



Cloud at Customer Academy 3.0

Exadata Cloud - Monitoring

Marcel Lamarca

Licenses and Systems

Alexandre Fagundes

OCI Databases & App's DBA

LAD Partner Enablement Knowledge Team

August, 2023



Nuestros Valores

Integridad

Ética

Compliance

Innovación

Trabajo en
Equipo

Respeto
Mutuo

Satisfacción
del Cliente

Justicia

Calidad

Comunicación

Como empresa líder en tecnología, aceptamos la **diversidad** en todas sus formas. Realmente creemos que la **innovación** comienza con la **inclusión**. Y esto solo se puede lograr con la cooperación de nuestros **partners**.

Afirmamos nuestro **compromiso** de mantener un **ambiente respetuoso y libre de discriminación** y esperamos esto de nuestros **socios de negocios**.

Oracle espera que sus **partners** realicen negocios de manera **justa y ética**, cumplan con las leyes anticorrupción en todo el mundo, cooperen con las solicitudes de información de Oracle y eviten participar en cualquier actividad que implique incluso la apariencia de ser incorrecta.

Es vital que nuestros partners se adhieran al **Código de Ética y Conducta Comercial de Oracle**, que da los lineamientos sobre los valores que son esenciales para nuestro éxito como empresa. Estos valores son la base de todo lo que hacemos y lo que debemos vivir todos los días.



Utilice el código QR para acceder al Código de Ética y Conducta Comercial de Oracle.



MARCEL LAMARCA

Exadata Cloud Specialist

Upgrade, Utilities, Patching, Performance & Migrations

Exadata X9M Implementation Certified Specialist

and more 14 Oracle Certifications



marcel-lamarca



marcel.lamarca@oracle.com





ALEXANDRE FAGUNDES

Cloud Architect, MySQL, Security
OCI Databases and Apps DBA



[alexandre-b-fagundes](#)



alexandre.af.fagundes@oracle.com



Exadata Academy 3.0 | Register Now

Oracle Exadata Cloud at Customer Academy

Para capacitar a nuestros Partners en Servicios OCI, creamos la nueva versión de la Academia Cloud at Customer.

Esta academia contará con **10 sesiones de capacitación**, a partir del **14 de julio**, que permitirán a los participantes conocer las principales características y funcionalidades de Oracle Exadata y PCA ¡También será una excelente oportunidad para aclarar todas sus dudas para obtener su certificación!

Únase a esta capacitación y descubra por qué Oracle Cloud at Customer es la forma más sencilla de mover cargas de trabajo críticas de Oracle Database de una organización a la nube.

Consulte la agenda a continuación e inscríbase. ¡Contamos con su participación!

ExaC@C Overview 14 de julio 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese
PCA - Private Cloud Appliance 26 de julio 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese
C@C Patching – Demo Session 28 de julio 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese
C@C Backup & Restore – Demo Session 3 de agosto 1:00 p.m. - 2:30 p.m. (Mexico Time)	Registrese
Migration and move to Cloud – Demo Session 10 de agosto 1:00 p.m. - 2:30 p.m. (Mexico Time)	Registrese
Troubleshooting tools – Demo Session 24 de agosto 1:00 p.m. - 2:30 p.m. (Mexico Time)	Registrese
Monitoring – Demo Session 31 de agosto 1:00 p.m. - 2:00 p.m. (Mexico Time)	Registrese
Smart Scan, HCC compression & In-Memory – Demo Session 14 de septiembre 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese
A&Q for Certification 21 de septiembre 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese
C@C New Features - Demo Session 28 de septiembre 1:00 p.m. - 3:00 p.m. (Mexico Time)	Registrese

[Click Here](#)



Agenda

ExaC@C – Dom0 vs DomU

ExaC@C - Enterprise Manager

Trace File Analysis (TFA) - *Oratop*

ExaC@C Operator Access Control

Oracle Database Auditing

Demo – Data Safe Report

Demo – TFA Oratop Tool

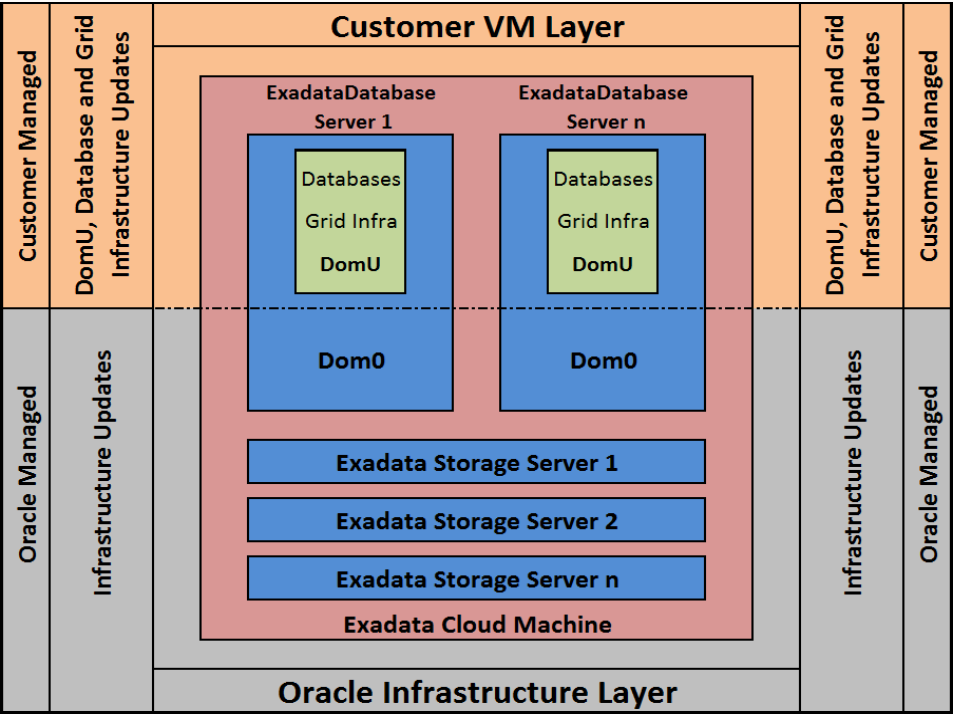
Demo – Configuring OAC



Dom0 VS DomU



Exadata Cloud at Customer - Dom0 vs DomU



DOMU - Customer-managed platform and databases

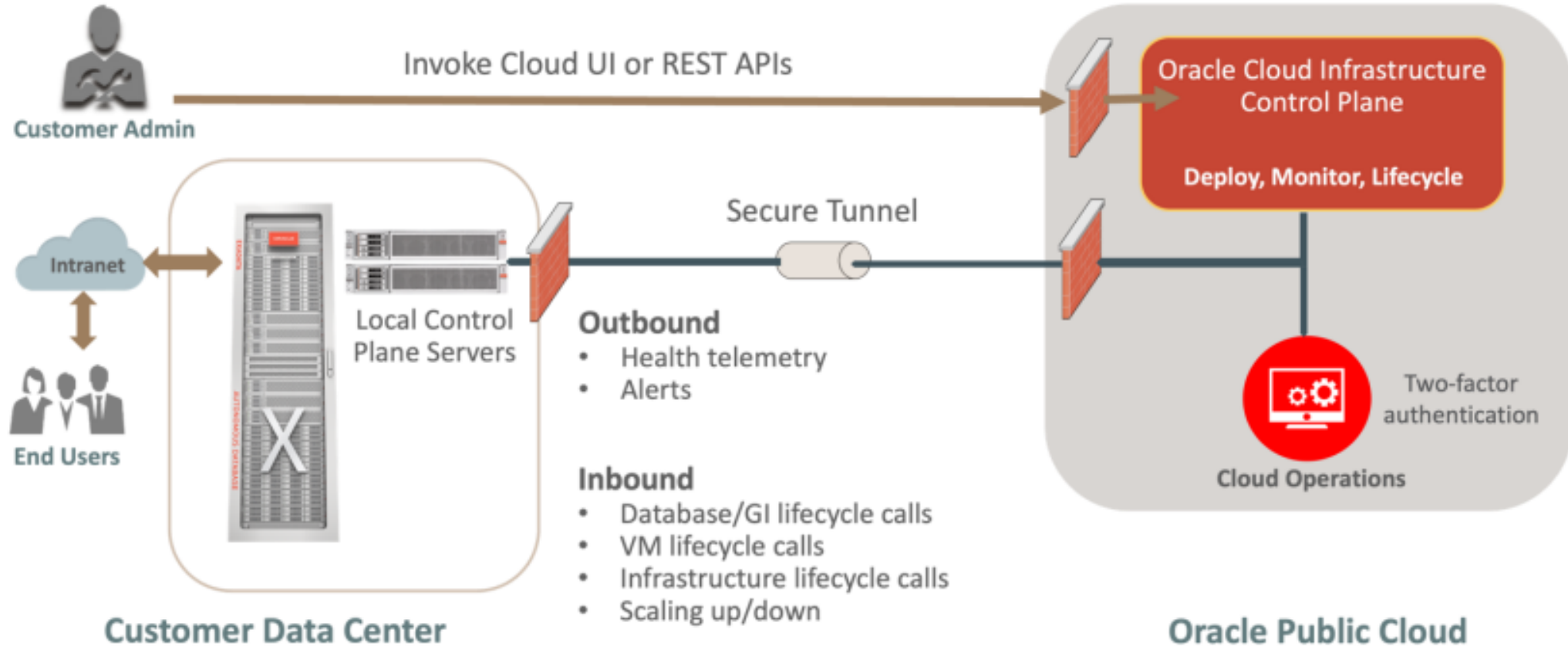
- Virtual machine (VM) operating systems running the Exadata Compute Node software
- Grid Infrastructure on the Compute Node VM
- Database software on the Compute Node VM

DOM0 - Oracle-managed infrastructure

- Ethernet switches
- InfiniBand switches
- Power supplies
- Exadata Storage Servers
- Exadata Database Nodes
- Hypervisor running on the physical servers

Exadata Console Management and **Control Plane Diagram**

Exadata Cloud@Customer – Management Flow





Operator Access Control



Operator Access Control on OCI Console menu

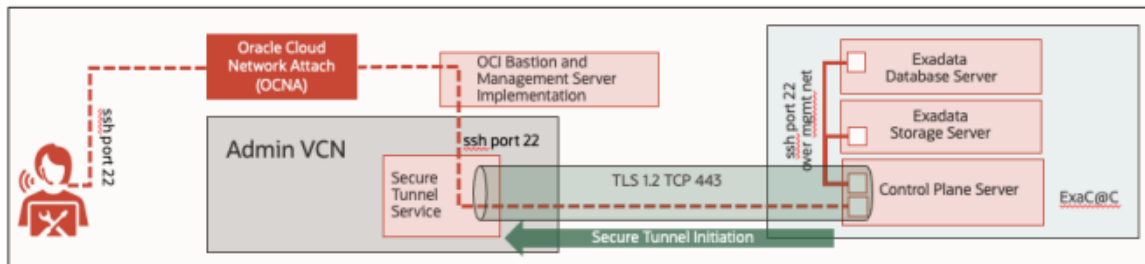
The screenshot displays the Oracle Cloud console interface. At the top, the header includes the Oracle Cloud logo, a 'Cloud Classic' dropdown, and a search bar. The left sidebar contains a navigation menu with the following items: Home, Compute, Storage, Networking, **Oracle Database** (highlighted with a red dashed box), Databases, Analytics & AI, Developer Services, Identity & Security, Observability & Management, Hybrid, Migration & Disaster Recovery, Billing & Cost Management, and Governance & Administration. The main content area is titled 'Oracle Database' and is divided into three columns. The first column lists services: Overview, Autonomous Database (with sub-items: Autonomous Data Warehouse, Autonomous JSON Database, Autonomous Transaction Processing), Autonomous Dedicated Infrastructure, Oracle Base Database Service, and Oracle Exadata Database Service on Dedicated Infrastructure. The second column lists: Oracle Exadata Database Service on Cloud@Customer, Exadata Fleet Update, and External Database. The third column lists: Data Safe - Database Security (with sub-items: Overview, Security Assessment, User Assessment, Data Discovery, Data Masking, Activity Auditing), Database Backups, GoldenGate, and **Operator Access Control** (highlighted with a red dashed box).



Exadata Cloud at Customer | Operator **Access** Control

OAC enables you to grant, audit, and revoke the access **Oracle has to your Exadata Infrastructure, Exadata Infrastructure hosting an Oracle Autonomous Database on Exadata Cloud@Customer**

By "manage" **Autonomous Database on ExaC@C infrastructure** we mean the typical database admin or DBA tasks such as the following :



- Provisioning Autonomous Database resources;
- Backing up databases;
- Recovering a database;
- Patching and upgrading;
- Scaling Monitoring service health;
- Auditing Alerts



Oracle Enterprise Manager



Oracle Enterprise Manager For Exadata Cloud



Enterprise Manager / Cloud Control / Enterprise Manager Cloud Control / 13.4

Oracle Enterprise Manager Cloud Control for Oracle Exadata Cloud

Collapse

Title and Copyright Information

Preface

1 Introduction to Monitoring Exadata Cloud Service

Features

Supported Operating Systems

2 Discovery Prerequisites

System Configuration Prerequisites

Verify Names Resolution

Verify Firewall Configuration

Creating Roles to Manage the Plug-in

Install Enterprise Manager Agent

Manually Deploy Exadata Plug-in

1 Introduction to Monitoring Exadata Cloud Service

Oracle Enterprise Manager Cloud Control provides a complete cloud lifecycle management solution for Oracle Database Exadata Cloud Service and Oracle Database Exadata Cloud at Customer, collectively Exadata Cloud Service.

Note: To monitor Oracle Exatadata Database Machine using Oracle Enterprise Manager Cloud Control, see [Oracle Exadata Database Machine Getting Started Guide](#).

Overview and Architecture

Oracle Enterprise Manager Cloud Control provides an integrated monitoring solution for the various layers of Exadata Cloud Service. The end users have access to select components of the service such as the databases, hosts, and ASM. The hardware components like physical servers and network interfaces are monitored and managed by Oracle.

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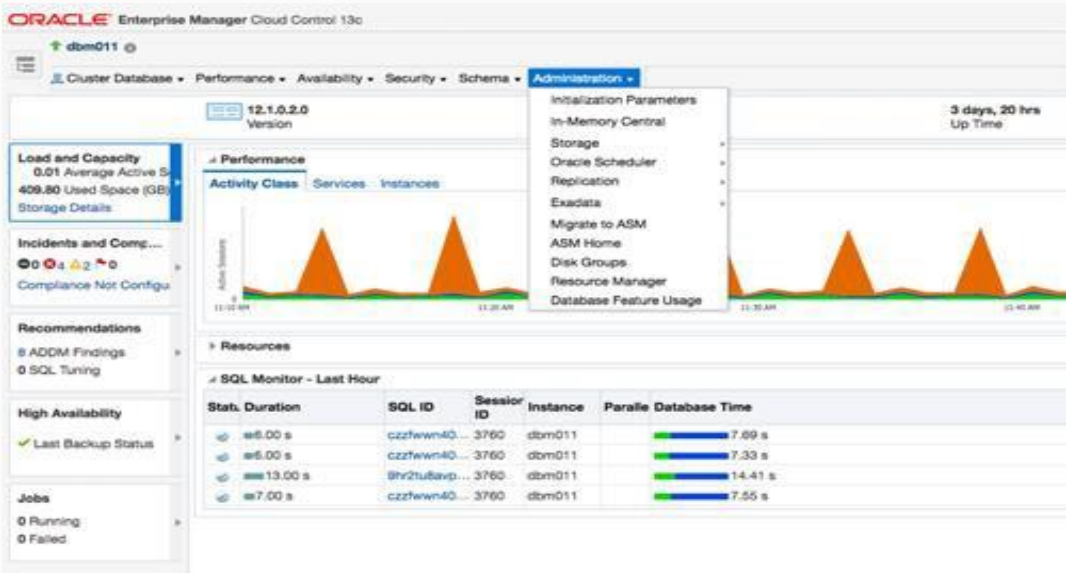
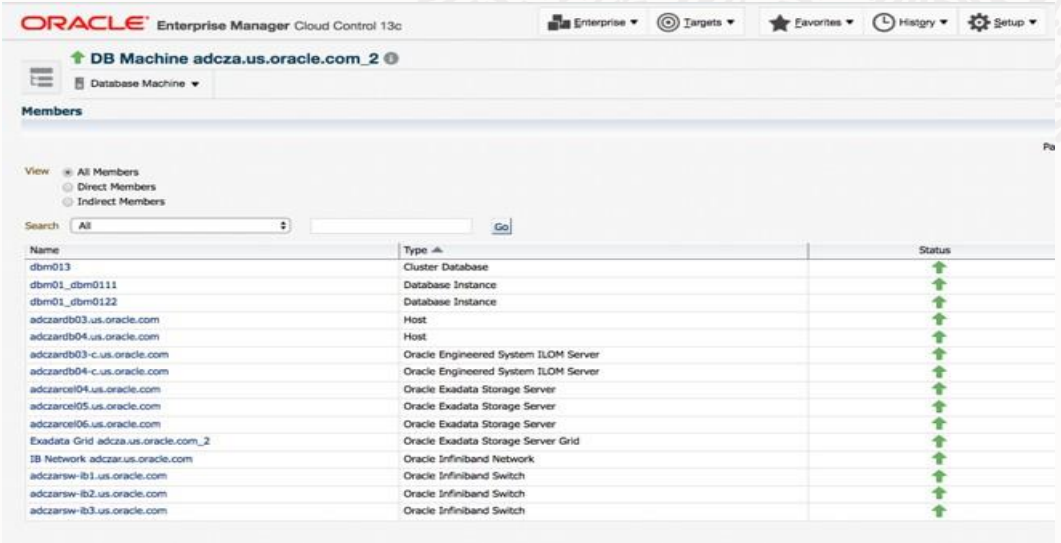
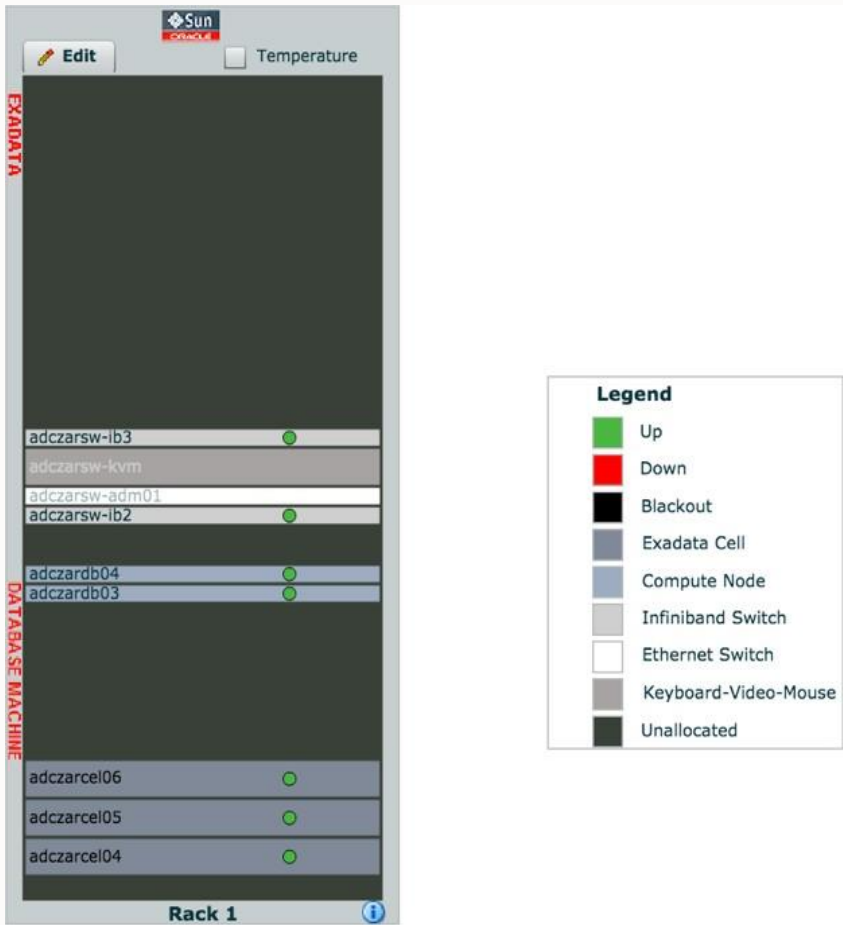
1 Introduction to Monitoring Exadata Cloud Service

Features

Supported Operating Systems

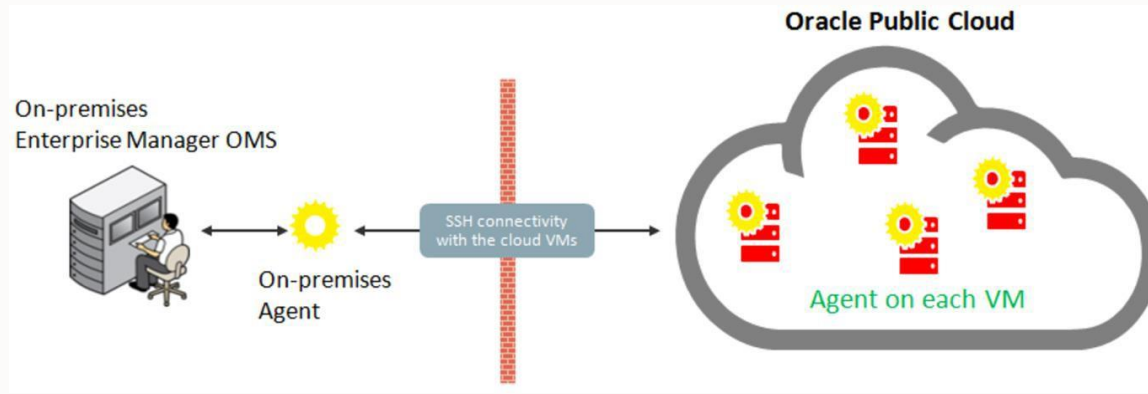
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Oracle Enterprise Manager For Exadata Cloud Console Prints sample



Oracle Enterprise Manager agents for Exadata C@C

The EM Agent is deployed and configured for Exadata through the following process:



There are two deployment models EM agents for Exadata Cloud:

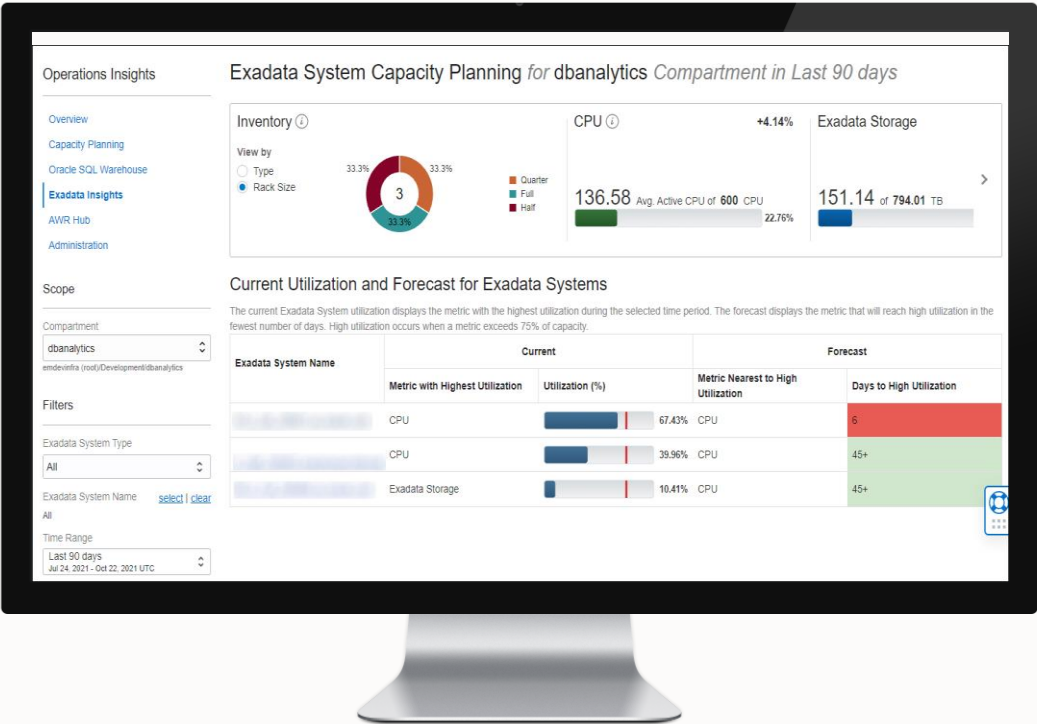
- Identify deployment model
 - Complete deployment pre-installation tasks
 - Create named credentials
 - Deploy agents
 - Discover Cluster
 - Discover ASM, Database, and Listener
 - Discover Exadata Cloud Infrastructure
-
- Standard agents for Exadata Cloud at Customer and Exadata Cloud Service with VPN
 - Hybrid Cloud Agents for Exadata Cloud at Customer without VPN



Exadata Operations Inside



Performance diagnostics, monitoring capabilities for Exadata Cloud



Capacity planning

- Analyze and forecast database resource usage based on long-term historical data
- Optimize cost of operations by identifying over- and under-utilized servers

SQL trend analysis

- Long term performance and trend analysis of Oracle Databases with SQL warehouse
- Proactively identify and mitigate SQL issues
- Find common patterns in SQL behavior across databases and applications





ExaC@C Auditing



Oracle Database **Privilege Analysis** | DBMS_PRIVILEGE_CAPTURE

Basically, **there are six** steps that must to be **completed to enable** this feature :

- dbms_privilege_capture.create_capture("");
 - dbms_privilege_capture.enable_capture("");
 - dbms_privilege_capture.generate_result("");
 - dbms_privilege_capture.disable_capture("");
 - dbms_privilege_capture.enable_capture("");
 - dbms_privilege_capture.drop_capture("");
- Database **privilege analysis** enables you to create a **policy that records** the usage of system and object privileges that have been granted to users. You then can determine **the privileges** that your users **are using and not using**. “

You can get capture results on :

PRIV_TEST_USER
DBA_USED_PRIVS
DBA_USED_PUBPRIVS
DBA_USED_SYSPRIVS...

“If you are configuring this feature for **Oracle 19c database version** and later, this feature is **already included on Enterprise Edition and there is no extra cost** to the customer.

For all other versions, customer must to have audit vault licensing (Ex. 12c,18c..)”

Introducing OCI Oracle Data Safe



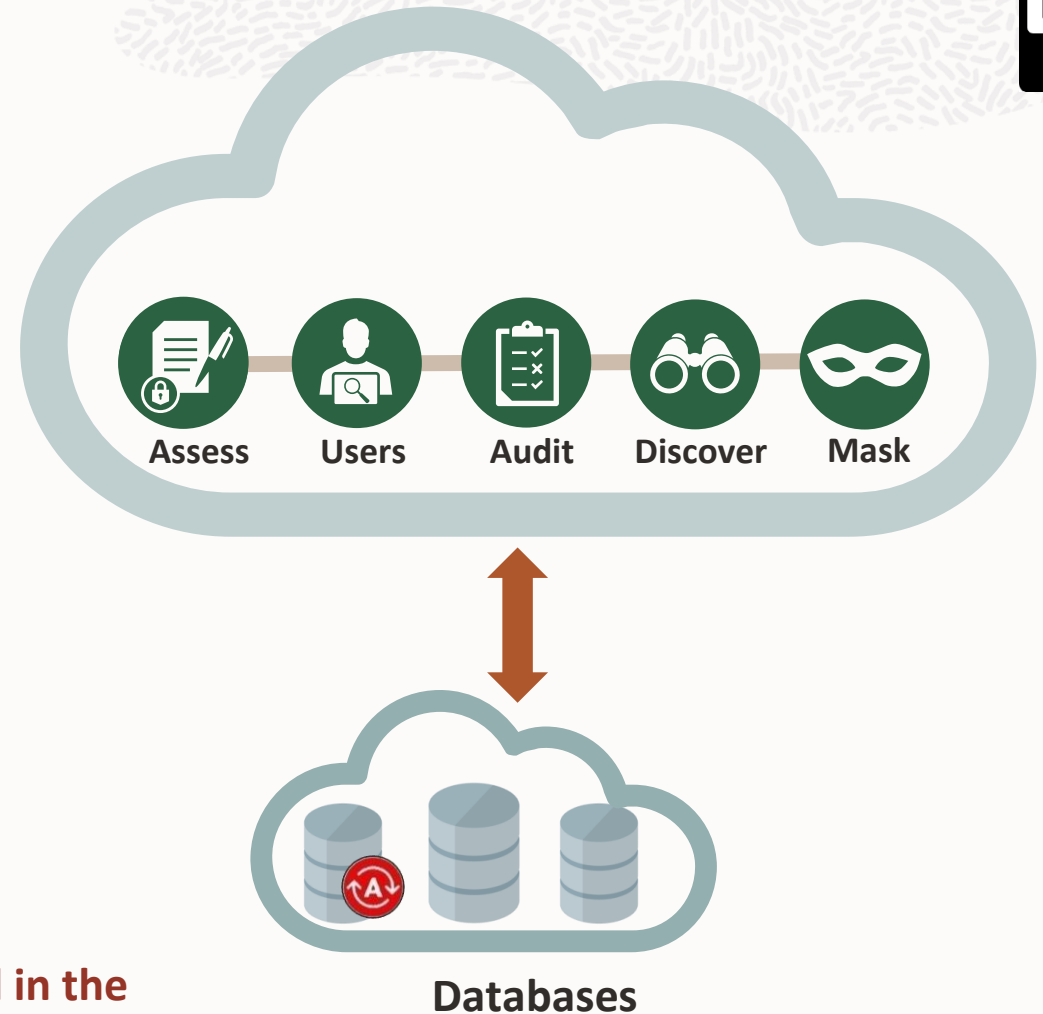
Unified database security control center

- Risk dashboard: configuration, data, users
- Monitor user activity
- Mask data for test
- Extensible - more features to come...

Benefits

- No special expertise needed: click-and-secure
- Saves time and mitigates security risks
- Defense-in-depth security for all customers

Available for securing ALL Oracle Databases, on-premises and in the cloud





Using TFA *Oratop*



Exadata Cloud at Customer - Oratop onTFA

\$ tfactl toolstatus

```
[oracle@testecsm ~]$ tfactl toolstatus
```

TOOLS STATUS - HOST : testecsm			
Tool Type	Tool	Version	Status
AHF Utilities	alertsummary	22.2.4	DEPLOYED
	calog	22.2.4	DEPLOYED
	dbglevel	22.2.4	DEPLOYED
	grep	22.2.4	DEPLOYED
	history	22.2.4	DEPLOYED
	ls	22.2.4	DEPLOYED
	managelogs	22.2.4	DEPLOYED
	menu	22.2.4	DEPLOYED
	orachk	22.2.4	DEPLOYED
	param	22.2.4	DEPLOYED
	ps	22.2.4	DEPLOYED
	pstack	22.2.4	DEPLOYED
	summary	22.2.4	DEPLOYED
	tail	22.2.4	DEPLOYED
	triage	22.2.4	DEPLOYED
	vi	22.2.4	DEPLOYED
Development Tools	oratop	14.1.2	DEPLOYED
Support Tools Bundle	darda	2.10.0.R6036	DEPLOYED
	oswbb	22.1.0AHF	RUNNING
	prw	12.1.13.11.4	NOT RUNNING



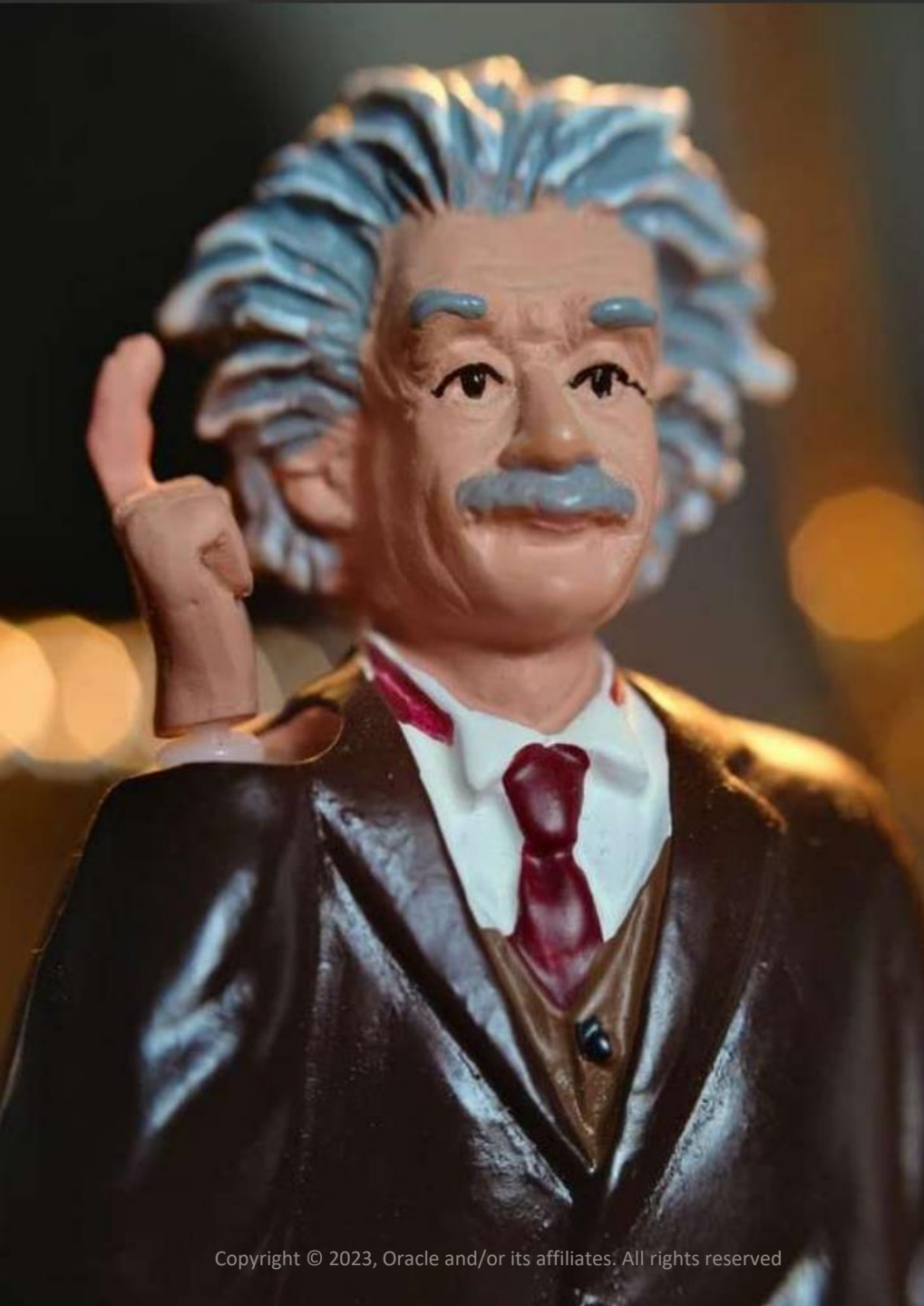
\$ tfactl oratop -database *database_name*

Oracle 19c - Primary testeC 17:50:39 up: 178d, 1 ins, 0 sn, 0 us, 6.0G sga, 25% fra, 0 er, 1 pdb, 5.2%db																										
ID	CPU	%CPU	%DCP	LOAD	AAS	ASC	ASI	ASW	IDL	ASP	LAT	MBPS	IOPS	R/S	W/S	LIO	GCPS	%FR	PGA	TEMP	UTPS	UCPS	RT/X	DCTR	DWTR	
1	2	63.7	1.1	1.5	0.1	0	0	0	0	0	44u	0.1	2.8k	2	0	42	0	22	1.1G	0	0	1	4.6s	48	71	
EVENT (C)												TOTAL WAITS		TIME(s)		AVG_MS		PCT		WAIT_CLASS						
DB CPU														224691				36								
ASM file metadata operation												16593041		215875		13.0		34		Other						
KSV master wait												1803759		93636		51.9		15		Other						
oracle thread bootstrap												261428		49436		189.1		8		Other						
SQL*Net more data from client												3.667E+08		48501		0.1		8		Network						
ID	SID	SPID	USERNAME	PROGRAM	SRV	SERVICE	PGA	SQLID/BLOCKER	OPN	E/T	STA	STE	WAIT_CLASS	EVENT/*LATCH					W/T							

- d Real-time (RT) wait events (section 3. Default is Cumulative..
- k FILE#:BLOCK#, section 4 It is (EVENT/LATCH).
- m Specify MODULE/ACTION (section 4). Default is SERNAME/PROGRAM.
- s Specify the SQL mode (section 4). Default is process mode.
- c Specify the Oracle Database service mode. Default is connect string.

- f Specify the detailed format (132 columns). Default is standard (80 columns).
- b Specify the batch mode. Default is text-based user interface.
- n Specify the maximum number of iterations.n
- i Specify the interval delay in seconds. Default is 5 seconds





Demo 1 – Data Safe Tour

- Registering Data Safe on ADB
- Configuring Report
- Generating Report for Test



Demo 2 – Exadata Configuring OAC

- Configuring OAC using OCI Console



Demo 3 – Oratop Tour

- Checking Oratop Version
- Monitoring Database queries



Resources



Oracle Enterprise Manager For Exadata Cloud



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Enterprise Manager Cloud Control

The Oracle Enterprise Manager family of products provides comprehensive solutions for monitoring, managing, testing, diagnosing and optimizing today's complex IT environments.

Oracle Enterprise Manager



Get Started

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[Enterprise Manager Monitoring](#)
[See the complete suite of management solutions](#)
[Explore Enterprise Manager on Cloud Marketplace](#)
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[Enterprise Manager Training and Certification](#)



Release-specific Technical Information

Latest [Enterprise Manager Cloud Control 13.5](#) Documentation Set and Other Resources
[Enterprise Manager Cloud Control 13.4](#) Documentation Set and Other Resources
[Enterprise Manager Cloud Control Documentation Set 13.3](#)
[Enterprise Manager Cloud Control Documentation Set 13.2](#)
[Earlier Versions of Enterprise Manager Documentation](#)



Manage the Oracle Database

[Blog: Introducing Oracle Enterprise Manager 13c Release 5](#)
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SCAN ME

Oracle Exadata Cloud@Customer X9M

Run the world's most advanced database services - Oracle Autonomous Database and Oracle Exadata Database Service - on the most powerful, available, and secure database cloud platform, in your data center

EXADATA CLOUD@CUSTOMER

[Click Here](#)



Exadata Cloud at Customer X10M Data Sheet



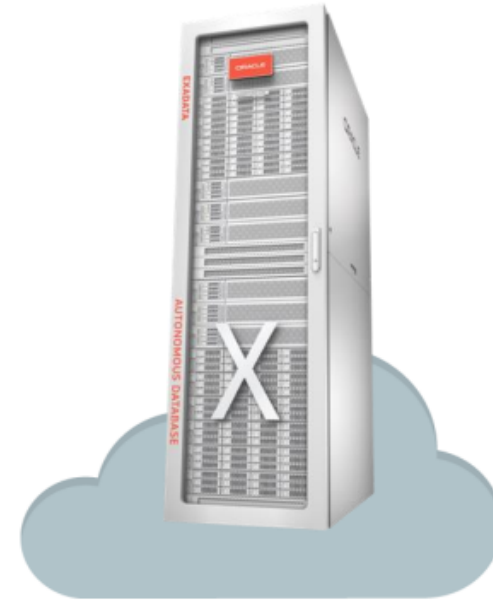
SCAN ME

ORACLE

Oracle Exadata Database Service on Cloud@Customer X10M

Run Oracle's most powerful, available, and flexible cloud database service – Oracle Exadata Database Service – in your data center on Exadata Cloud@Customer

Exadata Database Service





Oracle Exadata
Cloud@Customer X10M



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Exadata Cloud Oracle on **Architecture Center**




  **Help Center**

 **Architecture Center**  **exadata cloud at customer**

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
Architecture Center content:

- Reference Architectures
- Solution Playbooks
- Built & Deployed

Learn more

 **Built & Deployed**

Tharseo IT: Migrate Ellucian Banner ERP to Oracle Cloud using FastConnect and Rackware




 **Reference Architecture**

Deploy a containerized Jenkins CI/CD pipeline by using Terraform on Oracle Cloud Infrastructure

Understand the architecture underlying the successful deployment of a dockerized Jenkin...

Automation Available



[Click here](#)



Exadata Cloud on Oracle **Live Labs**



SCAN ME

Oracle Autonomous Database Dedicated for Fleet Administrators



As fleet administrator, set up your dedicated ADB platform in the OCI and on Exadata Cloud@Customer.

🕒 7 hrs

5463 Views

Oracle Exadata Platform Performance Features



Get hands-on with Oracle Exadata, Exadata Database Service on Cloud@Customer, and Exadata Database (..)

🕒 1 hr, 20 mins

717 Views

Get Started with Oracle Exadata Database Service on Cloud@Customer



Explore getting started with Oracle Exadata Database Service on Cloud@Customer.

🕒 1 hr

[Click Here](#)



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In the Community, you will find all the information that we communicate to our ecosystem by email.

- Explore [Categories](#): organized by grouping publications on a same topic;
- Access the [Recent Discussions](#) tab to check the latest posts published;
- Take part in [Groups](#) and interact with Oracle Experts and other partners;
- Recordings.

Important: An Oracle SSO account is required to access the Community and other OPN resources. If you don't have this account yet, access [this link](#) or the QR code below.

Access the Community:



Create your SSO account:





Thank You 😊

Questions / Feedback / Training Suggestions

alexandre.af.fagundes@oracle.com

marcel.lamarca@oracle.com

Ask for help 😊



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