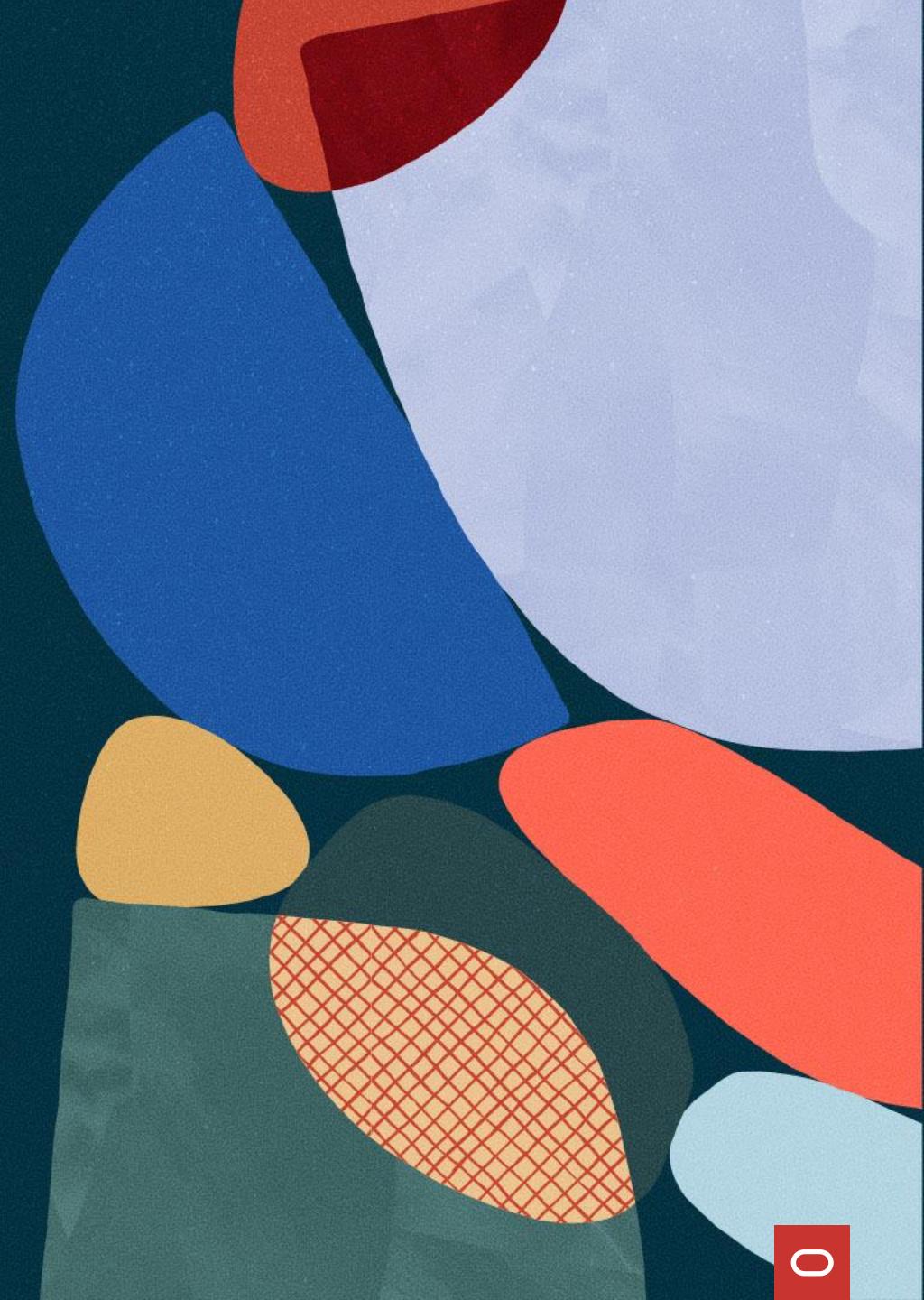


ORACLE

AI World

Empower Your Data with Oracle
Database@Azure and Native AI Services

LRN 3531



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, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

Speakers on Stage

Muneer Mirza

Vice President, Product Management
OCI Multicloud

Hansal Sheth

PMP, Oracle Exadata Lead
AXA XL

Andrea Marchesini

Director, Product Management
OCI Multicloud

Empower your data with Oracle Database@Azure and Native AI Services

- 1 What is Oracle Database@Azure
- 2 Why should you care?
- 3 What is fueling our growth?
- 4 AXA XL – Hansal Sheth, AVP
- 5 Roadmap Updates
- 6 AI Strategy
- 7 Wrap Up

What is Oracle Database@Azure?

What customers get from Oracle

5 Decades Database
Solution Leadership

#1 Database
Engine and Most Widely
Used

95% of the
2024 Fortune 100 run
Oracle Database

**Performance to make it the backbone of the
world's top enterprise applications.**

What is Oracle Database@Azure?

What customers get from Azure

70
Regions

Globally Available

200+

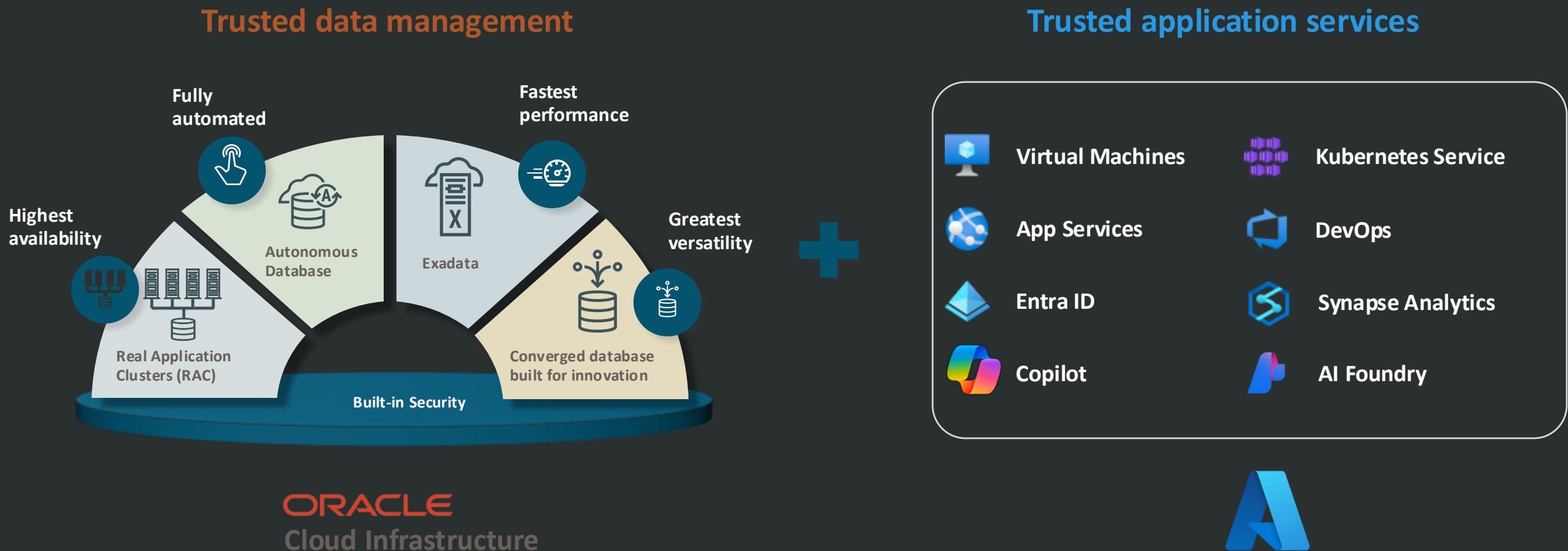
Products & Services

95%

of the
Fortune 500 trust Azure
to run their businesses

**Businesses of all sizes rely on Azure to help them bring
their ideas to life, seamlessly unify their technology,
and innovate on trust.**

What if you could run applications with Oracle Database inside Azure?



What is Oracle Database@Azure?

Procure, deploy, and use Oracle Databases in Azure

Microsoft Azure Search resources, services, and docs (G+/)

Copilot Home > Oracle Database@Azure | Overview

Search

Oracle Database@Azure

Overview

Oracle Autonomous Database Service

Oracle Exadata Database Service

Oracle Exadata Database Service on Exascale Infrastructure

Oracle Base Database

Multicloud Resources

Build with Oracle Database@Azure

Build new resources by integrating Azure services with high performance, high availability, and automated management of Oracle Database services. [Learn more](#)

Enable Oracle Database

Start by purchasing "Oracle Database@Azure" on marketplace. [Learn more](#)

Create an Oracle Subscription

Start with Oracle Autonomous Database

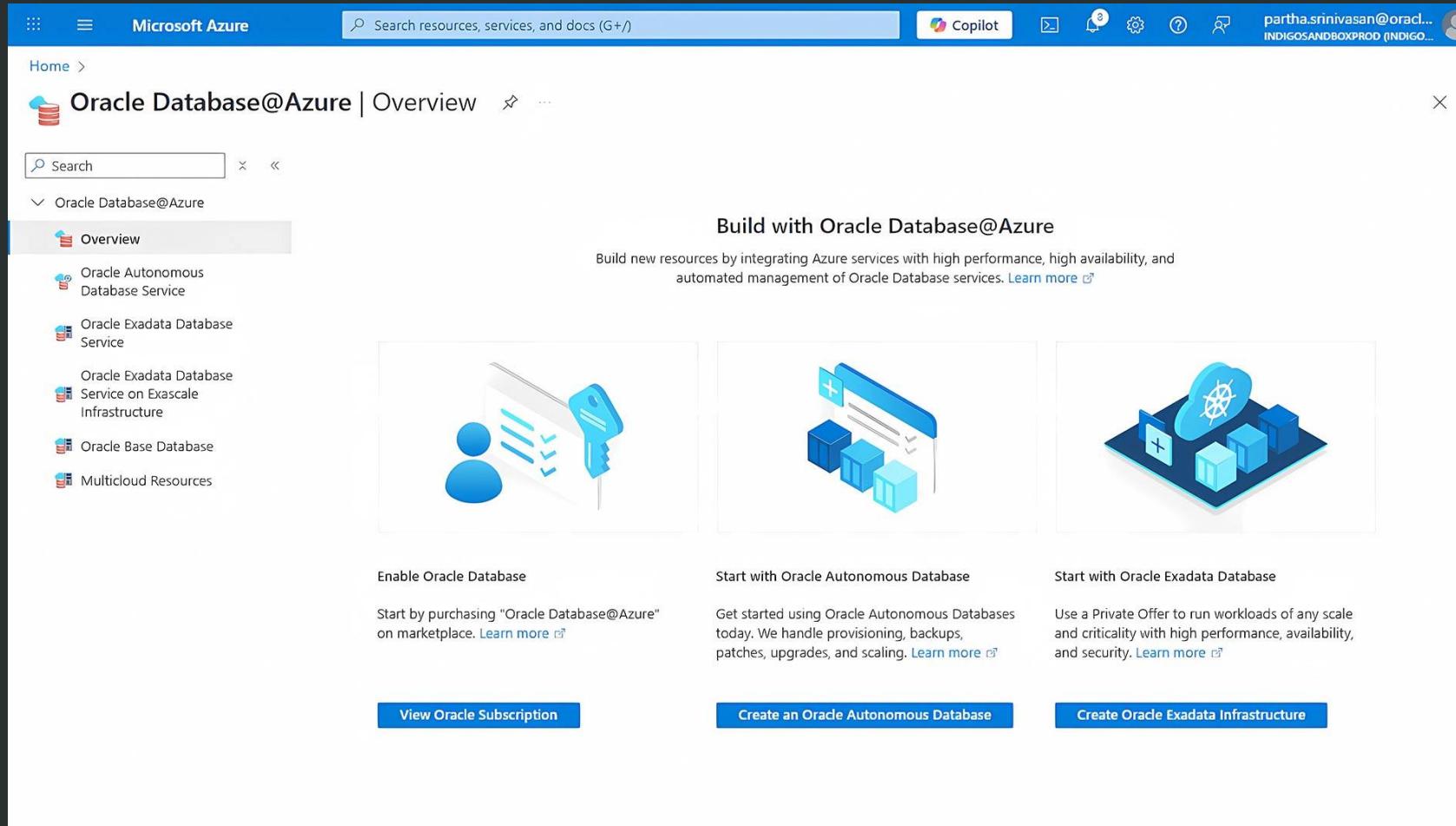
Get started using Oracle Autonomous Databases today. We handle provisioning, backups, patches, upgrades, and scaling. [Learn more](#)

Create an Oracle Autonomous Database

Start with Oracle Exadata Database

Use a Private Offer to run workloads of any scale and criticality with high performance, availability, and security. [Learn more](#)

Create Oracle Exadata Infrastructure



What is Oracle Database@Azure?

Pricing parity and unified billing



Microsoft

Microsoft Corporation | One Microsoft Way, Redmond, WA 98052, United States | FEIN: 91-1100000

For definition of the terms used, please refer to [Appendix](#)

Billing Details By Product (Amount in USD)

Usage Charges	Unit Price	Qty	Net Charge	Tax Amount	Total
Oracle Database Services Cloud Credits 01-Jul-2023 - 31-Jul-2023	0	190	0	0.00	0
Oracle Database Services Overage Cloud Credits 01-Jul-2023 - 31-Jul-2023	1	0	0	0.00	0
Az ExpRoute-Prem-Mtd Data-10 Gbps Circuit-1/Hr-Z1 01-Jul-2023 - 31-Jul-2023	8.60	1,511.999	13,003.19	0.00	13,003.19
Az VM Dav4/Dasv4 Srs-D4a v4/D4as v4- 100 Hrs-US E 01-Jul-2023 - 31-Jul-2023	19.20	626.574	12,030.22	0.00	12,030.22
Az VM Dsv5 Srs-D4s v5-100 Hrs-EU W 01-Jul-2023 - 31-Jul-2023	23.00	397.438	9,141.07	0.00	9,141.07
Az VM Dav4/Dasv4 Srs-D4a v4/D4as v4-					

What is Oracle Database@Azure?

Data-optimized hardware

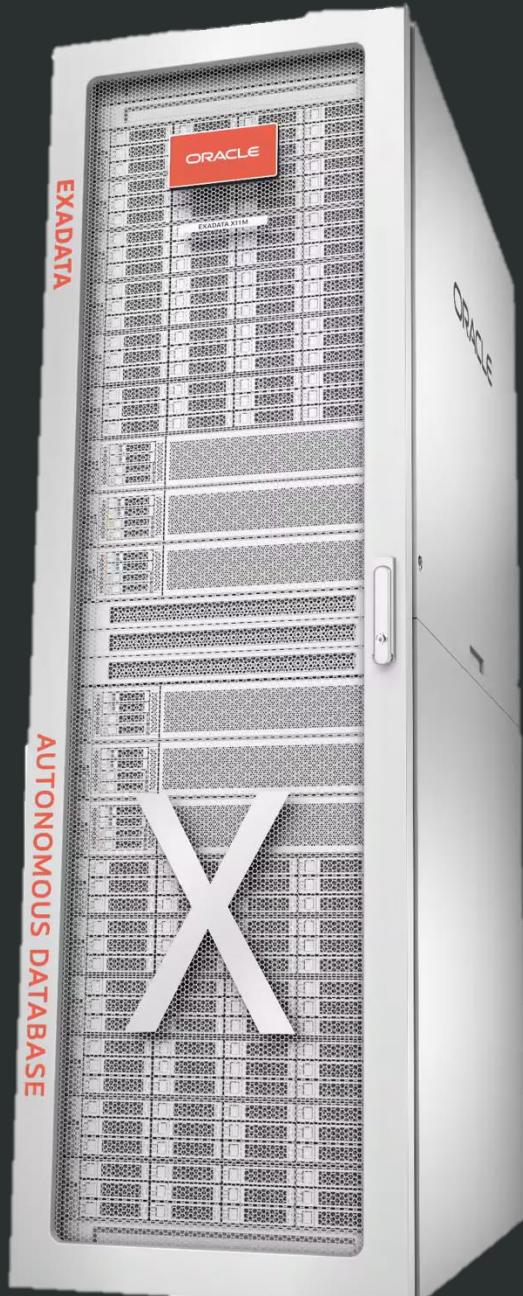
- Scale-out, data-optimized compute, network, and storage

Data intelligent software

- Unique algorithms deliver extreme performance and efficiency for AI, analytics, and mission-critical apps, at any scale

Engineered to run everywhere

- On-premises, Cloud@Customer, Public cloud



Oracle Database@Azure

Full suite of capabilities available in the cloud

Services	Cloud Capabilities
Oracle Exadata Database Service – Dedicated (ExaDB-D)	 ✓
Oracle Autonomous Database - Serverless (ADB-S)	 ✓
Oracle Autonomous Database - Dedicated (ADB-D)	Planned
Oracle Database Autonomous Recovery Service (RCV/ZRCV)	 ✓
Oracle Data Safe	 ✓
OCI Oracle GoldenGate	 ✓
Oracle Base Database Service	 ✓
Oracle Exadata Database Service - Exascale Infrastructure (ExaDB-XS)	 ✓
Oracle Interconnect	 ✓
Exadata X11M	 ✓
Exadata X9M	 ✓

Oracle Database@Azure (28 live, 33 total)



33 Regions

28 live, 5 planned



Available

- West US 2
- West US 3
- East US 2
- East US
- West US
- Central US
- South Central US
- Canada Central
- UK South
- France Central
- Australia East
- Australia Southeast
- Italy North
- Brazil South
- Germany West Central
- UK West
- Japan East
- Switzerland North
- Germany North
- Japan West
- Southeast Asia
- Central India
- Sweden Central
- North Europe
- UAE North
- UAE Central
- Spain Central
- Canada East

Planned

- France South
- Brazil Southeast
- North Central US
- South India
- West Europe

What is fueling our growth?



Performance

5.9X - 16.5X more IOPS

with **query off-load to storage**, Smart Flash Cache, Automatic Storage Index, Columnar Flash Cache, Hybrid Columnar Compression, Exafusion Direct to wire protocol, etc.



Price

At least 2.6x Savings

½ of the database licenses required and key database options included at no addition cost



Features

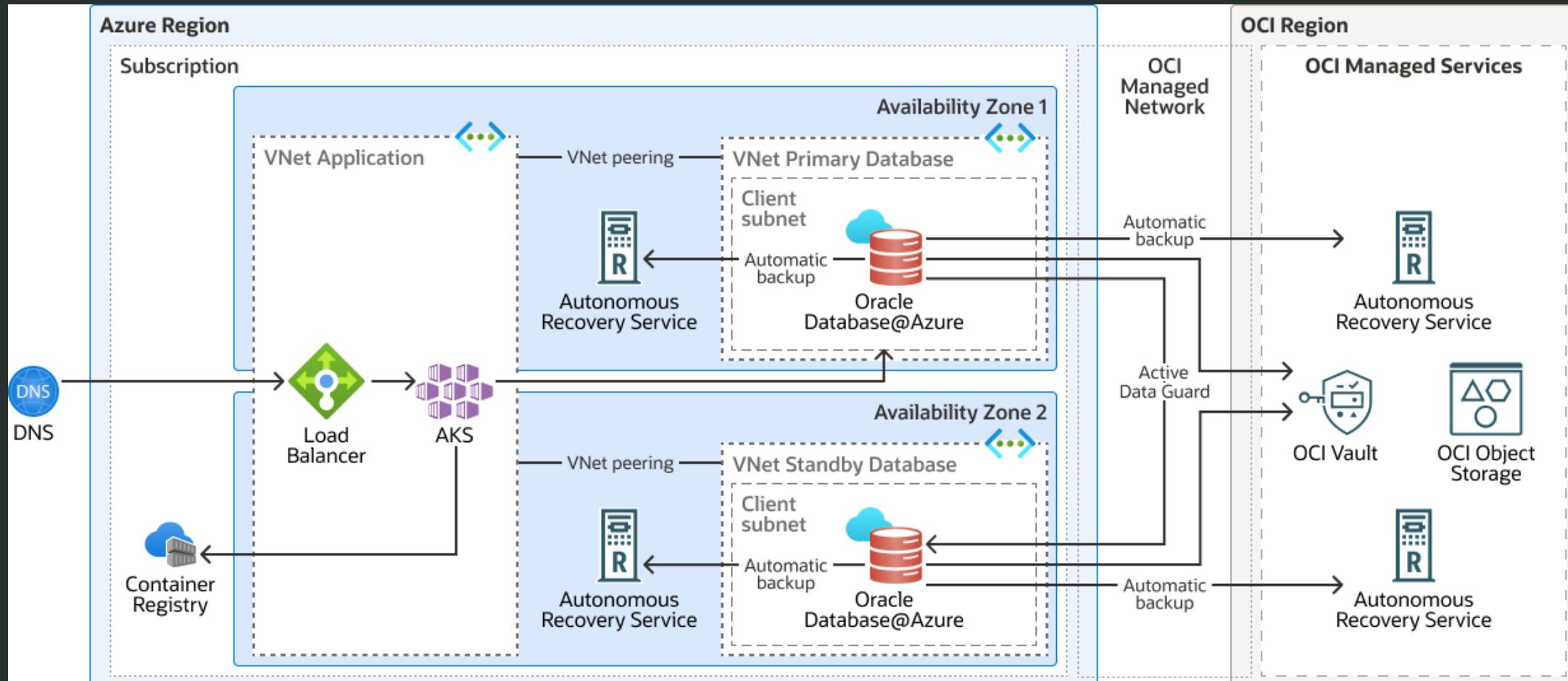
Included Database Options

Data Masking and Subsetting Pack, Diagnostics and Tuning Packs, Real Application Testing, DDL Logging functionality of the Database Lifecycle Management Pack and **Transparent Database Encryption** feature in the BYOL Cloud Service

Authorized Cloud Environments offer less performance & features

What is fueling our growth: High Availability in Action

Real life example using Autonomous Recovery Service



What is fueling our growth?

Full suite of capabilities available in the cloud



Goldengate

Enables real-time data replication and zero-downtime migration to cloud



Autonomous Recovery Service

Fully Managed service based on on-premises Oracle Zero Data Loss Recovery Appliance (ZDLRA)



Oracle Data Guard

Comprehensive set of tools – supported on OCI, Cloud at Customer, and hybrid architectures

COMMVAULT

VERITAS

DELL EMC

veeAM



Migration Services

Hands-on guidance from Oracle experts

- Dedicated Customer Success Services team to assess, plan, and execute your migration strategy
- Brings experience from thousands of Oracle Database migrations
- Offers tailored paths for Exadata, Autonomous, and multicloud journeys

What do customers say?

Conduent powers large US tolling authority with Oracle Database@Azure

Customer References ›

Conduent powers large US tolling authority with Oracle Database@Azure

Using OCI's distributed cloud options, the E-Z Pass payment provider can pursue new business globally while meeting diverse regulatory requirements.



"The performance of Exadata Database Service on Oracle Database@Azure is amazing—better than anticipated." Brandon Smith, head of engineering and technology operations at Conduent.



Agenda

- 1 Exadata on Azure for AXA XL: Oracle Database + AI workloads
- 2 Migration Overview (High Level)
- 3 Challenges and Impact
- 4 Next Steps, Risks, and Call to Action



Exadata on Azure for AXA XL

Vision

Modernize the on-premises EBS and EFR environments in Azure while meeting DC exit goals;

Simplify database administration while lowering TCO (hardware & license support and management costs);

Improve application performance and reliability for application users.

Enablement

Upgrade legacy Exadata X6 and X7 systems to Exadata X11M that offers significantly more compute and storage resources for better performance and reliability;

Migrate EBS and EFR databases to OD@Azure for low latency connectivity and Oracle to manage the Exadata X11M infrastructure;

Experienced Oracle Cloud Engineering Services (CES) resource investment.

Benefits

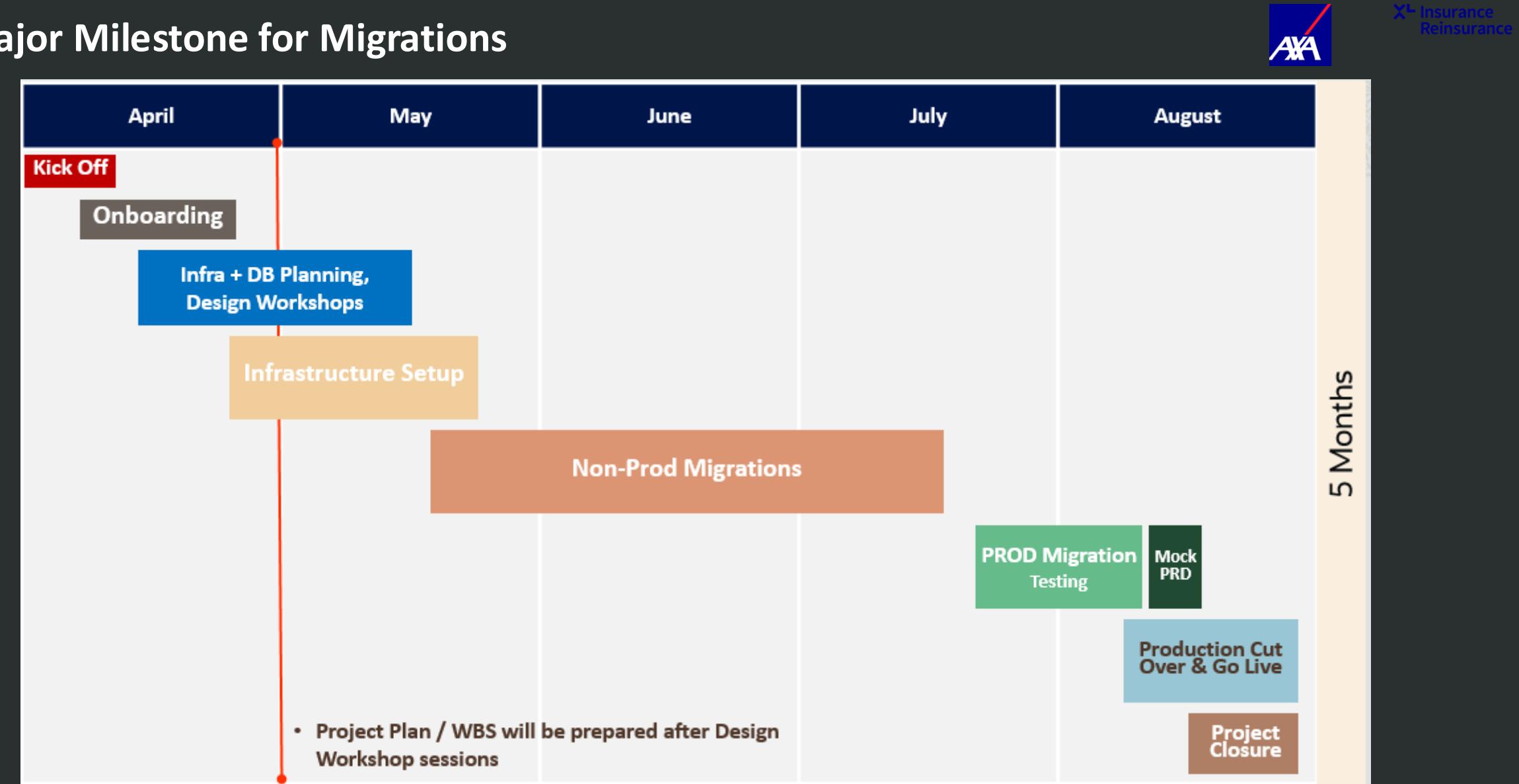
Reduce cost (38-42%) and resources to manage the Exadata systems in Azure;

Leverage low BYOL pricing and support rewards to reduce OD@Azure investment costs;

Shift from a fixed cost physical core license model to pay-for-use cloud model;

Scale Exadata system resources on-demand and expand the contract as needed.

Major Milestone for Migrations



Challenges

1. Minimum Downtime for Go Live
2. 270TB Data Transfer
3. DNS resolution from OD@A compute server
4. Non_Prod DB Creation
5. Primary and Secondary on Same Exadata
6. Oracle Database Backup



Potential Impact

1. 250 TB+B25 would have taken more than 10 days just for data transfer
2. Network Limitation with AmerDC SDWAN
3. Impact on application configuration and connectivity
4. How to transfer 20+TB of backup data
5. On Prem config was not allowed on MPI
6. Commvault connectivity and unavailability on MPI



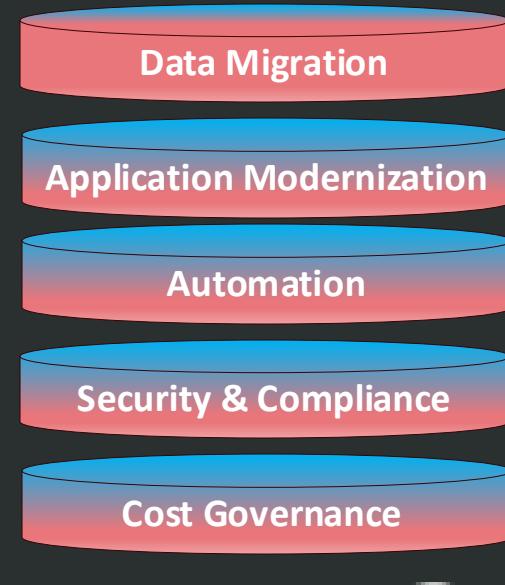
Solutions

1. Build Standby approach using Oracle Data Guard
2. Separate Network Route got created by Zahid Kanwar and network team
3. Cloud Infra team created AXA XL Scan entry and mapped it with Oracle Scan
4. Azure file share mounted on On-Prem and MPI Server with AZ copy
5. New cluster design to accommodate Primary and Secondary DB for EFR application
6. Autonomous Recovery Service for Oracle Database

Headwinds and Tailwinds

Tailwinds

- Above and Beyond Team Efforts
- Team Determination to Success
- Strong Business Partnership
- Strong Internal SME Knowledge
- Executive Sponsorship & Funding
- Stringent/Limited CFO Cutover window



Headwinds

- Firewall Opening
- INFRA TEAM Support
- Delayed OD@A Contract
- New Network Creation
- Security Approvals



Roadmap

Product Roadmap – Features/Capabilities

Recent Launches

1. Oracle Base Database GA
2. Oracle GoldenGate on Azure GA
3. 19c support for Oracle Exadata Database on Exascale Infrastructure
4. Logs and event management in Oracle Exadata Database - Dedicated

Coming Soon

1. Partner and Reseller enablement
2. Oracle Database Zero Data Loss Cloud Protect
3. Azure Key Vault for ADBS - Private Endpoint

On the roadmap

1. Autonomous Database - Dedicated
2. Azure tag support to simplify chargebacks
3. ADB-S Elastic Pools & ADB- S Customer controlled patching & maintenance windows
4. AKV Cloud HSM for Exadata Database Service & Cross Region replication
5. Azure storage support for backup

and many more....

Oracle Base Database Service

Co-managed with 100% Oracle Database compatibility on Oracle hardware

Full-featured Oracle Database cloud instance

- Flexible single VM on shared hardware generation-agnostic Standard x86 compute with block storage
- Support for Oracle Database 19c and 23ai

Complete customer administrative control

- Customer-controlled automation for create, update, backup, scale, disaster recovery, and more
- Simple deployment in minutes

Cloud economics

- Low cost with pay-as-you-go pricing and independent compute and storage scaling
- Choice of Oracle Database Standard and Enterprise Edition License-included options or Bring Your Own License (BYOL)

Shape	VM.Standard.x86
Database	Single-instance
ECPU	4 - 256
Memory	8 – 512 GB
Data Storage	256 GB – 40 TB
License Included Editions	Standard, Enterprise, High Performance

Oracle GoldenGate

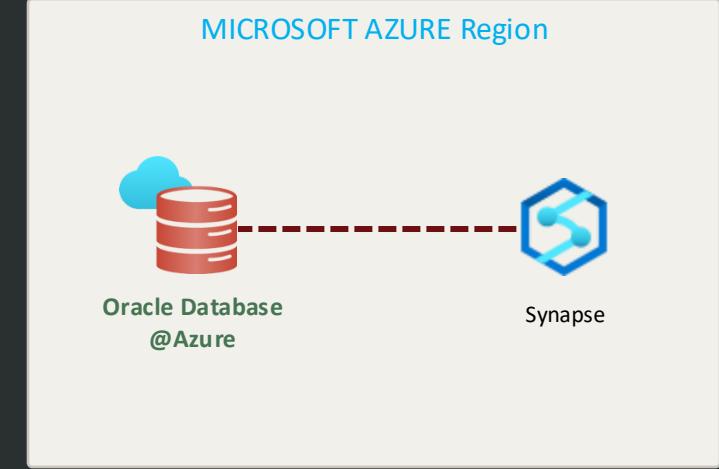
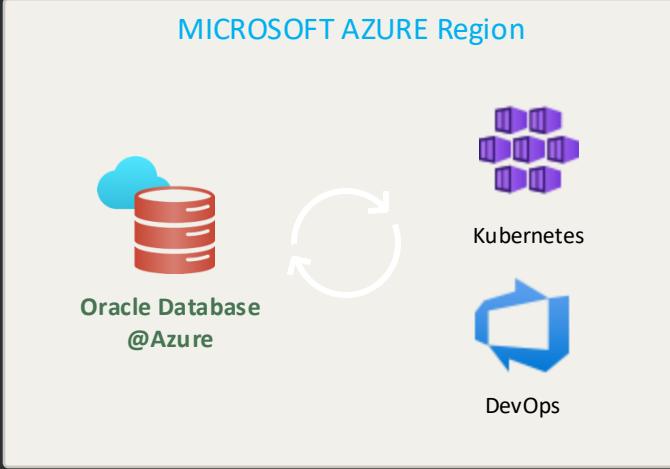
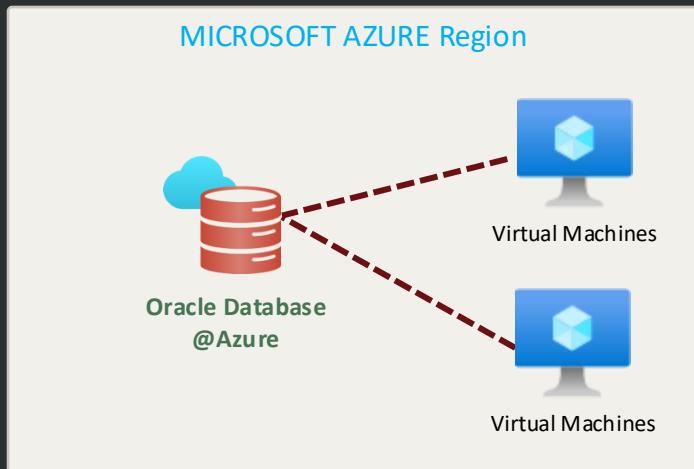


Use Microsoft Azure credits
Integrated Azure and OCI controls

- **Better Integration**— the Oracle@Azure integration is deeper and more expansive than vendors who simply offer VMs on Marketplace
- **Deep engineering partnership** – Azure and Oracle GoldenGate teams collaborate on Oracle, AzureSQL and Fabric integrations
- **Fully managed service** – GoldenGate@Azure is a fully managed service offering, with Control Plane integration, patching, security and observability built-in
- Generally Available in US East, Japan East, Germany West Central, Singapore, UK South

Use Cases

Migrate, modernize, and innovate critical applications



Enterprise Applications

Migrate and run even the most mission critical applications with microseconds of latency between resources

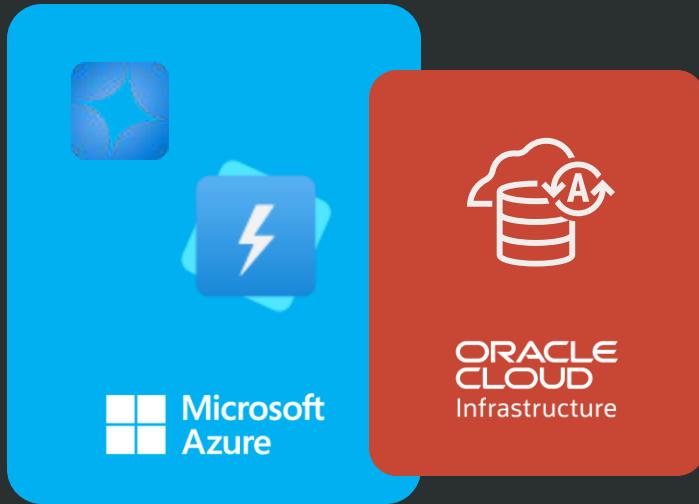
Modernize and Innovate

Modernize critical applications with CI/CD processes and gradually implement microservices, or build new modern applications

Data + Analytics

Combine Azure analytics capabilities with the highest performing, and most scalable Oracle Database cloud services

Innovate faster with data and AI



- ❖ **Simplify and accelerate modern application development**
 - Standardize on [one data platform](#) for all data models – AI Vectors, JSON, Spatial, Graph etc.
- ❖ **Build intelligent AI applications**
 - With [Oracle Database 23ai AI Vector Search](#) and [Azure OpenAI](#)
- ❖ **Gain faster insights**
 - By [integrating Oracle Database 23ai](#) with [Azure Synapse](#)

Empower your data with native AI services

Generate deeper insights and develop new innovation

- Unify your data across Oracle and Azure for machine learning and GenAI
- Enhance application intelligence and analytics
- Accelerate time to market for new features

Unify use case example: *Enhance product search with GenAI and natural language processing to deliver more accurate results – making it easier for customers to find what they need and increasing sales conversions*

Unify Empower your data with native AI services

Customer journey

1

Onboard with Oracle Database@Azure through the Azure Marketplace

2

Provision OCI database services into your Azure account

3

Combine the capabilities of Oracle Database 23ai with Azure AI services

1. Onboard with Oracle Database@Azure through the Azure Marketplace

Purchase a private offer through the Azure Marketplace

- Work with Oracle account team on private offer
- Pay Azure – consumption applies to Azure commitments
- Get access to OCI database services
 - Oracle-managed Oracle Exadata hardware
 - Located within Azure data centers
- Earn Oracle Support Rewards towards your tech software license support bill

2. Provision OCI database services into your Azure account

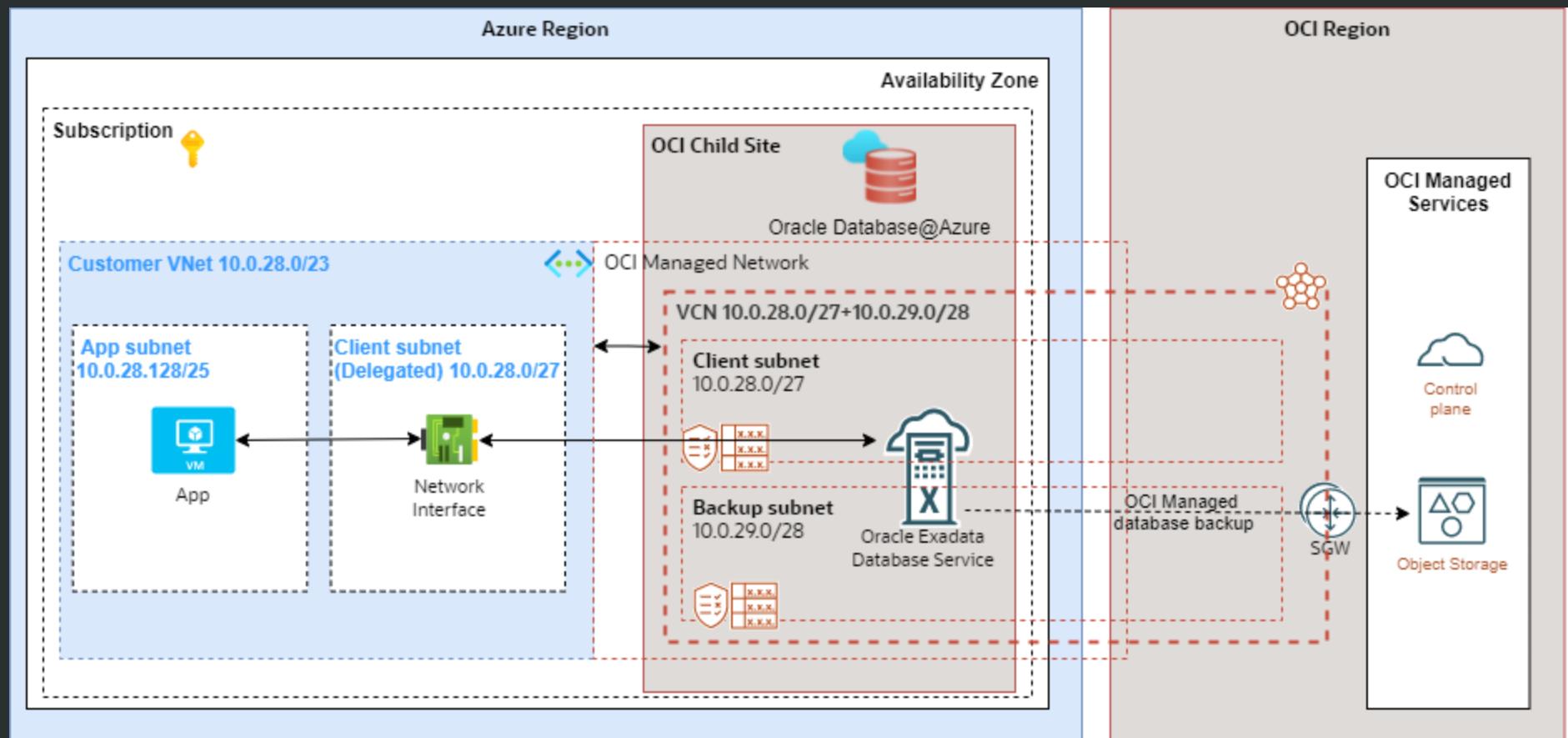
Provision OCI database services using the Azure management console, CLI/API, Automation

- Manage access with Azure Identity and Access Management
- Control network access with Azure VNET
- Monitor infrastructure with Azure monitoring

Manage OCI database services using the OCI console, CLI/API, Terraform

- Create and manage container and pluggable databases
- Manage backup and restore, Data Guard, OCI integrations

Exadata Database Service – Single AZ Architecture



3. Combine the capabilities of Oracle Database 23ai with Azure AI services

Oracle Database 23ai

- AI Vector Search
 - Vector data type for storing vector embeddings
 - SQL syntax and functions express similarity search with ease
 - Approximate search indexes packaged and tuned for high performance and quality
 - No need to move and synchronize data or manage multiple products

Combine relational and AI search directly in SQL



```
SELECT product_id, title, image_url
FROM product
WHERE image_url is not null
ORDER BY VECTOR_DISTANCE(title_vr, :search_vr)
FETCH FIRST 10 ROWS ONLY;
```

Visit our booth in the Oracle AI World Hub to see the full demo

LRN3531

Empower your data with Oracle Database@Azure and Native AI Services

Summary

1

Muneer Mirza told us about the partnership and OD@Azure and how it brings your data to Azure

2

Hansal Sheth told us how X solved their problem using ADB with OD@Azure

3

I told you about some reasons why our customers use OD@Azure - migrate, unify, simplify. we looked closely at an example from our friend Unify and saw how they were able to bring together their demanding Oracle Database workload and the things they love about Azure.

Learn more about Oracle Database@Azure

<https://www.oracle.com/cloud/Azure/>

Find solutions, pricing, video demos, documentation, or connect with a specialist and sign up

Visit our booth in the Oracle AI World Hub

Chat with product experts and explore Oracle Cloud Infrastructure and our Multicloud offerings

[See the full Empower Your Data demo](#)

Visit the Azure booth in the Oracle AI World Hub

Connect with our Azure partners and learn more



Thank you

OCI Multicloud Product Team

ORACLE