

# 14

## Memonitor Performance

By: Ahmad Syauqi Ahsan

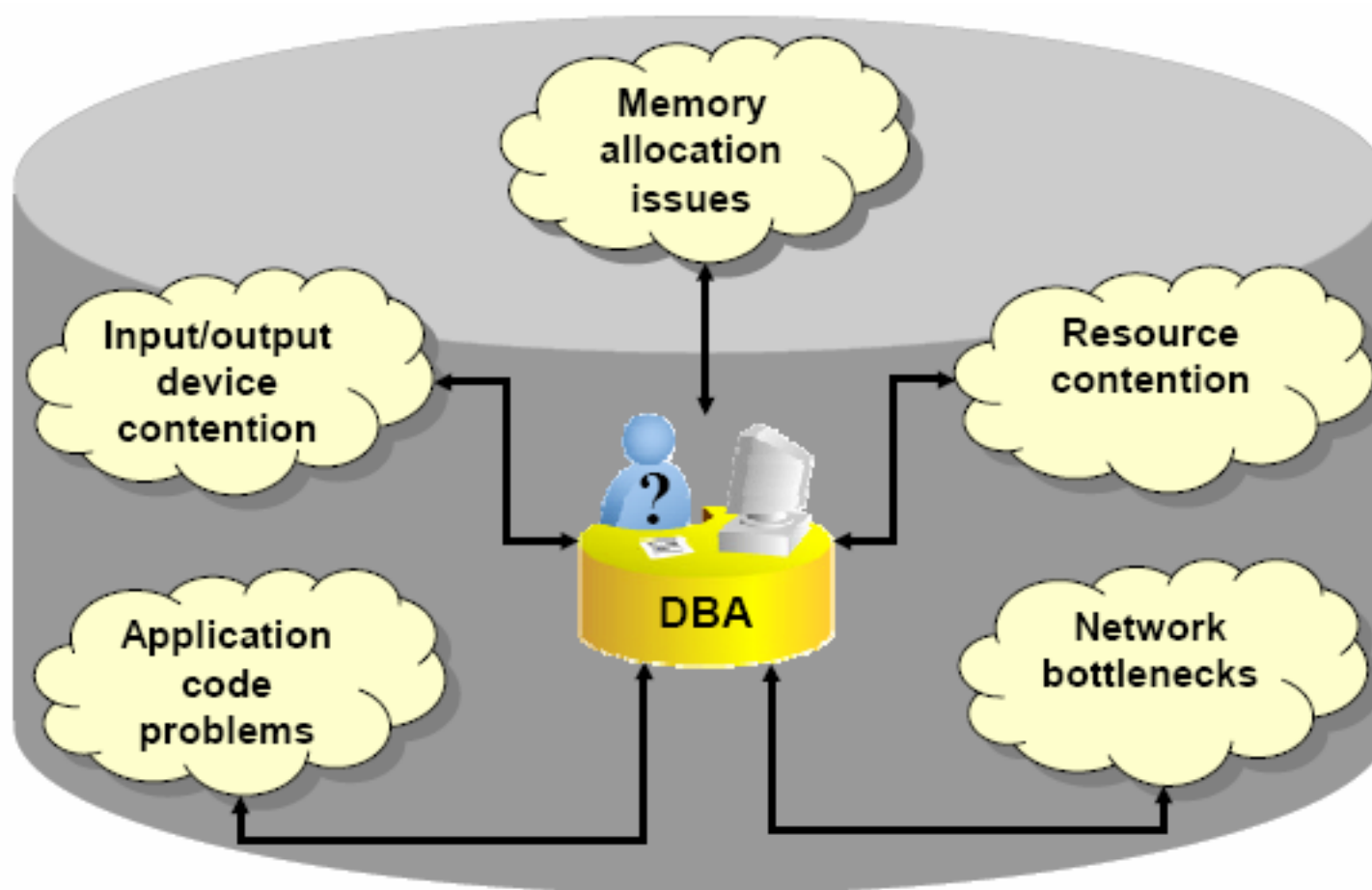
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# TUJUAN

Setelah menyelesaikan bab ini, anda seharusnya dapat melakukan hal-hal berikut:

- Menangani objek-objek yang invalid dan tidak terpakai
- Mengumpulkan statistik-statistik optimizer
- Menampilkan performa metric
- Reaksi terhadap isu-isu performa

# Memonitor Performa



# Metodologi Monitoring

- Reaktif
- Proaktif
  - Server-Generated Alerts
  - Automated Database Diagnostic Monitor (ADDM)



# Database dan Instance Metrics

- Beberapa perbedaan statistik performance dapat tersedia melalui :
  - Kamus Data / Data Dictionary
  - Performance views yang dinamis
  - Statistik optimizer

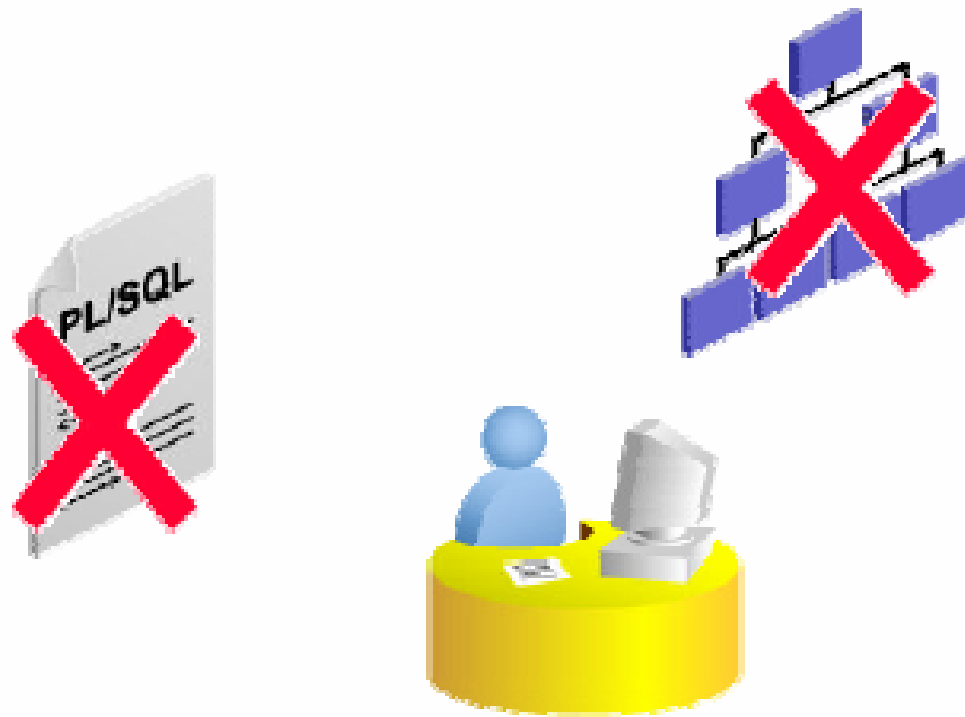


# Metrics Kamus Data (Data Dictionary)

- Status Objek :
  - Objek-objek kode PL/SQL
  - Beberapa Index

# Objek-objek Invalid dan Tak Terpakai

- Objek-objek kode PL/SQL d recompile ulang.
- Index-index dibuat ulang.



# Statistik Optimizer

- Statistik optimizer adalah :
  - Tidak real-time
  - Persistent dengan mengulang instance

```
SQL> SELECT COUNT(*) FROM hr.employees;
COUNT(*)
-----
214

SQL> SELECT num_rows FROM dba_tables
2 WHERE owner='HR' AND table_name = 'EMPLOYEES';
NUM_ROWS
-----
107
```



# Pengumpulan Statistik Optimizer Secara Manual

- Jika database tidak dibuat dengan DBCA.
- Jika table sangat mudah membesar / membengkak.

The screenshot displays the Oracle Enterprise Manager interface for database 'dba10g'. On the left, the 'Utilities' menu is expanded, showing options like 'Export to Files', 'Import from Files', 'Import from Database', 'Load Data from File', 'SQL Access Advisor', 'Gather Statistics' (highlighted with a red arrow), 'Reorganize Objects', and 'Make Tablespace Locally Managed'. The main window shows the 'Gather Statistics Wizard: Review' step, which is the final step in a sequence of five (Introduction, Default Method, Object Selection, Schedule, Review). The wizard prompts the user to review the following for accuracy and make changes as necessary:

- Job ID:** GatherStats1908451
- Execution Time:** Immediately

Below this, the 'Generated SQL for gathering statistics' is displayed in a text area:

```
begin
  dbms_stats.gather_schema_stats(
    ownname=> 'HR',
    granularity=> 'DEFAULT',
    block_sample=> FALSE,
    cascade=> TRUE,
    method_opt=> 'FOR COLUMNS SIZE AUTO',
    options=> 'GATHER AUTO');
end;
```

At the top of the wizard window, there are navigation buttons: 'Cancel', 'Back', 'Step 5 of 5', and 'Submit'. The 'Review' step is currently selected, indicated by a blue circle in the progress bar at the top.

# Otomasi Pengumpulan Statistik Optimizer

- Menggunakan Oracle Scheduler untuk mengotomatiskan/otomatisasi pengaturan kumpulan statistik.

Database: dba10g > Jobs > Create Job

### Create Job

Show SQL Cancel OK

**General** Schedule Options

\* Name: GatherHRStats

\* Owner: SYS

Enabled: ☒ Yes ☐ No

Description: Gather Statistics for the HR Schema

Logging Level: Log job runs only (RUNS)   
 Set how much logging pertaining to this job should be done

Job Class: DEFAULT\_JOB\_CLASS   
 Whether the job should remain after having completed   
 [Create Job Class](#)

Auto Drop: FALSE   
 Whether the job should remain after having completed

Restartable: TRUE   
 Whether the job can be safely restarted (and should be restarted in case of failure)

# Jadwal Pengumpulan Statistik Optimizer

- Statistik harus dikumpulkan jika dibutuhkan untuk memastikan optimizer dapat membuat keputusan yang sesuai.

The screenshot shows the 'Create Job' dialog box with the 'Schedule' tab selected. The 'General' tab is also visible. The 'Options' tab is not selected. The 'Schedule Type' is set to 'Standard'. The 'Time Zone' is 'GMT -07:00'. The 'Repeating' section shows 'Repeat' set to 'Do Not Repeat'. The 'Start' section shows 'Immediately' selected. The 'Date' is 'Feb 16, 2004' and the 'Time' is '5:05:00 PM'.

**Create Job**

Show SQL Cancel OK

General Schedule Options

Schedule Type Standard

Time Zone GMT -07:00 Change Time Zone

**Repeating**

Repeat Do Not Repeat

**Start**

☒ Immediately  
☐ Later

Date Feb 16, 2004  
(example: Feb 16, 2004)

Time 5 05 00 AM ☒ PM

# Performa Views yang dinamis

- Performa views yang dinamis :
  - Real-time
  - Non-persisten dengan mengulang instance

```
SQL> SELECT name, value FROM v$sysstat  
2 WHERE name='sorts (memory)' ORDER BY name;
```

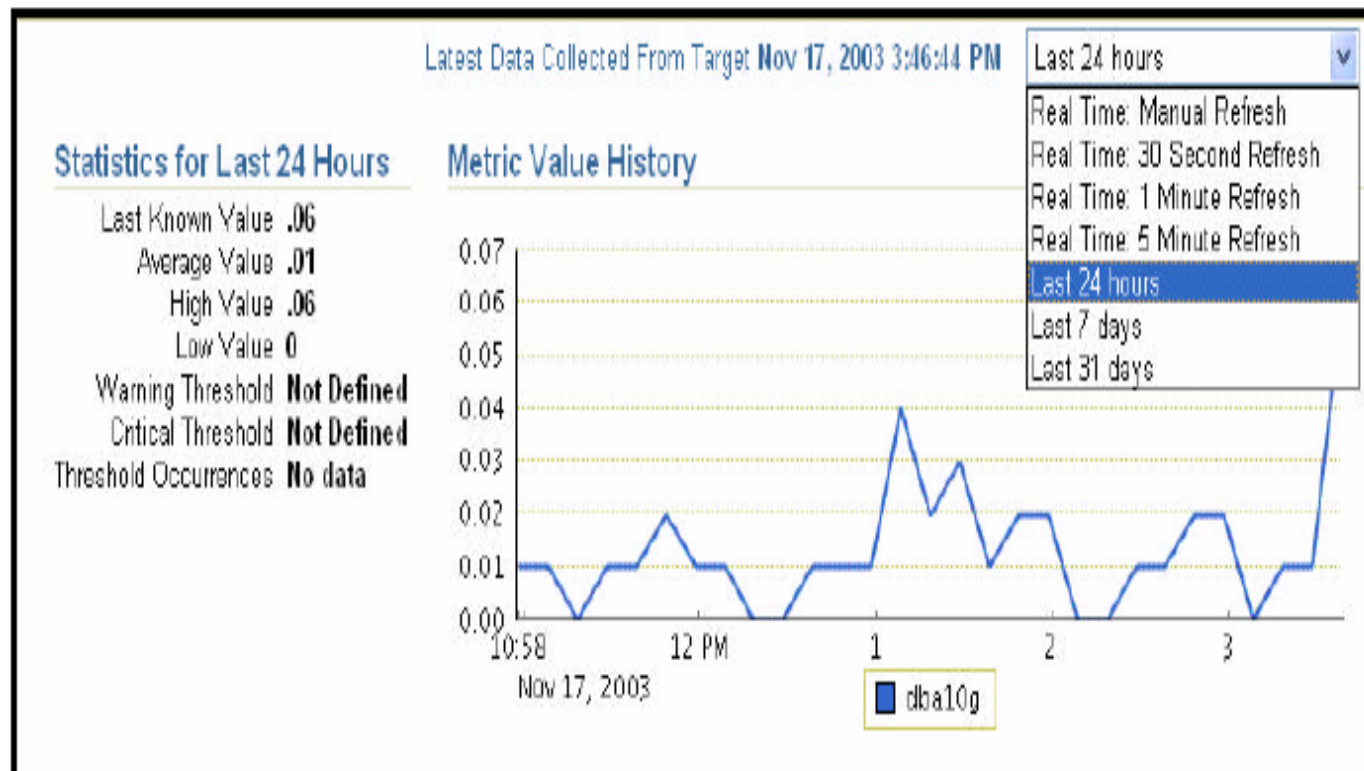
NAME	VALUE
sorts (memory)	1979183

```
SQL> /
```

NAME	VALUE
sorts (memory)	1979184

# Menampilkan Informasi Metric

- Gunakan link semua metric pada daerah / lokasi link-link yang berelasi.
- Drill-down pada analisis yang dalam.



Database: [orcl.oracle.com](#) > All Metrics

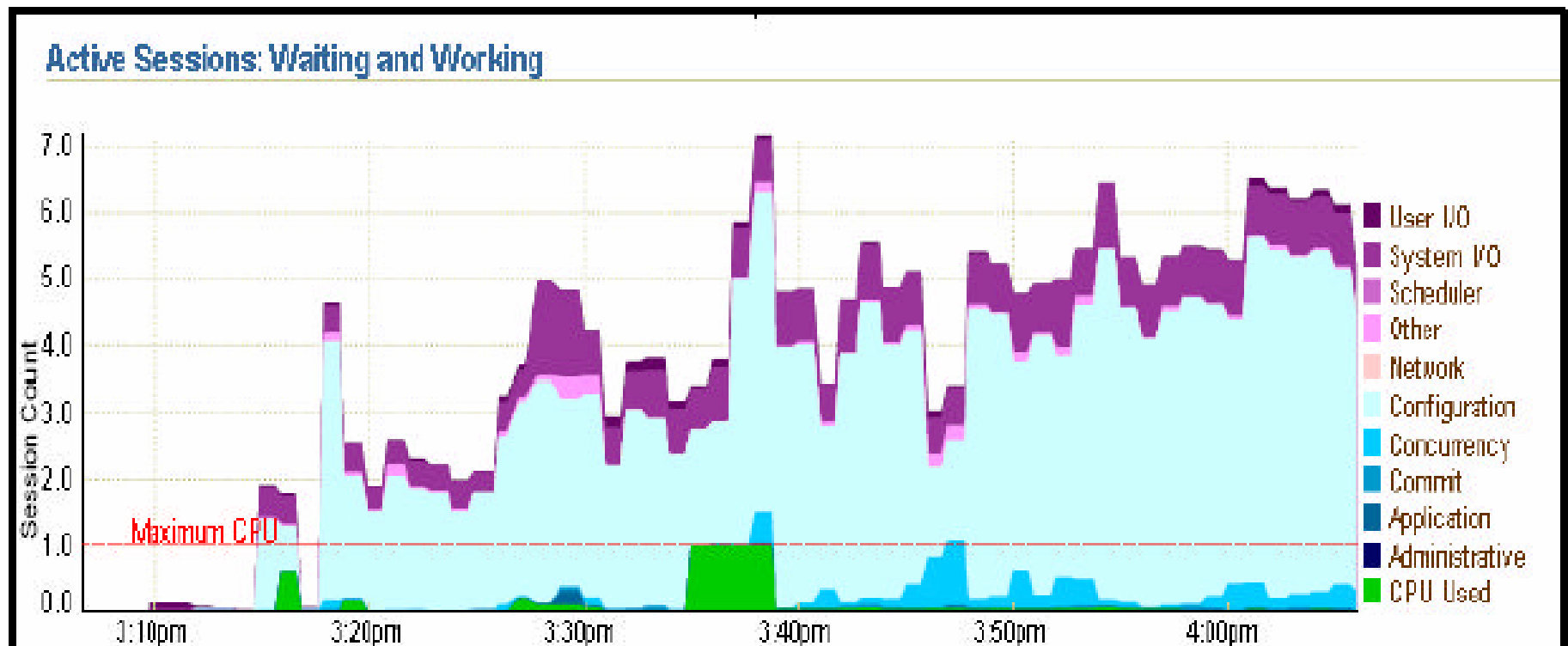
## All Metrics

[Expand All](#) | [Collapse All](#)

Metrics	Thresholds
▼ orcl.oracle.com	
▶ <a href="#">Alert Log</a>	Some
▶ <a href="#">Alert Log Content</a>	None
▶ <a href="#">Alert Log Error Status</a>	All

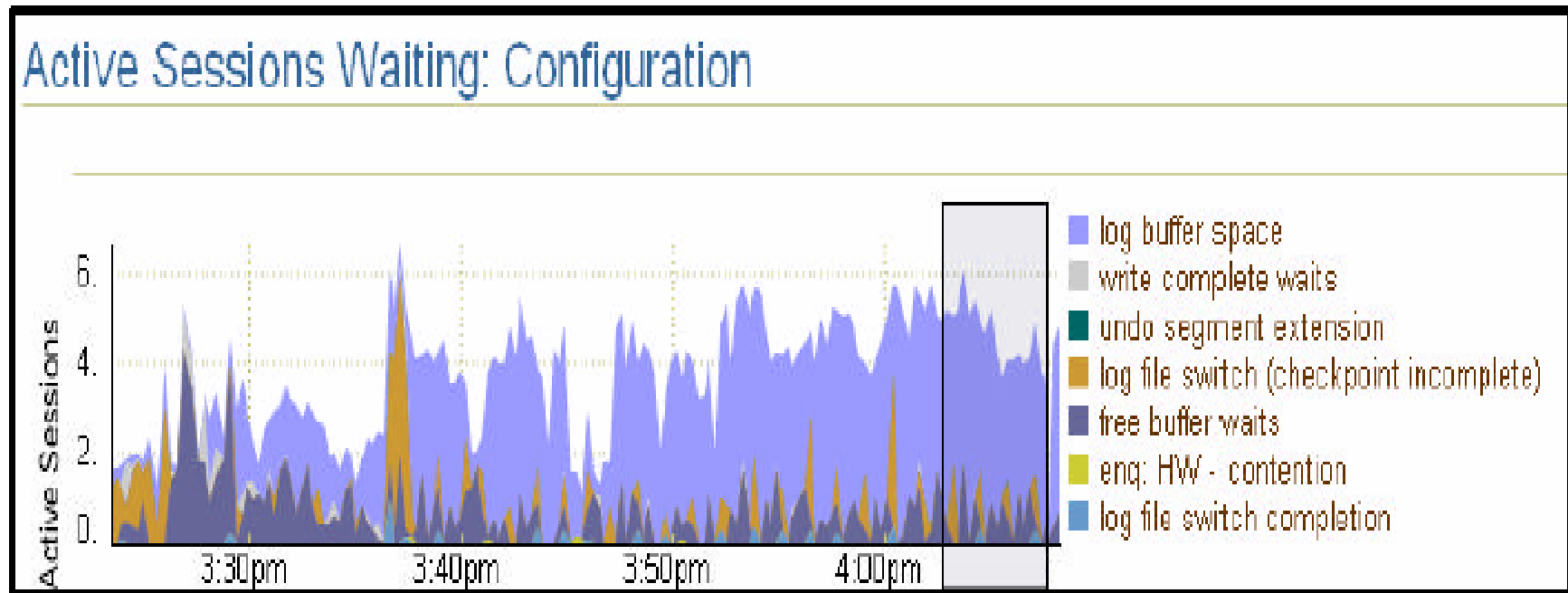
# Reaksi terhadap Isu-isu Performa

- Gunakan Enterprise Manager untuk :
  - Menemukan isu-isu kunci performa
  - Drill down sebab utama.



# Reaksi terhadap Isu-isu Performa

Drill down pengukuran performa untuk identifikasi bottlenecks



- Kunci bottleneck : log buffer space

# Ringkasan

Pada bab ini, anda seharusnya telah mempelajari bagaimana cara untuk:

- Memperbaiki objek-objek yang invalid dan tidak terpakai.
- Mengumpulkan statistik optimizer
- Menampilkan performa metrics
- Reaksi terhadap isu-isu performa