



ORACLE[®]

SOA Management Pack:

Runtime Governance, and Improved Manageability of all Aspects of Your Business Flows

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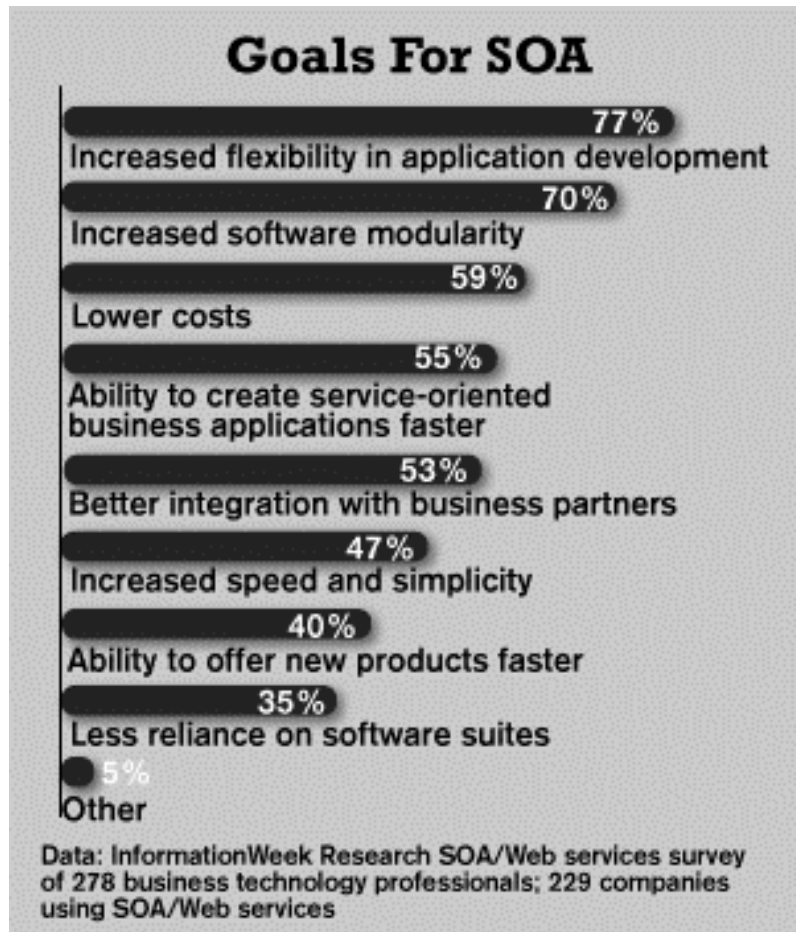
Agenda

- The Reason for a Service Oriented Architecture
- Oracle's Strategy for SOA
- SOA Management Pack
 - Providing Run-time Governance
 - Reducing the Business-IT Gap
 - SOA Infrastructure Management
 - Demo
- Market Opportunity for SOA Management Capabilities
- Next Steps
- Q & A



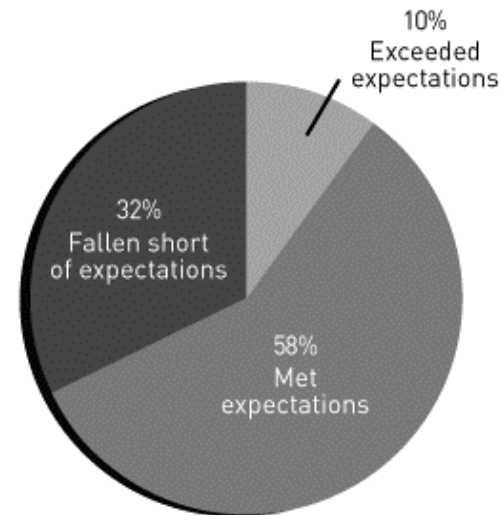
The Reason for a Service Oriented Architecture

Why SOA



68% Say SOA Met or Exceeded Expectations

Would you say that your company's adoption of SOA/Web services thus far has exceeded your expectations?



Data: InformationWeek Research SOA/Web services survey of 278 business technology professionals; 229 companies using SOA/Web services

Why SOA | Business Case

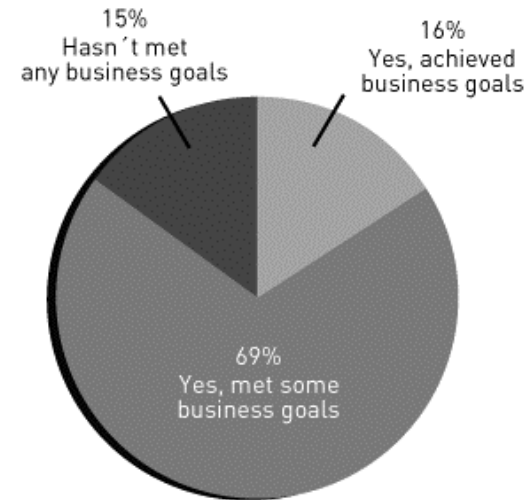
Business Case For SOA



Data: InformationWeek Research SOA/Web services survey of 278 business technology professionals; 229 companies using SOA/Web services

85% achieved business goals

Would you say that your company's adoption of SOA/Web services thus far has achieved your business goals for SOA/Web services?

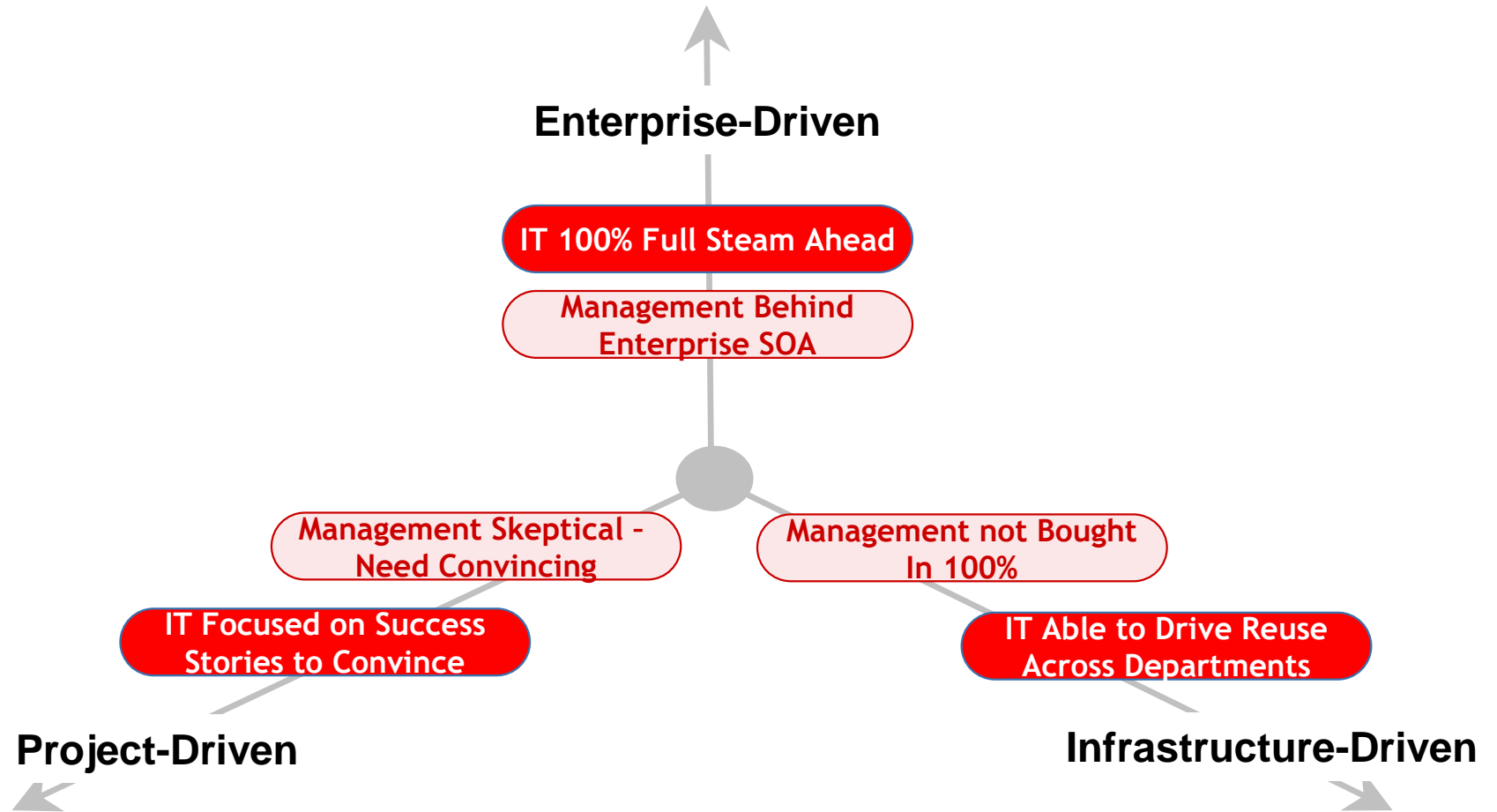


Data: InformationWeek Research SOA/Web services survey of 278 business technology professionals; 229 companies using SOA/Web services



People seem to be achieving results with SOA

Types of SOA Strategy



SOA Enablers

SOA Benefit	Enabler
Interoperability	<ol style="list-style-type: none">1) Standards-based Interfaces2) Available through standard protocols3) Canonical Data Models
Ease and Speed of Development	<ol style="list-style-type: none">1) Assemble rather than build2) Processes, Rules, Events captured in high-level models instead of in code3) Service portfolio speeds up development
Reducing Impact of Change	<ol style="list-style-type: none">1) Separation of Concerns – messaging, workflow, rules, etc.2) Loose Coupling, e.g. Changes localized to service implementations
Increased Visibility	<ol style="list-style-type: none">1) Standards-based interfaces2) Process captured in BPM/ BPEL engines3) Events captured in CEP engine4) Data services with standardized formats for key data assets
Reuse	<ol style="list-style-type: none">1) Portfolio of Services built for reuse2) Registry/ Repository to aid developers and architects in finding reusable assets

Adoption Strategies Tied to Enablers

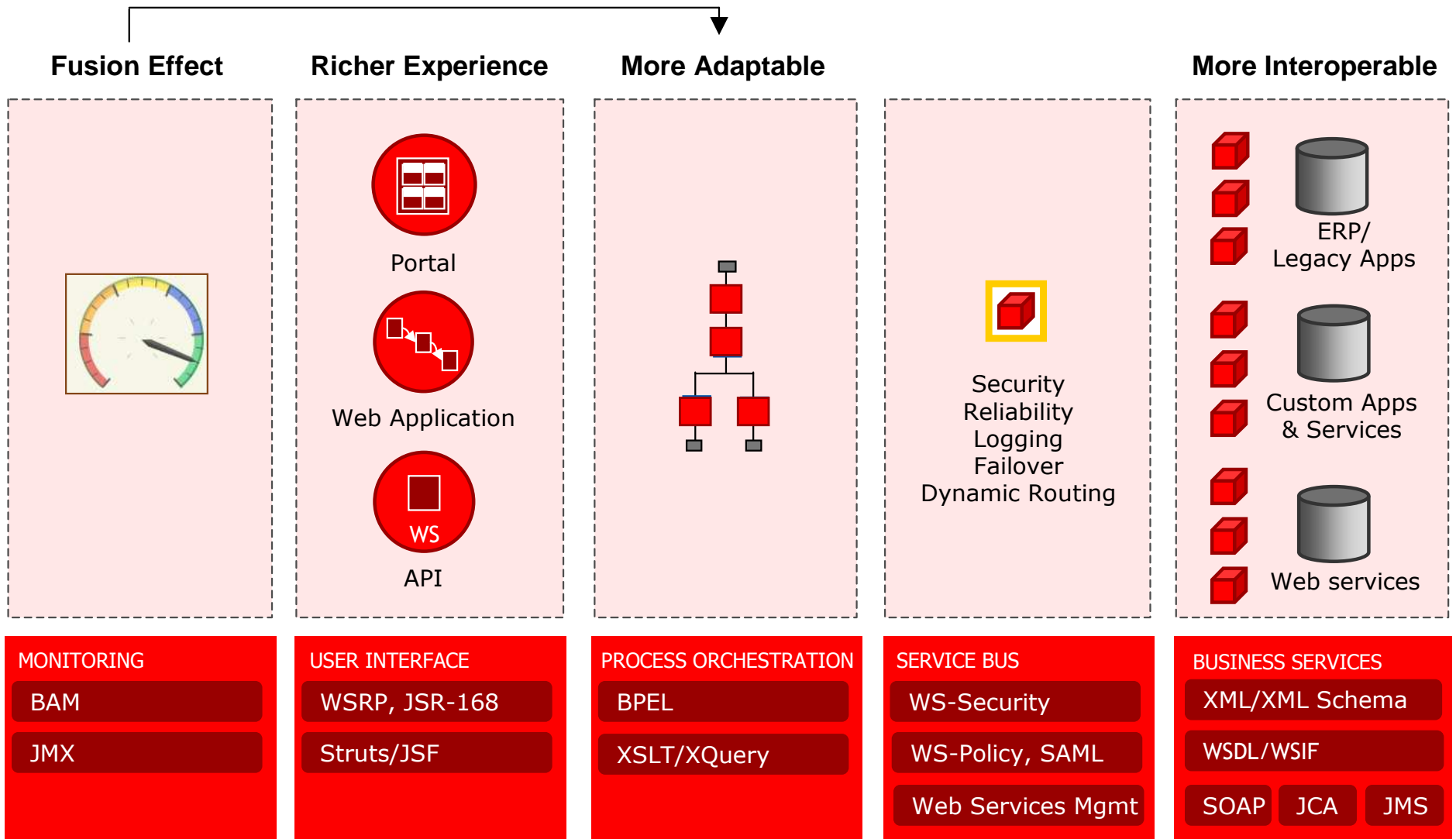
SOA Benefit	Enterprise-Driven	Infrastructure-Driven	Project-Driven
Interoperability	⊙	⊙	○
Ease and Speed of Development	⊙	⊙	○
Reducing Impact of Change	⊙	⊙	⊙
Increased Visibility	⊙	⊙	○
Reuse	⊙	○ Utility Services	

➔ *It's difficult to get reuse if you are doing the project-driven approach unless you actively plan and execute to get it!*



Oracle's Strategy for SOA

Key SOA Standards



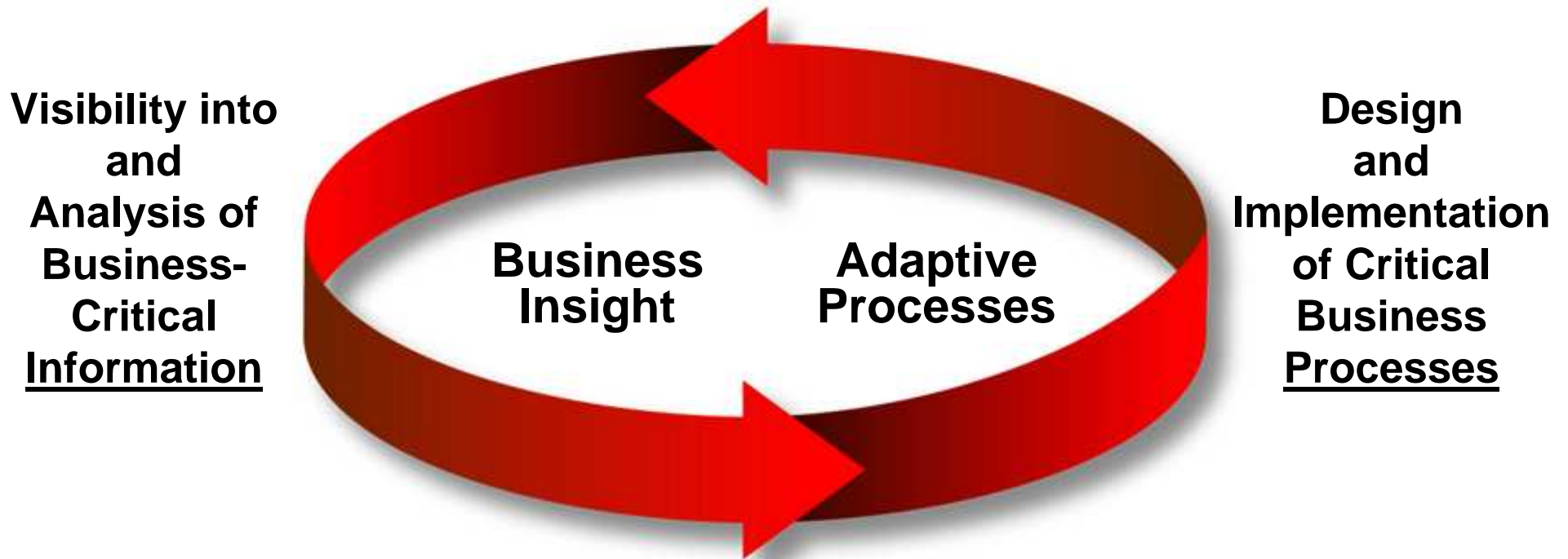
Project Fusion: Oracle's next generation applications



- **Fusing world class applications**
 - Oracle E-Business Suite
 - Peoplesoft
 - JD Edwards Enterprise One and World
 - i-Flex
 - Retek
 - Siebel
- **Built on a service-oriented architecture**

Built to address today's business challenges

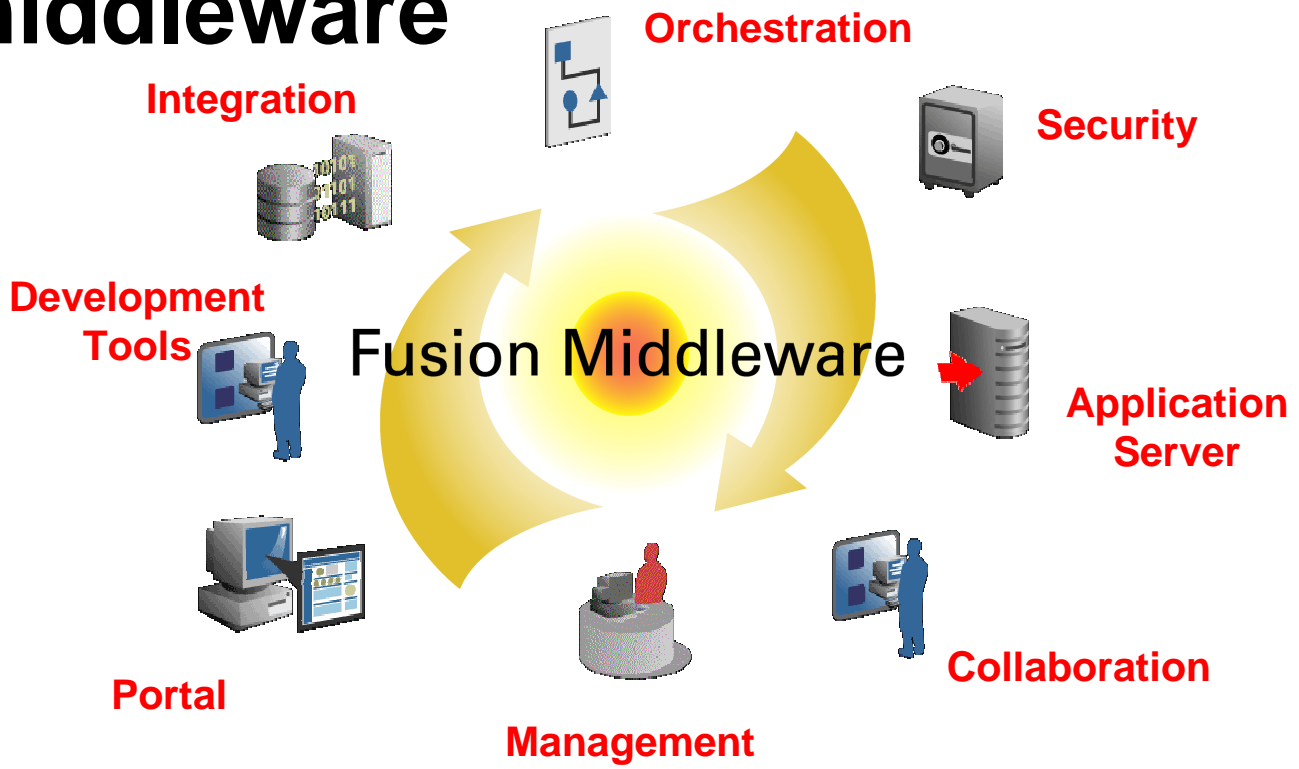
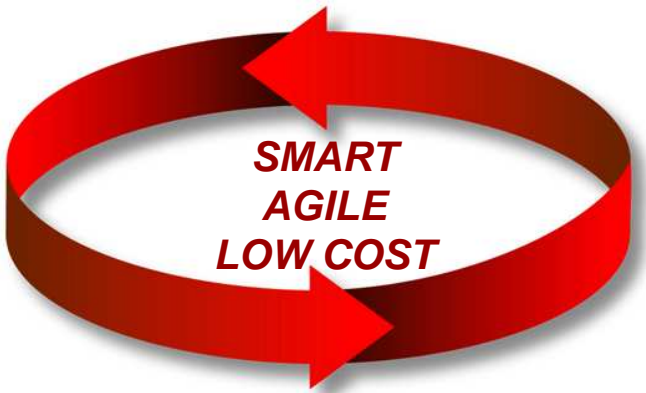
The Fusion Effect: Information-driven adaptability



Business insight, process adaptability and 100% standard approach delivers agility and flexibility

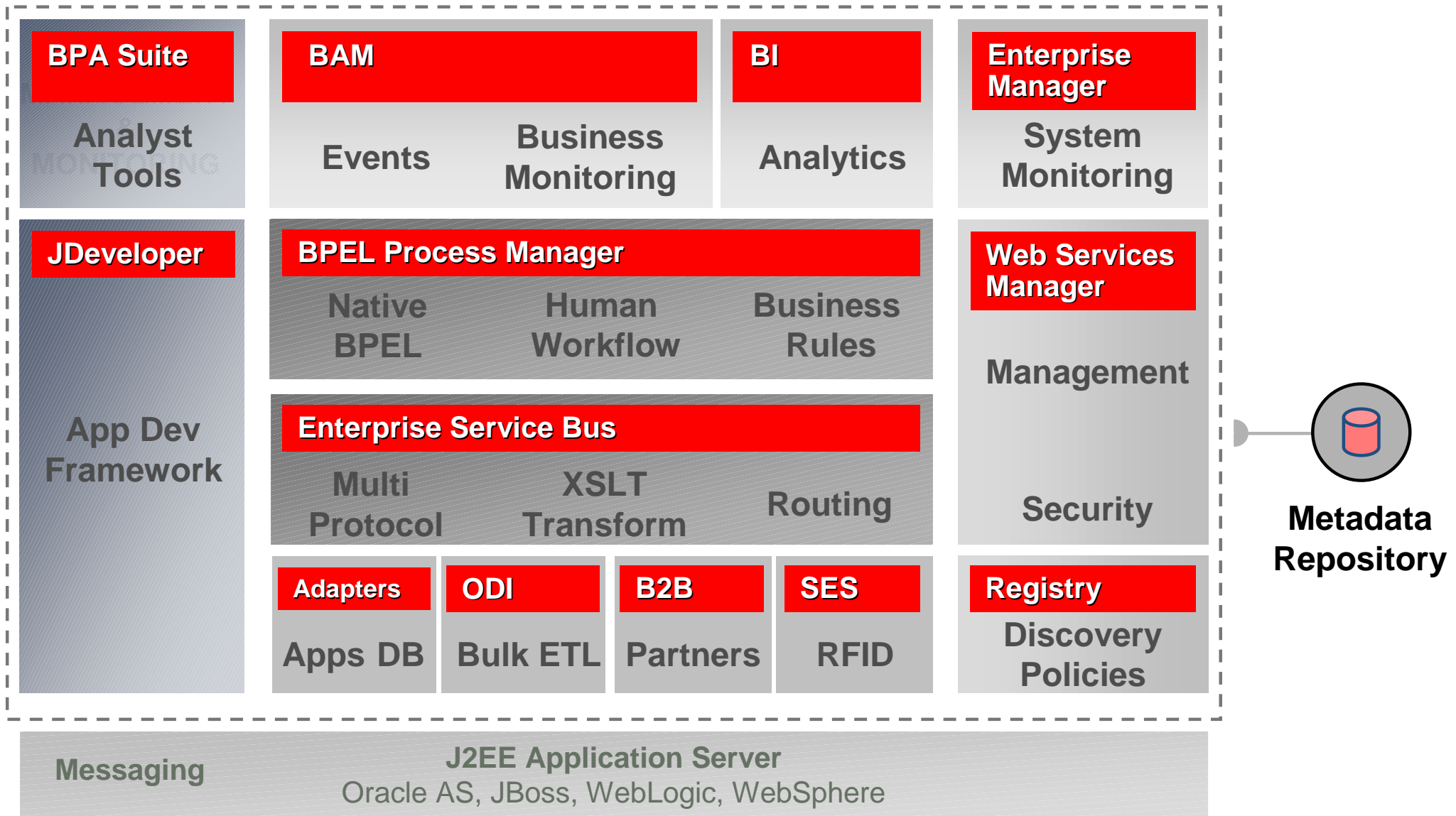
***How can Oracle Fusion Middleware help YOU
realize the Fusion Effect?***

A commitment to the most comprehensive, 100% standard middleware

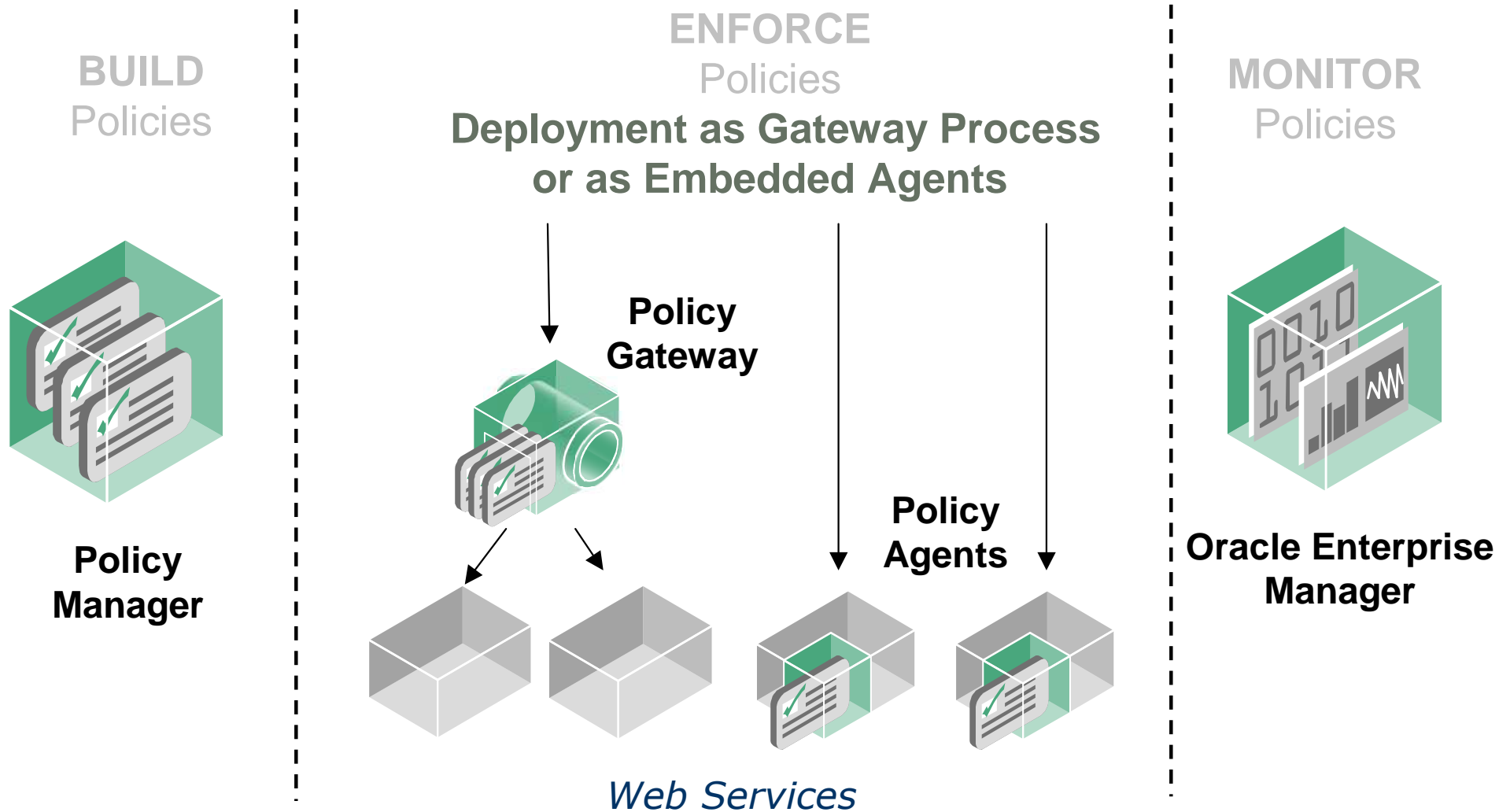


Standards lower development costs and enable interoperability and portability (“Hot Pluggable”)

The Oracle SOA Technologies



Oracle WSM Components



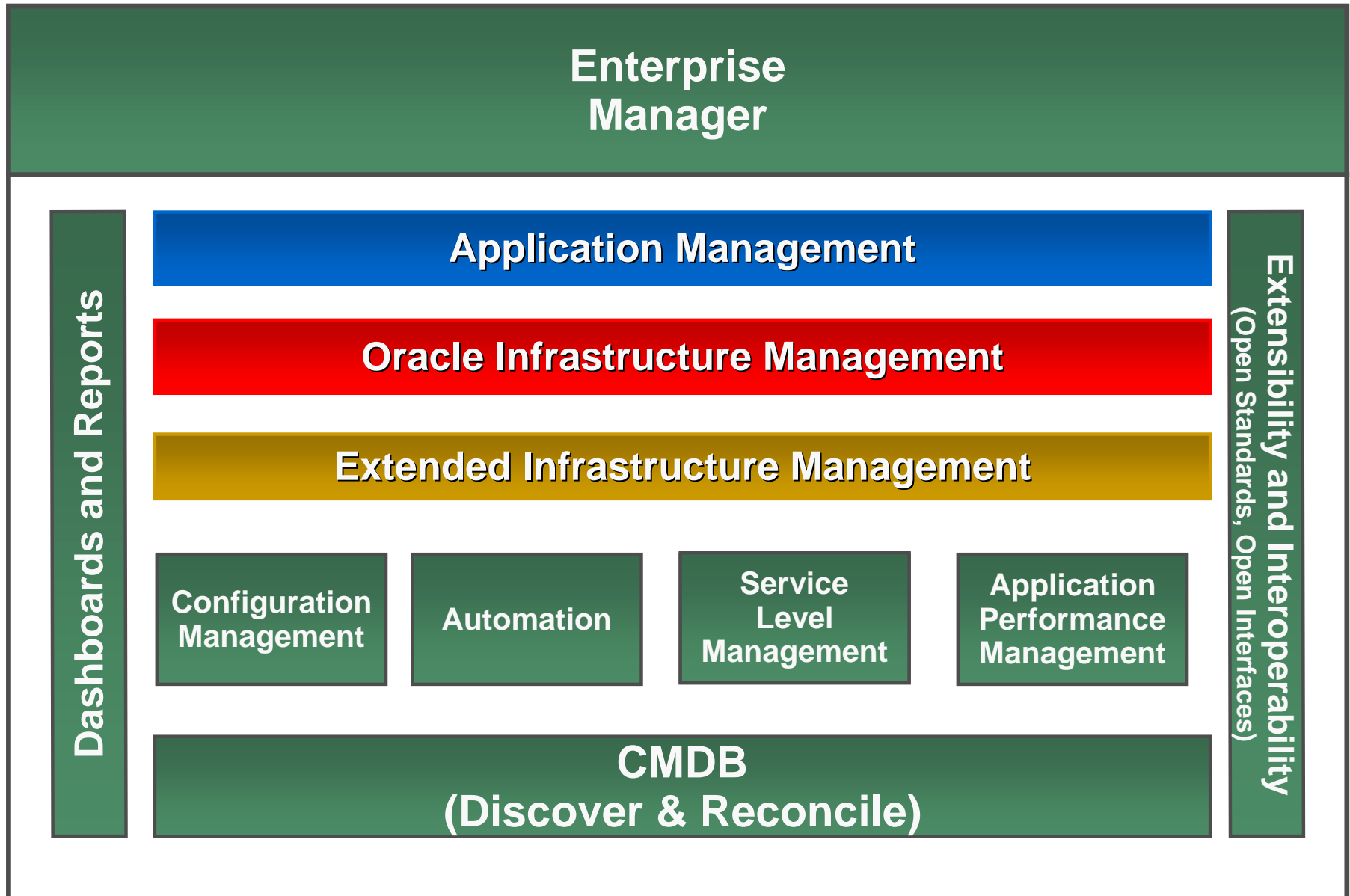


SOA Management Pack

Technical Overview & Demo

Enterprise Manager

Breadth of Capabilities



SOA Management Challenges

Profile	Pain Point
Application Admin	<ul style="list-style-type: none">• How can I diagnose problems in process execution quickly?• How do I monitor and ensure service quality, predictability and performance of web services?• How can I implement web services to work in accordance to corporate policies and consumer/provider agreements?
System Admin	<ul style="list-style-type: none">• Can I monitor my SOA Infrastructure as easily as a single server instance?• Can I isolate problem instances in my SOA Suite deployment?
LOB Owner	<ul style="list-style-type: none">• How can I set and monitor service levels promised to my customers?• How can I trend and analyze services?
CIO	<ul style="list-style-type: none">• What is the impact of IT on business? How do I prioritize IT activities?• How do I translate business trends into IT requirements?

SOA Management Pack - Features

Feature	Benefit
Auto Discovery	Discover SOA components automatically, including BPEL PM server, domains, BPEL processes, partner links, web services
Service and System Modeling	Understand relationships between system components, business processes and dependent services
BPEL Process metrics	Optimize runtime behavior of agile environment
Error hospital integration	Troubleshoot and resolve problems, reduce service downtime, and isolate problems within processes
Service Tests and Diagnostics	Visibility into service availability and performance by simulating end users as well as real request diagnostics
Service Level Management	Provide service level visibility into business processes and Web services
Business-IT alignment	Understand impact of business on IT, scale up/scale down system based on business indicators
Infrastructure Management	Manage many as one, reduce time to resolution, and increase system uptime

SOA Management Solution

Solution	Key Capabilities
SOA Runtime Governance	<ul style="list-style-type: none">• Auto discovery of process dependency• BPEL process monitoring• BPEL integration server monitoring
Service Level Management	<ul style="list-style-type: none">• Service modeling (including web services)• SLA monitoring, real-time reporting• Service & System Dashboards
Application Performance Management	<ul style="list-style-type: none">• End User Monitoring – synthetic, real• Web Service Monitoring• Cross-tier performance• Call stack analysis• Integration with SQL diagnostics
Configuration Management	<ul style="list-style-type: none">• Configuration discovery, compare, search• Change history• Configuration Policies
Automation	<ul style="list-style-type: none">• Change, Clone wizards• Deployment Procedures

Discovery and System/Service Modeling

- Discovery
 - BPEL PM Server
 - BPEL Processes
 - Partner Links

- System and Service
 - SOA Infrastructure System and Service
 - BPEL Process Availability Service
 - Partner Link Service

Partner Links
Provides details about the partner links associated with the selected process. Add SOAP Test allows you to add SOAP tests to the selected partner link.

(Add SOAP Test)

Select	Name	Port Type	Operation	WSDL URL
<input checked="" type="radio"/>	client	SOAOrderBookingCallback SOAOrderBooking	onResult initiate	http://stapp0
<input type="radio"/>	CreditValidatingService	ValidateCreditCard	VerifyCC	http://stapp0
<input type="radio"/>	CustomerService	CustomerService	findCustomerById	http://stapp0
<input type="radio"/>	DecisionServicePL	IDecisionService	assertExecuteWatchStateful	http://stapp0 WSDL
<input type="radio"/>	NotificationService	NotificationService	sendEmailNotification	http://stapp0
<input type="radio"/>	Order	Order_ptt	write	http://stapp0
<input type="radio"/>	OrderFulfillment	execute_ppt	execute	http://stapp0
<input type="radio"/>	OrderSequence	OrderSequence_ptt	OrderSequence	http://stapp0
<input type="radio"/>	OrderStatus	OrderStatus_ptt OrderStatus_ptt	update update	http://stapp0
<input type="radio"/>	RapidService	RequestQuote	POItemsQuote	http://stapp0
<input type="radio"/>	SelectService	SelectService SelectServiceCallback	processRequestQuote processRequestQuoteResponse	http://stapp0
<input type="radio"/>	TaskService	TaskService TaskServiceCallback	initiateTask onTaskCompleted	http://stapp0

Services
Provides details about the services that have been created for this Oracle BPEL Process.

(Create Service)

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

Name	Service Type	Status
▼ default_SOAOrderBooking(v.1.0)	Aggregate Service	↓
▼ SOAOrderBooking(v.1.0)_availability	Generic Service	↑
CreditValidatingService_test	SOAP	↑
client_test	SOAP	↑
▼ SOA_Instance	Generic Service	↓

BPEL process metrics

- Process meta information
 - Lifecycle Stage
 - State
- Process instance throughput
 - PM Server
 - Domain
 - Process
- Closed and Open instances
- Process latency
 - Sync
 - Async

Home Processes Performance

Process List

List of processes for the BPEL PM instance. The partner link associated to a process can be viewed in the BPEL Console, select the process and click 'Launch BPEL Console'.

View Launch BPEL Console

Select	Name	Lifecycle Stage	State
<input type="radio"/>	▼ All BPEL Domains		
<input checked="" type="radio"/>	▼ default		
<input type="radio"/>	BPELProcess3(v.1.0)	Active	On
<input type="radio"/>	BPELProcess3(v.1.1)	Active	On
<input type="radio"/>	DHLShipment(v.1.0)	Active	On
<input type="radio"/>	HelloWorld		
<input type="radio"/>	SelectMan		
<input type="radio"/>	SOAOrderf		
<input type="radio"/>	TaskAction		
<input type="radio"/>	TaskManag		
<input type="radio"/>	▼ demo		

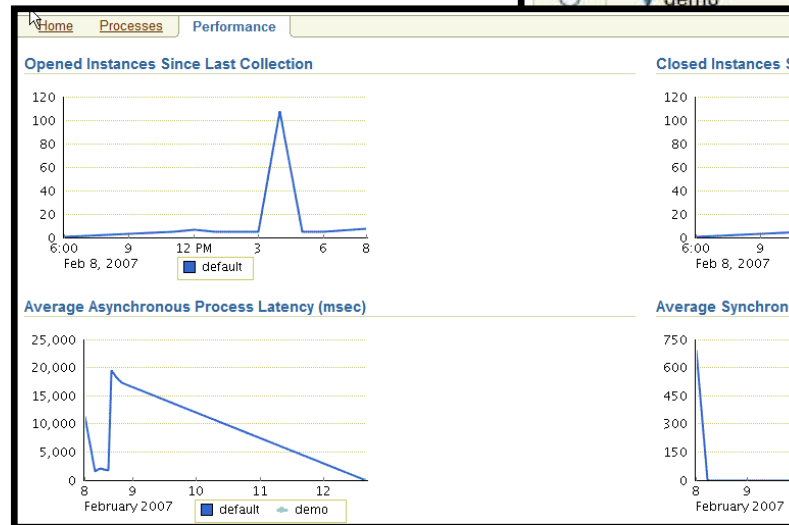
OraBPEL: SOA Instance.stapp04.us.oracle.com_bpel >

All Metrics

Expand All | Collapse All

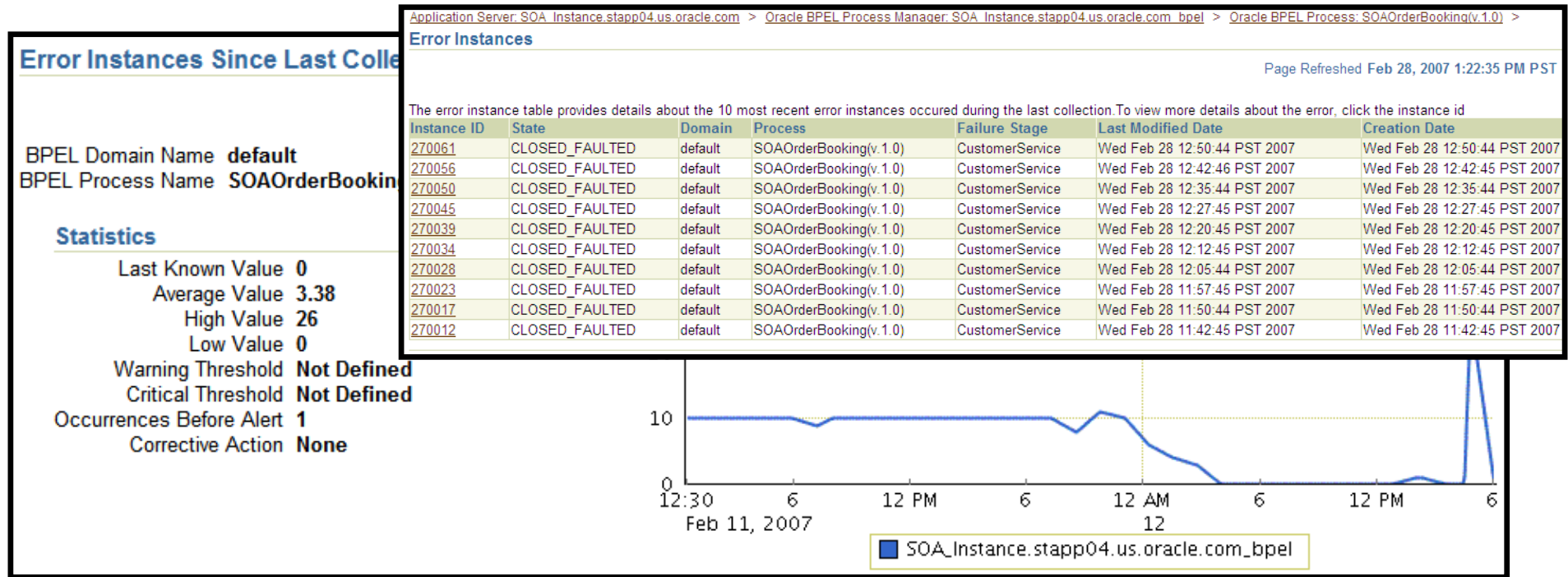
Metrics

- ▼ SOA_Instance.stapp04.us.oracle.com_bpel
 - ▶ Active
 - ▶ AdapterFramework Metrics
 - ▶ BPEL Domain Statistics
 - ▶ BPEL Process Manager Domain Metrics
 - ▶ BPEL Process Manager Error Instances Metrics
 - ▶ BPEL Process Manager Partner Link Metrics
 - ▶ BPEL Process Manager Process Metrics
 - ▶ BPEL Process Manager Server Metrics
 - ▶ Response
 - ▶ Scheduled
 - ▶ Thread Allocation Activity



Error hospital integration

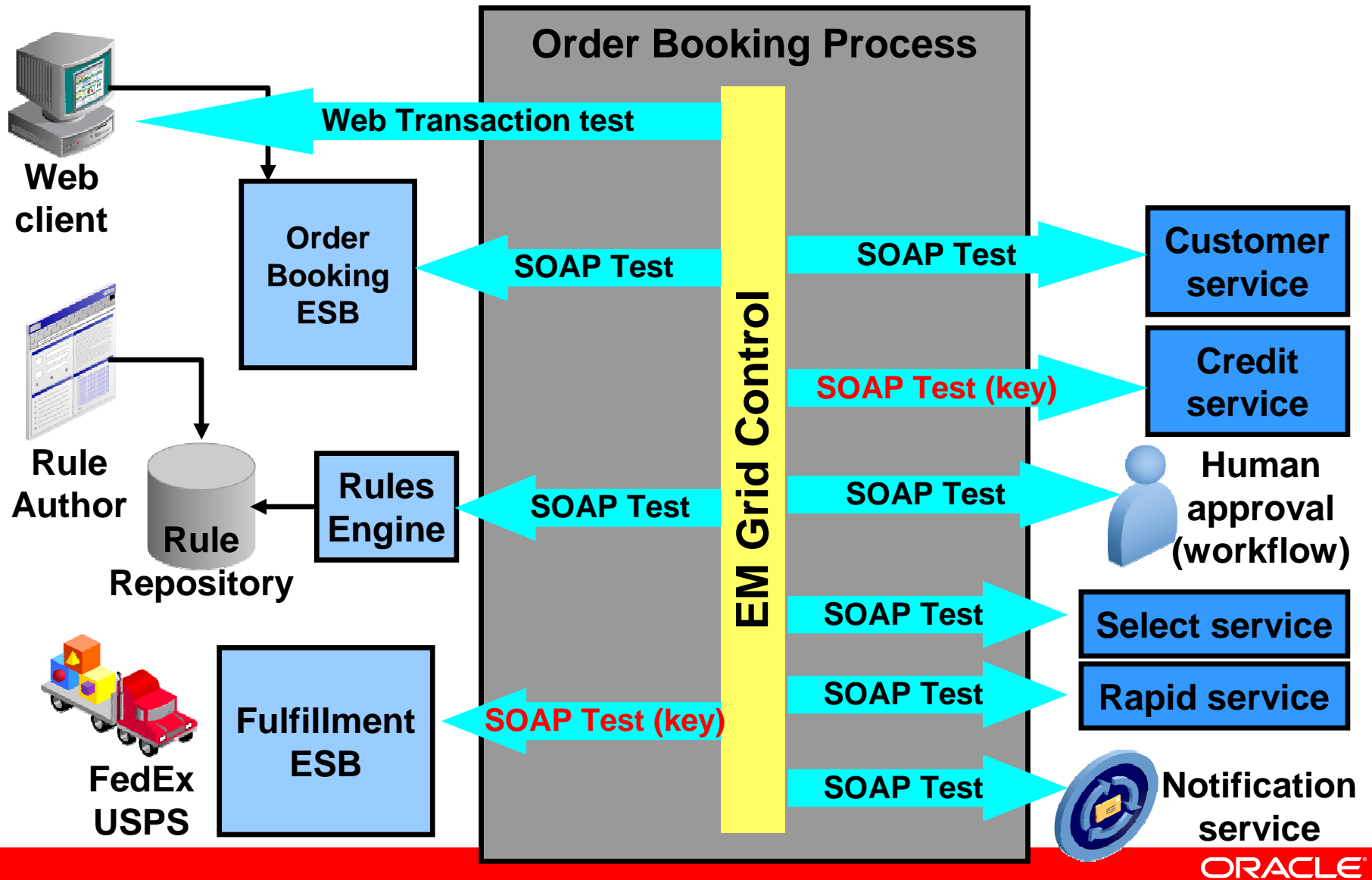
- Process Instance error management
- In-context drilldown into BPEL console
- Time series chart of error instance count
- Top twenty error instances with timestamp, activity and instance_id
- Compare different domains over error metrics
- Annotate errors, integrate with ticketing systems



Service Tests and Request Diagnostics

- End User Monitoring – SOAP tests
 - Multiple geographical locations
 - Performance and availability metrics
 - Support for WS Styles: rpc/literal, rpc/encoded
 - Covers key endpoints
 - BPEL process, partner links
 - ESB service
 - Web Service
- Request Diagnostics
 - Consume JMX/DMS metrics exposed by Web Services
 - Metrics to monitor usage and performance, e.g:
 - Request Processing Time (ms)
 - Faults Since Startup
 - Active Requests

SOA Order Booking Process – SOAP Tests



Service Level Management

Status: 4 Up - Microsoft Internet Explorer

File Edit View Favorites Tools Help

ORACLE Enterprise Manager Grid Control

Services Dashboard

OrderBooking Composite service

SOA Infrastructure service

Business KPIs (eg from BAM)

Service	Status	Performance	Usage and Business Indicators	Compliance	Service Level		
					Last 24 Hours	Last 7 Days	Last 30 Days
SOAOrderBooking (v.1.0)	↑	1707.48 27.37 297.00 Average Asynchronous... CPU Utilization (%) CreditValidating Re...	3.00 0.00 1.00 Number of Closed Ins... Number of Open Insta... OC4J Instance - Acti...	2 up	96.87%	90.64%	
ASOOW	↑	1707.48 37.08 27.37 Average Asynchronous... Average Synchronous ... CPU Utilization (%)	3.00 0.00 1.00 Number of Closed Ins... Number of Open Insta... OC4J Instance - Acti...	4 up	99.29%	98.67%	
SOAOrderBooking (v.1.0)_availability	↑	52.00 106.00 40.00 Credit Service Respo... Order Fulfillment Re... client Response Time...	695.00 145.00 550.00 OrderBooking_OrderPr... OrderBooking_Profit... OrderBooking_Supplie...	5 up	96.69%	92.51%	
Credit Check Service1	↑	No Data No Data No Data CreditRating WebServ... CreditRating WebServ... Service - Faults ...	No Data No Data No Data CreditRating WebServ... CreditRating WebServ... WebService - Start T...	5 up	99.23%	98.08%	

Credit Check Service

BPEL Process availability service

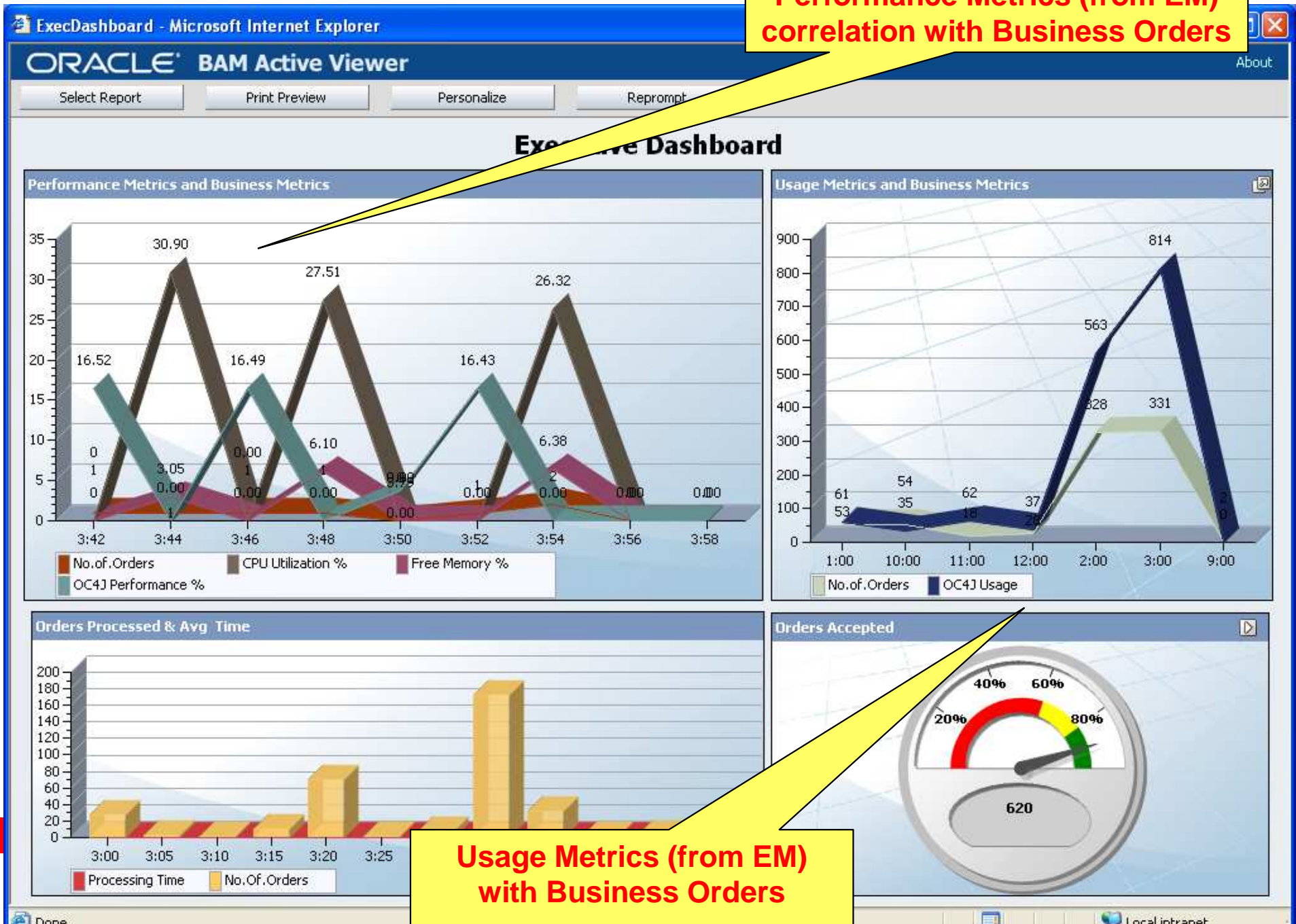
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Powered by Oracle Enterprise Manager Grid Control

Business-IT alignment

- Data Exchange Connector
 - JMS based bi-directional data exchange
 - Events and KPIs from other systems sent to EM
 - Metrics and alerts from EM sent to other systems
 - Case Study: **Oracle BAM-EM integration**
 - EM Alerts, availability and metrics sent to BAM
 - BAM business KPIs sent to EM, and tied to EM services
 - Single console view on BAM or EM
- Service Level Management
 - Thresholds, alerts, notifications, and SLAs in EM on external metrics
 - Business KPIs can be used with system metrics to compute SLA
 - EM Services dashboard displays SLA compliance

Business-IT alignment - BAM Dashboard

Performance Metrics (from EM) correlation with Business Orders



Usage Metrics (from EM) with Business Orders

SOA Infrastructure Management

- **Monitoring**

- Status
- Usage
 - Closed instances
 - Open instances
- Performance
 - Process latency
 - Load factor

- **Performance**

- PM server
 - Domains
 - Processes
- App Server
- Dehydration Store
- Host

[OraBPEL: SOA_Instance.stapp04.us.oracle.com_bpel](#) >

All Metrics

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


Metrics

- ▼ [SOA_Instance.stapp04.us.oracle.com_bpel](#)
 - ▶ [Active](#)
 - ▶ [AdapterFramework Metrics](#)
 - ▶ [BPEL Domain Statistics](#)
 - ▶ [BPEL Process Manager Domain Metrics](#)
 - ▶ [BPEL Process Manager Error Instances Metrics](#)
 - ▶ [BPEL Process Manager Partner Link Metrics](#)
 - ▶ [BPEL Process Manager Process Metrics](#)
 - ▶ [BPEL Process Manager Server Metrics](#)
 - ▶ [Response](#)
 - ▶ [Scheduled](#)
 - ▶ [Thread Allocation Activity](#)

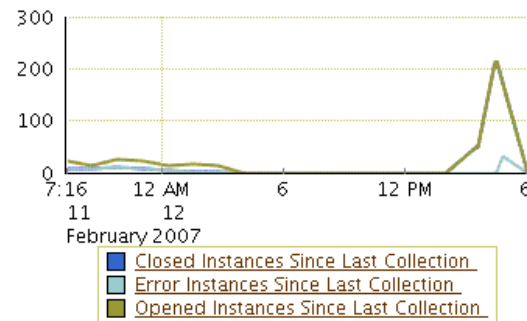
[OraBPEL: SOA_Instance.stapp04.us.oracle.com_bpel](#)

[Home](#) | [Processes](#) | [Performance](#)

General

 Status **Up** Black Out
Up Since **Unavailable**
Availability (%) **99**
(Last 24 Hours)
Oracle Home [/scratch/nbharadw/soa_install_3](#)
Host [stapp04.us.oracle.com](#)

BPEL Server Throughput





Feature Demonstration

Roadmap to Fusion

E-Business Suite

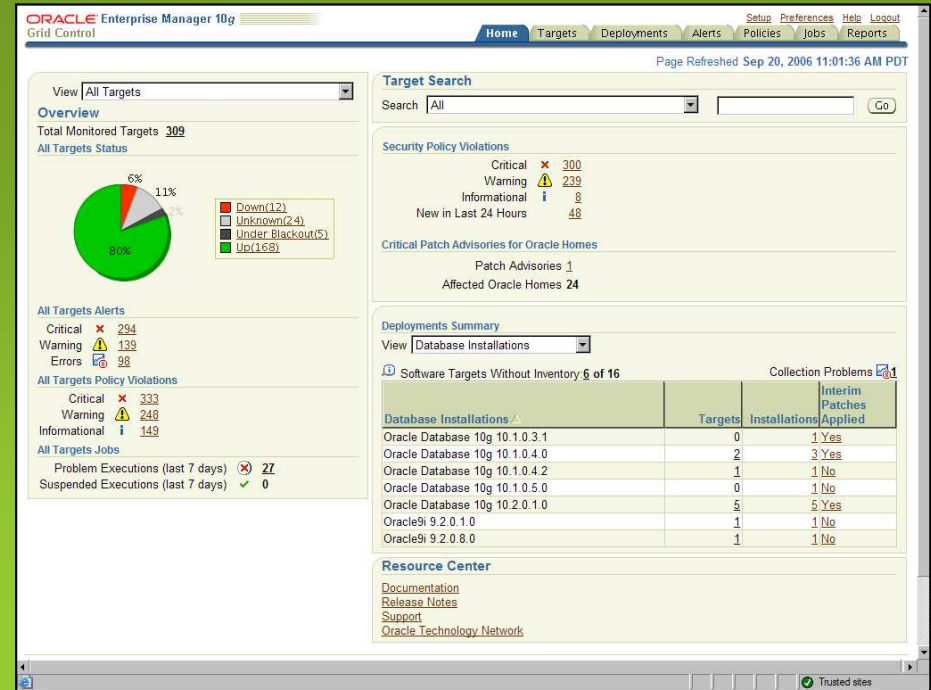
Siebel

PeopleSoft Enterprise

ORACLE®
ENTERPRISE MANAGER 10g

Fusion
Middleware

Fusion
Application





Market Opportunity

SOA Management Pack

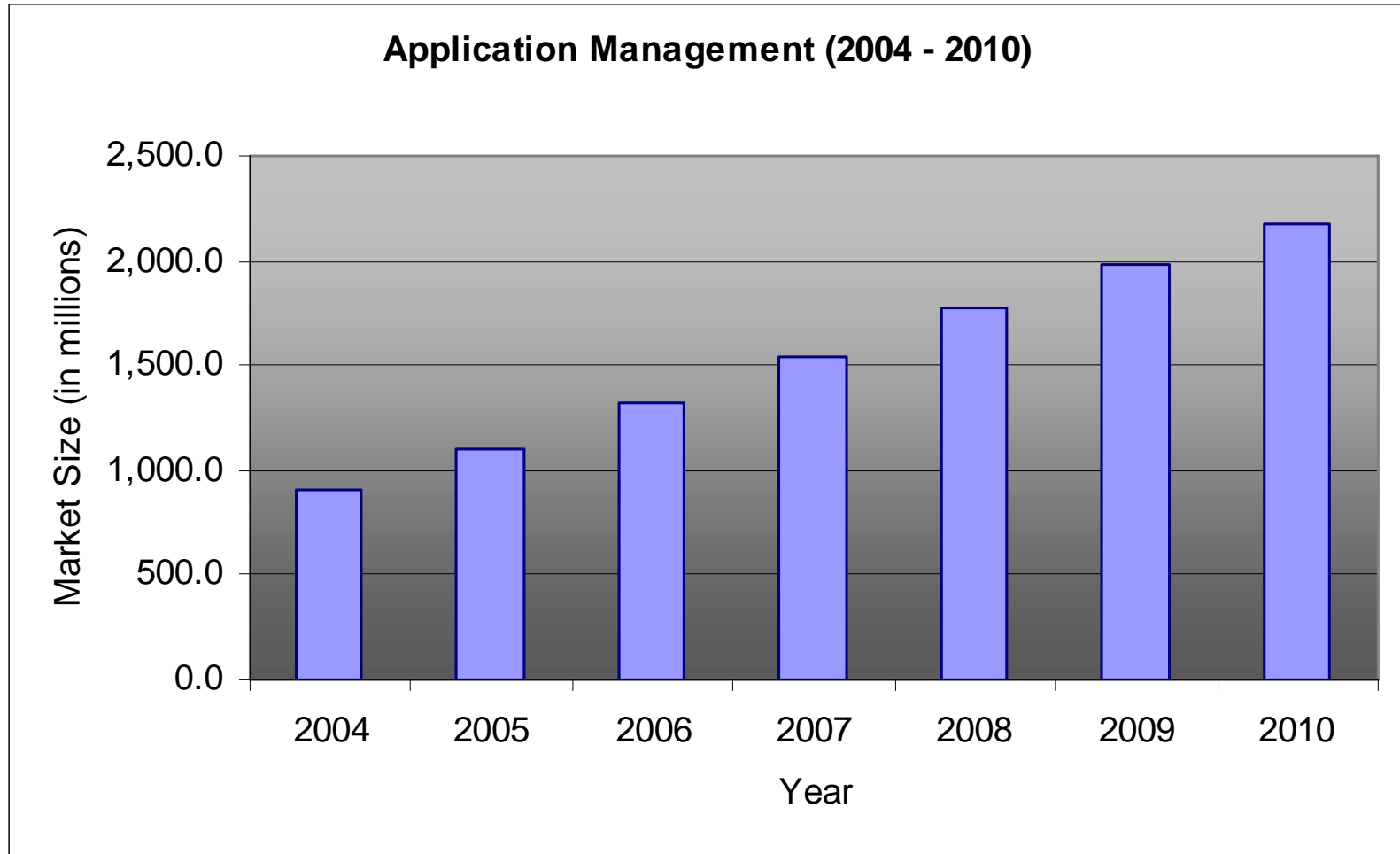
Market Opportunity

Huge Market Opportunity

Apps are critical

- “IDC estimates \$30 billion worldwide will be spent on software for management in 2008. Meanwhile, the labor required for IT operations will be about \$325 billion globally”
- “Approximately 40 percent of service downtime is caused by application-related failures, and is even higher for the newer generation of SOA applications.”
---Gartner Report, January 2006
- “74% of problems are reported by the end users through the service desk, not detected by infrastructure management”
---JP Garbani, VP Forrester Research, Feb 2007

Market Opportunities



14.6% CAGR - Source: Gartner Group ITOM Projection 2004-2010

Business Opportunity

1. Mission critical BPEL deployment – need management visibility into operating performance
2. Existing BPEL customers need better runtime governance through configuration management and automation capabilities
3. Manual monitoring of BPEL console and/or maintaining custom scripts for management no longer required
4. IT Operations department having to deal with developers/designers throwing new BPEL processes “over the wall” – and needing some visibility into process execution

Summary



- SOA Management Pack is the tool to use to manage your Oracle SOA Suite
- SOA Management Pack provides:
 - Runtime Governance
 - Business-IT integration
 - Manages all of your SOA Infrastructure
- Participate in the management of the fastest growing product in the Oracle stack
- Use the SOA Management Pack:
 - As you convert existing systems to SOA
 - To manage mission critical SOA Deployments



ORA

Next Steps ...

Additional information:

- Oracle.com/EnterpriseManager
- OTN.oracle.com  [Enterprise Manager](#)  [SOA Management](#)
- Follow-up for further deep-dive session, or hands-on workshop, please contact Aalok.Muley@oracle.com
 - Include “SOA Management Pack” in subject line
- eSeminar every 3rd Tuesday of the Month