Oracle Cloud Strategy

Sudip Datta
Vice President of Product Management

Platinum Sponsor
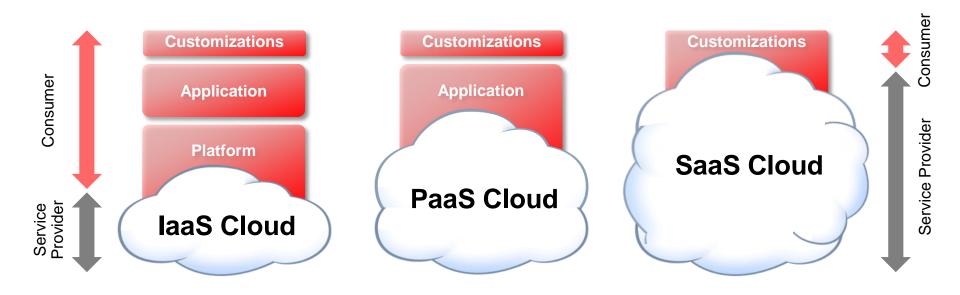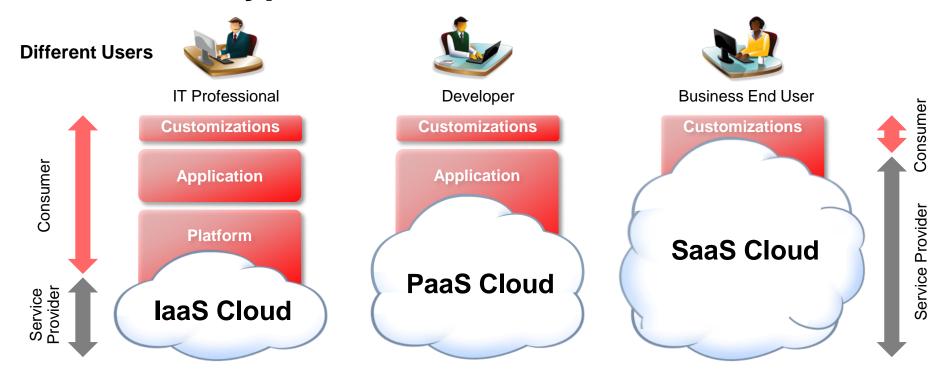
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(intel)®

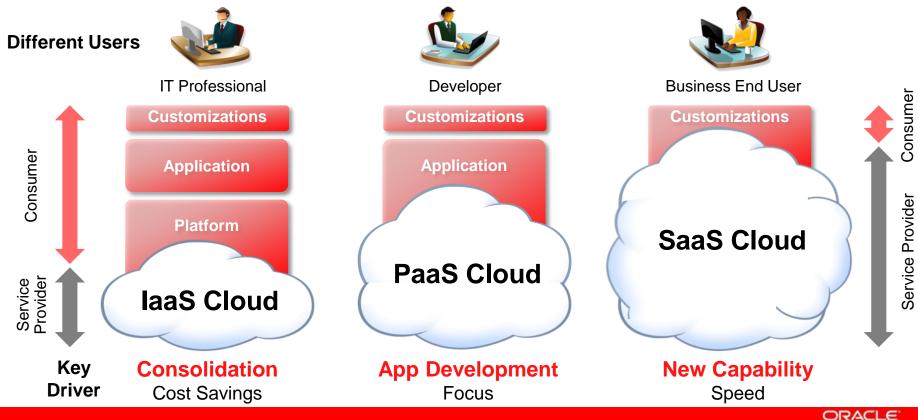**Oracle** Day
CONVERGE.
CONNECT.
Empower the Modern Enterprise

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.

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Service Types: IaaS, PaaS, SaaS

IaaS Cloud

PaaS Cloud

SaaS Cloud

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Service Types: IaaS, PaaS, SaaS

Consumer

Service Provider

Customizations

Application

Platform

IaaS Cloud

Customizations

Application

PaaS Cloud

Customizations

SaaS Cloud

Consumer

Service Provider

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Service Types: **IaaS, PaaS, SaaS**

Different Users

IT Professional

Developer

Business End User

Consumer → Service Provider

Consumer

Service Provider

Customizations	**Customizations**	**Customizations**
Application	**Application**	
Platform		

IaaS Cloud

PaaS Cloud

SaaS Cloud

Service Types: IaaS, PaaS, SaaS

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Service Provider

Consumer

Service Provider

Customizations

Application

Platform

IaaS Cloud

Customizations

Application

PaaS Cloud

Customizations

SaaS Cloud

Key Driver

Consolidation
Cost Savings

App Development
Focus

New Capability
Speed

Deployment Models: Private, Public, Hybrid

Exclusive

Shared by multiple organizations

Private Cloud

Public Cloud

- CapEx & OpEx
- Control & visibility
- Not shared

- OpEx
- Outsourced services
- Shared by multiple orgs

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Deployment Models: Private, Public, Hybrid

Exclusive

Shared by multiple organizations

Private Cloud **Hybrid Cloud** **Public Cloud**

- CapEx & OpEx
- Control & visibility
- Not shared
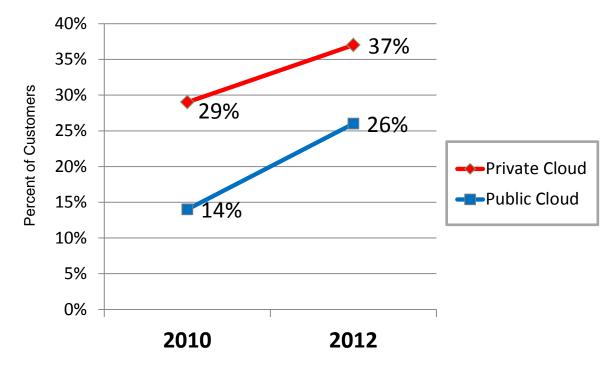
- Cloudbursting – overdraft for peak loads
- Dev/Test & production
- B2B integration

- OpEx
- Outsourced services
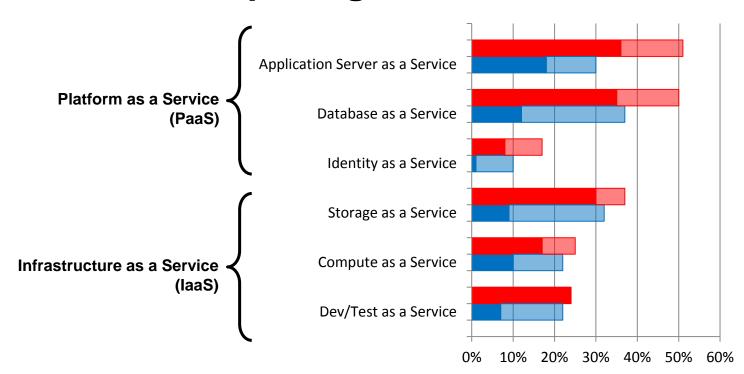- Shared by multiple orgs

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What Are Customers Doing?
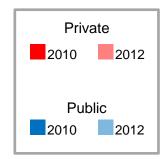
Cloud Adoption Is Rising

PaaS Outpacing IaaS

Platform as a Service (PaaS)
- Application Server as a Service
- Database as a Service
- Identity as a Service

Infrastructure as a Service (IaaS)
- Storage as a Service
- Compute as a Service
- Dev/Test as a Service

Chart axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%

Legend:
Private — 2010, 2012
Public — 2010, 2012

IOUG ResearchWire

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Private PaaS Examples

CREDIT SUISSE

- Solution:
  - JAP – Java Application Platform
  - DHP – Database Hosting Platform
  - CHP – Compute Hosting Platform
  - Centralized deployment of 200+ apps
  - Oracle:
    - WebLogic Server 10.3
    - Oracle Database 11g
    - Solaris
    - Sun M-Series/T-Series

- Benefits:
  - 35% reduction in operating costs
  - 30% reduction in project costs
  - 44% power consumption avoided in 4 years, while doubling capacity
  - No downtime incidents in 3 years

CommonwealthBank

- Solution:
  - "Oracle as a Service" PaaS
  - Consolidate 300 small to medium database environments onto 3 grids
  - Advanced chargeback model for cost recovery
  - Oracle:
    - Oracle Database 11g
    - Exadata

- Benefits:
  - 50% operating cost improvement
  - P&L breakeven in Year 1
  - Server utilization: 15% → 80%
  - Elasticity – CPU can be taken from resource pool as needed

Deutsche Bank

- Solution
  - Oracle Database as a Service (PaaS) with eGRID
  - Consolidation of >60 applications until now on a standardised platform
  - Standardised environment, process and pricing
  - Attractive price model with very low time to market

- Benefits
  - Very fast deployment
  - Very good performance (> increase in all areas)
  - Cost reduction of > 50%
  - GREEN IT: 57% fewer power used

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Roadmap to Cloud

Traditional Silos

- Physical
- Dedicated
- Static
- Heterogeneous

Consolidated

- Virtual
- Shared platform & shared infrastructure
- Dynamic
- Standardized platform & infrastructure

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Roadmap to Cloud

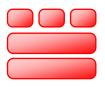**Traditional Silos**

- Physical
- Dedicated
- Static
- Heterogeneous

Consolidated

- Virtual
- Shared platform & shared infrastructure
- Dynamic
- Standardized platform & infrastructure

Private Cloud

- Self-service
- Auto-scaling
- Metering & chargeback
- Capacity planning

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Roadmap to Cloud

Traditional Silos

- Physical
- Dedicated
- Static
- Heterogeneous

Consolidated

- Virtual
- Shared platform & shared infrastructure
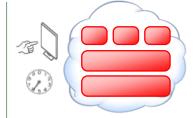- Dynamic
- Standardized platform & infrastructure

Private Cloud

- Self-service
- Auto-scaling
- Metering & chargeback
- Capacity planning

Public Cloud

- Specialized
- Shared
- Standardized

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Roadmap to Cloud

Traditional Silos

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Consolidated

- Virtual
- Shared platform & shared infrastructure
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- Standardized platform & infrastructure

Private Cloud

- Self-service
- Auto-scaling
- Metering & chargeback
- Capacity planning

Public Cloud

- Specialized
- Shared
- Standardized

Hybrid Cloud

- Federation across public & private clouds
- Interoperability
- Cloudbursting

Roadmap to Cloud

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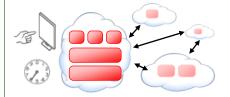
Private Cloud

- Self-service
- Auto-scaling
- Metering & chargeback
- Capacity planning

Public Cloud

- Specialized
- Shared
- Standardized

Hybrid Cloud

- Federation across public & private clouds
- Interoperability
- Cloudbursting

Start with consolidation • Extend to private cloud • Use public cloud where appropriate

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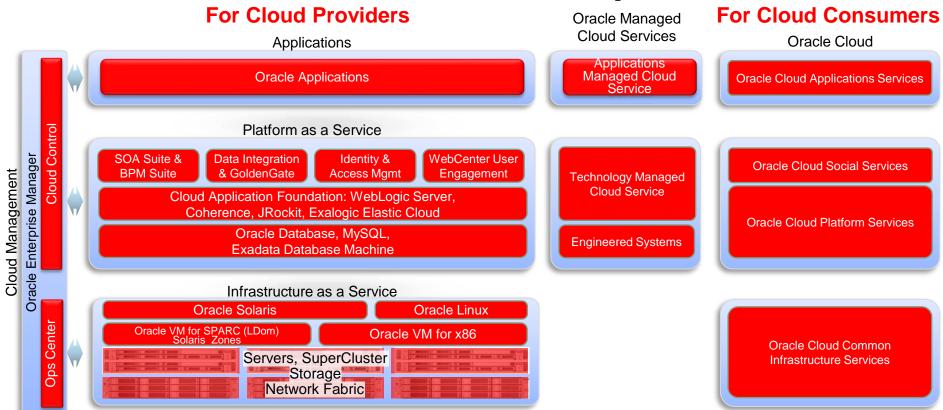
Oracle Cloud Strategy:
Complete Solutions, Complete Choice

Oracle Cloud Computing Strategy
Complete Solutions, Complete Choice

Private Cloud

Public Cloud

SaaS

PaaS

IaaS

SaaS

PaaS

IaaS

Hybrid Cloud

- Management
- Security
- Integration

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Oracle Cloud Solutions – Complete Choice

For Cloud Providers

Oracle Managed Cloud Services

For Cloud Consumers

Cloud Management

Oracle Enterprise Manager

Cloud Control

Ops Center

Applications

Oracle Applications

Platform as a Service

SOA Suite & BPM Suite

Data Integration & GoldenGate

Identity & Access Mgmt

WebCenter User Engagement

Cloud Application Foundation: WebLogic Server, Coherence, JRockit, Exalogic Elastic Cloud

Oracle Database, MySQL, Exadata Database Machine

Infrastructure as a Service

Oracle Solaris

Oracle Linux

Oracle VM for SPARC (LDom) Solaris Zones

Oracle VM for x86

Servers, SuperCluster Storage

Network Fabric

Applications Managed Cloud Service

Technology Managed Cloud Service

Engineered Systems

Oracle Cloud

Oracle Cloud Applications Services

Oracle Cloud Social Services

Oracle Cloud Platform Services

Oracle Cloud Common Infrastructure Services

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Oracle Cloud Applications

SaaS

PaaS

IaaS

- Sales & Marketing
- Customer Service and Support
- Enterprise Resource Planning
- Planning and Budgeting
- Financial Planning
- Human Capital Management
- Talent Management

- 100% open standards-based business applications
- Built on shared, elastically scalable platform
- Choice of deployment: on-premise, private, public, hybrid
- Easy integration and extension

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Oracle Cloud Platform

SaaS

PaaS

IaaS
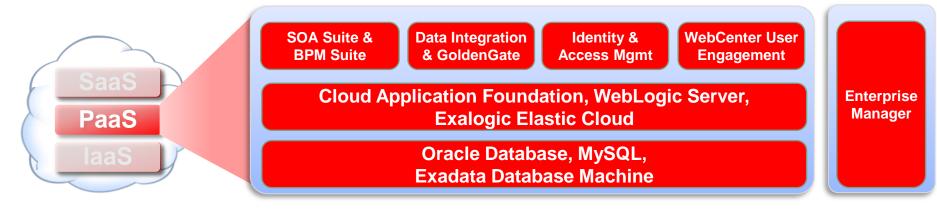
| SOA Suite & BPM Suite | Data Integration & GoldenGate | Identity & Access Mgmt | WebCenter User Engagement |

Cloud Application Foundation, WebLogic Server, Exalogic Elastic Cloud

Oracle Database, MySQL, Exadata Database Machine

Enterprise Manager
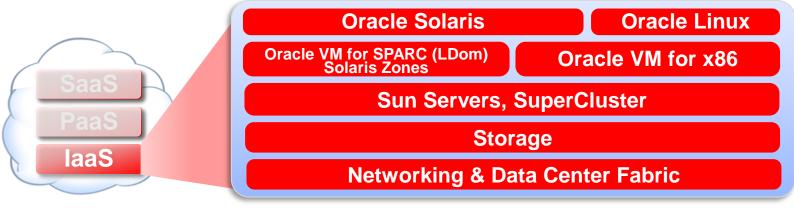
- Best of breed, enterprise-grade components:
  - #1 Application Server
  - #1 Database
  - #1 Identity Management

- Shared and elastically scalable

- Comprehensive platform services:
  - SOA/BPM
  - Data Integration
  - Identity Management
  - User Engagement

- Standards-based

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Oracle Cloud Infrastructure

SaaS

PaaS

IaaS

Oracle Solaris	Oracle Linux
Oracle VM for SPARC (LDom) Solaris Zones	Oracle VM for x86

Sun Servers, SuperCluster

Storage

Networking & Data Center Fabric

Enterprise Manager

- Best Unix and Linux OS

- Broad range of server virtualization and clustering options

- SPARC & x86 servers

- Flash, disk, tape storage

- Networking fabric

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Oracle Database 12c
Oracle Multitenant for Cloud Computing
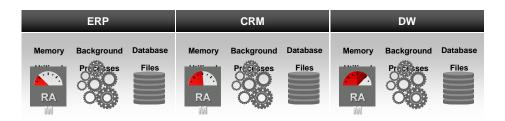
Traditional Database Architecture
Separate Memory and Processes for Each Database

ERP			CRM			DW		
Memory Utilized	Background Processes	Database Files	Memory Utilized	Background Processes	Database Files	Memory Utilized	Background Processes	Database Files
RAM			RAM			RAM		

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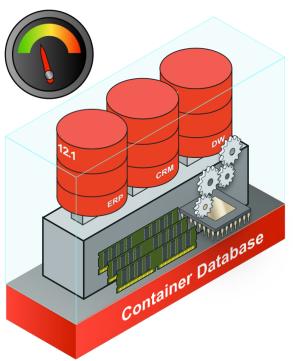
New Multitenant Architecture
Memory and Processes at Multitenant Container Level Only

ERP		
Memory	Background Processes	Database Files
RAM		

CRM		
Memory	Background Processes	Database Files
RAM		

DW		
Memory	Background Processes	Database Files
RAM		

New Multitenant Architecture

Memory and processes required at container level only

System Resources

Oracle Engineered Systems for Cloud Computing

Exadata, Exalogic, SPARC SuperCluster
Extreme Performance, Engineered Systems

- Unmatched performance, simplified deployment, lower total cost
- Building blocks for consolidation and cloud computing

Oracle Infrastructure as a Service (IaaS) On Premise with Capacity on Demand

- **Engineered Systems hardware & hardware support for a monthly fee**
  - No upfront capital expenditure, OPEX not CAPEX
  - Usually lower total cost than purchasing system
- **On Premise**
  - Deploys behind customer's firewall
  - Control and visibility over the system
- **Elastic Compute Capacity on Demand**[1]
  - For peak workloads and high availability
  - Pay only when needed
- **Oracle Platinum and PlatinumPlus Services**[2]
  - Higher level of support including patching services
  - Quarterly advisory services for system security, performance, and availability

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1. Eligible systems include Oracle Exadata, Exalogic, Exalytics and SPARC SuperCluster.
2. Eligible systems include Oracle Exadata, Exalogic, and SPARC SuperCluster.

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From Best-of-Breed to Engineered Systems

Best-of-Breed
System Elements

Optimized Solutions

Engineered Systems

Customer integrated

Predictable, lower risk
guided deployments

Extreme performance,
efficiency,

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Setting Up and Managing a Cloud

Oracle Enterprise Manager 12c

Full Cloud Lifecycle Management for Full Cloud Stack

4. Meter, Charge, Optimize
- Metering resource utilization
- Chargeback/Showback
- Optimize performance, capacity, QoS
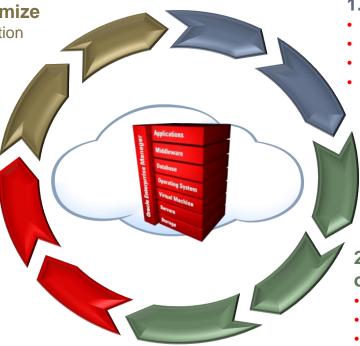
1. Plan & Setup the Cloud
- Capacity & consolidation planning
- Asset discovery
- Bare-metal provisioning
- Policy setup

3. Manage & Monitor the Cloud
- Auto-scaling
- Full stack management
- End-user, business-level, app monitoring

2. Build, Test & Deploy Apps on the Cloud
- Packaging apps as assemblies
- Testing applications
- Self-service provisioning

Oracle Enterprise Manager

Applications
Middleware
Database
Operating System
Virtual Machine
Servers
Storage

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Enterprise Manager 12c: Comprehensive Services

Orchestration Blueprints

Cloud Service Templates

Self-Service
Provisioning
Start/Stop
Scale Up
Scale Down
Monitor
Manage
Chargeback

IaaS

Self-Service Provisioning of VMs Storage, Network Infrastructure Level Chargeback

DBaaS

Self-Service Provisioning of DBs, Schemas, Data, DB Lifecycle Mgmt, Chargeback

PaaS

Self-Service of Java Apps, Scale Out/Back, Java App Lifecycle Mgmt, Chargeback

TaaS

Orchestration of test processes Self-Service of tests environments Rich monitoring & Adv. Diagnostics Chargeback and Metering

Cloud Resources Providers

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Oracle Managed Cloud Services

The Natural Choice for Managing Oracle Applications in the cloud

Singular Focus on Red Stack

- **Accelerated upgrades**
- **Certified configurations** optimized across stack
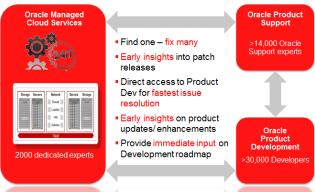- Advanced SIEM- **predictive incident mgt**
- **Go-Live Center** reduces post-go-live issues 54%

Your Unique Connections to Oracle

Oracle Managed Cloud Services

- Find one – fix many
- Early insights into patch releases
- Direct access to Product Dev for fastest issue resolution
- Early insights on product updates/enhancements
- Provide immediate input on Development roadmap

2000 dedicated experts

Oracle Product Support
>14,000 Oracle Support experts

Oracle Product Development
>30,000 Developers

- **Find one – fix many**
- **Early insights** into patch releases
- Access to Oracle Product Dev for **fastest issue resolution** – no 3rd party delay
- Immediate input to **Development roadmap**

Massive Scale, Highly Secure

- **1.25Tn** business transactions per day
- **5.34Bn** database transactions/hr at peak
- **World's largest** Oracle VM & Linux Grid
- **41+ petabytes** of managed storage
- The **most Security** offerings in the market

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Oracle Lifecycle Services

Experts from across Oracle Serving You

ORACLE® CONSULTING	**ORACLE®** PREMIER SUPPORT	**ORACLE®** ADVANCED CUSTOMER SUPPORT SERVICES	**ORACLE®** UNIVERSITY	**ORACLE®** MANAGED CLOUD SERVICES
Oracle Experts Helping You Succeed with Your Oracle Investments	Complete Support for Oracle Hardware, Software, and Engineered Systems	Mission Critical Support Services for All Oracle Applications and Technologies	Your Complete Training Source for Oracle Hardware and Software	Extend Your Oracle Investments to the Cloud with Value, Choice, and Confidence
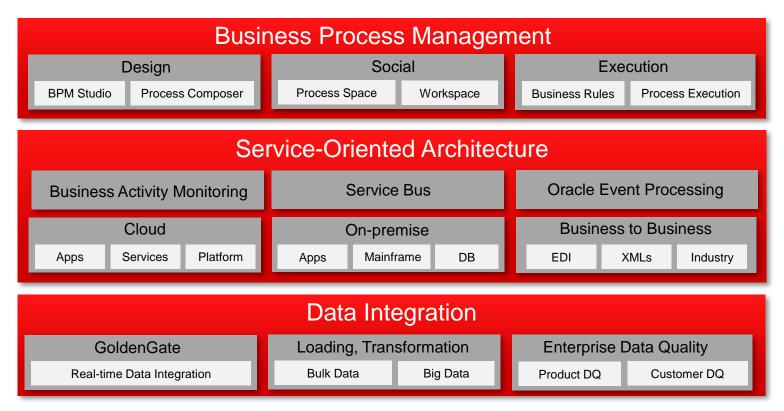
One Oracle Managed Cloud Service Delivery Manager Assigned to You

Integrating & Securing Clouds
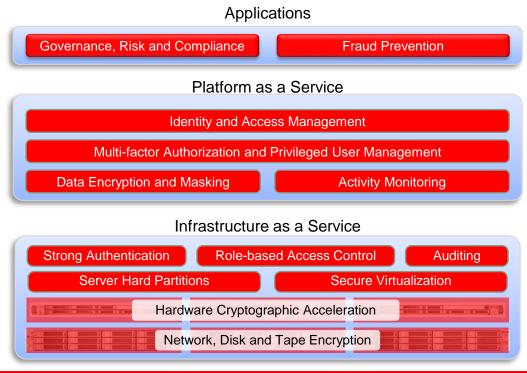
Oracle Integration: Complete, Open, Unified

Business Process Management

Design
BPM Studio | Process Composer

Social
Process Space | Workspace

Execution
Business Rules | Process Execution

Service-Oriented Architecture

Business Activity Monitoring

Service Bus

Oracle Event Processing

Cloud
Apps | Services | Platform

On-premise
Apps | Mainframe | DB

Business to Business
EDI | XMLs | Industry

Data Integration

GoldenGate
Real-time Data Integration

Loading, Transformation
Bulk Data | Big Data

Enterprise Data Quality
Product DQ | Customer DQ

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Cloud Security
Securing the Cloud Inside Out

- **End-to-End Protection**
  - From Applications to Disk

- **Complete Choice**
  - Open, Standards-based

- **Best of Breed**
  - Integrated and Integratable

Applications

Governance, Risk and Compliance	Fraud Prevention

Platform as a Service

Identity and Access Management

Multi-factor Authorization and Privileged User Management

Data Encryption and Masking	Activity Monitoring

Infrastructure as a Service

Strong Authentication	Role-based Access Control	Auditing

Server Hard Partitions	Secure Virtualization

Hardware Cryptographic Acceleration

Network, Disk and Tape Encryption

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Oracle Cloud

Oracle Cloud
Design Goals

- Broadest platform and application offering
- Built on industry standards – SQL, Java, HTML5, Web
- Transparently run in the cloud – zero application code changes
- Self-service control for users
- Complete data isolation and flexible upgrades
- Service-Oriented Architecture – on-premise integration
- Built-in Business Intelligence, social & mobile

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Oracle Cloud: Complete Suite of Integrated Services

Application Services	Human Capital Management	Talent Management	Sales & Marketing	Customer Service & Support	Enterprise Resource Planning	Planning & Budgeting	Financial Reporting

Social Services	Social Marketing	Social Engagement & Monitoring	Social Network	Social Sites	Data & Insight

Platform Services	Database	Java	Developer	Mobile	Collaboration	Analytics	Application Store

Infrastructure Services	Storage	Messaging	Compute	Cache	Secure Identity	Notifications

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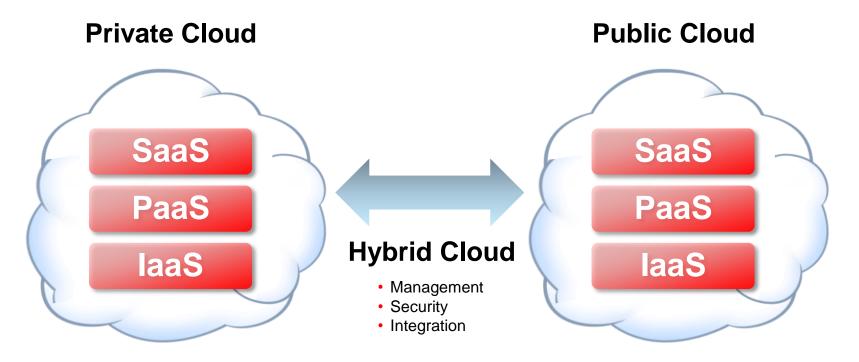# Oracle Cloud: Summary

- **Complete** – broad suite of technology & business applications

- **Open** – based on standards with no "lock-in"

- **Integrated** – designed PaaS, SaaS, Social to work together

- **Architecture** – designed like a modern enterprise private cloud

- **Benefits** – greater speed, lower cost, lower risk

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Summary

Oracle Cloud Computing Strategy
Complete Solutions, Complete Choice

Private Cloud

Public Cloud

SaaS

PaaS

IaaS

Hybrid Cloud

- Management
- Security
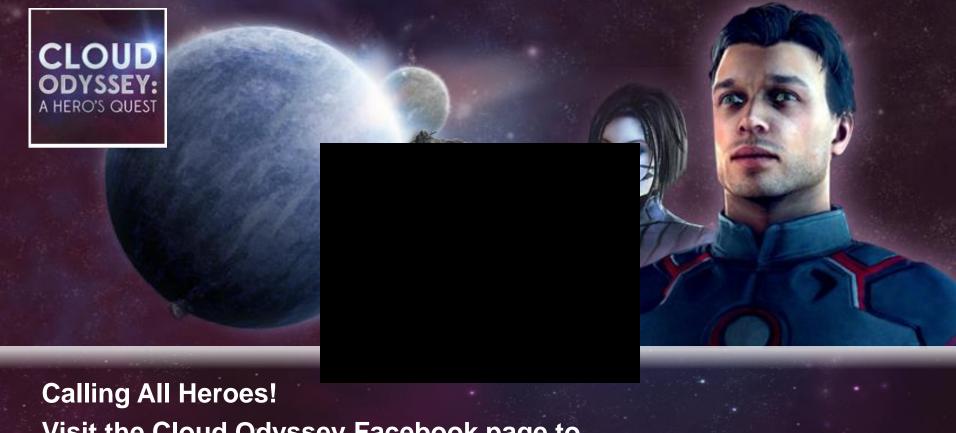- Integration

SaaS

PaaS

IaaS

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Oracle Cloud Computing: Complete Choice
Recommendations

1. Develop a cloud strategy and roadmap that's right for you

2. For private clouds, start with consolidation

3. Extend to self-service private cloud

4. Use public cloud if requirements are met

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CLOUD ODYSSEY: A HERO'S QUEST

Calling All Heroes!

Visit the Cloud Odyssey Facebook page to learn how you can join the crew!

https://www.facebook.com/CloudOdyssey

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oracle.com/cloud

www.facebook.com/OracleCloudComputing

@OracleCloudZone   #oraclecloud

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