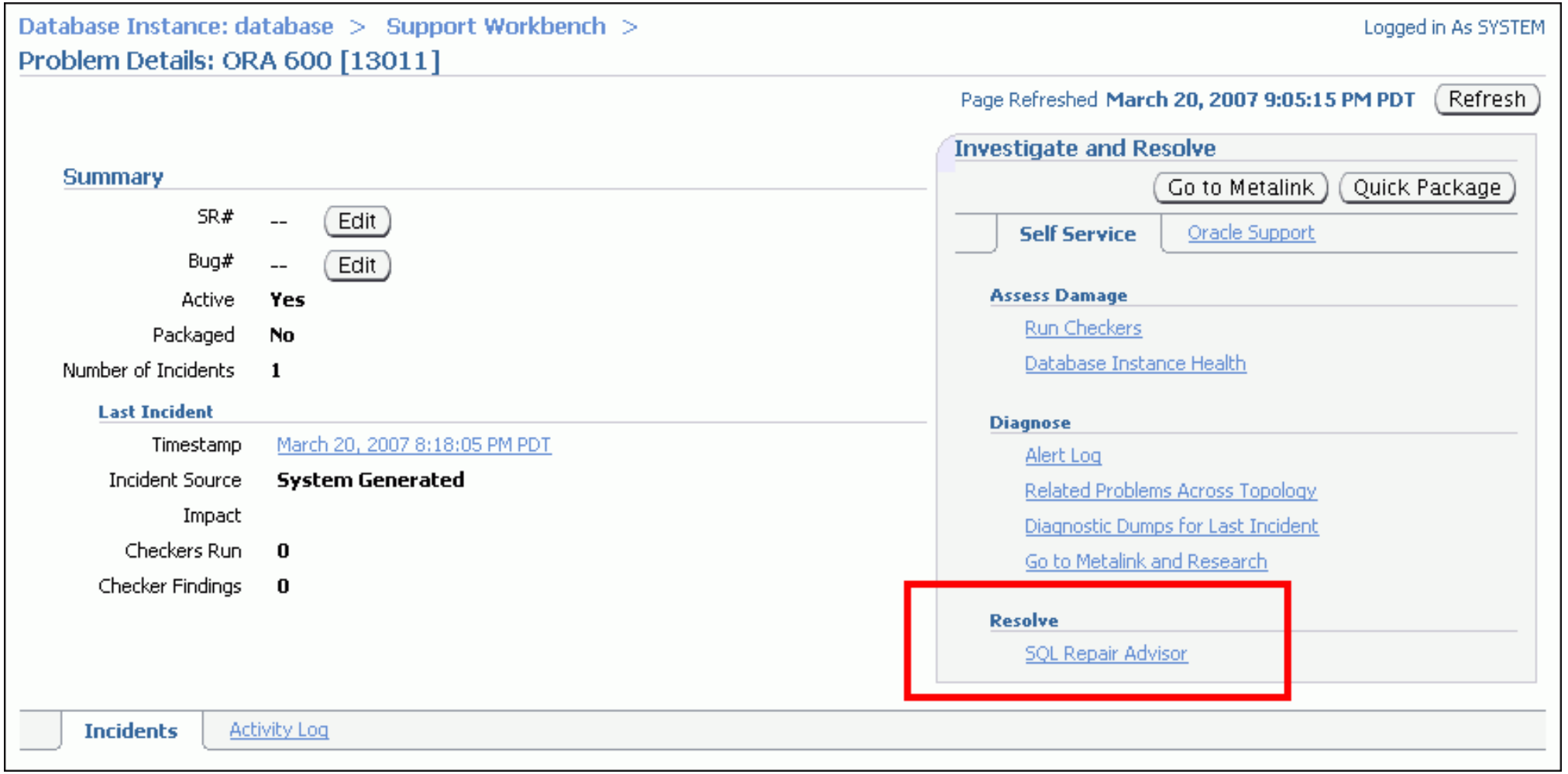


Undo Management Advisor

```
SQL> show parameter undo
NAME                 TYPE        VALUE
-------------------- ---------- -----------
undo_management      string      AUTO
undo_retention       integer     900
undo_tablespace      string      UNDOTBS1
```

```
SQL> SELECT ... FROM v$undostat;
BEGIN_TIME            TUNED_UNDORETENTION MAXQUERYLEN
--------------------- ------------------- ------------
2012-08-21 10:29:59   0 22:19:57.0          0 22:05:56.0
2012-08-21 10:19:59   0 22:10:56.0          0 21:55:56.0
2012-08-21 10:09:59   0 22:00:56.0          0 21:45:56.0
2012-08-21 09:59:59   0 21:50:55.0          0 21:35:54.0
2012-08-21 09:49:59   0 21:40:54.0          0 21:25:54.0
2012-08-21 09:39:59   0 21:30:54.0          0 21:15:54.0
2012-08-21 09:29:59   0 21:20:53.0          0 21:05:52.0
```

SQL Repair Advisor



SQL Repair Advisor – PL/SQL

- create_diagnosis_task
- execute_diagnosis_task
- report_diagnosis_task
- drop_diagnosis_task

```
declare
  l_task_id varchar2(50);

begin
   l_task_id := dbms_sqldiag.create_diagnosis_task(
      sql_text => 'SELECT * FROM table',
      task_name => null,
      problem_type =>
      dbms_sqldiag.problem_type_compilation_error);

   dbms_sqldiag.execute_diagnosis_task(l_task_id);

   dbms_output.put_line(
    dbms_sqldiag.report_diagnosis_task(
      l_task_id, dbms_sqldiag.type_text));

   dbms_sqldiag.drop_diagnosis_task(l_task_id);

end;
```

SQL Repair Advisor – Sample Results

```
GENERAL INFORMATION SECTION
-------------------------------------------------------------------------------
Tuning Task Name   : TASK_2094
Tuning Task Owner  : APPM
Workload Type      : Single SQL Statement
Scope              : COMPREHENSIVE
Time Limit(seconds): 1800
Completion Status  : COMPLETED
Started at         : 10/08/2012 12:15:30
Completed at       : 10/08/2012 12:15:30

-------------------------------------------------------------------------------
Schema Name: APPM
SQL ID     : 2jkbxu2f4w7s2
SQL Text   : SELECT * FROM not_exist

-------------------------------------------------------------------------------
No SQL patch was found to resolve the problem.

-------------------------------------------------------------------------------
```

Compression Advisor

- dbms_compression.get_compression_ratio

```
Compression Type: "Compress For OLTP"
Compression Ratio: 3.1

Blocks used by compressed sample:       478
Blocks used by uncompressed sample:    1488
Rows in a block in compressed sample:   217
Rows in a block in uncompressed sample: 69
```

Data Recovery Advisor - **LIST**

```
RMAN> list failure;


using target database control file instead of recovery
catalog
List of Database Failures
=========================


Failure ID Priority Status    Time Detected
---------- -------- --------- --------------------
42         HIGH     OPEN      2012-10-08 14:53:14


Summary
-------
One or more non-system datafiles are missing
```

Data Recovery Advisor – **ADVISE**

```
RMAN> advise failure 42;

analyzing automatic repair options; this may take some time
using channel ORA_DISK_1
analyzing automatic repair options complete

Mandatory Manual Actions
========================
no manual actions available

Optional Manual Actions
=======================
1. If file /oradata/URH/URH/datafile/o1_mf_users2_875n2z0q_.dbf was unintentionally renamed or
moved, restore it

Automated Repair Options
========================
Option Repair Description
------ ------------------
1      Restore and recover datafile 8
  Strategy: The repair includes complete media recovery with no data loss
  Repair script: /oracle/diag/rdbms/urh/urh/hm/reco_3214341396.hm
```

Data Recovery Advisor – **REPAIR**

```
RMAN> repair failure;

Strategy: The repair includes complete media recovery with no
data loss
Repair script: /oracle/diag/rdbms/urh/urh/hm/reco_626296980.hm

contents of repair script:
   # restore and recover datafile
   sql 'alter database datafile 8 offline';
   restore datafile 8;
   recover datafile 8;
   sql 'alter database datafile 8 online';

Do you really want to execute the above repair (enter YES or
NO)?
```

Health Checks

```
SELECT name FROM v$hm_check WHERE internal_check='N';
```

- DB Structure Integrity Check
- CF Block Integrity Check
- Data Block Integrity Check
- Redo Integrity Check
- Transaction Integrity Check
- Undo Segment Integrity Check
- Dictionary Integrity Check
- ASM Allocation Check

Health Checks – PL/SQL (dbms_hm)

- run_check
- get_run_report

```
BEGIN
    dbms_hm.run_check(
        check_name => 'Dictionary
Integrity Check',
        run_name =>
'SIOUG_20121');


    dbms_output.put_line(
       dbms_hm.get_run_report(
           'SIOUG_20121')
    );
END;
```

Health Checks – Sample Results

```
Recommendations
 Finding
 Finding Name   : Dictionary Inconsistency
 Finding ID     : 3362
 Type           : FAILURE
 Status         : OPEN
 Priority       : CRITICAL
 Message        : SQL dictionary health check: file$ pk 42 on
object FILE$ failed
 Message        : Damaged rowid is AAAAARAABAAAADpAAG -
                  - description: No further damage
                  description available
```

Server Alerts

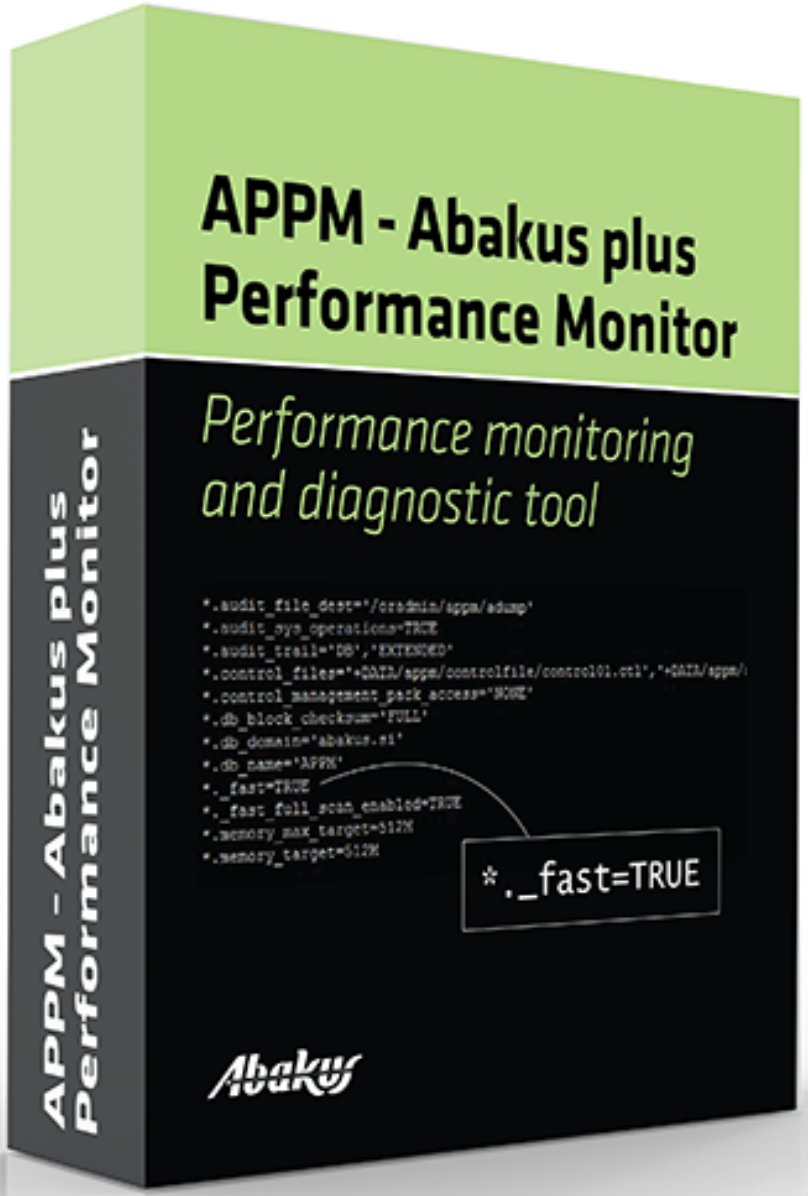
- DBA_OUTSTANDING_ALERTS
- DBA_ALERT_HISTORY

- dbms_server_alert
  - .set_threshold
  - .get_threshold
  - .view_thresholds

Server Alerts – Sample Results

```
SQL> SELECT ... FROM dba_alert_history;

SEQ MESSAGE_TYPE  MESSAGE_GROUP RESOLUTION    REASON
--- ------------- ------------- ------------- ------------------------------------------------
163 Notification  Performance   cleared       Metrics "Database Time Spent Waiting (%)" is at 4,
                                              54752 for event class "Concurrency"

143 Notification  Configuration cleared       Threshold is updated on metrics "Database Time Spe
                                              nt Waiting (%)" for instance "urh"
```

```
SQL> SELECT ... FROM dba_outstanding_alerts;

SEQ TYPE    GROUP        REASON                          SUGGESTED_ACTION
--- ------- ----------- ----------------------------    ------------------------------------------------
165 Warning Space       Tablespace [TOO_SMALL_TS] is    Add space to the tablespace
                        [100 percent] full

166 Warning Performance Metrics "Database Time Spent    Run ADDM to get more performance analysis about
                        Waiting (%)" is at 34,78593     your system.
                        for event class "Concurrency"
```


APPM - Abakus plus Performance Monitor
Performance monitoring and diagnostic tool
*.audit_file_dest='/oradmin/appm/adump'
*.audit_sys_operations=TRUE
*.audit_trail='DB','EXTENDED'
*.control_files="+DATA/appm/controlfile/control01.ctl","+DATA/appm/
*.control_management_pack_access='NONE'
*.db_block_checksum='FULL'
*.db_domain='abakus.si'
*.db_name='APPM'
*._fast=TRUE
*._fast_full_scan_enabled=TRUE
*.memory_max_target=512M
*.memory_target=512M
*._fast=TRUE
Abakus
APPM - Abakus plus Performance Monitor

?