

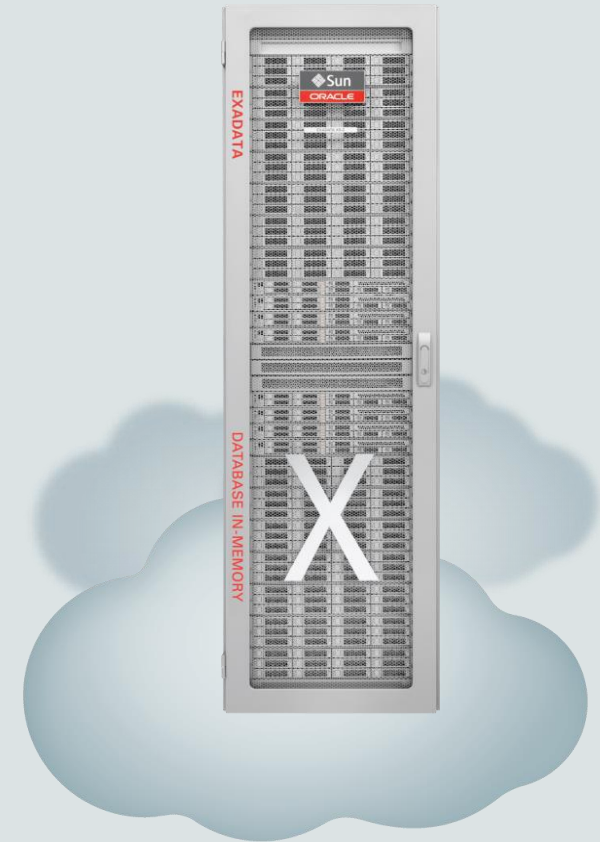
Oracle Database Exadata Cloud Service

Technical Overview

Manish Shah

Sr. Principal Product Manager, Oracle Corporation

Exadata and Exadata Cloud Service

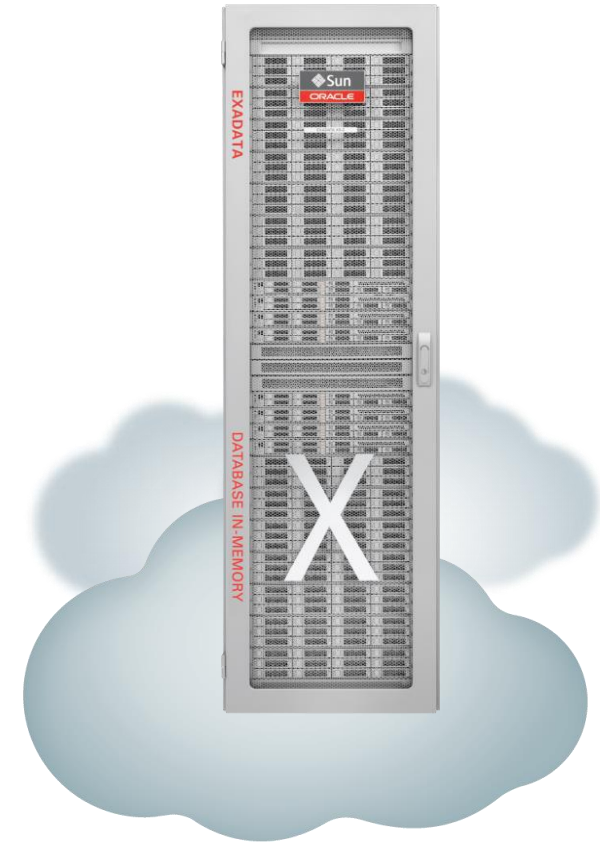


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Exadata Cloud Service

- 1 Introduction
- 2 Service Details
- 3 Provisioning: Activation
- 4 Provisioning: Service Creation
- 5 Best Practices & Summary
- 6 Exadata Cloud Machine



Exadata Platform: A Quick Introduction

Exadata Vision

Dramatically Better Platform for All Database Workloads



- **Ideal Database Hardware** - Scale-out, database optimized compute, networking, and storage for fastest performance and lowest costs
- **Smart System Software** – specialized algorithms vastly improve all aspects of database processing: **OLTP, Analytics, Consolidation**
- **Full-Stack Integration** – Database-to-disk optimization, automation, testing, patching, and support to reduce operational costs

Identical On-Premises and Oracle Public Cloud

**Exadata Cloud
Service**

Proven at Thousands of Critical Deployments since 2008

Half OLTP - Half Analytics - Many Mixed

- Petabyte Warehouses
- Online Financial Trading
- Business Applications
 - SAP, Siebel, PSFT, ...
- Massive DB Consolidation
- Public SaaS Clouds
 - Oracle Fusion Apps, Salesforce, SAS, ...

4 OF THE TOP 5 BANKS, TELCOS, RETAILERS RUN EXADATA



Smart System Software Highlights

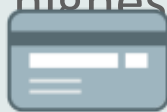
Smart Analytics

- Move **queries to storage**, not storage to queries
- Automatically **offload and parallelize** queries across all storage servers
- **100X** faster analytics



Smart OLTP

- **Special InfiniBand protocol** enables highest speed, lowest latency OLTP
- Ultra-fast transactions using DB optimized **flash logging** algorithms
- **Fault-tolerant In-Memory DB** by mirroring memory across servers



Smart Consolidation

- **Workload prioritization** from CPU to network to storage ensures QoS
- **4X** more Databases in same hardware



Smart Storage

- **Hybrid Columnar Compression** reduces space usage by **10X**
- Database-aware **Flash Caching** gives speed of flash with capacity of disk



Smart System Software Highlights

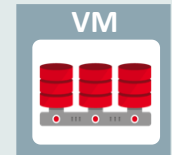
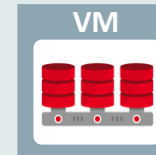
Smart Analytics

- **5X** faster scans by converting data to **Columnar** format in Flash Cache
- **3X** faster **JSON/XML** by offloading to storage servers



Smart Consolidation

- Zero overhead **VMs**
- **Snapshots** for test/dev
- Set flash cache min size per DB to ensure QoS
- InfiniBand partitioning
- IPv6 for Ethernet



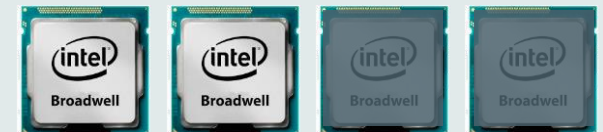
Smart OLTP

- **3X** faster OLTP messaging using **direct DB to InfiniBand** access
- **Instant** detection of node failure
- **Sub-second** capping of I/O latency by rerouting I/Os to faster storage



Smart Licensing

- **Capacity-on-Demand** reduces license cost by disabling unneeded cores
- **Trusted Partitions** limit license scope of specialized options



Preview: New Smart System Software

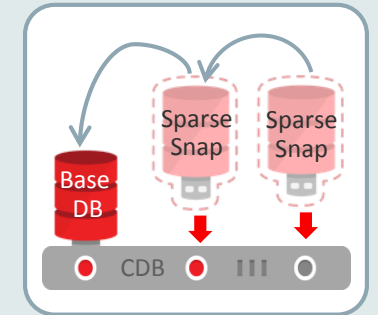
Smart Analytics

- **Database In-Memory** columnar format in storage server
- **Aggregation** in storage
- **Set membership** using new type of storage index



Smart Consolidation

- Hierarchical snapshots
- **2X** application connections*
- Automated **VLAN** creation*



Smart OLTP

- **Smart Fusion Block Transfer** eliminates log writes when moving blocks between nodes*
- Automated rolling upgrade across full stack
- **2X** faster **disk recovery**



Smart Availability

- **Extended distance clusters**
- **2.5X** faster software updates*
- **High redundancy** Quorum disks on Quarter and Eighth racks*
- Storage Index preserved on rebalance*

*Already Released

Exadata Implements Much More **Smart System Software**

Smart Analytics



- Storage Index data skipping
- Storage offload for min/max operations
- Data mining storage offload
- Storage offload for LOBs and CLOBs
- Auto flash caching for table scans
- Reverse offload to DB servers
- Offload index fast full scans
- Offloads scans on encrypted data, with FIPS compliance

Smart OLTP



- Active AWR end to end monitoring
- Smart write-back flash cache
- Cell-to-cell rebalance preserving Flash Cache and Storage Indexes
- Database scoped security
- Full-stack security scanning
- Exachk full-stack validation
- Instant data file creation
- Active bonding of InfiniBand
- Disabling of unreliable network links
- Critical DB messages always jump to head of queue for ultra-fast latency
- I/O issued by interactive users and important workloads is prioritized

Smart Availability



- Prioritize rebalance of critical files
- Elimination of false drive failures
- Flash and disk life cycle mgmt alert
- Avoid reading predictive failed disks
- Cell software transparent restart
- I/O hang hardening
- Prevent shutdown if mirror server is down
- Confinement of temporarily poor performing drives
- Data integrity validation (HARD)
- Automatic disk scrub and repair

Exadata Advantages Increase Every Year

Dramatically Better Platform for All Database Workloads

Smart Software

- Smart Scan
- InfiniBand Scale-Out

Smart Hardware

- Scale-Out Servers

- Database Aware Flash Cache
- Storage Indexes
- Columnar Compression

- IO Priorities
- Data Mining Offload
- Offload Decrypt on Scans

- DB Processors in Storage
- Scale-Out Storage

- Network Resource Management
- Multitenant Aware Resource Mgmt
- Prioritized File Recovery

- PCIe NVMe Flash

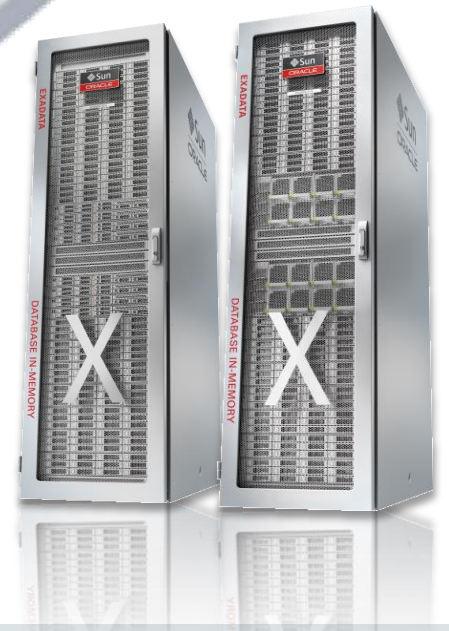
- Unified InfiniBand

- Tiered Disk/ Flash

• Exadata Cloud Service

- In-Memory Columnar in Flash
- Smart Fusion Block Transfer
- In-Memory Fault Tolerance
- Direct-to-wire Protocol
- JSON and XML offload
- Instant failure detection

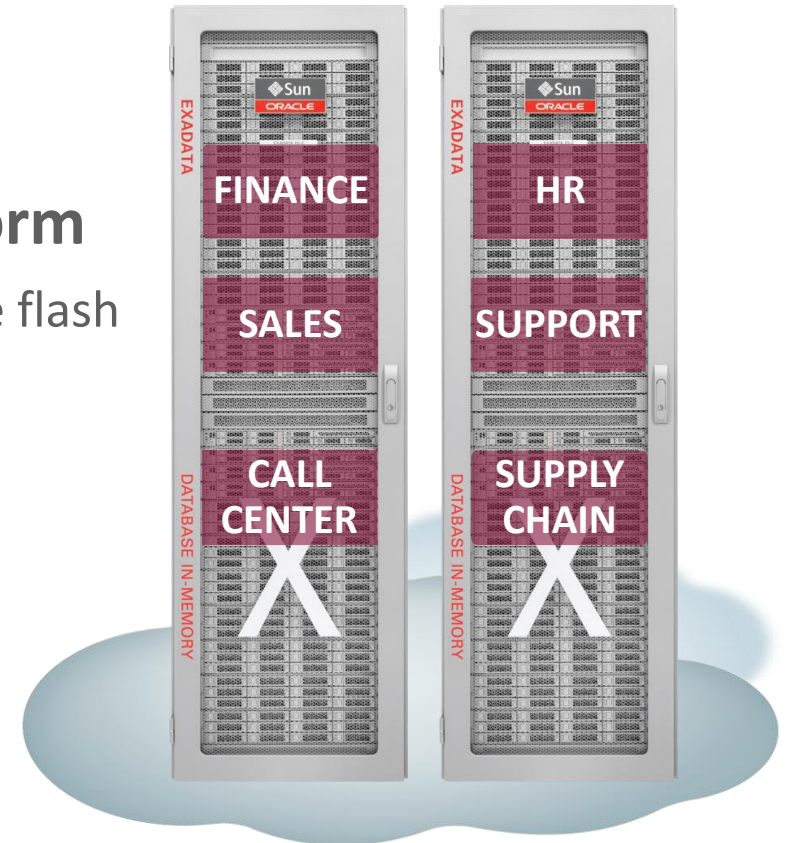
- 3D V-NAND Flash



Exadata Cloud Service

Oracle Database Exadata Cloud Service

- **Full Oracle Database with all advanced options**
 - #1 database for mission critical OLTP and DW
- **On fastest and most available database cloud platform**
 - Scale-Out Compute, Scale-Out Intelligent Storage, InfiniBand, PCIe flash
 - **Complete Isolation** of tenants with no overprovisioning
- **All Benefits of Public Cloud**
 - Fast, Elastic, Web Driven Provisioning
 - Oracle Experts Deploy and Manage Infrastructure
 - No Capex Monthly Subscription



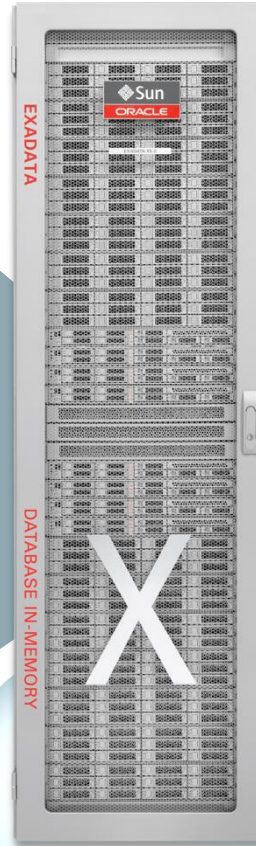
Best of On-Premises with Best of Cloud

Exadata Cloud: Compatible – Scalable – Available – Secure

Decades of Database Innovation Proven at Millions of Mission-Critical Deployments

	Multitenant
	In-Memory DB
	Real Application Clusters
	Active Data Guard
	Partitioning
	Advanced Compression
	Advanced Security, Label Security, DB Vault
	Real Application Testing
	Advanced Analytics, Spatial and Graph
	Management Packs for DB

All Oracle Database Innovations



All Exadata DB Machine Innovations

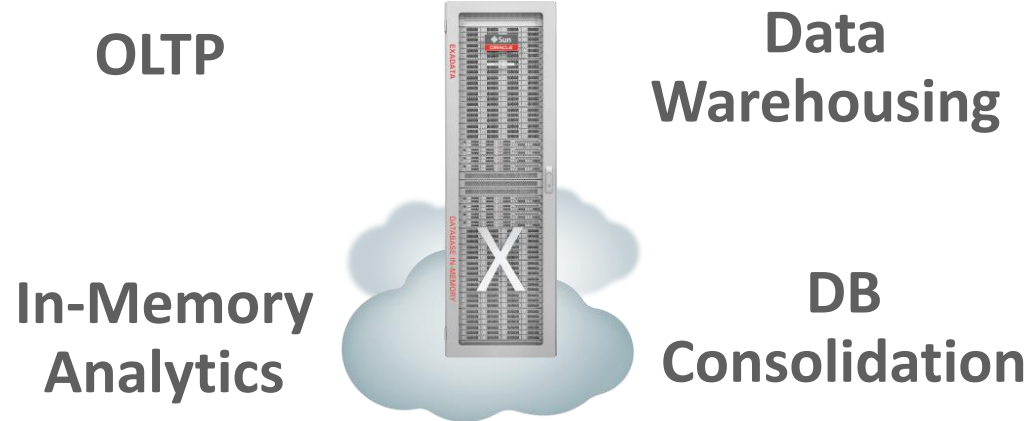
Offload SQL to Storage	
InfiniBand Fabric	
Smart Flash Cache, Log	
Storage Indexes	
Columnar Flash Cache	
Hybrid Columnar Compression	
I/O Resource Management	
Network Resource Management	
In-Memory Fault Tolerance	
Exafusion Direct-to-Wire Protocol	

Easy Migration to the Cloud

- 100% Compatible with existing on-premises Databases
- Full portability across Hybrid Clouds



Use Cases

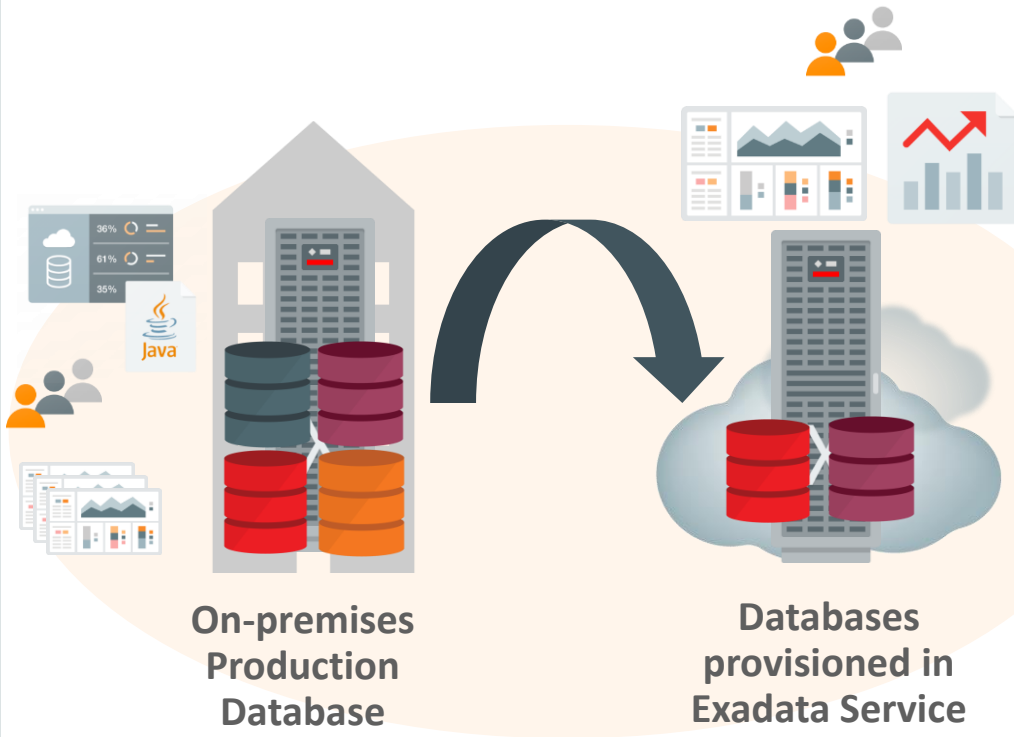


- Mission Critical Production Databases
 - Single large DB or Consolidate many
- Disaster Recovery and Reporting in the Cloud
- Test, Development, Certification, Try before Buy

Exadata Service enables extending Data Centers beyond today's physical limitations ...

Example: Extending the Data Center

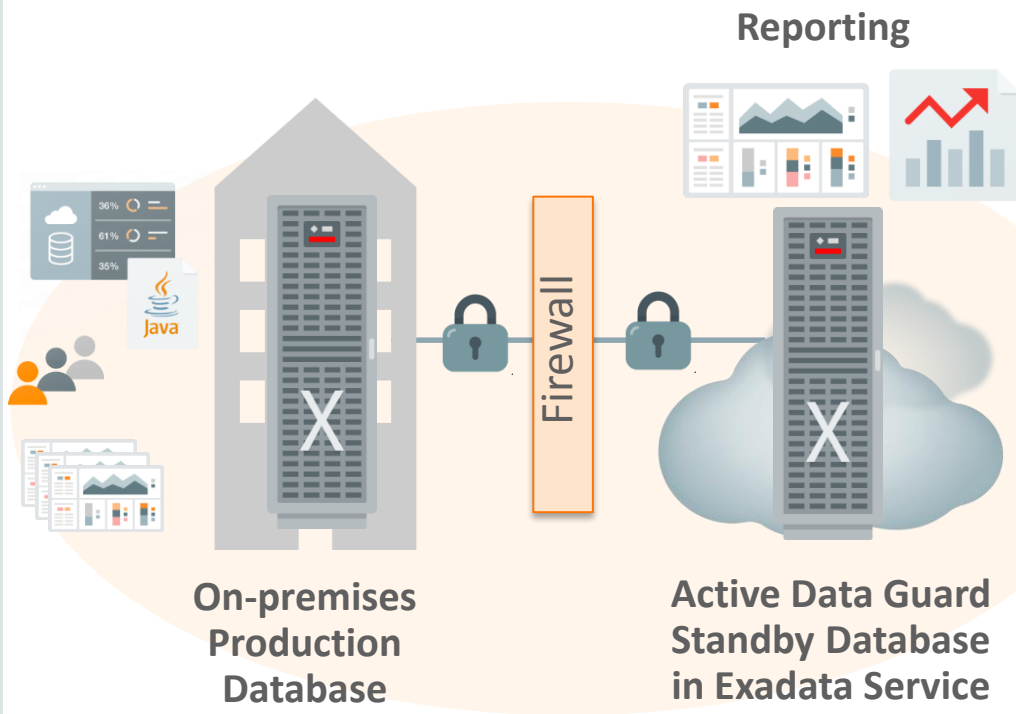
Test / Dev / Proof-of-Concept / Time-sensitive New Business Initiatives



- Eliminates need to maintain non-prod IT infrastructure
- Enables quick provisioning of production-alike databases to satisfy time-sensitive large-scale business demands (e.g. testing a marketing campaign, rolling out a new product launch, etc.)
- Exadata Service enables consolidation of multiple databases in one robust platform

Example: Extending the Data Center

Hybrid DR + Reporting



- Eliminates need to maintain DR infrastructure with elastic availability of DR site and standby database
- Off-site DR location satisfies compliance & regulatory requirements
- Active Data Guard standby database enables cloud-based reporting
- Exadata Service enables consolidation of multiple standby databases in one robust platform

Ref. [*Disaster Recovery to the Oracle Public Cloud - Production on Premises, DR in the Cloud*](#)

Full Stack Example: Large Pharmaceutical Company

Goal

Gauge the readiness and ability to provide a **new service offering to its R&D business unit**

Challenge

Rapid deployment of Databases to its R&D users

XYZ IT can deploy Database quickly for other groups, but as it relates to R&D's specific requirements ...

... **deployments can take 2-3 months** and cannot support the 3rd party tools which R&D needs to leverage

Solution

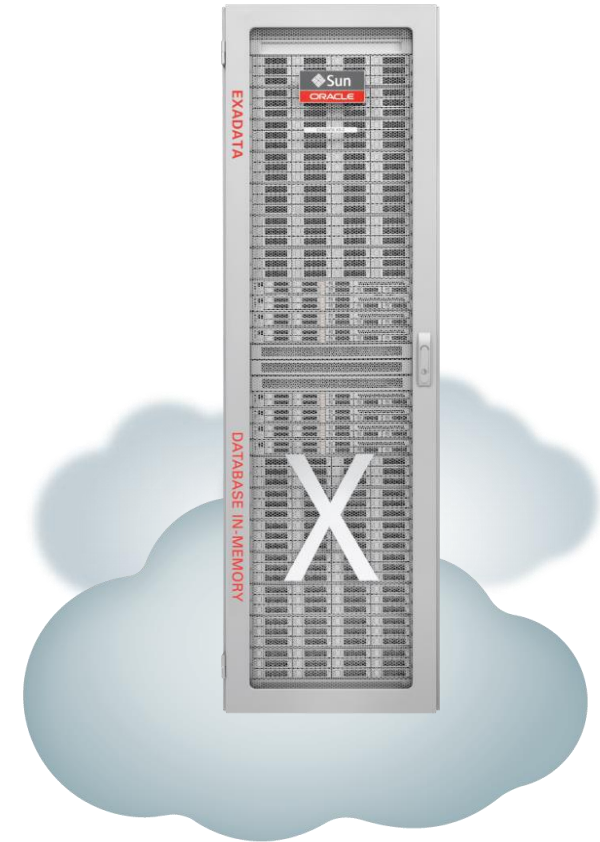
Exadata Cloud Service + Dedicated Compute Service **targeted for R&D functions** of analytics, testing, and certification workloads

Cloud offering **more favorable** due to overall cost of ownership

This also fits within XYZ's strategy of **reducing CapEx and reducing space** within the datacenters

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Service Overview



- Customer requests Exadata Service on Oracle Cloud Portal
 - Provides system size; Database names, sizes, versions, etc.
 - Pricing is based on Database CPU Cores enabled
- Start with a minimal number of cores within a Quarter Rack
 - Minimum: 16 cores, enable additional cores on demand
 - Access to full 42 TB of storage, 900K IOPs
 - Can expand to 100s of Cores, 100s of TB storage, Millions of IOPs
- Exadata System automatically provisioned for customer
 - Assured hardware resources: no server or storage over-provisioning
- Databases requested by customer prebuilt and ready to run
 - Oracle Database and Exadata software includes all options and features
 - Oracle Database 11.2.0.4 or 12.1.0.2, Grid Infrastructure 12.1.0.2
 - Automation tools provided to backup, patch, upgrade, and add databases

Allocation Unit: Quarter Rack	
OCPUs (min-max) ¹	16 - 68
Total Memory	1/2 TB
PCIe Flash	19.2 TB
Usable Storage ²	42 TB
Max DB size ³	16.8 - 33.6TB

1. OCPU = Oracle CPU = 1 usable compute core

2. After high-redundancy mirroring, but before database compression

3. After provisioning DATA and RECO disk groups, actual space depends on space needed for local backups

Available Service Offerings

	Metered	Non-metered
Minimum subscription duration	1 month	12 months
Use Case	Short-term projects e.g. Test/Dev, app certification, PoCs, trials, performance validation, etc.	Long-term subscriptions for production applications, on-going dev/test projects, application development, etc.
Price per OCPU per month *	\$5,000	\$2,500
Funded by	Database PaaS pre-paid funds	New Exadata Cloud Service subscriptions

** Subject to minimum OCPU requirements for the rack*

Management & Maintenance

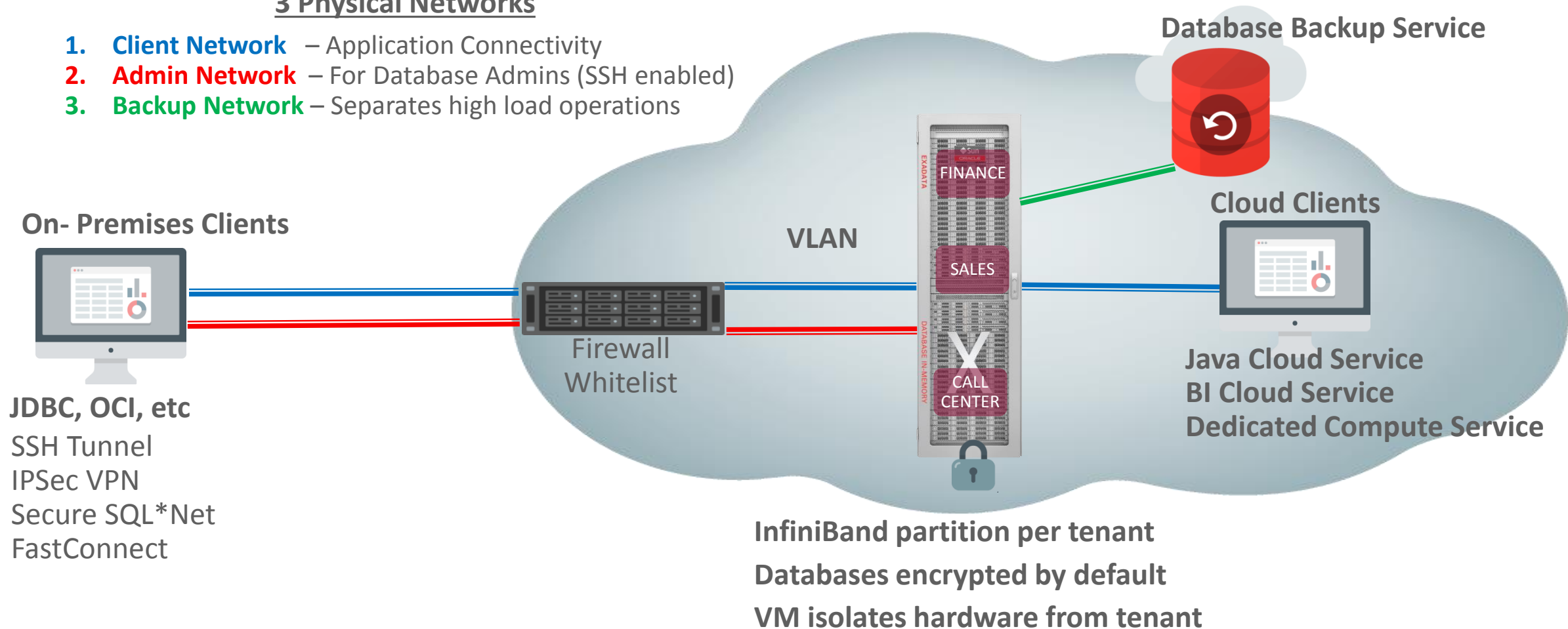


- Customers control and manage software that directly affects their application
 - Database, OS, Clusterware
- Oracle manages underlying infrastructure
 - Facilities, servers, storage, storage software, networking, firmware, hypervisor, etc.
- Customers have administrator privileges for compute VMs and databases so they can configure and run the system as they like
 - Customers initiate automated patching script when it is convenient for them
 - Can be run rolling across nodes to avoid database downtime

Access and Security Model

3 Physical Networks

1. **Client Network** – Application Connectivity
2. **Admin Network** – For Database Admins (SSH enabled)
3. **Backup Network** – Separates high load operations



High Availability

- All Exadata Maximum Availability Architecture features and practices
 - Full data protection, consistency, transactional isolation
 - Fully active RAC cluster
 - Triple mirrored storage
 - Redundant InfiniBand and Ethernet networks
 - Cloud to Cloud Standby Database using Active Data Guard on roadmap
- Decades of Database Availability technology and experience
 - Proven at 1000s of Banks, Telecoms, Retailers, Governments, etc.



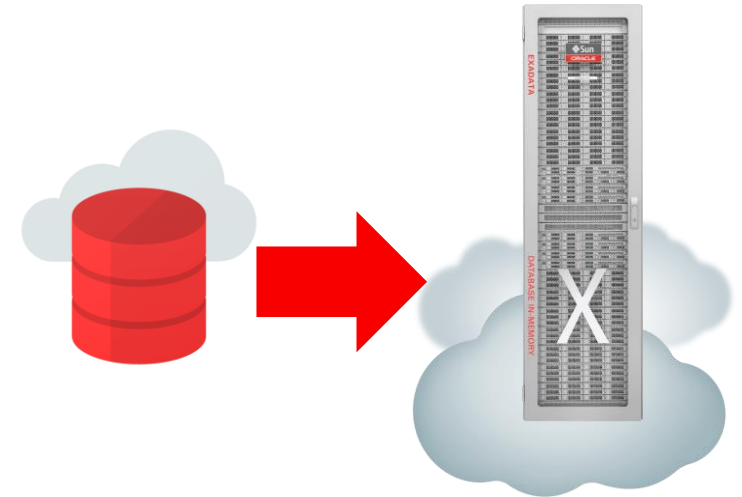
Backup & Recovery

- Options:
 - Fast Recovery Area (FRA) on Exadata storage for local on-disk RMAN backups
 - Fastest backup and restore
 - RMAN backup to Oracle Database Backup Service
 - Lowest Cost
- Default Frequency:
 - Weekly level 0 backups + daily Incremental backups
- Can be configured at provisioning time



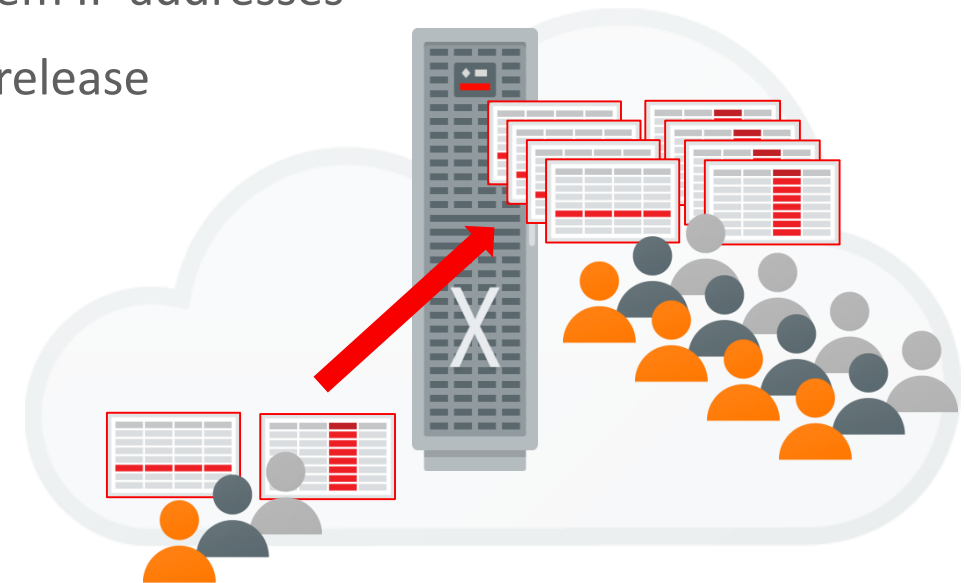
Options for Migrating Databases to Cloud

- 100% Oracle Database compatibility makes migration easy and low risk
- Logical Migration: allows reorganization and optimization
 - Data Pump, GoldenGate Replication
- Physical Migration: simplest, byte-to-byte copy
 - RMAN backup, Transportable technologies, Data Guard
 - Restore from backup on Oracle Public Cloud
- Data Movement Options:
 - Use public internet
 - Private high bandwidth virtual network (FastConnect)
 - Data Transfer Services
- MAA Migration Best Practices “[Best Practices for Migrating to Exadata Database Machine](#)”



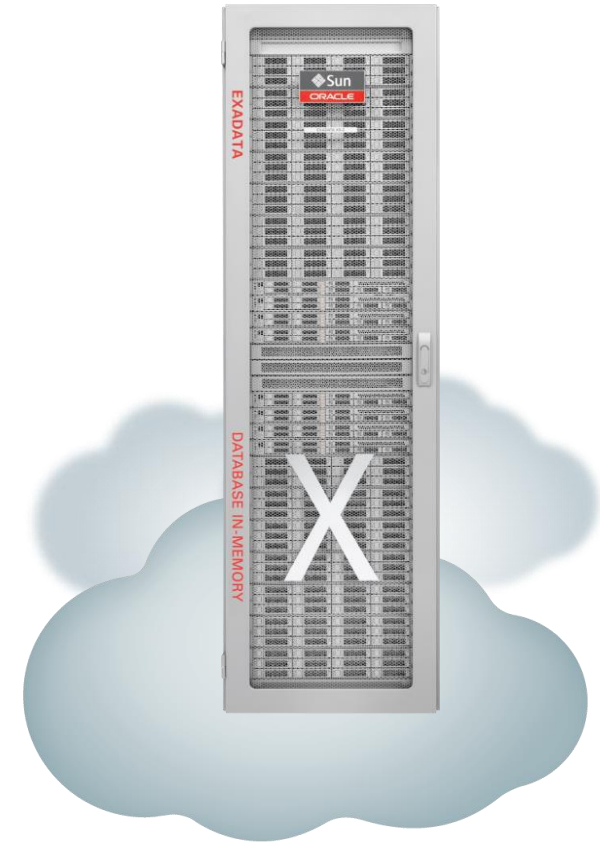
Upsize / Expand

- All memory and storage enabled. Enable additional cores online (16 → 68 per Qtr Rack)
- System expansion options: Quarter Rack → Half Rack → Full Rack
- Subscribe to a new system with the upsized configuration: same workflow as activating original rack
 1. Transfer data using RMAN or Data Guard
 2. Migrate client access by changing customer DNS to new system IP addresses
- Easy Expansion by individual DB or Storage server coming in later release
- De-provision old rack through “Delete Service” of original rack
 - Delete runs Secure Erase of storage cell using 7 pass option



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Hello Oracle Cloud User,

Thank you for subscribing to Exadata Cloud Service.

During the process of purchasing Oracle Cloud Services, you have been designated as the activator for this service.

Your next step is to activate the service by clicking [Complete My Order](#). Follow the on-screen instructions to complete the activation.

[Complete My Order](#)

Subscription Details



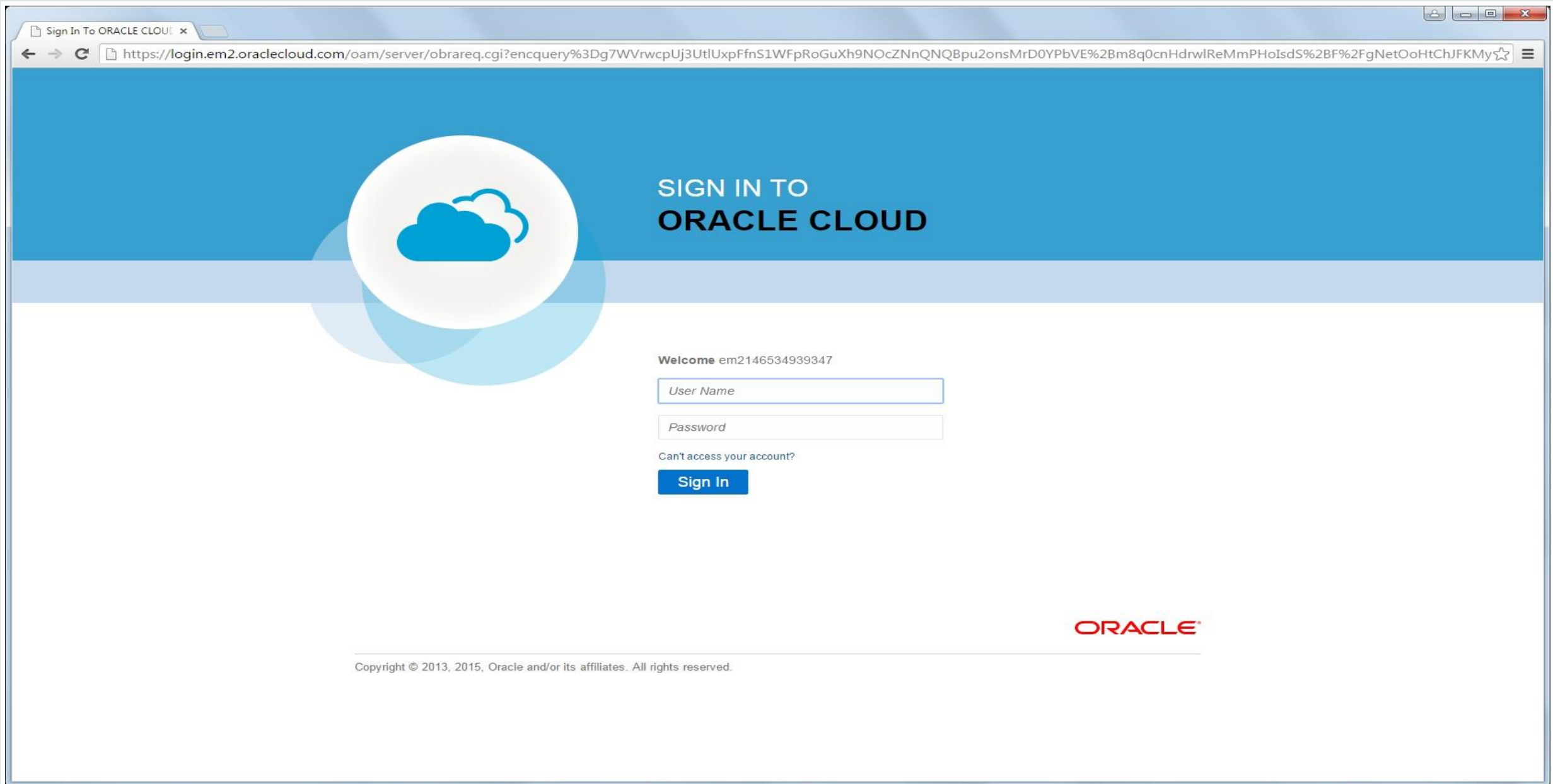
Exadata Cloud Service

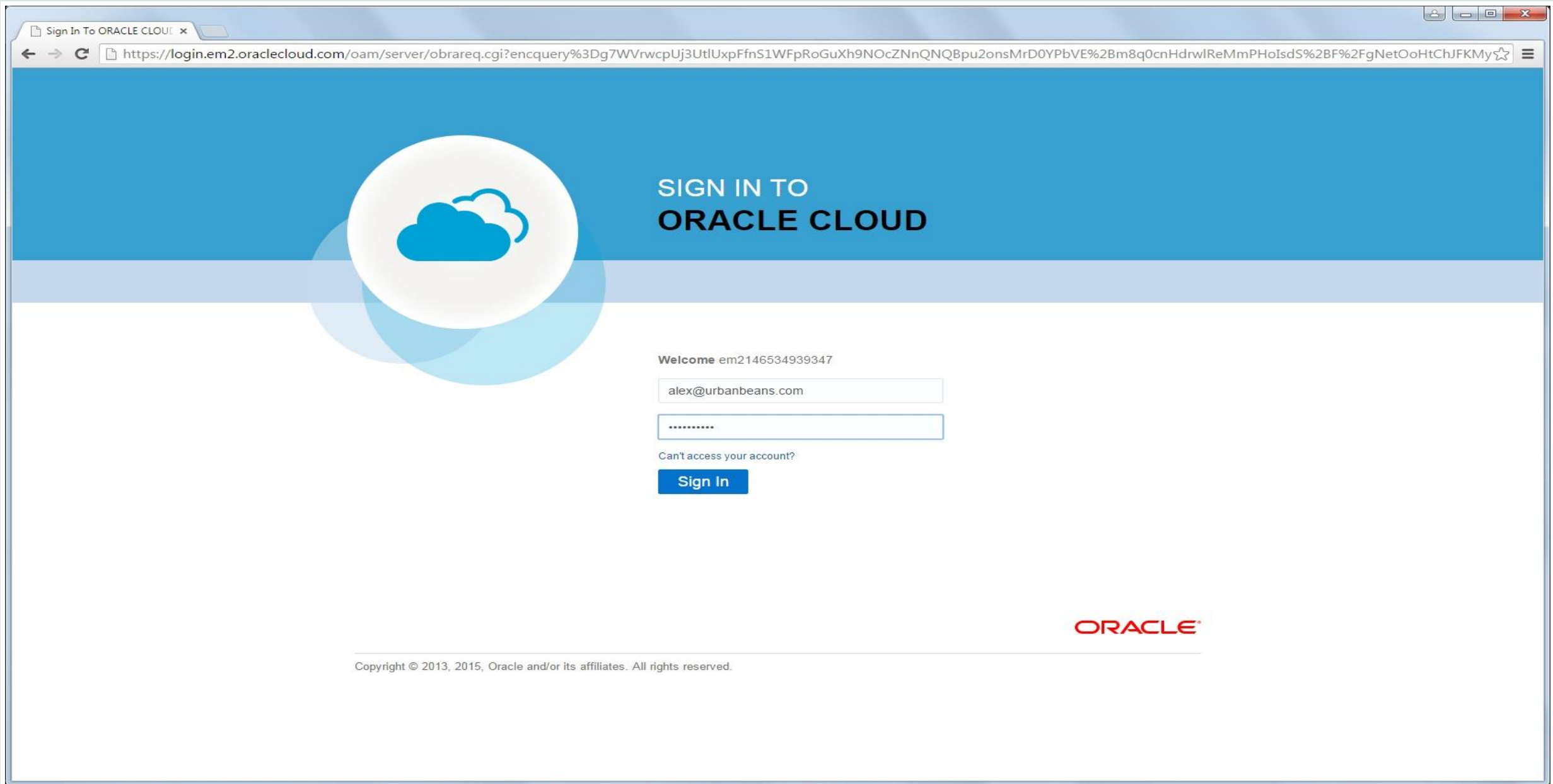
- Subscription ID: 500098623
- Deployment Type: Production
- Data Region: North America
- Customer Account: Urban Beans (US)



Order Details

- Order ID: 10296
- Order Date: Tuesday, October 13, 2015 9:25 PM PDT





My Account - Orders

cloudadf2-mdevcloud.us.oracle.com:7777/mycloud/faces/ordersList.jspx?_adf.ctrl-state=o9q5tv2wc_24&_afLoop=10719480233064613

ORACLE[®] CLOUD My Account

Preferences alex@urbanbeans.com

DashboardOrdersSecurity

Orders

Buy Services

Show: Pending Activation

Order ID 10296

Buyer: kanchan.shringi@oracle.com

Customer Account: Urban Beans

Services Ordered: Exadata - Oracle Database Cloud - Exadata Service

Status: Pending activation - Exadata

Order Date: 13-Oct-2015 9:25 PM PDT

Data Center: US Commercial 1

CSI Number: 12345

Activate

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Oracle Cloud Order Activation

cloudadf2-mdevcloud.us.oracle.com:7777/mycloud/faces/paidsignup.jspx?_adf.ctrl-state=o9q5tv2wc_24&orderId=9999_10296&_afrLoop=10719593914146184

ORACLE® CLOUD My Account

Preferences alex@urbanbeans.com

Oracle Cloud Order Activation: 10296

Cancel

Assign Service Details

Activate Services

Review Summary

Next

Assign Service Details

Customer Account

Name

Urban Beans

* Language

English

?

Default language for administrators of services in the account. This language will be used on My Account and My Services as well as in the Welcome email.

Time Zone

United States

(UTC-08:00) Los Angeles

?

Default time zone for administrators of services in the account. This time zone will be used to determine the display of dates and times on My Account and My Services.

Account Administrator

* User Name

alex@urbanbeans.com

?

First Name

alex

Last Name

User

Identity Domain

* Name

usurbanbeans55423

?

Oracle Database Cloud - Exadata Service

* Service Name

?

Description

Service Administrator

* Email

alex@urbanbeans.com

?

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Oracle Cloud Order Activation

cloudadf2-mdevcloud.us.oracle.com:7777/mycloud/faces/paidsignup.jspx?_adf.ctrl-state=o9q5tv2wc_24&orderId=9999_10296&_afLoop=10719593914146184

Default language for administrators of services in the account. This language will be used on My Account and My Services as well as in the Welcome email.

Time ZoneUnited States(UTC-08:00) Los Angeles

Default time zone for administrators of services in the account. This time zone will be used to determine the display of dates and times on My Account and My Services.

Account Administrator

* User Namealex@urbanbeans.com

First Namealex

Last NameUser

Identity Domain

* Nameusurbanbeans55423

Oracle Database Cloud - Exadata Service

* Service Nameurbanbeans

DescriptionUrban Beans Cloud Database

Service Administrator

* Emailalex@urbanbeans.com

* User Namealex@urbanbeans.com

First Namealex

Last NameUser

Additional Details

* Exadata System Nameurbanbeans-exa

* Do you want Database backups on Exadata Storage?☐

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Oracle Cloud Order Activation

cloudadf2-mdevcloud.us.oracle.com:7777/mycloud/faces/paidsignup.jspx?_adf.ctrl-state=o9q5tv2wc_24&orderId=9999_10296&_afLoop=10719593914146184

ORACLE® CLOUD My Account

Preferences alex@urbanbeans.com

Oracle Cloud Order Activation: 10296

Cancel

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Account Administrator

* User Name

alex@urbanbeans.com

?

First Name

alex

Last Name

User

Identity Domain

* Name

usurbanbeans55423

?

Oracle Database Cloud - Exadata Service

* Service Name

urbanbeans

?

Description


Urban Beans Cloud Database

Service Administrator

* Email

alex@urbanbeans.com

?

 Oracle Cloud Order Activation

cloudadf2-mdevcloud.us.oracle.com:7777/mycloud/faces/paidsignup.jspx?_adf.ctrl-state=o9q5tv2wc_24&orderId=9999_10296&_afLoop=10719593914146184

ORACLE® CLOUD My Account

Preferences alex@urbanbeans.com

Oracle Cloud Order Activation: 10296

[←](#)

Cancel

Assign Service Details

Activate Services

Review Summary

Activate [→](#)

Activate Services

Review and confirm responses provided by you.

Customer Account

Name: Urban Beans

Language: English

Time Zone: (UTC-08:00) Los Angeles

Account Administrator


User Name: alex@urbanbeans.com

First Name: alex

Last Name: User

Identity Domain

Name: usurbanbeans55423

 urbanbeans (Exadata)

Service Name: urbanbeans

Description: Urban Beans Cloud Database

Service Administrator

Email: alex@urbanbeans.com

User Name: alex@urbanbeans.com

First Name: alex

Last Name: User







Additional Details


Exadata System Name: urbanbeans-exa

Do you want Database backups on Exadata Storage?: N

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Assign Service Details Activate Services **Review Summary**

[Close](#)


ORACLE[®] CLOUD My Account

Preferences ▾ alex@urbanbeans.com ▾

Oracle Cloud Order Activation: 10296

Review Summary

You have activated the service in your order.



urbanbeans (Exadata)
You will receive an email with information about your service. The email contains login credentials to be used for signing in to My Services.

1

Sign in to My Account to:


- Activate paid services, trial requests or preview requests
- Monitor cloud services across data centers
- Monitor service utilization and uptime

2

Sign in to My Services to:

- Administer cloud services
- Monitor service utilization and uptime
- Manage notifications

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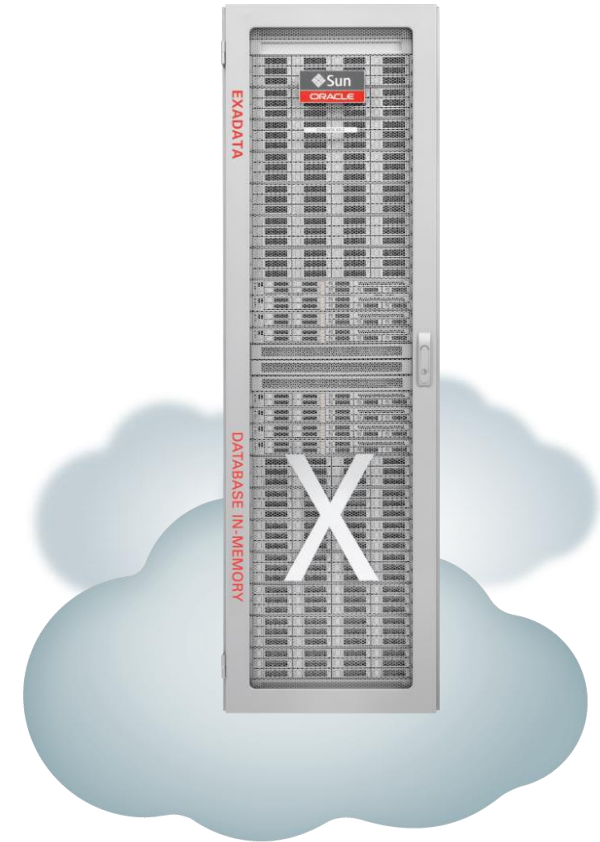
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 Oracle Database Cloud Service

slc06cmb.us.oracle.com:8103/dbaas/faces/dbRunner.jspx?_afLoop=8678280227184070&_afWindowMode=0&_adf.ctrl-state=lued3jd7u_9

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 Dashboard

 Database Cloud Service

Services

Welcome!

As of Oct 14, 2015 3:02:57 PM UTC

Services

You don't have any services. After meeting the prerequisites, use this button to create a service.

New to creating a service?

- [Watch a video](#)
- [Step through a tutorial](#)







► Instance create and delete history

Create Service

Start the wizard to create a service.

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Oracle Database Cloud Se x

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CLOUD My Services

Provision New Database Cloud Service

Create Database Cloud Service Instance

Cancel

Subscription

Release

Edition

Details

Confirmation

Next

Subscription Type

Select the service level and billing frequency for this Oracle Database Cloud Service instance.

Service Level

☒ **Oracle Database Cloud - Exadata Service**
Oracle Database software pre-installed on Oracle Exadata Machine.
Database Service instances are created on available Exadata infrastructure.
Additional cloud tooling is available for backup, recovery and patching.

☐ **Oracle Database Cloud Service**
Oracle Database software pre-installed on Oracle Cloud Virtual Machine.
Database instances are created for you using configuration options provided in this wizard.
Additional cloud tooling is available for backup, recovery and patching.

☐ **Oracle Database Cloud Service - Virtual Image**
Oracle Database software pre-installed on an Oracle Cloud Virtual Machine.
Database instances are created by you manually or using DBCA.
No additional cloud tooling is available.


Billing Frequency

☒ **Monthly**
Pay one low price for the entire month irrespective of the number of hours used

Oracle Database Cloud Se x

slc06cmb.us.oracle.com:8103/dbaas/faces/dbRunner.jspx?_afLoop=8885770279516918&_afWindowMode=0&_adf.ctrl-state=103hjurkii_32

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Provision New Database Cloud Service

Create Database Cloud Service Instance

Previous

Cancel

Subscription

Release

Edition

Details

Confirmation

Next

Software Release

Select the database release version for this Oracle Database Cloud Service instance.

Oracle Database 11g Release 2

Oracle Database Version 11.2.0.4

Installed on Oracle Grid Infrastructure 12.1.0.2

Oracle Database 12c Release 1

Oracle Database Version 12.1.0.2

Installed on Oracle Grid Infrastructure 12.1.0.2

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42

Oracle Database Cloud Se x

slc06cmb.us.oracle.com:8103/dbaas/faces/dbRunner.jspx?_afLoop=8885770279516918&_afWindowMode=0&_adf.ctrl-state=103hjrkii_32

urbanbeans | weblogic



Provision New Database Cloud Service

Create Database Cloud Service Instance

Previous

Cancel

Subscription

Release

Edition


Details

Confirmation

Next

Service Details

Provide details for this Oracle Database Cloud Service instance.




Service Configuration

* Service Name

Description

* Exadata System

urbanbeans-exa - Quarter Rack (2 nodes)



Database Configuration

* Administration Password

* Confirm Password

* DB Name (SID)


* PDB Name

Standby Database

ORCL

PDB1

No, do not set up Data Guard



Backup and Recovery Configuration

* Backup Destination

* Cloud Storage Container

* Cloud Storage User Name

* Cloud Storage Password

Cloud Storage Only

Oracle Database Cloud Se x

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CLOUD My Services

Provision New Database Cloud Service

Create Database Cloud Service Instance

Previous

Cancel

Subscription

Release

Edition

Details

Confirmation

Next

Service Details

Provide details for this Oracle Database Cloud Service instance.

Service Configuration

* Service Name

urban-beans-db1

?

Description

Urban Beans Cloud Database

?

* Exadata System

urbanbeans-exa - Quarter Rack (2 nodes)

▼

Database Configuration

* Administration Password

?

* Confirm Password

?

* DB Name (SID)

urbandb1

?

* PDB Name

urpdb1

?

Standby Database

No, do not set up Data Guard

▼

Backup and Recovery Configuration

* Backup Destination

Cloud Storage Only

▼

* Cloud Storage Container

Storage-StorageEval01admin/

?

* Cloud Storage User Name

Storageadmin


Enter a password for the storage container user

* Cloud Storage Password

Oracle Database Cloud Se x

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Provision New Database Cloud Service

Create Database Cloud Service Instance

Previous

Cancel

Subscription

Release

Edition


Details

Confirmation

Create

Confirmation

Confirm your responses and create this Oracle Database Cloud Service instance.



Service Level:

Oracle Database Cloud - Exadata Service

Billing Frequency:

Monthly

Software Release:

Oracle Database 12c Release 1

Software Edition:

Enterprise Edition - Extreme Performance

Service Name:

urban-beans-db1

Description:

Urban Beans Cloud Database

Exadata System:

urbanbeans-exa - Quarter Rack (2 nodes)

DB Name (SID):


urbandb1

PDB Name:

urpdb1

Standby Database:

no



Backup Destination:

Cloud Storage Only

Username:

Storageadmin

Cloud Storage Container:

Storage-StorageEval01admin/DBaaSBackup

Oracle Database Cloud Se x

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Dashboard

Database Cloud Service

Services

Welcome!

As of Oct 14, 2015 3:29:16 PM UTC

Services	OCPUs	Memory	Storage	Public IPs
1	28	480 GB	43,008 GB	2

Services

Enter a full or partial service name

Create Service

urban-beans-db1

Status: In Progress

Version: 12.1.0.2

Edition: Enterprise Edition - Extreme Performance

Submitted On: Oct 14, 2015 3:29:10 PM UTC

Exadata System: urbanbeans-exa

OCPUs: 28

Memory: 480 GB

Storage: 42 TB

Instance create and delete history

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Dashboard

Database Cloud Service

Services

Welcome!

As of Oct 17, 2015 12:39:57 AM UTC

Services	OCPUs	Memory	Storage	Public IPs
1	28	480 GB	43,008 GB	2

Services

urban-beans-db1
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Oct 14, 2015 3:29:10 PM UTC
Exadata System: urbanbeans-exa

OCPUs: 28
Memory: 480 GB
Storage: 42 TB

▶ Instance create and delete history

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Dashboard

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CLOUD My Services

Oracle Database Cloud Service / urban-beans-db1

As of Oct 17, 2015 12:40:49 AM UTC

↺

Nodes	OCPUs	Memory	Storage
2	28	480 GB	42 TB

Exadata System: urbanbeans-exa
 Cluster: urbanbeans-exa

Instance : urbandb11
 Public IP: 10.128.13.168

OCPUs: 14
 Memory: 240 GB

⋮

Instance : urbandb12
 Public IP: 10.128.13.169

OCPUs: 14
 Memory: 240 GB

⋮

▶ Activity

Additional Information

Edition:
 Service Level:
 Subscription Type:
 Created On:
 Created By:
 Identity Domain:

Enterprise Edition - Extreme Performance
 Oracle Database Cloud - Exadata Service
 Monthly
 Oct 14, 2015 3:29:10 PM UTC
 weblogic
 urbanbeans

Connect String:

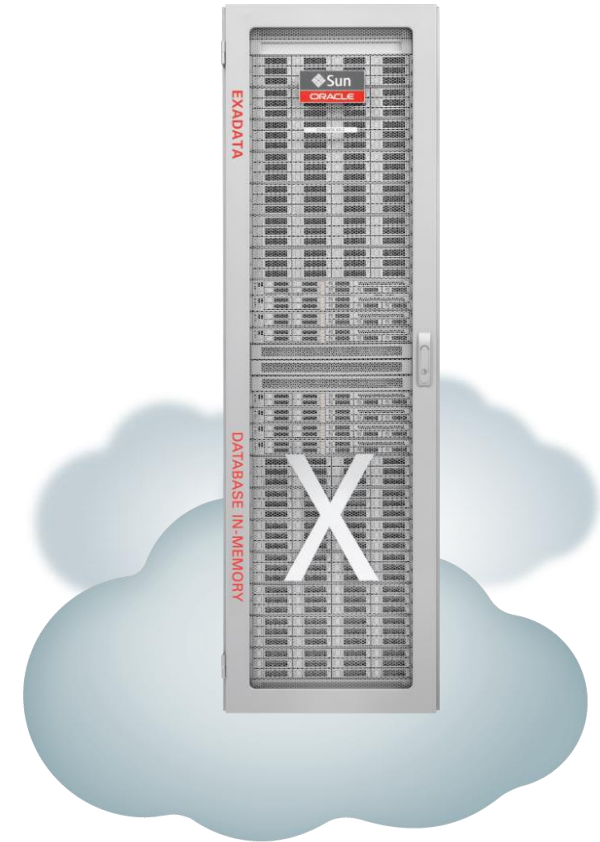
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(HOST=10.128.13.188)(PORT=1521)(PROTOCOL=TCP))(ADDRESS=(HOST=10.128.13.186)(PORT=1521)(PROTOCOL=TCP))(ADDRESS=(HOST=10.128.13.187)(PORT=1521)(PROTOCOL=TCP)))
 (CONNECT_DATA=(SERVICE_NAME=urbandb1.us.oracle.com)))

Backup Destination:
 Container Name:
 PDB Name:

Cloud Storage Only
 urbandb1
 urpdb1

Exadata Cloud Service

- 1 Introduction
- 2 Service Details
- 3 Provisioning: Activation
- 4 Provisioning: Service Creation
- 5 Best Practices & Summary



Best Practices: Deploying Databases with Exadata Service

- Application latency
 - Deploy middle-tier on Oracle Dedicated Compute Service or Public Compute Service for low-latency connectivity
 - Use Fast Connect solutions to enable secured, low-latency connectivity from on-premises production / management applications
- Security
 - Enable least permissive rules during white-listing ingress IP addresses and enabling ports
- Patching and Validation
 - Oracle provides regular DB patchset updates and security patches when available
 - Keep database deployment patched to recommended levels
 - Patch automation tooling available to apply these patchset updates
 - Verify backup & recovery processes by regularly recovering databases from automated backups

Exadata Cloud Service Quick Reference Card

SERVICE METRICS	Quarter	Half	Full
Number of Database Servers	2	4	8
Number of OCPUs	16 - 68	56 - 136	112 - 272
Total Memory (GB)	496 GB	992 GB	1,984 GB
Number of Storage Servers	3	6	12
Total Flash Capacity	19.2 TB	38.4 TB	76.8 TB
Total Usable Disk Capacity	42 TB	84 TB	168 TB
Max DB Size Supported (local backup)	16.8 TB	33.6 TB	67.2 TB
Max DB Size Supported (no local backup)	33.6 TB	67.2 TB	134.4 TB
Max SQL Flash Bandwidth	30 GB/sec	60 GB/sec	120 GB/sec
Max SQL Flash Read IOPs	900 K	1.8 M	3.6 M
Max SQL Flash Write IOPs	500 K	1 M	2 M
Max SQL Disk Bandwidth	4.5 GB/sec	9 GB/sec	20 GB/sec
Max SQL Disk IOPs	7 K	14 K	28 K
Max Data Load Rate	5 TB/hr	10 TB/hr	20 TB/hr

Value Proposition

1. 100% compatibility with on-premises: hybrid cloud plus no application changes
2. All workloads (OLTP, DW, consolidation, etc.) supported by one unified service
3. Best infrastructure for the best enterprise database: proven at thousands of sites

Database Features

- Supports Database 11.2.0.4, 12.1.0.2
- Requires Grid Infrastructure 12.1.0.2
- Includes all Database Options and EM Packs

Current Data Centers

- Chicago, IL - USA
- Ashburn, VA - USA
- Slough - UK

Associated Services

- Database Backup Cloud Service
- FastConnect Service
- VPN Service
- Big Data Cloud Service
- Dedicated Compute Service
- Java Cloud Service

Management & Security

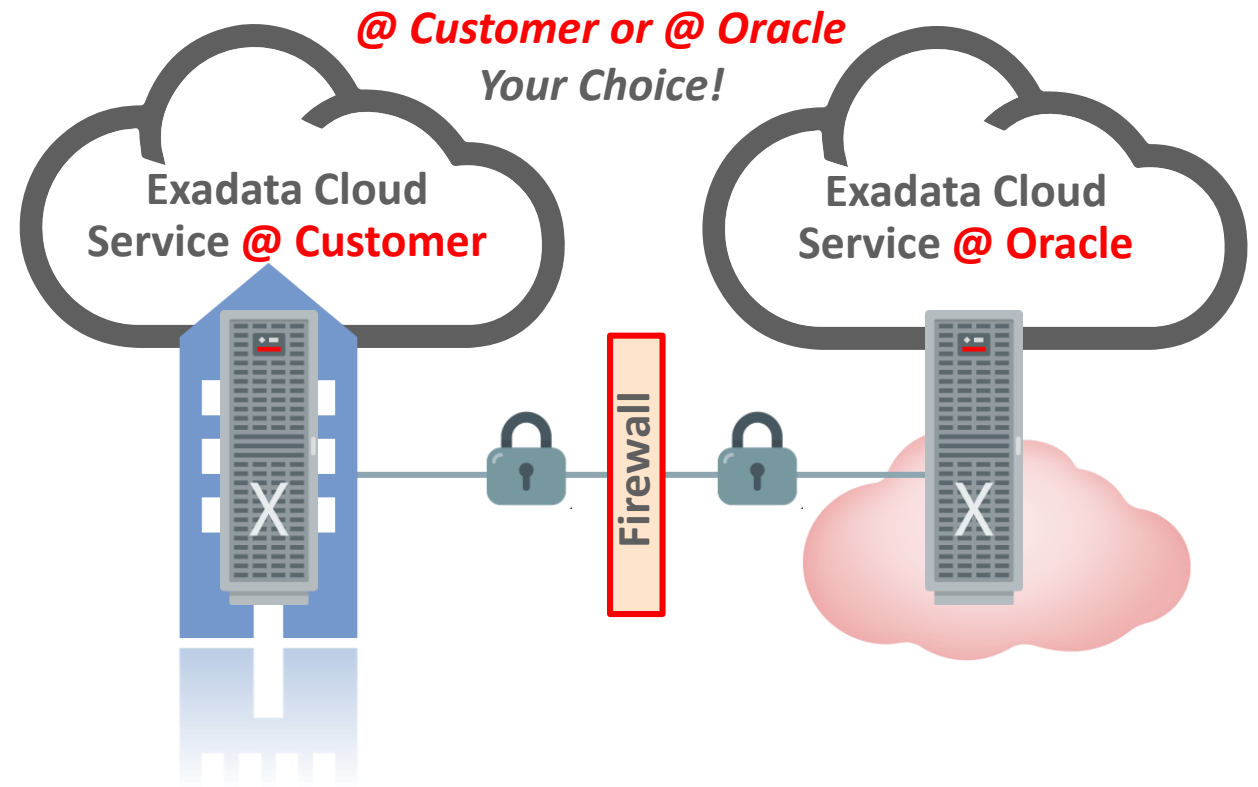
- Oracle: HW & Infrastructure SW
- Customer: Database & Clusterware, Oracle Enterprise Manager for DB Management
- Security & Isolation: VPN, SSH, Secure SQL*Net, Data Encryption, InfiniBand Partitioning, Oracle VM, VLAN, etc.

SERVICE OFFERINGS	Metered	Non-metered
Minimum Subscription Duration	1 month	12 months
Use Cases	Short-term projects: Test/Dev, app certification, PoCs, trials, performance validation, DB 12c testing, etc.	Long-term subscriptions: prod applications (OLTP/DW), on-going dev/test projects, app development, DR, etc.
Price per OCPU per month	\$5,000	\$2,500
Funded By	Database PaaS pre-paid funds	New Exadata Cloud Service subscriptions

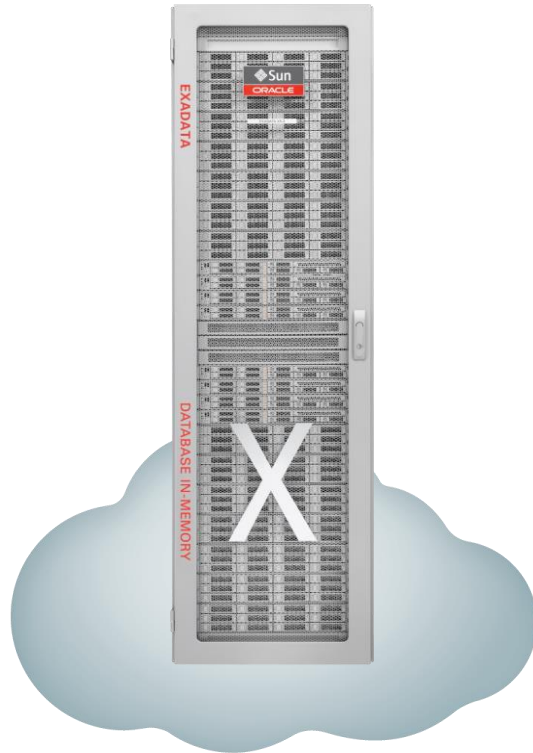
Exadata Cloud Machine

Available FY17 - Q2

- **Exadata Cloud Service on customer premises managed by Oracle**
 - Same pricing model but with 3 yr minimum
 - Agile, dynamic provisioning through cloud stack software
- **For system configurations too complex to separate or move to the cloud**
- **For data sovereignty, regulatory, security restrictions**
- **Near zero latency to your on premises applications and for complete control**



Exadata Cloud Machine Use Cases



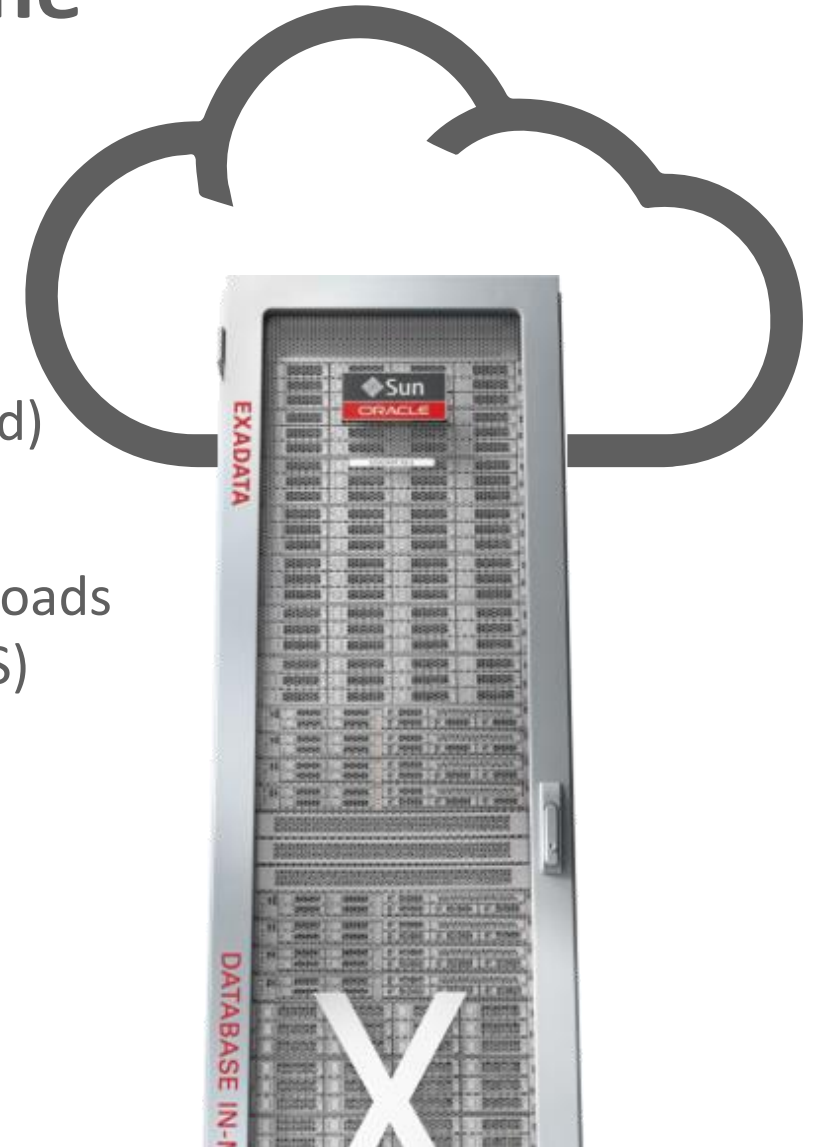
Exadata Cloud Service
@ Customer

- **Database Private Cloud**
 - Consolidate databases as servers retire
 - Evolve IT business model to OpEx
- **Public Cloud On-Premises**
 - Shift infrastructure responsibility
 - Protect data governance
 - Accommodate IT complexity
- **Data Sovereignty, Security and Latency**
 - Keep your data in your data center
 - Connect with your on-prem apps with no latency

Exadata Cloud Service and Cloud Machine

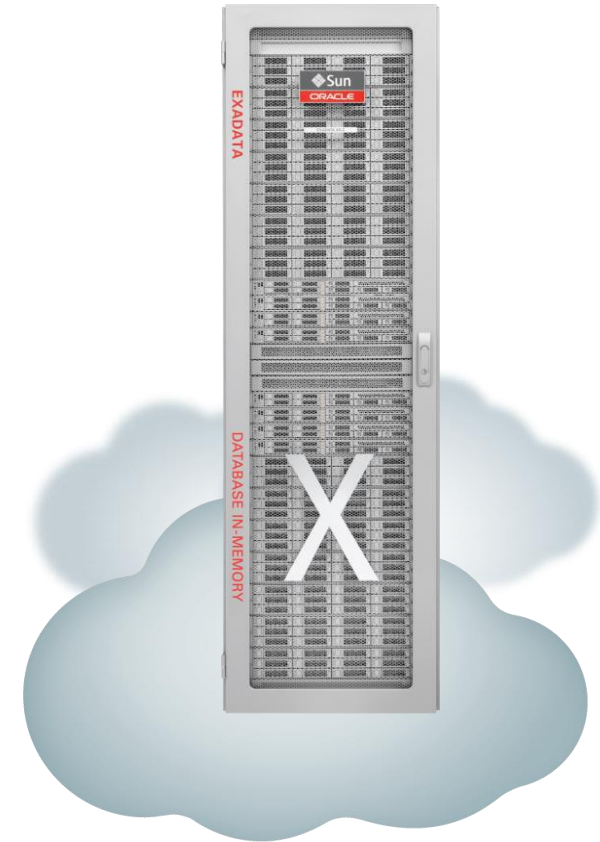
Competitive Advantages

- **100% Portability**
 - Every on-premise application runs without change
 - Data moves back and forth seamlessly
 - Run any infrastructure component in any location (hybrid cloud)
- **One Database Service for All Your Workloads**
 - Analytics, data warehousing, OLTP, consolidation, mixed-workloads
 - No need to use different services based on workload (a la AWS)
- **Serious Infrastructure for Serious Databases**
 - Ideal database hardware, not commodity servers and storage
 - Dedicated platform – no noisy neighbors, security risks
 - Exadata-unique innovations
 - Enhance cloud applications with new options



For More Information

cloud.oracle.com/database



Integrated Cloud

Applications & Platform Services

ORACLE®