



Oracle Applications
Technologies *Experts.* dba

Architecture Best Practices for Oracle Application R12

Fred DeAngelis
Managing Partner, ORAdba LLC

401-965-6202, fred.deangelis@oradba.com

Agenda

- Introductions
- Defining The Problem
- What You'll Get From This
- Architecture Defined and Justified
- ORAdba Best Practices Database
- Best Practices
- What You Should Do Next
- Summary

Defining the Problem

Where do I start?

Oracle Says ...

'It Depends' – Classic Oracle Answer #1

*'You need to engage Oracle Consulting' –
Classic Oracle Answer #4*

What You'll Get From This

The Truth: so much information, so little time

Baseline of typical configurations

Plan for getting to your architecture design

Orientation with elements being considered

Guidelines for what to expect

Architecture Defined and Justified

Consists of all infrastructure elements in the system

People, processes, practices, policies and procedures

Ensures sustainability, security, scalability, supportability, and stability

ORAdba Best Practices Database

Developed over 15 years / 130 client engagements

Will provide a place to start

Will not fit all situations

Best Practices

Production Isolation

Production hardware should not support any non-production application or utility

Security risks and external performance degradation remain outside

Analysis and troubleshooting easier

Best Practices

Environment Consistency

Support systems (non-production) should match production for OS, Oracle Applications, database and technical stack patch levels

CPU, memory and disk configuration are usually different

Best Practices

Server Distribution

Oracle Applications are typically installed over a backend (database/concurrent processing) and a middle tier (Forms/web)

Backend – processes data, executes queries/reports

Middle tier – provides presentation layer

Best Practices

Server Sizing

Size production for planned growth (3 years) plus 20%. Allow for vertical and horizontal scaling

CPU utilization should never be at 100% sustained

Memory utilization should never be > 90% sustained

Disk utilization should never exceed 75%

Sustained use is typically 1-2 minutes

Best Practices

Load Balancing

Hardware load balancing is superior to software load balancing

More advanced routing options

Better redundancy

More scalable

Best Practices

Network Capacity

Connection between the backend and the middle tier servers should be 1Gb full duplex

Between the middle tier and the desktop it should be 100Mb full duplex

Best Practices

Disk Configuration

Database files should be distributed over at least 2 RAID 0+1 groups

Best read/write performance

Capable of manual file balancing

Non-database files can have a more economical configuration as long as it includes redundancy

Best Practices

Backup and Recovery

A full backup of production should be retained on disk for faster recovery and cloning. This disk must be physically separated from the database file disks.

Backups should first be made to disk and then these images to tape to minimize the impact to the database.

Best Practices

Common Desktop Build

End-user machines should be identically configured for easiest and most effective support and maintenance

Best Practices

User Machine Sizing

End-user machine minimum configuration
(assuming no other applications running)

1GHz Pentium processor

500Mb memory

20Gb disk space

100Mb network card

Best Practices

Proactive Analysis

Monthly analyze CPU, IO, memory and network

Monthly analyze database size, number of database accounts and number Applications users per Responsibility

Quarterly analyze most frequently run and longest running Forms and concurrent jobs

Quarterly tune concurrent managers, processors, caches, work shifts and processes per shift

What You Should Do Next

Complete comprehensive technical
architecture assessment

Contact vendor's center of excellence

Sun Oracle Applications Technology
Center (SOATC)

HP Oracle Cooperative Technology
Center (CTC)

Summary

Isolate production

Avoid forklift upgrades

Design with utilization limits in mind

Achieve consistency between environments

Proactively monitor growth and utilization

References

- *Note: 380349.1, Using Load-Balancers with Oracle E-Business Suite Release 12, 10-Jul-2008*
- *Note: 380490.1, Oracle E-Business Suite Release 12 Configuration in a DMZ, 02-Oct-2008*
- *Note: 384248.1, Sharing the Application Tier File System in Oracle E-Business Suite Release 12, 17-Sep-2008*
- *Note: 580299.1, Best Practices for Adopting Oracle E-Business Suite, Release 12, 12-Jun-2008*
- *Note: 549389.1, Oracle Applications Release Notes, Release 12.0.4, 14-Oct-2008*
- *Note: 389422.1, Recommended Browsers for Oracle E-Business Suite Release 12, 27-Aug-2008*
- *Note: 403537.1, Best Practices for Securing Oracle E-Business Suite Release 12, 16-Jun-2008*



Oracle Applications
Technologies *Experts.* dba