

ORACLE®

WebLogic, a Cloud Platform for Multi-Tenant Applications

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Oracle Cloud Application Foundation

Strategic Investment Areas

#1 HIGH PRODUCTIVITY
Java EE
Java SE
HTML5

The Java logo is positioned to the right of the text. Below the text are icons for a laptop, a smartphone, an Android robot, and an Apple logo.

Mobile,
Developer Productivity

Oracle Business
Applications

Fusion Middleware

Cloud Application
Foundation

Foundation for
Fusion Middleware
& Applications



Continuous Availability,
Performance



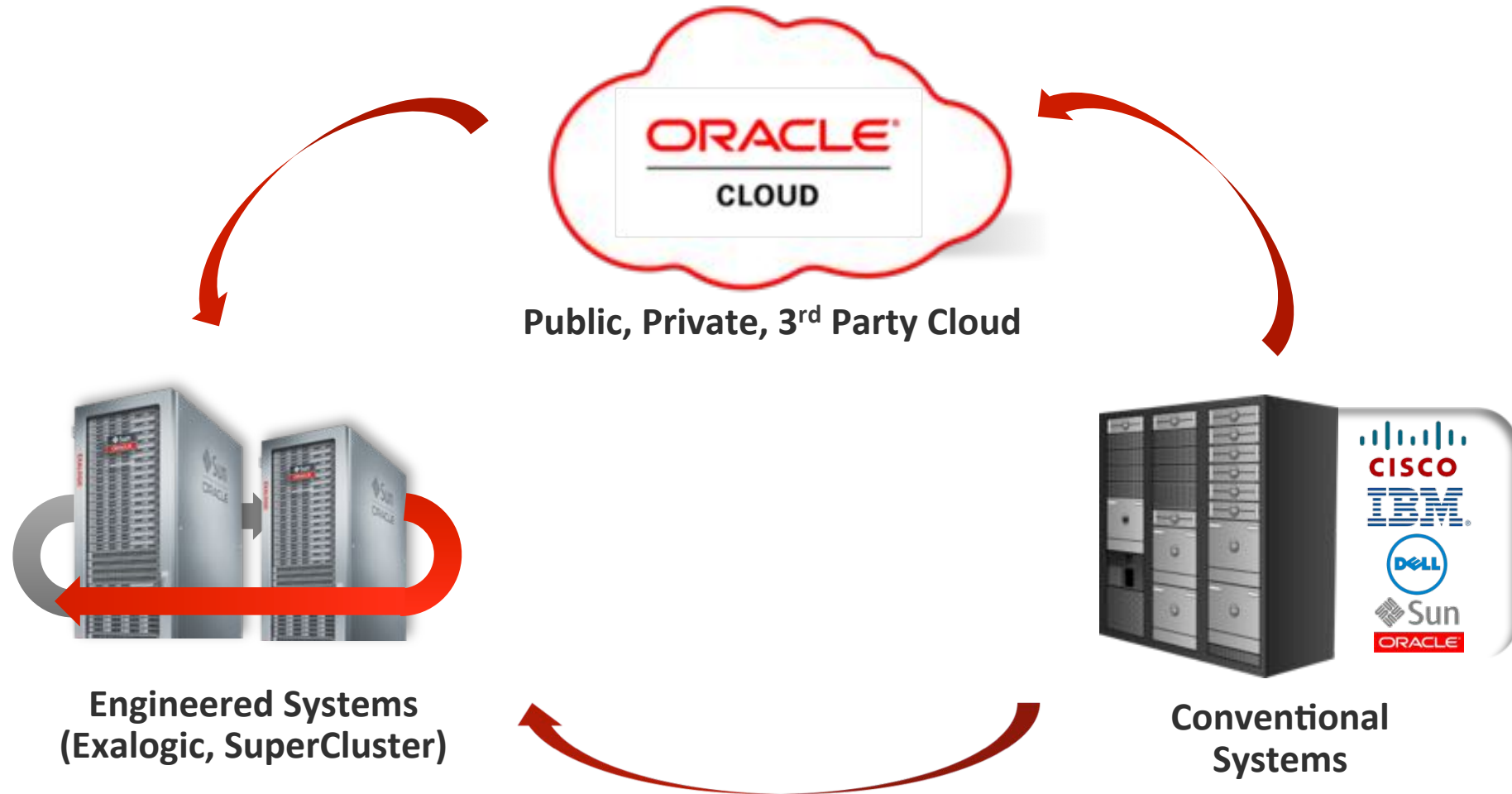
Multitenancy for
Density/Utilization



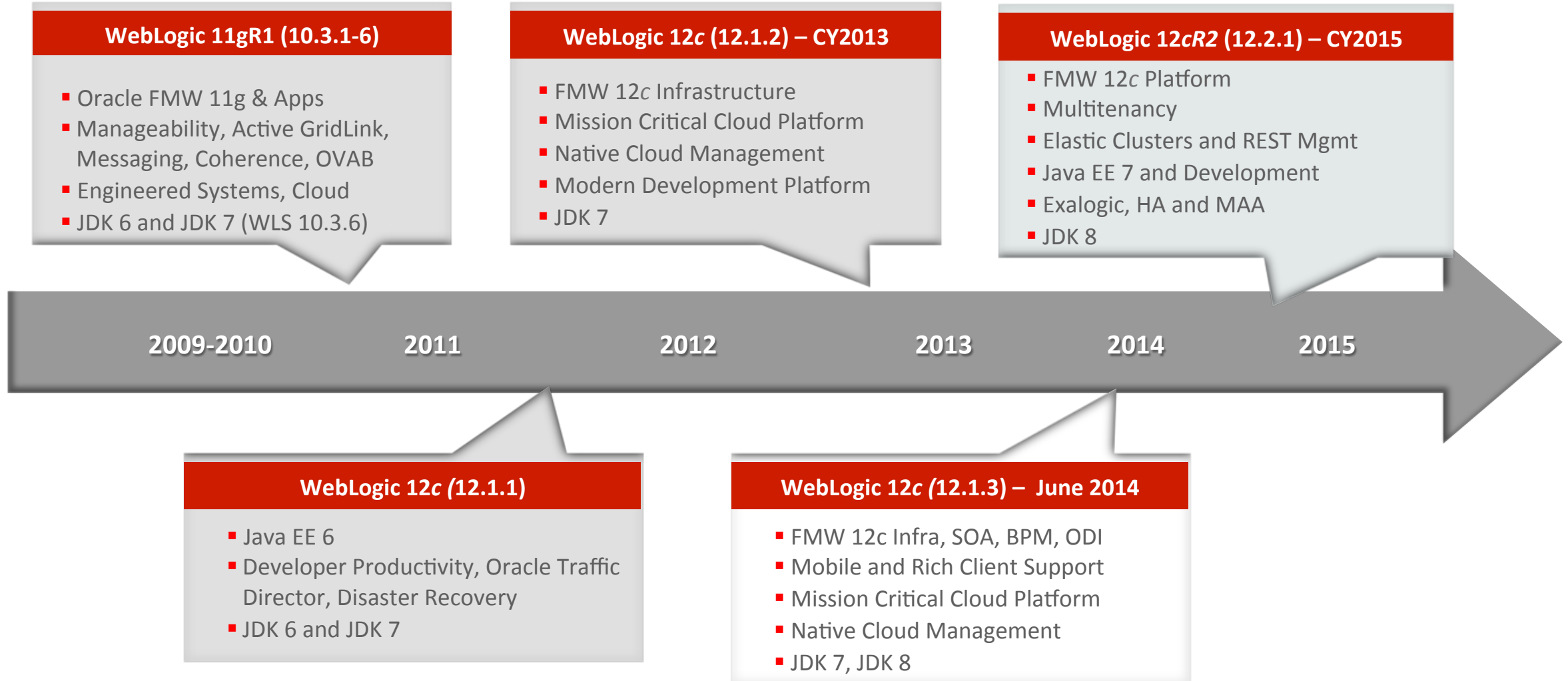
Cloud Management
and Operations

Oracle Cloud Application Foundation

Key Delivery Platforms



Oracle WebLogic Server Roadmap



Oracle WebLogic Server 12.1.3

- Fusion Middleware 12.1.3 Release
 - SOA, OSB, BPM, ADF, JDEV, CAF
- Mobile, Developer Productivity
 - Java EE 6, JDK 7 and 8, Multiple IDEs, Maven
 - Selected Java EE7 - JSON, REST, WebSocket, JPA
- High Availability and Performance
 - DB 12c integration
 - High availability enhancements
 - Exalogic optimizations
- Cloud-Scale Management and Operations
 - Dynamic clusters, REST support, FMW Control
 - Managed Coherence Servers



Oracle WebLogic Server 12.1.3 - Development

Java EE 6, HTML5, Tooling, Maven, Spring, Classloading, Open Source ...

- Java EE 6 Full Profile + select Java EE 7
- HTML5 Support
- Standard Java IDE Support
- Maven Integration
- Java SE 7 + Java SE 8
- Developer zip distribution
- Windows, Mac OSX, Linux....
- GlassFish DD Support on WebLogic
- Latest Spring Framework Support
- Built in Classloading Analysis Tool (CAT)



NetBeans

ORACLE
JDEVELOPER



maven



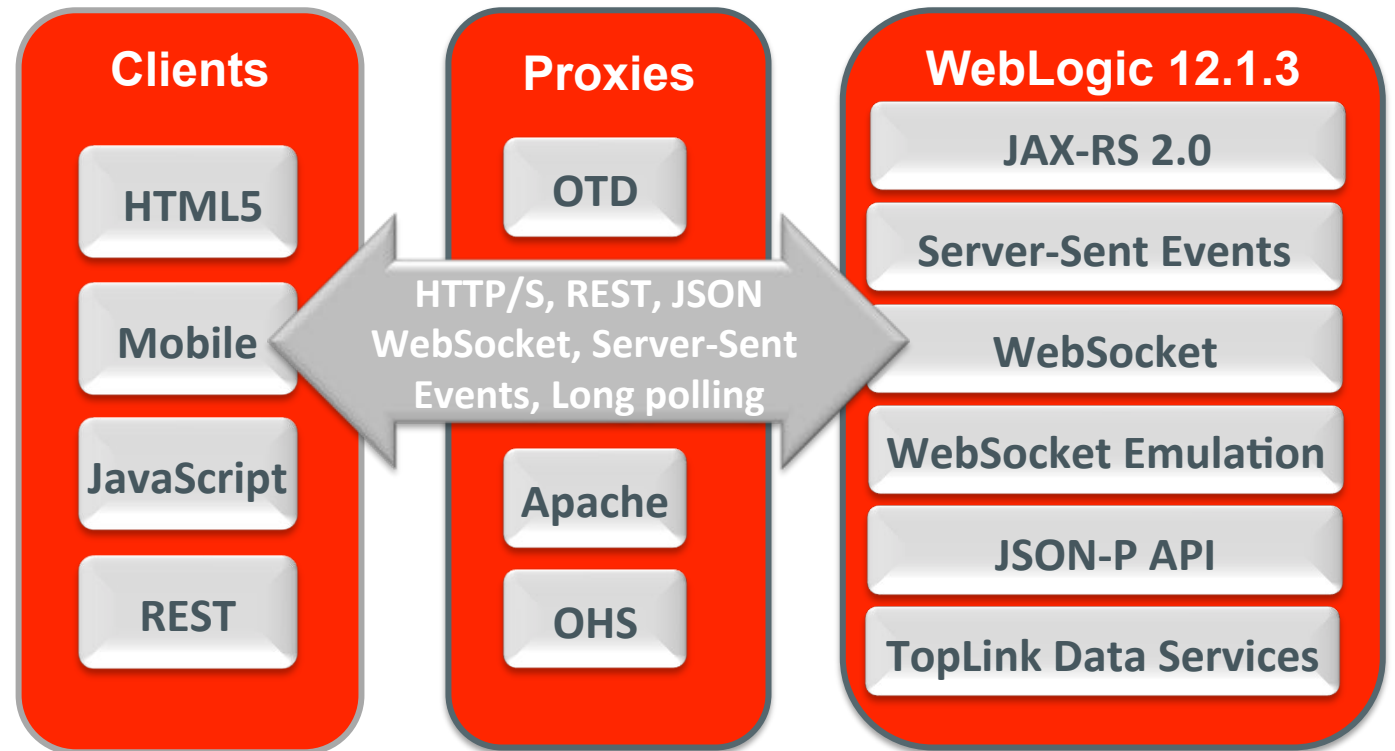
CAT



Oracle WebLogic Server 12.1.3

Rich Client and Mobile Applications

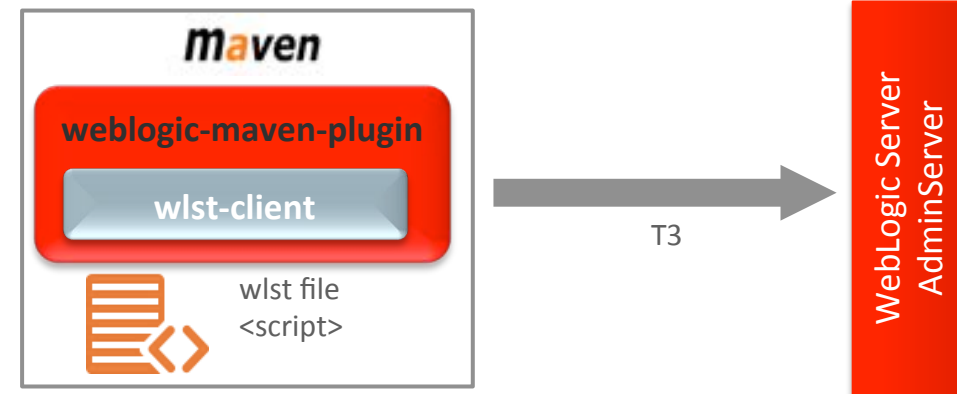
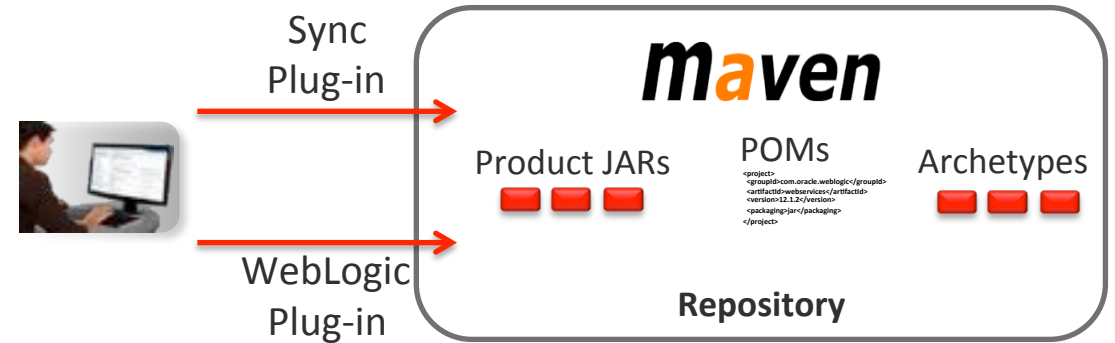
- Similar to client/server architecture of the past
 - Client handles UI rendering
 - Server handles business logic
- Web/HTTP is the glue that connects client and server
- Data format is usually JSON
- Typical communication protocols
 - REST for CRUD style operations
 - WebSocket for lightweight events
- WebLogic leverages select Java EE 7 APIs to support



Oracle WebLogic Server 12.1.3

Maven Integration

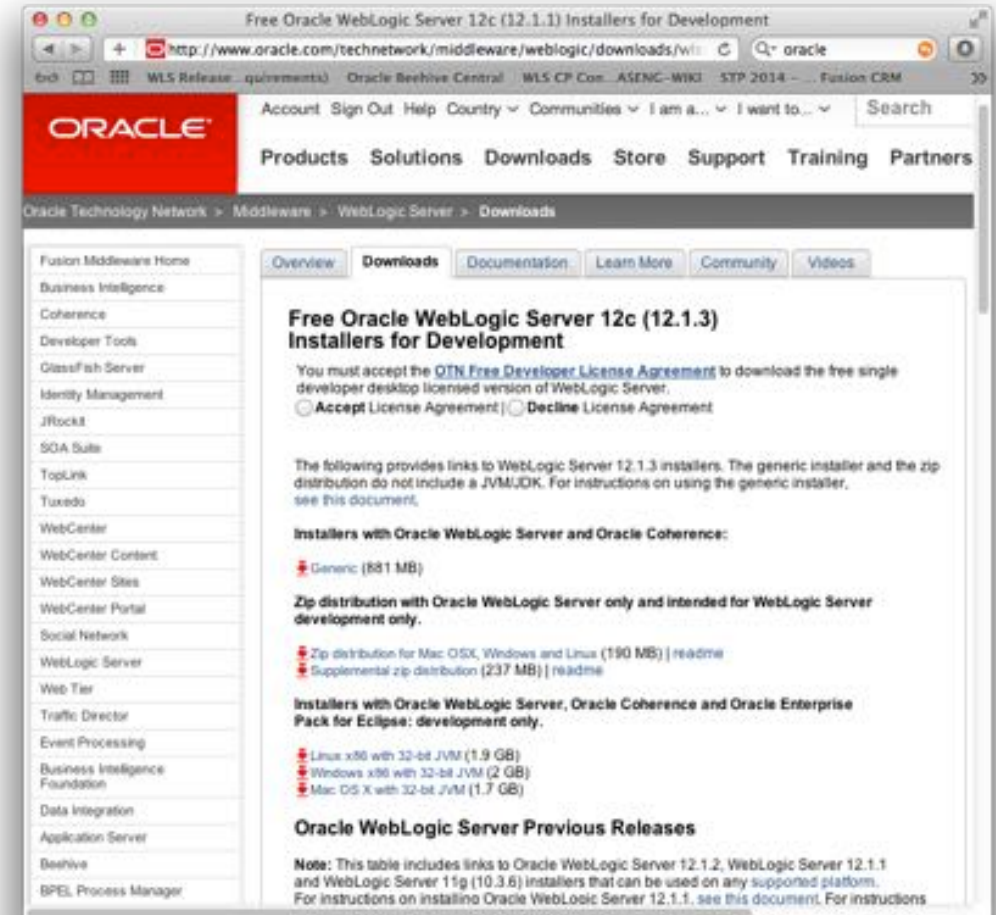
- Populate Maven repositories
 - Via Sync plug-in
- Maven plug-in full lifecycle support
 - Create domain
 - Start server
 - Execute WLST scripts
 - Compile applications
 - Deploy applications
- Maven archetypes
- **New** wlst-client goal to run WLST scripts from fully remote environment



Oracle WebLogic Server 12.1.3

Making it Easier to Develop

- OTN Developer license
 - Makes WebLogic free for development on developer desktops
 - Refined language to broaden applicability and usage
- Developer zip updates
 - Address developer issues in OTN distributions
 - Update zip distributions with Patch Set Updates beginning with 12.1.2
- Updated Spring Framework Integration
 - Spring 3.0.X, Spring 3.1.X, Spring 4.0.X



Oracle WebLogic 12.1.3 and Oracle Database 12c

Integration for Performance, Availability, Multitenancy, Scalability

WebLogic, Database Integration

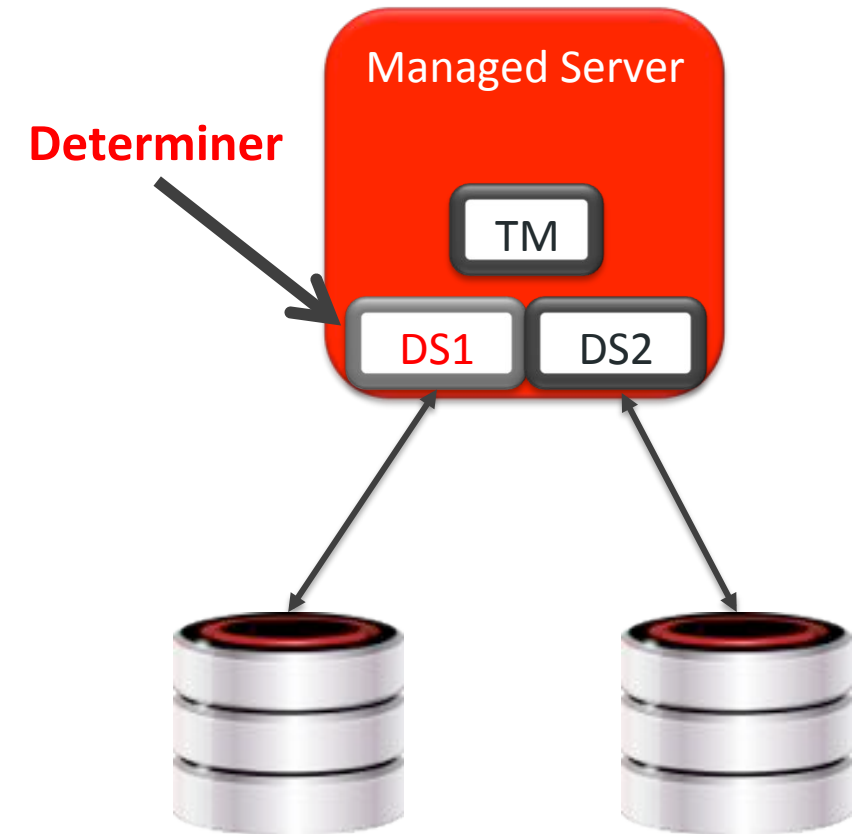
- Active GridLink for RAC – Performance, HA, Manageability
- Application Continuity
- Support for Multi-Tenant Database
- Scalability with Database Resident Connection Pooling
- Global Availability with Global Data Services



Oracle WebLogic Server 12.1.3 – No TLOG Tx Writes

Improved Performance and Simplified Disaster Recovery

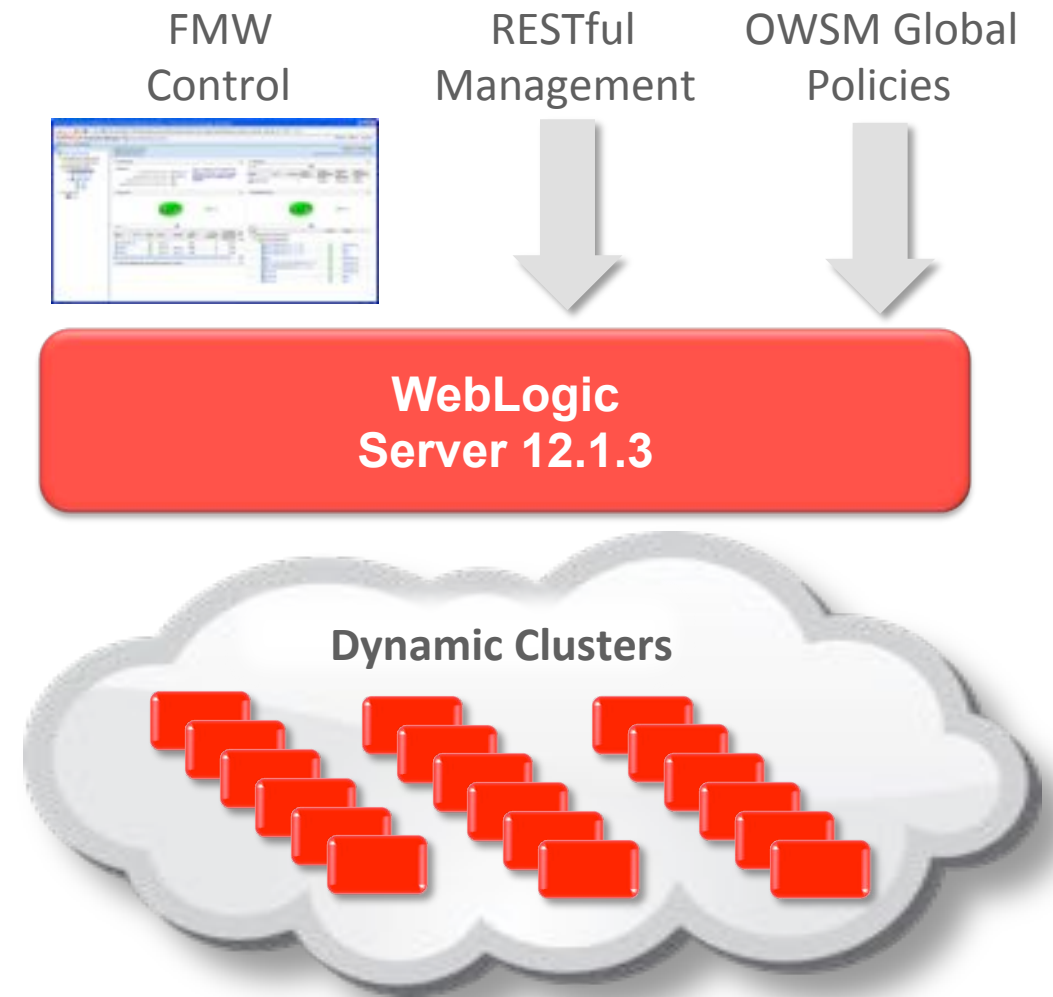
- No transaction entries written to TLOGs
 - Define “determiner” resource - last to prepare/commit
 - Tx recovery based on resources and determiner state
- Improved performance of XA apps
 - Reduced TLOG I/O – up to 3x throughput improvement
- Simplify Disaster Recovery Configuration
 - Simplified TLOG replication and synchronization
- Multi-phase delivery of this features
 - Phase 1 – WLS 12.1.3 – Single Transaction Manager
 - Phase 2 – WLS 12.2.1 - Multiple Transaction Managers



Oracle WebLogic Server 12.1.3

Cloud Scale Management

- Dynamic Clusters
 - Simplified, scalable cluster option
 - JMS support, maximum scaling
- REST Management APIs
 - Additional monitoring, lifecycle, datasource configuration and deployment support
- Fusion Middleware Control
 - Application Configuration, JMS Configuration
- OWSM Global Policy Attachment Support
 - Simplify use of WebLogic Web Services with FMW products



Oracle Java Cloud Service



- **Key Features**

- Full-Featured: WebLogic 11g or 12c Instance
- Clustering, In-Memory, High Availability, Elastic Load Balancing, Scale Up & Scale Out
- Oracle Back Up/Restore, Patching, Application Server Management
- Full portability: On-premise to Cloud

- **Benefits**

- WebLogic/Java with Coherence and DB Integration
- Secure, Highly Available with Clustering
- Rapid and fully automated provisioning
- Fully Managed

Oracle Java Cloud Services – Overview

Java Cloud Service – Virtual Image

- Oracle certified/managed virtual image of WebLogic Server – 11g and 12c
- Simple single VM provisioning
- Self-managed by customers using in-built product tools (e.g. OPatch, WLST, Admin Console, etc.)
- Developer Service entitlement

Java Cloud Service

- Simple & advanced provisioning – any size cluster
- Pre-configured to the (new) Database Cloud Service
- Self-managed by customers using new* cloud tooling
 - Automated BR
 - Coordinated BR with Database
 - Automated Patching of entire stack
 - Automated Scaling
- Comprehensive API & UI
- Same-DC built-in HA, cross-DC DR*
- Developer Service entitlement

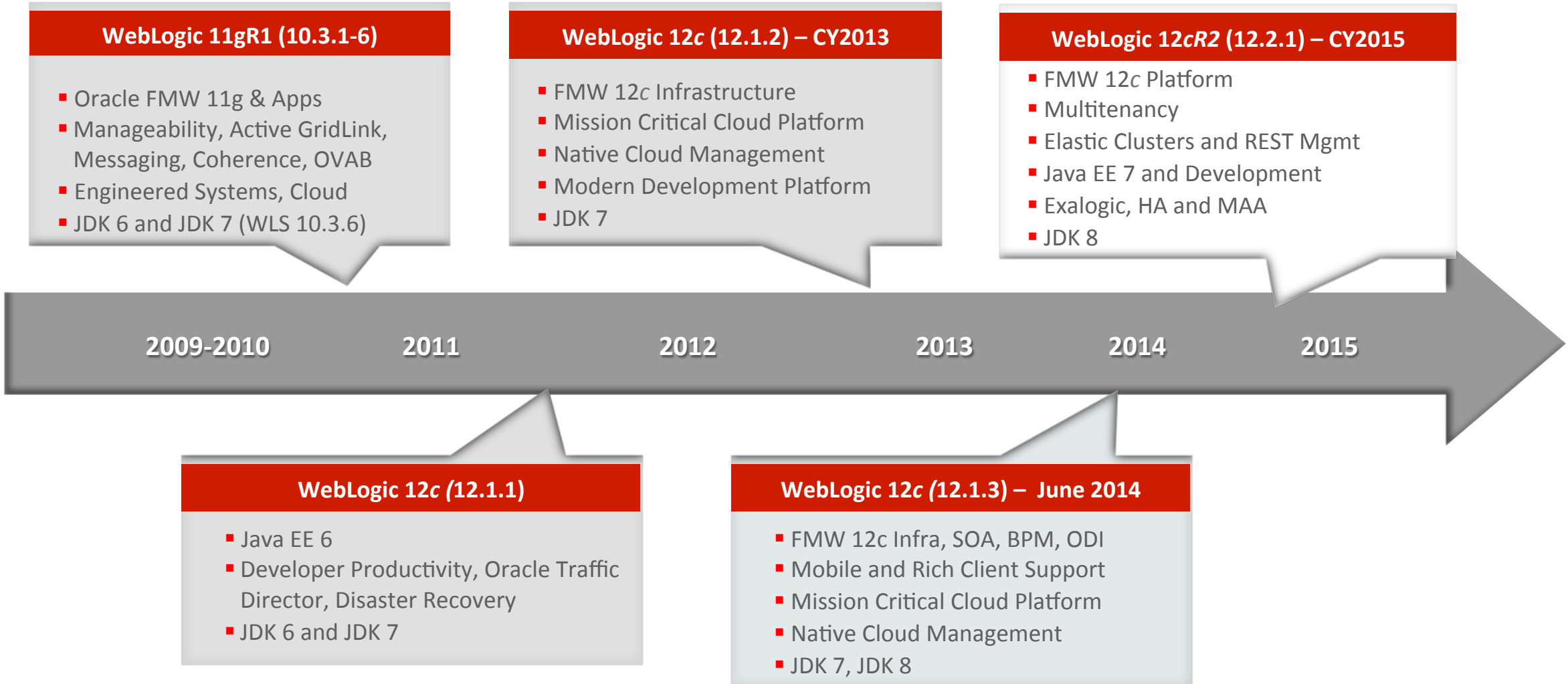
Java Cloud Service – SaaS Extn

- Purpose-built for Oracle SaaS Extensibility
- Built on WebLogic Server 11g
- Platform fully managed by Oracle, application lifecycle managed by customer
- Integrated with Cloud Marketplace for Partners

DEMO

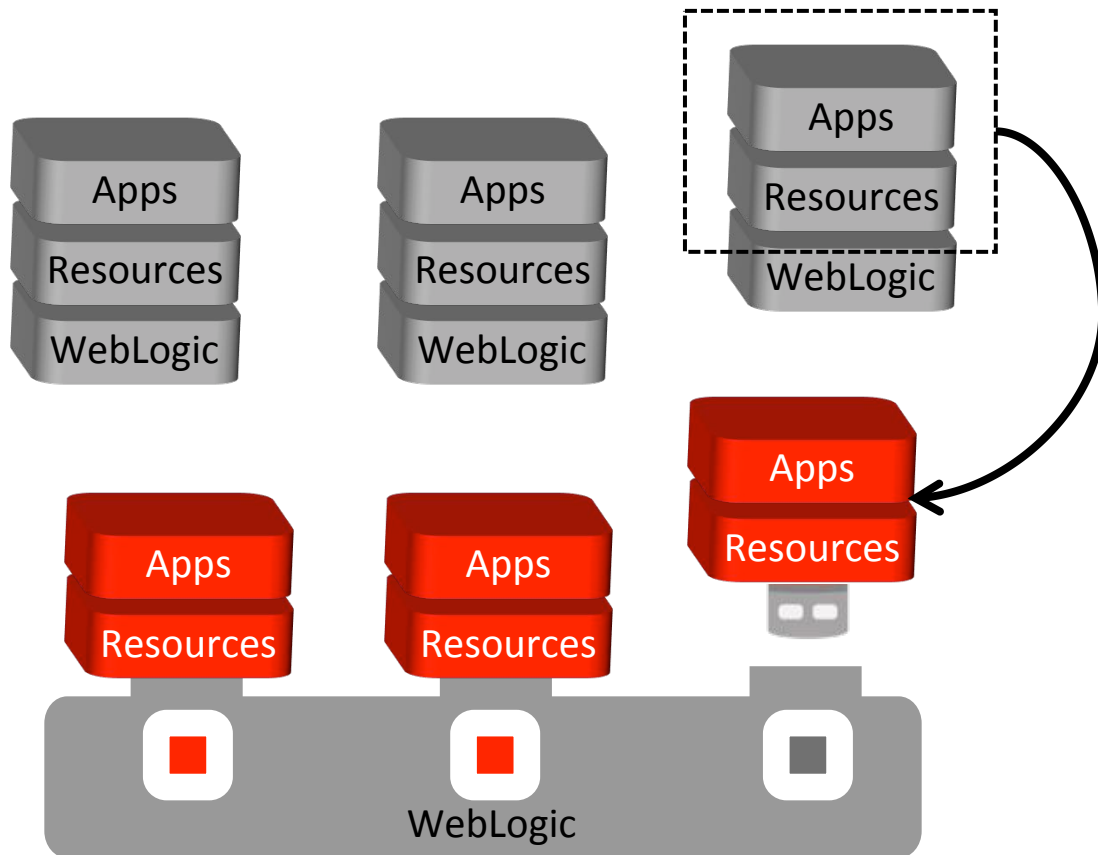
Oracle WebLogic Server Roadmap

Private Beta
Q42014



Cloud Platform: **Multitenancy in WebLogic Server**

New High-Density Configuration

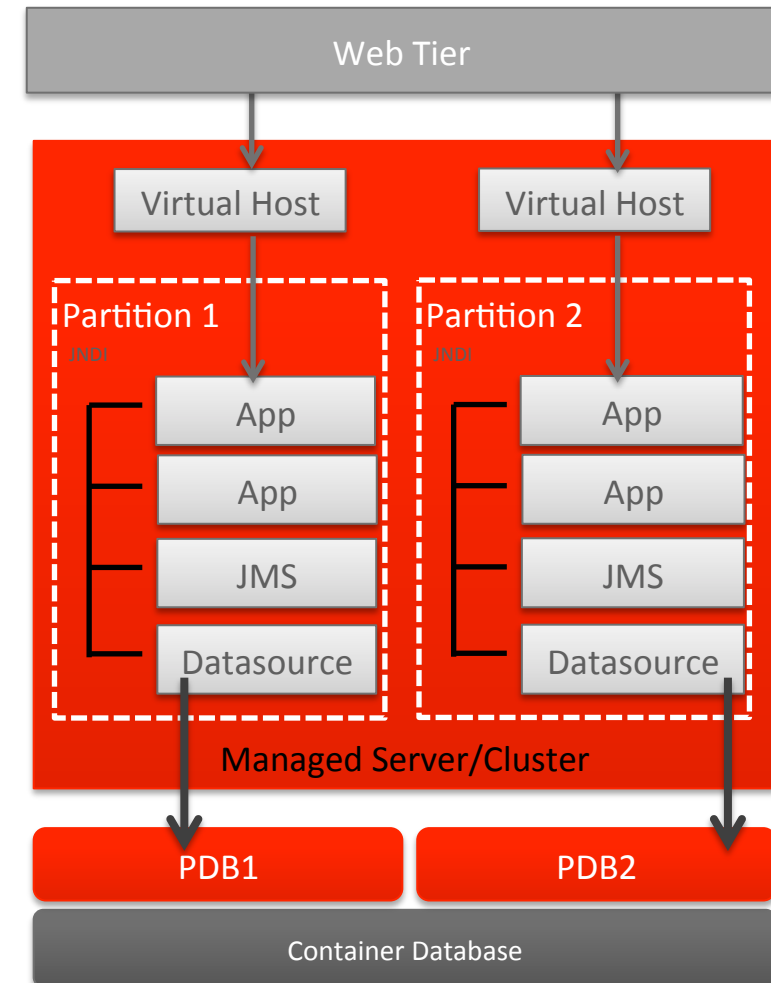


- Consolidation
 - Fewer servers, domains
 - Reduce CAPEX and OPEX costs
- Management Simplicity
 - SaaS and PaaS
 - Tenant independence
- Runtime Isolation
 - Security realm, runtime traffic, data, heap, CPU
- Complete solution
 - Web tier, middle tier, cache, database

Oracle WebLogic Server 12.2.1

Multitenancy Concepts

- Introduce **domain partition** into WebLogic domains
- Apps and resources deployed for each partition (tenant)
- No application changes required
- Appropriate levels of end to end partition **isolation**:
 - Memory and CPU isolation at the JVM level
 - Virtual host per partition for application access
 - Dedicated JNDI tree for resource isolation
 - Work Manager per partition for thread management
 - Security realm per partition
 - Data is segregated with PDBs
 - Partition administration for management isolation
- WebLogic infrastructure is **shared** among partitions

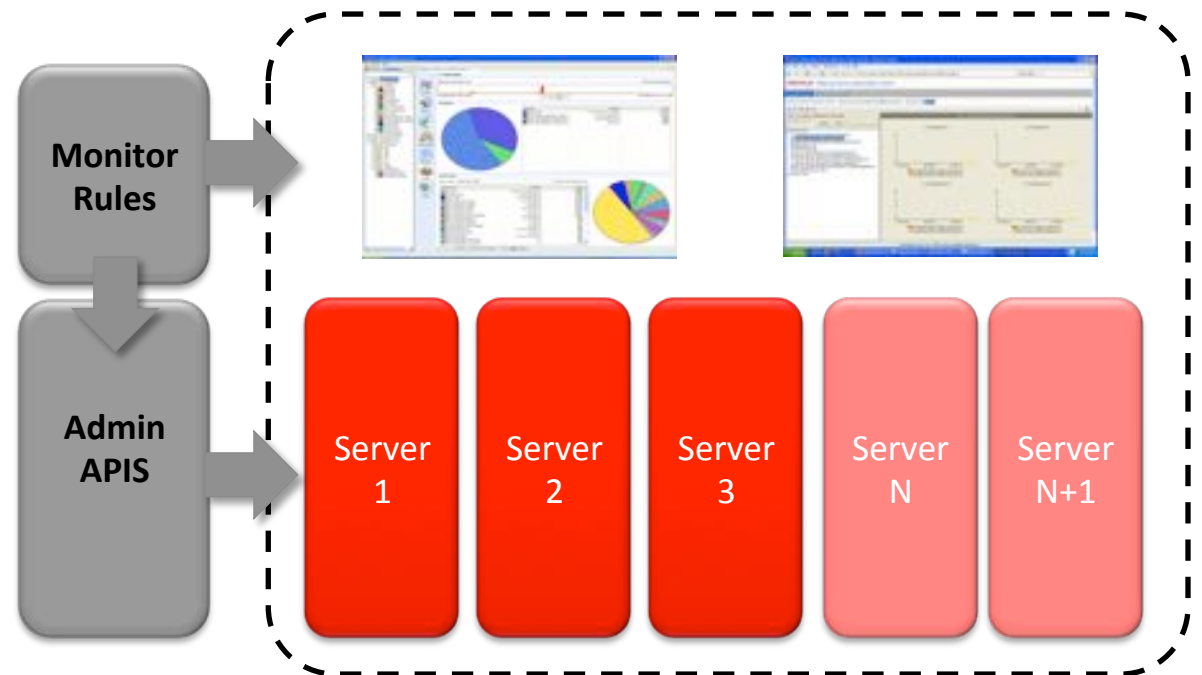


Oracle WebLogic Server 12.2.1

Elastic Clusters

Elasticity for Single Tenant and Multitenant WebLogic

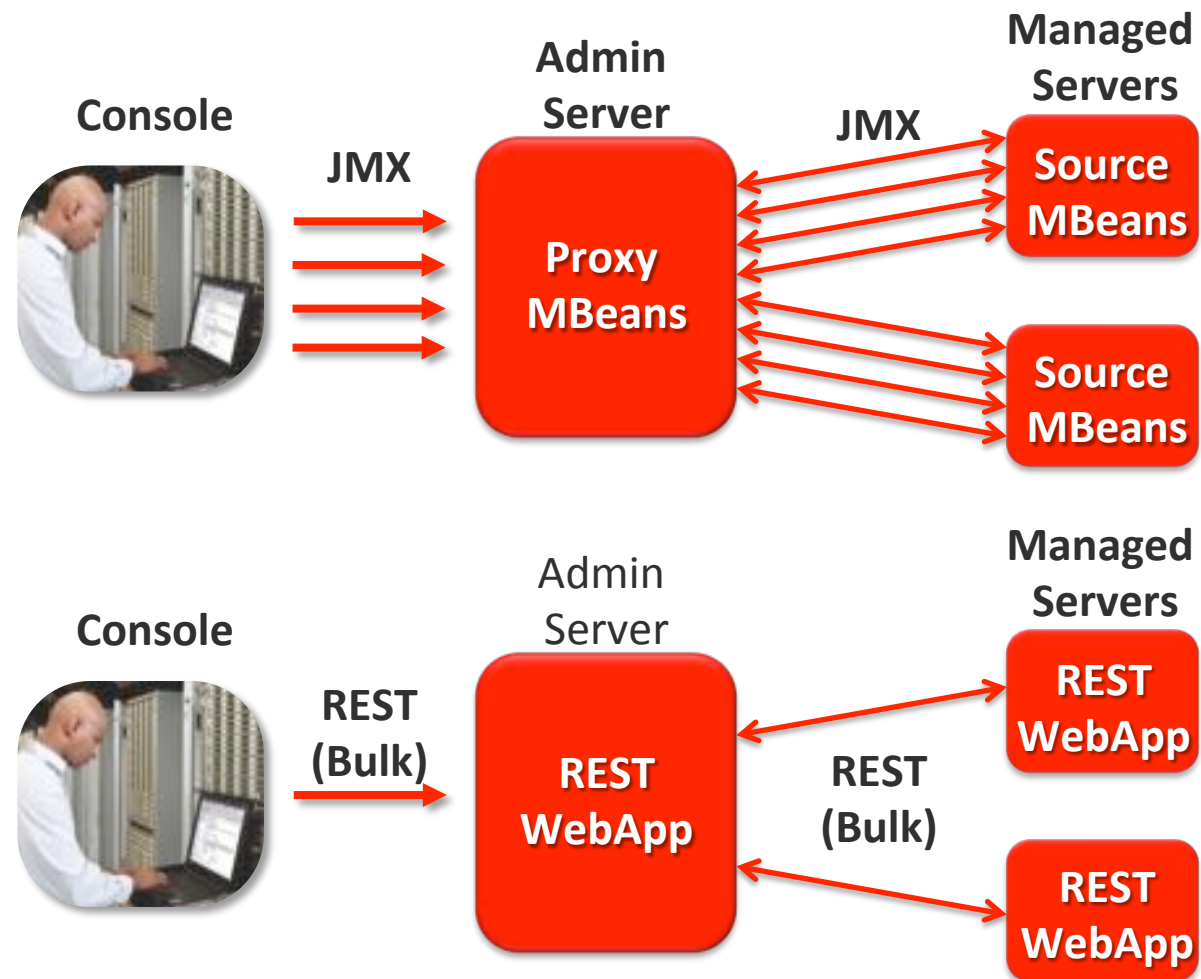
- Administration APIs for Dynamic Clusters
 - Start/stop a specified number of servers
 - Expand/shrink the size of the cluster
 - Manage server lifecycle, quiescence
- Configurable rules for cluster scaling
 - Thresholds based on user-defined metrics
 - Load, memory, schedule, Java Mission Control, Multitenant RCM
 - Drive scaling changes
 - Drive other configuration changes via WLST



Oracle WebLogic Server 12.2.1 REST Management

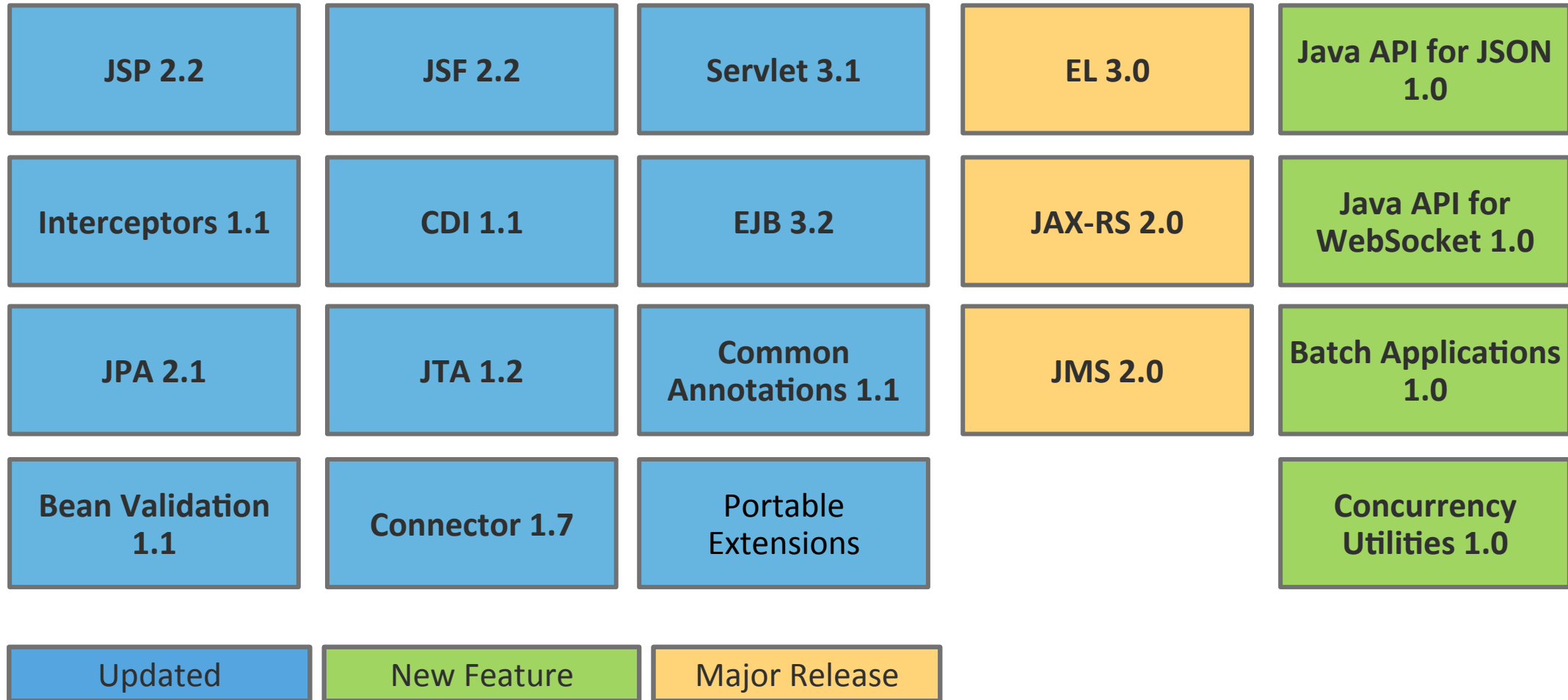
Performance, Scalability, Usability

- Comprehensive
 - Dynamically generated interfaces
- Performance and Scalability
 - Bulk access and local processing
 - Faster response times (5x-10x)
 - Eliminate console as scaling limit
 - Applicable to MT environments
- Additional integration option
 - Mobile clients and 3rd-party



Oracle WebLogic Server 12.2.1

Java EE 7 Full Profile



For More Information



oracle.com/middleware
oracle.com/goto/cloudappfoundation

Hardware and Software Engineered to Work Together