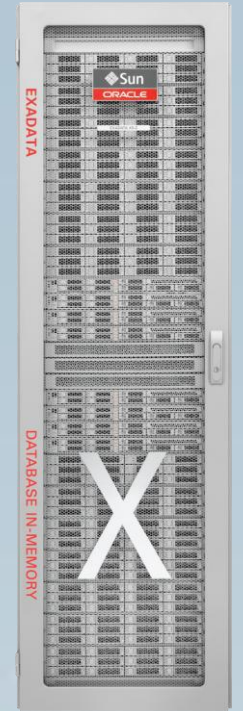# Oracle Database Exadata Cloud Service

Technical Overview

Manish Shah

Sr. Principal Product Manager, Oracle Corporation

Exadata and Exadata Cloud

Safe Harbor Statement

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.

ORACLE®

Exadata Cloud Service

ORACLE®

Our Vision for Exadata – The Ideal Database Platform
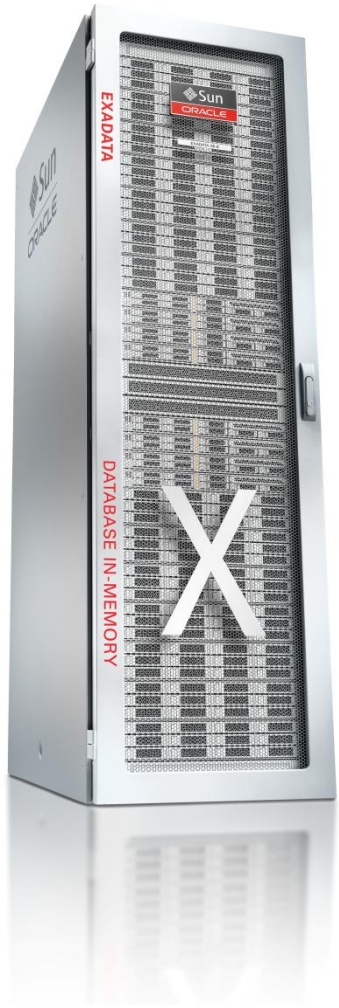
- **Elastic-Scaleout -** We believe the architecture of the future uses scale-out leading-edge servers for compute AND storage

- **Deep Engineering -** We believe engineering hardware and software together enables transformational OLTP, Analytics, and Consolidation in a single platform

- **Cloud without Compromise -** We believe the Cloud of the future combines the advantages of Deep Engineering with the agility and cost of Cloud, and 100% on-premises compatibility

Proven at Thousands of Critical Deployments since 2008

- **Petabyte Warehouses**

- **Online Financial Trading**

- **Business Applications**
  - SAP, Oracle, Siebel, PSFT, ...

- **Massive DB Consolidation**

- **Public SaaS Clouds**
  - Oracle Fusion Apps, Salesforce, SAS, ...

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

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
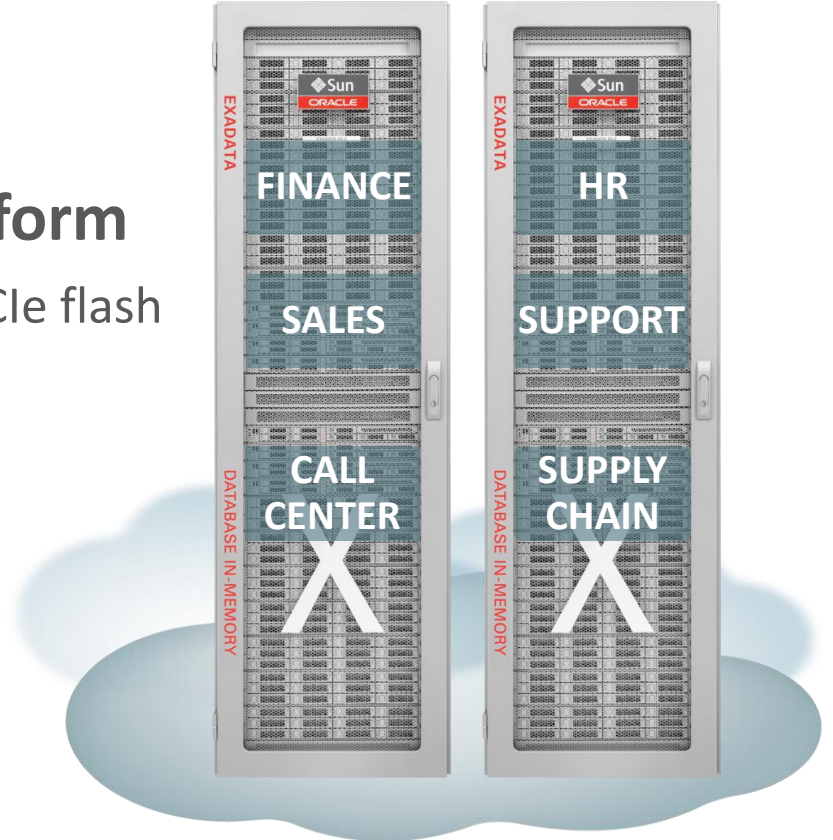
Best of On-Premises with Best of Cloud

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 Oracle Database

All Oracle Database Innovations
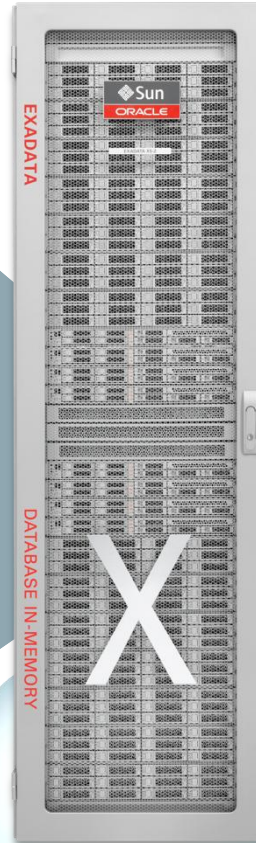
All Exadata DB Machine Innovations

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

ORACLE

Use Cases

- **Mission Critical Production Databases**
  - Single large database or consolidate many
  - OLTP, Data Warehousing, Analytics, …

- **Disaster Recovery and Reporting**

- **Test, Development, Certification, Try before Buy**

- **Hyper-fast Analytical Reporting**
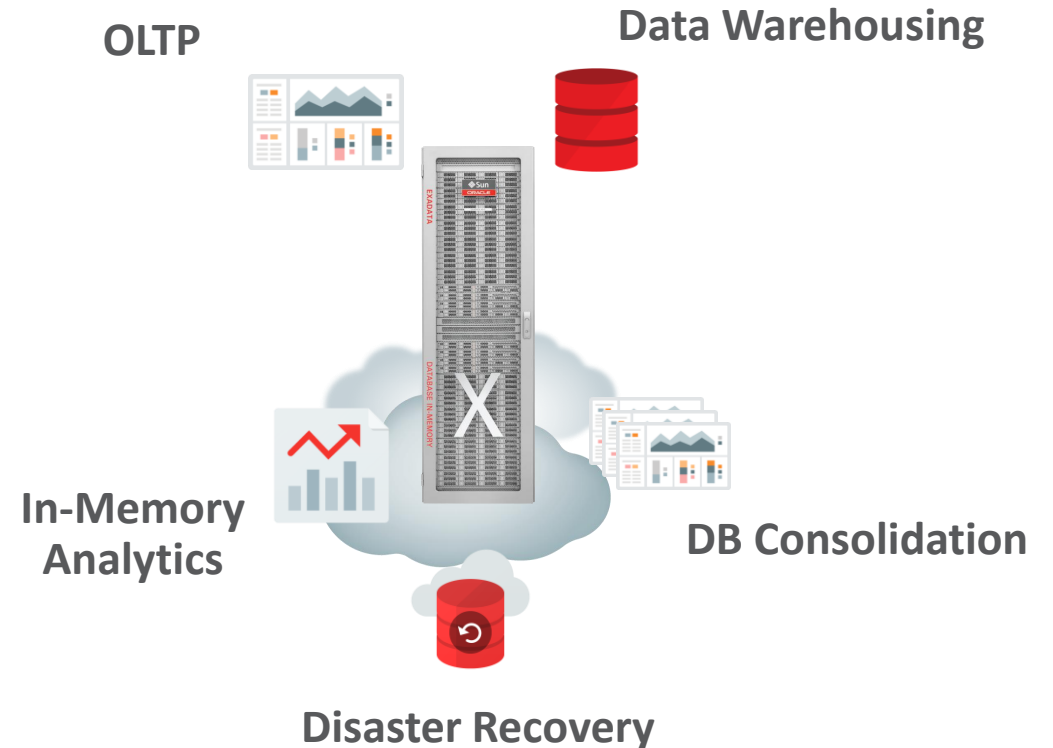
100% Compatible with on-premises databases:
Extend your Data Center beyond the physical boundaries …

OLTP

Data Warehousing

In-Memory Analytics

DB Consolidation

Disaster Recovery

ORACLE®

App Modernization: Large Retailer

Goal

Rapid merchandising planning well ahead of the 2016 retail holiday season

Fast scaling and bursting, modern infrastructure acquisition with strong pressure to reduced capital spend

Reduce data center footprint across 3 distributed data centers

Produce a predictable spend model over a 10 year period

Challenge

Existing custom merchandising application for retail size profiling and optimization no longer able to address future business needs or capacity growth

Prevented timely analytics necessary to drive regular selection, purchase, and packaging of consumer product assortments for shipment to ~1000 stores and distribution centers

Solution

Deploying a modern retail analytics application across Oracle Compute Service and Exadata Cloud Service
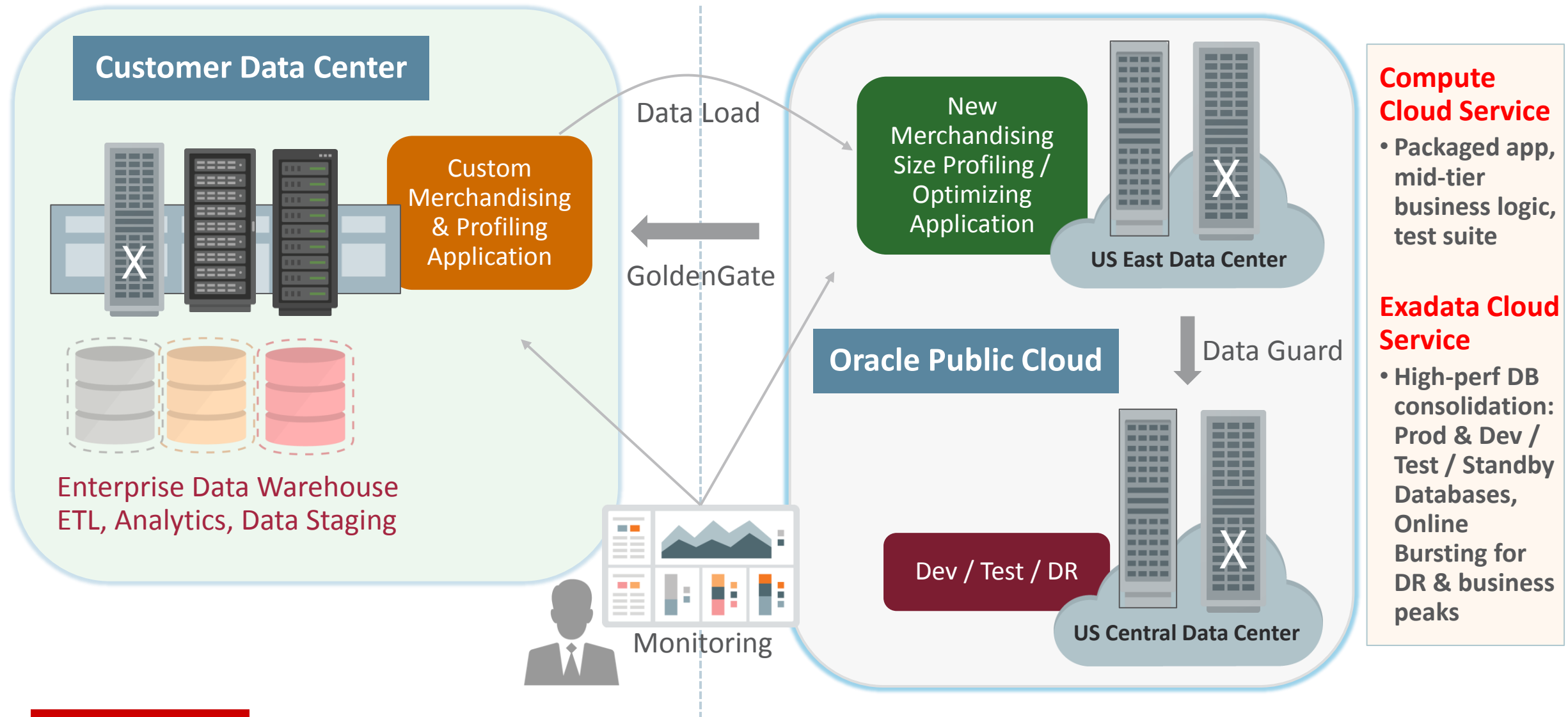
Production deployment in Ashburn data center; non-production in Chicago data center

Exadata Cloud Service for both prod & non-prod backend db-s

Extensive Test/Dev modules on Oracle Compute Cloud and dbs consolidated across Exadata Cloud

Future plans to deploy cloud-to-cloud DR using Data Guard

Elastic Scaling with Exadata Cloud Service: Large Retailer

Customer Data Center

Custom Merchandising & Profiling Application

Enterprise Data Warehouse ETL, Analytics, Data Staging

Data Load

GoldenGate

New Merchandising Size Profiling / Optimizing Application

US East Data Center

Oracle Public Cloud

Data Guard

Dev / Test / DR

US Central Data Center

Monitoring

Compute Cloud Service

- Packaged app, mid-tier business logic, test suite

Exadata Cloud Service

- High-perf DB consolidation: Prod & Dev / Test / Standby Databases, Online Bursting for DR & business peaks

Exadata Cloud Service

Service Overview

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

- 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
  - Self-service UI for backup, database updates, upgrades and creation

- Instance Provisioning and Lifecycle Management via UI or REST API

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*

Management & Maintenance

ORACLE MANAGES Infrastructure

- 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 database update script when it is convenient for them
  - Can be run rolling across nodes to avoid database downtime

Lifecycle Management

- Self-service to apply Quarterly Updates
  - Database and Grid Infrastructure Updates

- I/O Resource management
  - Prioritize I/O resources among multiple databases

- Elastically scale resources up and down
  - Scale OCPUs up and down dynamically
  - System expansion options: Quarter Rack → Half Rack → Full Rack
  - Elastic Expansion by individual DB or Storage server coming in a future update

- Configure backup policy
  - Weekly full, daily incremental

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REST APIs

- Database Instance Control
  - Create
  - Delete

- Compute Node Control
  - Stop
  - Start
  - Restart

- View Details
  - Single Database
  - All Databases
  - Compute Nodes
  - Status of an Operation

Visit http://docs.oracle.com/cloud/latest/exadatacs/EXARS/index.html for details

Access and Security

- Secure Access from on-premises clients
  - SSH Tunnel, Secure SQL*Net
  - IPSec VPN
  - Source IP Whitelisting
- InfiniBand partition per tenant for complete isolation
- Databases encrypted by default
- VM isolates hardware from tenant
- 3 Physical Networks
  - Client Network   – Application Connectivity
  - Admin Network – For Database Admins (SSH enabled)
  - Backup Network – Separate network for DB backup traffic
- Low-latency network connectivity from Mid-Tier/App Tier in Oracle Cloud
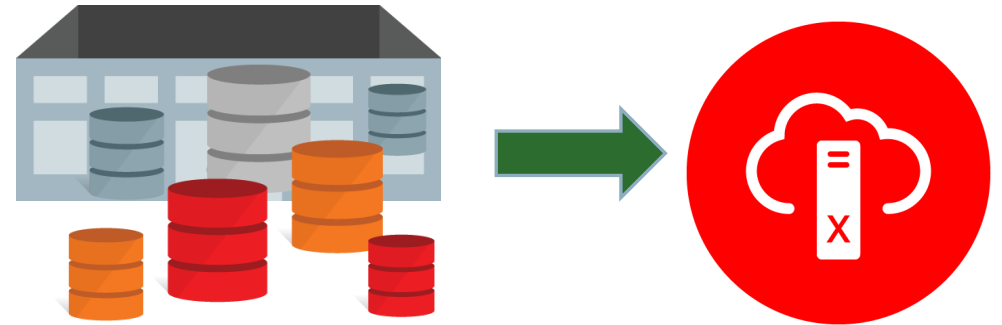
ORACLE®

High Availability and Backup & Recovery

- Integrated Exadata Maximum Availability Architecture features and practices
  - Full data protection, consistency, transactional isolation
  - Fully active RAC cluster
  - ASM High Redundancy
  - Redundant InfiniBand and Ethernet networks
  - Data Guard to a standby database in the Cloud

- Cloud backup with Oracle Database Backup Cloud Service
  - Low Cost
  - Default frequency: weekly full, daily incremental,

- Fast Recovery Area (FRA) on Exadata for local on-disk RMAN backups

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"

Exadata Cloud Service

ORACLE® Cloud

Hello Admin,

Welcome to Oracle Cloud and thank you for subscribing to Exadata Cloud Service - Custom.   You're the primary administrator for your organization's Exadata Cloud Service - Custom. This includes My Account Administration and My Services Administration.

Some services may require additional configuration and provisioning steps before they're ready for production usage. See the details below for more information.

Your access details, including your user name, temporary password and identity domain name, are included below. As a service administrator you can manage administrative functions related to your Cloud Services, including configuring and managing service instances and performing monitoring and management tasks related to individual services.

Getting Started:

- To learn more about Cloud Service roles, review Oracle Cloud User Roles and Privileges.
- Your Oracle Customer Success Manager (CSM) is your guide in the cloud and will partner with you to help you get the best innovation and value from Oracle's Cloud Services. Visit Oracle Customer Success Managers for additional information. Your CSM will contact you to schedule your onboarding session.

File a Service Request, if you need to perform any of the following operations for your Exadata Cloud Service - Custom. For more details, see MOS note 2007530.1.

1. Add specific IP addresses from your network to allow access to the Exadata System on the Cloud.
2. Setup VPN between your site and the Exadata System on the Cloud.
3. Reconfigure grid disks, cell disks or IORM from the default setup on the Exadata System on the Cloud.

Access Details

ⓘ **User Name and Temporary Password**
Use these credentials to sign in to My Services and your Service Console URL.

Username: binoy.sukumaran@oracle.com
Temporary Password: Aw78WN22
Identity Domain: a424641

Access Details

ⓘ **User Name and Temporary Password**
Use these credentials to sign in to My Services and your Service Console URL.

Username: binoy.sukumaran@oracle.com
Temporary Password: Aw78WN22
Identity Domain: a424641

My Account Administration
Use My Account to manage services from all identity domains and data centers, activate services, monitor service status, view historical usage data, and add account administrators.

My Account URL: https://myaccount.cloud.oracle.com/mycloud/faces/dashboard.jspx
Username: Use your Oracle account user name.
Password: Use your Oracle account password.

If you're not going to be the primary administrator, then follow these instructions about how to assign primary administrator duties to another user.

My Services Administration
Use My Services to add and manage user access to the service, monitor your service status, view current and historical usage data, see maintenance notifications, and add or delete contacts for these notifications.

My Services URL: https://myservices.us.oraclecloud.com/mycloud/a424641/faces/dashboard.jspx
Identity Domain: a424641

If you're not going to be the primary administrator, then follow these instructions about how to assign primary administrator duties to another user.

Note: You, or the primary administrator that you designate, must add contacts for your organization to begin receiving maintenance notifications. You'll also need to maintain the list of contacts on an ongoing basis. Review the Help information within My Services Administration for instructions. To access Help, click your User Name at the top right of any page, and Help will appear in the drop-down menu.

Subscription Details

ORACLE Cloud

Hello Admin,

Welcome to Oracle Cloud and thank you for subscribing to Exadata Cloud Service - Custom. You're the primary administrator for your organization's Exadata Cloud Service - Custom. This includes My Account Administration and My Services Adminis...

Some s...
details b...

Your ac...
service ...
managi...

Getting ...

• T...
• Y...
  b...
  in...

File a S...
more de...

1. A...
2. S...
3. R...

Acce...

Access Details

User Name and Temporary Password

Use these credentials to sign in to My Services and your Service Console URL.

Username: binoy.sukumaran@oracle.com
Temporary Password: Aw78WN22

Subscription Details

Click to Provision Exadata in Cloud

Exadata Cloud Service - Custom:

- **Data Center:** US Commercial 2
- **Service Console URL:** https://dbaas.oraclecloud.com/dbaas/faces/dbRunner.jspx

Order Details

- **Order ID:** ExadataQtrRackOAE1553
- **Order Date:** Friday, September 16, 2016 9:43 AM CDT

the top right of any page, and Help will appear in the drop-down menu.

User Name and Temporary Password

Use these credentials to sign in to My Services and your Service Console URL.

Username: binoy.sukumaran@oracle.com
Temporary Password: Aw78WN22
Identity Domain: a424641

Subscription Details

Cloud Login Portal

ORACLE CLOUD My Services

📊 **Dashboard** 👥 Users 📧 Notifications

Account **a424641** ▾

O Important
Notifications

Dashboard

Create Instance ▾   Customize Dashboard ▾

Switch to original Dashboard

ⓘ You have access to services not currently displayed on your Dashboard. Click on Customize Dashboard to view the list of all services you have access to, and to update your favorite services.

No Exadata instance yet!

ORACLE CLOUD My Services

Dashboard ⬛ Users 📇 Notifications

Account a424641 ▼

0 Important Notifications

Dashboard

Create Instance ▼ | Customize Dashboard ▼

Switch to original Dashboard

⬛ Exadata

ℹ️ You have access to services not currently displayed on your Dashboard. Click on Customize Dashboard to view the list of all services you have access to, and to update your favorite services.

Time to create one!

Create New Oracle Database Cloud - Exadata Service Instance

Cancel   ● **Instance Details** ──── ○ Create Service Instance   Next ❯

Instance Details

Provide the instance details you want for your service.

Instance Details

* Name   [New Instance Name]   ?

* Data Center   [▾]

* Plan   [Exadata Cloud Service - Custom ▾]

* Rack size   [Quarter Rack ▾]

Additional number of OCPUs (Cores)   [ ]

0 Available

* Exadata System Name   [ ]   ?

* Database backups on Exadata Storage   ☐   ?

Administrator Details

* Email   [binoy.sukumaran@oracle.com]   ?

☐ Use email as user name

* User Name   [binoy.sukumaran@oracle.com]

* First Name   [Admin]

* Last Name   [Admin]

Fill in Service Details, including Preferred Data Center Location

Create New Oracle Database Cloud - Exadata Service Instance

Cancel

● Instance Details ──── ○ Create Service Instance

Next ❯

Instance Details

Provide the instance details you want for your service.

📋 Instance Details

* Name | salesdivision | ❓

* Data Center | US Commercial 2 ▼

* Plan | Exadata Cloud Service - Custom ▼

* Rack size | Quarter Rack ▼

Additional number of OCPUs (Cores) | 0
0 Available

* Exadata System Name | exadatatest | ❓

* Database backups on Exadata Storage | ☐ ❓

🔑 Administrator Details

* Email | binoy.sukumaran@oracle.com | ❓

☐ Use email as user name

* User Name | binoy.sukumaran@oracle.com

* First Name | Admin

* Last Name | Admin|

Details filled in

Create New Oracle Database Cloud - Exadata Service Instance

◀ | Cancel

○ Instance Details ●━━ Create Service Instance

Create Service Instance ▶

Confirmation

Please confirm your responses to create the instance.

When you click Create Instance, the provisioning of the new instance will be initiated and you will be navigated to the Instances list page for the selected service where you can monitor the status of the new instance. When the new service instance is Active, the status will be updated and links to the administration console and/or the service instance will be available in the Instances list page.

Also, when the service instance is active all the administrators with access to the new instance will be notified by email.

Instance Details

Name: salesdivision

Data Center: US002

Plan: Exadata Cloud Service - Custom

Rack size: Quarter Rack

Additional number of OCPUs (Cores): 0

Exadata System Name: exadatatest

Database backups on Exadata Storage: N

Administrator Details

Email: binoy.sukumaran@oracle.com

User Name: binoy.sukumaran@oracle.com

First Name: Admin

Last Name: Admin

Review and Create the Exadata Instance!

Exadata Cloud Service

1 Introduction

2 Service Details

3 Provisioning: Exadata Cloud Instance

4 **Provisioning: Database Service**

5 Using Exadata Service

6 Summary

ORACLE® CLOUD My Services

Oracle Database Cloud Service   Services   Activity   SSH Access

Welcome! | REST APIs

Provisioned Quarter Rack

Summary

2	16	480 GB	43,008 GB	2
Services	OCPUs	Memory	Storage	Public IPs

Services

Enter a full or partial service name 🔍

As of Aug 12, 2016 5:13:14 PM UTC ↻   **Create Service**

CRM
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 8:27:24 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

EXADB12C
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme

Created On: Aug 4, 2016 9:38:54 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

DB Services already created

Create a new DB Service

32

Provision New Oracle Database Cloud Service

Create Oracle 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.

33

Provision New Oracle Database Cloud Service

Create Oracle 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

Provision New Oracle Database Cloud Service

Create Oracle 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 [EXCSPOC2 - Quarter Rack (2 nodes) ↕]

⏱ Backup and Recovery Configuration

* Backup Destination [Cloud Storage Only ↕]

* Cloud Storage Container [   ] ❓

* Cloud Storage User Name [   ]

* Cloud Storage Password [   ]

Create Cloud Storage Container ☐ ❓

☁ Database Configuration

* Administration Password [   ] ❓

* Confirm Password [   ] ❓

Enable Oracle GoldenGate ☐ ❓

35

Provision New Oracle Database Cloud Service

Create Oracle Database Cloud Service Instance

[◀ Previous] [Cancel]

○ Subscription — ○ Release — ○ Edition — ● **Details** — ○ Confirmation

[Next ▶]

Assign name to Service

Service Details
Provide details for this Oracle Database Cloud Service instance.

☁ Service Configuration

* Service Name   SALES   ❓

Description   My Sales DB   ❓

* Exadata System   EXCSPOC2 - Quarter Rack (2 nodes)   ❓

☁ Database Configuration

* Administration Password   [   ]   ❓

* Confirm Password   [   ]   ❓

🕐 Backup and Recovery Configuration

* Backup Destination   Cloud Storage Only ⬍

* Cloud Storage Container   [   ]   ❓

* Cloud Storage User Name   [   ]

* Cloud Storage Password   [   ]

Create Cloud Storage Container   ☐   ❓

Enable Oracle GoldenGate   ☐   ❓

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Provide details for this Oracle Database Cloud Service instance.

Service Configuration

* Service Name: SALES
Description: My Sales DB
* Exadata System: EXCSPOC2 - Quarter Rack (2 nodes)

Backup and Recovery Configuration

* Backup Destination: Cloud Storage Only
* Cloud Storage Container:
* Cloud Storage User Name:
* Cloud Storage Password:
Create Cloud Storage Container: ☐

Database Configuration

* Administration Password: ••••••••
* Confirm Password: ••••••••
* DB Name (SID): SALES
* PDB Name: SALESPDB

Enable Oracle GoldenGate: ☐

Credentials, CDB/PDB Names

Provision New Oracle Database Cloud Service

Create Oracle 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: SALES
Description: My Sales DB
Exadata System: EXCSPOC2 - Quarter Rack (2 nodes)
DB Name (SID): SALES
PDB Name: SALESPDB
Standby Database with Data Guard: No
Disaster Recovery: No
Include GoldenGate: No

Backup Destination: Cloud Storage Only
Username: storage@oracle.com
Cloud Storage Container: Storage-iaas/exaBackupContainer

Review and Create the DB Service!

EDCS-POC2_US@oracle.com ▾

ORACLE® CLOUD My Services

| | Oracle Database Cloud Service | Services | Activity | SSH Access | | Welcome! | REST APIs |

Summary

3	16	480 GB	43,008 GB	2
Services	OCPUs	Memory	Storage	Public IPs

Services

Enter a full or partial service name   🔍   As of Aug 12, 2016 5:22:58 PM UTC ↻   **Create Service**

CRM
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 8:27:24 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

New DB Service created!!

SALES
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 7:28:42 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

EXADB12C
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme

Created On: Aug 4, 2016 9:38:54 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

40

Summary

2	16	480 GB	43,008 GB
Nodes	OCPUs	Memory	Storage

As of Sep 26, 2016 5:32:43 PM UTC

Instance : SALES1
Public IP: 129.152.190.66

OCPUs: 8
Memory: 240 GB

Instance : SALES2
Public IP: 129.152.190.68

OCPUs: 8
Memory: 240 GB

Additional Information

Identity Domain:	a422142
Edition:	Enterprise Edition - Extreme Performance
Service Level:	Oracle Database Cloud - Exadata Service
Subscription Type:	Monthly
Connect String:	(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(HOST=129.152.190.70)(PORT=1521)(PROTOCOL=TCP))(ADDRESS=(HOST=129.152.190.71)(PORT=1521)(PROTOCOL=TCP))(ADDRESS=(HOST=129.152.190.72)(PORT=1521)(PROTOCOL=TCP)))(CONNECT_DATA=(SERVICE_NAME=SALESPDB.us2.oraclecloud.com)))
Created On:	Aug 8, 2016 7:28:42 PM UTC
Created By:	EDCS-POC2_US@oracle.com
Backup Destination:	None
Container Name:	SALES
PDB Name:	SALESPDB

show less

Ready with Connect String!

Exadata Cloud Service

Best Practices: Deploying Databases with Exadata Service

- Application latency
  - Deploy middle-tier on Oracle 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

- Database Updates and Validation
  - Oracle provides regular Database and Security updates when available
  - Keep database deployment updated to recommended levels
  - Self-service UI available to apply Database Updates
  - Verify backup & recovery processes by regularly recovering databases from automated backups

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I/O Resource Management

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Using I/O Resource Manager (IORM) With Exadata Service

Managing a Large Number of Databases

- Prioritize I/O resources among different databases

- Share I/O resources automatically according to user-defined policies

- Every database automatically assigned a default share value of 1 ensuring every database receives an even share of the available I/O resources

- Share values can be between 1-32 based on workload requirements

https://dbaas.oraclecloud.com/dbaas/faces/dbRunner.jspx?_afrLoop=12662088718042127&_afrWindowMode=0&_adf.ctrl-state=ffdkclcwk_4

EDCS-POC2_US@oracle.com ▾

ORACLE CLOUD My Services

Oracle Database Cloud Service   **Services**   Activity   SSH Access   Welcome! | REST APIs

Summary

5	**16**	**480** GB	**43,008** GB	**2**
Services	OCPUs	Memory	Storage	Public IPs

Services

Enter a full or partial service name 🔍

As of Sep 2, 2016 6:04:57 PM UTC   **Create Service**

BICS-DB
Version: 11.2.0.4
Edition: Enterprise Edition - Extreme Performance

Created On: Sep 2, 2016 11:59:42 AM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

DATAGUARD2
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 26, 2016 6:06:48 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

To configure IORM, click service menu

CRM
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 8:27:24 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

SALES
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 7:28:42 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

EXADB12C
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 4, 2016 9:38:54 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

EDCS-POC2_US@oracle.com ▾

ORACLE® CLOUD My Services

Oracle Database Cloud Service   Services   Activity   SSH Access

Welcome! | REST APIs

Summary	5	16	480 GB	43,008 GB	2
	Services	OCPUs	Memory	Storage	Public IPs

Services

Enter a full or partial service name

As of Sep 2, 2016 6:04:57 PM UTC   **Create Service**

Open EM Console

SSH Access

Update Exadata IORM

Delete

BICS-DB
Version: 11.2.0.4
Edition: Enterprise Edition - Extreme Performance

Created On: Sep 2, 2016 11:59:42 AM UTC
Exadata System: EXCSPOC2

DATAGUARD2
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 26, 2016 6:06:48 PM UTC
Exadata System: EXCSPOC2

CRM
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 8:27:24 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

SALES
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 8, 2016 7:28:42 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

EXADB12C
Version: 12.1.0.2
Edition: Enterprise Edition - Extreme Performance

Created On: Aug 4, 2016 9:38:54 PM UTC
Exadata System: EXCSPOC2

OCPUs: 16.0
Memory: 480 GB
Storage: 42 TB

Online Compute Bursting

Online Scale-up Through Compute Bursting

- Grow/shrink compute capacity to meet peak or seasonal demands

- Dynamically add or reduce OCPUs as often as once an hour

- Hourly rates to lower costs – avoids the need to provision for peak

- Burst up to 2x the base number of OCPUs or max capacity (whichever is lower)

- GUI-based self-service
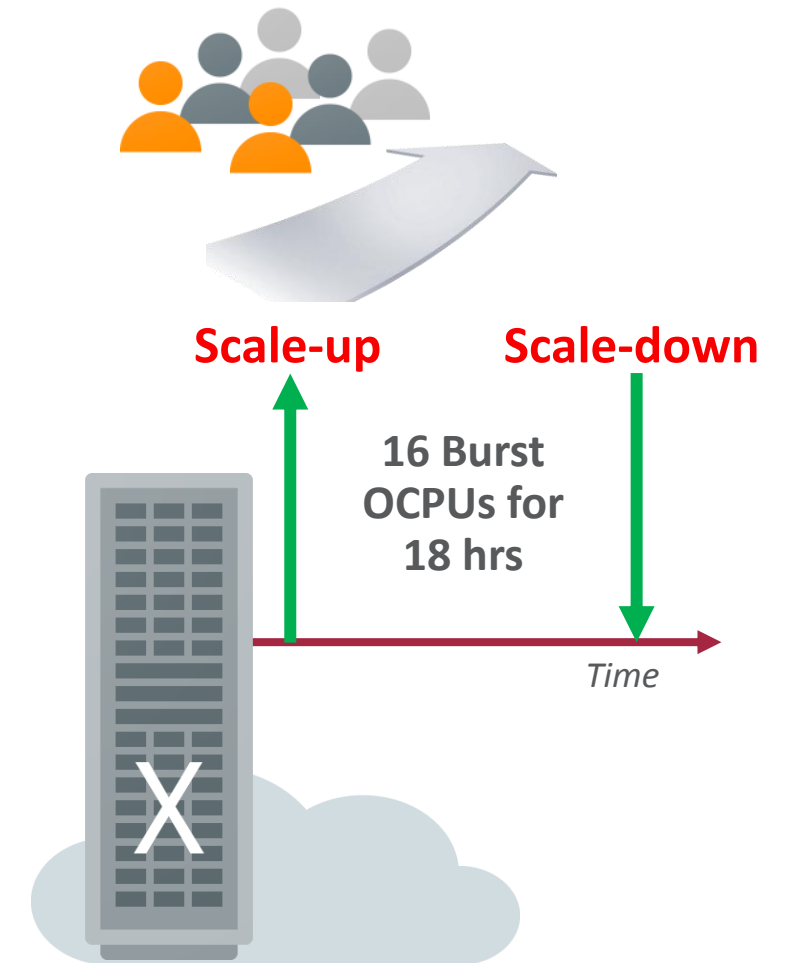
Scale-up   **Scale-down**

16 Burst
OCPUs for
18 hrs

Time

ORACLE®

https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/yif0906/faces/dashboard.jspx?_afrLoop=118428938992445&_afrWindowMode=0&_afrWindowId=17xmikniae_3&_adf.ctrl-state=17xmikniae_7

yif0906 | Preferences ▾ yifan.ding@oracle.com ▾

ORACLE CLOUD My Services

📊 Dashboard   👥 Users   🔔 Notifications

Account **yif0906** ▾

❓

0 Important Notifications

Exadata
8 Additional n...
Overage

Exadata
1 of 2 Quarter Ra...
Remaining

Dashboard

Switch to original Dashboard

Create Instance ▾   Customize Dashboard ▾

Exadata ⭐ ⚙ ☰
1 Instances ✅ ① 0 0

To burst, click Service Edit menu ⟵

https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/yif0906/faces/dashboard.jspx?_afrLoop=118428938992445&_afrWindowMode=0&_afrWindowId=17xmikniae_3&_adf.ctrl-state=17xmikniae_7

yif0906 | Preferences ▾ yifan.ding@oracle.com ▾

ORACLE CLOUD My Services

Dashboard | Users | Notifications

Account **yif0906** ▾

0 Important Notifications

Exadata
8 Additional n...
Overage

Exadata
1 of 2
Quarter Ra...
Remaining

Dashboard

Switch to original Dashboard

Create Instance ▾ | Customize Dashboard ▾

Exadata
1 Instances

View Details
Open Service Console

Choose "View Details"

https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/faces/gServiceDetail.jspx?entitlementServiceId=502299316&_adf.ctrl-state=1dnpqk5ysh_6&_afrLoop=62820019765053

yif0906 | Preferences ▾ | yifan.ding@oracle.com ▾

ORACLE CLOUD My Services

Dashboard | Users | Notifications

▸ Service Details: **Oracle Database Exadata Cloud Service**

[Open Service Console]

Overview
1 provisioned instances

Billing Metrics

Resource Quotas
configure alerts

Documents

Firewall

Status

Security Configuration

Additional Information

Plan:	Oracle Database Exadata Clo...	Data Center:	US Commercial 1
Service Start Date:	6-Sep-2016	Version:	16.3.6.0.0
Subscription ID:	1200008	Status:	Active
Service Instance ID:	502299316	REST Endpoint:	http://ott00adf.ca.oracle.com:
Customer Account:	Quest International Users G...		
CSI Number:	20041205		

Service Instances

[Create Service Instance] ⟳ Show: Active ▾

exadatacloud02

Service Type: Exadata
Instance Id: 502309542
Status: Active
Size: Exadata Cloud Service - Custom

Exadata System Name: exadata-sys
Database backups on Exadata Storage: Y
Rack size: Quarter Rack
Additional number of Burst OCPUs (Cores)
Hourly: 0

Administrator: yifan.ding@oracle.com
Requested By: yifan.ding@oracle.com

REST Endpoint: http://ott00adf.ca.oracle.c

Exadata Instance Service Console

Brian

https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/faces/gServiceDetail.jspx?entitlementServiceId=502299316&_adf.ctrl-state=1dnpqk5ysh_6&_afrLoop=62820019765053

ORACLE CLOUD My Services

▋▋ Dashboard   👥 Users   🔗 Notifications

☁ ▶ Service Details: **Oracle Database Exadata Cloud Service**

[Open Service Console] ☰

❓

Overview
1 provisioned instances

Billing Metrics

Resource Quotas
configure alerts

Documents

Firewall

Status

Security Configuration

Additional Information

Plan:	Oracle Database Exadata Clo...	**Data Center:**	US Commercial 1
Service Start Date:	6-Sep-2016	**Version:**	16.3.6.0.0
Subscription ID:	1200008	**Status:**	Active
Service Instance ID:	502299316	**REST Endpoint:**	http://ott00adf.ca.oracle.com
Customer Account:	Quest International Users G...		
CSI Number:	20041205		

Service Instances

[Create Service Instance] ↻   Show: Active ▾

exadatacloud02   ☰

Service Type: Exadata

Instance Id: 502309542

Status: Active

Size: Exadata Cloud Service - Custom

Exadata System Name: exadata-sys
Database backups on Exadata Storage: Y
Rack size: Quarter Rack
Additional number of Burst OCPUs (Cores)
Hourly: 0

**Exadata Quarter Rack,
Zero OCPUs burst so far**

yif0906 | Preferences ▾ | yifan.ding@oracle.com ▾

ORACLE CLOUD My Services

📊 Dashboard　　👥 Users　　🔔 Notifications

☁ ▶ Service Details: **Oracle Database Exadata Cloud Service**　　　　　**Open Service Console** ☰　　❓

Overview
1 provisioned instances

Billing Metrics

Resource Quotas
configure alerts

Documents

Firewall

Status

Security Configuration

Additional Information

Plan:	Oracle Database Exadata Clo...	Data Center:	US Commercial 1
Service Start Date:	6-Sep-2016	Version:	16.3.6.0.0
Subscription ID:	1200008	Status:	Active
Service Instance ID:	502299316	REST Endpoint:	http://ott00adf.ca.oracle.com
Customer Account:	Quest International Users G...		
CSI Number:	20041205		

Service Instances　　　　　**Create Service Instance** ↻　　Show: Active ▾

☰

exadatacloud02

Service Type: Exadata　　　　　　Administrator: yifan.ding@oracle.com
Instance Id: 502309542　　　　　Requested By: yifan.ding@oracle.com
Status: Active
Size: Exadata Cloud Service - Custom　　REST Endpoint: http://ott00adf.ca.oracle.c
Exadata System Name: exadata-sys
Database backups on Exadata Storage: Y
Rack size: Quarter Rack
Additional number of Burst OCPUs (Cores)
Hourly: 0

Delete

Modify

Create Like

Associate Security Gr...

ORACLE® CLOUD My Services

yif0906 | Preferences ▾ | yifan.ding@oracle.com ▾

Modify Oracle Database Exadata Cloud Service Instance

Cancel

● ──── ○
Instance Details Modify

Next ❯

Instance Details

To modify the Exadata Instance characteristics, please specify the attributes and their values. In some cases, the values will be additive, e.g. when you add OCPUs (cores) to your existing Exadata Service.

ⓘ You are permitted to use resources above your subscription rate at additional cost. Details

Instance Details

* Name   exadatacloud02

○ Subscription
● Burst

Increase the number of cores in your Exadata service to higher than the subscription allocation. You can burst to maximum 8 per Compute Node.

Changes reflected in this slider are applied symmetrically over all compute nodes.

Current Configuration:

Rack size: Quarter Rack

Compute Nodes: 2

Total OCPUs (Cores) per Compute Node: 8

    Subscription OCPUs (Cores) per Compute Node: 8

    Burst OCPUs (Cores) per Compute Node: 0

Total OCPUs (Cores): 16

Configuration after Update:

Total OCPUs (Cores) per Compute Node: 8

    Subscription OCPUs (Cores) per Compute Node: 8

    Burst OCPUs (Cores) per Compute Node: 0

Total OCPUs (Cores): 16

Additional number of Burst OCPUs (Cores) Hourly: 0

OCPUs (Cores) per Compute Node

─   ✚

8   9   10   11   12   13   14   15   16

8

Reset

Slider to choose number of burst OCPUs

ORACLE CLOUD My Services

yif0906 | Preferences ▾ | yifan.ding@oracle.com ▾

Modify Oracle Database Exadata Cloud Service Instance

[Cancel]   ● ──── ○   [Next ❯]
                         Instance Details Modify

Instance Details

To modify the Exadata Instance characteristics, please specify the attributes and their values. In some cases, the values will be additive, e.g. when you add OCPUs (cores) to your existing Exadata Service.

ⓘ You are permitted to use resources above your subscription rate at additional cost. Details

▤ **Instance Details**

* Name   exadatacloud02

○ Subscription
● Burst

Increase the number of cores in your Exadata service to higher than the subscription allocation. You can burst to maximum 8 per Compute Node.

Changes reflected in this slider are applied symmetrically over all compute nodes.

Current Configuration:

Rack size: Quarter Rack

Compute Nodes: 2

Total OCPUs (Cores) per Compute Node: 8

    Subscription OCPUs (Cores) per Compute Node: 8

    Burst OCPUs (Cores) per Compute Node: 0

Total OCPUs (Cores): 16

Configuration after Update:

Total OCPUs (Cores) per Compute Node: 16

    Subscription OCPUs (Cores) per Compute Node: 8

    Burst OCPUs (Cores) per Compute Node: 8

Total OCPUs (Cores): 32

OCPUs (Cores) per Compute Node

[− ═══════════════════════════════ +]
  8   9   10 11 12 13 14 15 16
                                  16

[**Reset**]

Additional number of Burst OCPUs (Cores) Hourly: 16

Choose max number of burst OCPUs

ORACLE® CLOUD My Services

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Modify Oracle Database Exadata Cloud Service Instance

Cancel

○——○
Instance Details   Modify

Next ❯

Instance Details

To modify the Exadata Instance characteristics, please specify the attributes and their values. In some cases, the values will be additive, e.g. when you add OCPUs (cores) to your existing Exadata Service.

ⓘ You are permitted to use resources above your subscription rate at additional cost. Details

📋 **Instance Details**

* Name   exadatacloud02

○ Subscription
● Burst

Increase the number of cores in your Exadata service to higher than the subscription allocation. You can burst to maximum 8 per Compute Node.

Changes reflected in this slider are applied symmetrically over all compute nodes.

Consider the processing requirements of existing databases before lowering the number of OCPUs (Cores).
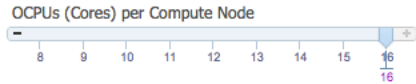
OCPUs (Cores) per Compute Node
—————————————●—⊞
8   9   10   11   12   13   14   15   16
                                    16

Reset

Current Configuration:
Rack size: Quarter Rack
Compute Nodes: 2
Total OCPUs (Cores) per Compute Node: 8
    Subscription OCPUs (Cores) per Compute Node: 8
    Burst OCPUs (Cores) per Compute Node: 0

Total OCPUs (Cores): 16

Summary of Burst OCPUs

Configuration after Update:

Total OCPUs (Cores) per Compute Node: 16

    Subscription OCPUs (Cores) per Compute Node: 8

    Burst OCPUs (Cores) per Compute Node: 8

Total OCPUs (Cores): 32

Additional number of Burst OCPUs (Cores) Hourly: 16

https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/faces/createInstance.jspx?_adf.ctrl-state=1dnpqk5ysh_6&sbe=y&subId=1200008&idm=yif0906&svcType=Exadata&entitlementServiceId=502299316&parent=gServiceDetail&instId=502309542&updIns...

ORACLE® CLOUD My Services

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Modify Oracle Database Exadata Cloud Service Instance

[◀] Cancel   ○ ——— ●   Modify [▶]
Instance Details   Modify

Confirmation

Please confirm your responses to modify the instance. When you click Modify, you will be navigated to the Instances list page for the selected service. Note that the update request may take some time to complete. When the update is completed, all the administrators with access to the new instance will be notified by email.

ⓘ You are permitted to use resources above your subscription rate at additional cost. Details

📋 **Instance Details**

   Name: exadatacloud02

Confirm the following changes:

Rack size: Quarter Rack

Compute Nodes: 2

Subscription OCPUs (Cores) per Compute Node: 8

Burst OCPUs (Cores) per Compute Node: 8

Total OCPUs (Cores) per Compute Node: 16

Total OCPUs (Cores): 32

Additional number of Burst OCPUs (Cores) Hourly: 16

Confirm and Submit!

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https://clouddc.dc1.c9dev1.oraclecorp.com/mycloud/faces/gServiceDetail.jspx?_adf.ctrl-state=1dnpqk5ysh_6&entitlementServiceId=502299316&parent=dashboard&_afrLoop=62885826244063

yif0906 | Preferences ▼ | yifan.ding@oracle.com ▼

ORACLE® CLOUD My Services

Dashboard | **Users** | **Notifications**

▶ Service Details: **Oracle Database Exadata Cloud Service**

Open Service Console

Overview
1 provisioned instances

Billing Metrics

Resource Quotas
configure alerts

Documents

Firewall

Status

Security Configuration

Additional Information

Plan:	Oracle Database Exadata Clo...	**Data Center:**	US Commercial 1
Service Start Date:	6-Sep-2016	**Version:**	16.3.6.0.0
Subscription ID:	1200008	**Status:**	Active
Service Instance ID:	502299316	**REST Endpoint:**	http://ott00adf.ca.oracle.com
Customer Account:	Quest International Users G...		
CSI Number:	20041205		

Service Instances

Create Service Instance | ↻ | **Show: Active** ▼

exadatacloud02

Service Type: Exadata

Instance Id: 502309542

Status: Active

Size: Exadata Cloud Service - Custom

Exadata System Name: exadata-sys
Database backups on Exadata Storage: Y
Rack size: Quarter Rack
Additional number of Burst OCPUs (Cores)
Hourly: 16

)oracle.com
)oracle.com
t00adf.ca.oracle.c

Done!

Management through
Hybrid Enterprise Manager (single pane of glass)

ORACLE®

Brian

https://oraclecloudem.com:7802/em/faces/cluster-home?target=EXCSPOC2-009&type=cluster

ORACLE Enterprise Manager Cloud Control 13c

Targets ▾ | ★ Favorites ▾ | History ▾ | ⚙ Setup ▾ | SYSMAN ▾

⬆ **EXCSPOC2-009** ⓘ ⟵

💻 cfcldv0420m.us2.oraclecloud.com

Enterprise Manager sees Exadata Cloud Service as a cluster

🖥 Cluster ▾ Administration ▾

Page Refreshed Sep 9, 2016 4:45:24 PM GMT

Summary

Status	⬆ Up
Cluster Name	EXCSPOC2-009
Hosts Status	⬆ 2
Clusterware Status	⬆ 2
Cluster Mode	Regular Cluster
Reconfiguration Activities	Happened

Configuration Changes

Configuration Changes 8

Patch Recommendations

View by ⦿ Classification ◯ Target Type

Patch recommendations are not available.

⚠ My Oracle Support preferred credential is not set for any super user. Either set the preferred credentials or change the connection setting to offline and manually upload the metadata required for generating patch recommendations.

No recommendations to report Learn More

Job Activity

Summary of jobs whose start date is within the last 7 days.

Show Latest Run ⬍ Search Job Name ⬍ 🔍

▸ ⓘ Show Jobs

Clusterware

View Clusterware ⬍

View ▾ 🔲 Detach

Name	Status	Incidents ⚠	⊗	⊖	⚑	Compliance Score(%)	Host
has_cfcldv0420m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0420m.us2.oraclecloud.com
has_cfcldv0421m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0421m.us2.oraclecloud.com

Cluster Managed Resources

View Cluster Databases ⬍

View ▾ 🔲 Detach

Database Name	Sta	Incidents ⊖	⊗	⚠	⚑	Compliance Score(%)	Version
🗄 BICSDB ExaCS	⬆	0	0	0	0		11.2.0.4.0
🗄 CRM ExaCS	⬆	0	0	0	0		12.1.0.2.0
🗄 DG2 ExaCS	⬆	0	0	0	0		12.1.0.2.0
🗄 SALES ExaCS	⬆	0	0	0	0		12.1.0.2.0

Server Pools

View ▾ 🔲 Detach

Name	Minimum Size	Maximum Size	Importan	Active Servers
Free	0	Entire Cluster	0	
Generic	0	Entire Cluster	0	cfcldv0420m cfcldv0421m
ora.BICSDB	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.CRM	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.DG2	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.ORCL	0	Entire Cluster	1	cfcldv0420m cfcldv0421m

https://oraclecloudem.com:7802/em/faces/cluster-home?Adf-Page-Id=35&target=EXCSPOC2-009&type=cluster

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▾   Targets ▾   Favorites ▾   History ▾   Setup ▾   SYSMAN ▾

⬆ EXCSPOC2-009 ⓘ   cfcldv0420m.us2.oraclecloud.com

Cluster ▾   Administration ▾   Page Refreshed Sep 9, 2016 4:45:24 PM GMT

Summary

Status ⬆ Up
Cluster Name EXCSPOC2-009
Hosts Status ⬆ 2
Clusterware Status ⬆ 2
Cluster Mode Regular Cluster
Reconfiguration Activities Happened

Configuration Changes

Configuration Changes 8

Patch Recommendations

View by ⦿ Classification ○ Target Type

Patch recommendations are not available.

⚠ My Oracle Support preferred credential is not set for any super user. Either set the preferred credentials or change the connection setting to offline and manually upload the metadata required for generating patch recommendations.

No recommendations to report   Learn More

Job Activity

Summary of jobs whose start date is within the last 7 days.

Show Latest Run ⬍   Search Job Name ⬍

▸ ⓘ Show Jobs

Clusterware

View Clusterware ⬍

View ▾   Detach

Name	Status	Incidents ⚠	❌	⊖	🚩	Compliance Score(%)	Host
has_cfcldv0420m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0420m.us2.oraclecloud.com
has_cfcldv0421m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0421m.us2.oraclecloud.com

ASM Disk groups

Cluster Managed Resources

View Cluster ASM ⬍

View ▾   Detach

Name	Status	Incidents ⊖	❌	⚠	🚩	Compliance Score(%)
+ASM_EXCSPOC2-009	⬆	0	6	0	0	

Server Pools

View ▾   Detach

Name	Minimum Size	Maximum Size	Importan	Active Servers
Free	0	Entire Cluster	0	
Generic	0	Entire Cluster	0	cfcldv0420m cfcldv0421m
ora.BICSDB	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.CRM	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.DG2	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.ORCL	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.SALES	0	Entire Cluster	1	cfcldv0420m cfcldv0421m

Columns Hidden 2

Brian

https://oraclecloudem.com:7802/em/faces/cluster-home?Adf-Page-Id=35&target=EXCSPOC2-009&type=cluster

ORACLE® Enterprise Manager Cloud Control 13c

Enterprise ▾ | Targets ▾ | Favorites ▾ | History ▾ | Setup ▾ | SYSMAN ▾

⬆ EXCSPOC2-009 ⓘ

🖥 cfcldv0420m.us2.oraclecloud.com

🖥 Cluster ▾ Administration ▾

Page Refreshed Sep 9, 2016 4:45:24 PM GMT

Cluster databases on the Exadata Cloud Service

Summary

Status ⬆ Up
Cluster Name EXCSPOC2-009
Hosts Status ⬆ 2
Clusterware Status ⬆ 2
Cluster Mode Regular Cluster
Reconfiguration Activities Happened

Configuration Changes

Configuration Changes 8

Patch Recommendations

View by ⦿ Classification ◯ Target Type

Patch recommendations are not available.

⚠ My Oracle Support preferred credential is not set for any super user. Either set the preferred credentials or change the connection setting to offline and manually upload the metadata required for generating patch recommendations.

No recommendations to report Learn More

Job Activity

Summary of jobs whose start date is within the last 7 days.

Show Latest Run ▾ Search Job Name ▾

▶ ⓘ Show Jobs

Clusterware

View Clusterware ▾

View ▾ Detach

Name	Status	Incidents ⚠	Incidents ⓧ	Incidents ⊖	Incidents ⚑	Compliance Score(%)	Host
has_cfcldv0420m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0420m.us2.oraclecloud.com
has_cfcldv0421m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0421m.us2.oraclecloud.com

Cluster Managed Resources

View Cluster Databases ▾

View ▾ Detach

Database Name	Sta	Incidents ⊖	Incidents ⓧ	Incidents ⚠	Incidents ⚑	Compliance Score(%)	Version
🖥 BICSDB ExaCS	⬆	0	0	0	0		11.2.0.4.0
🖥 CRM ExaCS	⬆	0	0	0	0		12.1.0.2.0
🖥 DG2 ExaCS	⬆	0	0	0	0		12.1.0.2.0
🖥 SALES ExaCS	⬆	0	0	0	0		12.1.0.2.0

Server Pools

View ▾ Detach

Name	Minimum Size	Maximum Size	Importan	Active Servers
Free	0	Entire Cluster	0	
Generic	0	Entire Cluster	0	cfcldv0420m cfcldv0421m
ora.BICSDB	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.CRM	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.DG2	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.ORCL	0	Entire Cluster	1	cfcldv0420m cfcldv0421m

Brian

https://oraclecloudem.com:7802/em/faces/cluster-home?Adf-Page-Id=35&target=EXCSPOC2-009&type=cluster

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▼   Targets ▼   Favorites ▼   History ▼   Setup ▼   SYSMAN ▼

⬆ EXCSPOC2-009 ⓘ

🖥 cfcldv0420m.us2.oraclecloud.com

Cluster ▼   Administration ▼

Page Refreshed Sep 9, 2016 4:45:24 PM GMT

Summary

Status	⬆ Up
Cluster Name	EXCSPOC2-009
Hosts Status	⬆ 2
Clusterware Status	⬆ 2
Cluster Mode	Regular Cluster
Reconfiguration Activities	Happened

Configuration Changes

Configuration Changes   8

Patch Recommendations

View by ● Classification   ○ Target Type

Patch recommendations are not available.

⚠ My Oracle Support preferred credential is not set for any super user. Either set the preferred credentials or change the connection setting to offline and manually upload the metadata required for generating patch recommendations.

No recommendations to report   Learn More

Job Activity

Summary of jobs whose start date is within the last 7 days.

Show Latest Run ⬍   Search Job Name ⬍

▶ ⓘ Show Jobs

Clusterware

View Clusterware ⬍

View ▼   Detach

Name	Status	Incidents ⚠	❌	⊖	🚩	Compliance Score(%)	Host
has_cfcldv0420m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0420m.us2.oraclecloud.com
has_cfcldv0421m.us2.oraclecloud....	⬆	0	0	0	0		cfcldv0421m.us2.oraclecloud.com

Cluster Managed Resources

View Cluster Databases ⬍

View ▼   Detach

Database Name	Sta	Incidents ⊖	❌	⚠	🚩	Compliance Score(%)	Version
🖥 BICSDB ExaCS	⬆	0	0	0	0		11.2.0.4.0
🖥 CRM ExaCS	⬆	0	0	0	0		12.1.0.2.0
🖥 DG2 ExaCS	⬆	0	0	0	0		12.1.0.2.0
🖥 SALES ExaCS	⬆	0	0	0	0		12.1.0.2.0

Click the SALES database on the Exadata Cloud Service

Server Pools

View ▼   Detach

Name	Minimum Size	Maximum Size	Importan	Active Servers
Free	0	Entire Cluster	0	
Generic	0	Entire Cluster	0	
ora.BICSDB	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.CRM	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.DG2	0	Entire Cluster	1	cfcldv0420m cfcldv0421m
ora.ORCL	0	Entire Cluster	1	cfcldv0420m cfcldv0421m

Availability of Advanced Database Features: Multitenant, In-Memory, etc.

ORACLE®

Enterprise Manager makes putting tables in-memory simple with a few clicks of the mouse

Using the Schema menu select:
Database Objects -> Tables

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▾   Targets ▾   ★ Favorites ▾   History ▾   ⚙ Setup ▾   SYSMAN ▾

⬆ Exadata Cloud Service (Container Database)▾ ℹ

Logged in as sys 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   Schema ▾   Administration ▾

Tables

Recycle Bin

Object Type | Table

Search

Select an object type and optionally enter a schema name and an object name to filter the data that is displayed in your results set.

Container [ ] 🔍
Schema [SALES] 🔍
Object Name [ ]

Go

By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-sensitive match, double quote the search string. You can use the wildcard symbol (%) in a double quoted string.

Create

Edit | View | Delete With Options | Actions [Create Like] Go

Select	Container	Schema	Table Name	Tablespace	Partitioned	Rows ▼	Last Analyzed
○	PDB1	SALES	DEMO_STATES	APEX_1680681501661528	NO	51	Sep 2, 2016 5:00:17 AM UTC
○	PDB1	SALES	DEMO_ORDER_ITEMS	APEX_1680681501661528	NO	49	Sep 2, 2016 5:00:17 AM UTC
○	PDB1	SALES	EMP	APEX_1680681501661528	NO	14	Sep 2, 2016 5:00:16 AM UTC
●	PDB1	SALES	DEMO_ORDERS	APEX_1680681501661528	NO	23453213	Sep 2, 2016 5:00:17 AM UTC
○	PDB1	SALES	DEMO_PRODUCT_INFO	APEX_1680681501661528	NO	10	Sep 2, 2016 5:00:17 AM UTC
○	PDB1	SALES	DEMO_CUSTOMERS	APEX_1680681501661528	NO	7	Sep 2, 2016 5:00:16 AM UTC
○	PDB1	SALES	DEMO_TAGS	APEX_1680681501661528	NO	6	Sep 2, 2016 5:00:16 AM UTC
○	PDB1	SALES	DEMO_CONSTRAINT_LOOKUP	APEX_1680681501661528	NO	4	Sep 2, 2016 5:00:17 AM UTC
○	PDB1	SALES	DEPT	APEX_1680681501661528	NO	4	Sep 2, 2016 5:00:16 AM UTC
○	PDB1	SALES	DEMO_TAGS_SUM	APEX_1680681501661528	NO	3	Sep 2, 2016 5:00:16 AM UTC
○	PDB1	SALES	DEMO_TAGS_TYPE_SUM	APEX_1680681501661528	NO	3	Sep 2, 2016 5:00:16 AM UTC
○	PDB1	SALES	APEX$TEAM_DEV_FILES	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_ACL	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_FILES	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_HISTORY	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_LINKS	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_NOTES	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_ROWS	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_TAGS	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_WEBPG_SECTIONS	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC
○	PDB1	SALES	APEX$_WS_WEBPG_SECTION_HISTORY	APEX_1680681501661528	NO	0	Sep 2, 2016 5:00:15 AM UTC

Edit | View | Delete With Options | Actions [Create Like] Go

Click Edit button to put it into memory

Brian

https://oraclecloudem.com:7802/em/faces/sdk/nonFacesWrapper?=&target=demo_Primary+PDB1&_em.coBM=%2Fconsole%2Fdatabase%2Fschema%2Ftable%3Foname%3DDEMO_ORDERS%26event%3Dedit%26target%3Ddemo_primary%26cmeType%3Dor...

ORACLE® Enterprise Manager Cloud Control 13c

Enterprise ▾ | Targets ▾ | ★ Favorites ▾ | History ▾ | ⚙ Setup ▾ | 🔍 | 🔔 | SYSMAN ▾ | ...

Exadata Cloud Service / ⬆ PDB1 ℹ

Logged in as sys 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾ Performance ▾ Availability ▾ Security ▾ Schema ▾ Administration ▾

Tables > Edit Table: SALES.DEMO_ORDERS
Edit Table: SALES.DEMO_ORDERS

> **Use In-Memory tab to put tables into memory with a mouse click**

Actions [Create Like ▾] Go | Execute On Multiple Databases | Show SQL | Revert | Apply

General | Constraints | Segments | Storage | In-Memory Column Store | Options | Statistics | Indexes

* Name [DEMO_ORDERS]
Schema [SALES]
Tablespace [APEX_1680681501661528]
Organization Standard (Heap Organized)
Sharing NONE

Columns

Set Default LOB Attributes | Encryption Options

[Advanced Attributes] [Delete] Insert Column: [Abstract Data Type ▾] [Insert]

Select		Name	Data Type	Size	Scale	Not NULL	Default Value	Encrypted
⦿	🔑	ORDER_ID	NUMBER ▾			☑		☐
○		CUSTOMER_ID	NUMBER ▾			☑		☐
○		ORDER_TOTAL	NUMBER ▾	8	2	☐		☐
○		ORDER_TIMESTAMP	TIMESTAMP ▾	6		☐		☐
○		USER_NAME	VARCHAR2 ▾	100		☐		☐
○		TAGS	VARCHAR2 ▾	4000		☐		☐
○			VARCHAR2 ▾			☐		☐
○			VARCHAR2 ▾			☐		☐
○			VARCHAR2 ▾			☐		☐
○			VARCHAR2 ▾			☐		☐

[Add 5 Table Columns]

[Advanced Attributes] [Delete] Insert Column: [Abstract Data Type ▾] [Insert]

🔑 Indicates a Primary Key column
✓ Indicates a Unique Key column
🗄 Indicates a SecureFile LOB column

Actions [Create Like ▾] Go | Execute On Multiple Databases | Show SQL | Revert | Apply

In-Memory Column Store ✕

Brian

⟵ ⟶ ⟳ 🔒 https://oraclecloudem.com:7802/em/faces/sdk/nonFacesWrapper?=&target=demo_Primary+PDB1&_em.coBM=%2Fconsole%2Fdatabase%2Fschema%2Ftable%3Foname%3DDEMO_ORDERS%26event%3Dedit%26target%3Ddemo_primary%26cmeType%3Dor... ☆ ① 🟩 ⋮

ORACLE® Enterprise Manager Cloud Control 13c

▦ Enterprise ▾   ◎ Targets ▾   ★ Favorites ▾   🕐 History ▾   ⚙ Setup ▾   🔍 🔔   SYSMAN ▾   ⋯

Exadata Cloud Service / ⬆ PDB1 ⓘ

Logged in as sys 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   Schem...

Administration ▼

Initialization Parameters

In-Memory Central

Storage   ▶

Oracle Scheduler   ▶

Replication   ▶

Migrate to ASM

Resource Manager

Database Feature Usage

Tables > Edit Table: SALES.DEMO_ORDERS
Edit Table: SALES.DEMO_ORDERS

Actions [Create Like ⌄] [Go]   [Execute On Multiple Databases] [Show SQL] [Revert] [Apply]

ⓘ **Update Message**
Table SALES.DEMO_ORDERS has been modified successfully

General | Constraints | Segments | Storage | **In-Memory Column Store** | C...

In-Memory Column Store enables segments to be stored in the SGA memory area, in ...

In-Memory Column Store Options
Configure In-Memory options by specifying the following inputs.
☑ Enable In-Memory

Compression
○ Default
   Inherit compression setting from the tablespace, if specified
● No Compression
   No compression will be performed when data is populated in-memory.
○ Compression for DML
   Light weight compression, optimized for DML operations
○ Query Based Compression
   Specify Low for highest performance. Specify High for balance between p...
   ○ Low ○ High
○ Capacity Based Compression
   Specify Low for balance between performance and capacity, weighted tow...
   ○ Low ○ High

Loading
○ Delayed
   Oracle decides when to load data in-memory.
● Immediate
   Population of data in-memory will be queued immediately, based on the s...
   Priority ○ Low ○ Medium ○ High ● Critical

Data Distribution
● Auto Distribute
   Oracle decides the best way to distribute data across instances in the cluster.
○ By Row ID
   Distribute by row-id range.
○ By Partition
   Distribute partitions to different instances in the cluster.
○ By Subpartition
   Distribute subpartitions to different instances in the cluster.

Duplicate
○ Duplicate All
   Entire data is available in-memory on all instances in the cluster.
● No Duplicate
   Only one copy of the entire data is available in-memory across the cluster. Used along with distribution.
○ Duplicate
   Two copies of the entire data is available in-memory across the cluster. Used along with distribution.

Columns
You could choose to load selective columns in memory or specify different compression options for some columns. Specify the column level override options in the table below.

Name	Data Type	Enable In-Memory	Compression
ORDER_ID	NUMBER ⌄	☑	Default ⌄
CUSTOMER_ID	NUMBER ⌄	☑	Default ⌄

Use Enterprise Manager's In-Memory Central to manage and monitor in-memory tables

https://oraclecloudem.com:7802/em/faces/db-inmemory-home?Adf-Page-Id=33&target=demo_Primary+PDB1&type=oracle_pdb

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▾ | Targets ▾ | ★ Favorites ▾ | 🕐 History ▾ | ⚙ Setup ▾ | 🔍 🔔 SYSMAN ▾

Exadata Cloud Service / ⬆ PDB1 ▾ ⓘ

Logged in as **sys** 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   Schema ▾   Administration ▾

Page Refreshed **Sep 2, 2016 6:58:38 PM GMT** ↻

◢ Configuration ⚙

Configuration [Edit]

Total SGA (GB)	▮▮▮▮	6.00
In-Memory Area (GB)	▮	1.20
In-Memory Query	Enabled	
In-Memory Force	Default	
Default In-Memory Clause	Not Specified	
Maximum In-Memory Populate Servers	1	

Performance

CPU Activity (last 5 minutes)	▬▬▬	0.52 Active Sessions

In-Memory Advisor

In-Memory Advisor

◢ Objects Summary ⚙

In-Memory Object Statistics

Total Size of all Objects (GB)	0.23
In-Memory Enabled Size (%)	4.42
Compression Factor	1.22x

Priority	Memory Used (GB)	Populated (%)
Critical	0.01	98.16
Total	**0.01**	**98.16**

View In-Memory Objects Distribution

◢ In-Memory Objects Size Map

SH.SALES

SH.COSTS

SH.CUSTOMERS

OOW16.OOW_DEMO_SALES_HISTORY

Analyze In-Memory attributes such as the relative size and "hotness" of the various in-memory tables

◢ In-Memory Objects Search ⚙

Search [In-Memory Objects ⌄]   ☐ Display segments if not all partitions are in-memory enabled

▸ **Filters**

[Edit In-Memory Options] [View Segment Details] [Repopulate]

	In-Memory Size	In-Memory Parameters	Storage

Security!! All Tablespaces Created Encrypted in Oracle Cloud

ORACLE®

By default, all new tablespaces are encrypted in the Exadata Cloud Service

To see this in action, use the Administration menu to select: Storage -> Tablespaces

Brian

https:// oraclecloudem.com:7802/em/faces/sdk/nonFacesWrapper?target=demo_Primary+PDB1&_em.coBM=%2Fconsole%2Fdatabase%2FdatabaseObjectsSearch%3Fevent%3Dsearch%26target%3Ddemo_Primary%2520PDB1%26type%3Doracle_pdb%26oty...

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▾   Targets ▾   ★ Favorites ▾   History ▾   ⚙ Setup ▾   🔍   🔔   SYSMAN ▾

Exadata Cloud Service / ↑ PDB1 ▾ ⓘ

Logged in as **sys** 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   Schema ▾   Administration ▾

Tablespaces

Object Type [Tablespace ▾]

Search

Select an object type and optionally enter an object name to filter the data that is displayed in your results set.

Object Name [_____] [Go]

By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-sensitive match, double quote the search string. You can use the wildcard symbol (%) in a double quoted string.

Click Create → Create

Selection Mode [Single ▾]

Edit | View | Delete | Actions [Add Datafile ▾] [Go]

Select	Name	Available Space Used (%)		Allocated Space Used (%)		Auto Extend	Allocated Size (GB)	Space Used (GB)	Allocated Free Space (GB)	Status	Datafiles	Type	Extent Management	Segment Management
⦿	SYSAUX	▭	2.77	▭	94.24	YES	0.586	0.552	0.034	✓	1	PERMANENT	LOCAL	AUTO
○	SYSTEM	▭	1.35	▭	97.05	YES	0.273	0.265	0.008	✓	1	PERMANENT	LOCAL	MANUAL
○	TEMP	▭	10.00	▭	10.00	NO	0.098	0.010	0.088	✓	1	TEMPORARY	LOCAL	MANUAL
○	APEX_1680681501661528	▭	23.86	▭	79.42	YES	0.029	0.023	0.006	✓	1	PERMANENT	LOCAL	AUTO
○	USERS	▭	0.01	▭	20.00	YES	0.005	0.001	0.004	✓	1	PERMANENT	LOCAL	AUTO

✓ Online   ✗ Offline   🔒 Read Only

✓ **TIP** Available Space Used(%) is not available for dictionary managed, read-only and most temporary and undo tablespaces.

Search Results Space Usage Summary

Total Allocated Size (GB) 0.991
Total Used (GB) 0.851
Total Allocated Free Space (GB) 0.140

Database Space Usage Summary

Allocated Size (GB)	Space Used (GB)	Allocated Space Used (%)		Allocated Free Space (GB)	Number of Tablespaces
0.991	0.851	▰▰▰▰▰	85.87	0.140	5

▷ Show Historical Space Usage Reports

ORACLE® Enterprise Manager Cloud Control 13c

Enterprise ▾   Targets ▾   ★ Favorites ▾   History ▾   ⚙ Setup ▾   🔍   🔔   SYSMAN ▾

Exadata Cloud Service / ⬆ PDB1 ⓘ

Logged in as **sys** 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   S

Tablespaces > Create Tablespace

Create Tablespace

Create a new tablespace called HR_DATA

Execute On Multiple Databases   Show SQL   Cancel   OK

General   Storage   In-Memory Column Store

* Name HR_DATA

Extent Management

◉ Locally Managed

○ Dictionary Managed

☑ **TIP** Since the SYSTEM tablespace is locally managed, only locally managed tablespaces can be created.

Type

◉ Permanent

☐ Set as default permanent tablespace

☐ Encryption   Encryption Options

○ Temporary

☐ Set as default temporary tablespace

○ Undo

☑ **TIP** Undo tablespaces can only be created in CDB$ROOT.

Status

◉ Read Write

○ Read Only

○ Offline

Datafiles

☐ Use bigfile tablespace
Tablespace can have only one datafile with no practical size limit.

☐ Use OMF
A default datafile will be created that is 100 MB and is autoextensible with an unlimited maximum size.

Add

Edit Remove

Select	Name	Directory	Size (MB)	Maximum File Size (MB)
◉	<Default>	/u02/app/oracle/oradata/	100.00	32,767.00

Execute On Multiple Databases   Show SQL   Cancel   OK

Brian

https://oraclecloudem.com:7802/em/faces/sdk/nonFacesWrapper?=&target=demo_Primary+PDB1&_em.coBM=%2Fconsole%2Fdatabase%2FdatabaseObjectsSearch%3FlastEvent%3Dcreate%26event%3Dredisplay%26target%3Ddemo_primary%26cmeType%...

ORACLE® Enterprise Manager Cloud Control 13c

Enterprise ▾   Targets ▾   Favorites ▾   History ▾   Setup ▾   SYSMAN ▾

Exadata Cloud Service / ⬆ PDB1 ⬇ ⓘ

Logged in as **sys** 🔒 | 🖥 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▾   Performance ▾   Availability ▾   Security ▾   Schema ▾   Administration ▾

> ⓘ **Update Message**
> The object has been created successfully

Tablespaces

Object Type [Tablespace ⬍]

Search

Select an object type and optionally enter an object name to filter the data that is displayed in your results set.

Object Name [_____] [Go]

By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-sensitive match, double quote the sear...

Tablespace created, click on name to bring up details

Selection Mode [Single ⬍]   [Create]

[Edit] [View] [Delete] Actions [Add Datafile ⬍] [Go]

Select	Name	Available Space Used (%)	Allocated Space Used (%)	Auto Extend	Allocated Size (GB) ▼	Space Used (GB)	Allocated Free Space (GB)	Status	Datafiles	Type	Extent Management	Segment Management
●	SYSAUX	2.78	94.24	YES	0.586	0.552	0.034	✓	1	PERMANENT	LOCAL	AUTO
○	SYSTEM	1.36	97.05	YES	0.273	0.265	0.008	✓	1	PERMANENT	LOCAL	MANUAL
○	HR_DATA	0.01	1.00	YES	0.098	0.001	0.097	✓	1	PERMANENT	LOCAL	AUTO
○	TEMP	10.00	10.00	NO	0.098	0.010	0.088	✓	1	TEMPORARY	LOCAL	MANUAL
○	APEX_1680681501661528	23.86	79.42	YES	0.029	0.023	0.006	✓	1	PERMANENT	LOCAL	AUTO
○	USERS	0.01	20.00	YES	0.005	0.001	0.004	✓	1	PERMANENT	LOCAL	AUTO

✓ Online   ✗ Offline   🔒 Read Only

☑ **TIP** Available Space Used(%) is not available for dictionary managed, read-only and most temporary and undo tablespaces.

Search Results Space Usage Summary

Total Allocated Size (GB) 1.089
Total Used (GB) 0.852
Total Allocated Free Space (GB) 0.237

Database Space Usage Summary

Allocated Size (GB)	Space Used (GB)	Allocated Space Used (%)	Allocated Free Space (GB)	Number of Tablespaces
1.089	0.852	78.24	0.237	6

▷ Show Historical Space Usage Reports

Oracle Enterprise Manager - V ×

https://oraclecloudem.com:7802/em/faces/sdk/nonFacesWrapper?=&target=demo_Primary+PDB1&_em.coBM=%2Fconsole%2Fdatabase%2Fstorage%2Ftablespace%3FcancelURL%3D%252Fem%252Fconsole%252Fdatabase%252FdatabaseObjectsSearch%...

ORACLE® Enterprise Manager Cloud Control 13c

Enterprise ▼ | Targets ▼ | ★ Favorites ▼ | 🕓 History ▼ | ⚙ Setup ▼ | 🔍 🔔 | SYSMAN ▼

Exadata Cloud Service / ⬆ PDB1 ⓘ

Logged in as **sys** 🔒 | 📄 demo.compute-iaas.oraclecloud.internal

🗄 Oracle Database ▼   Performance ▼   Availability ▼   Security

Tablespaces > View Tablespace: HR_DATA
View Tablespace: HR_DATA

Actions [Add Datafile ▼] Go   Edit | Return

Name	HR_DATA
Bigfile tablespace	No
Status	ReadWrite
Type	Permanent
Extent Management	local
Encryption	YES

Name HR_DATA
Bigfile tablespace No
Status ReadWrite
Type Permanent
Extent Management local
Encryption YES

Verify that even with the option unchecked, this tablespace has been created encrypted!

← (arrow pointing to Encryption YES)

Storage
Allocation Type	Automatic
Segment Space Management	Automatic
Enable logging	Yes
Compression	No Compression
Block Size (B)	8192

In-Memory Column Store
Status Disabled	Loading N/A	Duplicate N/A
Compression N/A	Data Distribution N/A	

Datafiles

Name	Directory	Size (MB)	Used (MB)		Maximum File Size (MB)	Auto Extend
o1_mf_hr_data_cwmmj6g4_.dbf	/u02/app/oracle/oradata/DEMO/3B716AD1082A1EADE053DA316A0AC2D6/datafile/	100.00		1.00	32,767.00	Yes

Actions [▼] Go   Edit | Return

Actions [Add Datafile ▼] Go   Edit | Return

Exadata Cloud Service

Summary: Oracle Database Exadata Cloud Service

Best Database on Best Cloud Platform

- **100% Compatibility (Hybrid Cloud)**
  - No application & data model changes
  - Data moves back and forth seamlessly
  - Run any infrastructure component in any location

- **All Database Workloads in one Unified Cloud Service**
  - Analytics, data warehousing, OLTP, consolidation, mixed-workloads
  - No need to use distinct cloud platforms for distinct workloads

- **Serious Infrastructure for Serious Databases**
  - Ideal Database hardware, not commodity servers and storage
  - Exadata unique innovations for performance, availability and security
  - Dedicated platform – no over-provisioning, noisy neighbors, etc.

For More Information
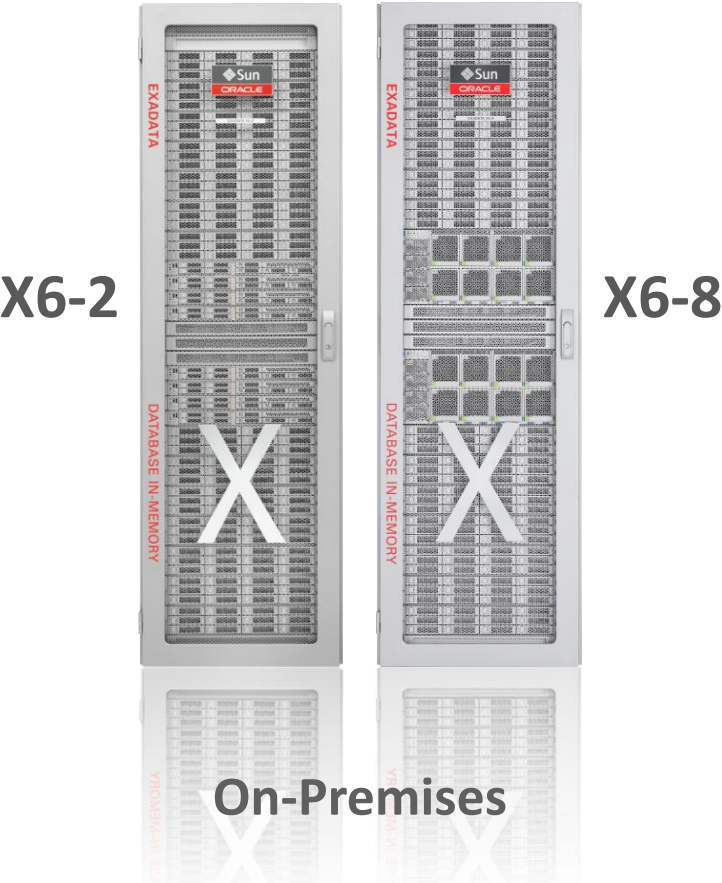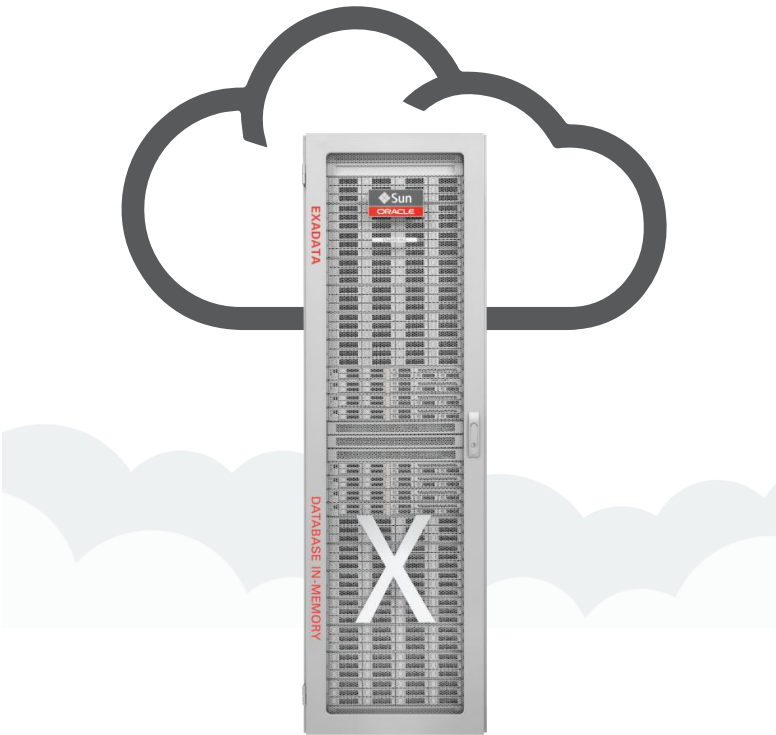
cloud.oracle.com/database

ORACLE®

PREVIEW

ORACLE®

Exadata Database Machine Family

PREVIEW

- **Exadata X6**

  X6-2   X6-8

  On-Premises

- **Exadata Cloud Service**

  Exadata Cloud Service
  @ Oracle

- **Exadata Cloud Machine**

  Exadata Cloud Service
  @ Customer

Oracle Database Exadata Cloud Machine
Best Database Cloud Service at Customer Data Center

Preview

- Exadata Cloud Service with infrastructure managed by Oracle
  - Full Oracle Database with ALL Options
  - Most scalable, available, robust Database Platform
  - Cloud-based pricing, with agile provisioning
  - Customers have full DBMS access

- Available at customer data center
  - Ideal for systems too complex to move to the cloud
  - Compliance with data sovereignty, regulatory laws
  - Eliminates public cloud network latency issues

**Cloud @Customer or @Oracle: Your Choice!
Same architecture, software, skills!**

**Exadata Cloud
Service @ Customer**

**Exadata Cloud
Service @ Oracle**

Customer Data Center

Oracle Cloud Data Center
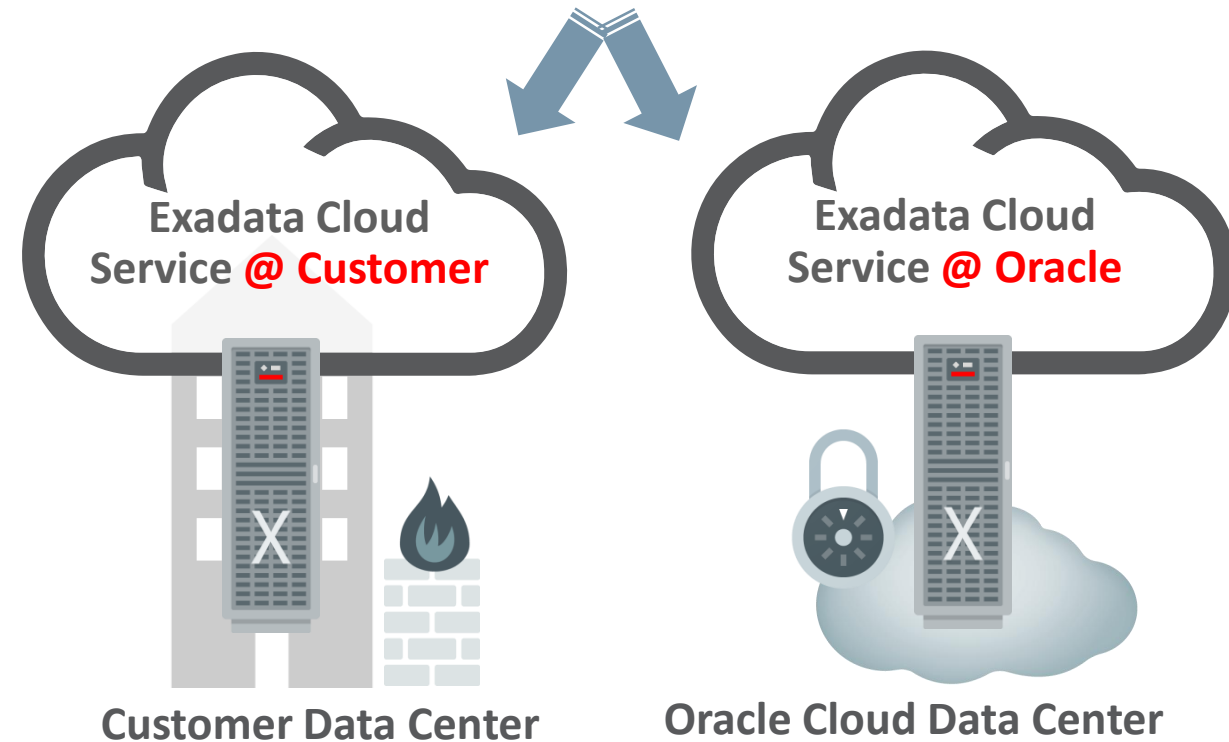
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Integrated Cloud

Applications & Platform Services

ORACLE®