Oracle Enterprise Manager 10g

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Server Technologies
Oracle Corporation
Agenda

• Enterprise Manager Overview
• Lifecycle Automation
• Configuration Management
• Application Performance Management (+ AD4J)
• Service Level Management
• Plug-ins and Connectors
• Packaged Applications Management
Management Capabilities
Oracle Enterprise Manager 10g
Manage For Today’s Data Center

- Configuration Management
- Service Level Management
- Application Performance Mgmt
- Lifecycle Management
Oracle Enterprise Manager 10g
Support For Heterogeneous Systems

- Configuration Management
- Service Level Management
- Application Performance Mgmt
- Lifecycle Management

- Applications
- Middleware
- Database
- Enterprise Linux

- BEA
- BEZ
- Blue Lane
- Check Point
- Citrix
- Dell
- Egenera
- EMC
- F5

- IBM
- Juniper
- Microsoft
- NetApp
- Nortel
- Onaro
- Pillar Data
- Radware
Oracle Enterprise Manager 10g
Release R3

- Configuration Management
- Service Level Management
- Application Performance Mgmt
- Lifecycle Management

Applications
Middleware
Database
Enterprise Linux

- BEA
- BEZ
- Blue Lane
- Check Point
- Citrix
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- Egenera
- EMC
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- Juniper
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- NetApp
- Nortel
- Onaro
- Pillar Data
- Radware

New

- E-Business Suite
- PeopleSoft
- Siebel
- Oracle SOA Management
- Oracle Identity Management
- Remedy
- Microsoft MOM
- JBoss
- IBM WebSphere MQ
Oracle Enterprise Manager 10g
Release R4

- Configuration Management
- Service Level Management
- Application Performance Mgmt
- Lifecycle Management

New
- Data Masking
- Non-Oracle Middleware + JADE
- Business Intelligence
- Application Server Diagnostics + JADE
- Tomcat
- Vmware
- EMC Clariion
- Microsoft Exchange

- BEA
- BEZ
- Blue Lane
- Check Point
- Citrix
- Dell
- Egenera
- EMC
- F5
- IBM
- Juniper
- Microsoft
- NetApp
- Nortel
- Onaro
- Pillar Data
- Radware
- Jboss
- Websphere - MQ Series
Enterprise Manager 10g Product Family

- Enterprise Manager 10g Grid Control
  - Oracle’s grid-ready framework, allowing IT professionals to manage the entire Oracle eco-system through one integrated management console.

- Enterprise Manager 10g Database Control
  - Database Control is the front-end tool for managing a single instance of the 10g database or single cluster instance.

- Enterprise Manager 10g Application Server Control
  - Oracle’s application server management interface built directly into the Oracle 10g application server infrastructure

  - Enterprise Manager 10g Management Packs
  - Enterprise Manager 10g Management Plug-ins
  - Enterprise Manager 10g Management Connectors
Oracle Grid Control
20 Management Packs

- Database Management Packs
  - Tuning Pack
  - Diagnostics Pack
  - Configuration Pack for DB
  - Provisioning Pack for DB
  - Change Management Pack
  - Data Masking Pack

- Middleware Management Packs
  - Diagnostics Pack + JADE
  - Configuration Pack for AS
  - Provisioning Pack for AS
  - SOA Suite Management Pack
  - IAM Management Pack
  - Business Intelligence Management Pack

- Stand Alone Management Packs
  - Diagnostics Pack for Non-Oracle Middleware
  - Service Level Management Pack
  - Configuration Management Pack for Non-Oracle Systems
  - Provisioning Pack
  - Linux Management Pack

- Application Management Packs
  - Application Management Pack for PeopleSoft Enterprise
  - Application Management Pack for Siebel
  - Application Management Pack for Oracle E-Business Suite*
Oracle Grid Control
20+ Management Plug-Ins

• Non-Oracle DBs
  • Microsoft SQL Server
  • IBM DB2 Database

• Network Devices
  • Check Point Firewall
  • Juniper Netscreen Firewall
  • F5 BigIP Local Traffic Manager & Load Balancers

• Storage Devices
  • EMC Symmetrix
  • EMC Celerra Server
  • EMC Clarion
  • NetApp Storage Filers

• Host systems
  • (Linux, Windows, Unix)
  • VMware

• Non-Oracle Middleware
  • BEA WebLogic,
  • IBM WebSphere
  • Microsoft .Net Framework
  • Microsoft Active Directory
  • Microsoft BizTalk Server
  • Microsoft Commerce Server
  • Microsoft Internet Information Server (IIS)
  • Microsoft Internet Security and Acceleration (ISA) Server
  • Microsoft Exchange Server
  • JBOSS Application Server
  • IBM WebSphere MQ
  • Tomcat
Oracle Grid Control 2 Management Connectors

- Connector for BMC Remedy Help Desk
- Connector for Microsoft Operations Manager
- Connector for *PeopleSoft Enterprise HelpDesk*
- Connector for *Siebel HelpDesk*
Oracle’s Management Solutions
Answers to Today’s Top Challenges

IT Operations Challenges

- Improve alignment between business customers & IT on service levels
- Transition from reacting to end-user complaints to proactively resolving issues
- Assess correct status of system and application configurations
- Reduce cost of managing IT infrastructure

Oracle Enterprise Manager

- Service Level Management
- Application Performance Management
- Configuration Management
- Lifecycle Automation
Lifecycle Automation
Lifecycle Automation

Cost effectively manage “many as one”

- Manage many as one
  - Dashboard views
  - Management Templates
- Automated Software Imaging and Provisioning
  - Clone Oracle Homes and Instances
  - Provisioning of RAC/CRS and AS clusters
  - Bare Metal OS Provisioning
- Automation of Oracle patch processes
  - Direct connection to MetaLink (Oracle Support)
  - Critical Patch Facility (security)

- Config Mgt Pack for DB; Config Mgt Pack for AS; Config Mgt Pack for Non-Oracle; Provisioning Pack
Lifecycle Automation: Provisioning

- Automate RAC provisioning while providing service
  - Convert DB to RAC
  - One-click-extend RAC to meet increased demand
  - De-provision RAC nodes
- Simplified way to scale up or down RAC
  - Integrated provisioning of RAC, ASM, and Clusterware
  - Bare metal provisioning integrated with RAC provisioning
- Flexible and Adaptable to your IT environment
  - Extend or customize Out-of-Box provisioning process
  - Integration of provisioning procedures into your IT environment
Overall RAC Deployment cycle

1. Create reference RAC systems
2. Stage gold images
3. Create Production clusters
4. Scale up RAC cluster
5. Scale down
Oracle Automation: Patching

- Automate patching while continuing to provide service
  - Customizable Orchestration of Multi-tier Patching of Oracle Systems Environment (COMPOSE)
  - Rolling and non-rolling patching automation
  - Out-of-Box best practices for DB, RAC, ASM, CRS, Dataguard and middle-tier
  - Automatic orchestration of system shutdown, switchover, patching, and restart
- Adaptable to your IT environment
  - Extend or customize the out-of-box provisioning process
- Enriched OS Patching (Linux, Solaris, Windows)
  - Vendor site integration e.g. RHAT Network
- Reduce possibility of errors and improve reliability

Simple, Accurate, Reliable Maintenance of Distributed Systems
EM driven HA (Dataguard) Patching

1. Both sites running Dataguard
2. Standby site patched
3. Sites switched over
4. Primary site patched
Configuration Management
Configuration Management

Know what you have and know what you’re running

- CMDB reports
- CMDB Statistics
- Policy standards
- Audit Reports
- Decision support for incident, problem, change, and release management

- Discover
  - All hardware & software configurations
  - Oracle inventory, including patch history and updates

- Analyze
  - Monitor and audit change
  - Configuration comparisons against reference, saved or live configurations
  - Comprehensive reporting

- Foundation for compliance and change control
  - Policy Management
  - Standardize IT operations management
  - Security configuration policies
Configuration Mgmt. & Compliance

Evaluate, Report & Remediate Systems Against Best Practices

- At a glance compliance scores for your IT environment.
  - C-level reporting of target compliance scores in dashboard.
- Evaluate targets and groups against collection(s) of configurations
- Out-of-Box best practices captured as collection(s) of configuration policies. Secure DB, Secure Listener, Secure RAC
- Report compliance score trends over time
- Ability to drill down from compliance dashboards into violations and take corrective actions

Best on Oracle
Compliance Dashboards

• Compliance Scoring
  – Security settings and configurations
  – System and application configurations
  – Corporate best practices

• Drilldowns
  – Policy and rule descriptions
  – Violation details
  – Impacts
Application Performance Management
Application Performance Management

*Identify and resolve end-user problems quickly*

- Complete system monitoring for entire application infrastructure
- Monitor from end-user perspective
  - Test application services from representative geographies
  - Capture real end-user performance
- Diagnostics and Tuning
  - Rapid problem identification
  - Root Cause Analysis (RCA)
  - Problem remediation/tuning

- Service Level Mgt Pack; Application Server Diagnostics Pack; Database Diagnostics Pack; Database Tuning; Plug-ins
Oracle Database Management

<table>
<thead>
<tr>
<th>Oracle Database and RAC</th>
<th>SOA and Oracle Fusion Middleware</th>
</tr>
</thead>
</table>

Oracle DB & RAC Pre-Instrumented Capabilities

- **Complete Automation to “Get on the Grid”**
  - Convert single instance to Real Application Clusters
  - Deploy maximum availability using architecture of DataGuard
  - Out-of-box instrumentation for monitoring and diagnostics
  - One-click-extend Real Application Clusters to meet increased demand
  - On-going upgrades and patching (including rolling patches)

- **Self-managing Database**
  - Automatic Database Diagnostic Monitor
  - Automatic Workload Repository
  - Automated SQL Tuning

- **Compliance Dashboard**
Oracle Database 10g Release 2 outperformed SQL Server 2005.
- 38% less time and 30% fewer steps than SQL Server 2005

Source: Comparative Management Cost Study, Edison Group 2006
Data Masking – New in 10gR4!

What
• The act of anonymizing customer, financial, or company confidential data to create new, legible data which retains the data's properties, such as its width, type, and format.

Why
• To protect confidential data in test environments when the data is used by developers or offshore vendors
• When customer data is shared with 3rd parties without revealing personally identifiable information
Application Performance Management

Oracle Application Diagnostics for Java (AD4J)
Oracle Application Diagnostic for Java (AD4J)

- Diagnose application performance issues (JVM, Java)
- Easy to use
  - Immediate visibility with no Application expertise required
- No performance overhead
- Runs on production servers
- Transaction tracing capability
  - Java transactions to DB sessions
  - DB sessions to Java transactions
- Included with AS Diagnostics pack
Service Level Management
Service Level Management

Align IT and business customers on service levels

- Align IT Objectives with Business Objectives
- Real-time Service Level Measurement
  - Services Dashboard
- Track actual performance to SLAs
  - Forms support (10.1.2, 9.0.4, 6i)
- Automated creation of System and Service for deployed applications
  - Change history tracking of system membership
  - Configuration change history tracking of entire system
  - Customization of system model allowed – by adding/removing individual components

- Service Level Mgt Pack (including Dashboards)
## Service Dashboard

### ORACLE Enterprise Manager 10g Grid Control

**Services Dashboard**

<table>
<thead>
<tr>
<th>Service</th>
<th>Status</th>
<th>Performance</th>
<th>Usage</th>
<th>Components</th>
<th>Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST Identity Management Service</strong></td>
<td>![Up Arrow]</td>
<td>58.95 Average Base</td>
<td>![Green Ball] 3388820.00 Directory</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Calendar Service</strong></td>
<td>![Up Arrow]</td>
<td>5664.25 Time</td>
<td>![Green Ball] 9410.95 Number Of Days</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Content Services Service</strong></td>
<td>![Up Arrow]</td>
<td>9186.12 Time</td>
<td>![Green Ball] 535.71 Average Density</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Discussions Service</strong></td>
<td>![Up Arrow]</td>
<td>1087.96 Time</td>
<td>![Green Ball] 240.00 Total Numbers</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Mail Service</strong></td>
<td>![Up Arrow]</td>
<td>208.74 Connect Time</td>
<td>![Green Ball] 2.00 List Queue</td>
<td>2 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Mobile Collaboration Service</strong></td>
<td>![Up Arrow]</td>
<td>4259.52 Time</td>
<td>![Green Ball] 12.00 Total Numbers</td>
<td>3 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Real-Time Collaboration Service</strong></td>
<td>![Up Arrow]</td>
<td>11238.12 Time</td>
<td>![Green Ball] 0.00 Conference Min Users (Current Web Conference)</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Voicemail and Fax Service</strong></td>
<td>![Up Arrow]</td>
<td>No Metrics Available</td>
<td>![Green Ball] 24.00 Total Recordings</td>
<td>3 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Web Access Client Service</strong></td>
<td>![Up Arrow]</td>
<td>9898.31 Time</td>
<td>![Green Ball] 21.00 Send Message</td>
<td>4 up</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>STOCS Workspaces Service 1</strong></td>
<td>![Up Arrow]</td>
<td>9032.75 Time</td>
<td>![Green Ball] No Metrics Available</td>
<td>1 up</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

- **Legend**:
  - ![Green Ball]: Components are up.
  - ![Red Ball]: Components are down.

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*Powered by Oracle Enterprise Manager Grid Control*
Management Plug-ins and Connectors
Application Infrastructure Management

Broad management for all application-dependent components

Extended Infrastructure Management

Virtual Servers
- VMWare
- Oracle VM

Operating Systems
- Linux
- All Unix
- Microsoft
- MVS

Servers
- Dell PowerEdge

Databases
- Oracle
- IBM DB2
- MS SQL Server (2000 & 2005)
- Sybase

Applications
- Oracle
- Microsoft Exchange
- SAP

Middleware
- Oracle
- IBM WebSphere
- BEA WebLogic
- MS .NET
- MS BizTalk Server
- MS IIS
- MS Commerce Server
- MS ISA Server
- MS Active Directory
- JBoss AS
- IBM MQ Series
- Citrix Presentation Server (partner-built)
- Blue Lane PatchPoint (partner-built)
- Tomcat

Network
- Check Point Firewall
- Juniper Netscreen Firewall
- F5 BIG-IP
- Nortel Alteon Switch (partner-built)

Storage
- NetApp Filer
- EMC Celerra, Clariion, Symmetrix
- Pillar Axiom (partner-built)
- Onaro SANScreen (partner-built)
Support for Microsoft SQL Server

- Discovery
- Monitoring
  - Availability
  - Performance
  - Space Usage
  - Users and Roles
- Configuration
  - Server Configuration
  - Database Settings
  - Registry Settings
  - Security Settings
- Reports
Support for WebSphere and WebLogic

- Discovery
- Monitoring
  - Activity
  - Performance
  - Response
  - Top ‘n’
- Reporting, events, process control
- Synthetic transactions
- App Servers and clusters
- Configuration management
  - View collected configuration
    - Ports and protocols
    - Resource usage settings
    - Deployed applications and associated modules
    - JDBC providers and data sources
  - Compare configurations
  - Track configuration changes
Oracle Management Connector for Remedy Service Desk

- Automatically open Remedy trouble-tickets in response to EM Alerts
- Keep systems synchronized to streamline support processes and improve operational efficiencies
- In-context launch of EM from Remedy and vice versa
- Fully customizable ticket creation via ticket templates
  - Out-of-box, best practice Oracle templates
  - Flexible mapping of EM fields to Remedy trouble ticket fields
  - Ability to pre-seed values for Remedy fields
Software Configuration Manager

Extended to Oracle Support

Customer Site

Customer Data Center

- 3rd party / Oracle products (EM discovered)

Enterprise Manager

- Discovery
- Service mappings
- Configurations

Oracle

Customer Configuration Repository

- Customer configurations

Configuration Support Manager

- Health checks
- Patches
Managing Packaged Applications
# Managing Packaged Applications

## Enterprise Manager

### Oracle E-Business Suite – PeopleSoft – Siebel

<table>
<thead>
<tr>
<th><strong>Common Capabilities</strong></th>
<th><strong>E-Business Suite</strong></th>
<th><strong>PeopleSoft</strong></th>
<th><strong>Siebel</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1-step Discovery</td>
<td>- Topological root-cause views</td>
<td>- 500+ config metrics &amp; PSAdmin admin tasks</td>
<td>- 50+ business metrics</td>
</tr>
<tr>
<td>- Topologies</td>
<td>- 100+ configuration metrics</td>
<td>- 25+ “tribal” knowledge-based policies</td>
<td>- Out-of-box processes</td>
</tr>
<tr>
<td>- Service Level Management</td>
<td>- Clone automation for test → production environments</td>
<td>- Centralized Log Mgt</td>
<td>- HI Component support</td>
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<td>- Out-of-box service models</td>
<td>- Cross-instance patch comparisons</td>
<td>- Key bus flow monitoring</td>
<td>- SARM integration – real end user metrics, transaction diagnostics</td>
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<th><strong>Embedded Application-Specific Capabilities</strong></th>
<th><strong>Out-of-box transactions</strong></th>
<th><strong>Reports</strong></th>
<th><strong>Configuration Management</strong></th>
<th><strong>Transaction Tracing</strong></th>
<th><strong>Root-cause/Impact Analysis</strong></th>
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<td>- System monitoring</td>
<td>- Application monitoring</td>
<td>- Reports</td>
<td>- Configuration Management</td>
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<td>- Application monitoring</td>
<td>- Dashboards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Features
- Out-of-box transactions
- System monitoring
- Application monitoring
- Dashboards
- Reports
- Configuration Management
- Transaction Tracing
- Root-cause/Impact Analysis
- Logs
- Key bus flow monitoring
- Cross-instance patch comparisons
- Clone automation for test → production environments
- Centralized Log Mgt
- HI Component support
- SARM integration – real end user metrics, transaction diagnostics
SOA Management Pack

SOA Runtime Governance
• BPEL Process Monitoring
  – Auto-discover design time dependencies into production
  – Accelerate problem resolution in process
• Web Service Monitoring
• Web Service Policy Management

Business – IT Alignment
• BAM – EM Integration
• Service Level Management

SOA Infrastructure Management
• BPEL PM Management
• ESB Management
Proven Solution
Over 22,000 Customers Globally