

Instance Tuning and Troubleshooting

WEEK 06

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Week 6 – Instance Tuning and Troubleshooting

Last week we looked over the details of the Oracle instance architecture. Now it's time to see how the Oracle database is organized internally.

Prepare VM

As usual, ensure that you're working on the "week2" snapshot, where Oracle is already installed.

```
[root@orasrv ~]# week2.sh
```

What is Performance Tuning

The Oracle Server is a sophisticated and highly tunable software product. Its flexibility allows you to make small adjustments that affect database performance. By tuning your system, you can tailor its performance to best meet your needs.

Designing for Performance

- Define performance targets
- Architectural decisions to meet the defined performance targets
- Code instrumentation, robust algorithms, speed
- Stress tests, representative workloads

Tuning Strategy:

- Systematic approach
- Understanding the problem
- Drill down

Measure Response Time

- RT Decomposition
- RT components

Troubleshooting

- Define scope
- System level: AWR, statspack etc
- Session level: initiated by user or by DBA
- AWR report demo

Database Activity

- Concurrent sessions
- Working on CPU or waiting
- Lifecycle of a cursor
- Hard vs soft parsing

Execution Plans

- How it is computed
- Optimizer stats

Extra Reading

- On FEAA portal: W06_optimizarea_instantei_si_tehnici_de_diagnoza_ro.pdf