Spain Oracle users group conferencia 24

#SPOUG24

Internet of Clouds: A Closer Look at Oracle Cloud Infrastructure

Oracle Cloud Technology

Sai Penumuru

President of AIOUG; Principal Director, ACCENTURE

ORACLE ACE Director

22 de octubre 15:00h

Hotel Novotel Madrid Center

Sai Penumuru

- Principal Director – Accenture
  - OCI Solution Architect Lead - EMEA
- Co-founder & President of AIOUG
- Oracle ACE Director
- Oracle Excellence Award
  - Cloud Architect of the Year 2024 - Winner
  - Cloud Architect of the Year Finalist 2023 & 2022

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The **Oracle ACE Program** recognizes and rewards community members for their technical and community contributions to the Oracle community

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Oracle ACE

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Agenda

WHY OCI

OCI DISTRIBUTED CLOUD

- Multicloud – ODSA, Azure Interconnect, MySQL HeatWave AWS, O&M Platform
- Public Cloud
- Hybrid Cloud – Exadata C@C, Autonomous Database C@C, Roving Edge, C3
- Dedicated Cloud – Dedicated Region, National Security regions, Alloy

Q&A

WHY?
OCI

01

A Complete Cloud Infrastructure Platform

Oracle Industry Applications

ISV Applications

Oracle Fusion Cloud Apps

Oracle Cloud ERP
- Financials
- Project management
- Procurement
- Risk management

Oracle Cloud EPM
- Connected planning
- Connected financial close
- Narrative reporting
- Enterprise data management

Oracle Cloud SCM
- Supply chain planning
- Inventory management
- Manufacturing
- Maintenance
- Order management
- Logistics
- PLM

Oracle Cloud CX
- CX marketing
- CX sales
- CX commerce
- CX service
- CX platform

Oracle Cloud HCM
- Global human resources
- Talent management
- Workforce management
- Payroll

Advanced Technologies

Cybersecurity | Blockchain | Digital assistant | IoT monitoring | Adaptive intelligence (AI / ML) | Mobility

Oracle Cloud Infrastructure

Developer, DevOps
- Low code
- Developer
- Infrastructure as code

Applications
- Serverless
- Integration
- SaaS

Analytics
- Analytics

Data Management
- Data management
- Data processing
- Autonomous database
- Database

Infrastructure
- Compute
- Containers
- OS / Images
- Storage / Import
- Networking

Governance, security
- Governance
- Security
- Observability
- Multicloud

Oracle Industry Applications
- Communications
- Construction & Engineering
- Financial Services
- Food & Beverage
- Healthcare
- Hospitality
- Health Sciences
- Retail
- State & Local
- Utilities

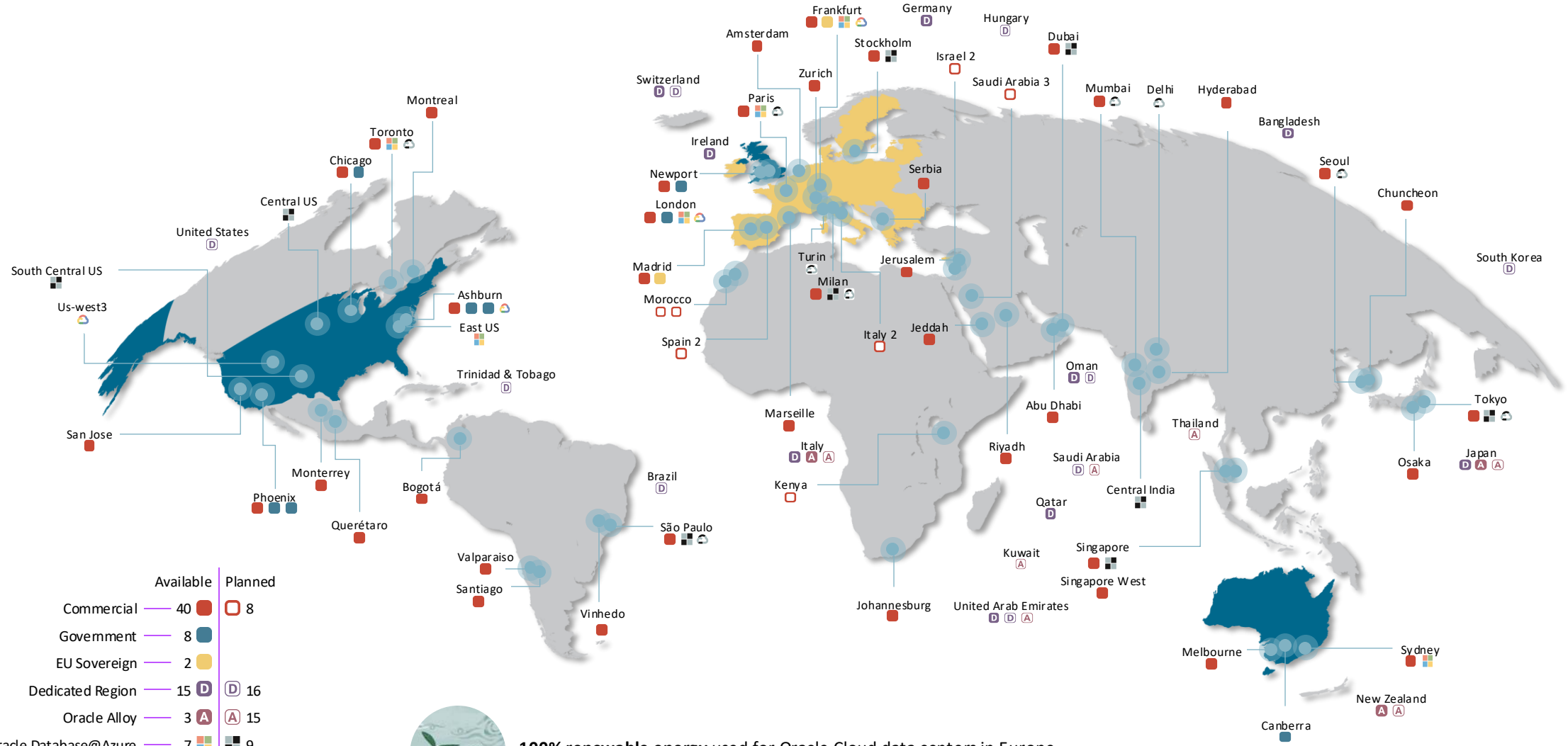
ISV Applications
ALTAIR, cybereason, OPTUM Financial, Qualys, THOMSON REUTERS, VERTEX, workforce SOFTWARE, Xactly, zoom

50 Public Regions | DCs in 23 Countries | 12 Azure Interconnect Regions | Dual regions in 10+ countries | Cloud@Customer in 60+ Countries

- Flex infrastructure
- Simple, predictable pricing
- Off-box virtualization
- Maximum computing density per MW
- Nonblocking networks, minimal charges

OCI Global footprint

September 2024 – 162 live or planned regions



	Available	Planned
Commercial	40	8
Government	8	
EU Sovereign	2	
Dedicated Region	15	16
Oracle Alloy	3	15
Oracle Database@Azure	7	9
Oracle Database@Google Cloud	4	8

100% renewable energy used for Oracle Cloud data centers in Europe
100% renewable energy by 2025

OCI is supporting your open-source code

Managed open-source services in OCI

MANAGED CONTAINERS

CONTAINERS

INFRASTRUCTURE AS CODE


AUTONOMOUS LINUX

DATABASE

BIG DATA

ANALYTICS ENGINE

CACHING DATABASE

DATA COLLECTION

EVENT DELIVERY

STREAMING


DATABASE

SERVERLESS PLATFORM

SEARCH AND ANALYTICS

INTERFACE DEFINITION

Run the technologies you already use

LINUX OS

WINDOWS SERVER OS

VIRTUAL ENVIRONMENT

PROGRAMMING LANGUAGE

PROGRAMMING LANGUAGE

DATABASE


APPLICATION FRAMEWORK

NOSQL DATABASE

APPLICATION FRAMEWORK

BLOCKCHAIN

MACHINE LEARNING FRAMEWORK

Native integrations with the dev tools you're used to

DEV-OPS


AUTOMATION


DEV-SEC-OPS

AUTOMATION

CONTAINER MANAGEMENT

PACKAGE MANAGEMENT

INFRASTRUCTURE AS CODE

TEAM COLLABORATION


RISK MANAGEMENT

Oracle is named a Leader

2023 Gartner® Magic Quadrant™, Distributed Hybrid Infrastructure

- Oracle's distributed cloud provides customers with the flexibility to choose where and how cloud services are delivered to meet their regulatory, performance, and other needs.
- Read the report to help you evaluate distributed hybrid infrastructure vendors. We have all the information for you in one place.

Link to full report

Gartner Magic Quadrant for Distributed Hybrid Infrastructure, by Analyst(s): Julia Palmer, Tony Harvey, Michael Warrilow, David Wright, Jeffrey Hewitt, 27 September 2023.

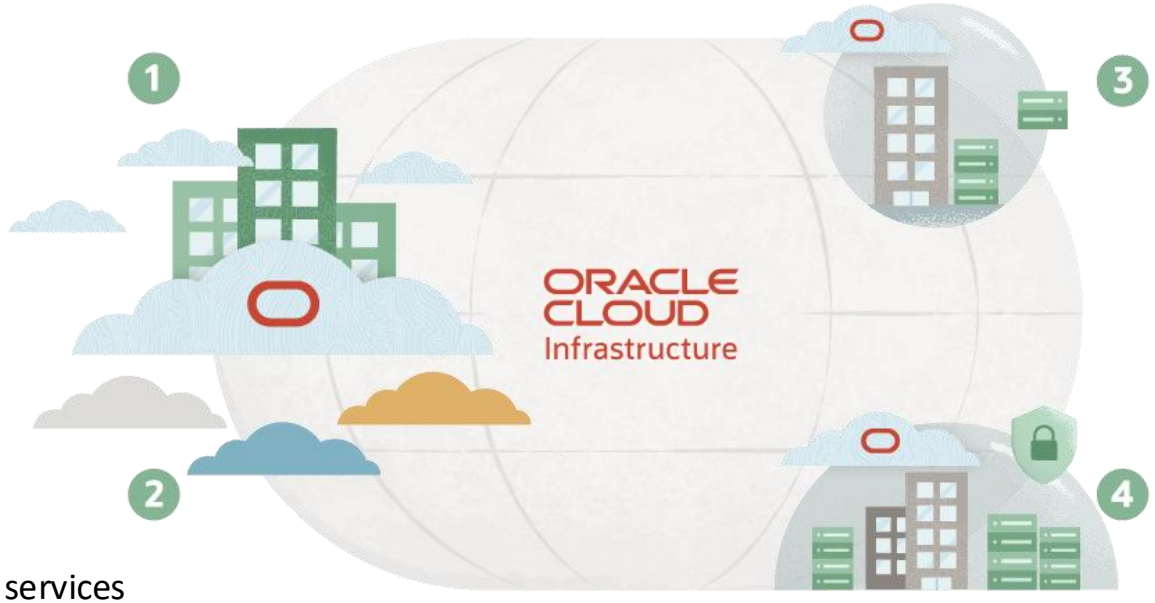
OCI Distributed Cloud

offers customers the flexibility

1. Multicloud

We work with other providers

- Oracle Database @ Azure
- Oracle Interconnect for Azure
- Oracle Database @ Google Cloud
- Oracle Interconnect for GCP
- Oracle Database @ AWS
- HeatWave MySQL – AWS, Azure



2. Public

- 50 regions, 12 Azure & 11 GCP
  Interconnect Regions, 100+ Cloud services
- Commercial
  US Gov, UK Gov, Australian Gov
  US National Security Regions
  EU Sovereign

3. Hybrid Cloud

- Oracle Cloud@Customer
  - Exadata Cloud@Customer
  - Autonomous Database on Exadata Cloud@Customer
  - Compute Cloud@Customer
- Roving Edge Infrastructure
- Observability and Management
- FastConnect

4. Dedicated Cloud

- All 100+ OCI services running in customer data centers:
- OCI Dedicated Region
  Oracle Alloy
  Oracle Isolated Region

Multicloud

02

Single Cloud Challenges

Vendor lock-in

- Dependent on that provider's services and infrastructure
- Costly to migrate to another provider

Data sovereignty and compliance

- Data centres are not located in the necessary jurisdictions.

Single Point of Failure

- Risk of downtime and outages
- Disruptions to business operations, data loss, and negative impacts on customer experience

Limited Regions

- Limited-service availability and performance

Innovation and access to new technologies

- You can't use best-of-breed solutions.

Cost management and optimization

- Cost savings opportunities available from other cloud providers

Multicloud Benefits

Maximize the Strengths of Each Provider

- Best-of-breed services
- Flexibility and choice

Avoidance of vendor lock-in

- freedom to switch providers or distribute workloads

De-Risk Single Provider Outages

- Improved resilience and redundancy

Innovation and access to new technologies

- a wide range of cloud services, features, and capabilities offered by different providers

Multicloud Economics

- Competitive pricing and discounts offered by different cloud providers

Disaster recovery and business continuity

- Failover to resources hosted by other providers, ensuring minimal disruption to business operations

The Future is Multicloud

*"There should be an **internet of clouds**, the clouds should be interconnected, and you should mix and match between multiple clouds, the idea is providing **customers with choices**."* – Larry Ellison

Current clouds are like walled gardens

Limited Multicloud vision

From walled gardens to connected gardens

Microsoft + Oracle: partnering to make **multicloud amazing**

5th June 2019

Oracle Interconnect for Microsoft Azure

Improving multicloud connectivity

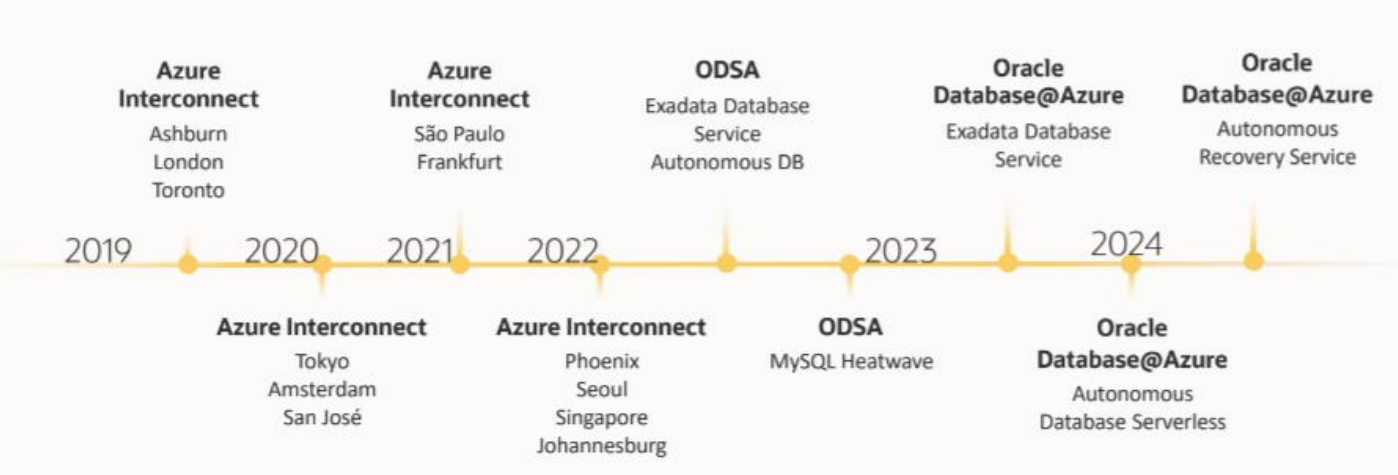
25th July 2022

Oracle Database Service for Azure

Oracle managed service built on Interconnect

14th Sep 2023

The Future Begins Today



Oracle Interconnect for Azure

Microsoft Azure + ORACLE

Technology Integration

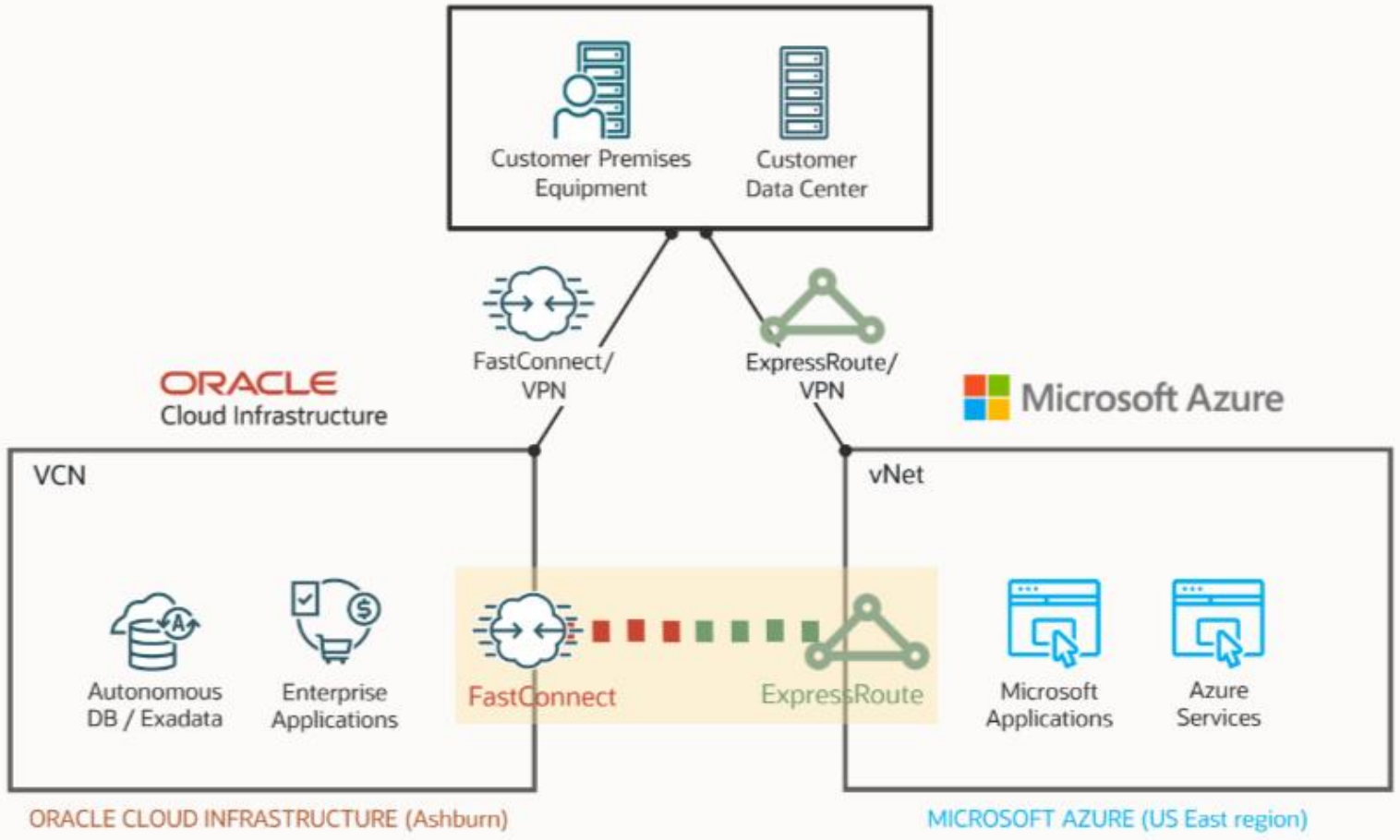
- By using Oracle FastConnect and Azure ExpressRoute, customers can seamlessly build a private interconnection between the clouds
- Unified identity and access management platform
- No charges for inbound or outbound bandwidth consumed
- <2ms latency for traffic between OCI and Microsoft Azure

Application interoperability

- Tested, validated, and supported deployments for packaged, cloud-native, custom, and third-party applications

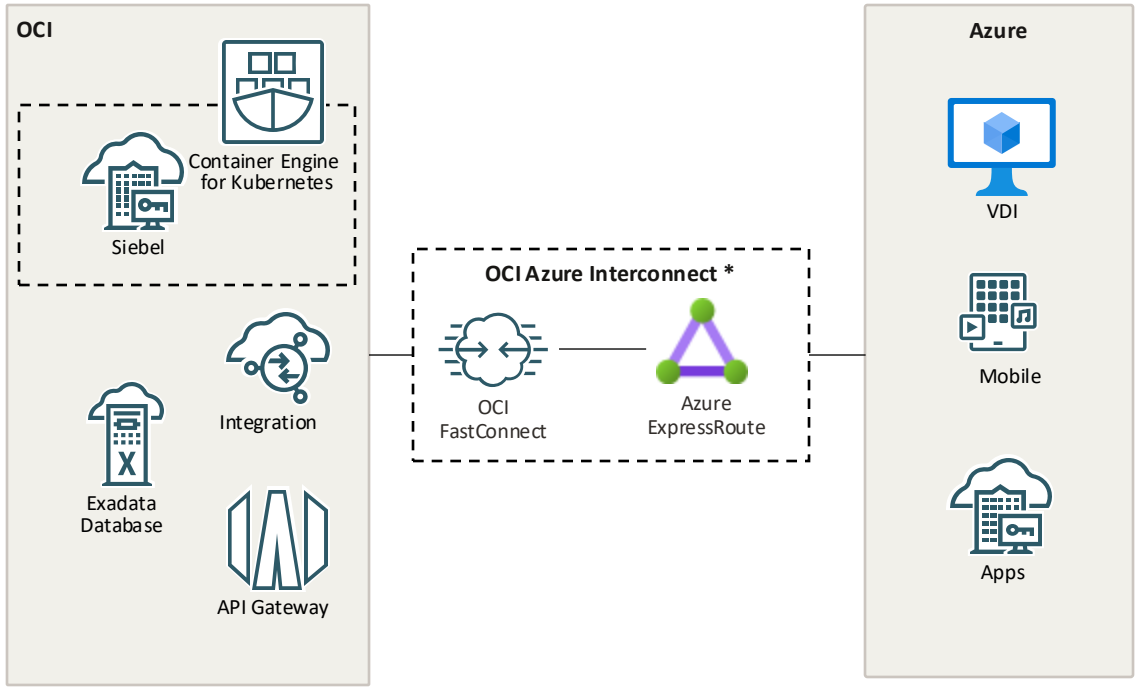
Collaborative support model

- Raise issues with Oracle or Microsoft
- Joint resolution by both cloud vendors



Oracle Interconnect for Azure

Use case: App to App Integration



*Direct connection with <2ms RTT latency between clouds – No intermediate connectivity provider is required

- Application stacks on OCI and Azure interoperate and share data.
- Maintain high performance connectivity between dependent applications in the cloud with no re-architecture
- **Example architecture**
  - Siebel CRM 22.8 in Oracle OKE with Exadata database on OCI
  - Low latency, high speed integration with Azure-hosted apps using Interconnect

Oracle Database Service for Azure (ODSA)

Familiar Azure user experience

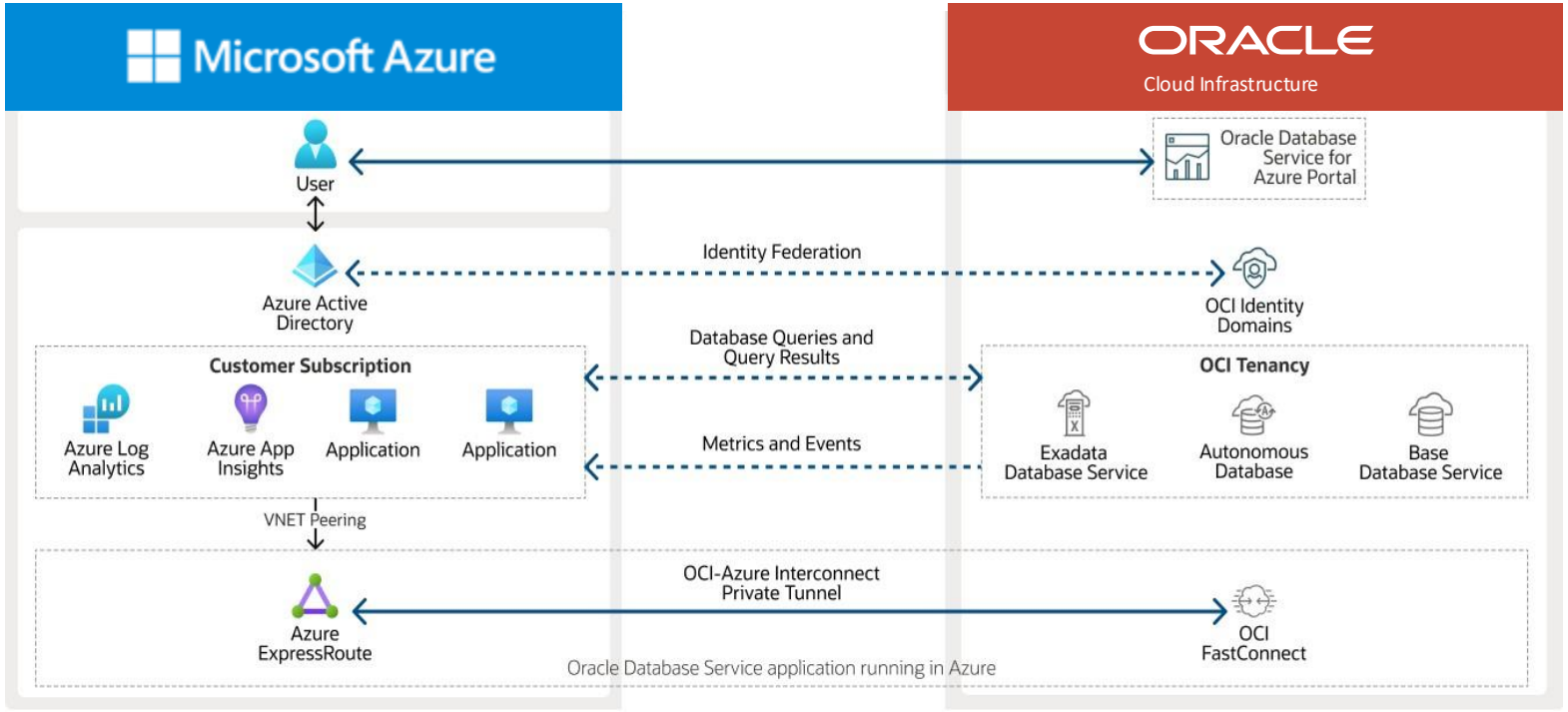
- **Automated** identity, networking, and monitoring integration
- **Low latency** (< 2 ms) private interconnect suitable for nearly any app
- No additional cost

Access OCI Database services

- **Zero downtime** high availability with native Oracle RAC
- **Scales** up to 31 PB data warehouses and 10 million+ SQL IOPS
- **Completely** hands-off, multi-modal Autonomous Database

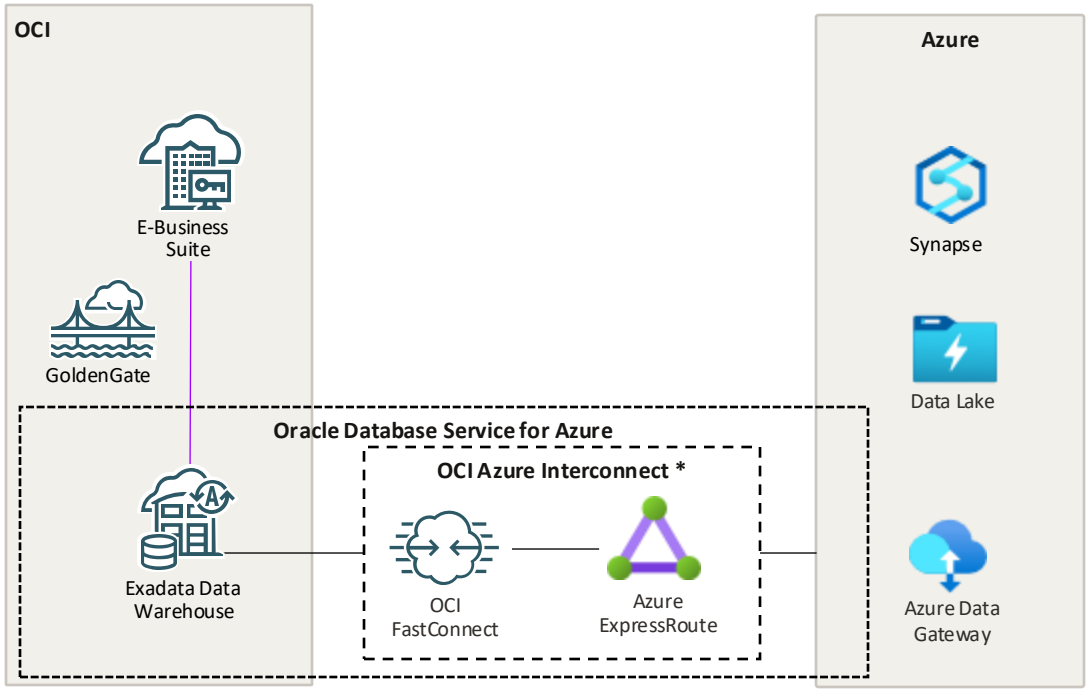
Collaborative support model

- Raise issues with Oracle or Microsoft
- Joint resolution by both cloud vendors



Oracle Database Service for Azure (ODSA)

Use case: Data analytic pipeline



*Direct connection with <2ms RTT latency between clouds – No intermediate connectivity provider is required

- Modernize data transformation pipeline with real-time data analysis and faster delivery of data reports to help customers make more informed and timely business decisions
- **Example architecture**
  - Data analytics frontend on Azure with Oracle Autonomous Data Warehouse (ADW) on the backend in Oracle Database service for Azure (ODSA) on OCI for real-time data insight
  - Data feed from EBS to Oracle ADW using OCI GoldenGate
  - Data transfer to Azure Data lake via OCI Azure Interconnect and Azure Data Gateway for batch data upload

Oracle Database @ Azure

- Run your workloads where you choose
- Experience the highest level of DB Performance

Simplify Purchasing

- Leverage MACC (Microsoft Azure Consumption Commitment
- Leverage Oracle investments – BYOL, ULA, Purchase license included DB services
- Oracle Support rewards (Get $.25 to .33)

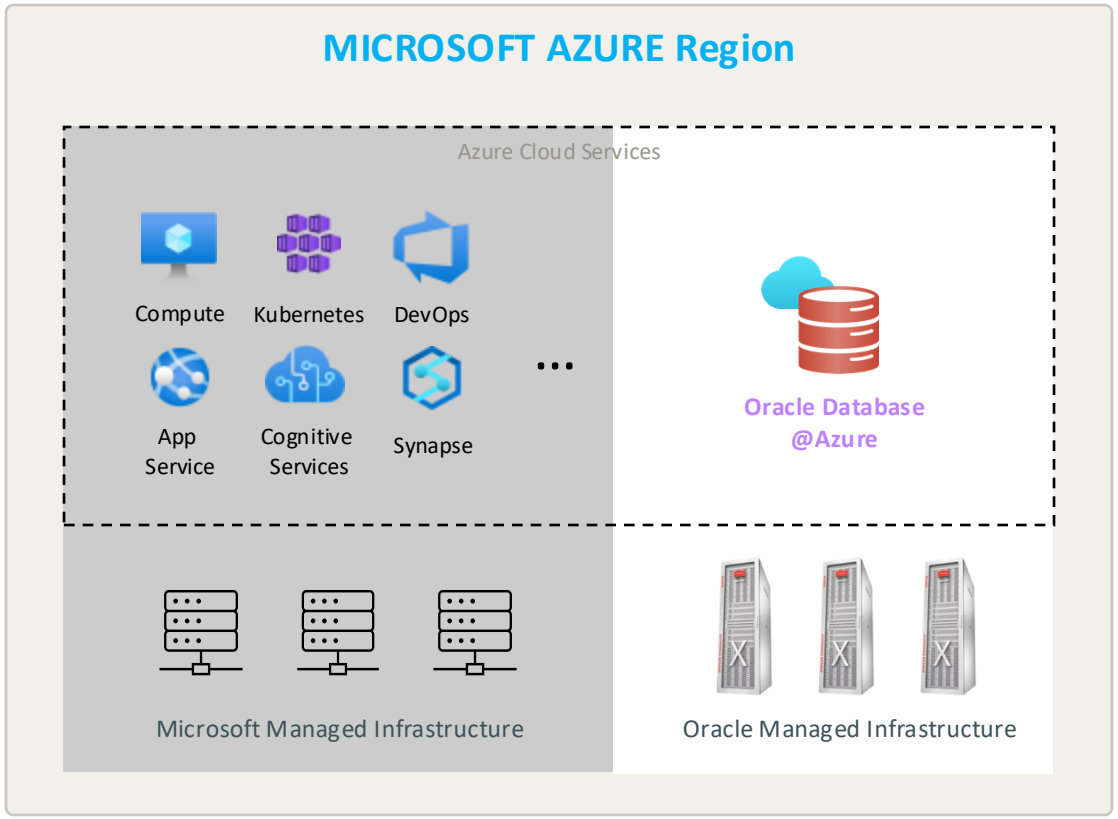
Simplify Operations

- Use your existing Azure and Oracle skills
- Monitor and troubleshoot from Azure

7 Azure regions with the launch of the Australia East region and expanded roadmap of 14 more regions

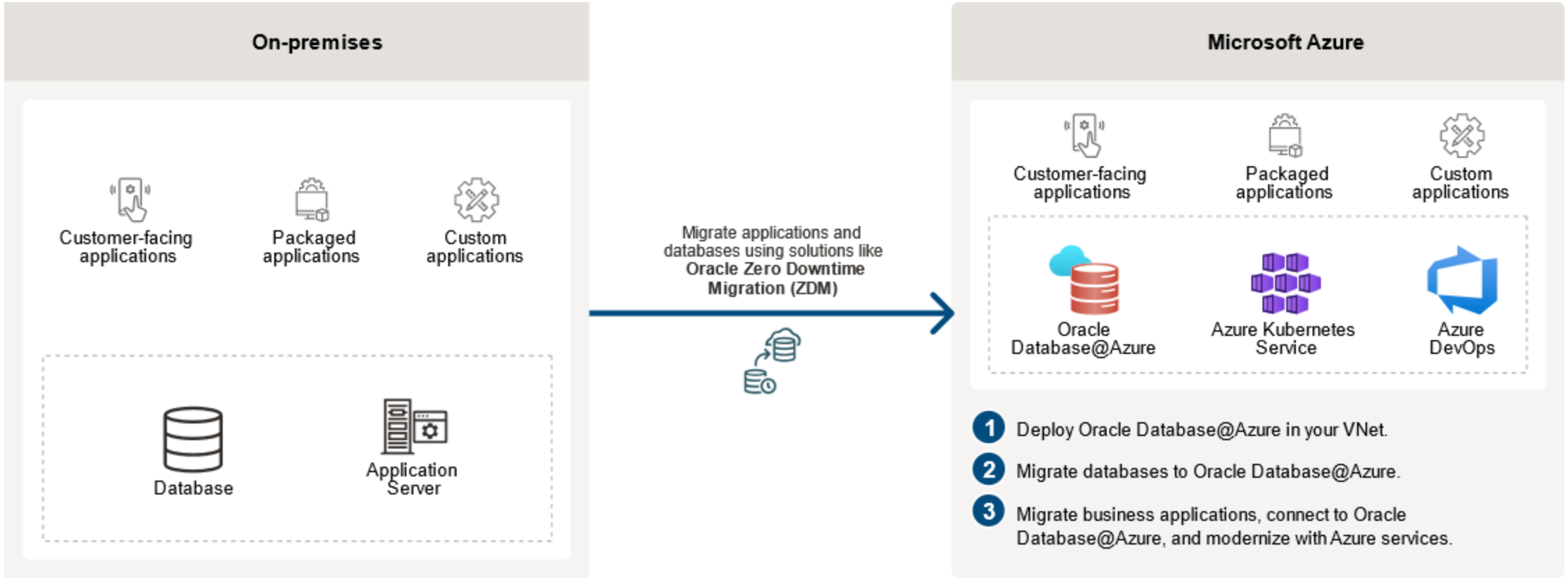
New capabilities: Oracle Zero Data Loss Autonomous Recovery Service, a fully managed data protection service

- Oracle will be placing Oracle Database services on **OCI inside Azure datacenters**, on Oracle hardware managed by Oracle. Similar to how we place our racks in data centres like Equinix.
- Azure customers can **buy and use** OCI Database services in Azure from using the **Azure Marketplace.**
- Azure customers can apply such purchases to their Microsoft Azure Consumption Commitment (MACC).
- **Microsoft will pay Oracle** for OCI Database services used inside Azure.

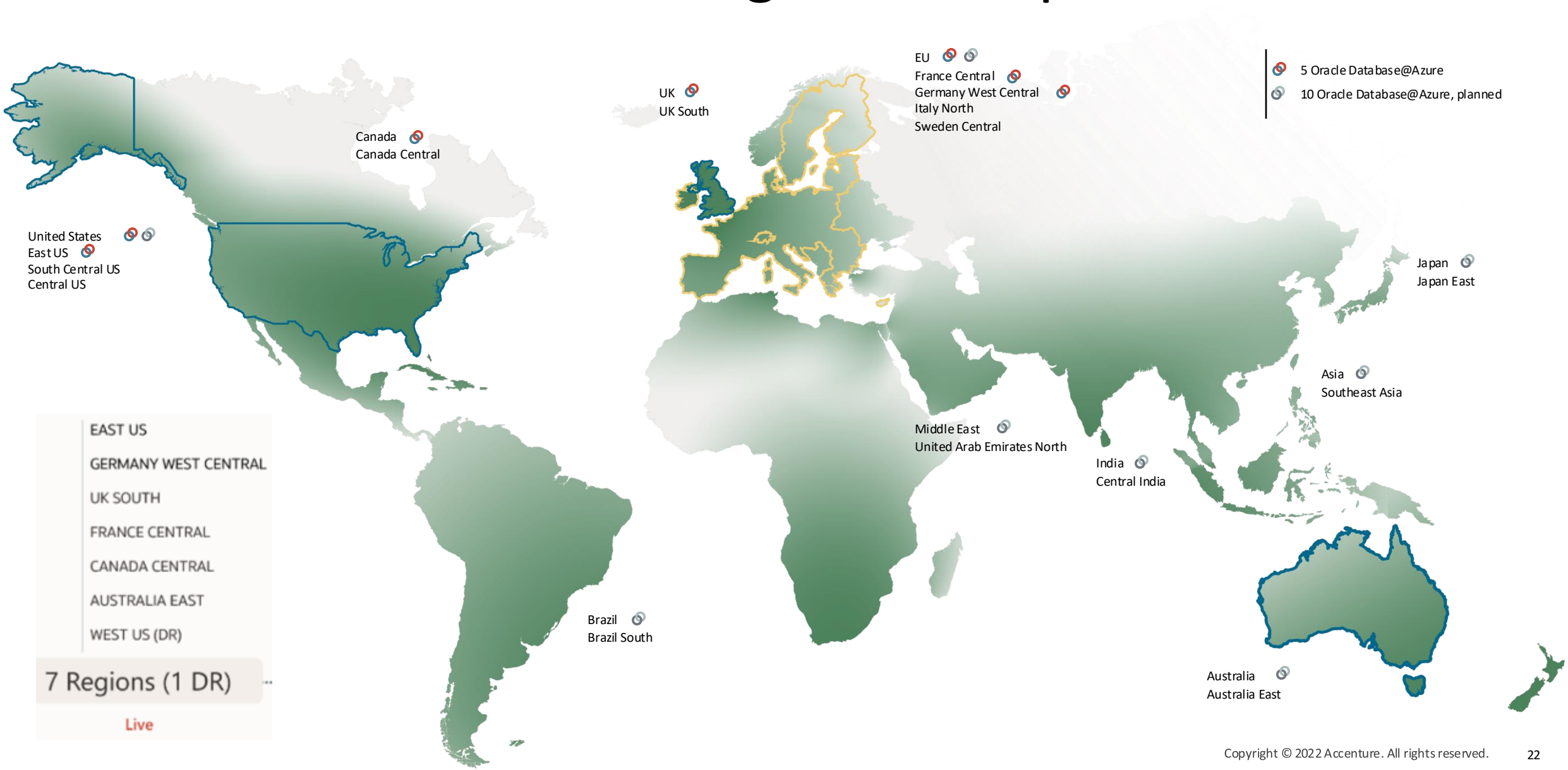


Migrate applications from on-prem and modernize them

Combine Microsoft Cloud capabilities and Azure application development tools and frameworks with the power of Oracle database services.
Leverage Azure DevOps to modernize development and deployment.



Oracle Database @ Azure global footprint

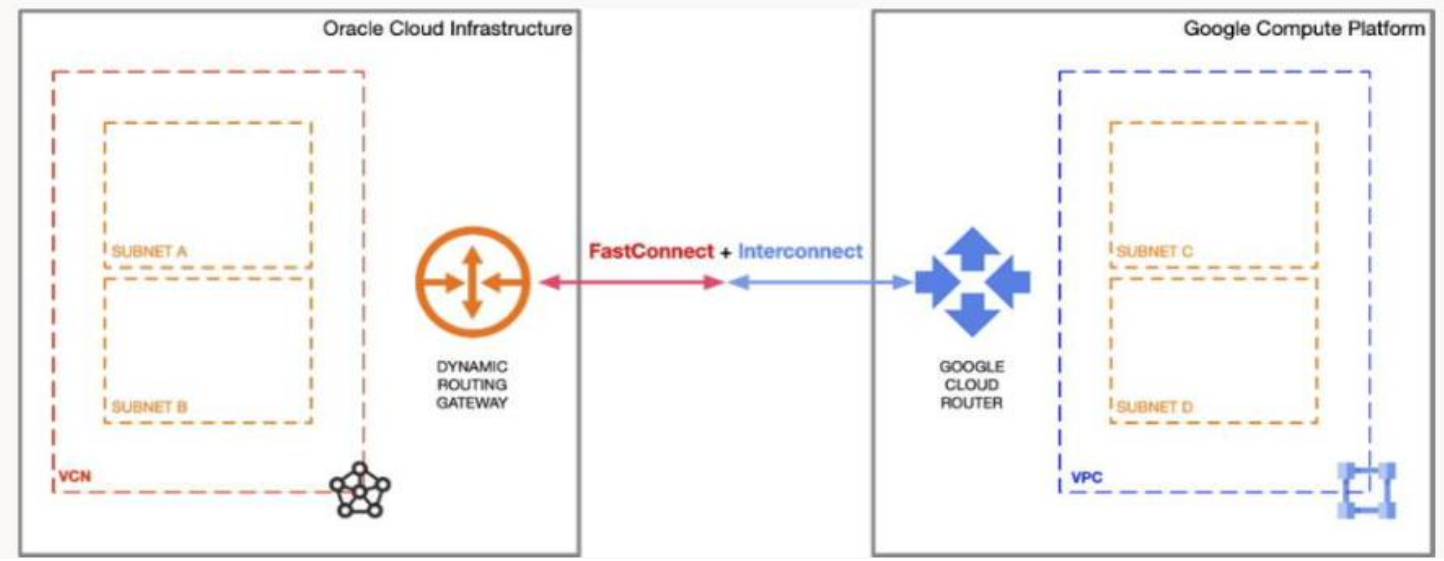


Services comparison

Services	OCI database services	Oracle Database@Azure	Oracle Interconnect for Microsoft Azure
Connectivity	Native in OCI	Native in Azure	Dedicated Tunnel, Customer managed
Network cost	Zero (local in OCI)	Zero (local to Azure)	ExpressRoute port and FastConnect port charges
OCI services available	ExaDB-D, ADB, Base DB, MySQL Heatwave	ExaDB-D	All OCI services
Common use cases	App DB full stack in OCI	App DB full stack in Azure	App integration, App DB split stack
SLA/SLO	ExaDB-D 99.95%; ADB 99.95%; BaseDB 99.9%; MySQL 99.95%	ExaDB-D 99.95%	Customer managed
Region availability	66 OCI regions	Azure East US	12 regions
Latency	< 100µs	< 500 µs	< 2ms
Support	OCI support	OCI and Azure collaborative	OCI and Azure collaborative
Automation	Yes	Yes	Yes
Decision points	High performance + low latency + no or low MACC	Large unmet MACC + ExaDB-D + low latency	Azure and OCI multicloud integrations / Need ADB and BaseDB immediately

Oracle Interconnect for Google Cloud

ORACLE | Google Cloud



Technology Integration

- By using OCI FastConnect + Google Cloud Partner Interconnect, customers can seamlessly build a private interconnection between the clouds
- Unified identity and access management platform
- <2ms latency for traffic between OCI and Google Cloud

Application interoperability

- Tested, validated, and supported deployments for packaged, cloud-native, custom, and third-party applications

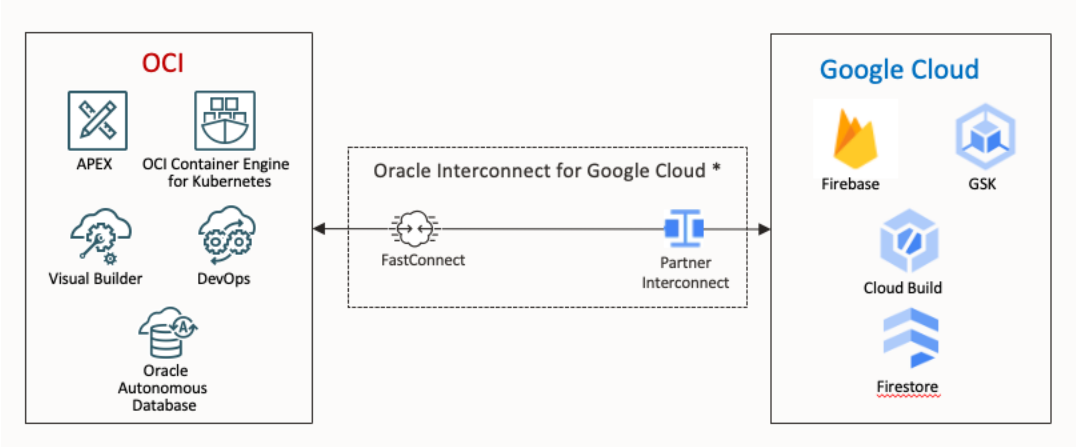
Collaborative support model

- Raise issues with Oracle or Google
- A joint resolution by both cloud vendors

- Enhancing customer choice to combine Oracle Cloud Infrastructure and Google Cloud capabilities with seamless interoperability
- Help customers accelerate application migration and modernisation over private, low-latency connection
- Run Google-based applications with high-speed Oracle databases on OCI
- Unify data management across OCI and Google Cloud
- Oracle Interconnect for Google Cloud is the first service of the multicloud partnership.

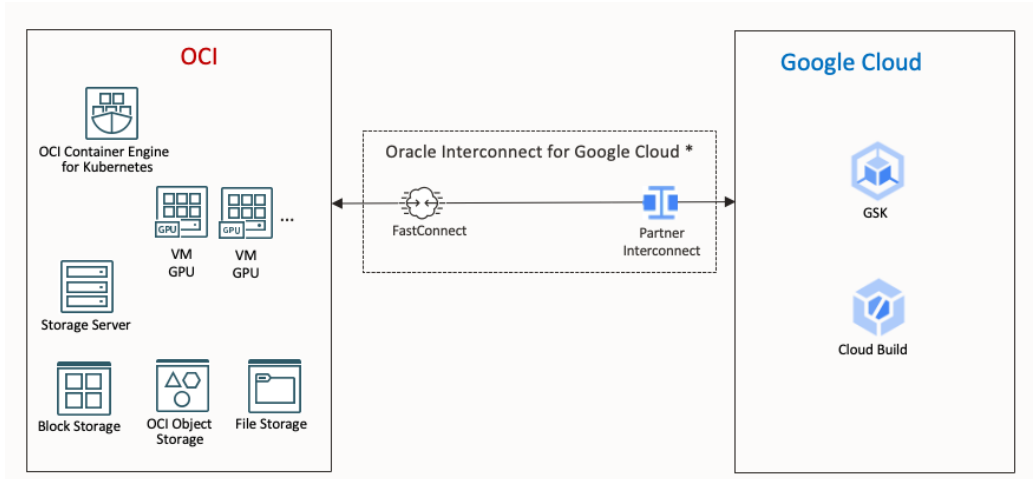
Oracle Interconnect for Google Cloud: Use cases

Build new cloud-native apps



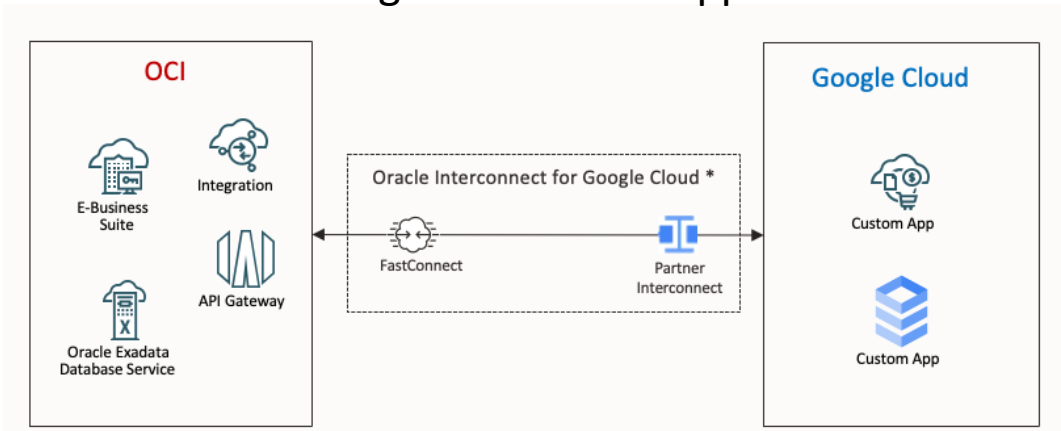
Support for developer preferences | Cost optimisation across public clouds | Improve business agility | Private, low-latency, and high-bandwidth interconnectivity that sets up in minutes

Distributed AI workload



Extend existing AI workloads beyond cloud boundary | Cost optimisation across public clouds |Train the AI model or run inferencing on demand on OCI AI infrastructure. | No egress charges

Integrate full stack apps



Use the best services from both cloud providers | Flexible to retrofit custom applications and innovate beyond the cloud boundary | Seamless integration of upstream and downstream applications

Oracle Database @ Google Cloud

- Run your workloads where you choose
- Experience the highest level of DB Performance
- Oracle Database @ Google Cloud integrates Oracle Autonomous Database Serverless, Oracle Exadata Database Service on Dedicated Infrastructure, Oracle Real Application Clusters (Oracle RAC), and Oracle Data Guard technologies into the Google platform.

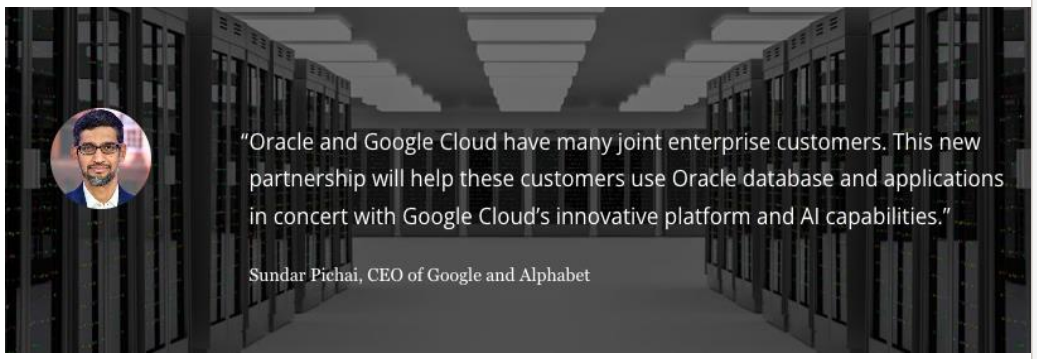
Simplify Purchasing

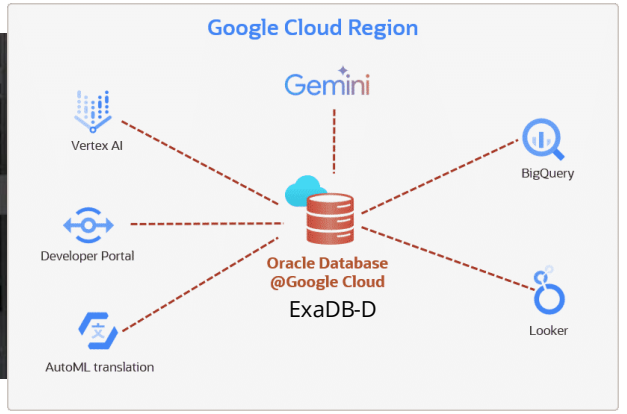
- Leverage Oracle investments – BYOL, ULA, Purchase license included DB services
- Oracle Support rewards (Get $.25 to .33)

Simplify Operations

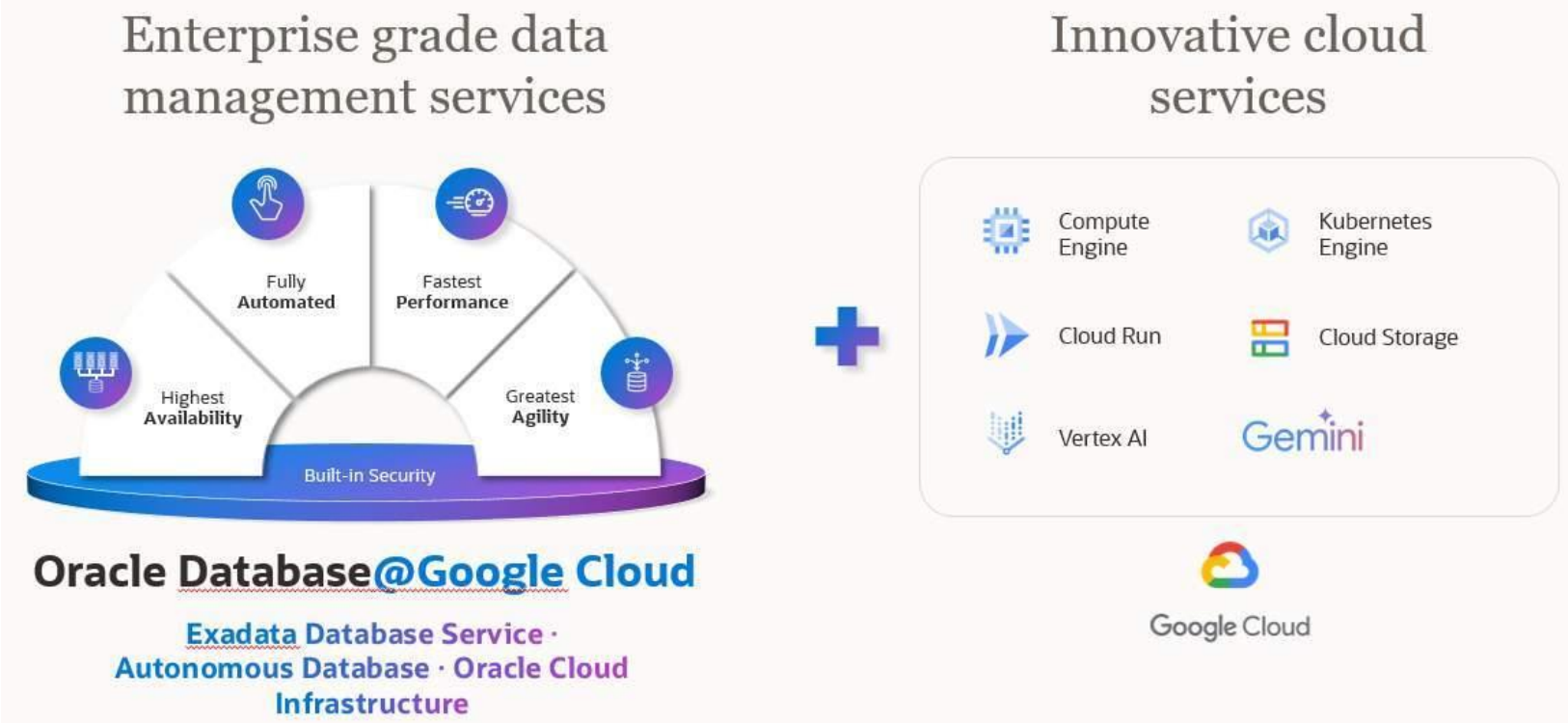
- Use your existing Google and Oracle skills
- Monitor and troubleshoot from Google Cloud

Oracle Exadata Database Service and Oracle Autonomous Database Service will launch across four Google Cloud regions—US East (Ashburn), US West (Salt Lake City), UK South (London), and Germany Central (Frankfurt)—and then rapidly expand to additional regions worldwide.





ORACLE | Google Cloud



The primary target prospects for this new service are existing Google Cloud customers with Oracle support contracts but without OCI.

Oracle Interconnect for Google Cloud

Global footprint

Oracle Database @ AWS

FULL FUNCTIONALITY

- Exadata Database Service and Autonomous Database on Dedicated Infrastructure
- Full capabilities including RAC, AI Vector Search, APEX
- Will GA in AWS regions with two Availability Zones per region

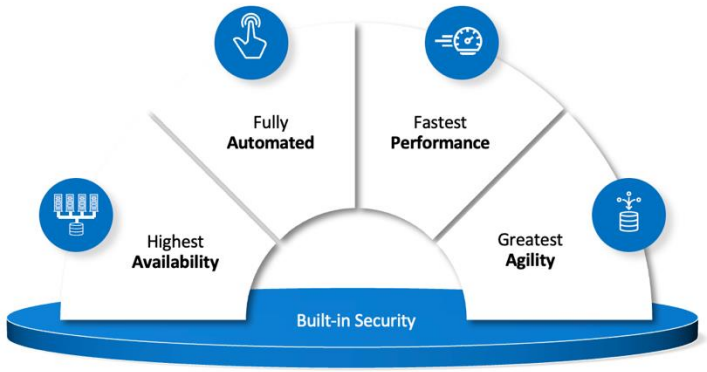
SEAMLESS EXPERIENCE

- Native AWS console and API experience
- One place for monitoring, ops, billing, etc.
- Leverage both AWS and Oracle Database skill

PROGRAMS & SUPPORT

- Leverage existing investments:
  - AWS Private Pricing Agreements
  - Oracle Database ULA or BYOL
  - Oracle Support Rewards
- Collaborative support

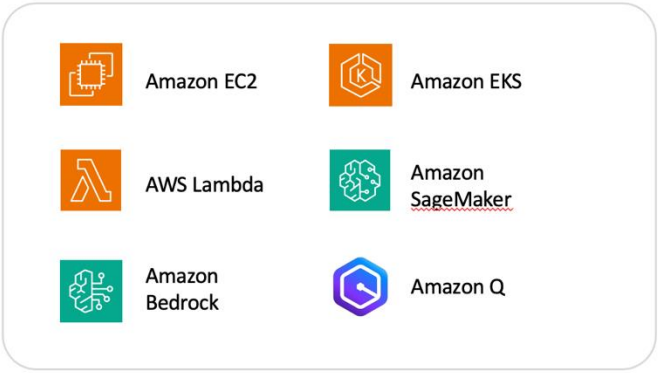
Enterprise grade data management services



ORACLE CLOUD Infrastructure

Exadata · Autonomous Database on Dedicated Infrastructure

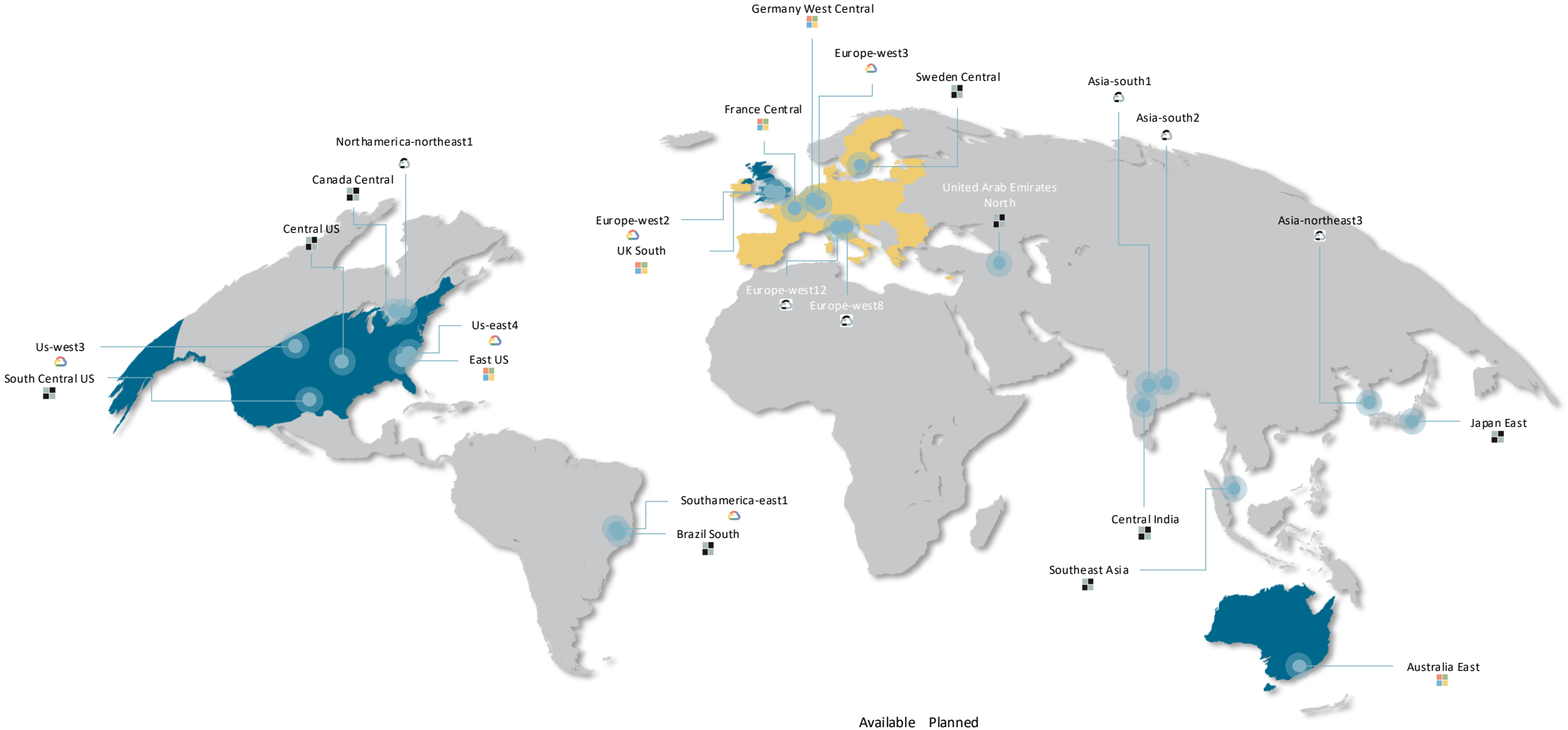
Innovative cloud services



aws

*Oracle Database@AWS will be available in preview later in 2024, with broader availability in 2025 as it expands to new Regions to meet the needs of customers

Multicloud regions



	Azure	Google Cloud	AWS
Availability	GA	GA	Dec2024
Regions	15	4	1 announced
Licensing model	BYOL License included	BYOL License included	BYOL License included
Oracle Support Rewards	Supported	Supported	Supported
Services	ExaDB-D (19c, 23ai) ADB-S (19c, 23ai) GG managed (announced)	ExaDB-D (19c, 23ai) ADB-S (19c, 23ai)	ExaDB-D (19c, 23ai) ADB-D (19c, 23ai)
Backup	Object Storage ARS@Azure ARS@OCI	Object Storage ARS@OCI	Object Storage S3
Model	PAYG Private Offer	PAYG Private Offer	Private Offer
Infrastructure As Code	GA	FY25Q2	TBC
Compliance	PCI-DSS, SOC 1,2,3, HIPAA, C5, ISO, CSA STAR, HDS	WIP	TBC
SAP	Validated	TBC	TBC
MAA Gold	Validated Exadata	WIP	TBC
Observability	Azure monitor (metrics)	Google Monitor (metrics, logs, events)	TBC
Resale model	Not supported	Not supported	TBC

Oracle MySQL HeatWave on AWS

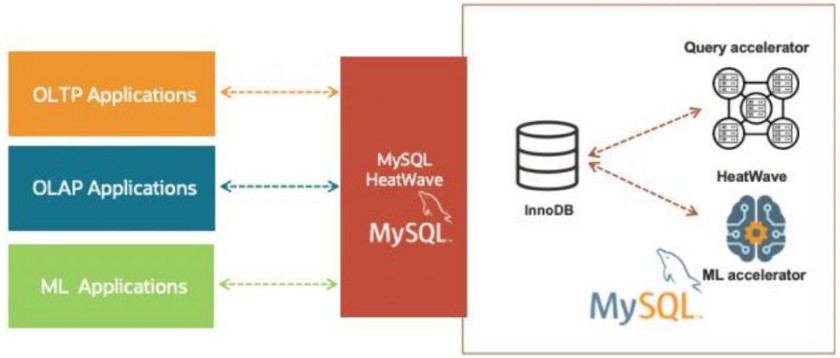
*MySQL HeatWave delivers **7X** better price performance compared to Amazon Redshift and **10X** better than Snowflake, **25X** faster than Redshift ML, and up to **10X** higher throughput than Aurora*

Fully managed database service

- Setting up, configuring and tuning the DB
- Securing patching, upgrading of host operating system and database
- Orchestrating database backups

Simplify operations with MySQL DB

- for transactions, analytics and machine learning (ML) – eliminating the complexity and cost of separate analytics database, ML, and ETL services



Fully managed

Built, managed and support by MySQL dev Team

Automates Common Tasks

- Provisioning
- Patching
- Upgrades
- Backup

One database

20x faster analytics, 10x throughput for OLTP

Single DB for OLTP and OLAP

- Eliminates ETL
- Real-time analytics
- Improves security
- No changes to MySQL Apps

HeatWave ML

25x faster In-database ML

Automated ML lifecycle

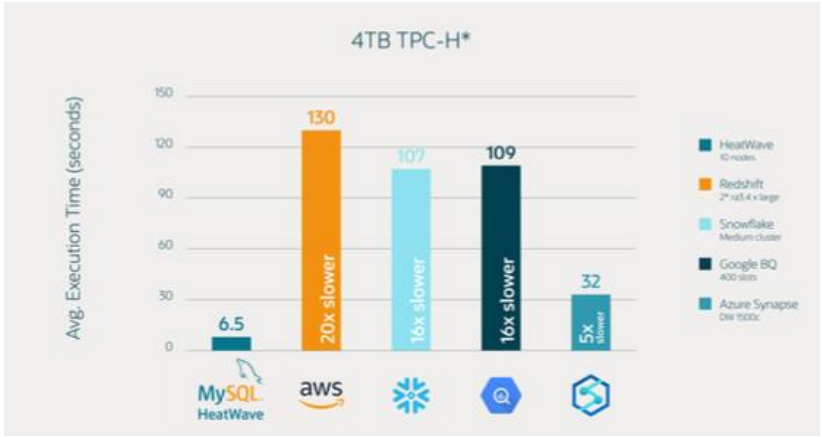
- Build ML models
- Train ML models
- Tune ML models
- Explain ML models

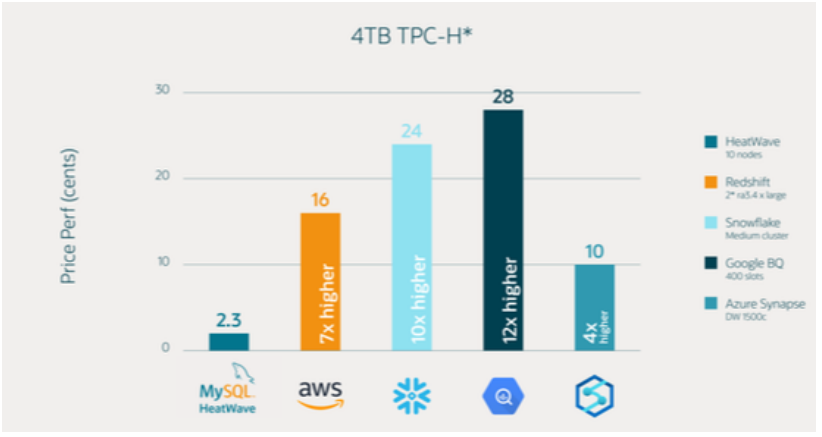
MySQL Autopilot

ML based automation improves performance and usability

ML-powered Automation

- Auto provisioning
- Auto parallel load
- Auto data placement
- Auto shape prediction





Hybrid Cloud

04

Oracle Exadata Cloud@Customer

Exceptional Outcomes
- Performance, availability, security
- Analytics, OLTP, mixed workloads
- Database consolidation
- Converged database applications

Exceptional Outcomes

Elastic Scaling
- Add CPU and storage online
- No database or workload too large

Elastic Scaling

Automation and Simplicity
- Oracle Autonomous Database

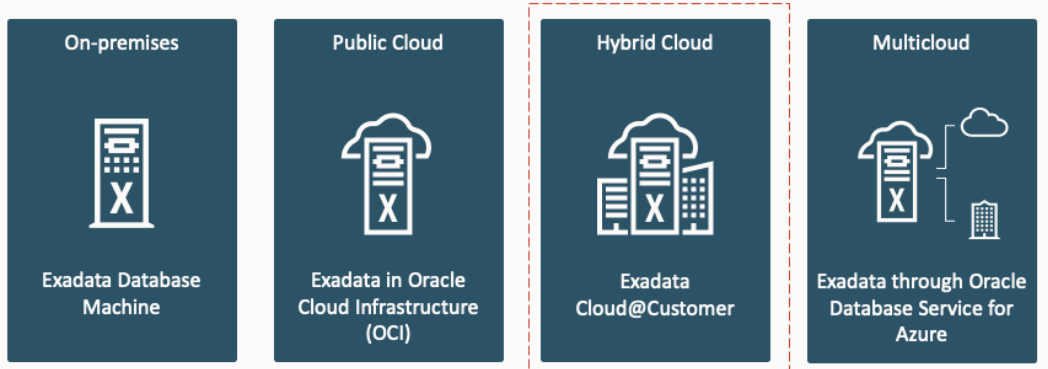
Automation & Simplicity

Lower Total Costs
- Superior price/performance
- Pay-per-use pricing
- One cloud service vs many

Lower TCO

Exadata Cloud@Customer is Easy to Adopt

The simplest way for mission-critical apps to use cloud databases



But not every organisation or workload can easily use the public cloud

Data Residency and Security

Regulations or policies require data to be local

Requirements to protect data in specific ways

Response Time

- Real-world systems require low latency
- Hard to disentangle one system from others

Perceived Risk

Concerns about multi-tenant cloud

Concerns about cloud provider access to data

Database cloud services in customer data centers address critical needs

- High security and full data residency behind customer-controlled firewalls
- Low latency connectivity with existing applications and data center resources
- Reduced management and self-service for database developers via cloud automation
- The same consumption model and economics as the public cloud

Oracle Autonomous Database on ExaCC

No CAPEX

– Infrastructure subscription + vCPU consumption

Lower Software Costs

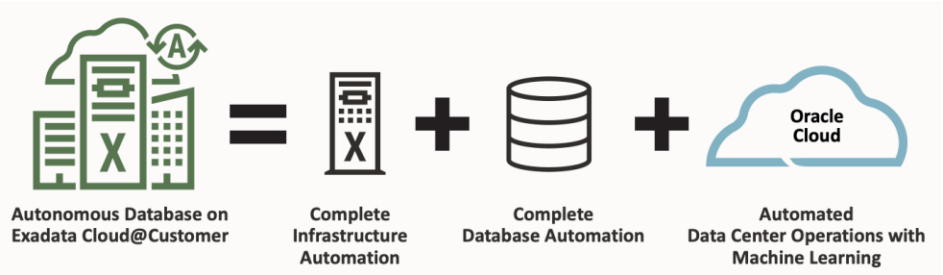
– Higher performance reduces consumption, auto-scaling delivers pay-per-use pricing, and lower costs for developer databases

Less Administration

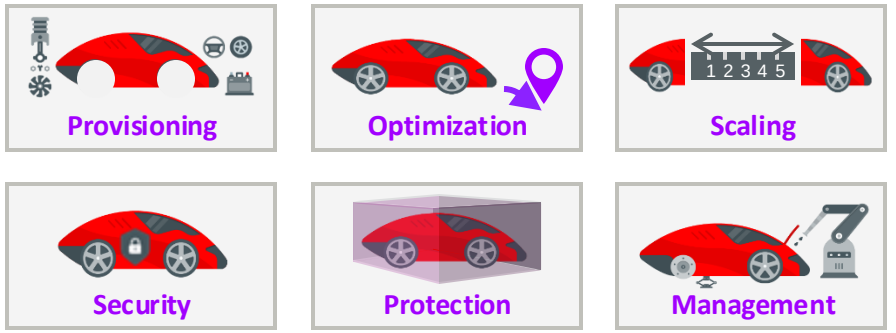
– Replaces manual infrastructure and database administration tasks with automatic tuning, scaling, management, and security

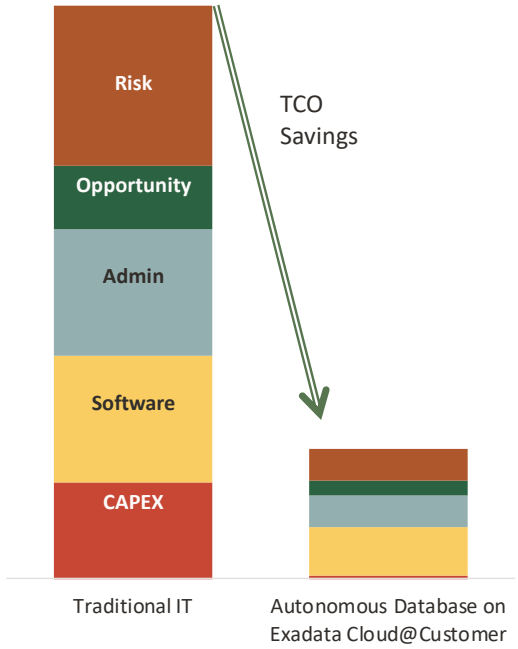
Less Risk

– High availability with no-downtime patching, maintenance, and scaling reduces business impacts while automation eliminates human errors and helps protect data



Fully Autonomous Capabilities



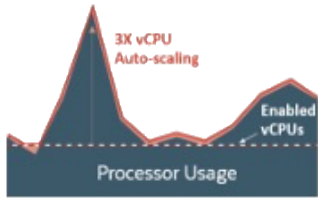


Efficient Consolidation

Exadata Cloud@Customer

Runs Autonomous Database Service and Exadata Database Service at the same time, distributing infrastructure costs across more databases

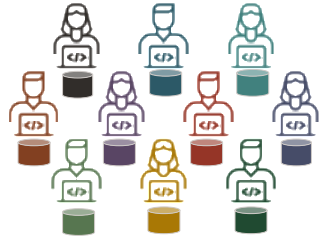
Auto-scaling



Autonomous Database Cloud

Consumption adjusted automatically to match current requirements

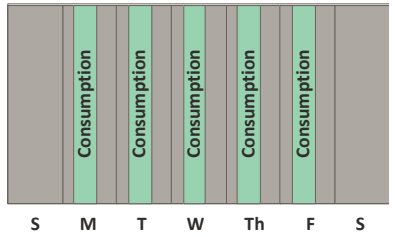
Fractional vCPU consumption



Autonomous Database on Exadata Cloud@Customer

Provision as little as 1/10th of a core per server for developers and low-use apps, lowering costs to as little as $60/month

Zero Consumption Databases



Autonomous Database Consumption-Only Billing

Billing is consumption only, turning them off when not in use can cut consumption costs by up to 70%

Oracle Compute Cloud@Customer (C3)

Hybrid Cloud compute

- Run Apps and MW on optimised OCI in your data centre with **flexible virtual machine shapes**

Scalable cloud resources

- **Cost-effective OCI compute capabilities** and consumption-based pricing in your data centre and grow them as needed

Simple cloud native management

- Provision your applications and OCI service on C3 and in OCI region using the same Terraform scripts, enabling you to easily **move workloads to and from the cloud.**

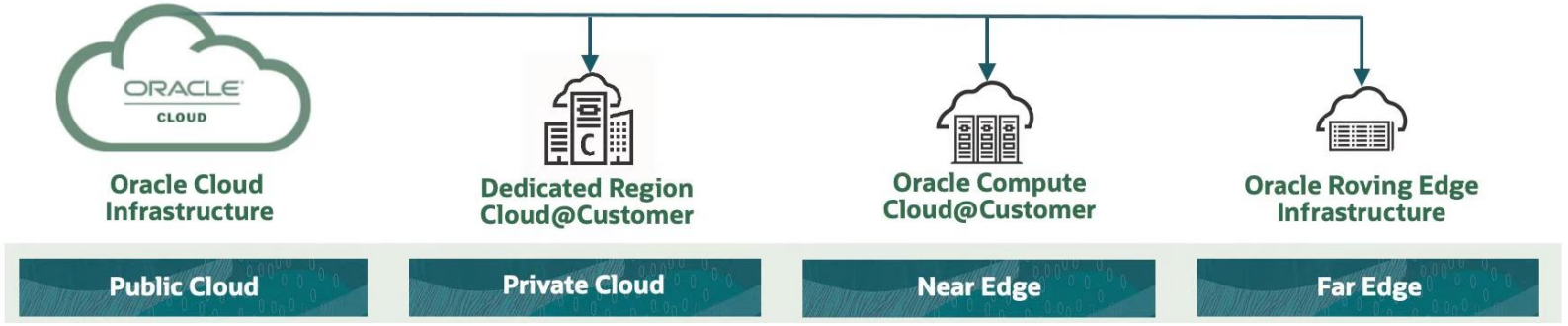
Easy development and deployment

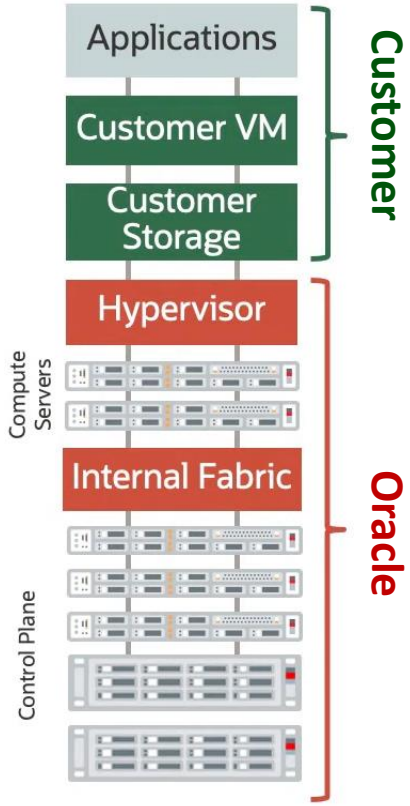
- Develop cloud native and traditional apps in your data centre or OCI regions using a common development architecture and deploy them on CCC or OCI as needed

Data privacy and control

- Maintain full control over your data's location and always encrypt it to help meet **data privacy and residency requirements.**

Run IT and network workloads on a ***distributed cloud architecture*** and Operate workloads where they're needed





- Compute Cloud@Customer (C3) – Connected ; Private Cloud Appliance (PCA) – Disconnected
- OCI extension to customer's data centre
  - Provides customer control over location of services, apps, and data
  - Integrated with customer's OCI tenancy, identity and Access Mgmt.
  - Same consumption-based pricing for compute and storage as OCI
  - Cloud operations delivered by OCI
- Transparent hybrid cloud
  - Partition workloads between private and public cloud
  - OCI as target for **backup and disaster recovery**.

Oracle Roving Edge Infrastructure

accelerates deployment of cloud workloads outside the data centre

Cloud capabilities in remote env

- Run applications at the network edge
- Conduct disconnected operations

Two factors

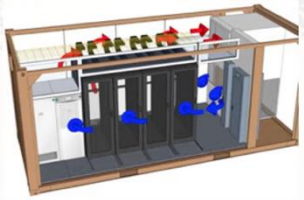
- Roving Edge Device with 40 cores, 512 GB RAN, 61 TB storage, High speed networking
- Roving Edge Ultra is lightweight, ultraportable, battery operated with 12 core, 96 GB RAM, 7.68 TB storage

Unified user experience and tools

- Roving Edge associated with Cloud tenancy
- Same look and feel of OCI console
- Automated data synchronization

Economical edge solutions

- Pay-per-use, Procured via the OCI console



	Roving Edge Ultra	Roving Edge Device	Roving Edge Cluster 5-15 Nodes	Roving Edge Station
Use case	In-the-field, on-person data collection, inferencing	In the field or at the base data collection and pre-processing	Data analytics and storage (data lakes)	Compute or Storage Intensive Deployments
OCPU Capacity	8	32	160-480	480-960
Storage Capacity, TiB	7.68	45+	175-675	525-1350
Integrated GPU	No	Yes	Yes	Yes
Portability	1 person	2 people	2 people	Container
Power	DC	AC 110/220	AC	AC
Durability	No	.99999	.99999	.999999
High-Availability	No	No	Yes	Yes + failure domains

Oracle Roving Edge Infrastructure use cases

Fast data collection and processing in the field
Leverage Roving Edge Infrastructure devices with powerful compute capabilities for ingesting and processing large amounts of streaming data from sensors in remote locations.

Application deployment to remote facilities
Enable seamless deployment of applications for organizations such as embassies and consulates, government offices, military bases, and remote campuses.

Development/test in cloud and deployment to edge
Develop, deploy, and maintain all applications and data in the cloud and deploy them to the edge as needed, controlled from a single pane of glass.

AI and ML at the edge
Use built-in GPUs or attached VPU/TPU accelerators for faster processing of AI and ML workloads without relying on network connectivity to Oracle Cloud Infrastructure.

Dedicated Cloud

05

OCI Dedicated Region

Data Residency

– Dedicated Region provides a cloud at a location chosen by the customer so that data is stored in a geographical location of their choice.

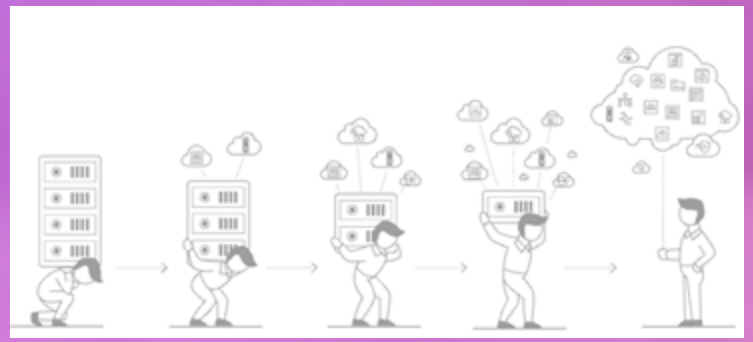
Low Latency Applications

– Dedicated Region provides a complete on-premise cloud with AI/ML workloads, with no requirement to connect to the public cloud.

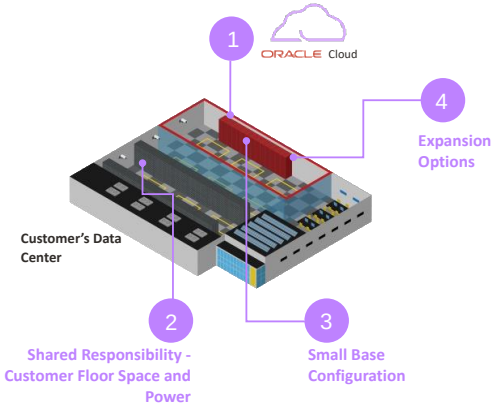
Modernization of Infra & apps

– Dedicated Region allows a 'lift & shift' of existing applications to an on-premise cloud. Expansion is easy with flexible building blocks.

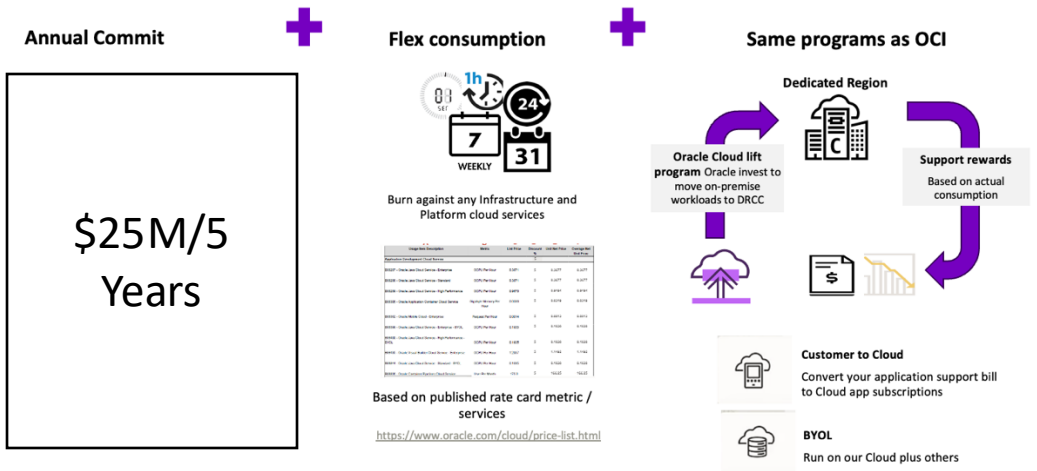
Allows for a more iterative approach to modernisation



- Start small, activate fast
- Includes IaaS, PaaS, SaaS
- Run all workloads from Day 1
- Scales on-demand
- 100% OpEx, pay only for services consumed



- Bring all 100+ OCI services and Autonomous Database on-premises to reduce the risk and cost of innovation
- Access single-vendor cloud accountability and management for all cloud platform, database, and infrastructure
- Consolidate workloads on a single cloud platform with Oracle-managed operations, so that customers can focus on business priorities
- Deploy seamlessly between on-premises and public cloud without any compromises on functionality or development experience
- DRCC value proposition addresses customer **Strategic** move to Cloud

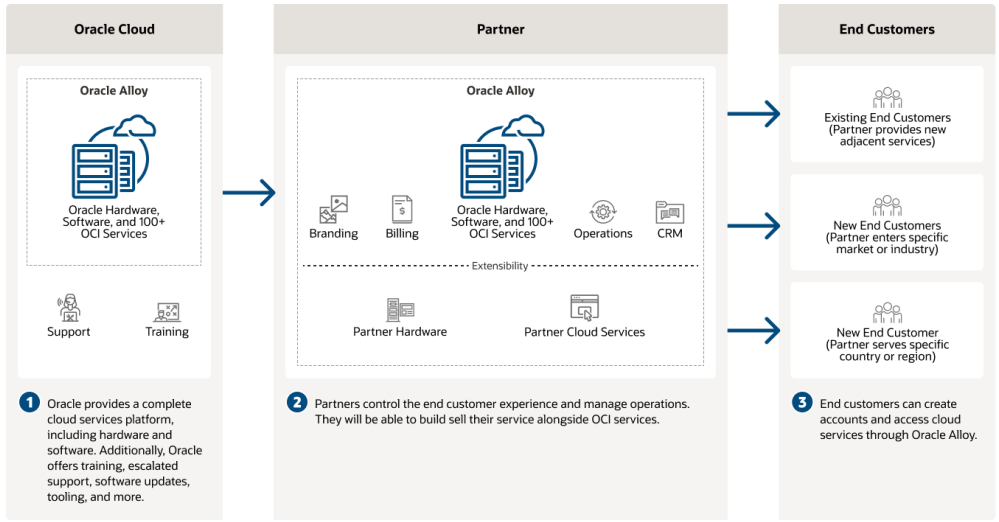


Oracle Alloy

- A complete cloud infrastructure platform that enables partners to become cloud providers and offer a full range of cloud services to expand their businesses.
- Partners control the commercial and customer experience of Oracle Alloy and can customize and extend it to address their specific market needs

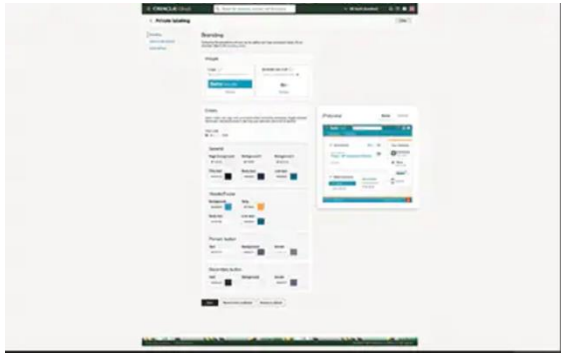
Differentiators

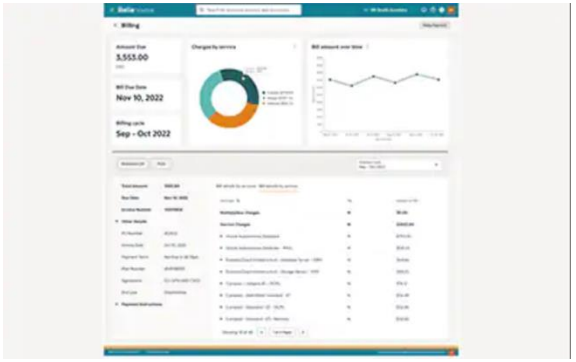
- Backed by Oracle operated by Oracle Alloy partners
- Become a technology provider for underserved and specialized markets
- Customize branding, contract directly with your customers
- Build new cloud services, tailored for your markets



Customize the front-end experience

- A simple single UI **Operator Console** enables the partner to manage both their cloud region's services and business operations.
- The operating team can **customize branding**, including logos, colour themes, and terms of use. They can also configure their customers' front-end experience, including notifications and announcements.





Customer lifecycle management

- Through the console, the operating team can monitor capacity usage, order increases, order different infrastructure to match changing business needs, and input **capacity forecasts**.
- Built-in **subscription** capabilities enable the partner to manage pricing for end customers, set the account status, and create custom rate cards for specific customer groups.

Oracle Sovereign Cloud for EU

06

Oracle Sovereign Cloud for EU

Data Security and Sovereignty

- Data Security & Safeguards – Hosted data never leaves EU OSC data centers, and enhanced customer data safeguards
- Compliance & Governance – Alignment with standards of practice in the EU, backed by a governance committee to ensure integrity
- Right to Audit – under the Oracle Data Processing Agreement (DPA)

Located in the EU, Operated by EU Residents

- Ownership – Hardware, assets, and data centre leases are owned by the EU OSC legal entities

Access to the same service, value, and innovation as public cloud

- Service Offerings- Support all OCI services available in the commercial data centre
- Experience – Identical Operational experience
- Value – Same OCI pricing

EU Oracle Sovereign Cloud

New OCI Regions located in the EU **isolated** from Oracle Global Public Cloud

- Offers data security and data sovereignty
- Located in the EU and operated by EU residents
- Access to the same services, value, and innovation as public cloud

Realm

- A realm is a unique concept of logical collection of regions
- Realms are **isolated** from each other and do not share any data
- Customer tenancy exists in a single realm and has only access to the regions that belong to that realm
- OCI offers Public Cloud capabilities within a
  - realm for **commercial regions** across the globe
  - isolated realms for **government cloud regions** in US and **UK**
  - isolated realms for **Sovereign Cloud** in Europe independent from commercial region
- and OCI offers Private cloud capabilities within
  - isolated realms for **Dedicated Regions** deployed **at Customer**

Public Cloud

03

OCI Public Cloud Gen 2 Cloud

Powers New *and* Existing Workloads

Traditional apps
Performance, elastic benefits without re-architecture, modernize incrementally

HPC / Machine Learning
Scale up to 20,000 CPUs or or 512 GPUs in a cluster

Compute-intensive apps
Bare metal instances for CPU and GPUs

Network-intensive apps
No network contention, lowest cost outbound in the market

Critical databases
Native database clustering, scale up to PBs and thousands of cores

Flexible **Compute**
- Right-size workloads by choosing the exact number of cores and amount of ram your application requires:
- AMD E3, E4 flex
- Ampere A1 flex VMs with "penny core" pricing
- Intel Icelake and NVIDIA GPU plus Bare Metal for performance intensive apps
- Dedicated Region Cloud@Customer

Flexible **Storage**
- Configure Block Volumes with performance levels best suited to match IOPS
- All flash local storage for VMs
- File storage up to 8 exabytes
- Highly scalable object storage

Flexible **Networking**
- OCI/Azure Interconnect supports multi-cloud deployments
- Flexible Network Load Balancer offers configurable maximum throughput levels
- VCN Transit Routing provides more connections over fewer links
- Move data inter/intra regions without networking charges

Flexible **Location**
- Public Cloud - OCI
- On-premises – exact replica of OCI behind your firewall
- Roving Edge – perfect for disconnected and remote scenarios

Flexible **Pricing and Consumption Models**
- Universal Credits apply to any and all OCI services, under one contract and with BYOL discounts
- NEW! Support Rewards for OCI consumption – reduce support bill when consuming more OCI
- Annual Flex offers discounts for a one-year minimum term
- Pay-as-you-go allows for no upfront commitment
- Per-second billing

Oracle Cloud Infrastructure – custom cloud computing minimizes waste while maximizing consumption

Our security approach: Built in, on by default, no extra charges

More security by default
Default secure configurations eliminate setup errors

All data encrypted by default at rest and in motion

Auto detection and remediation
Constant scanning for misconfiguration, policy breaches, and suspicious activity

Fix issues automatically or after you review them

Automatic database and data protection
Automatically applies security patches with no downtime

Assesses security of database configurations and data and recommends remediation

Most security services are free
All IT staff can access security tools

More applications implement all security best practices

Bonus

RHEL on OCI

Run RHEL on OCI VMs

Now

Deploy RHEL on even more virtual machine shapes

Flex VM shape	7	8	9
Intel "3" VM.Standard3.Flex	7.9+	8.4+	9.1+
NEW **Intel "3" Optimized** VM.Optimized3.Flex		8.6+	9.0+
AMD "E4" VM.Standard.E4.Flex		8.7+	9.1+
Arm "A1" VM.Standard.A1.Flex		8.4+	9.0+

Customize your image

Now

RHEL image builder adds build and upload supports for OCI

Customize for configuration, workload, and security compliance requirements.

Red Hat Insights image builder will soon add OCI to its build and launch capabilities.

Works with both virtual machines and bare metal

(See speaker notes ↓)

Run RHEL on bare metal

Now

Deploy RHEL on bare metal shapes

Bare Metal Shape	8	9
Intel "3" BM.Standard3.64	8.7+	9.0+
Intel "3" Optimized BM.Optimized3.32	8.7+	9.0+
AMD "E4" BM.Standard.E4.128	8.7+	9.0+

Red Hat OpenShift arrives on OCI

Red Hat OpenShift is a Kubernetes-based, application platform that enables a consistent experience across cloud and on premises

Many customers use OpenShift as a de facto “portability layer” to run applications in their chosen environment

Customers can self-deploy Red Hat OpenShift onto certified shapes on OCI. There are “operators” for compute and storage.

Customers will self-administer the OpenShift environment.
It is connected to the Red Hat control plane.

Both Red Hat and Oracle will collaboratively support OpenShift installations on OCI.

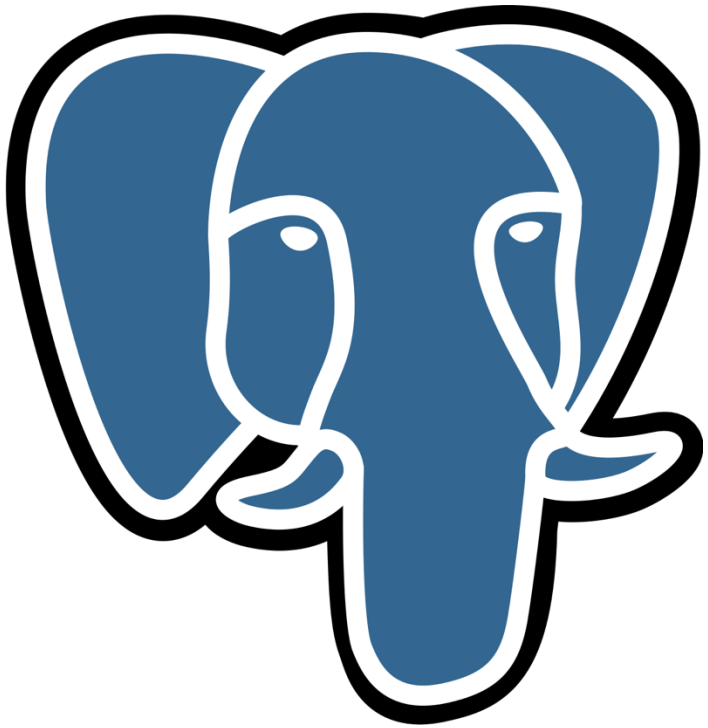
Product Management is pursuing a *managed* service offering.
No commitment or timeline.

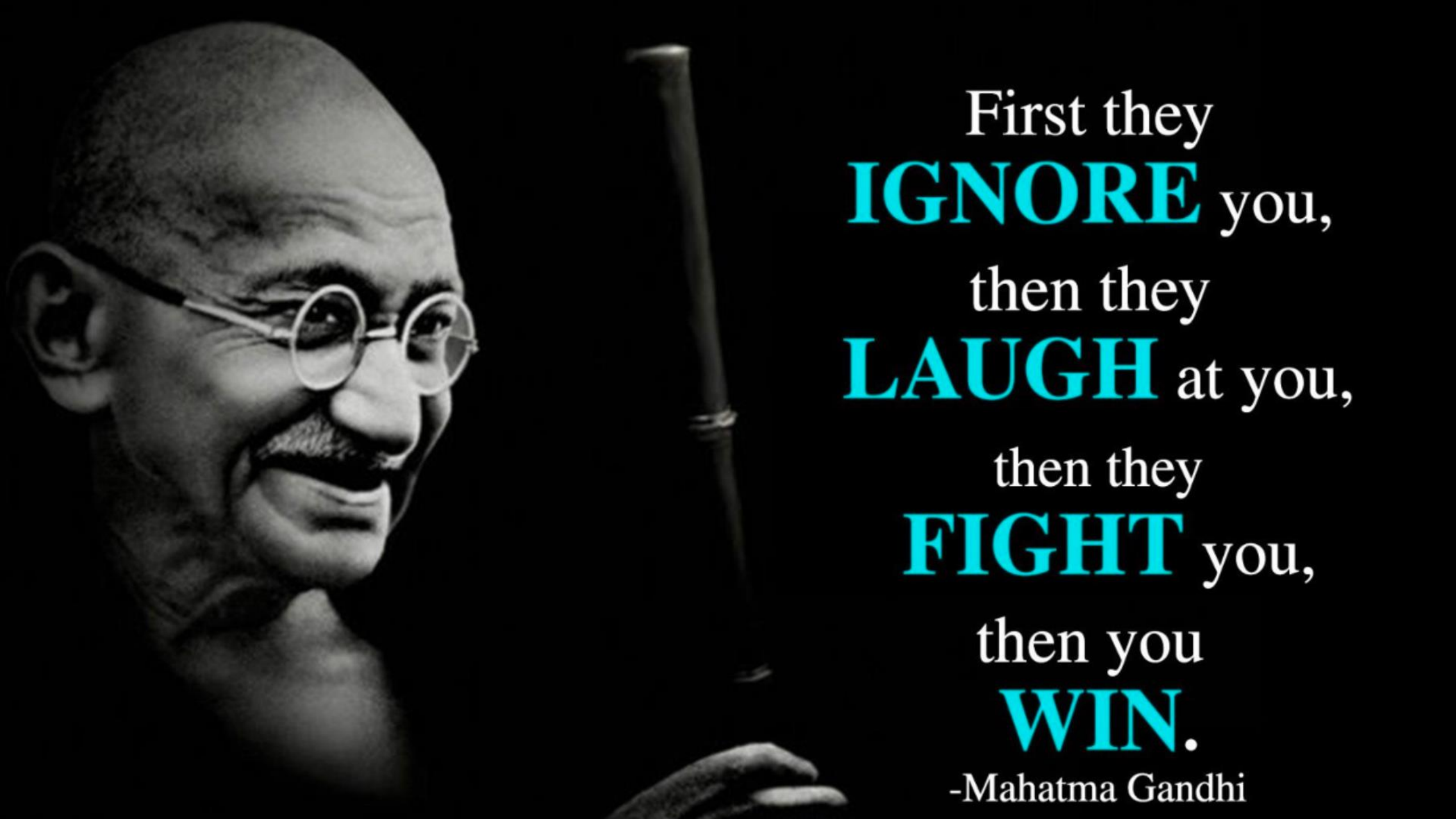
OPENSHIFT

Oracle Database with PostgreSQL

- OCI Database with PostgreSQL is a fully managed PostgreSQL database service designed to optimize performance, dynamically scale storage, and ensure full PostgreSQL compatibility. With OCI Database with PostgreSQL, you get the following capabilities:

    - Experience potentially higher performance for your mission-critical applications, courtesy of our Database Optimized Storage, compared to self-managed clusters.
    - Enjoy lower costs; our analysis suggests that OCI Database with PostgreSQL could be more economical compared to other cloud providers.
    - Use your existing PostgreSQL expertise and tools to operate efficiently.




First they
IGNORE you,
then they
LAUGH at you,
then they
FIGHT you,
then you
WIN.
-Mahatma Gandhi


LET THE
RACE
BEGIN
THANK YOU!
ORACLE