13

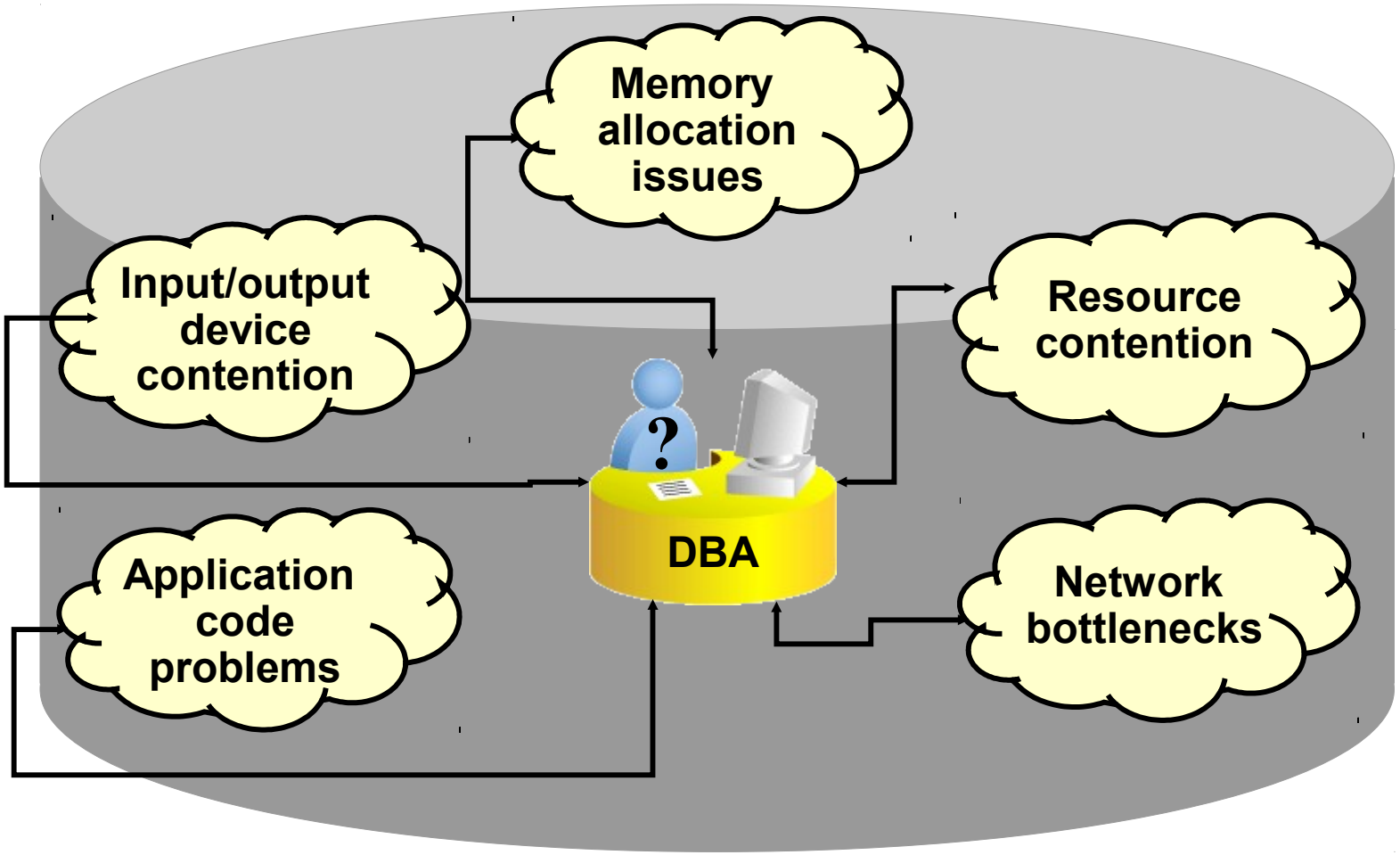
Performance Management

Objectives

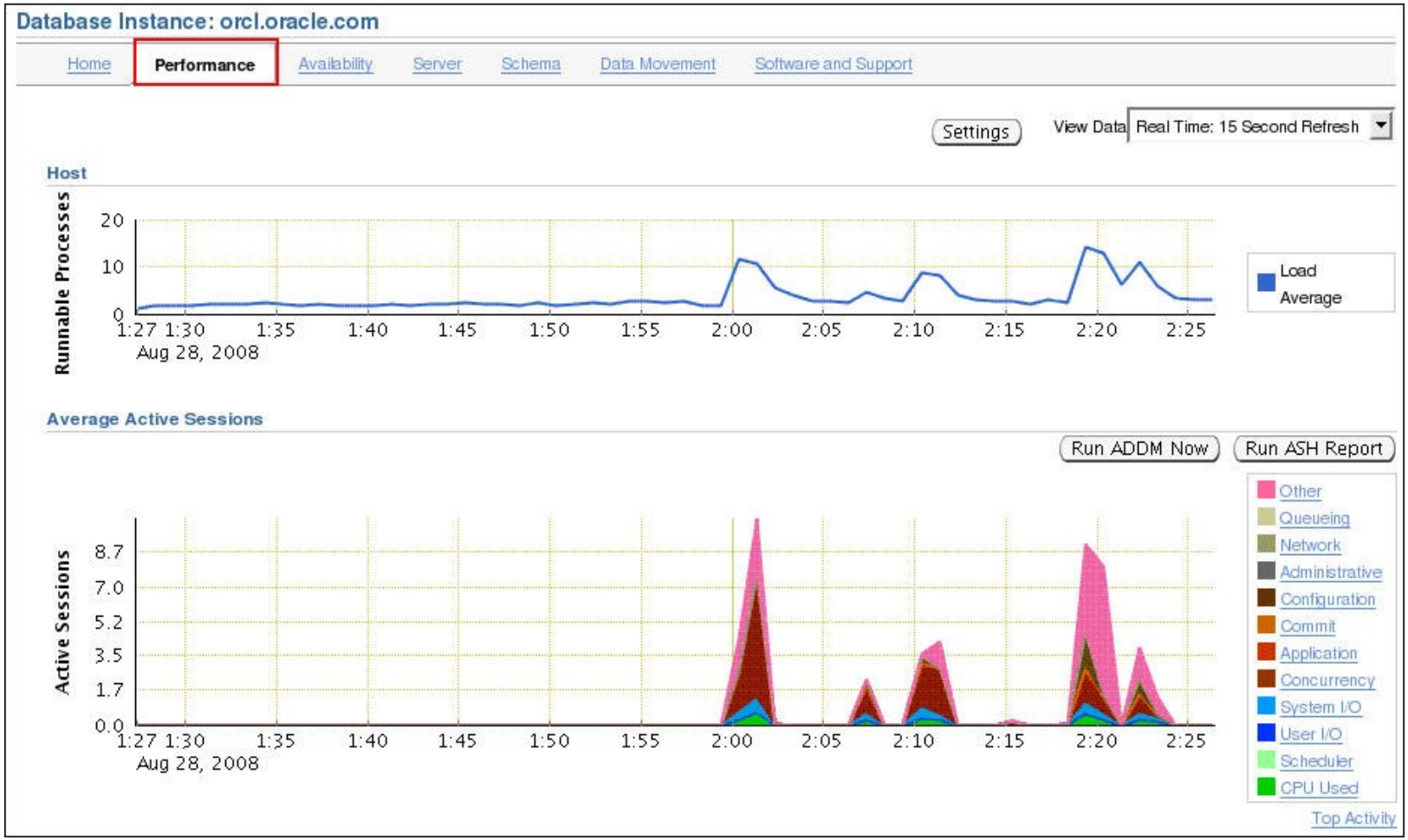
After completing this lesson, you should be able to:

- Use Enterprise Manager to monitor performance
- Use Automatic Memory Management (AMM)
- Use the Memory Advisor to size memory buffers
- View performance-related dynamic views
- Troubleshoot invalid and unusable objects

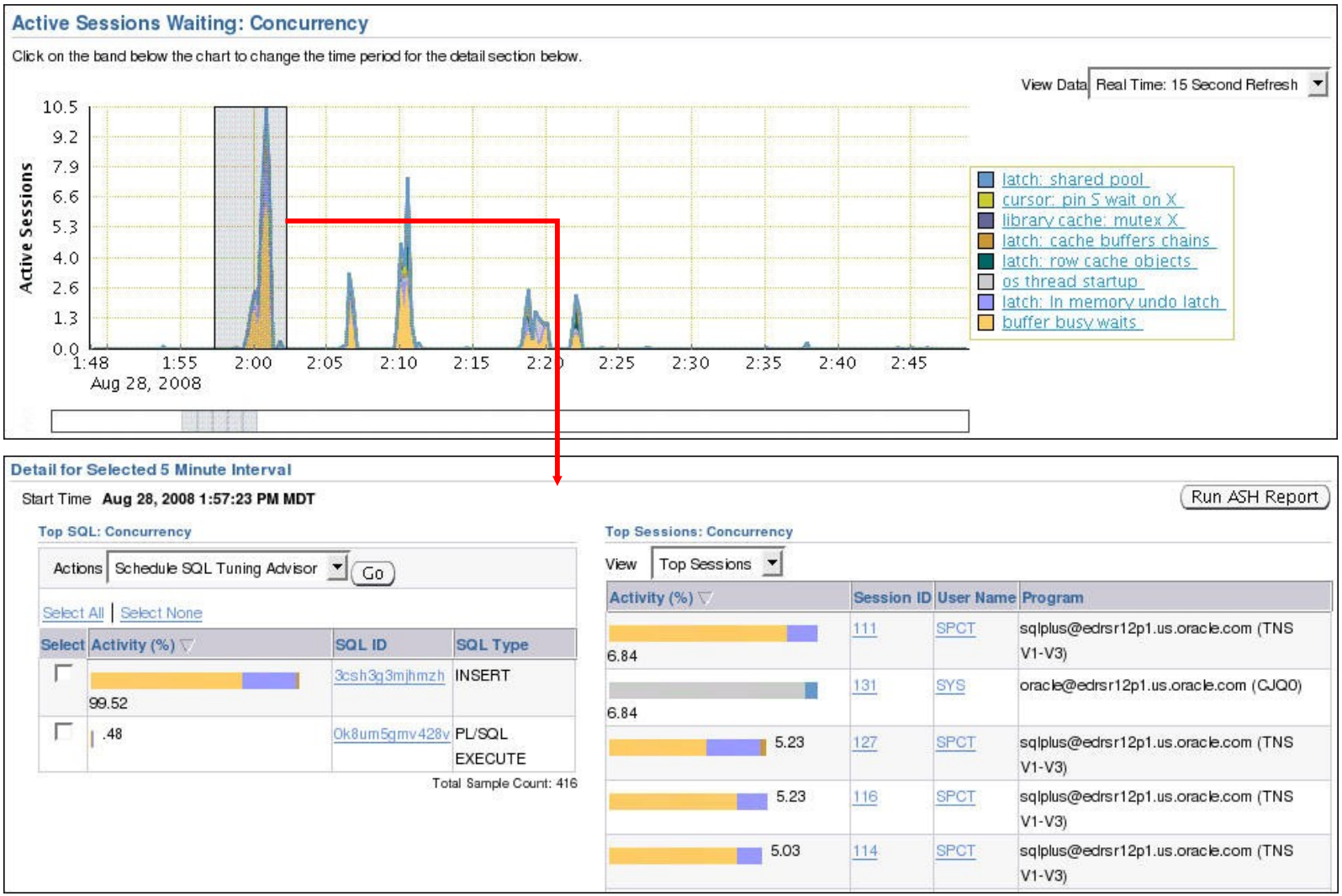
Performance Monitoring



Enterprise Manager Performance Page

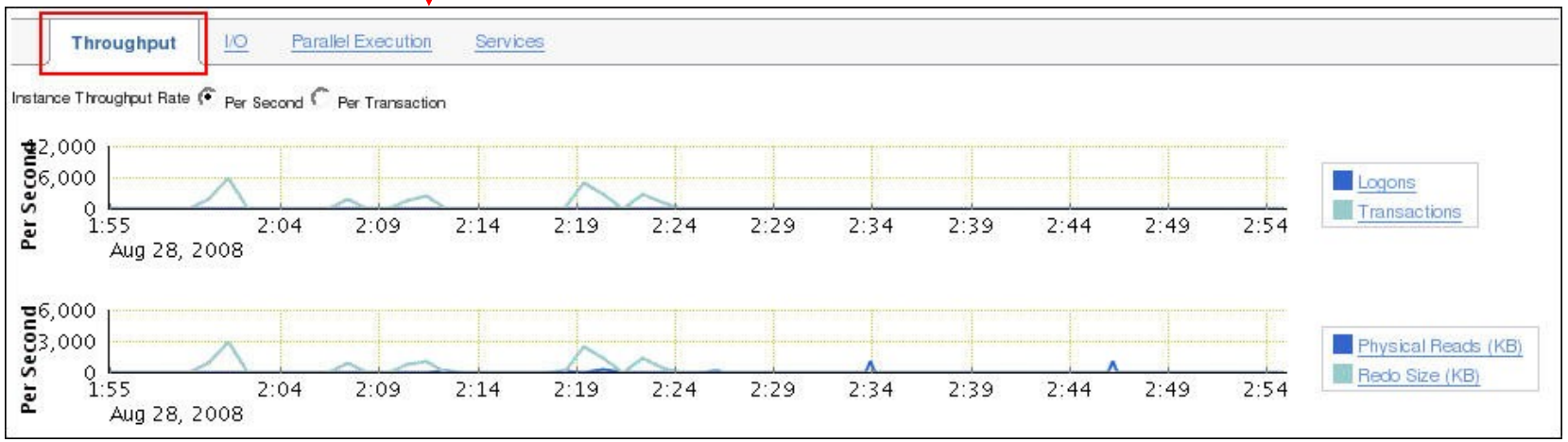


Drilling Down to a Particular Wait Category

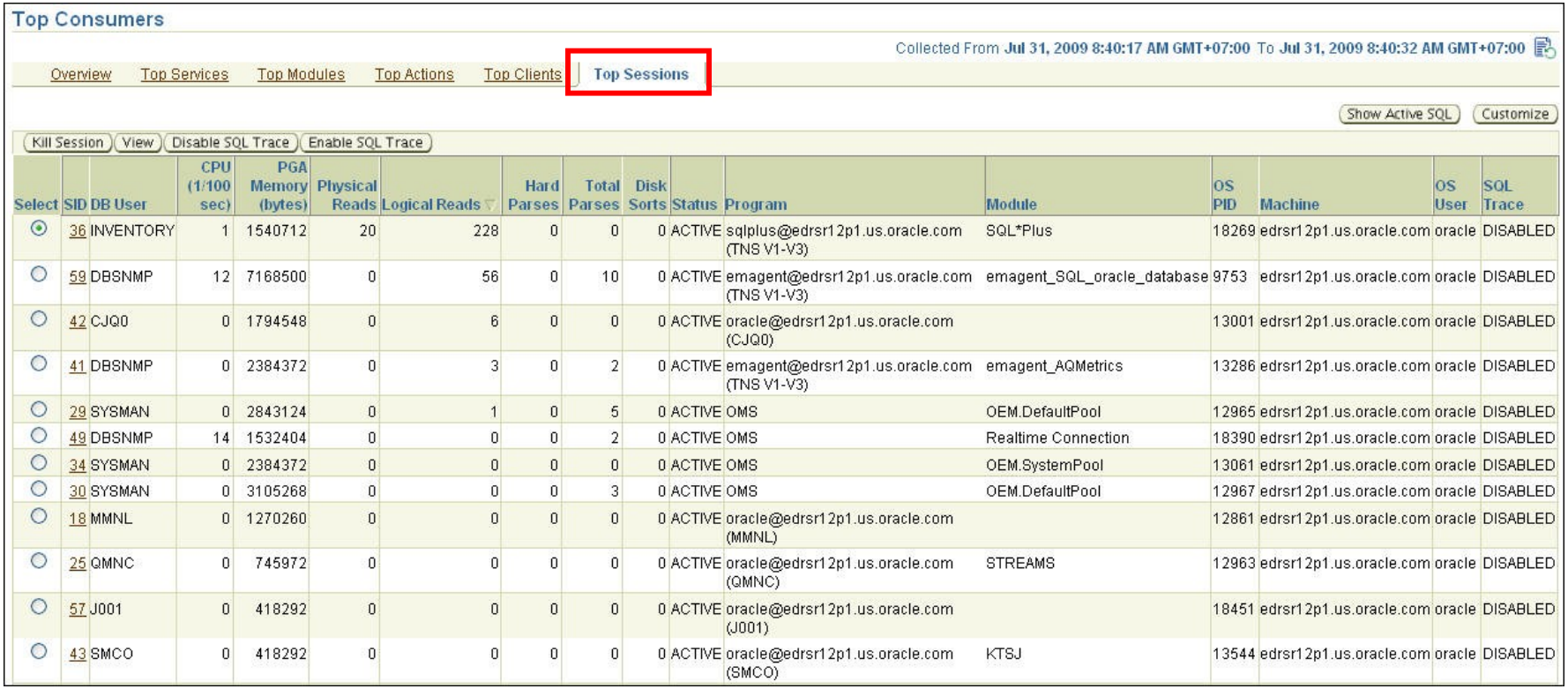


Performance Page: Throughput

Scroll down on the Performance page.



Performance Monitoring: Top Sessions



Top Consumers

Collected From Jul 31, 2009 8:40:17 AM GMT+07:00 To Jul 31, 2009 8:40:32 AM GMT+07:00

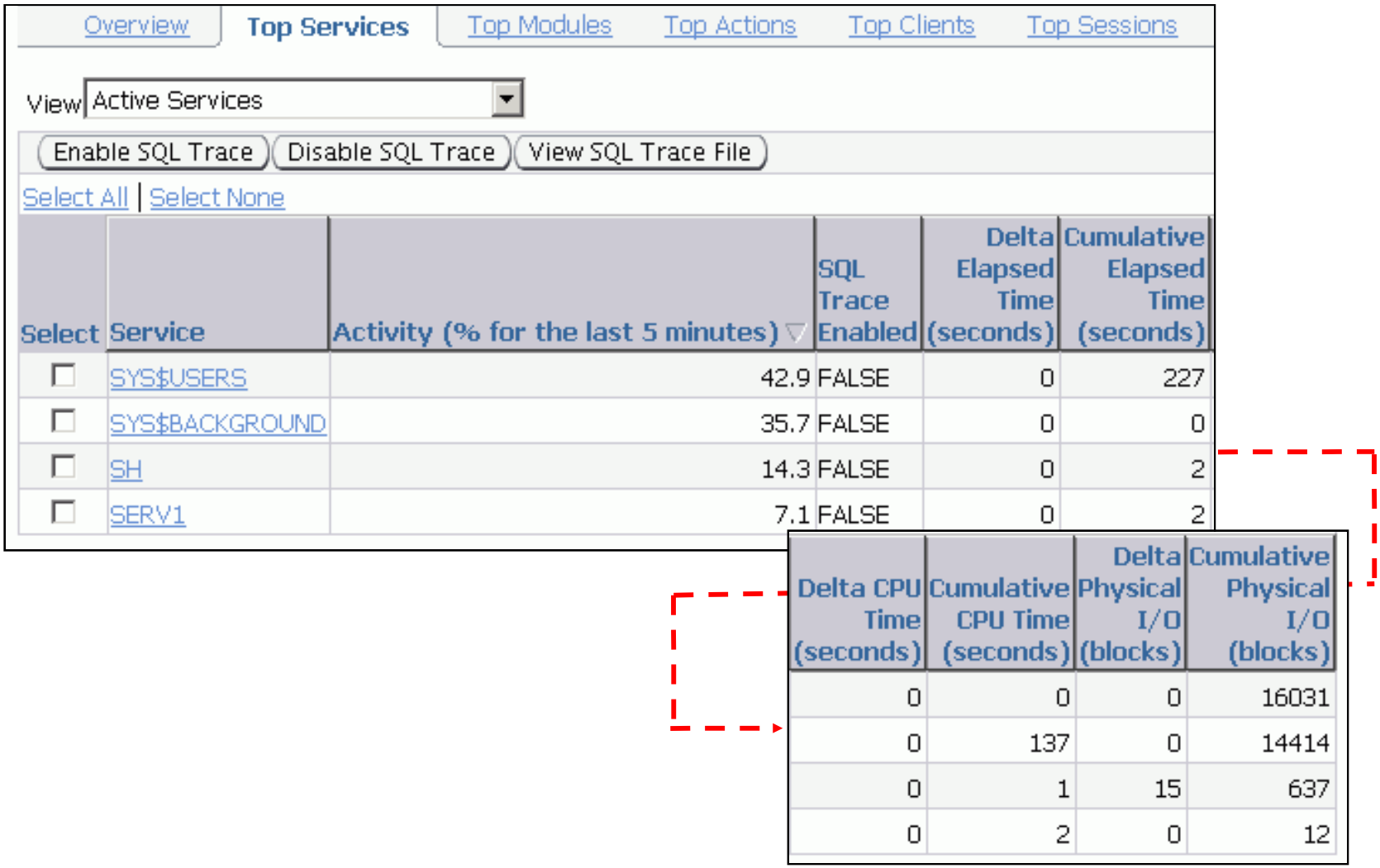
Overview | Top Services | Top Modules | Top Actions | Top Clients | Top Sessions

Show Active SQL | Customize

Kill Session | View | Disable SQL Trace | Enable SQL Trace

Select	SID	DB User	CPU (1/100 sec)	PGA Memory (bytes)	Physical Reads	Logical Reads	Hard Parses	Total Parses	Disk Sorts	Status	Program	Module	OS PID	Machine	OS User	SQL Trace
◉	36	INVENTORY	1	1540712	20	228	0	0	0	ACTIVE	sqlplus@edrsr12p1.us.oracle.com (TNS V1-V3)	SQL*Plus	18269	edrsr12p1.us.oracle.com	oracle	DISABLED
○	59	DBSNMP	12	7168500	0	56	0	10	0	ACTIVE	emagent@edrsr12p1.us.oracle.com (TNS V1-V3)	emagent_SQL_oracle_database	9753	edrsr12p1.us.oracle.com	oracle	DISABLED
○	42	CJQ0	0	1794548	0	6	0	0	0	ACTIVE	oracle@edrsr12p1.us.oracle.com (CJQ0)		13001	edrsr12p1.us.oracle.com	oracle	DISABLED
○	41	DBSNMP	0	2384372	0	3	0	2	0	ACTIVE	emagent@edrsr12p1.us.oracle.com (TNS V1-V3)	emagent_AQMetrics	13286	edrsr12p1.us.oracle.com	oracle	DISABLED
○	29	SYSMAN	0	2843124	0	1	0	5	0	ACTIVE	OMS	OEM.DefaultPool	12965	edrsr12p1.us.oracle.com	oracle	DISABLED
○	49	DBSNMP	14	1532404	0	0	0	2	0	ACTIVE	OMS	Realtime Connection	18390	edrsr12p1.us.oracle.com	oracle	DISABLED
○	34	SYSMAN	0	2384372	0	0	0	0	0	ACTIVE	OMS	OEM.SystemPool	13061	edrsr12p1.us.oracle.com	oracle	DISABLED
○	30	SYSMAN	0	3105268	0	0	0	3	0	ACTIVE	OMS	OEM.DefaultPool	12967	edrsr12p1.us.oracle.com	oracle	DISABLED
○	18	MMNL	0	1270260	0	0	0	0	0	ACTIVE	oracle@edrsr12p1.us.oracle.com (MMNL)		12861	edrsr12p1.us.oracle.com	oracle	DISABLED
○	25	QMNC	0	745972	0	0	0	0	0	ACTIVE	oracle@edrsr12p1.us.oracle.com (QMNC)	STREAMS	12963	edrsr12p1.us.oracle.com	oracle	DISABLED
○	57	J001	0	418292	0	0	0	0	0	ACTIVE	oracle@edrsr12p1.us.oracle.com (J001)		18451	edrsr12p1.us.oracle.com	oracle	DISABLED
○	43	SMCO	0	418292	0	0	0	0	0	ACTIVE	oracle@edrsr12p1.us.oracle.com (SMCO)	KTSJ	13544	edrsr12p1.us.oracle.com	oracle	DISABLED

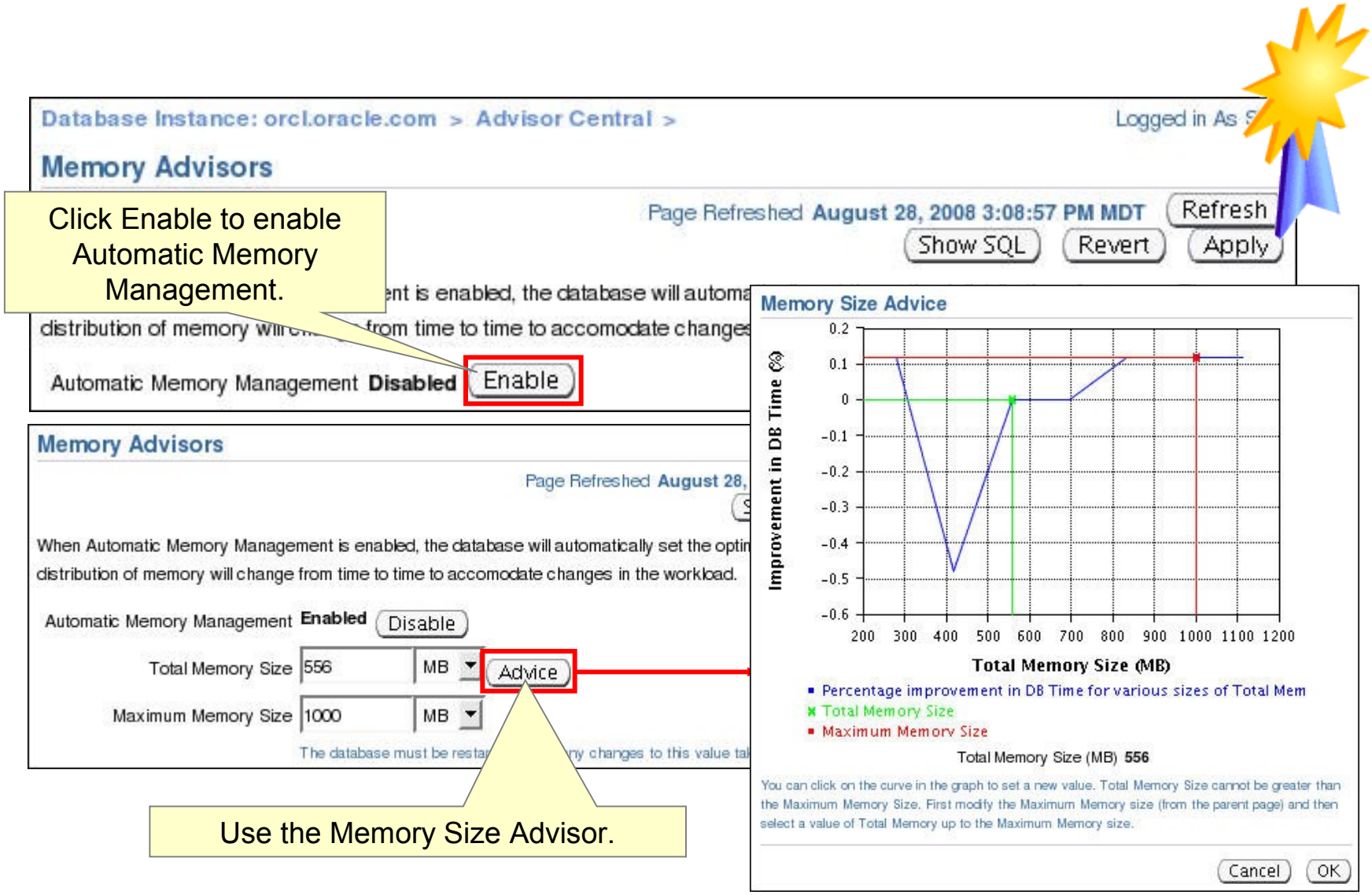
Performance Monitoring: Top Services



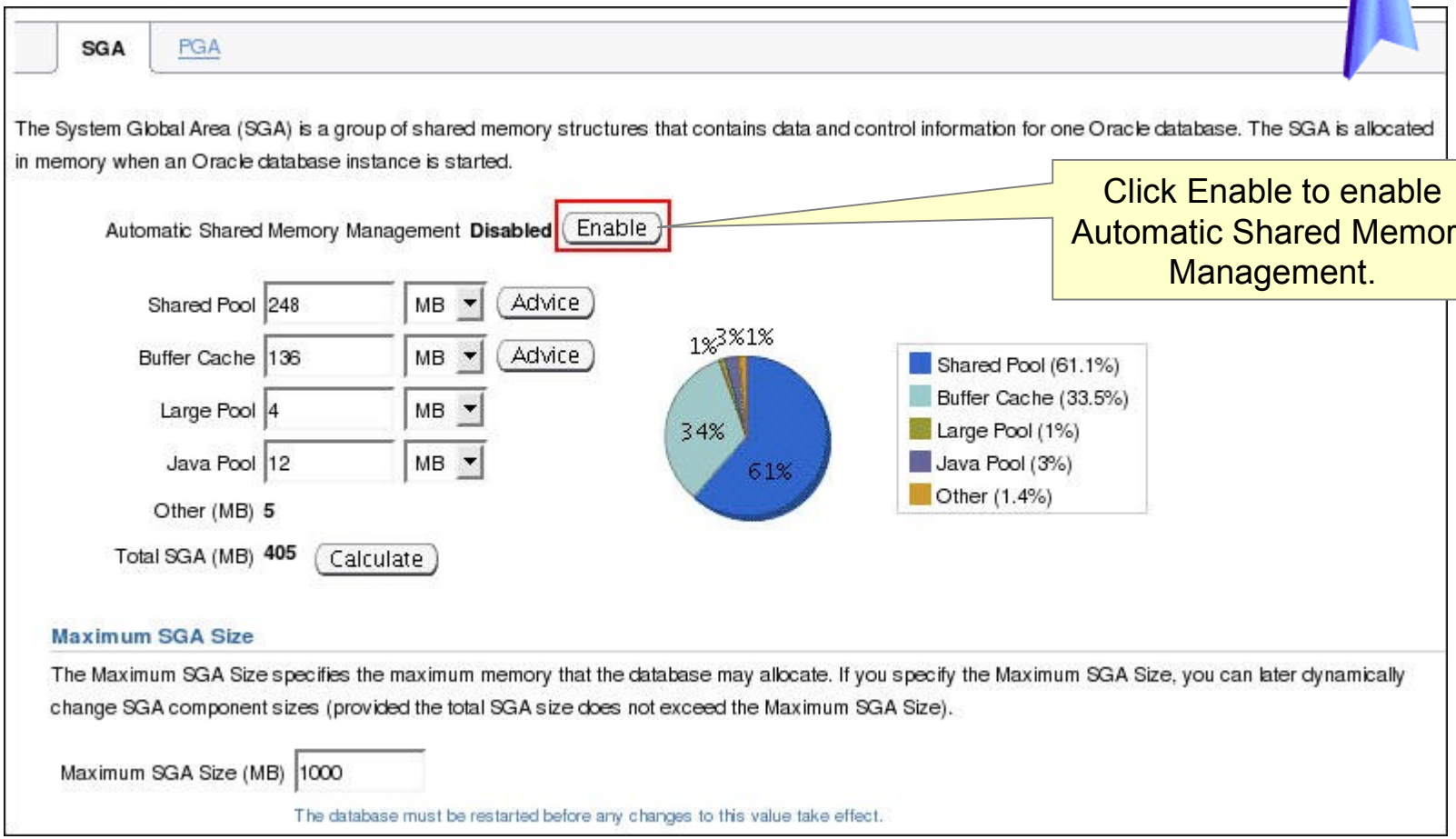
Managing Memory Components

- Automatic Memory Management (AMM)
  - Enables you to specify total memory allocated to instance (including both SGA and PGA)
- Automatic Shared Memory Management (ASMM):
  - Enables you to specify total SGA memory through one initialization parameter
  - Enables the Oracle server to manage the amount of memory allocated to the shared pool, Java pool, buffer cache, streams pool, and large pool
- Manually setting shared memory management:
  - Sizes the components through multiple individual initialization parameters
  - Uses the appropriate Memory Advisor to make recommendations

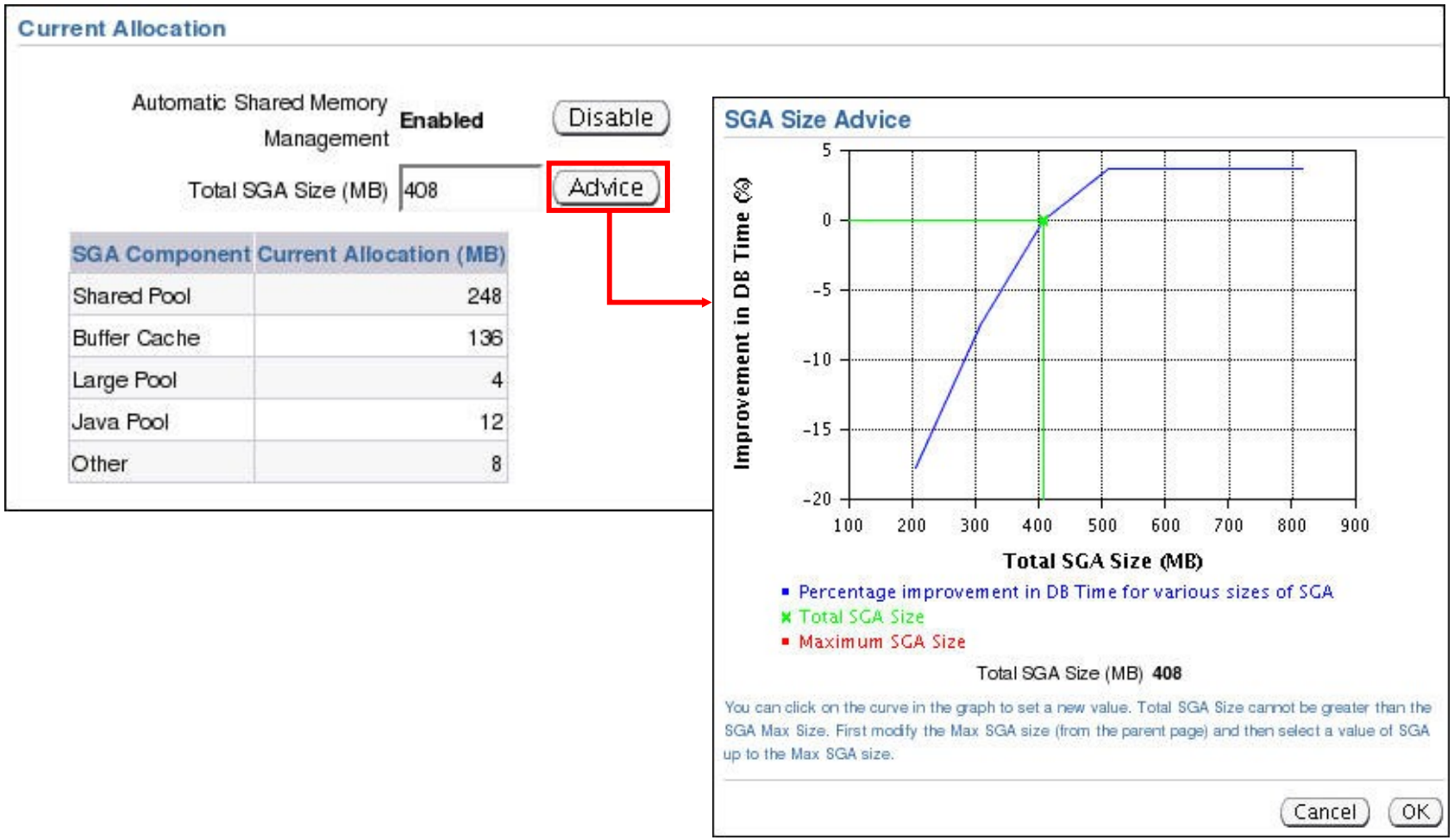
Enabling Automatic Memory Management (AMM)



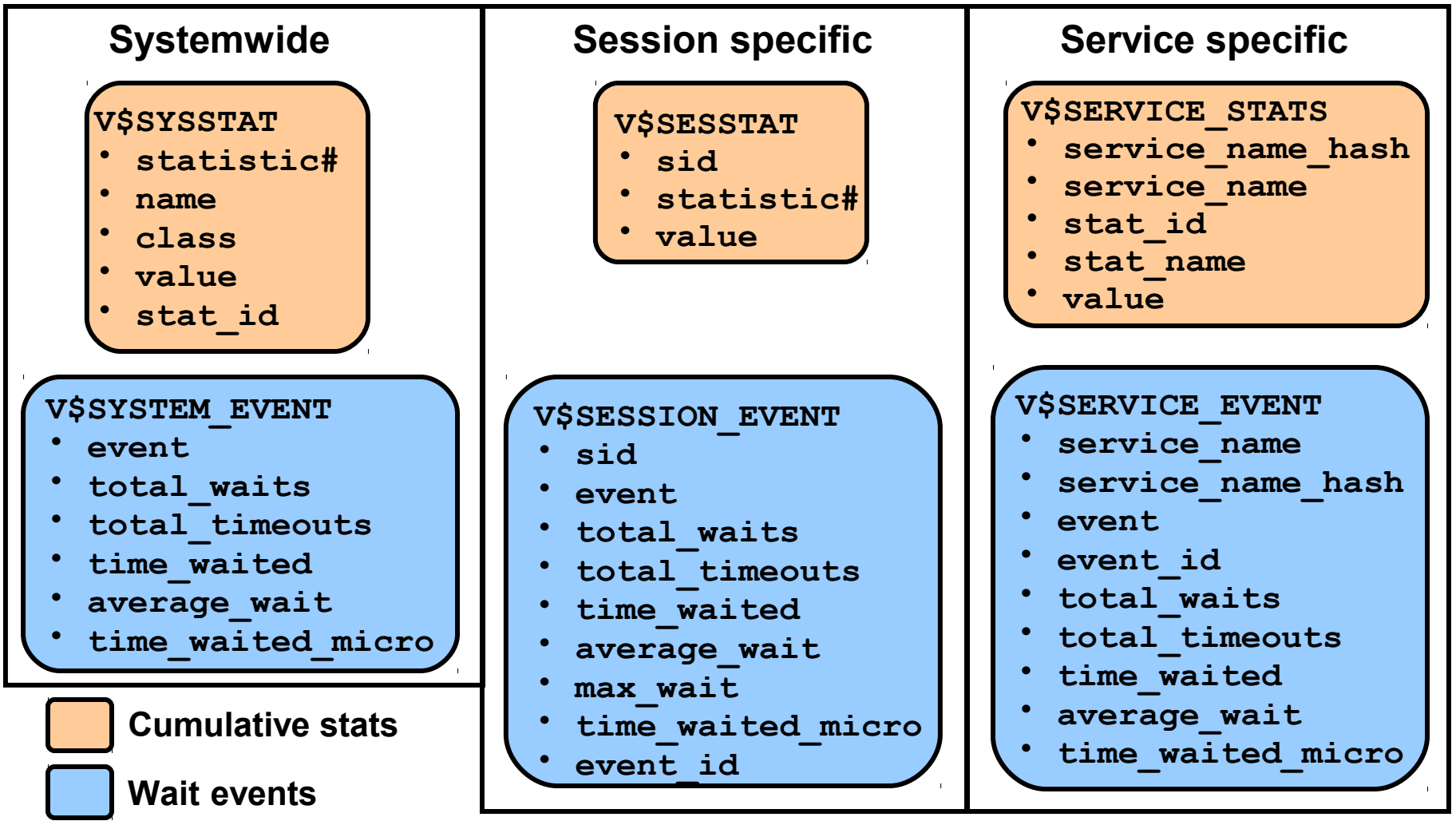
Enabling Automatic Shared Memory Management (ASMM)



Automatic Shared Memory Advisor



Dynamic Performance Statistics



Troubleshooting and Tuning Views

Instance/Database

V$DATABASE
V$INSTANCE
V$PARAMETER
V$SPPARAMETER
V$SYSTEM_PARAMETER
V$PROCESS
V$BGPROCESS
V$PX_PROCESS_SYSSTAT

V$SYSTEM_EVENT

Disk

V$DATAFILE
V$FILESTAT
V$LOG
V$LOG_HISTORY
V$DBFILE
V$TEMPFILE
V$TEMPSEG_USAGE
V$SEGMENT_STATISTICS

Memory

V$BUFFER_POOL_STATISTICS
V$LIBRARYCACHE
V$SGAINFO
V$PGASTAT

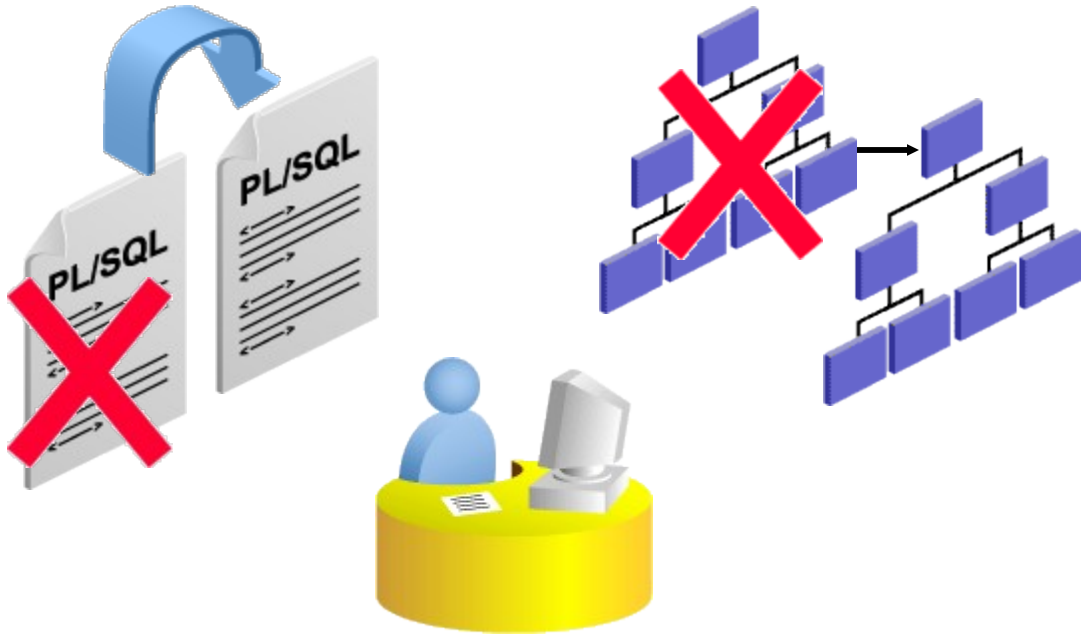
Contention

V$LOCK
V$UNDOSTAT
V$WAITSTAT
V$LATCH

Invalid and Unusable Objects

Effect on performance:

- PL/SQL code objects are recompiled.
- Indexes are rebuilt.



Quiz

Automatic Memory Management allows the Oracle instance to reallocate memory from the _____ to the SGA .

1. Large Pool
2. Log Buffer
3. PGA
4. Streams Pool

Quiz

SGA_TARGET may not be sized greater than _____ .

1. LOG_BUFFER
2. SGA_MAX_SIZE
3. STREAMS_POOL_SIZE
4. PGA_AGGREGATE_TARGET

Summary

In this lesson, you should have learned how to:

- Use Enterprise Manager to monitor performance
- Use Automatic Memory Management (AMM)
- Use the Memory Advisor to size memory buffers
- View performance-related dynamic views
- Troubleshoot invalid and unusable objects

Practice 13 Overview: Monitoring and Improving Performance

This practice covers the following topics:

- Detecting and repairing unusable indexes
- Using the Performance page in Enterprise Manager