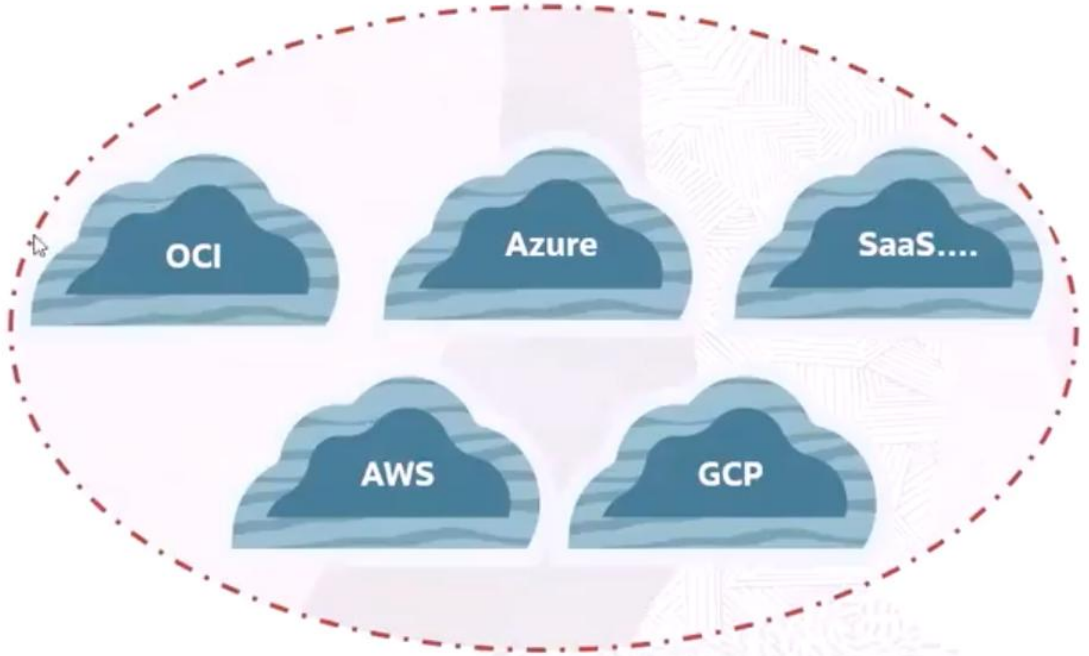
Multi Cloud

Multicloud – The New Normal

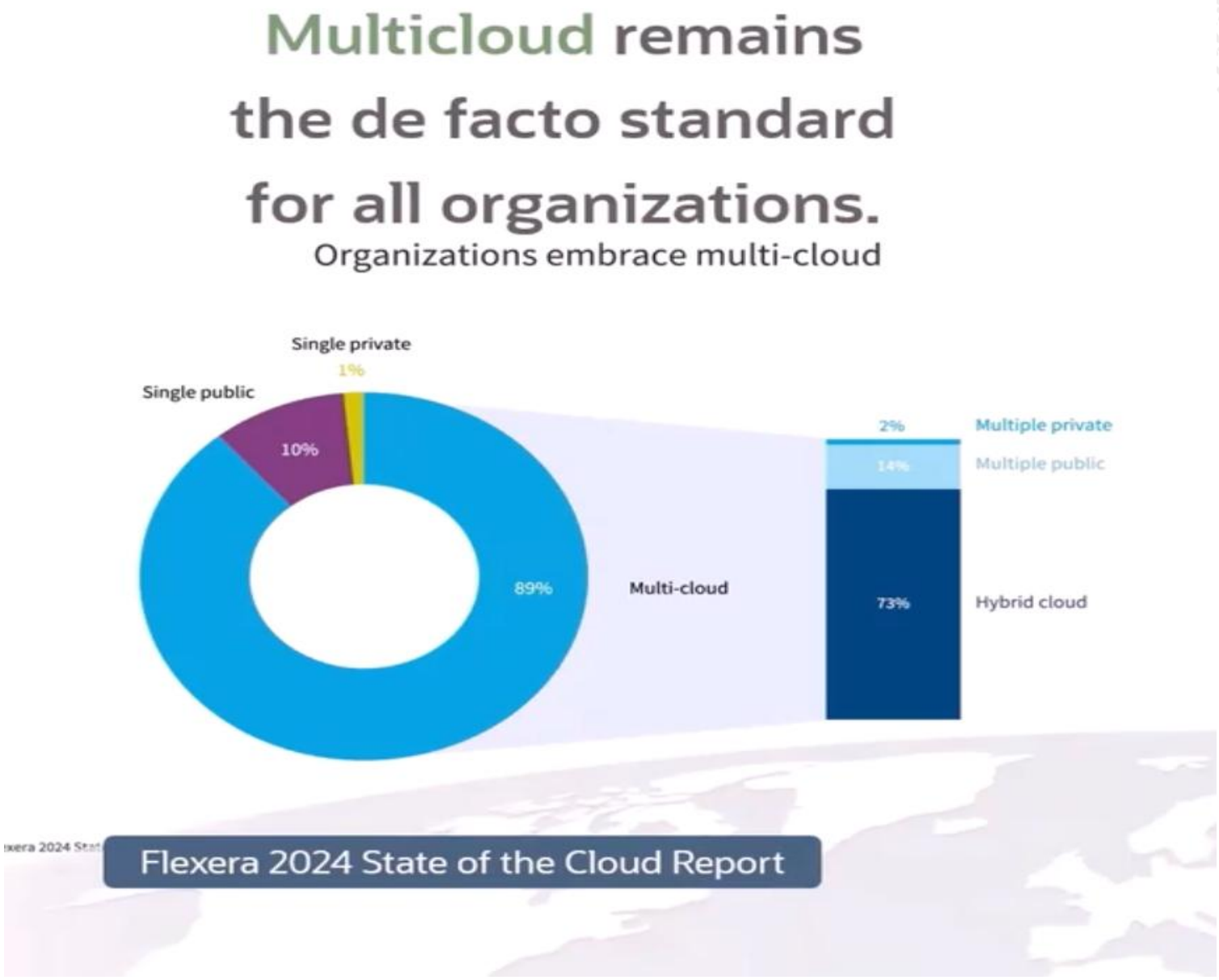
Multicloud is the coordinated use of cloud services from more than one provider

- Top drivers of multicloud adoption include data sovereignty and cost optimization.
- Other drivers include business agility, best of breed cloud services and mitigating vendor lock-in concerns.
- Multicloud enables organizations more control over where and how data is stored and used, while also controlling costs by adjusting which services they use from different providers.

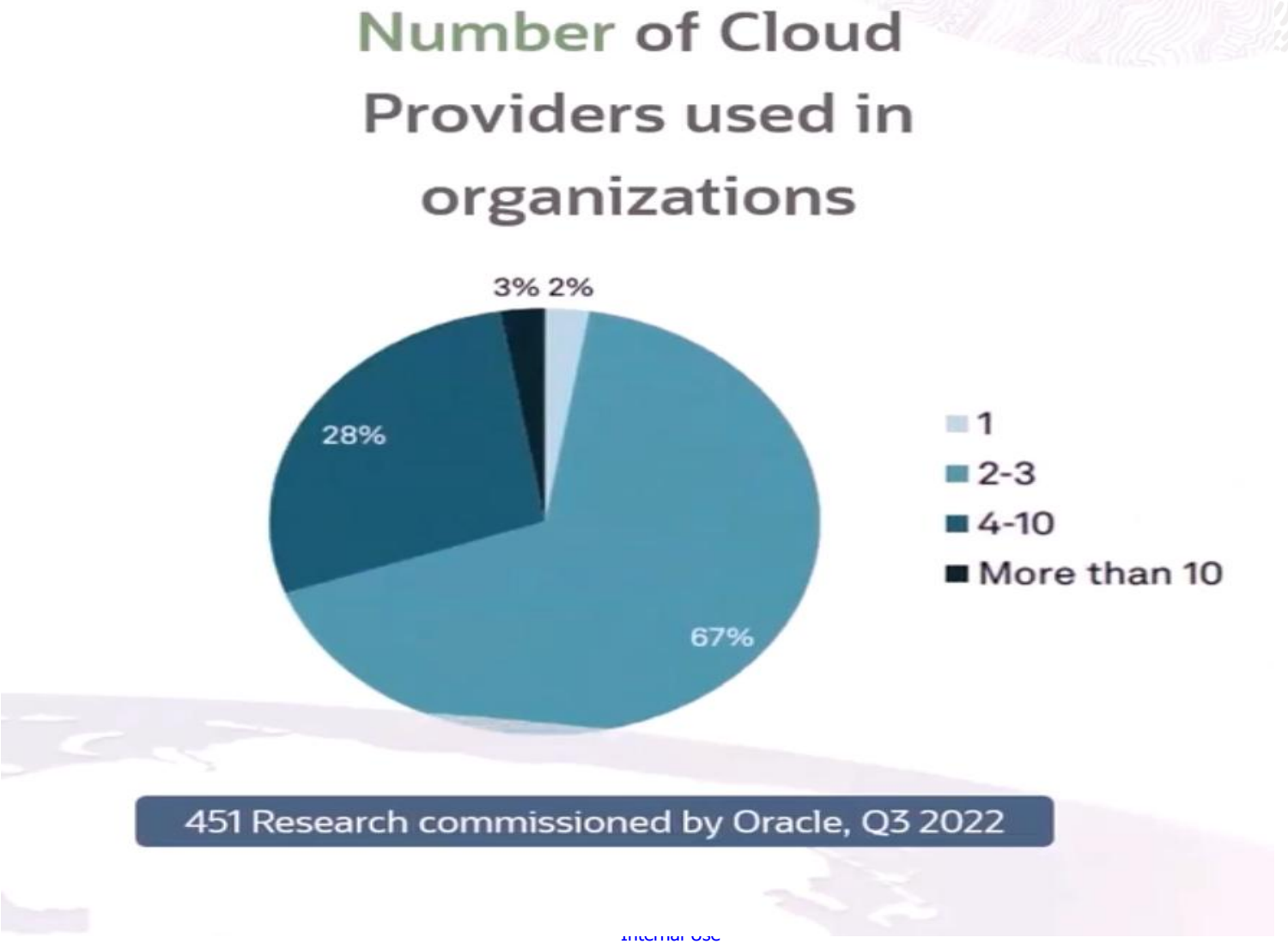


Multicloud is the "*New Normal*".

89% Multicloud, remains the de facto standard for all organization



67% Organization used 2-3 Cloud providers



Multicloud Collaboration

Step1: Establish Connectivity

- Oracle Interconnect for Google Cloud
- Oracle Interconnect for Azure
- Oracle Interconnect for AWS

Step2: Enable Services For example Oracle based service

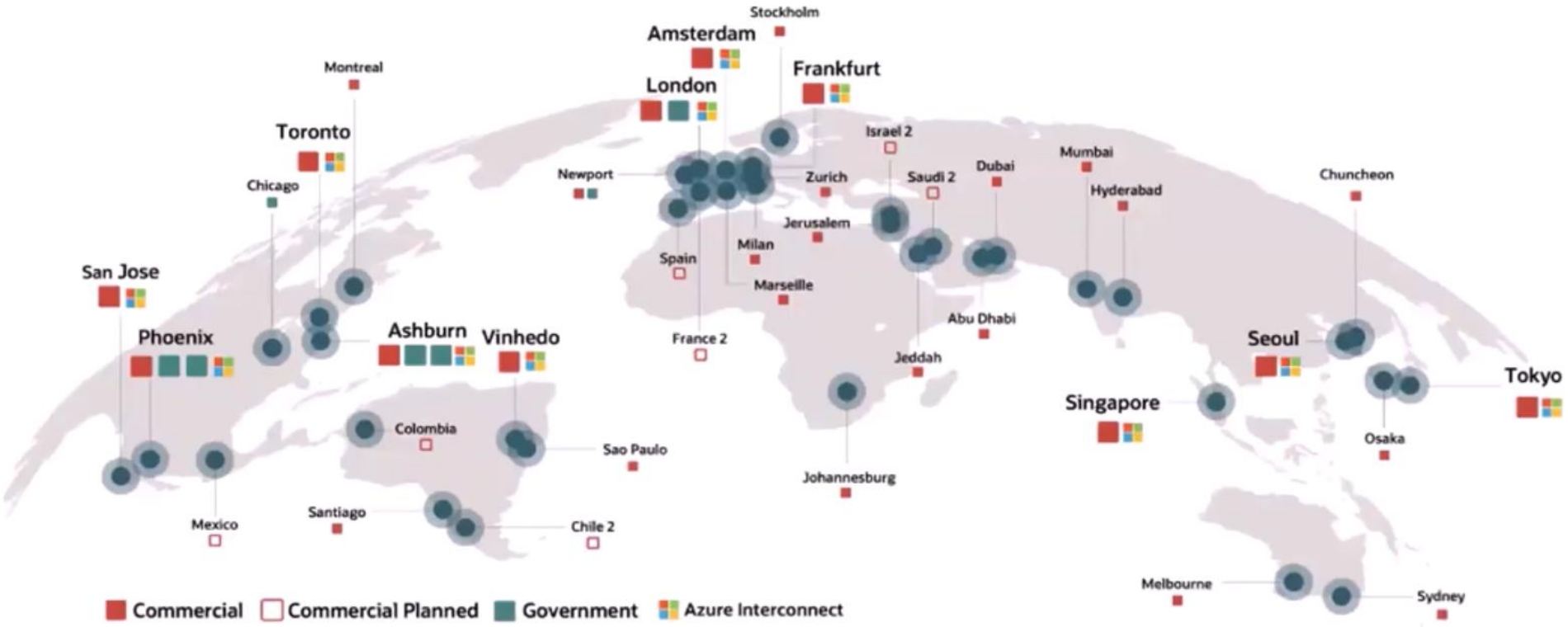
- Oracle Database at AWS (coming soon)
- Oracle Database Service at Azure
- Oracle Database Service at Google Cloud

Multicloud Connectivity

OCI-Azure Interconnect

Highly optimized, secure, and unified cross-cloud experience

12 Azure Interconnect regions



Multicloud Connectivity

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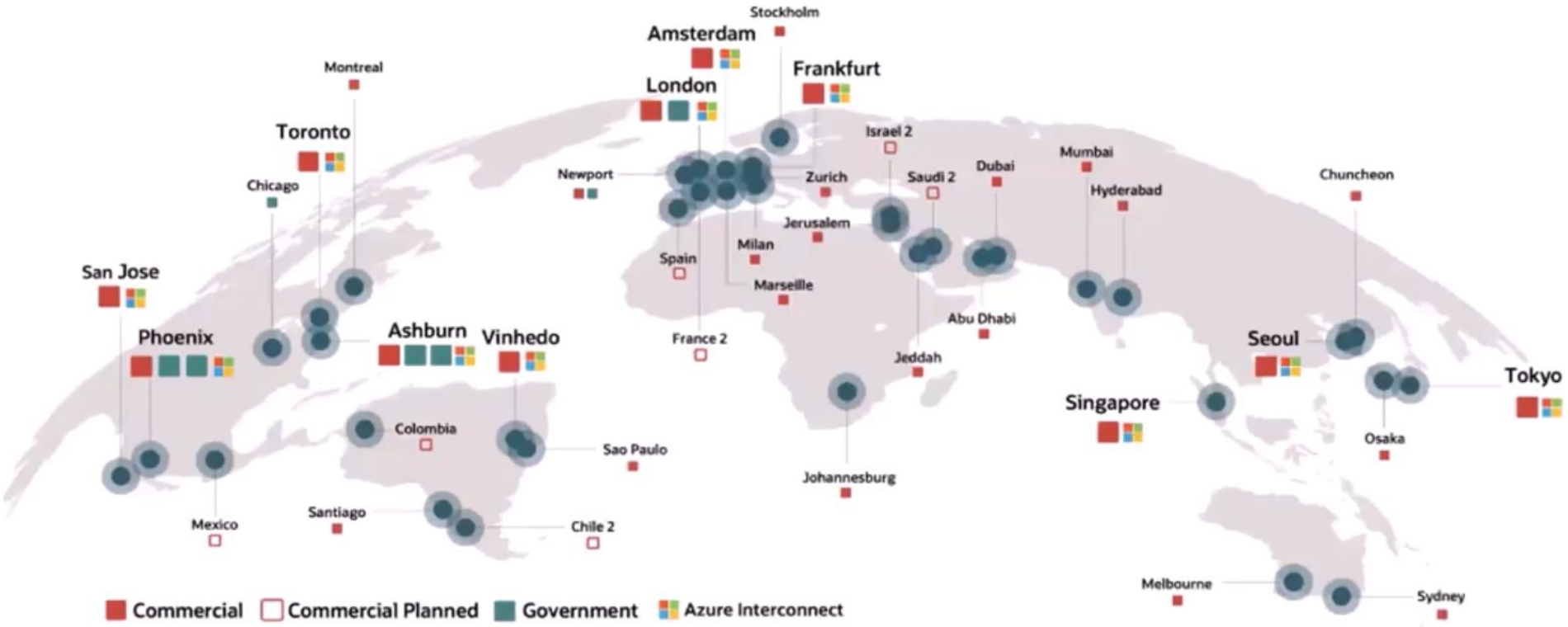
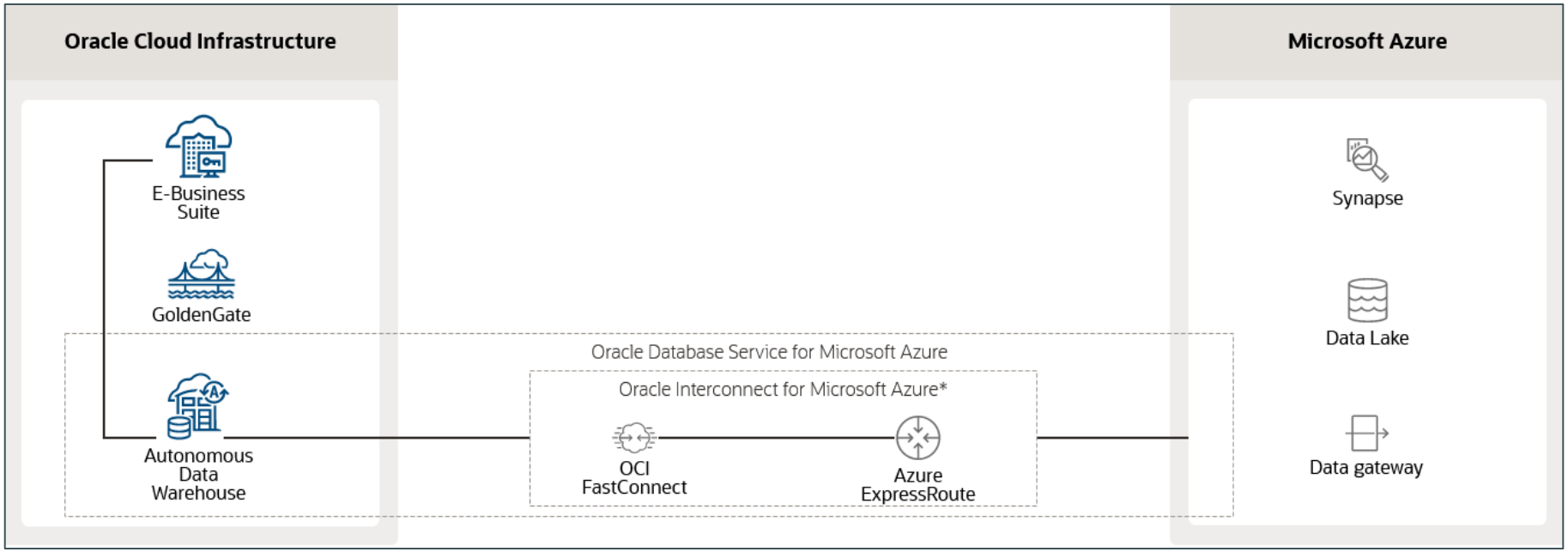


Multicloud Connectivity

Oracle Database Service for Azure



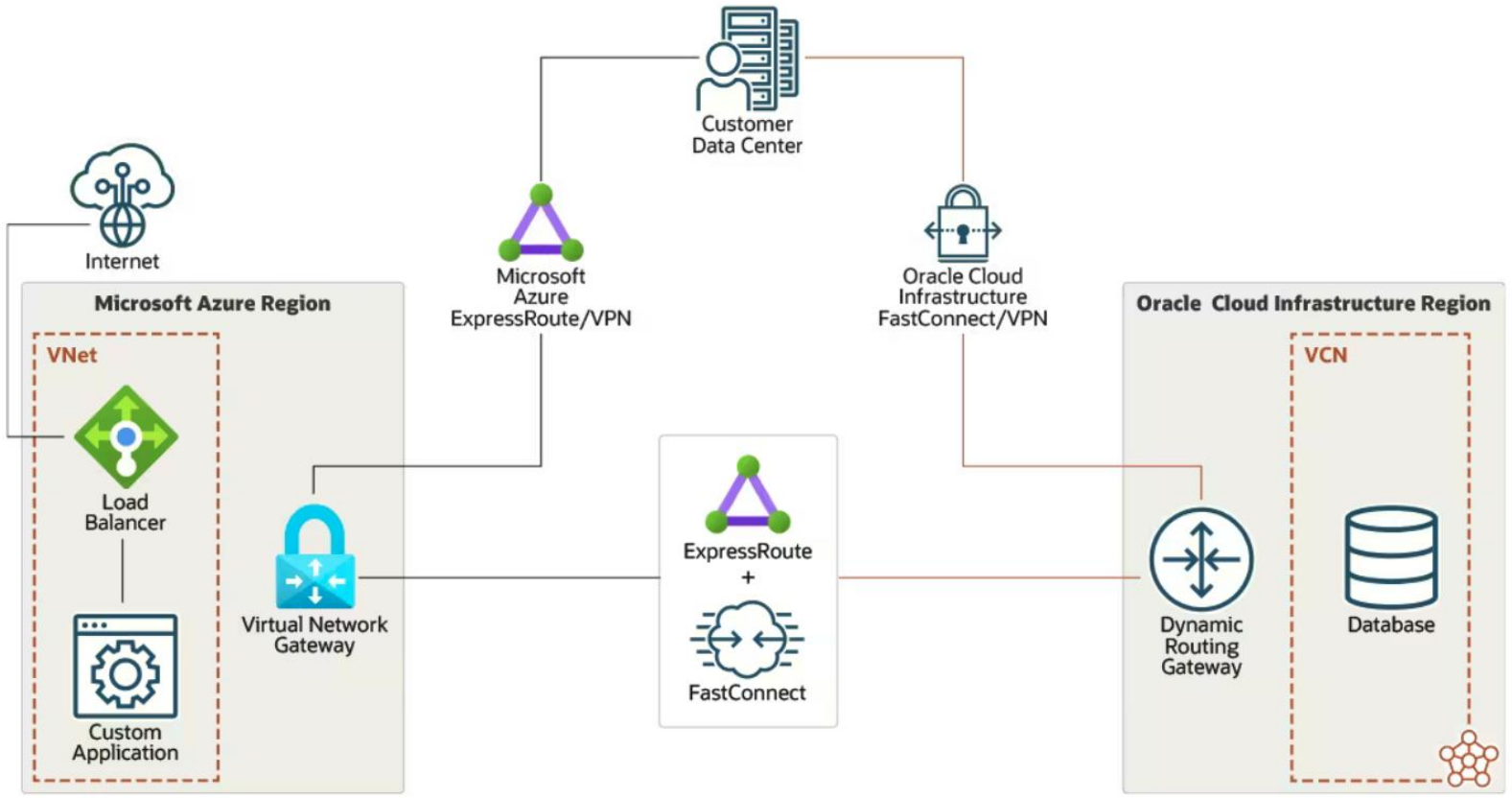
Familiar experience to Azure users

Access OCI database services

Low latency <2ms interconnect between OCI and Azure

Now includes MySQL Heatwave

Multicloud Connectivity



Multicloud Connectivity

Cross-cloud SSO and Interconnect

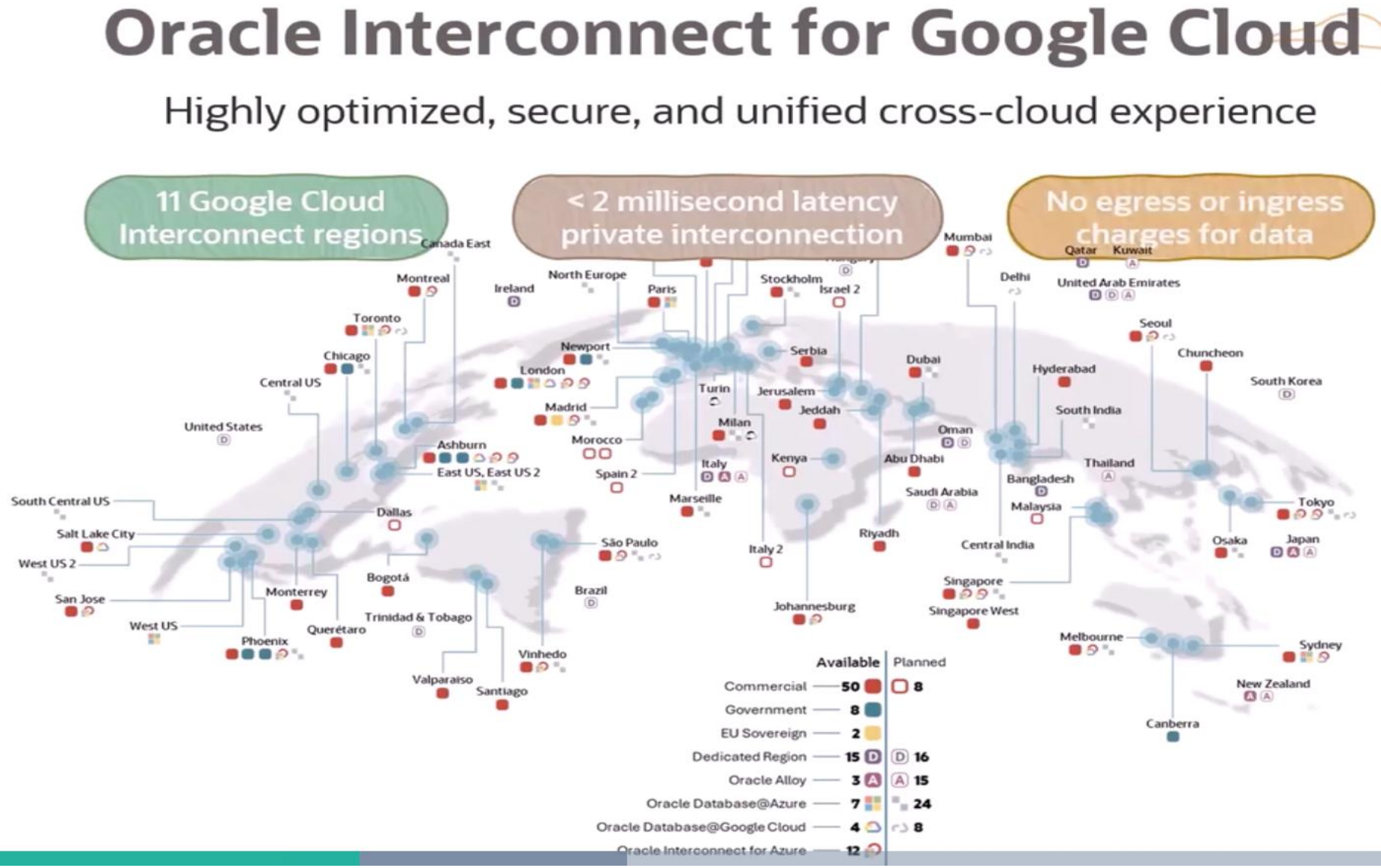
Microsoft Azure ---------- ORACLE Cloud Infrastructure

Interoperability

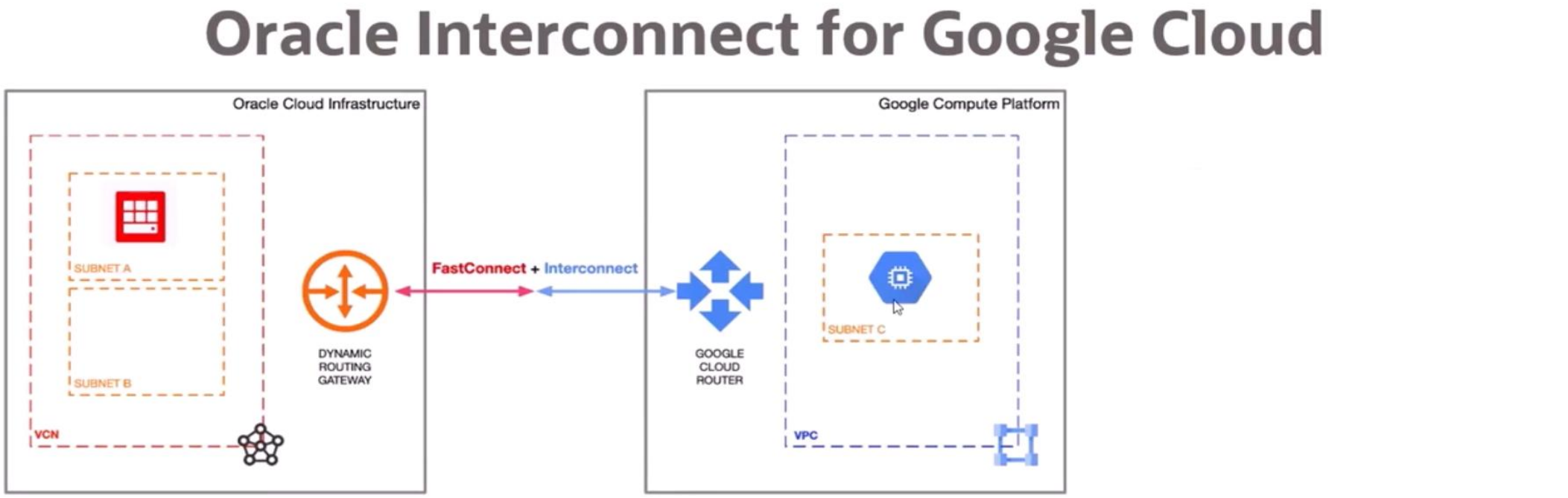
- Azure DevOps
- Azure Stream Analytics
- Azure Databricks
- Azure Cognitive Services
- Azure IoT Hub
- Azure Kubernetes Service
- And other services...

- Oracle Cloud Infrastructure
- Oracle Autonomous Database
- Oracle Exadata
- Oracle Applications
- Oracle RAC
- Oracle Analytics Cloud
- And other services...

Multicloud Connectivity



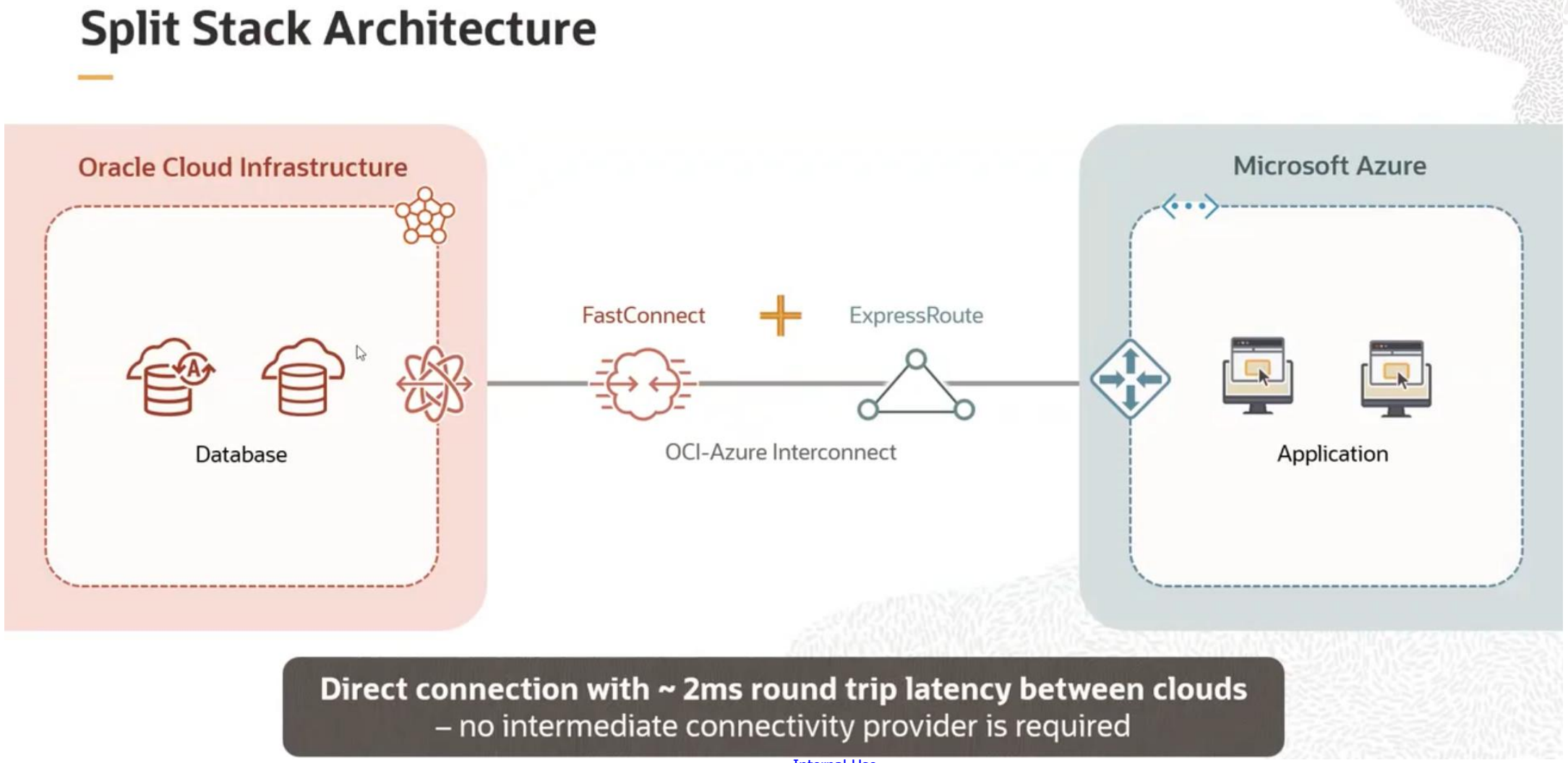
Multicloud Connectivity



With the **Oracle Interconnect for Google Cloud**, Oracle and Google have created an integrated cloud experience using OCI FastConnect and Google Cloud Interconnect.

This multicloud interconnection allows you to run mission-critical enterprise workloads across your Google Cloud and OCI environments and access the best-in-class services of each cloud provider, using a dedicated, low-latency private connection.

Multicloud Connectivity



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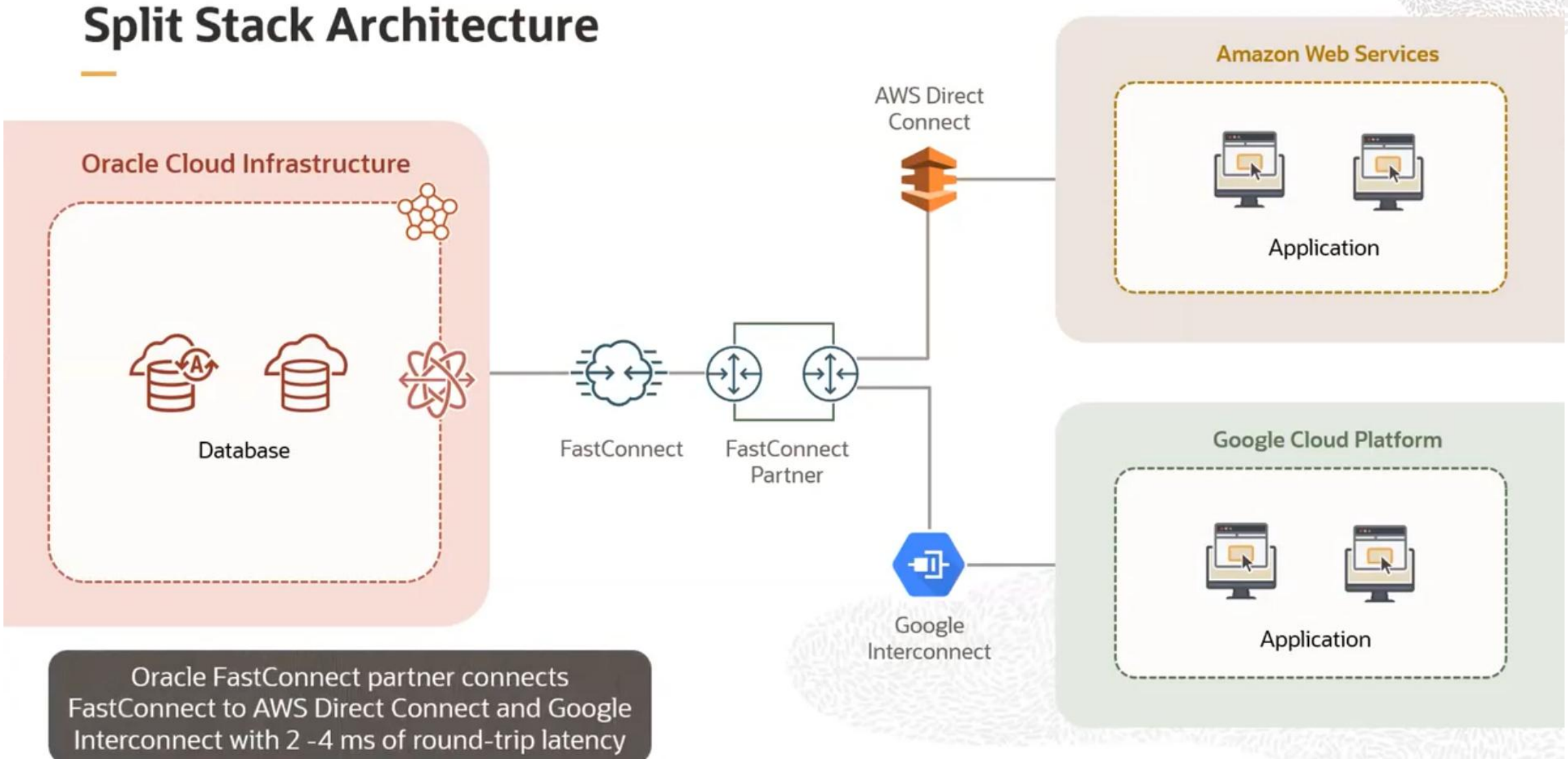

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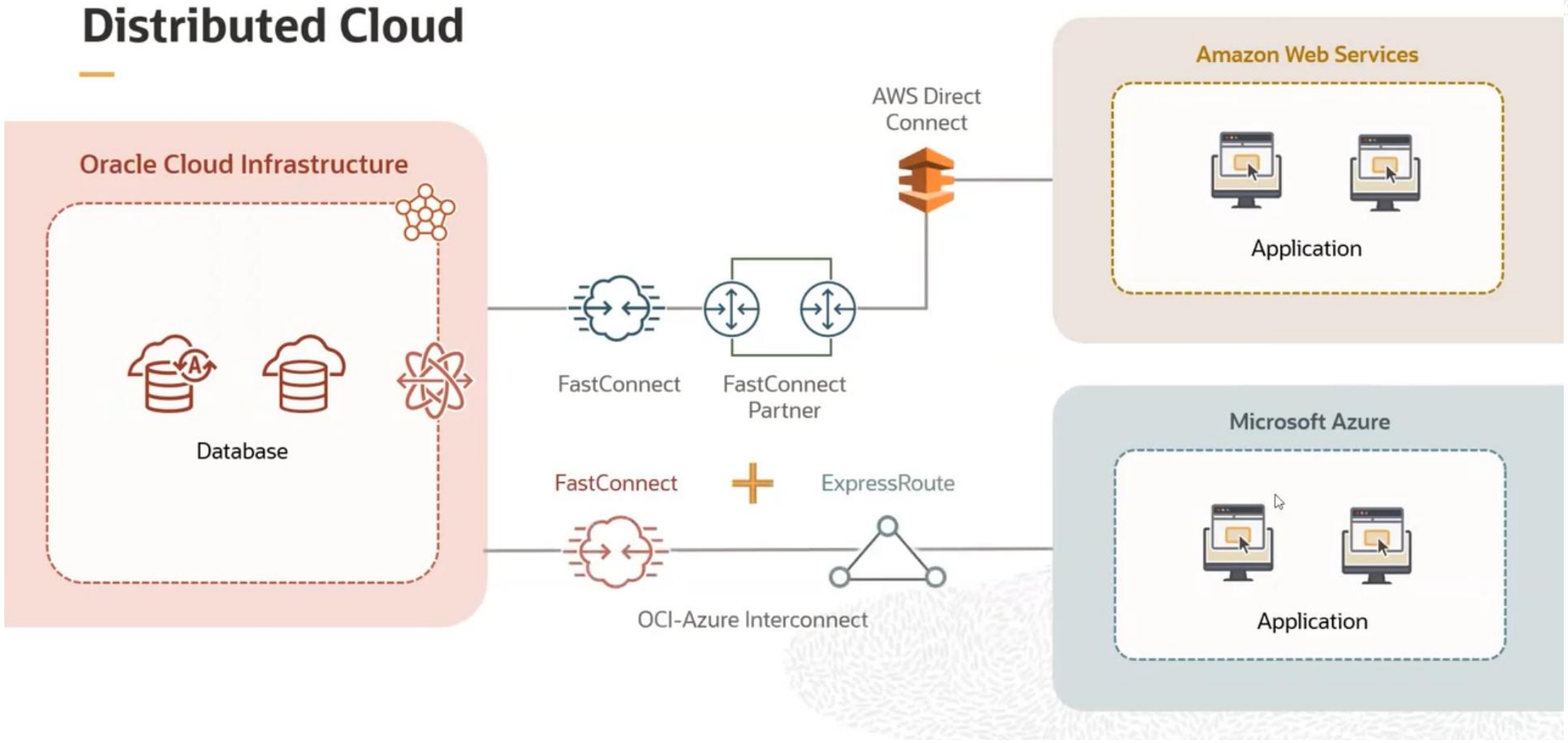

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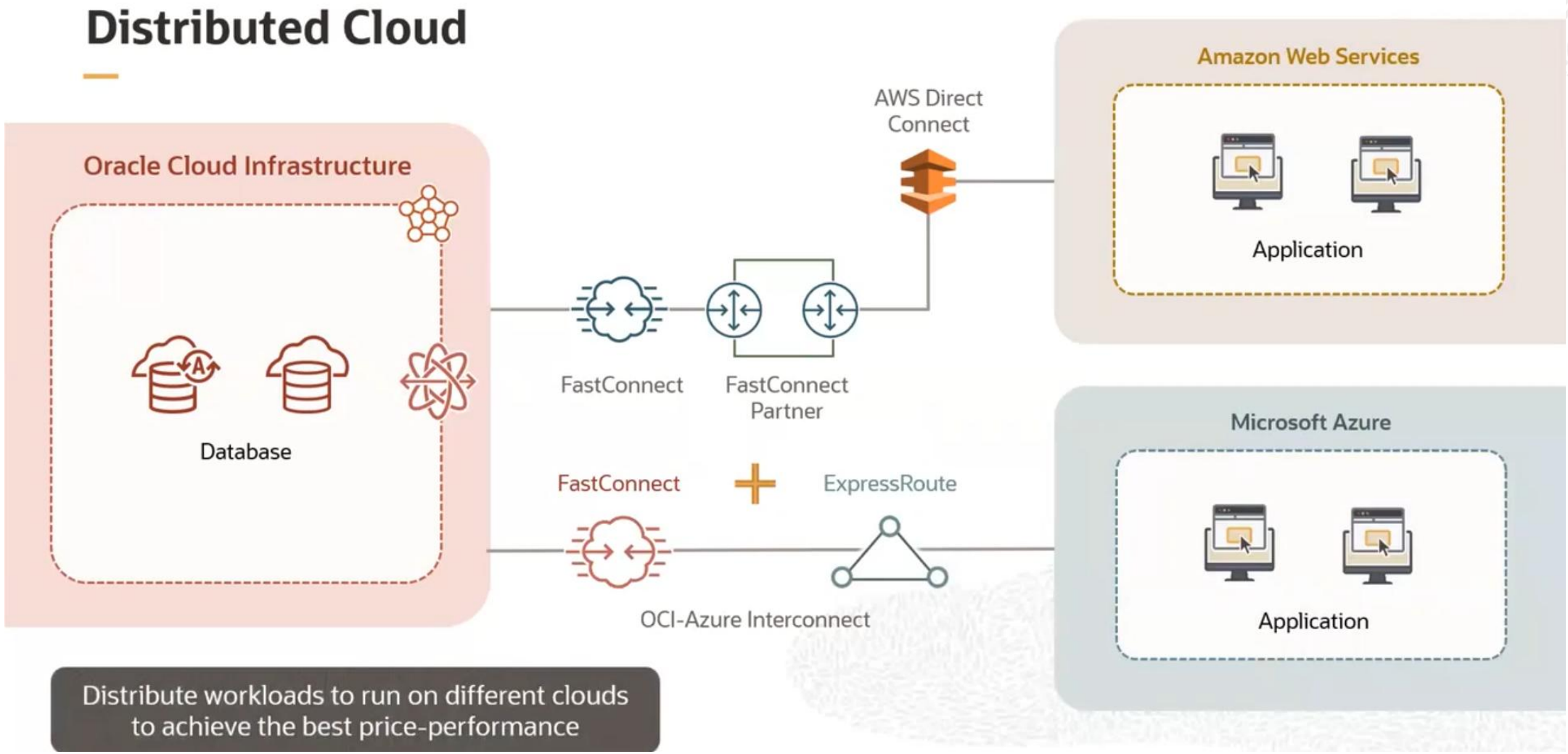
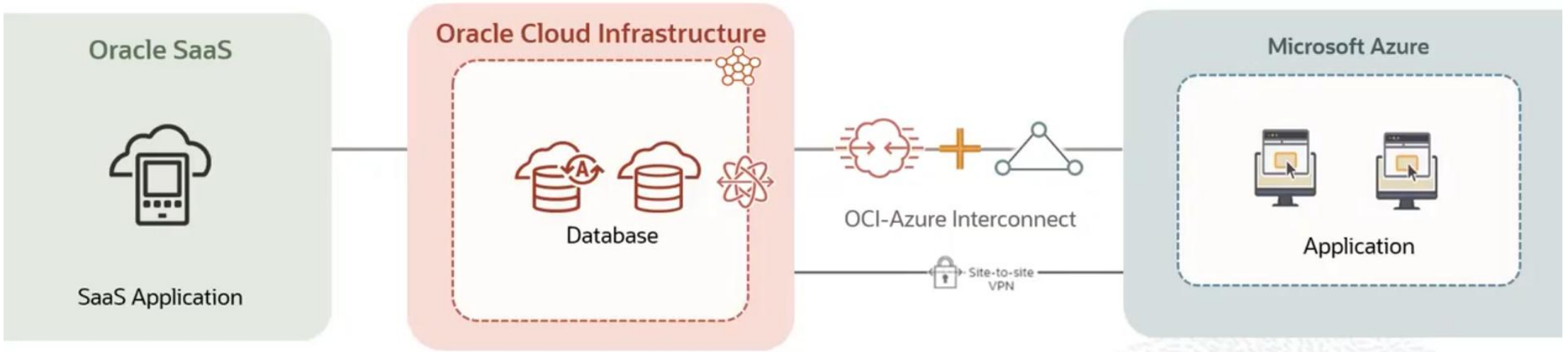


Multicloud Connectivity

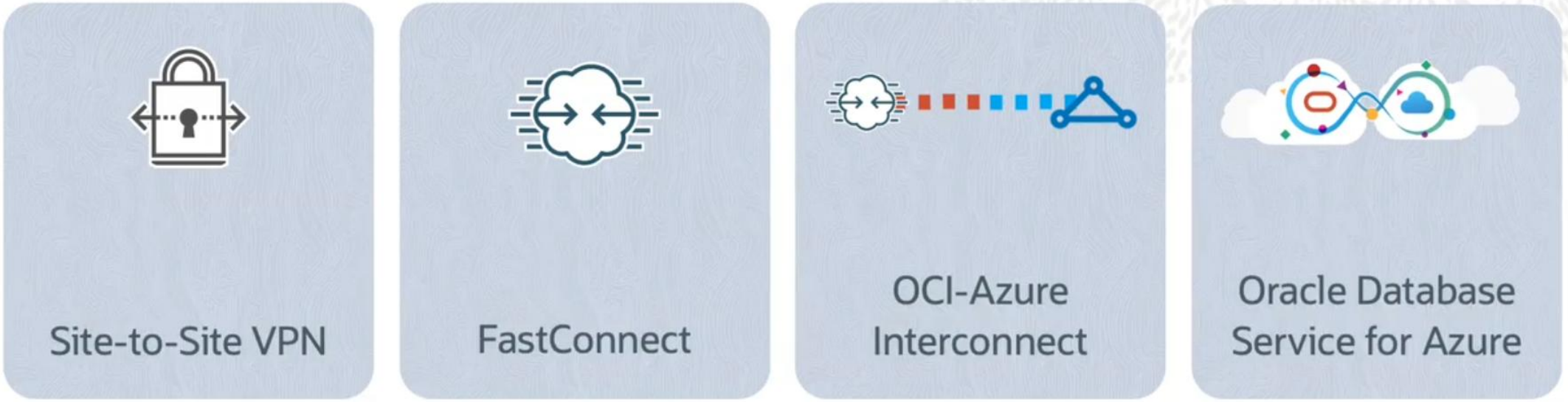
SaaS Integration



Integrate SaaS applications with applications on different clouds to achieve business agility and innovation.

Multicloud Connectivity

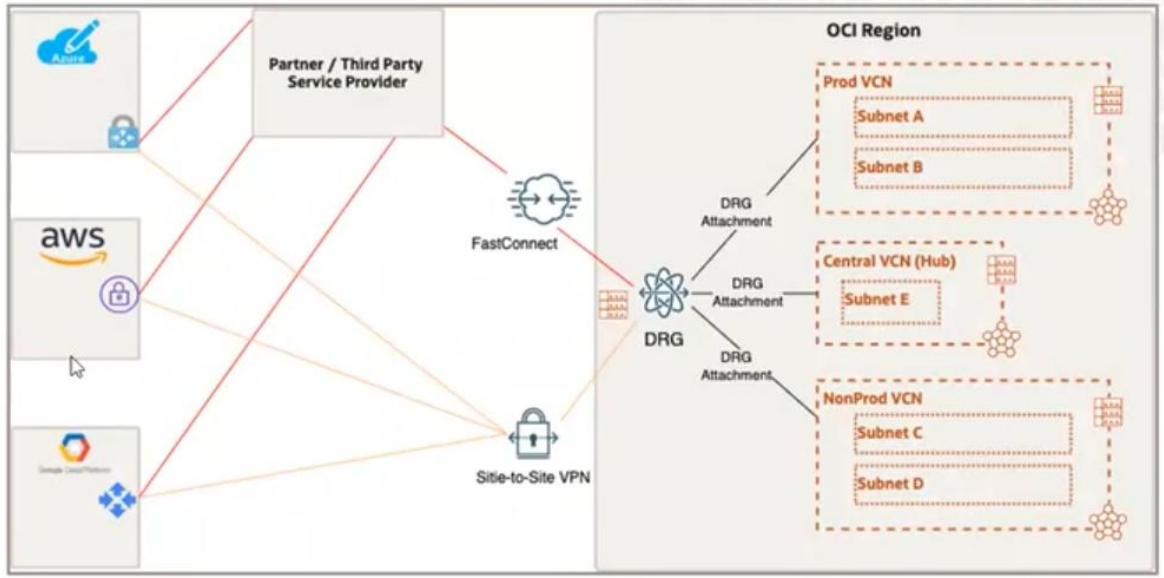
Multicloud Connectivity Options



Multicloud Connectivity

Site-to-Site VPN and FastConnect

- Site-to-site VPN
  - Uses public Internet for connectivity
  - Connection consists of multiple redundant IPSec tunnels
  - Bandwidth/latency can vary
- FastConnect
  - Uses dedicated connection
  - Fixed bandwidth/latency
  - Supports Private and Public Peering



Multicloud Connectivity




	Site-to-Site VPN	FastConnect	OCI-Azure Interconnect	Oracle DB for Azure
Connectivity	Public Internet	Private Connection	Private Connection	Private Connection
Encryption	IPsec	Can be added	Can be added	Can be added
Latency	Depends on distance	Depends on distance	Low latency	Low latency
Bandwidth	Usually low	High	High	High
Availability	Broad geographic reach	Broad geographic reach	12 regions globally	12 regions globally
Requires 3rd party providers	No	Yes	No	No
Set-up	Easy and quick	Depends on 3rd party provider	Easy, quick and automated	Oracle managed
Reliability	Depends on public internet	Reliable	Reliable	Reliable
SLA	No	Depends on 3rd party provider	FastConnect and ExpressRoute independent SLAs	No (SLO coming soon)
Support	No	Oracle and 3rd party provider	Oracle and Microsoft (collaborative)	Oracle and Microsoft
Connecting Clouds	Any Clouds	Oracle to any Cloud	Oracle to Azure	Oracle to Azure
FastConnect Port charges	No	Yes	Yes	No
Egress Traffic cost	Yes	No	No	No

Site to Site VPN: Use Cases

Use for Proof of Concept

No contracts or commitment. Build as many VPN tunnels to Oracle Cloud Infrastructure as desired and decide how long you want them active.

Connect multiple locations to the cloud

Connect your headquarters, branch locations, and private datacenters to the Oracle Cloud so all of your offices can access applications.

Securely connect your existing infrastructure to the cloud

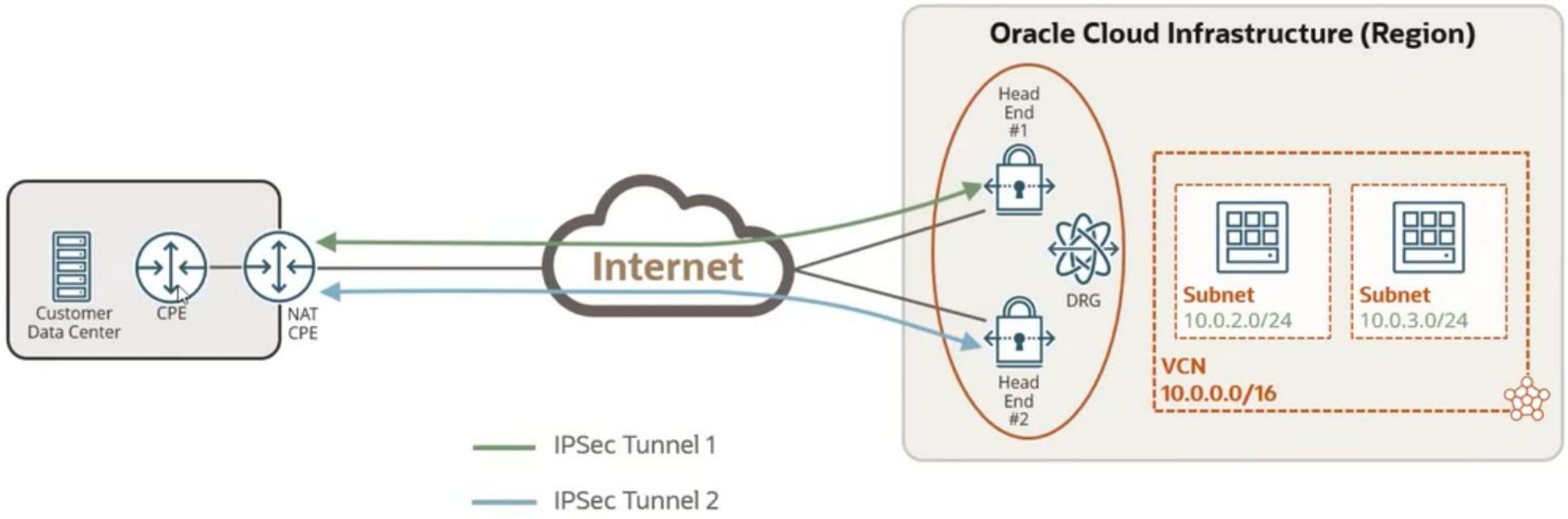
Securely connect your existing infrastructure to the cloud or connect multiple clouds.

Build redundant connectivity for Oracle FastConnect

Already have Oracle FastConnect? Site-to-Site VPN can provide a redundant connection to Oracle Cloud Infrastructure.

Multicloud Connectivity

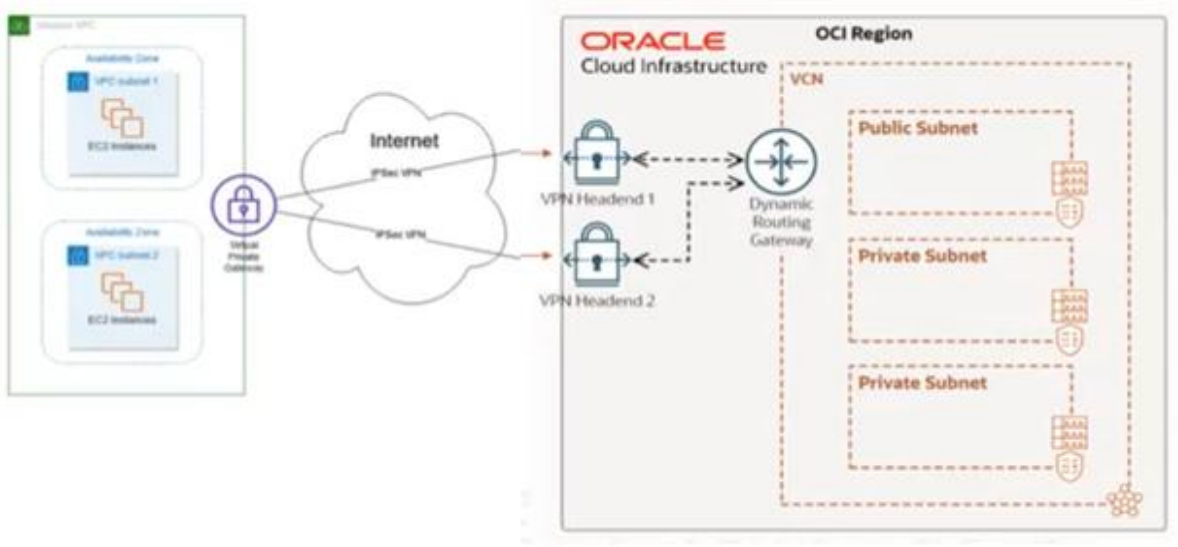
Site-to-Site VPN: Overview



Site to Site VPN: OCI and AWS

Configuration Process

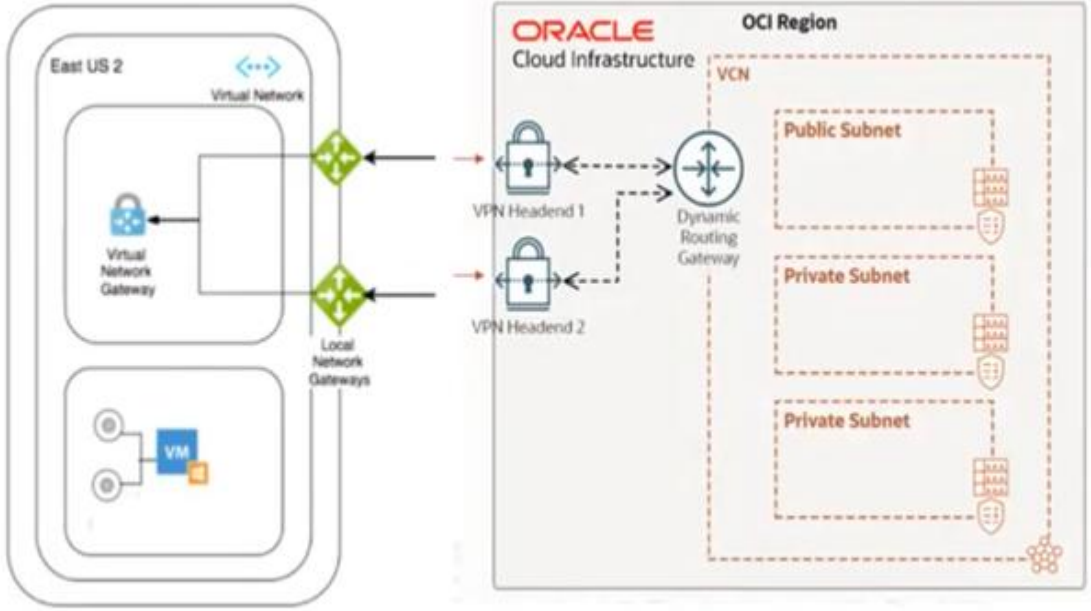
- AWS - Create Temporary Customer Gateway
- AWS - Create and Attach Virtual Private Gateway
- AWS - Create VPN Connection
- AWS - Download Configuration
- OCI - Create CPE Object
- OCI - Create IPSec Connection
- AWS - Create New Customer Gateway
- AWS - Modify VPN Connection for New Customer Gateway
- Verification



Site to Site VPN: OCI & Azure

Configuration Process

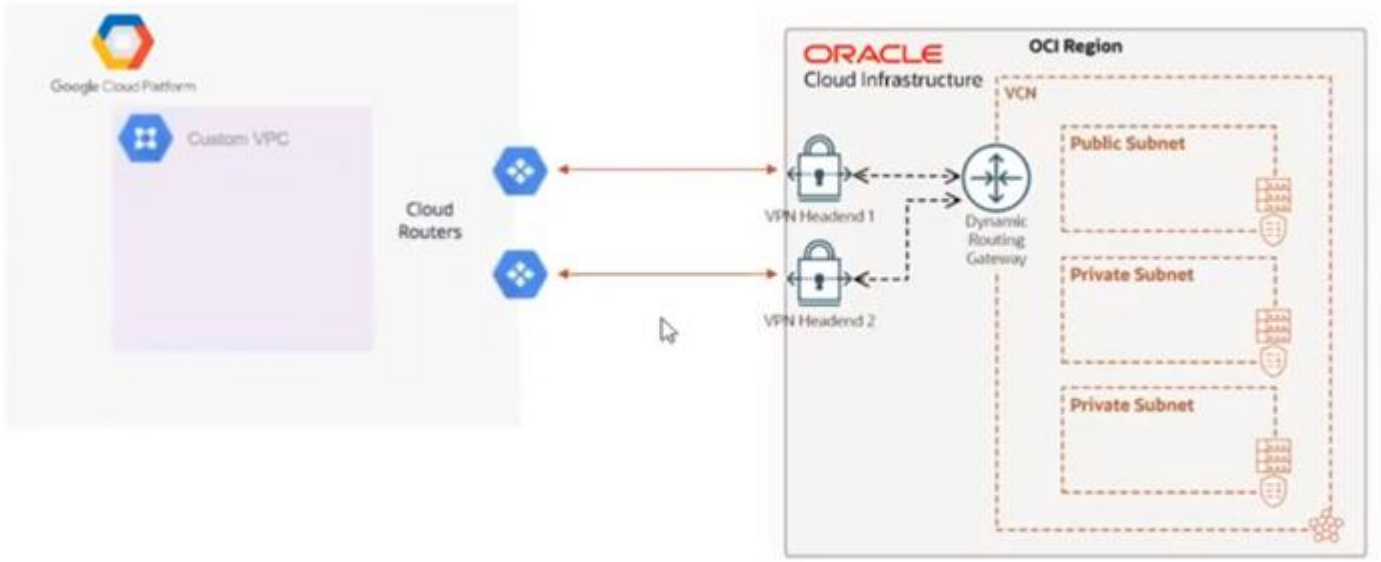
- Azure - Create VPN Gateway
- OCI - Create CPE Object
- OCI - Create IPSec Connection
- OCI - Open Oracle Service Request to Change PFS
- OCI - Save Site-to-Site VPN IP Address and Shared Secret
- Azure - Create a VPN Connection



Site to Site VPN: OCI & GCP

Configuration Process

- GCP - Start VPN Configuration
- OCI - Create CPE Object
- OCI - Create IPSec Connection
- OCI - Save Oracle VPN IP Address and Shared Secret
- GCP - Create a VPN Peer Gateway
- GCP - Create a Cloud Router
- GCP - Complete configuring VPN Tunnel
- GCP - Configure BGP Sessions
- Verification



Q & A