

**ORACLE®**

# **Updates from Oracle OpenWorld – News of Grid and SOA**

**NYOUG – Sep. 20, 2005**

**Ken Jacobs**

Aka “Dr. DBA”

VP Product Strategy, Server Technologies

# Today's Topics

- ▶ OpenWorld Update
- ▶ Database and Enterprise Manager News
- ▶ Fusion Middleware
- ▶ [Q&A]

# Oracle OpenWorld Update

- ▶ Over 35,000 People!
- ▶ Peoplesoft, JD Edwards, Retek tracks ... and next year Siebel?
- ▶ Announced Lifetime Support
- ▶ Announced Hot-Pluggable Fusion Middleware
- ▶ Announced Q1 FY06 Earnings
- ▶ Next year: October 22 - 26 in San Francisco

# Product Update

**ORACLE<sup>®</sup>**  
D A T A B A S E

**ORACLE<sup>®</sup>**  
APPLICATION SERVER



**ORACLE<sup>®</sup>**  
COLLABORATION SUITE

**ORACLE<sup>®</sup>**  
ENTERPRISE MANAGER

# New in 2005

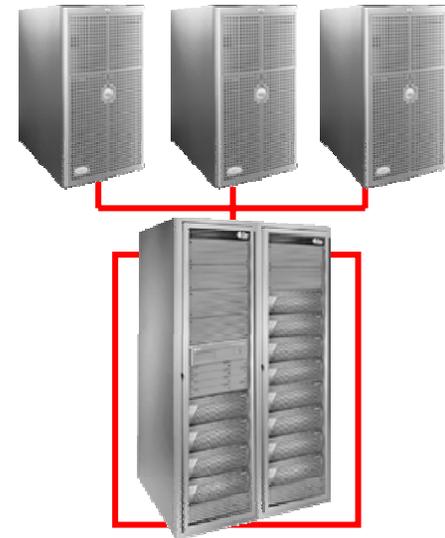
- ✓ Oracle Database 10g Release 2
- ✓ Oracle Database Standard Edition One
- ✓ Oracle Application Server Standard Edition One
- ✓ Oracle TimesTen In-Memory Database
- ✓ Oracle Application Server 10g Release 2
- ✓ Oracle Identity Management 10g
- ✓ Oracle BPEL Process Manager 10g
- ✓ Oracle Business Activity Monitoring 10g
- ✓ Oracle Collaboration Suite 10g

**COMPLETE**

# Oracle Database 10g **Release 2**

## Database For Grid Computing

- ▶ Fast and scalable
- ▶ Fault tolerant
- ▶ Secure
- ▶ Easy to manage



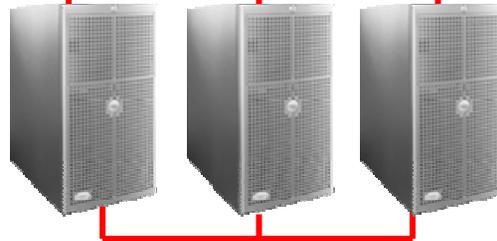
**Available  
Now**

# Oracle Grid

**Application  
Server  
Clusters**



**Real  
Application  
Clusters**



**Automatic  
Storage  
Management**



**Grid Control**

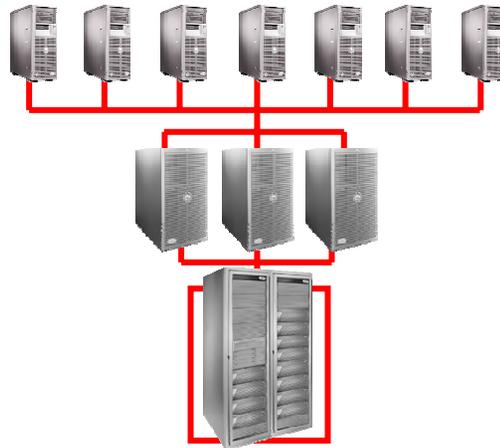


# Grid Delivers Mainframe Quality

## Mainframe



## Oracle Grid



AS SEEN ON

TV

- ▶ Runs faster
- ▶ Costs less
- ▶ And never breaks

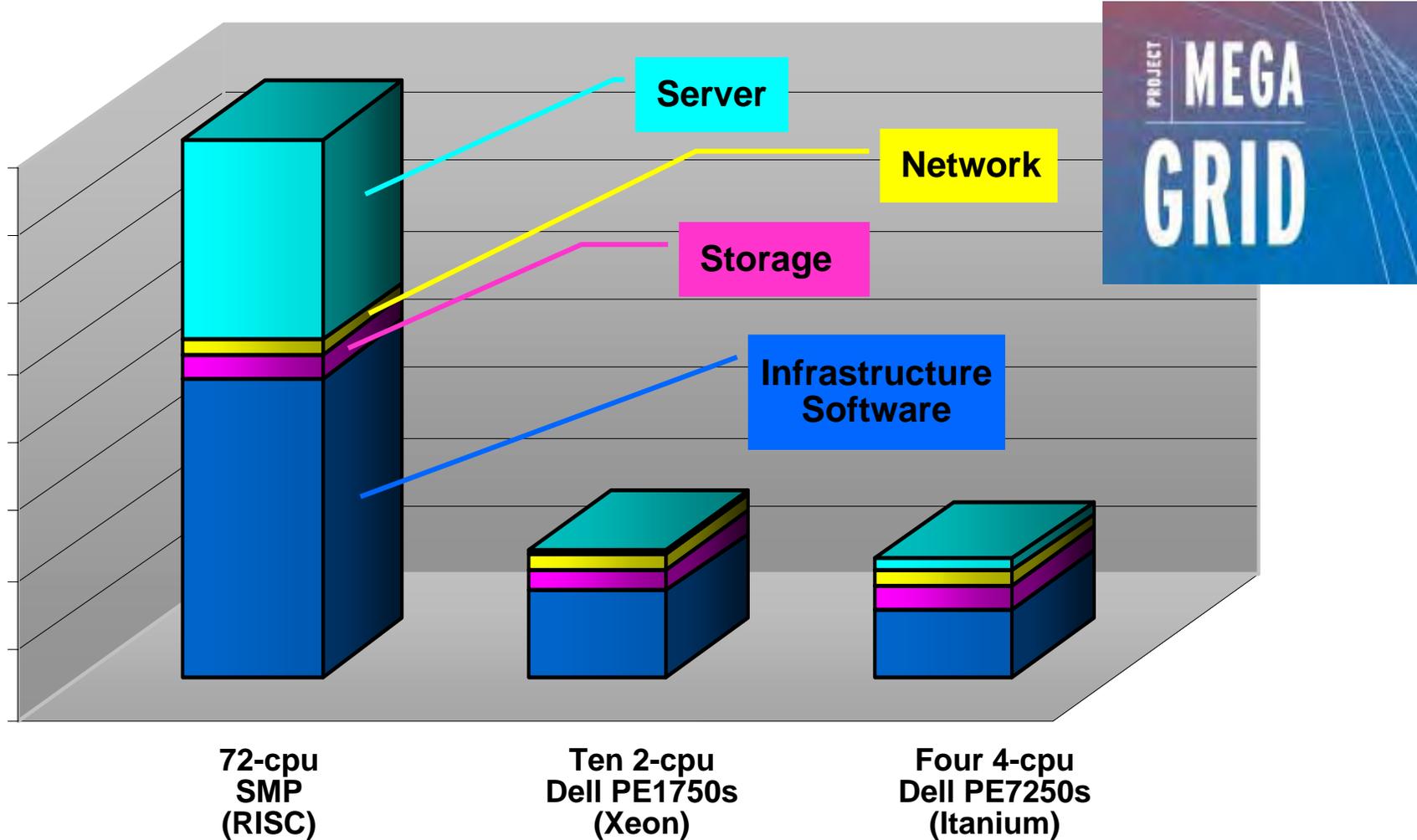
# Project MegaGrid



- Collaborate to develop joint best practices, publish white papers
- Prove grid computing at scale using real-world applications
- Address technical challenges and CIO concerns
- Guide development to improve products

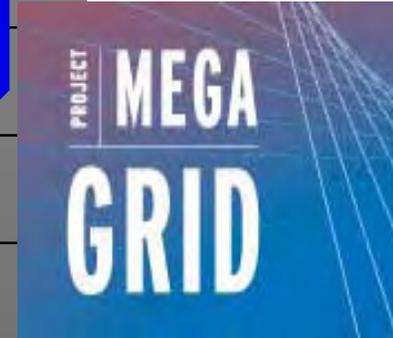
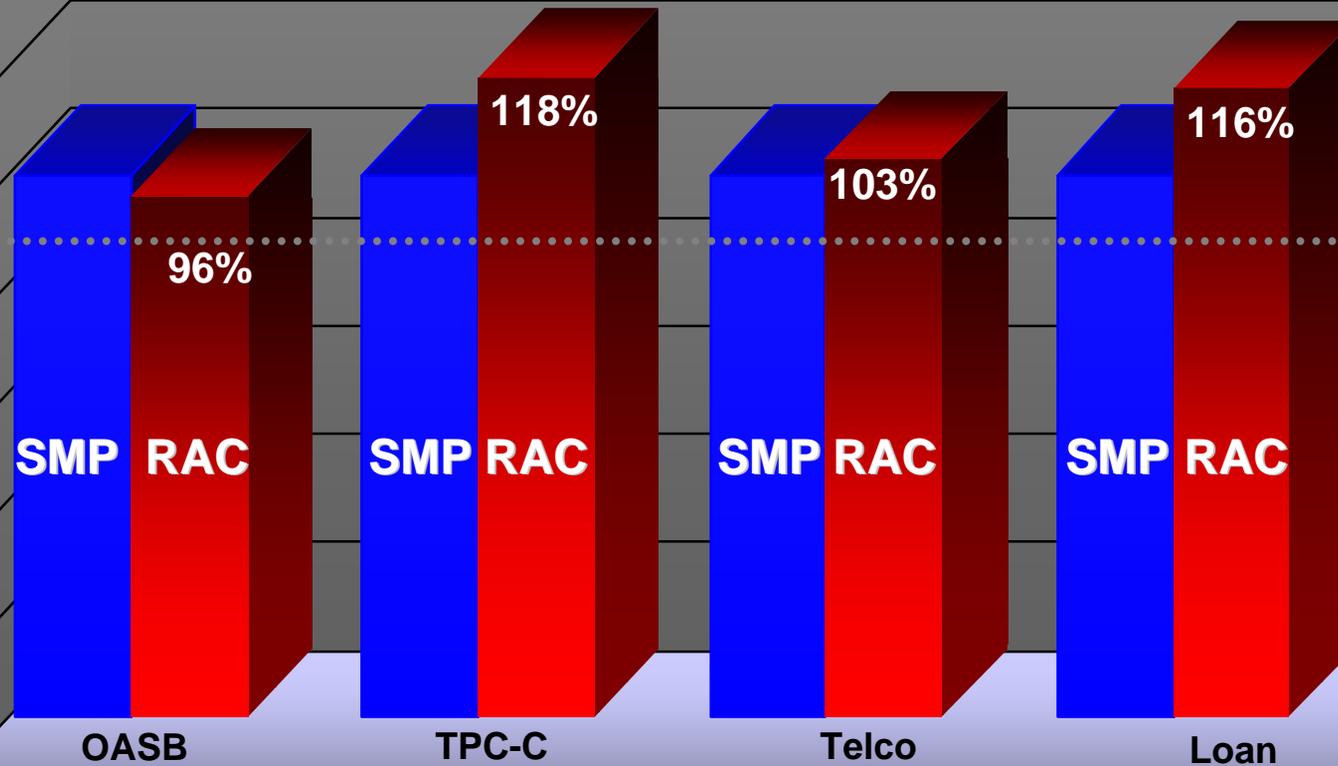
# Cost Comparison: SMP vs. Grid

Telecom Workload – 550,000 transactions/hour



# Low Cost, Yet Highly Scalable

## RAC Performance as % of SMP



# Fast and Scalable

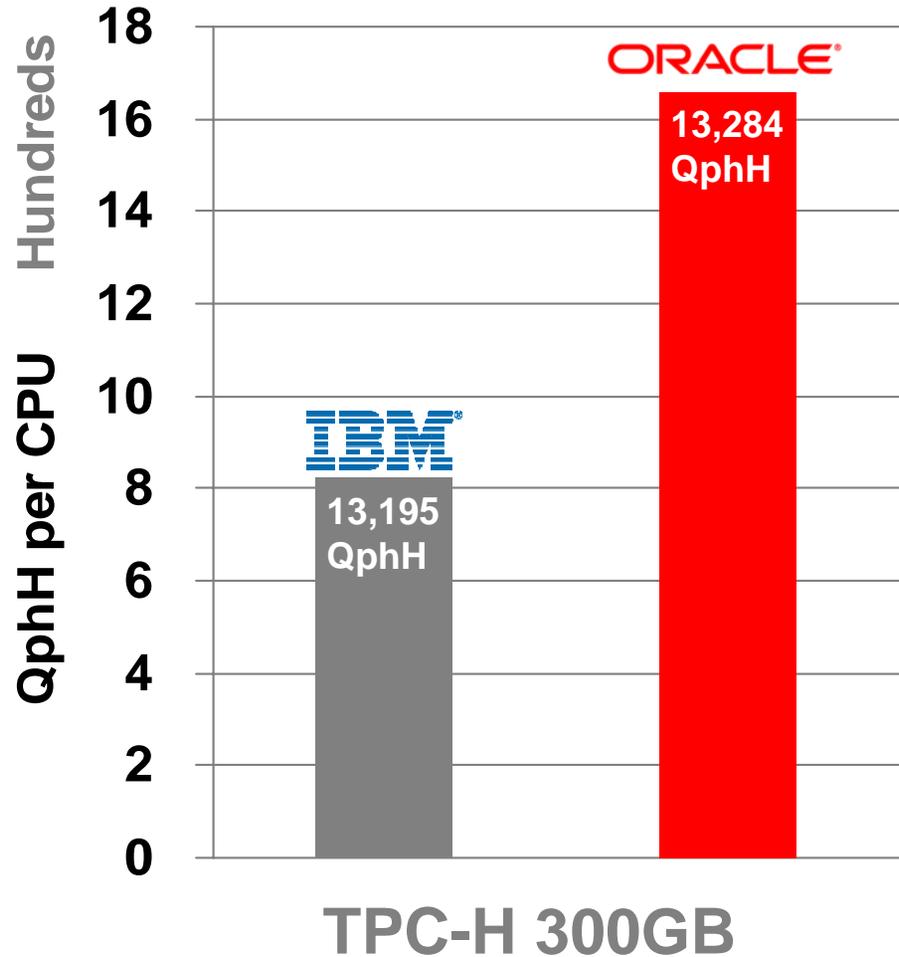


**On a Cluster:**  
**1,184,893**  
tpmC

As of 9/18/05: Source: Transaction Processing Council (TPC)  
[www.tpc.org](http://www.tpc.org). HP Integrity rx5670 cluster, 1,184,893.38/tpmC,  
\$5.52/tpmC, available 4/30/04.

# Fast and Scalable

**NEW**  
**World Record**  
**Beats IBM DB2**  
**on Half the**  
**CPUs**

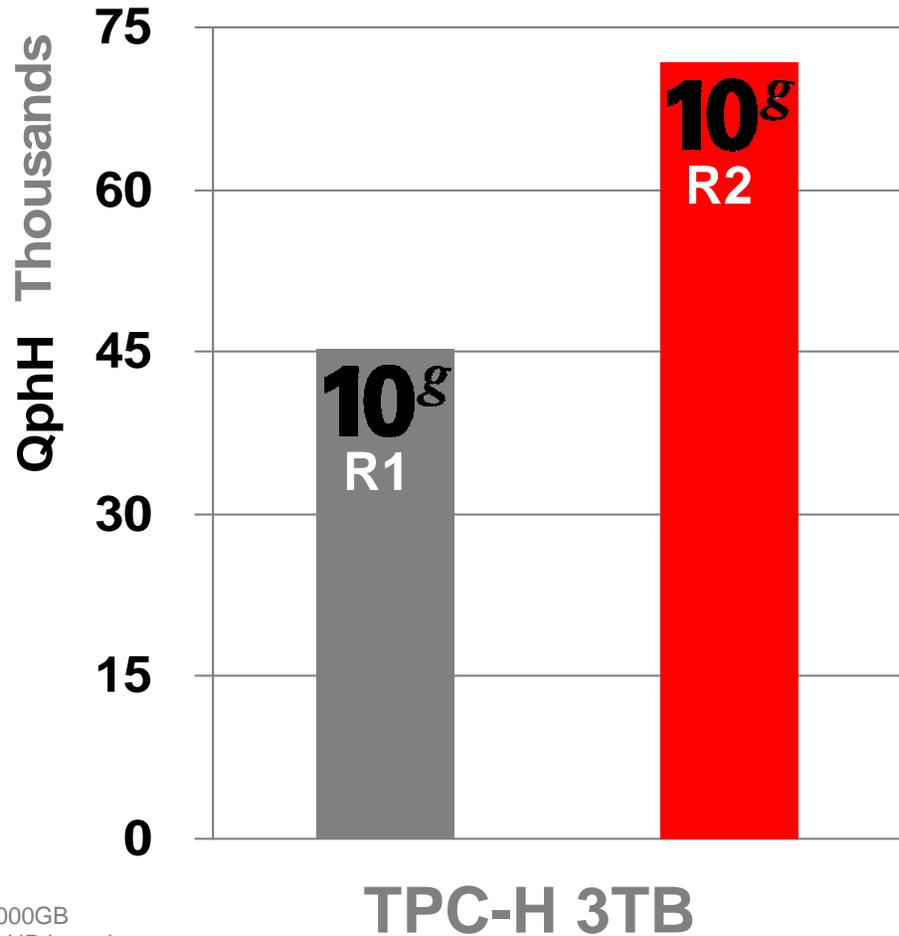


Source: As of September 16, 2005: HP Bladesystem ProLiant BL25p cluster (8 CPUs) with Oracle Database 10g Release 2 with Oracle Real Application Clusters, 13,284.2/QphH@300GB, \$34.20/QphH@300GB, available 10/31/05. IBM eServer 325 cluster (16 CPUs) with IBM DB2, 13,194.9 QphH@300GB, \$65/QphH@300GB, available 11/08/03.

# Fast and Scalable

**59%**  
improvement  
on the  
same  
hardware

**New Sort runs 5x Faster!**



As of 9/18/05: Source: Transaction Processing Council (TPC) [www.tpc.org](http://www.tpc.org)  
HP Integrity Superdome Enterprise Server, 45,247 QphH@3000GB  
\$108.78/QphH@3000GB available, 3/25/04 (Oracle Database 10g Release 1). HP Integrity  
Superdome Enterprise Server, 71,847 QphH@3000GB \$56/QphH@3000GB available 1/18/06  
(Oracle Database 10g Release 2)

# Oracle Powers World's Largest Data Warehouses

**100 TERABYTES**

**YAHOO!**



WINTER CORPORATION

[www.wintercorp.com](http://www.wintercorp.com)

SPECIALISTS IN THE WORLD'S LARGEST DATABASES

FOR IMMEDIATE RELEASE

LARGEST COMMERCIAL DATABASE  
IN WINTER CORP. TOPTEN™ SURVEY  
TOPS ONE HUNDRED TERABYTES

*Peak Workload Measurement Exceeds  
One Billion SQL Statements per Hour*

WALTHAM, Mass (September 14, 2005) — Winter Corporation, experts  
in large database systems, today announced the world's largest database in the 2005

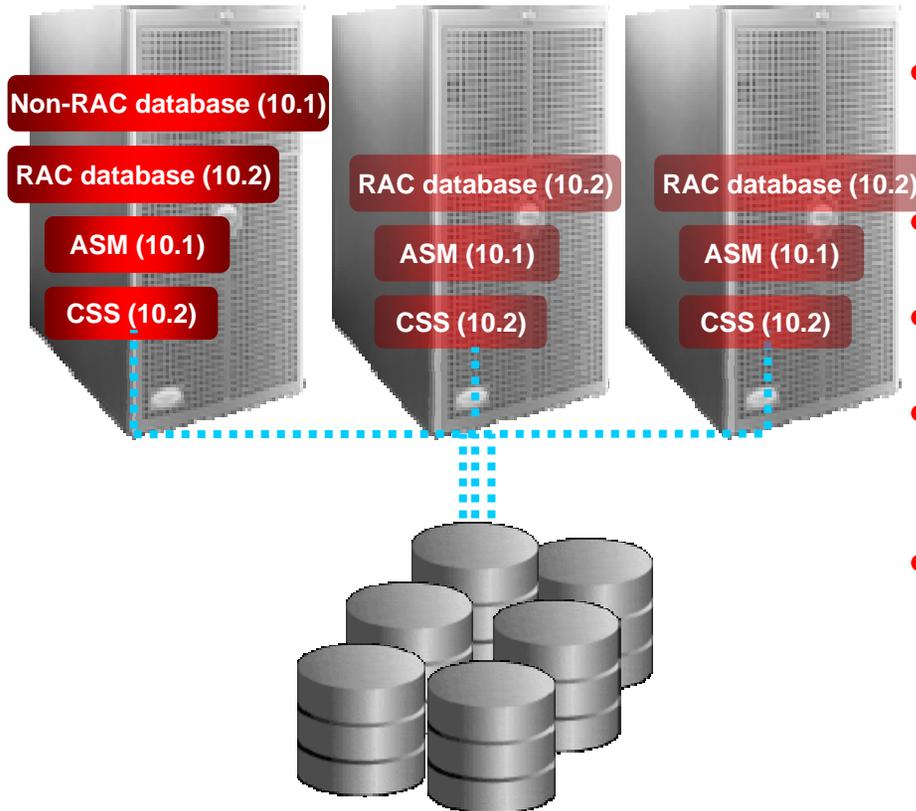
# Thousands of Customers Running on the Grid



Growing 43% per year

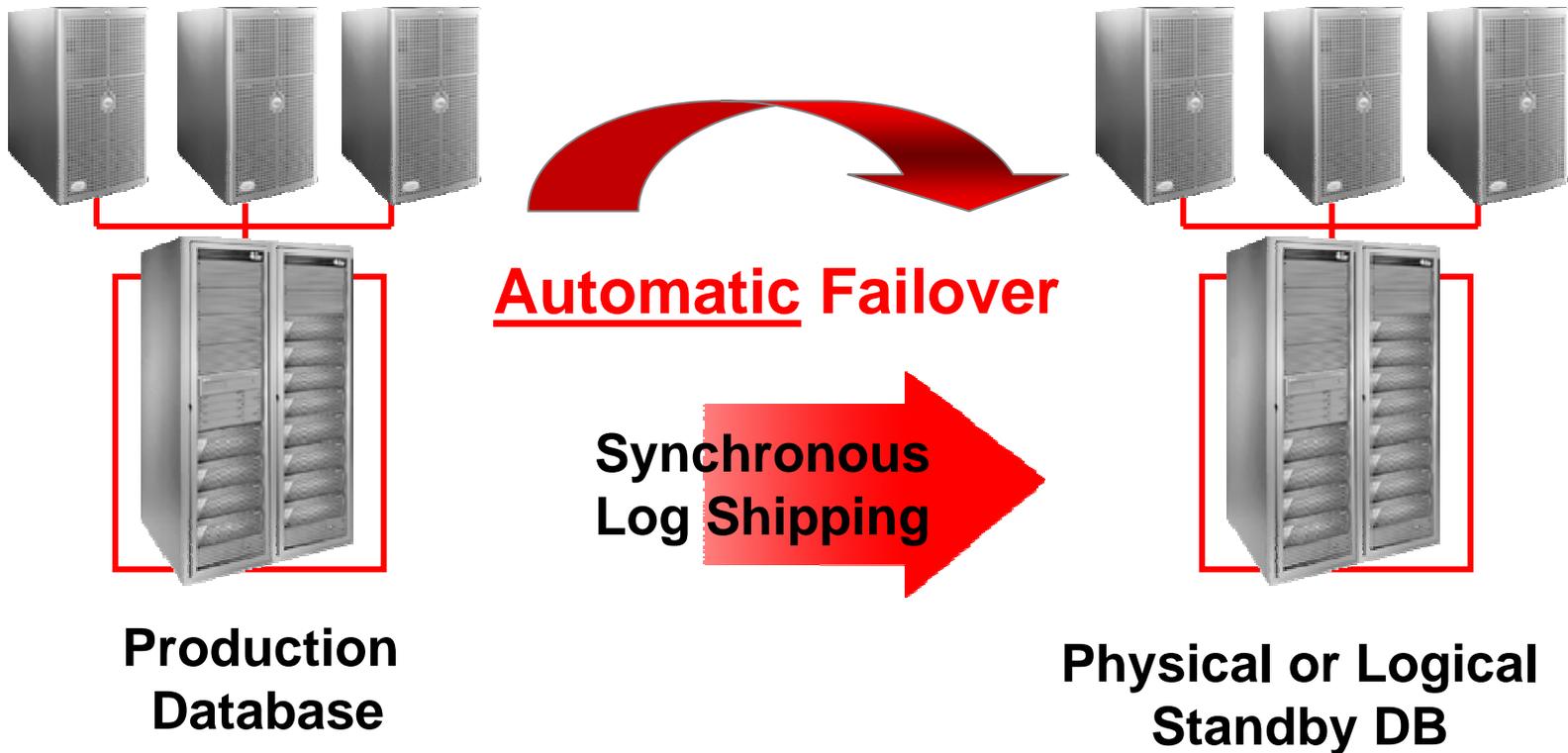
# Automatic Storage Management

Better manageability, performance, availability, lower cost



- Simple and automatic database storage management; no i/o tuning
- Automatic load balancing, striping
- Mirroring, on-line reconfig
- Free, replaces volume manager, improves utilization
- **New in 10g Release 2 ...**
  - Easier to use and configure
  - Supports transportable tablespaces
  - Supports multiple databases in a cluster
  - Support multiple release levels

# Fault Tolerant – Fast-Start Failover



# Database Security

What  
Happened?

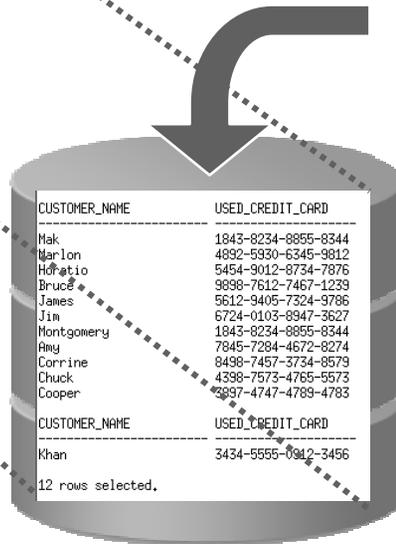
Authentication

Authorization

Encryption

Auditing

```
S02kgtwp#1gksn!^hd  
Sldkngw[dghas==--3i  
20ei$nn396///`93tv  
Sp39tjc@~rncnq=3c/  
Sp93/s,b=s+pqj93ec  
sd9bvjq93gGG=qo0cd  
1-3..xpa/+=w0e]||  
>f:wcGs93=)3*1s1?/  
#pg`8%)/]Af\|0*.yw  
Pi.xu\{<5&/x=`hwqr
```

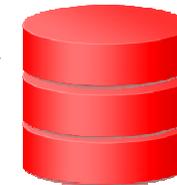
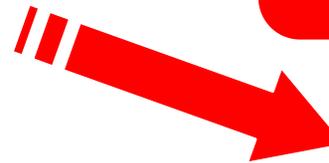


CUSTOMER_NAME	USED_CREDIT_CARD
Mak	1843-8234-8855-8344
Marlon	4832-5930-6345-9812
HdPatio	5454-9012-8734-7876
Bruce	9898-7612-7467-1239
James	5612-9405-7324-9786
Jim	6724-0103-8947-3627
Montgomery	1843-8234-8855-8344
Amy	7845-7284-4672-8274
Corrine	8498-7457-3734-8579
Chuck	4298-7573-4765-5573
Cooper	3897-4747-4789-4783

CUSTOMER_NAME	USED_CREDIT_CARD
Khan	3434-5555-0012-3456

12 rows selected.



# Transparent Data Encryption



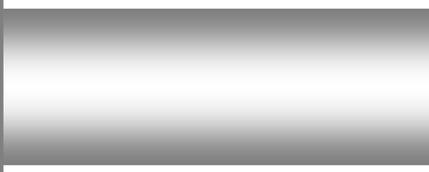
New!

- Maintains data in encrypted form on disk
  - protects stored data (in database, log and backup files) from access outside Oracle
- Transparent to applications
  - Caveat: indexes on encrypted data only useful for equality predicates
- Oracle manages encryption key in wallet
- Distinct from access control
  - users with SELECT privilege automatically see decrypted data

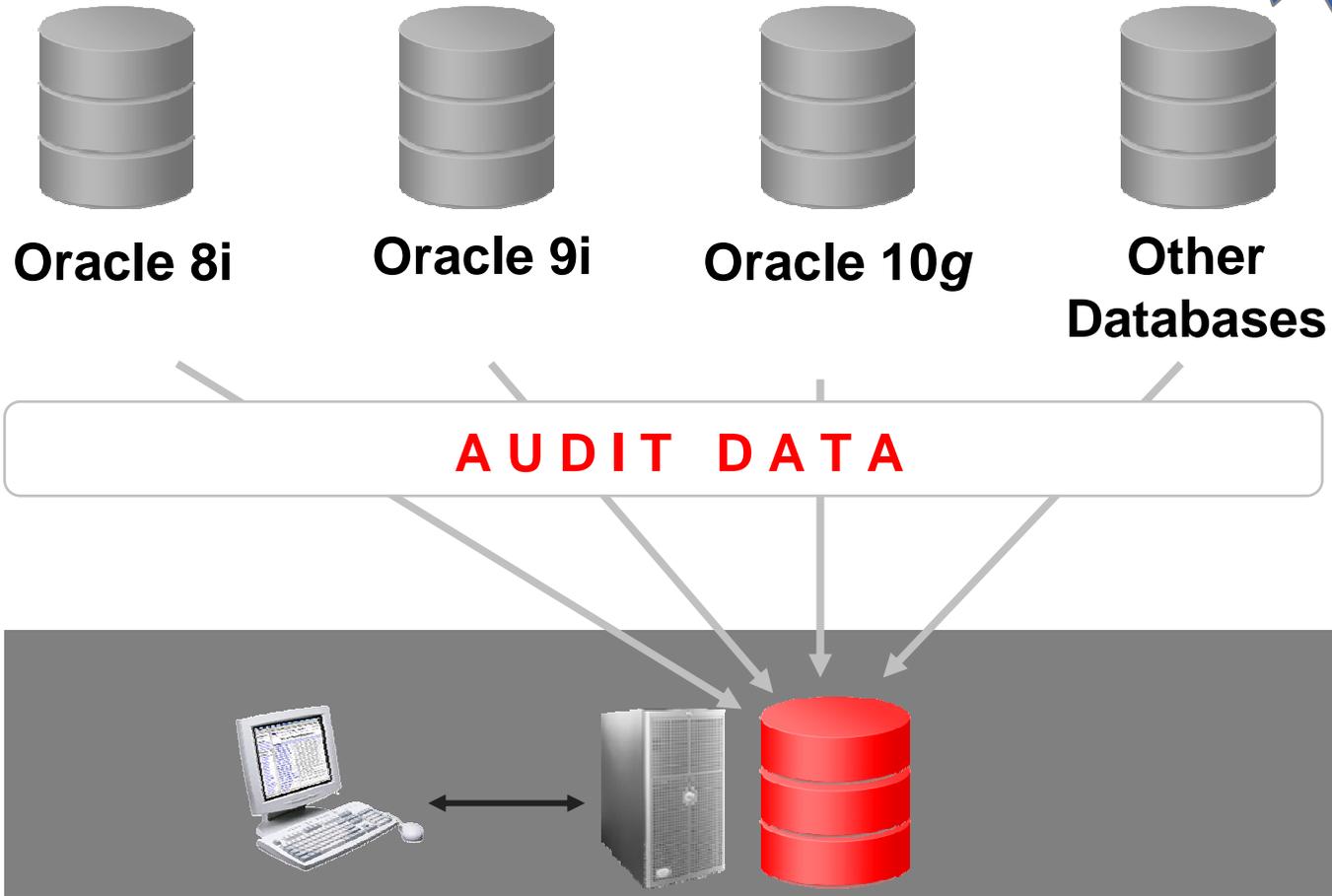
# Project Data Vault

Coming soon

One Oracle Database  
Multiple Separate DBAs



# Project Audit Vault

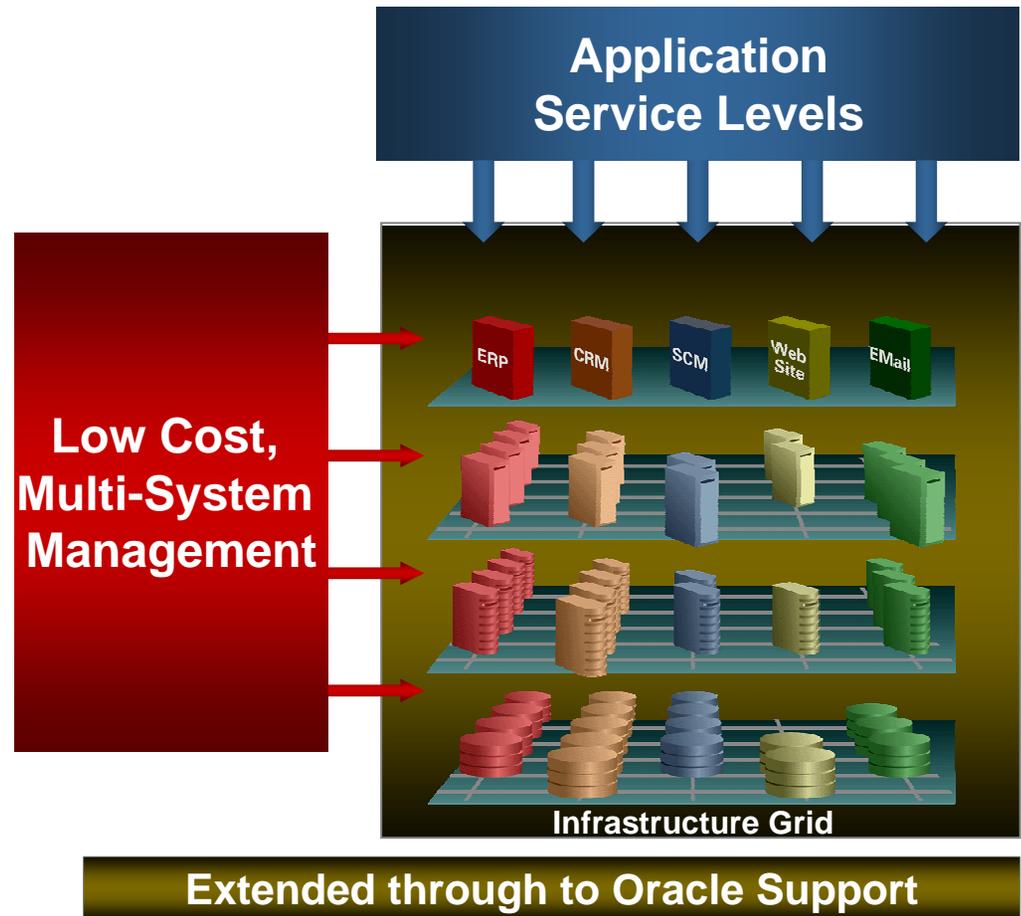


# Oracle Enterprise Manager 10g Release 2

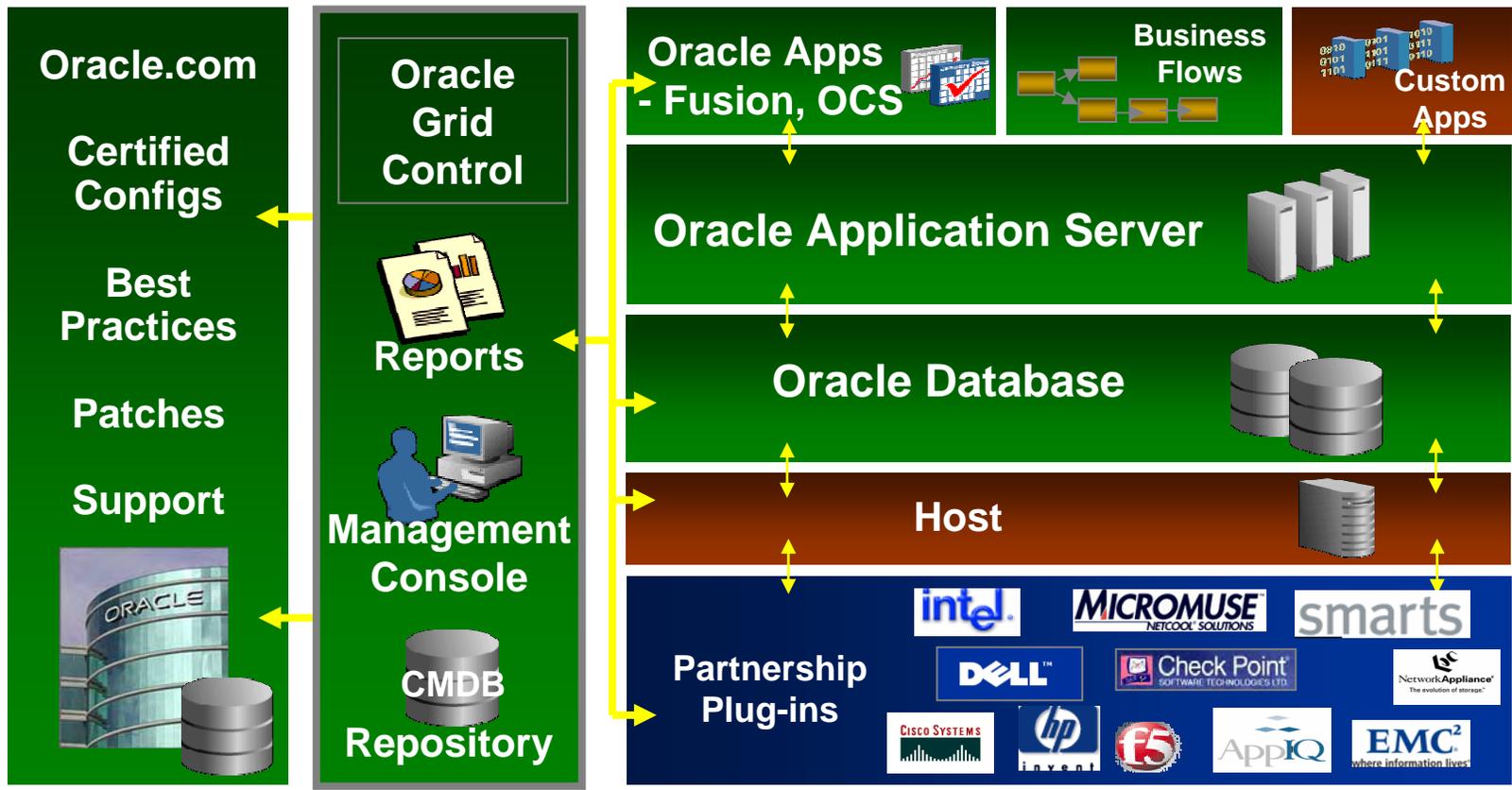
## Grid Management

- ▶ Greater Reach
- ▶ Software Provisioning
- ▶ Reporting and Monitoring
- ▶ New DBA Tools

Available  
Soon

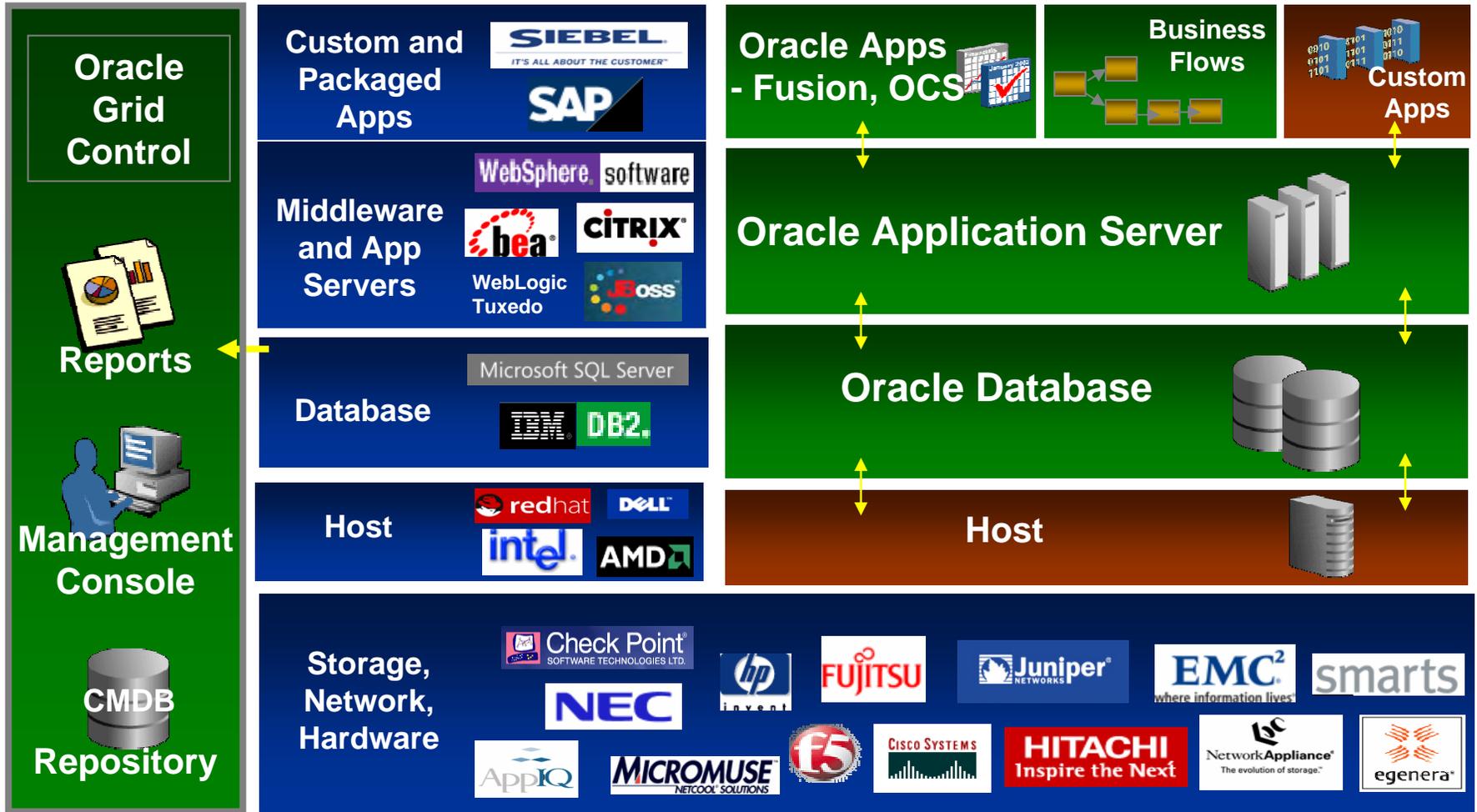


# Grid Control Management Scope

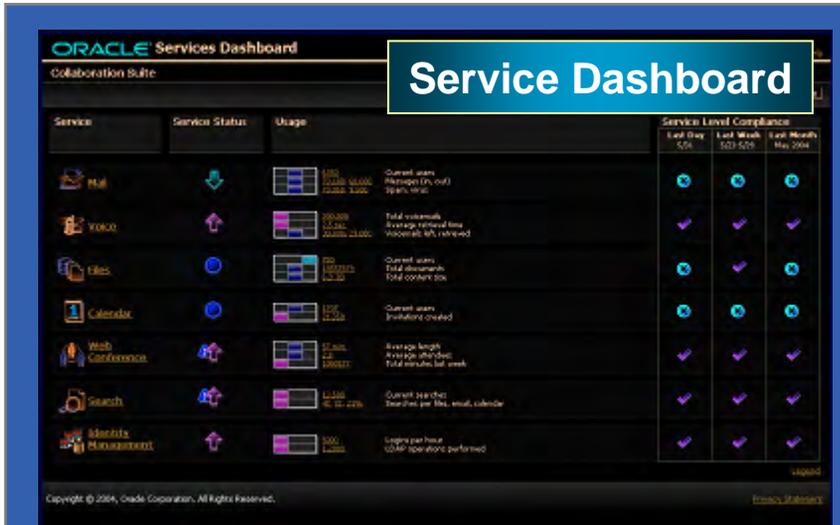


Oracle Assets
 →
Oracle Grid Control is **Best on Oracle**

# Extended System Coverage

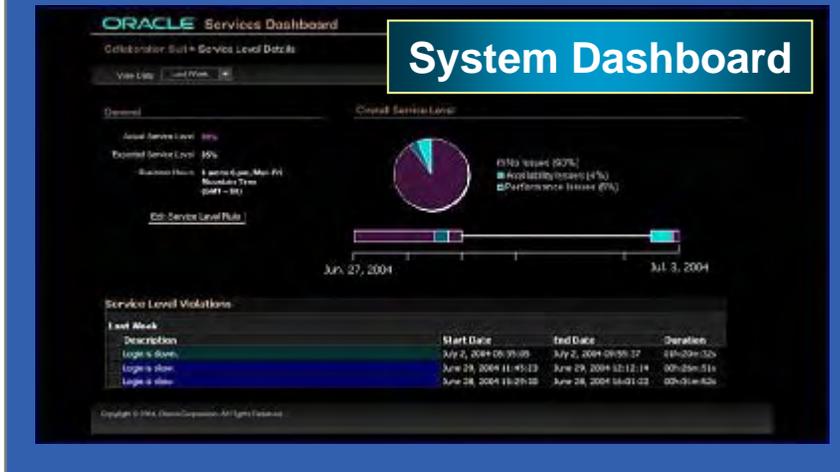


# Service & System Dashboards

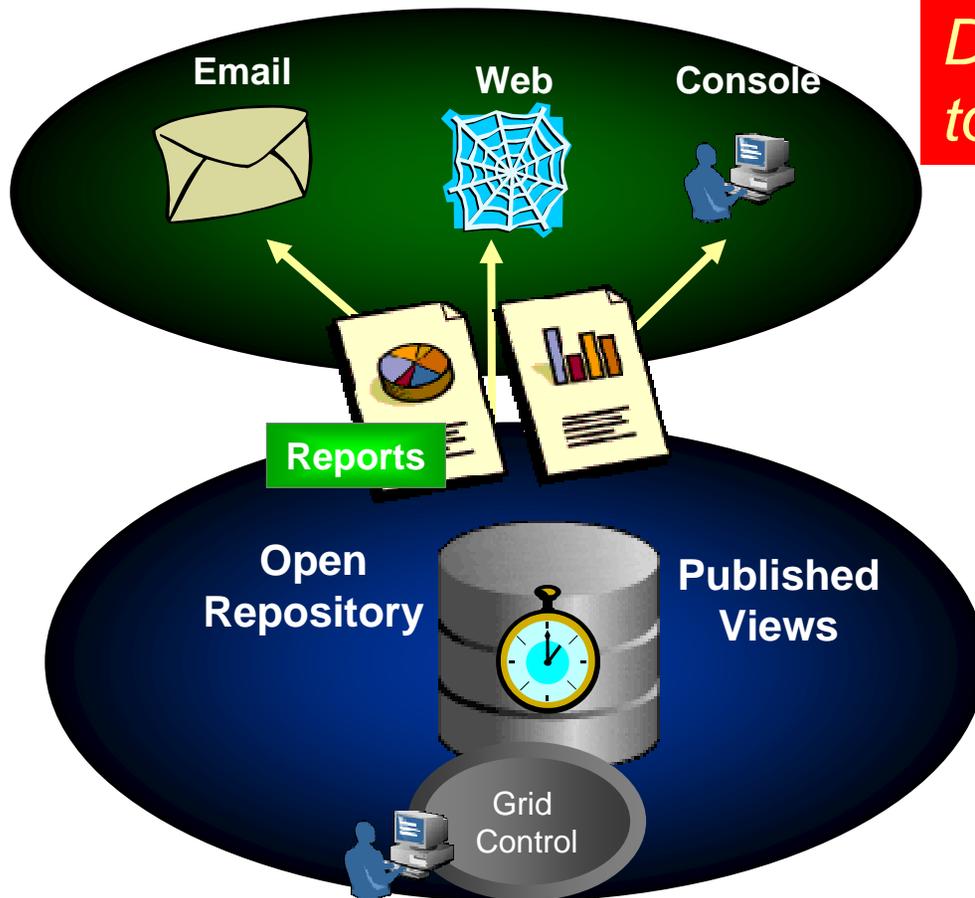


*‘One-stop’ management for your most critical operations*

- One view for overall status
- At a glance monitoring of all critical indicators
- Workflow-driven drilldowns
- Root-cause failure ID



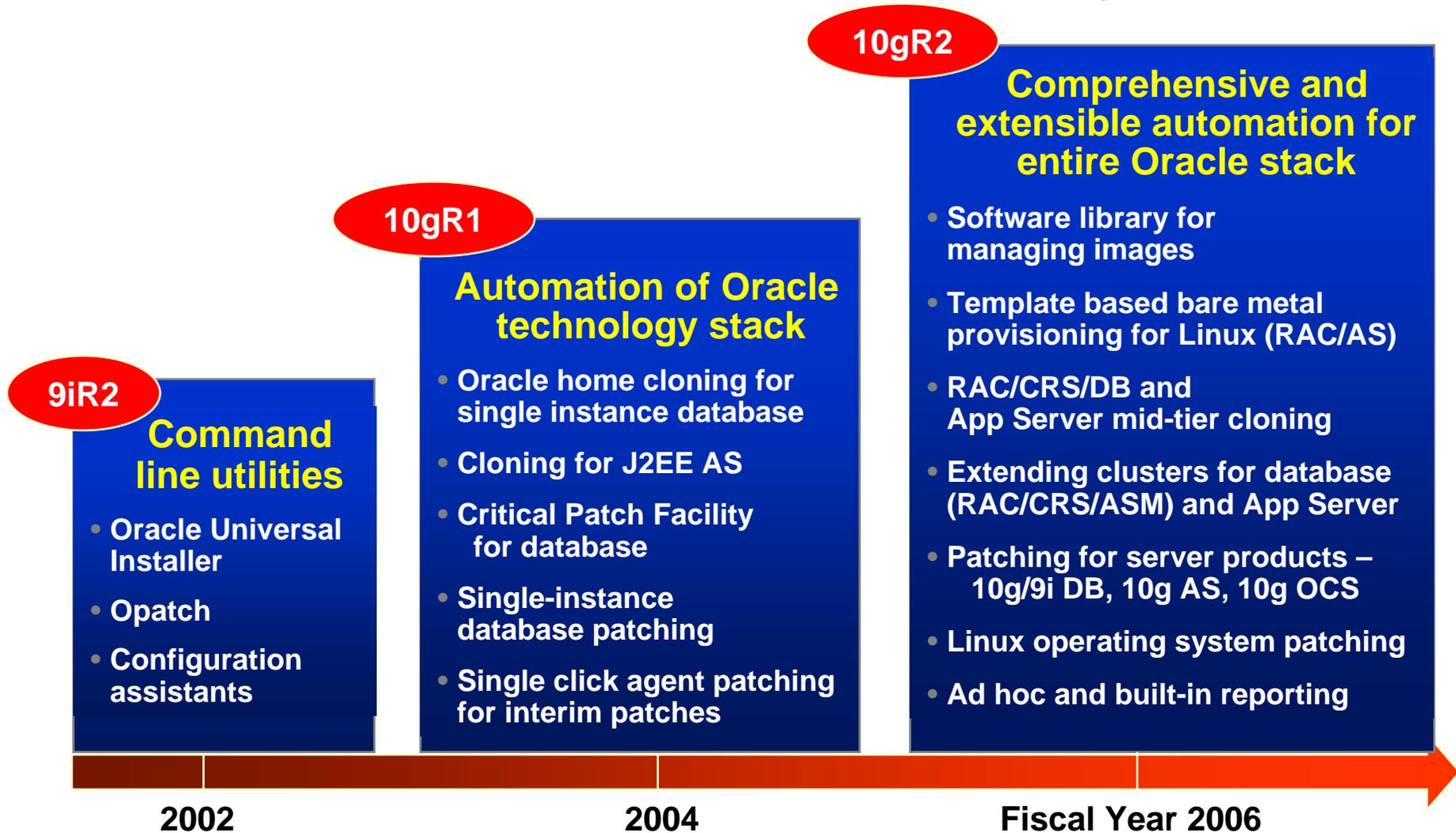
# Enterprise Reporting



*Deliver specialized information to users, managers, executives*

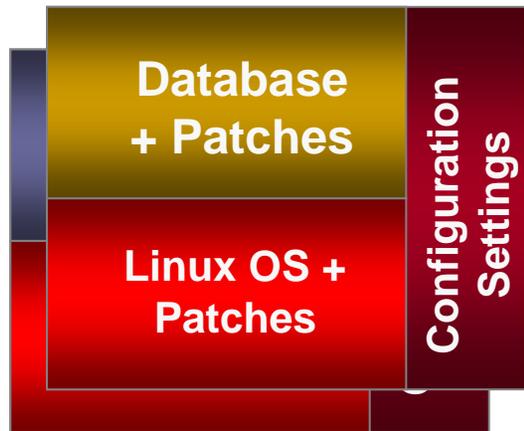
- ▶ Out-of-the-box reports for all components
  - Configuration
  - Performance
  - Service level
  - Audit
- ▶ Graphical report creation tool
- ▶ Complete repository access
- ▶ Secure publishing capabilities
- ▶ Published well defined views

# Automated Software Deployment

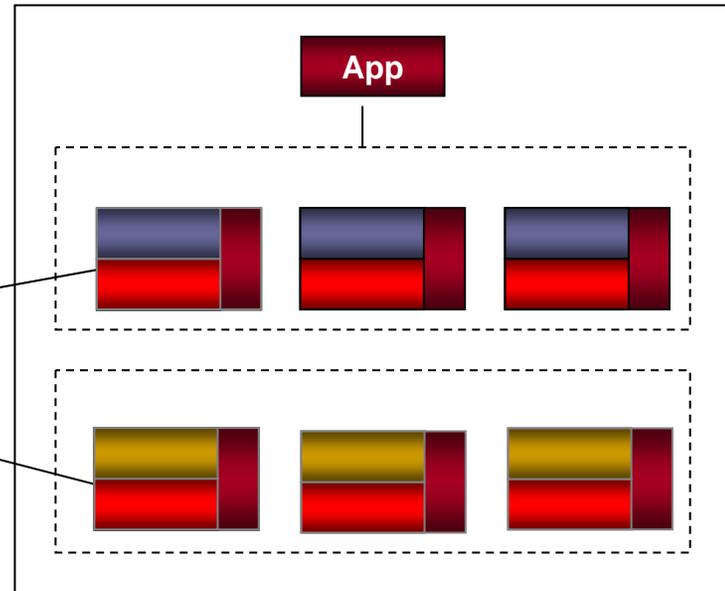


# RAC Provisioning with Enterprise Manager 10g Release 2

5-Step RAC Deployment



RAC Instance\*



Production Application  
with added RAC capacity

\* Configured from bare metal!

# RAC Provisioning with Enterprise Manager 10g Release 2

- Setup new clusters
  - Provision Software
  - Configure Clusterware
- Add Node
  - Clone Software
  - Extend Cluster
  - Add Instance, Listener & ASM
- Convert non-RAC Database to RAC (n-node)

# RAC Management

- ❑ Topology view with configuration details
- ❑ Critical, warning alerts
- ❑ Administration
  - startup & shutdown
  - add/delete instance
  - services management

The screenshot displays the Oracle Enterprise Manager 10g Grid Control interface for a RAC cluster named 'rac2'. The 'Topology' tab is active, showing a hierarchical view of the cluster components. On the left, a 'Selection Details' pane shows information for the instance 'rac2\_rac21', including its name, type (Database Instance), host (stap16.us.oracle.com), and alert status. The main area shows two topology diagrams for nodes 'stap16.us.oracle.com' and 'stap17.us.oracle.com', each displaying a 'LISTENER\_S' component connected to '+ASM1\_saj...' and '+ASM2\_saj...' services. Below the topology, an 'Instances' table provides a summary of the cluster's state.

Instance Name	Status	Alerts	Policy Violations	Compliance Score (%)	ADDM Findings/ASM	Sessions CPU	Sessions PO	Sessions Other	Instance CPU (%)
rac2_rac21	UP	1	0	90	0	0	0	0	05
rac2_rac22	UP	1	0	90	7	0	0	0	01

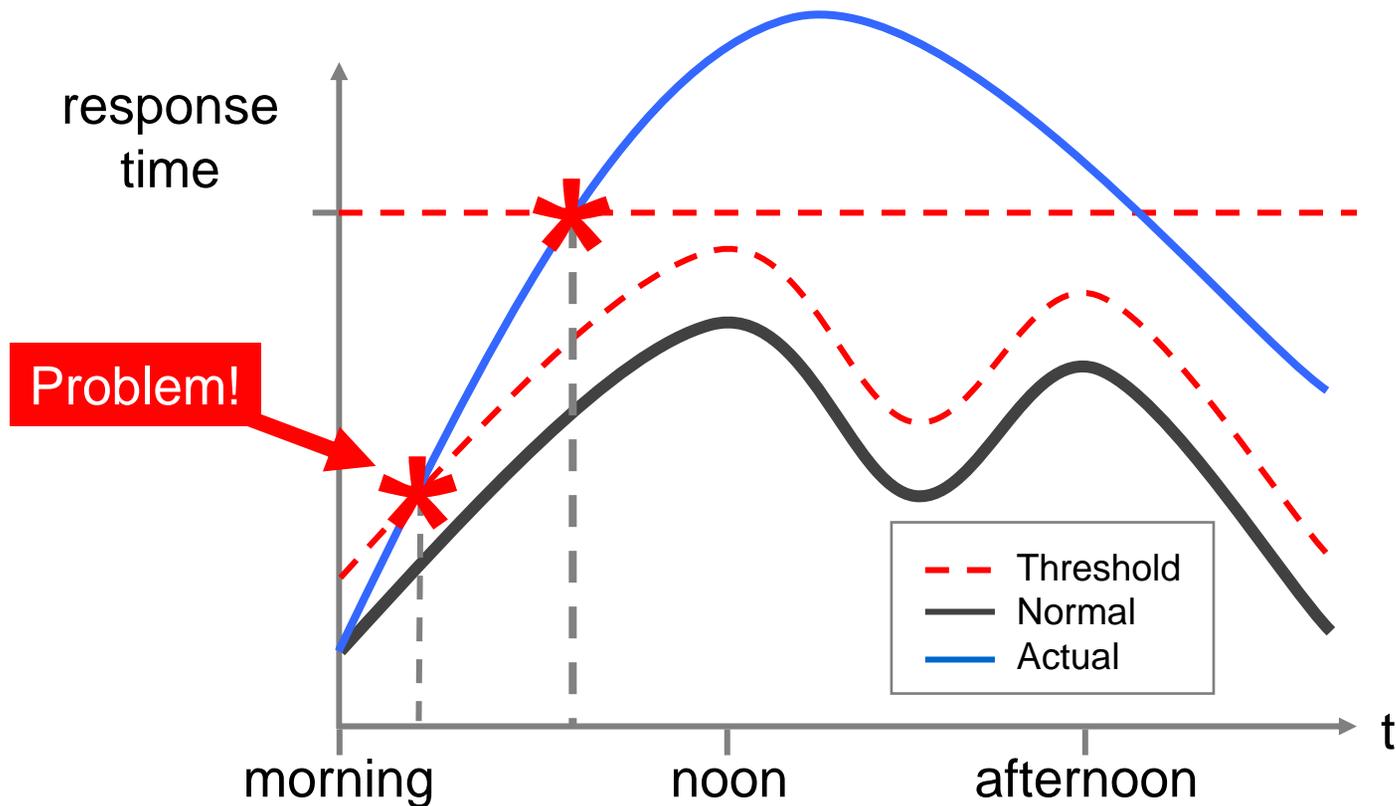


# Enterprise Manager ASM Support

- ▶ Migrate non-ASM to ASM
- ▶ Simplified management
  - Performance monitoring
  - Alerts on media failures, disk group dismount, disk and file alert log error
  - Disk group policy compliance



# Adaptive Metric Thresholds



**Abnormal performance is detected much earlier**

# Cool Tools for the DBA



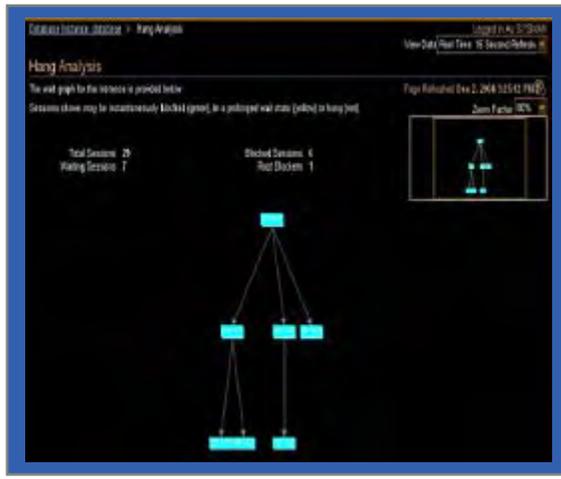
## Performance Tuning

## Direct Memory Mode

## Hang Analysis



Alert History  
Blackouts  
iSQL\*Plus  
Metric Baselines  
Monitor in Memory Access Mode  
SQL History



- Top sessions, top SQL
- Activity %, session IDs, SQL text

- Useful for hung / slow databases
- Direct reads from SGA; no SQL

- Quick root cause analysis of blocking sessions
- Graphical view, drill to details

# Project Raptor

- New tool for DBAs & database developers
- Lightweight, very responsive, easy to use
- Create and manage database objects
  - tables, views, etc.
- Browse, update data
- Create, edit, debug PL/SQL



Announced at OpenWorld ...

**ORACLE®**  

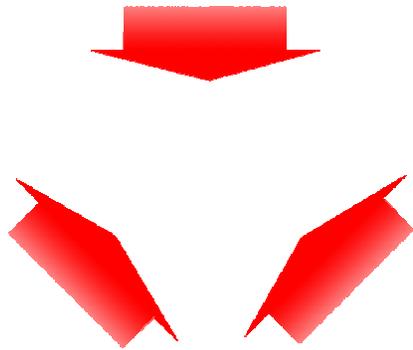
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**APPLICATION SERVER** **10<sup>g</sup>**

**Release 3**

**Oracle Fusion Architecture**

APPLICATIONS

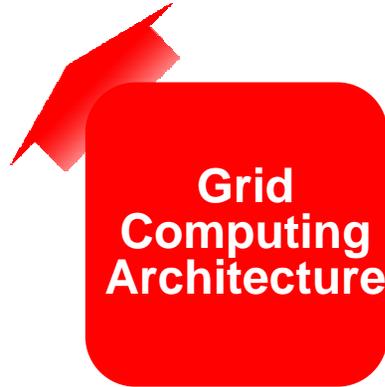
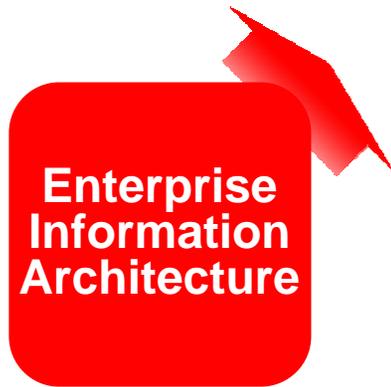


INFORMATION

INFRASTRUCTURE

# Fusion of Modern Architectures

## APPLICATIONS



INFORMATION

INFRASTRUCTURE

# Fusion of Modern Architectures

## APPLICATIONS

Service-Oriented  
Architecture

**ORACLE  
FUSION**  
ARCHITECTURE

Enterprise  
Information  
Architecture

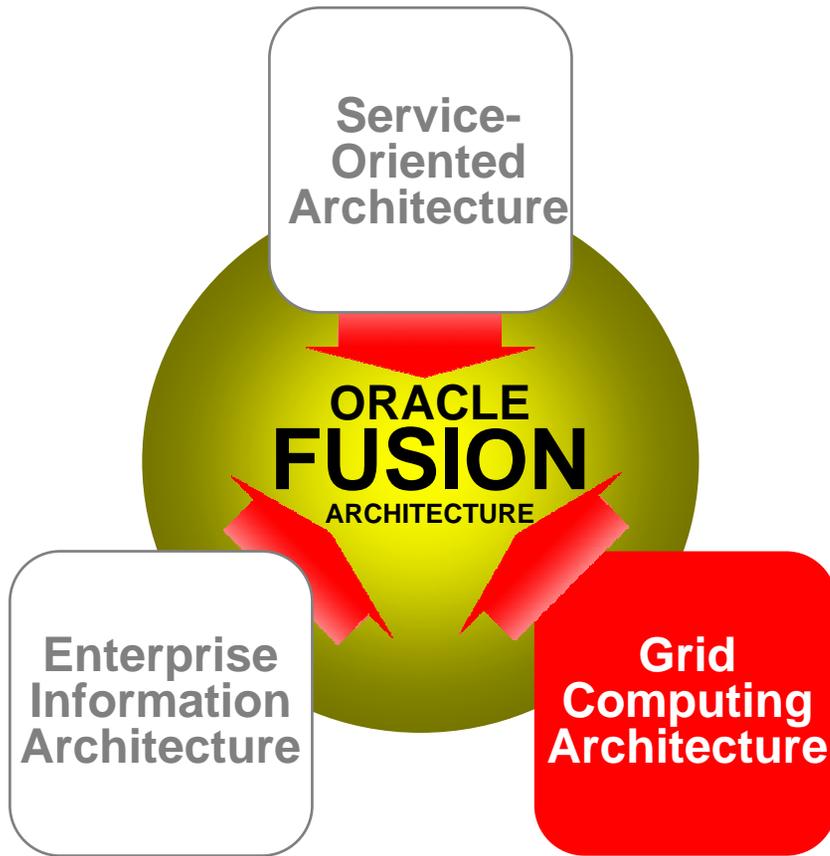
Grid  
Computing  
Architecture

INFORMATION

INFRASTRUCTURE

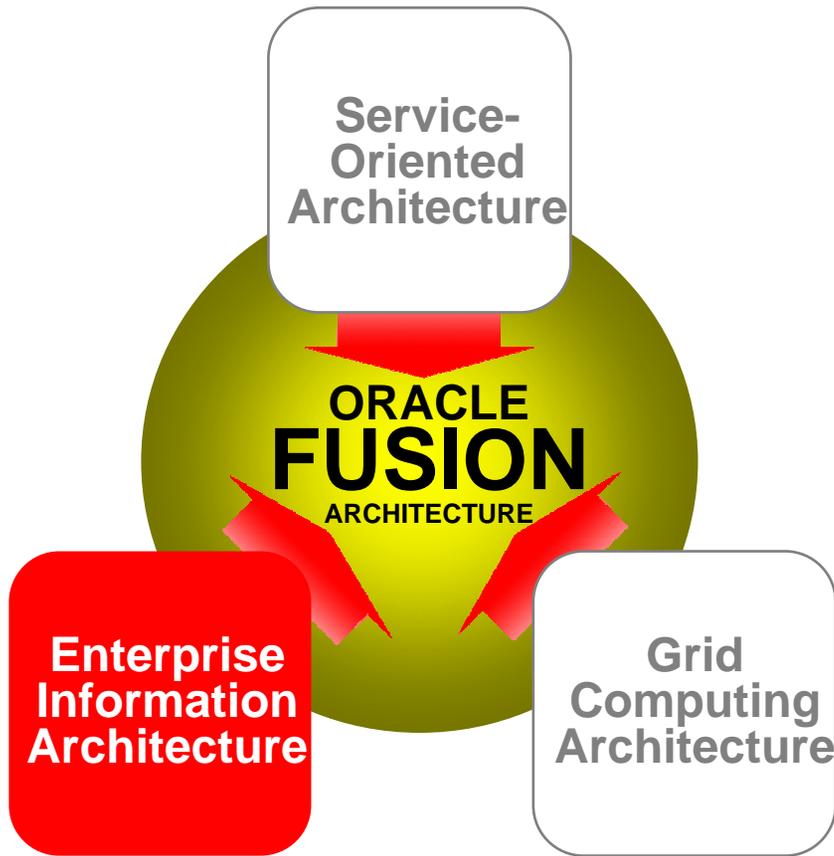
# Fusion of Modern Architectures

# Clusters of low-cost servers acting as one large computer



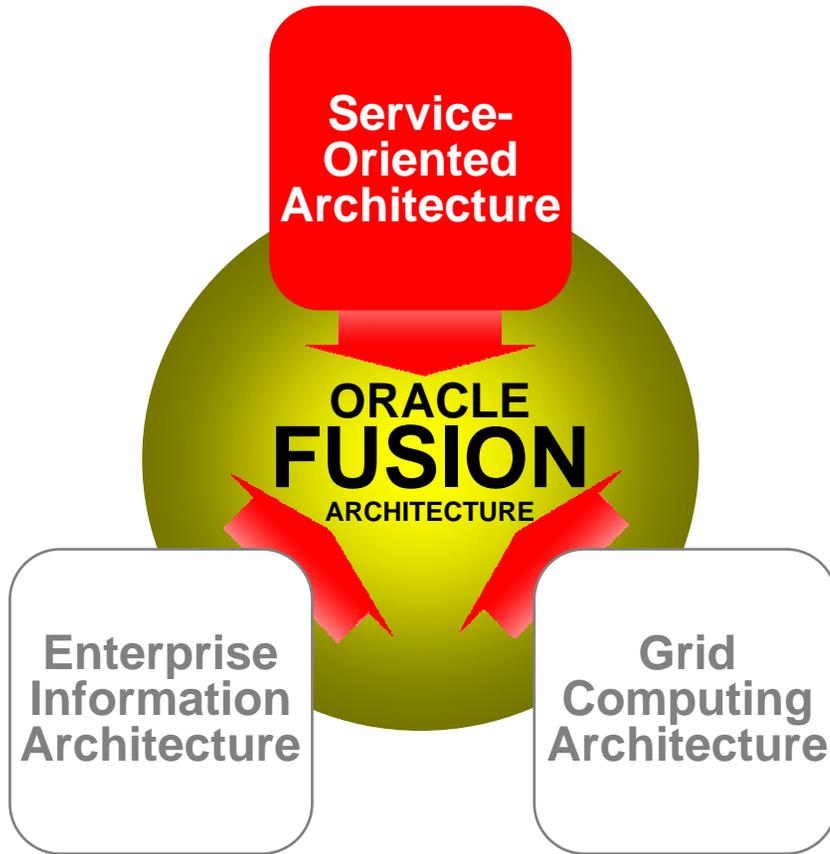
- ▶ High performance and scale
- ▶ Costs less
- ▶ Never breaks

# Unified storage, management and personalized use of information



- ▶ Role-based, real time information
- ▶ Content as enterprise asset
- ▶ More secure and auditable
- ▶ Lower cost

# Adaptable processes based on component services



- ▶ Speeds application development
- ▶ Aligns business & IT
- ▶ Extends IT investments
- ▶ Lowers maintenance costs

# Oracle 10g Delivers the Fusion Architecture

**ORACLE®**

**APPLICATION SERVER**

**ORACLE®**

**DATABASE**



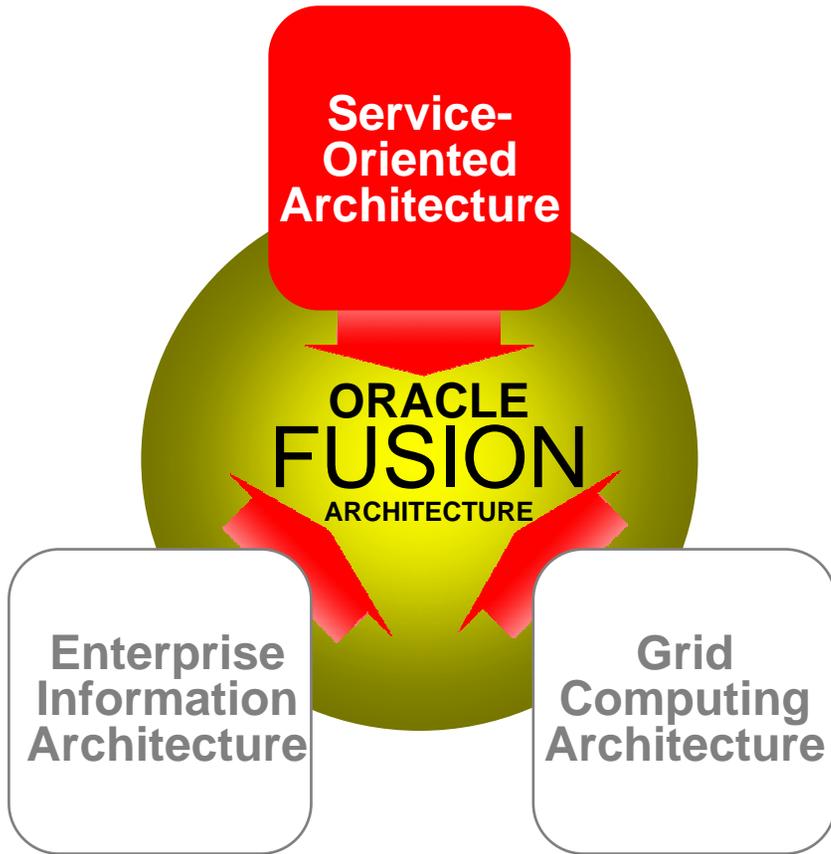
**10g**

**ORACLE®**

**COLLABORATION SUITE**

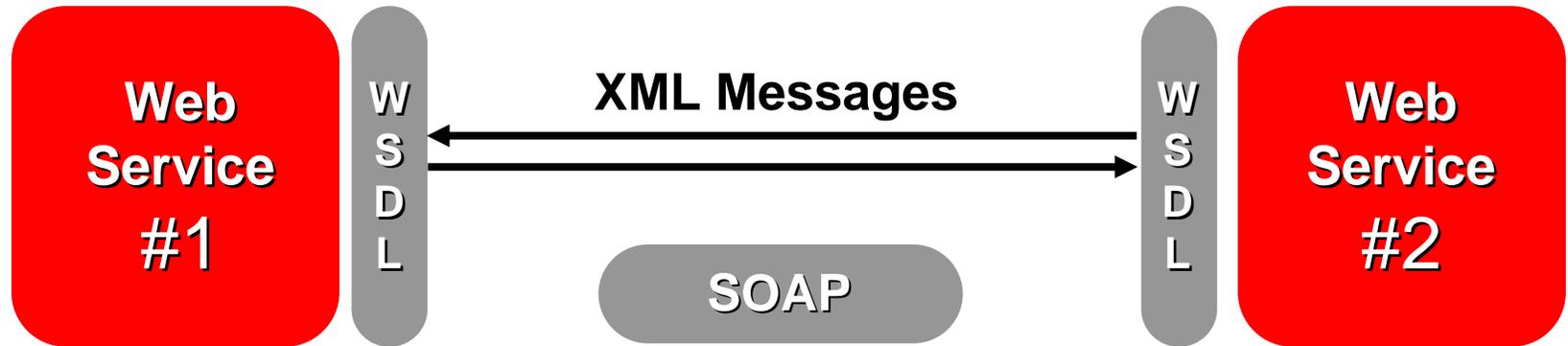
**ORACLE®**

**ENTERPRISE MANAGER**



# Fusion of Modern Architectures

# Service-Oriented Architecture



# Service-Oriented Architecture

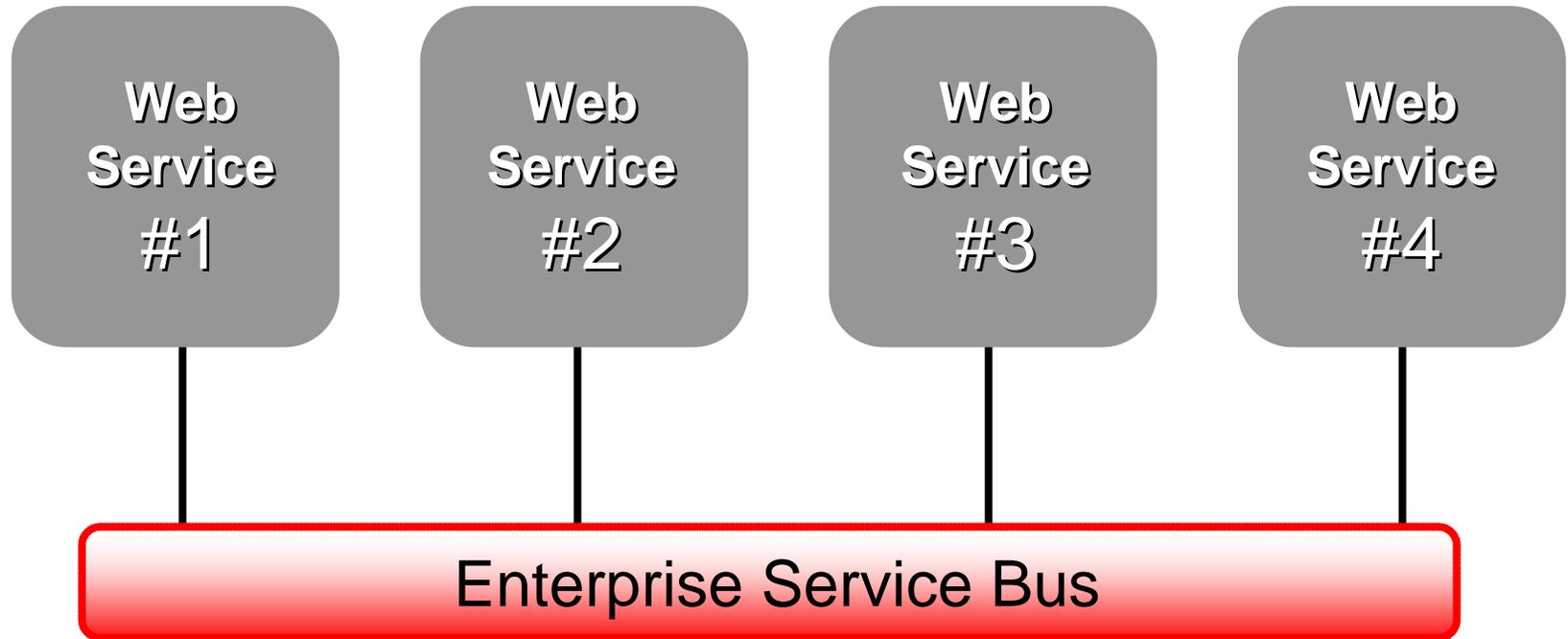
**Web  
Service  
#1**

**Web  
Service  
#2**

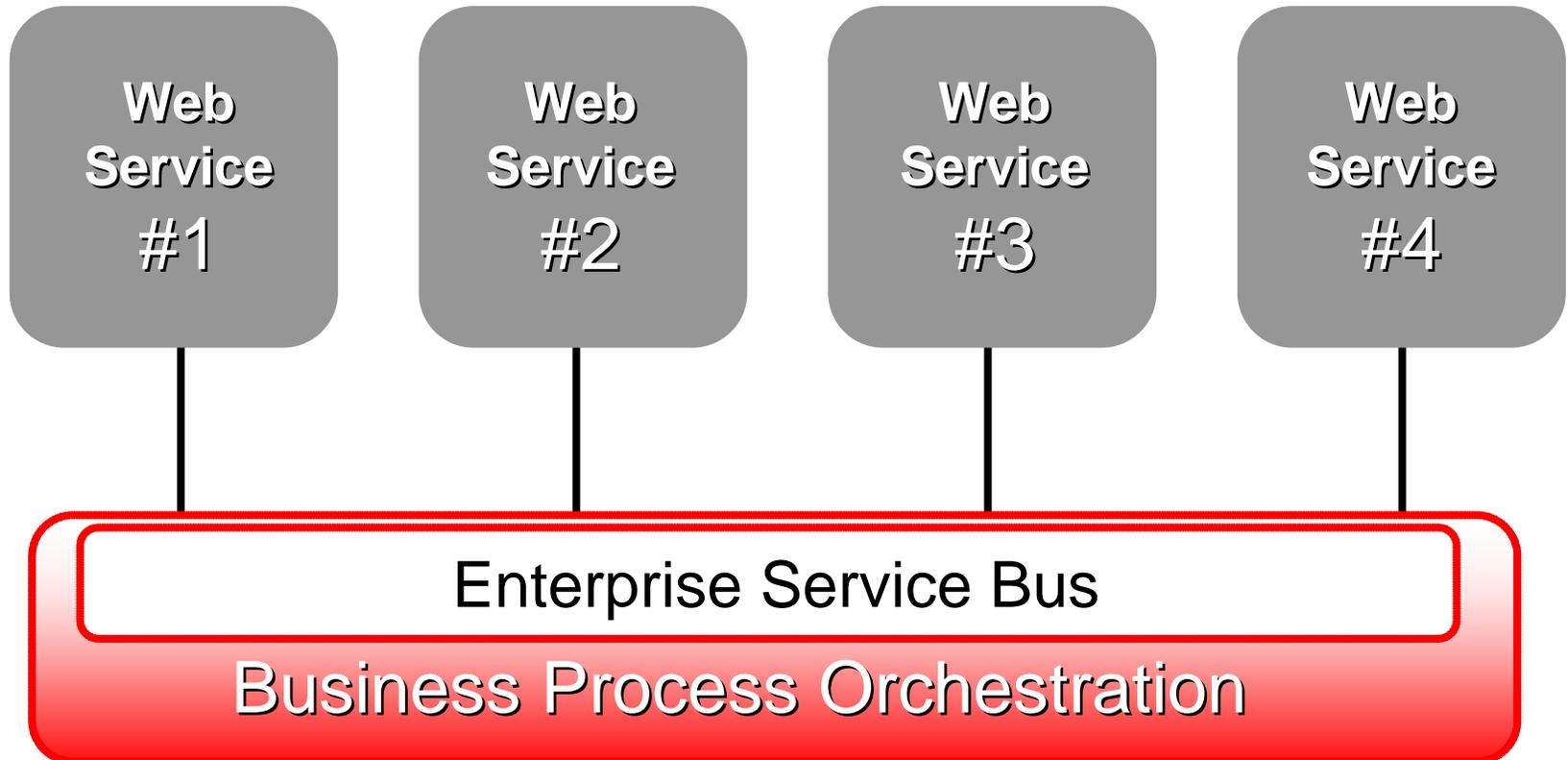
**Web  
Service  
#3**

**Web  
Service  
#4**

# Service-Oriented Architecture



# Service-Oriented Architecture



# SOA Lifecycle

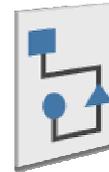
**Develop**



**Integrate**



**Orchestrate**



**Secure**



**Manage**



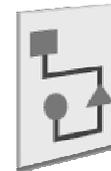
**Monitor**



# SOA Lifecycle



Integrate



Orchestrate



Secure

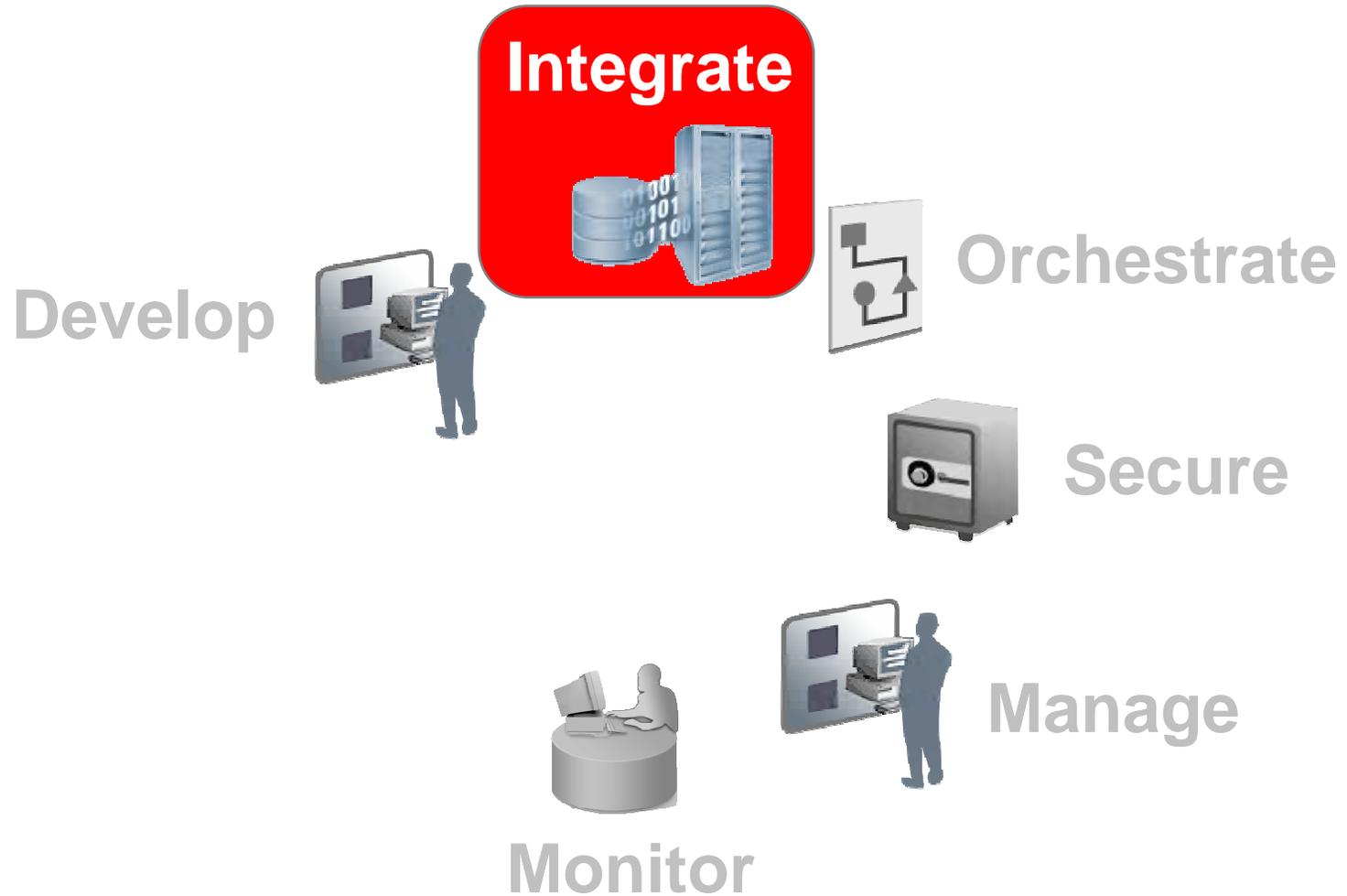


Manage



Monitor

# SOA Lifecycle



# SOA Lifecycle

Develop



Integrate



Orchestrate

Secure



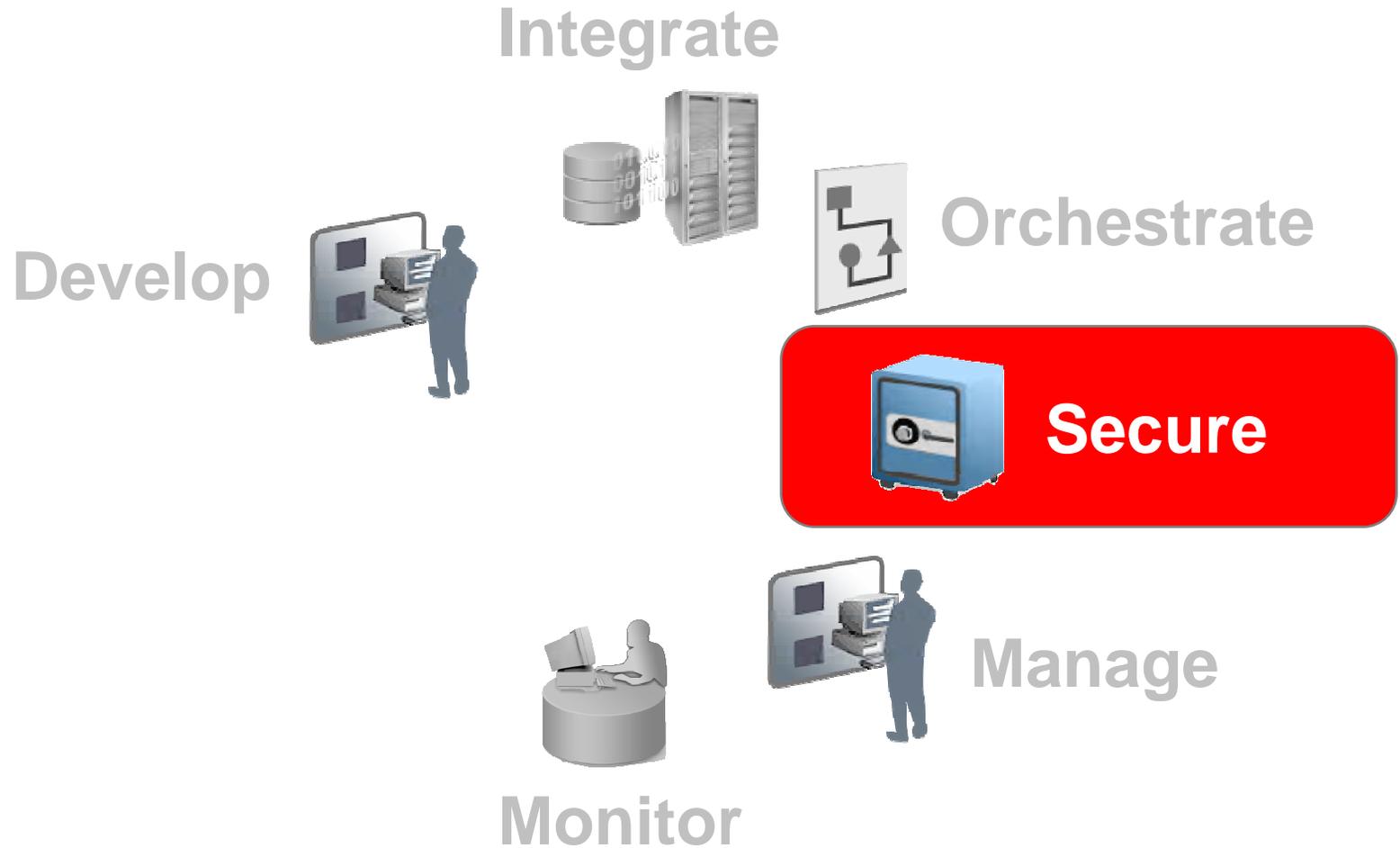
Manage



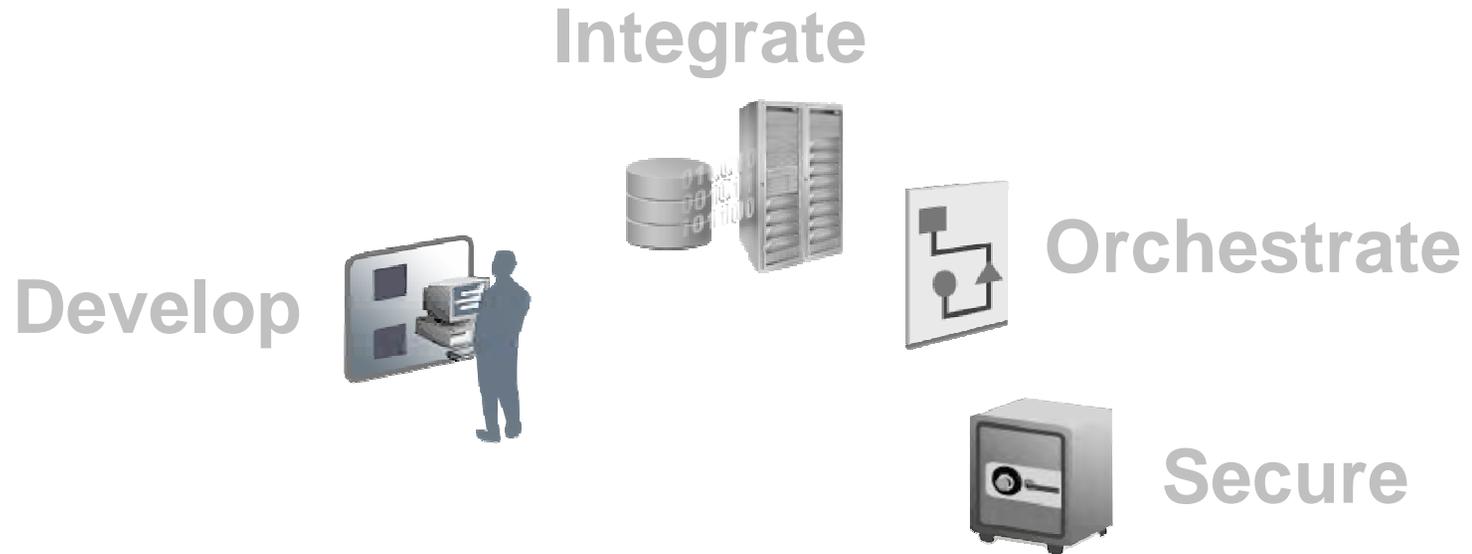
Monitor



# SOA Lifecycle



# SOA Lifecycle



# New in Oracle Application Server 10g Release 3

## Java Server Faces

Rich web-based standard user interfaces

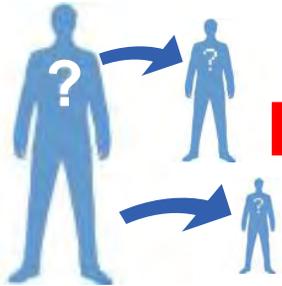
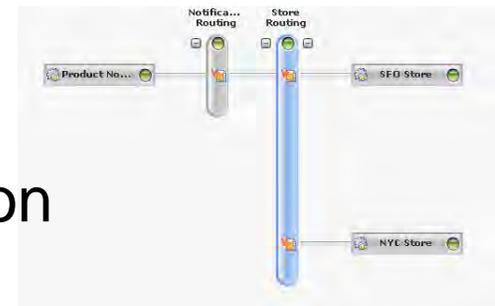


## EJB 3.0 & J2EE 1.4

Sophisticated business applications

## Enterprise Service Bus

Standards-based, flexible integration



## Enterprise Identity Management

Provisioning, Federation, Identity Administration

# Oracle Fusion Middleware

**COLLABORATIVE ENTERPRISE PORTAL**



Portals, Collaboration, Mobile, Desktop, Search

**DEVELOPMENT TOOLS**



Modeling, Development Tools, Frameworks

**COMPOSITION & PROCESS ORCHESTRATION**



BPM, ESB, B2B

**INFORMATION AGGREGATION & ANALYSIS**



ETL, Hubs, Content Mgmt., BI, BAM

**MANAGEMENT**



Systems Management

**ENTERPRISE APPLICATION SERVER**



J2EE, WS-\*, Events, Metadata, Registry

**SECURITY**



Identity, Services Management

**GRID COMPUTING**



Clusters, Resource Management, High Availability

# World's Best Integrated Middleware Suite



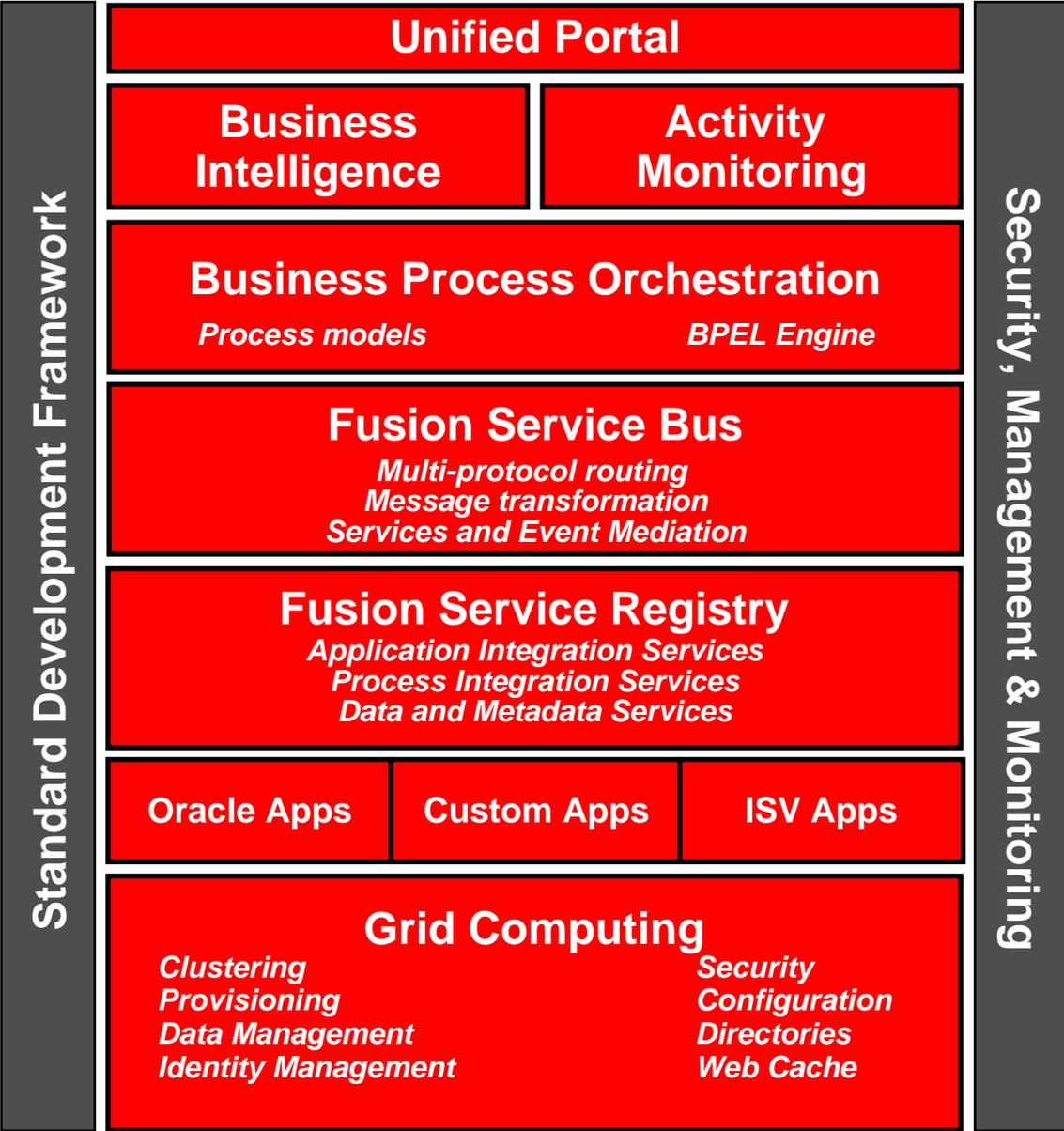
OVERALL SCORE  
 PLATFORM ARCHITECTURE  
 AVAILABILITY AND RELIABILITY  
 ADMINISTRATION AND MANAGEMENT  
 DEVELOPMENT  
 STANDARDS AND INTEROPERABILITY  
 MARKET PRESENCE  
 COST

RANK	VENDOR & PRODUCT	OVERALL SCORE	PLATFORM ARCHITECTURE	AVAILABILITY AND RELIABILITY	ADMINISTRATION AND MANAGEMENT	DEVELOPMENT	STANDARDS AND INTEROPERABILITY	MARKET PRESENCE	COST
1	<u>Oracle Application Server 10g Enterprise Edition</u>	4.1	4.0	4.4	4.6	4.1	4.3	3.9	3.4
2	<u>Microsoft Windows Server System</u>	3.5	3.6	3.1	3.5	4.4	3.7	2.8	3.2
3	<u>IBM WebSphere software platform</u>	3.3	3.8	3.0	3.3	3.4	3.6	4.5	1.4
4	<u>BEA WebLogic Platform 8.1</u>	3.2	4.4	2.4	3.9	3.5	3.9	3.5	1.0
5	<u>SAP NetWeaver 04</u>	2.8	3.7	2.1	4.0	3.3	3.4	3.1	0.0
5	<u>Sun Sun Java System</u>	2.8	3.1	1.5	3.5	2.4	3.1	2.8	3.2
7	<u>Novell exteNd Enterprise Suite 5.2</u>	2.4	3.7	1.5	2.7	2.8	3.6	1.3	1.0
WEIGHTINGS:		15%	15%	14%	14%	14%	14%	14%	14%

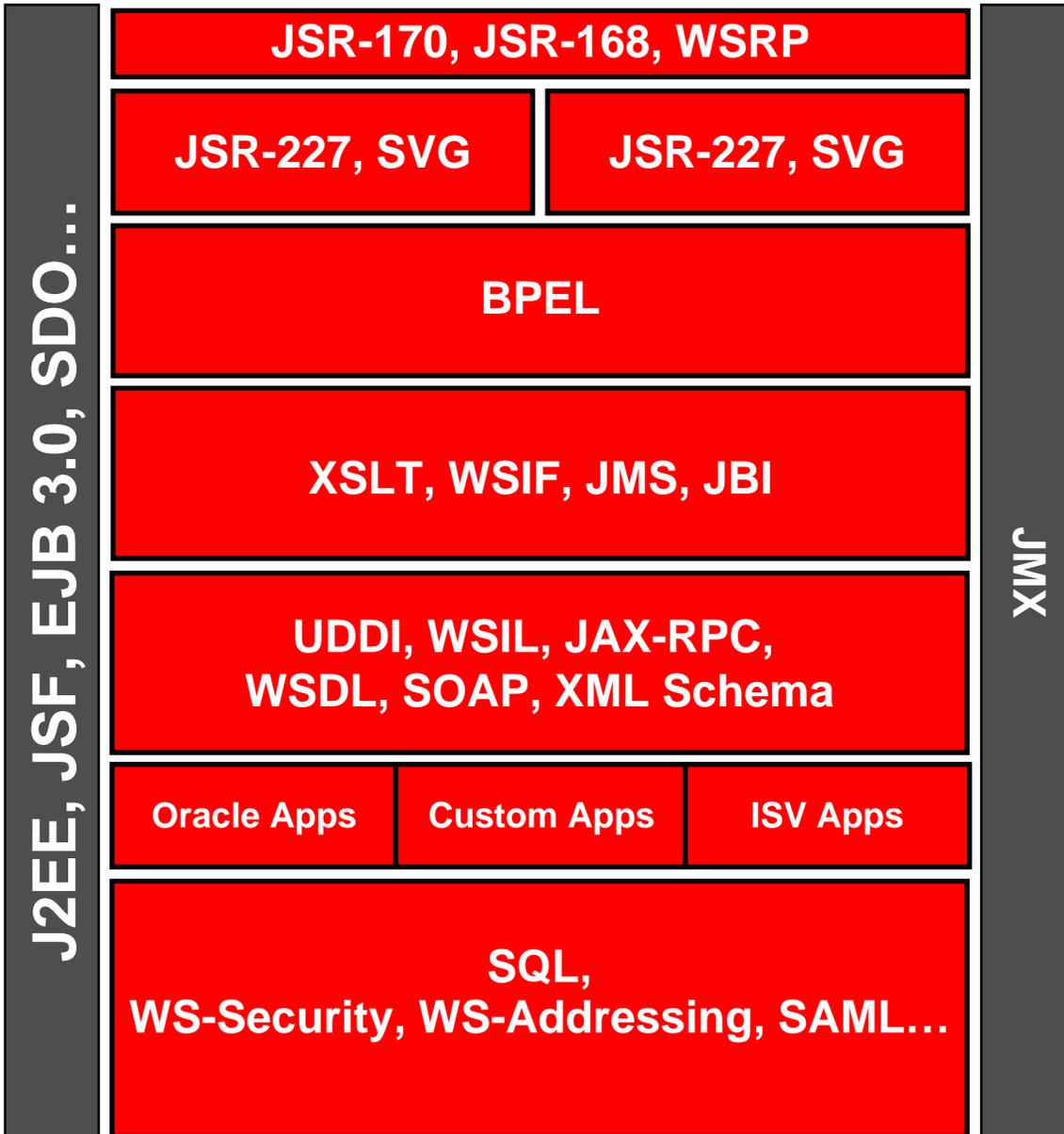
# World's Fastest Growing Middleware Suite



26,900+ Customers, Growing 30%+ per year



# Oracle Fusion Architecture

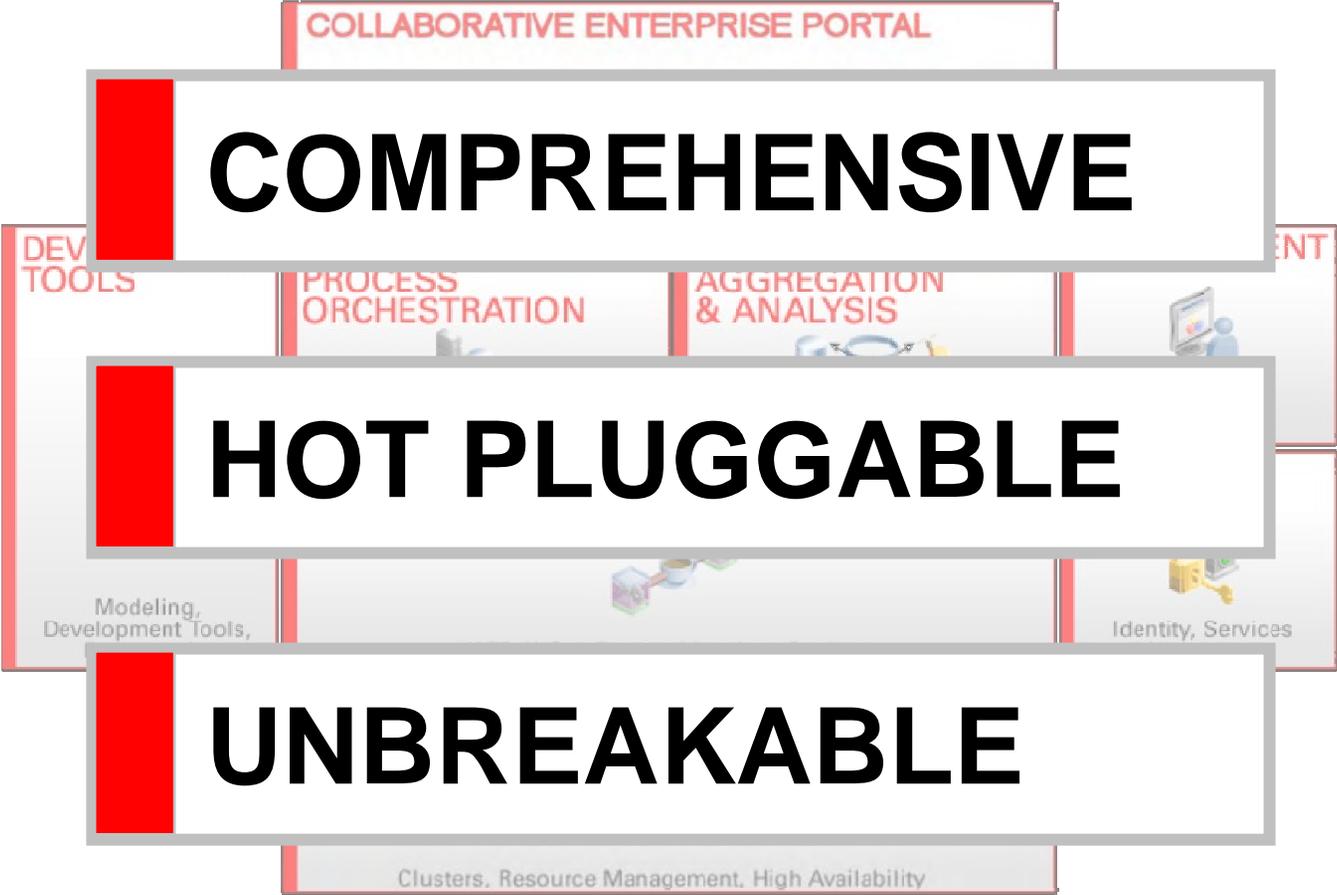


# Oracle Fusion Architecture *Standards*

# Based On Open Standards



# Oracle Fusion Middleware



# Oracle Applications, Fusion, Grid, SOA and You

- ▶ Project Fusion: Roadmap for future applications
- ▶ Fusion Middleware/Fusion Architecture: the basis for Project Fusion; driving Oracle development
- ▶ Fusion Applications (ours or yours) will be designed with a Service Oriented Architecture, and will run on a Grid
- ▶ DBAs' roles are expanding to include middleware deployment and application design issues
- ▶ Developers will use new tools and techniques to build better apps, and be more productive

# Get Smart ... Get Oracle 10g Release 2!



Don Adams – Agent 99  
TV's Get Smart

- ▶ Production-ready
- ▶ Available now  
(almost all platforms)
- ▶ Faster
- ▶ More secure
- ▶ More reliable
- ▶ More available
- ▶ More functional

# Thank You, New York!



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