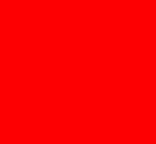


# Java EE und Cloud Computing

Peter Doschkinow  
Stefan Woermcke





The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

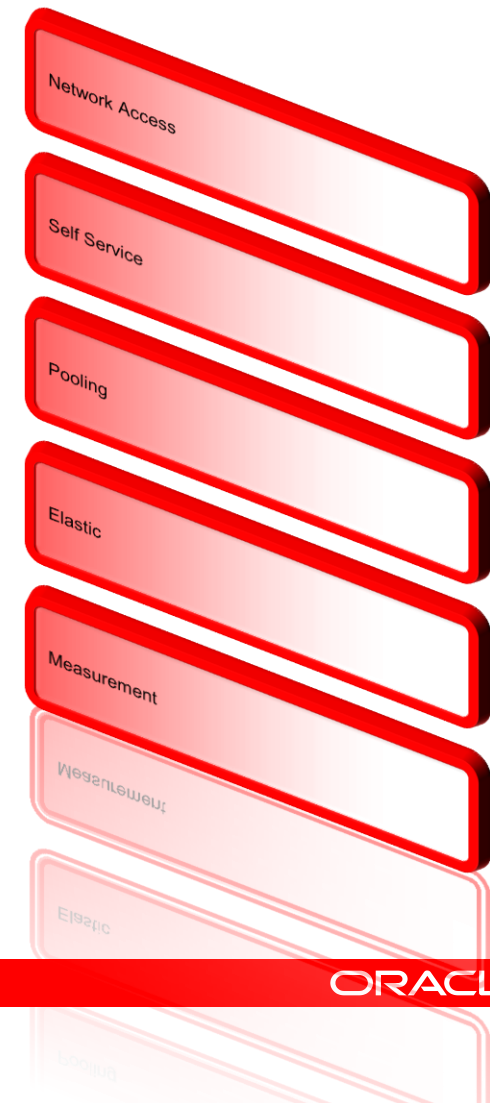
The background features a complex, abstract pattern of overlapping, semi-transparent geometric shapes in various shades of orange, red, and brown. These shapes create a sense of depth and movement, resembling a digital or architectural structure. A solid, vibrant red horizontal band runs across the center of the image, serving as a backdrop for the text.

**Cloud Computing ?**

# Was ist das (angelehnt an NIST\*)?

- Netzwerk
  - Einfacher, schneller Zugriff auf Ressourcen
- Zugriff
  - Self Service & Koordination
- Pooling
  - Services zur sofortigen Verwendung
- Elastizität
  - Fehlertoleranz und Skalierbarkeit (Wachsen und Schrumpfen)
- Messbarkeit des Konsums
  - ... und man bezahlt, was man nutzt

\* <http://www.nist.gov/itl/csd/cloud-102511.cfm>



# IaaS, PaaS und SaaS

Unterschiedliche Nutzer



IT Admins



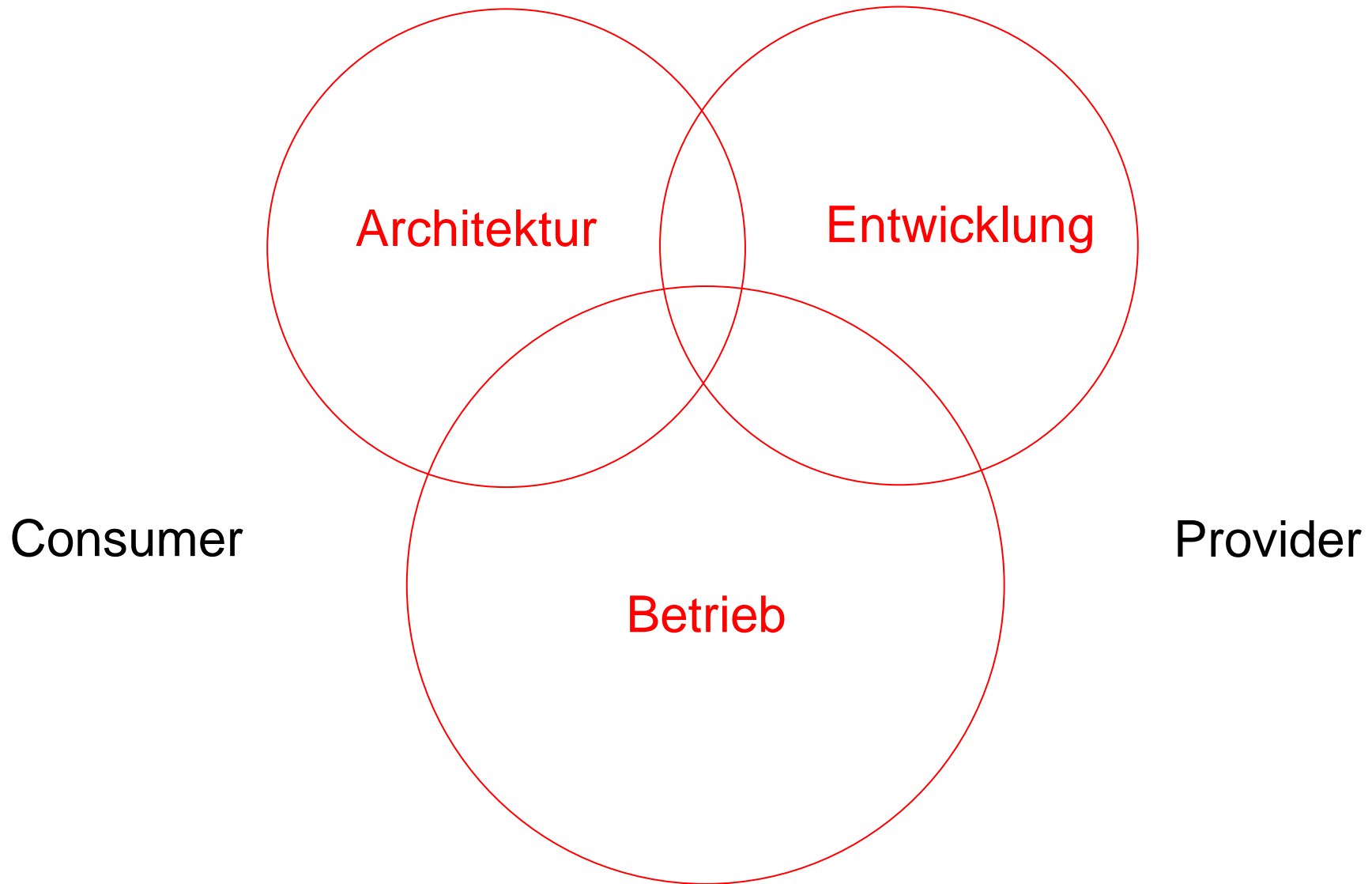
IT Admins /Developer



Endbenutzer



# Perspektiven



# Warum?

- Ressourcenausnutzung/Computing Dichte erhöhen
- Ressourcenbereitstellung (Zeit, Service Level)
- Aber: Standardisierung der bereitzustellenden Ressourcen/Services

# Agenda

- Oracle Strategie
- Blöcke - MWaaS:
  - Oracle Cloud Application Foundation
  - Oracle Enterprise Manager Cloud Control 12c und Oracle Virtual Assembly Builder
  - Engineered Systems: Exalogic



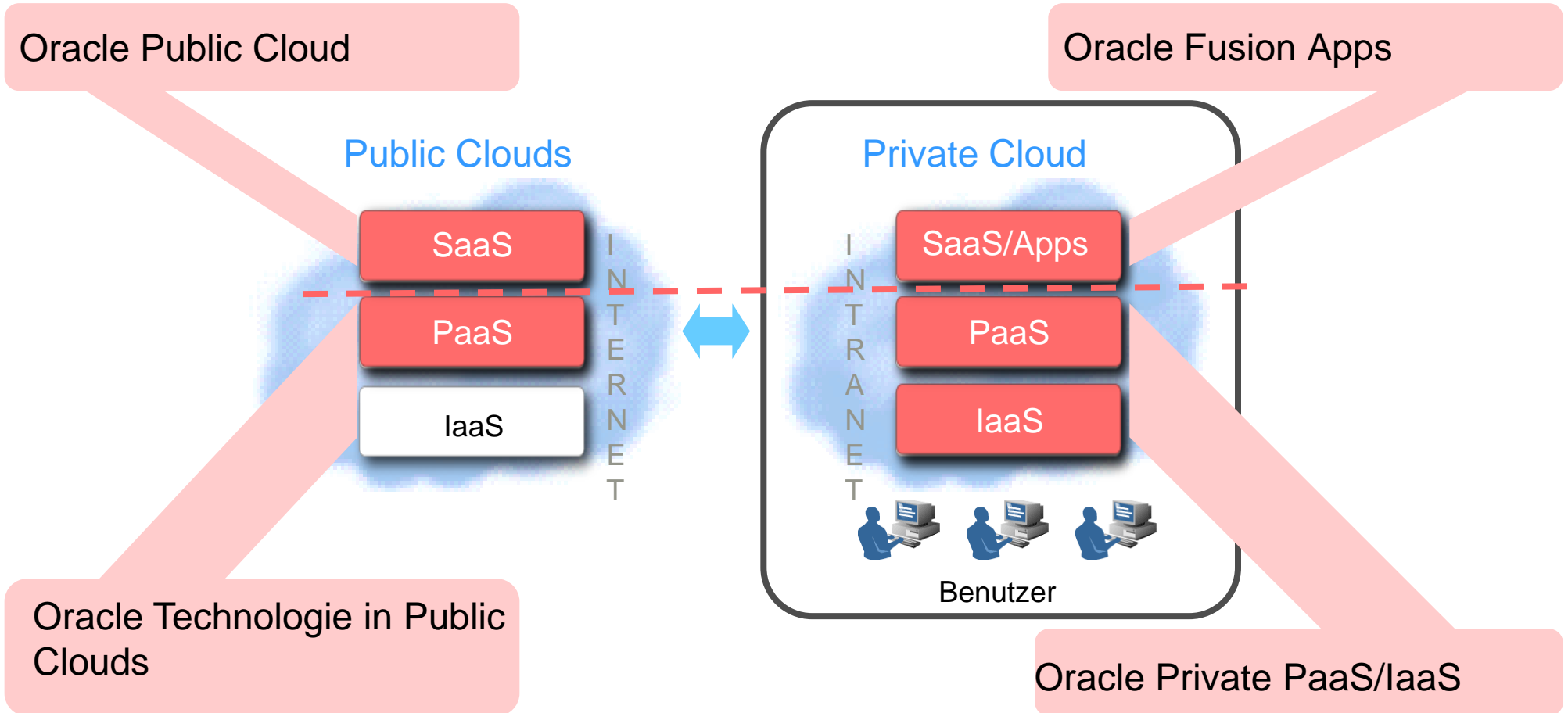
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# Strategie

# Oracle Cloud Computing Strategie

## Ziele:

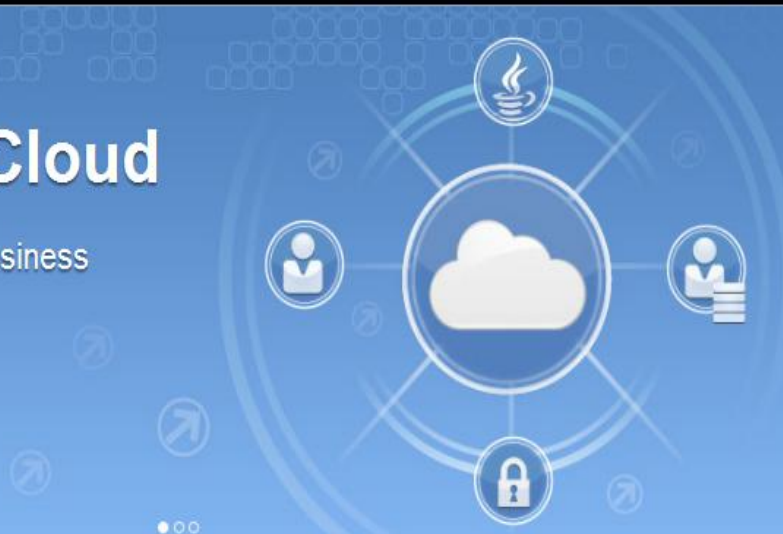
- Sicherstellen das Cloud Computing voll unternehmensfähig ist
- Unterstützung von Private- und Public-Cloud Lösungen



# Welcome to the Oracle Public Cloud

An Enterprise Cloud for your Business

Notify Me of Updates >



## Application Services



### Fusion CRM

Sell smarter with Fusion CRM in the cloud.



### Fusion HCM

Bring power to your people with Fusion HCM.



### Social Network

A secure collaboration tool for everyone you work with.

## Platform Services



### Java

All the productivity of Java, without the IT.



### Database

The Oracle database you love, now in the cloud.



## OFFERINGS

[Fusion CRM](#)

[Fusion HCM](#)

[Social Network](#)

[Java](#)

[Database](#)

## LEARN MORE

[How It Works](#)

[Why Oracle?](#)

[Architecture](#)

[FAQ](#)

## CONTACT

[Interest List](#)

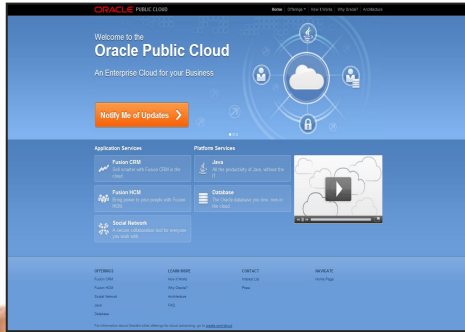
[Press](#)

## NAVIGATE

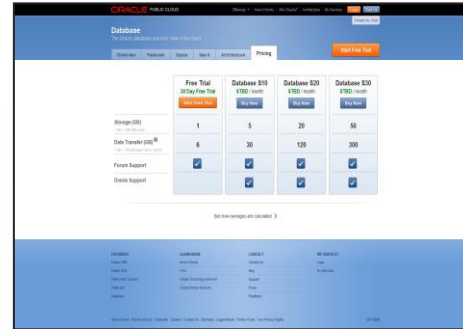
[Home Page](#)

# Oracle Public Cloud

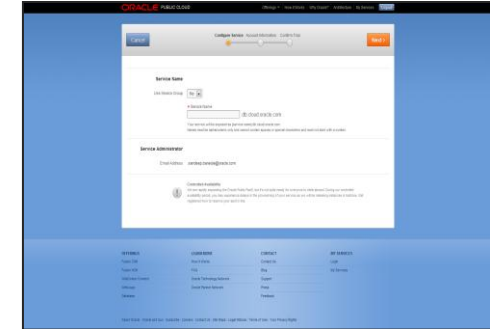
1. Service auswählen



2. Plan auswählen



3. Service konfigurieren

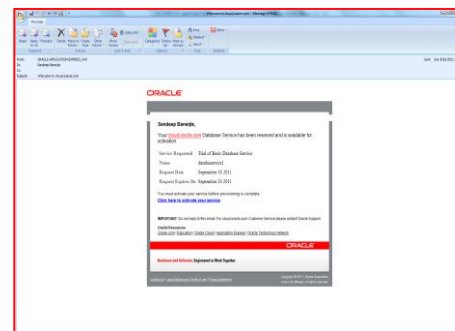


cloud.oracle.com

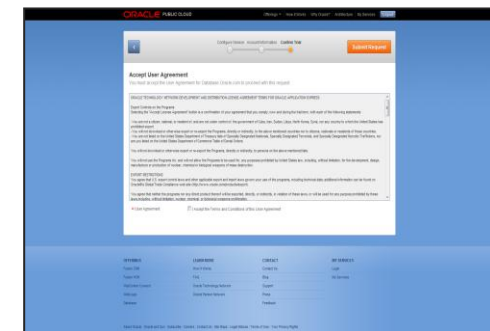
6. Nutzen



5. Anmeldedaten



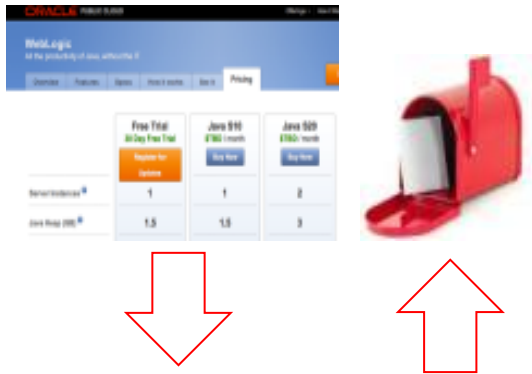
4. Request abschicken



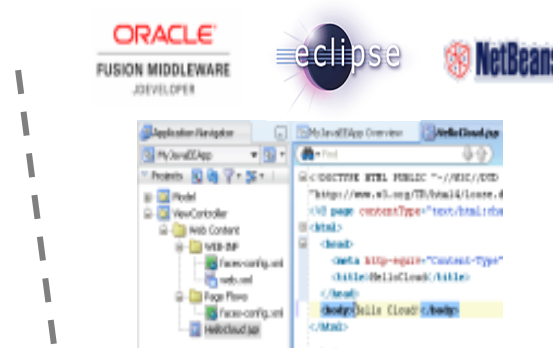
# Java Cloud Service

## How it Works

1 Enter service properties and submit order



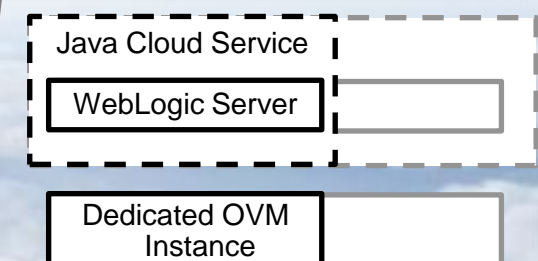
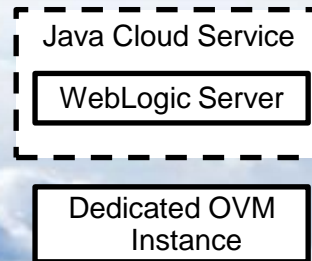
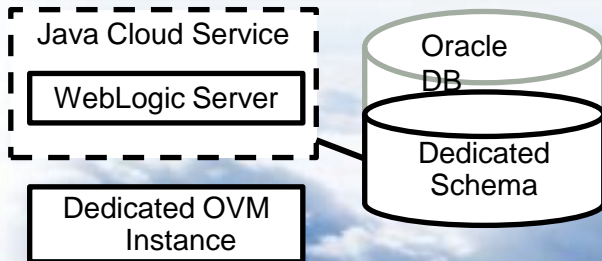
2 Develop and deploy your applications



3 Monitor, Expand, or Contract, your service instance



cloud.oracle.com



We will provision a service instance for you then send you an e-mail with details

We have built tight integration into popular IDEs to allow for direct deployment to the cloud

We provide an Enterprise Manager console, as well as REST and CLI monitoring

# Oracle Public Cloud – Java Cloud Service

## Cloud Application Foundation in der Public Cloud



**Flexibles Deployment**  
On-premise oder in der Cloud



**Programmiermodell**  
Standard Java EE



**Datenbank und Persistenz**  
Oracle Datenbank & benutzerdef. Schema



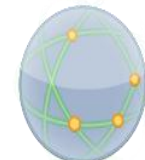
**Fusion Applications Integration**  
Connectivity Services integriert



**Identity Management Service Console**  
integriert

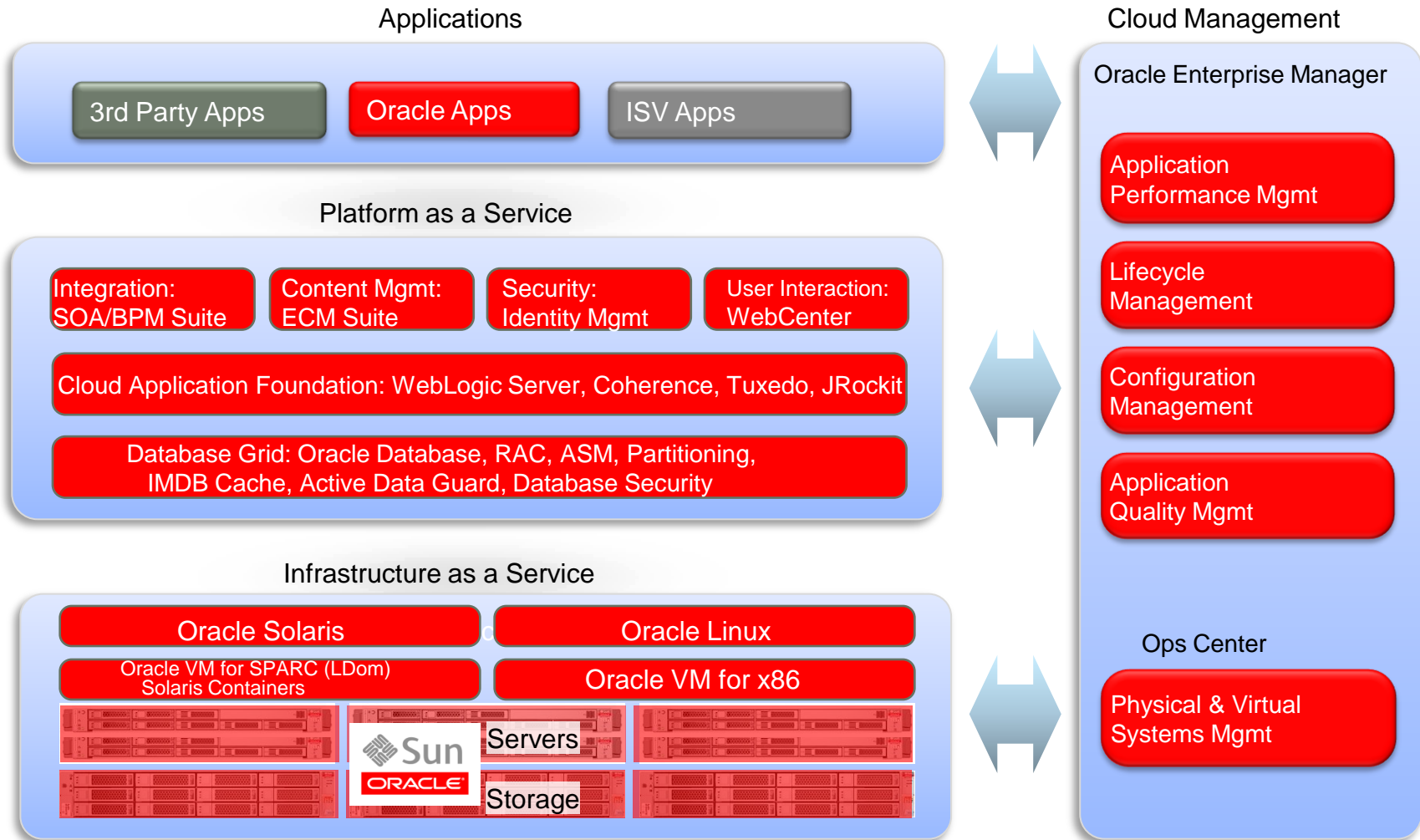


**Service Console**  
integriert

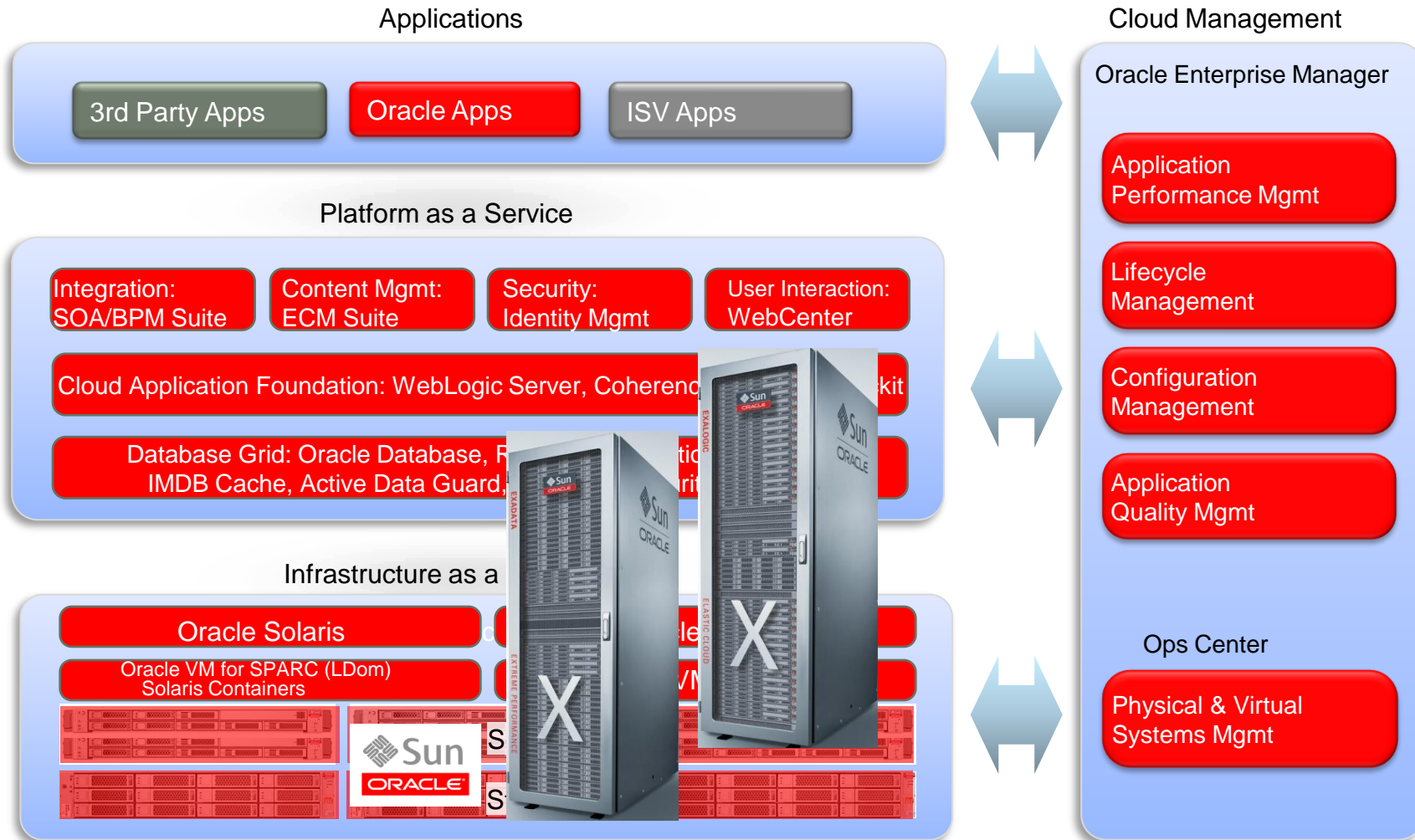


**IDE Support**  
JDeveloper, Eclipse, NetBeans

# Oracle Private Cloud Platform



# Oracle Private Cloud Platform





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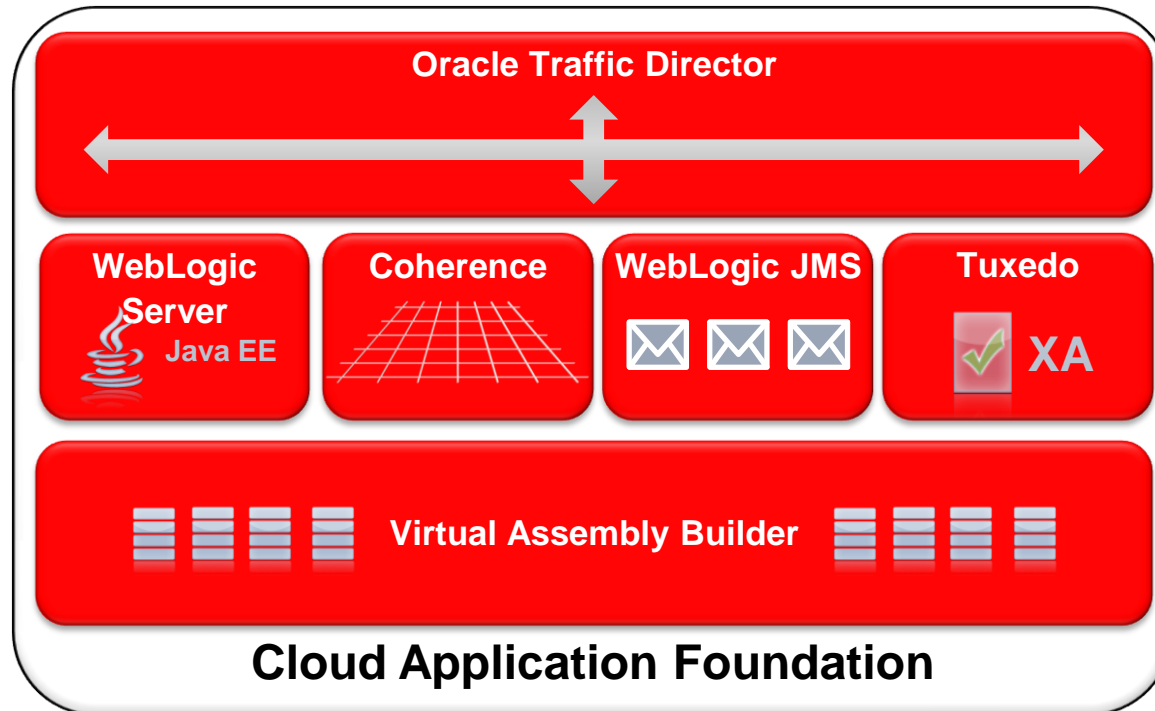
# **Cloud Application Foundation**

# Paas Middleware

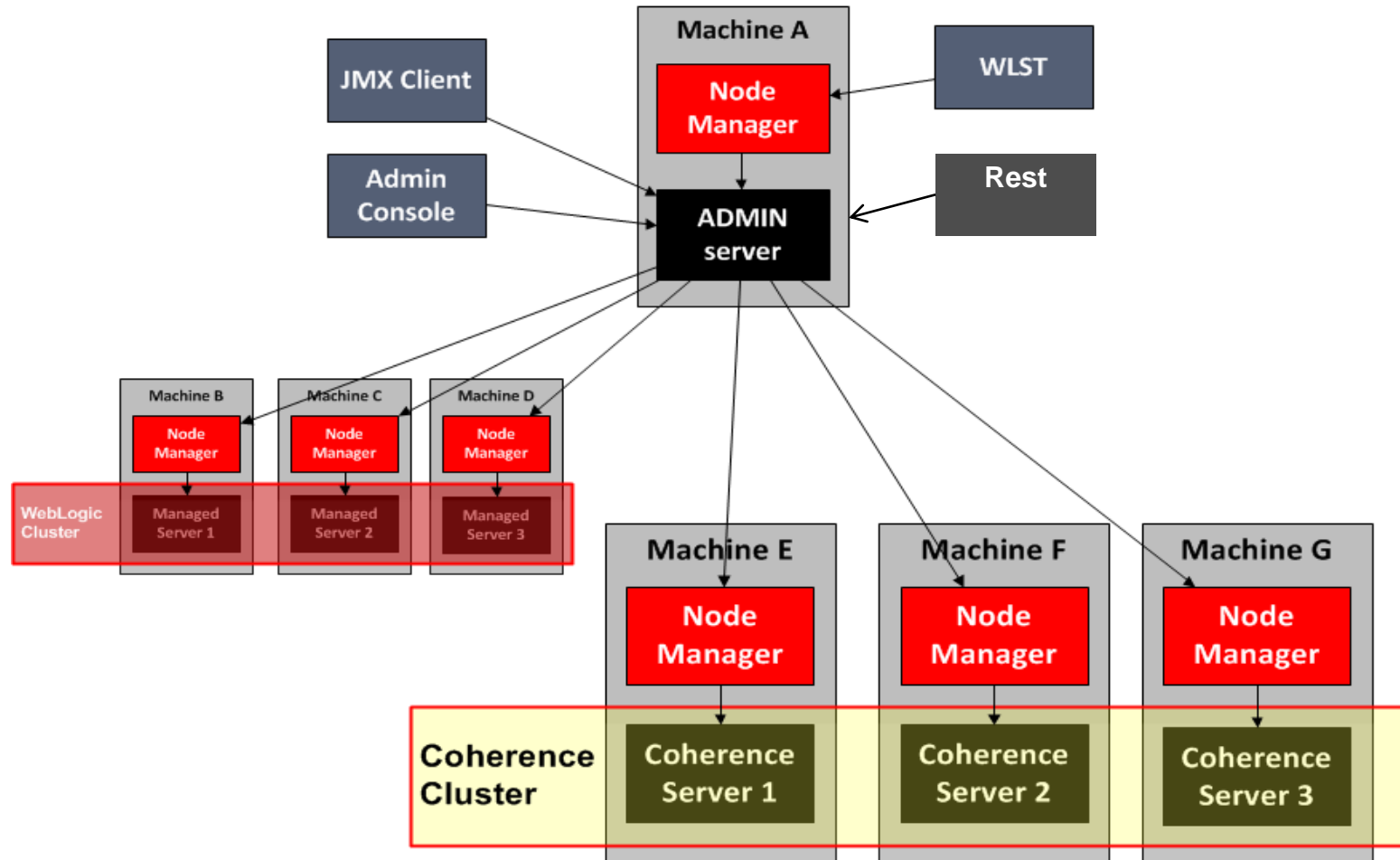


# Cloud Application Foundation

Elastizität, Performance, \*keiten



# Einheitliche Architektur – Einheitliche Administration



# WebLogic Server 12c – Neue Features

## Java EE 6

- JSP 2.1, JSF 2.0
- EJB 3.1, JPA 2.0
- Context and Dependency Injection
- Restful Web Services

## Developer

- JDeveloper
- Eclipse
- NetBeans
- Maven

## Java SE

- Java SE 6
- Java SE 7

## Database

- GridLink – Session Affinity
- GridLink – Transaction Affinity
- GridLink – Fast Connection Failover Performance
- SPECjEnterprise World Records– EjOPS Overall, EjOPS/Core, EjOPS/Processor

## Traffic Management

- Software Load Balancer
- Traffic Shaping
- SSL Termination

## Enterprise Scale

- Database Transaction Logs
- Database Store Performance

## Enterprise Manager 12c

- Cloud Management
- Diagnostics Adviser
- Incident and Problem Management
- Patch Automation

## Distributed Caching

- Coherence Transactions
- Coherence Rest
- Coherence Query Explain Plan

## Cloud

- Optimized WebLogic Virtual Appliances
- Coherence Exalogic Exabus
- WebLogic Elastic Message Overflow
- Coherence Elastic Data Exalogic HTTP, JMS and Web Service Performance
- TopLink Multi-Tenancy

## Security Updates

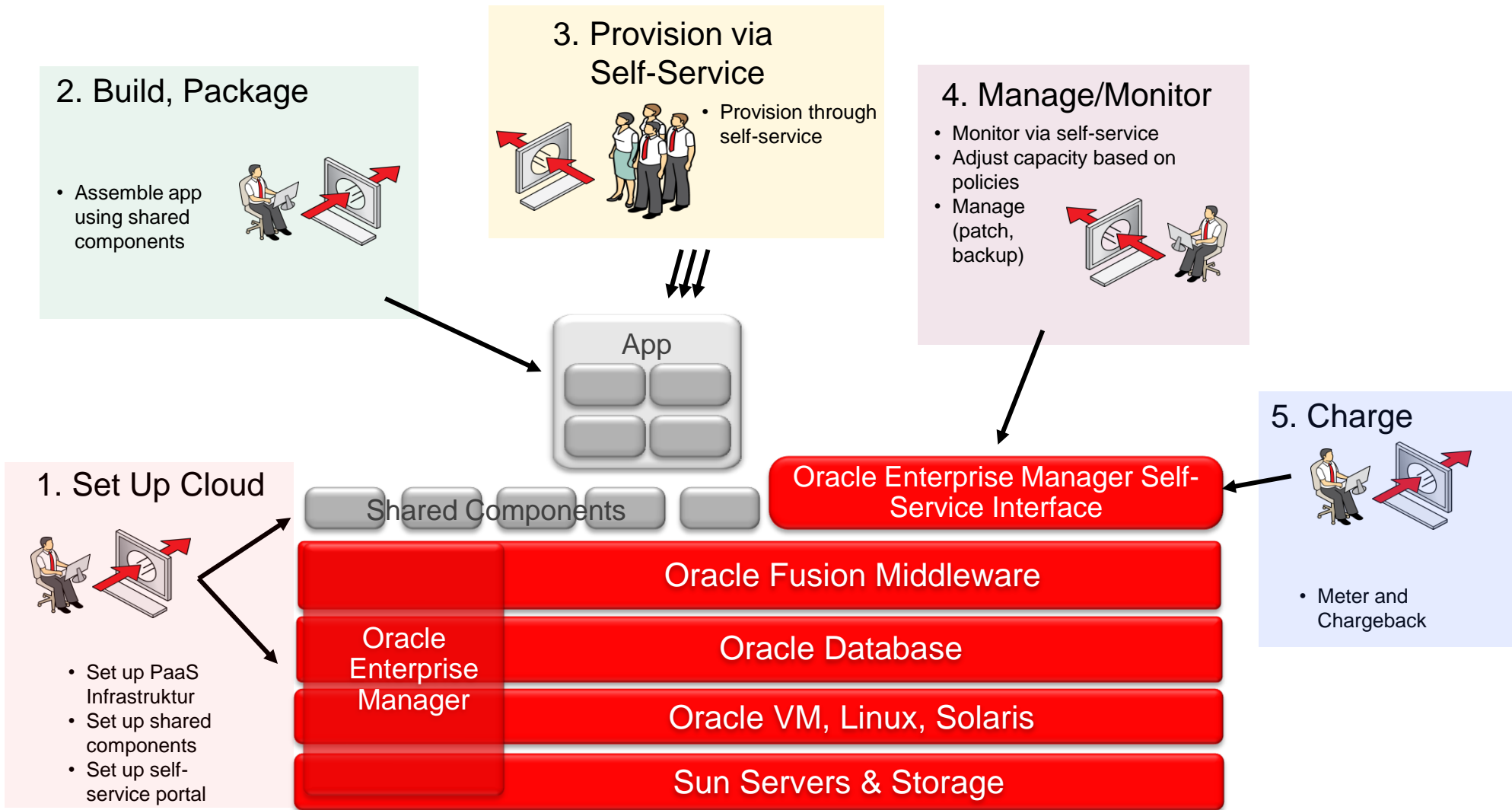
- New Certification Validation
- New SPNEGO Update
- New RSA Update
- New JSSE Support

Über 200 neue Features



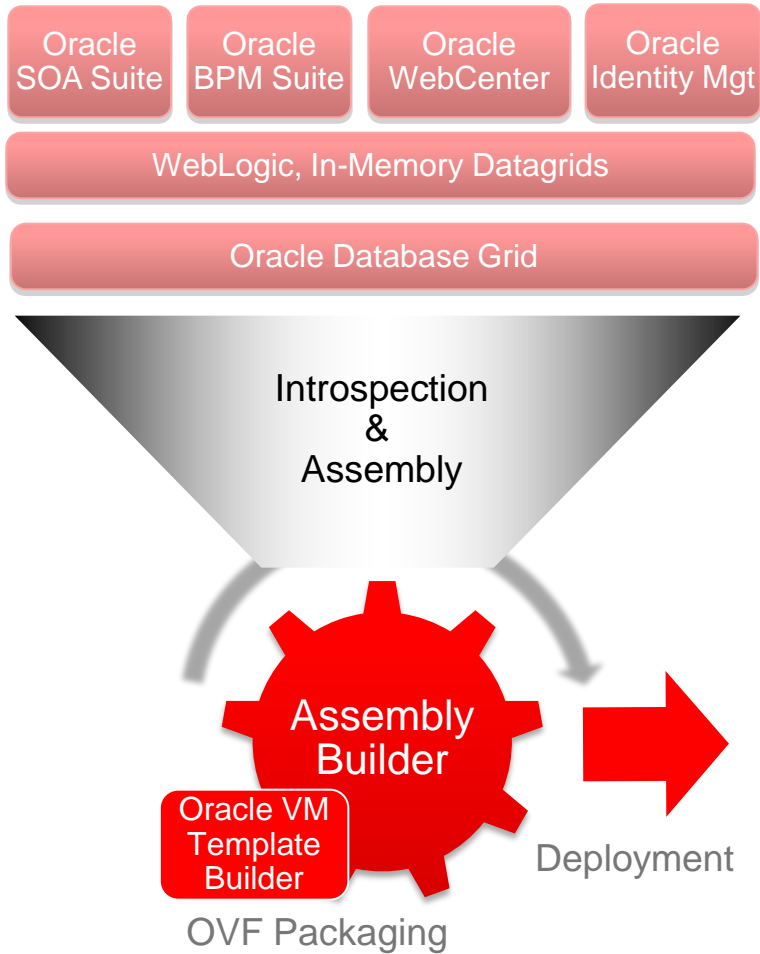
**Oracle Enterprise Manager  
12c Cloud Control und  
Virtual Assembly Builder**

# Private Cloud Lifecycle

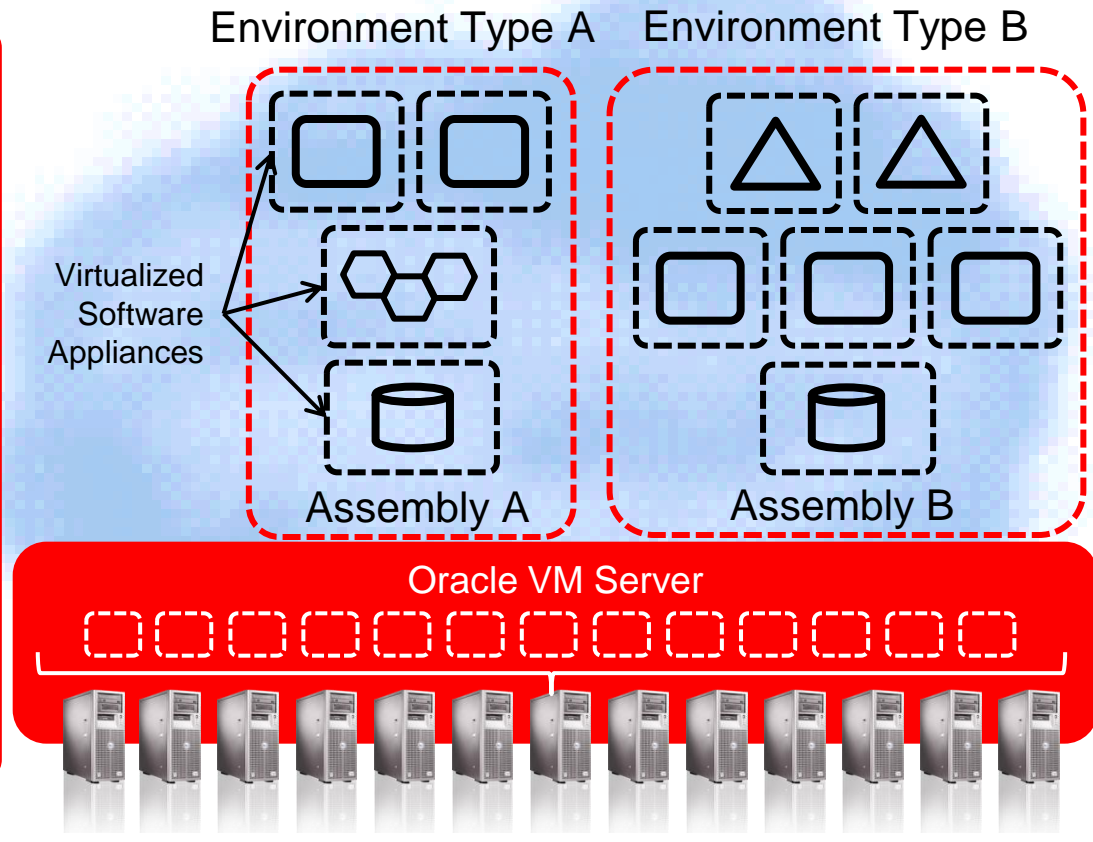


# 2. Build and Package

## Oracle Virtual Assembly Builder



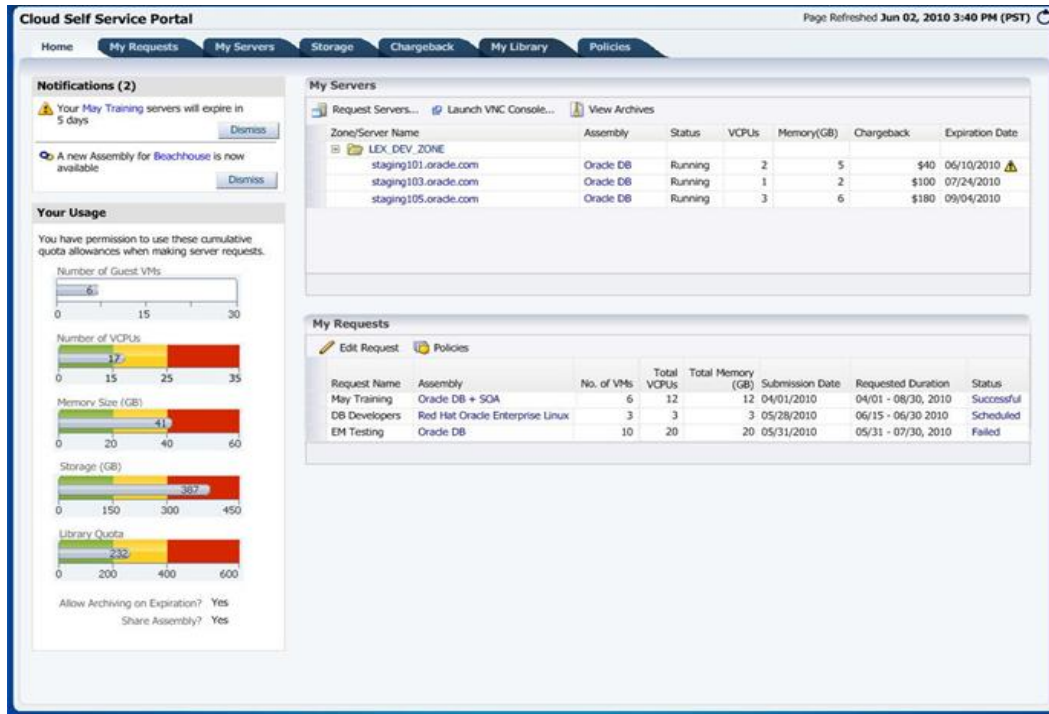
Package multi-tier environments for rapid, error-free deployment





# 3. Provision via Self-Service

## Oracle Enterprise Manager Self-Service Application

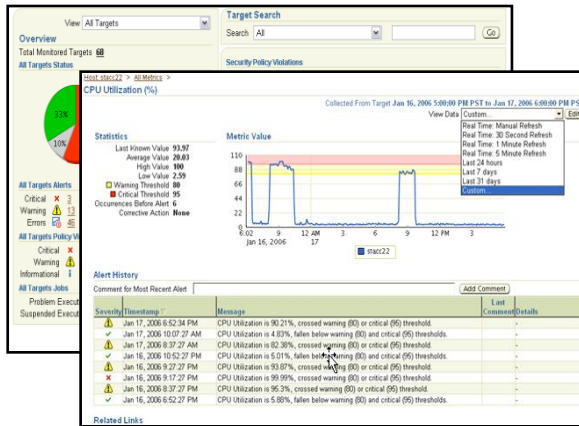


- Self-service provisioning:
  - Oracle VM Templates
  - Complete Assemblies
- Users can select:
  - Server size
  - Storage volumes
  - Dynamic/static IP
  - Network profile
- Policies for quota, retirement, chargeback
- Cloud APIs

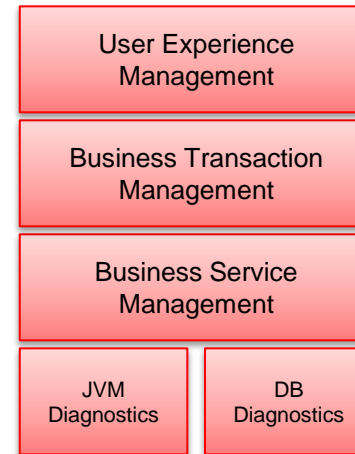
# 4. Manage/Monitor

## Oracle Enterprise Manager

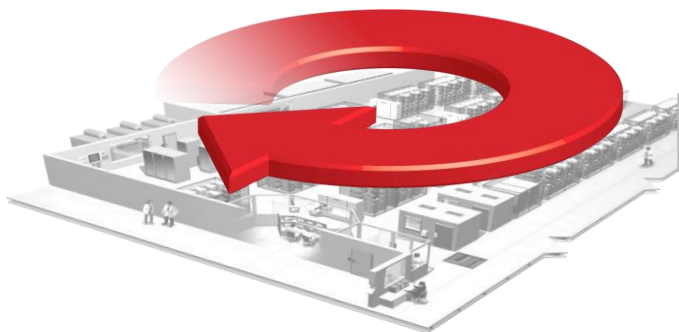
### Centralized Monitoring



### Application Performance and SLA Management



### Configuration Management



### Patching

Patch ID	Classification	Description
9209329	Other Recommendations	DATABASE PSU 11.1.0.7.2 (INCLUDES CPUJAN2010)
9207257	Other Recommendations	NEW 11.1.0.7.2 CRS PSU TRACKING BUG
9162498	Other Recommendations	ENTERPRISE MANAGER AGENT 10.2.0.5.2 PSU
9162499	Other Recommendations	ENTERPRISE MANAGER AGENT 10.2.0.5.2 PSU
9119284	Other Recommendations	DATABASE PSU 10.2.0.4.3 (INCLUDES CPUJAN2010)
9119284	Other Recommendations	DATABASE PSU 10.2.0.4.3 (INCLUDES CPUJAN2010)
9119284	Other Recommendations	DATABASE PSU 10.2.0.4.3 (INCLUDES CPUJAN2010)
9119284	Other Recommendations	DATABASE PSU 10.2.0.4.3 (INCLUDES CPUJAN2010)
9119206	Security	CPUJAN2010 DATABASE 10.2.0.4
9119206	Security	CPUJAN2010 DATABASE 10.2.0.4
9119206	Security	CPUJAN2010 DATABASE 10.2.0.4
9114072	Security	CPUJAN2010 DATABASE 11.1.0.7
8955425	Other Recommendations	PATCH REQUEST FOR MLR BUG 8955424 ON TOP OF 1...
8521282	Security	MLR ON TOP OF LDAP 10.1.4.3 FOR CPUJAN2009

The background features a complex, abstract pattern of overlapping, semi-transparent geometric shapes in various shades of orange and red. These shapes create a sense of depth and movement, resembling a digital or architectural structure. A solid, vibrant red horizontal band runs across the center of the image, providing a clear area for the text.

# **Engineered Systems: Exalogic**

# Oracle Exalogic Elastic Cloud X2-2

## Integrated Compute, I/O, Networking and Storage

### Integrated Storage

- Shared storage for applications
- Clustered for HA
- 40 TB SAS disk
- 4 TB read cache
- 72 GB write cache

Flash  
Accelerated

### InfiniBand I/O Fabric and 10GbE/GbE

- 40 Gb/sec links
- 10 Gigabit Ethernet connectivity to datacenter

Fully  
Redundant

### Compute Nodes

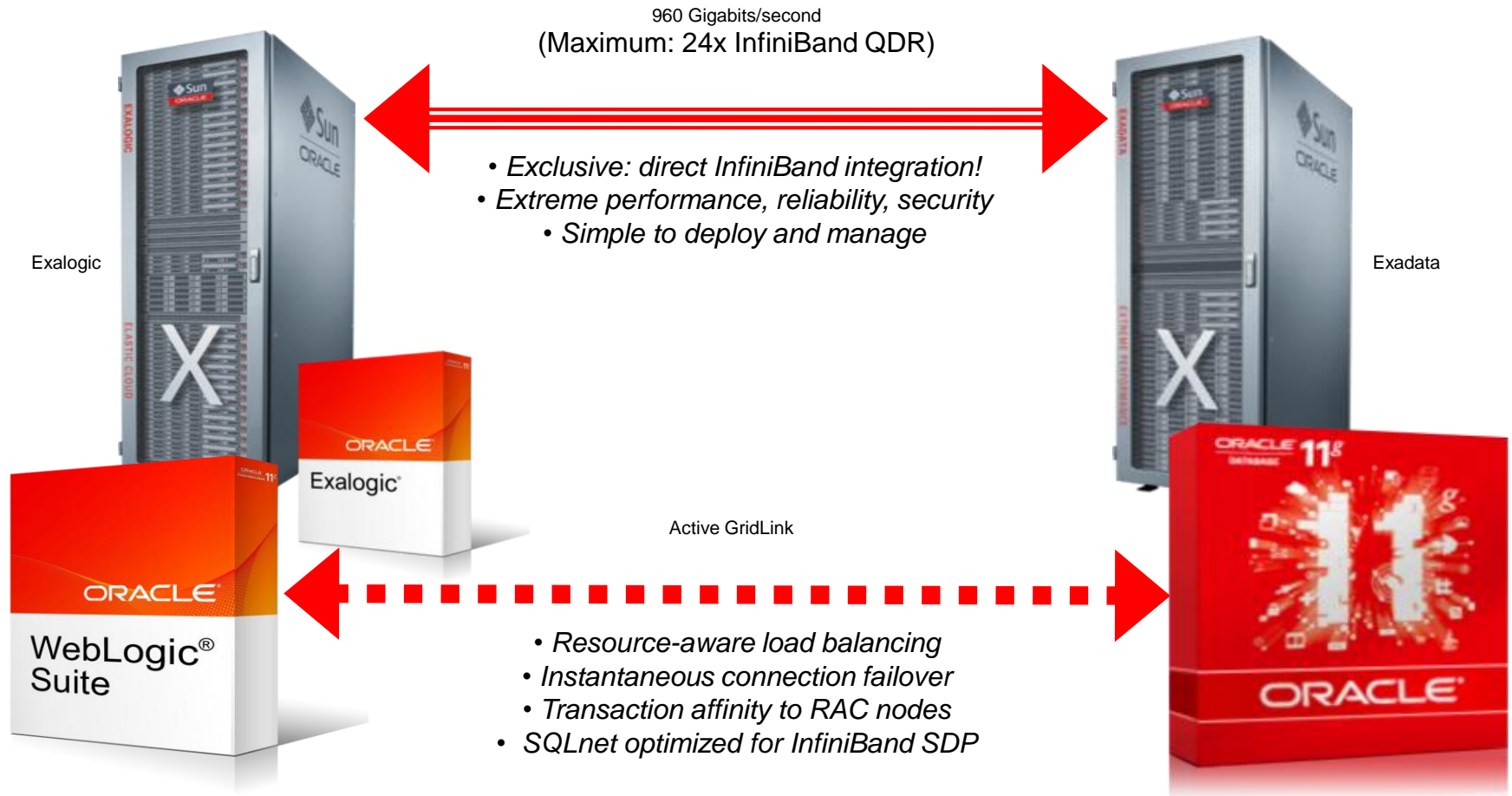
- 30 x86 compute nodes
- 360 Xeon cores (2.93 GHz)
- 2.8 TB DRAM
- 960 GB SSD

Balanced for  
Performance



# Oracle Exalogic and Exadata Together

Designed for Seamless Interoperability, Unmatched Performance





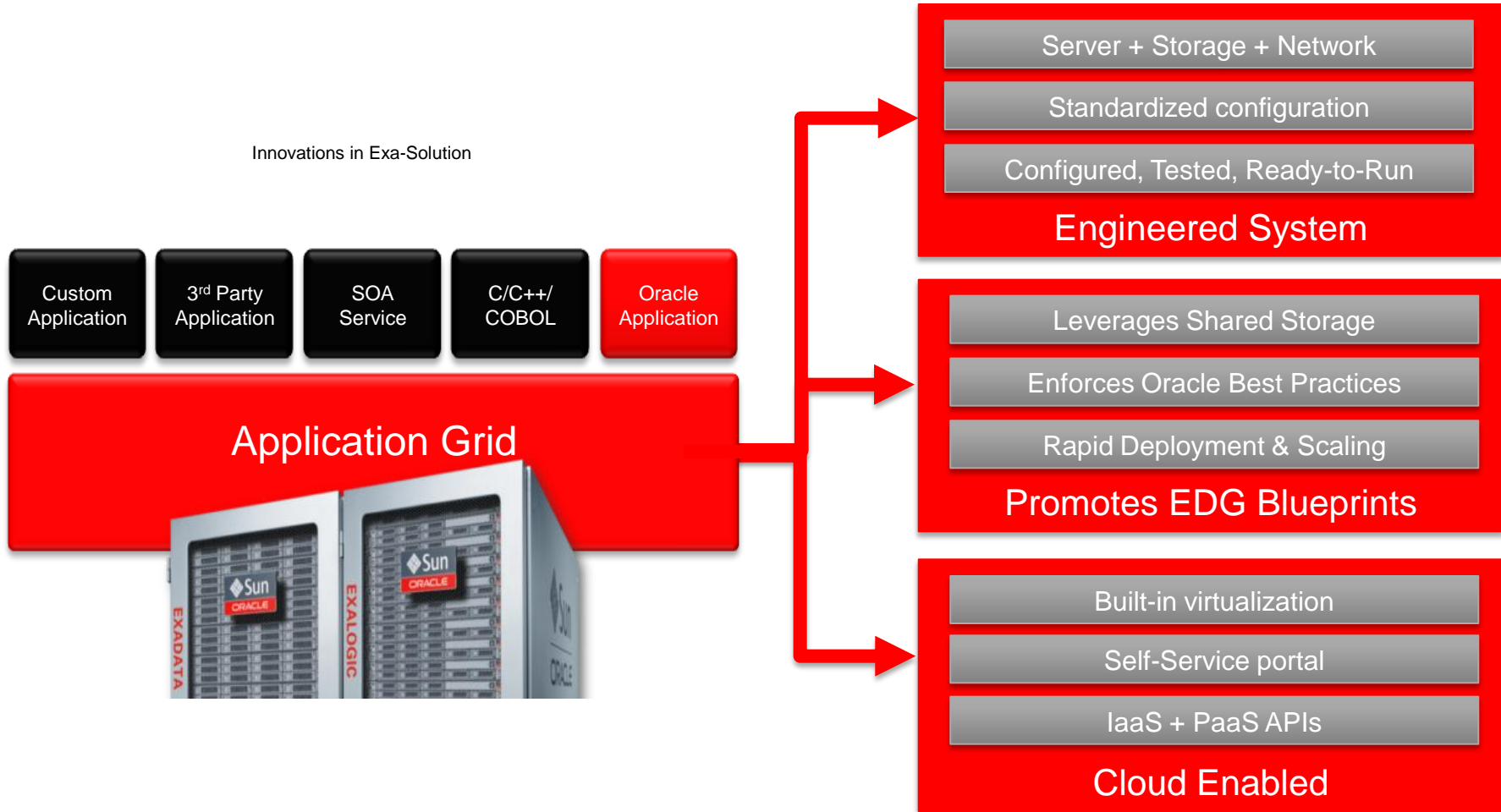
# Hardware and Software

ORACLE®

# Engineered to Work Together

# WebLogic on Exalogic Expedites Time to Market

## 90% Reduction in Application Deployment Time



# WebLogic on Exalogic Delivers Quality of Service For Mission Critical Deployment

Innovations in Exa-Solution



Open Standard InfiniBand  
Lossless Switched Fabric

Low latency, High throughput  
Extreme Scalability

## Network Scalability

Leverage SDP over TCP/IP

Larger Packet Size (MTU > 64K)

Active GridLink for RAC (SDP)

Scatter Gather Input Output

Parallel WebLogic Muxer

Self Tuning Thread Pool

## Extreme Performance

Fault-Tolerant

Partitions and Virtual Lanes

Scalable and Elastic

Uniform Reliability, Availability &  
Serviceability

Traffic Analysis & Bandwidth Mgmt

## Mission Critical Platform

ORACLE