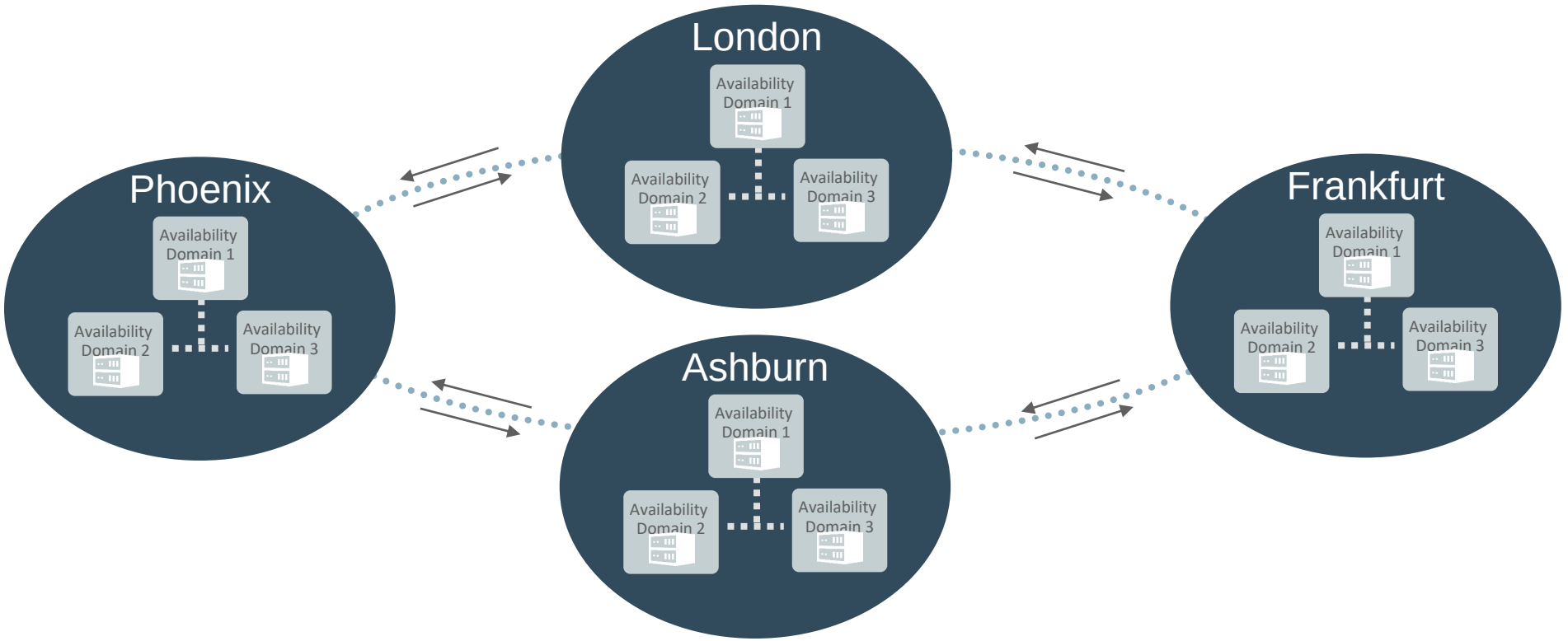
Getting Started with Oracle Cloud Infrastructure

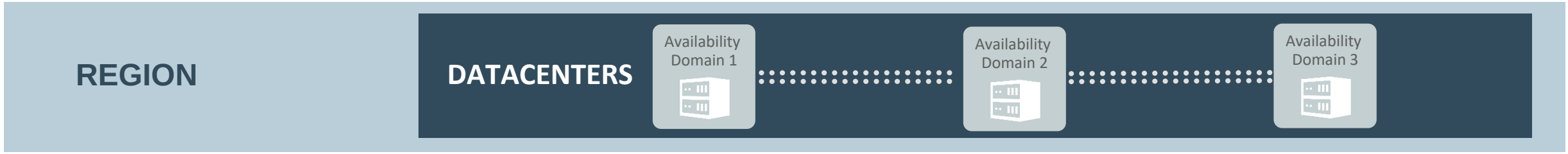
Regions + Availability Domains + Backbone Network

- Regions serve different geographies – provide Disaster Recovery capability
- Availability Domains – provide a High Availability foundation within a region
- Backbone Network + Peering – private connectivity between regions and direct peering



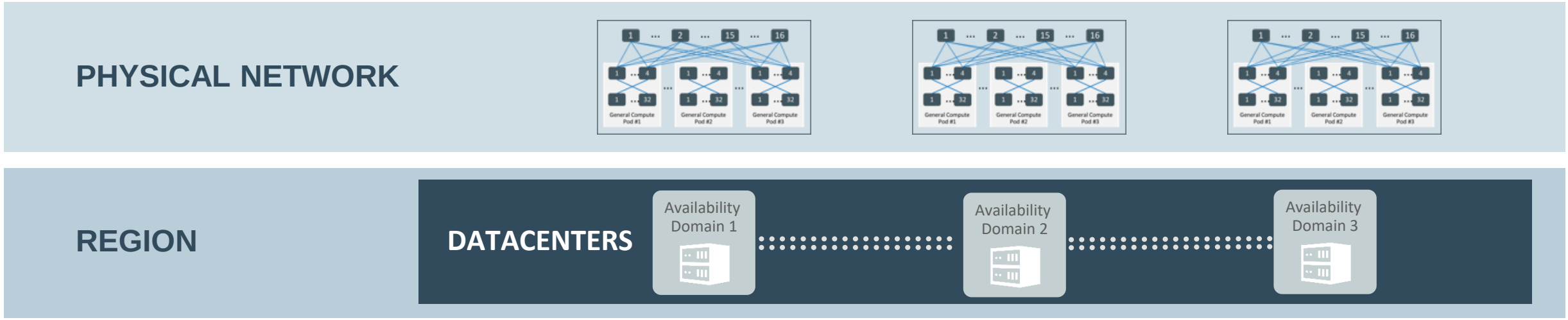
Inside a Region – High Availability Building Blocks

- Multiple fault-decorrelated, completely independent datacenters: ADs
- Predictable low latency & high speed, encrypted interconnect between ADs
  - < 500µs expected one-way latency, 1+Tb/s bandwidth
- Enables zero-data-loss architectures (e.g. Oracle MAA) and high availability scale-out architectures (e.g. Cassandra)



Inside an AD – High Scale, High Performance Network

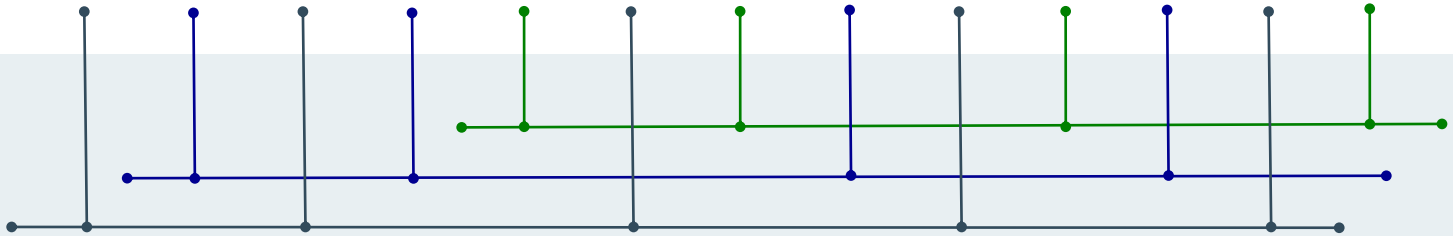
- Non-oversubscribed network – flat, fast, predictable
- Very high scale – ~1 million network ports in an AD
- Predictable low latency & high speed interconnect between hosts in an AD
  - ~100µs expected one-way latency, 2 x 25Gb/s bandwidth



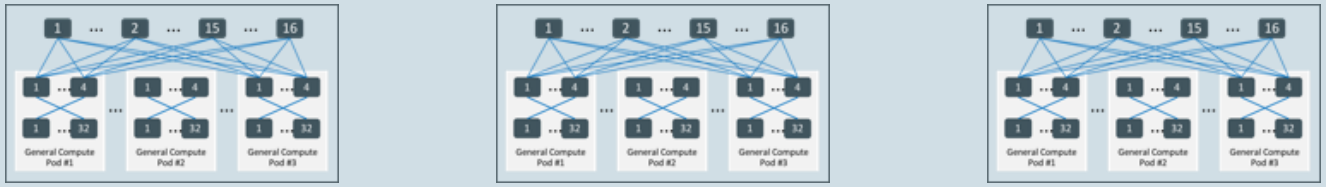
Comprehensive Virtual Network with Off-box Virtualization

Highly configurable private overlay networks – moves management and IO out of the hypervisor and enables lower overhead and bare metal instances

VIRTUAL NETWORK



PHYSICAL NETWORK



REGION

DATACENTERS

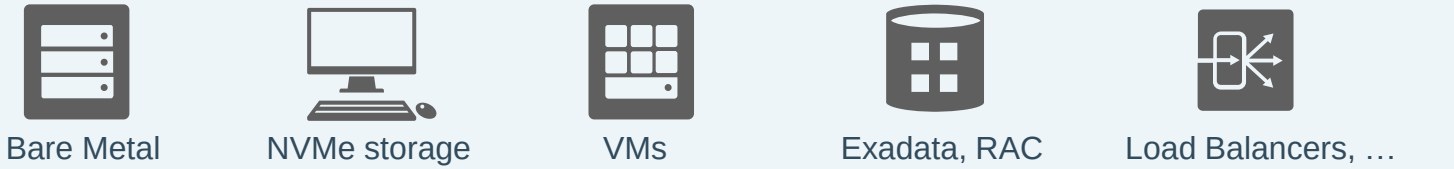
Availability Domain 1

Availability Domain 2

Availability Domain 3

Oracle Cloud Infrastructure – Innovation at its Core

COMPUTE, STORAGE, DATABASE, LBs, …



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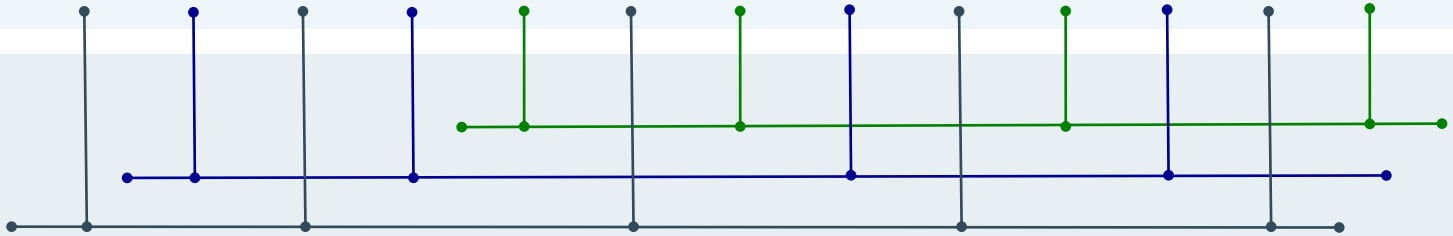

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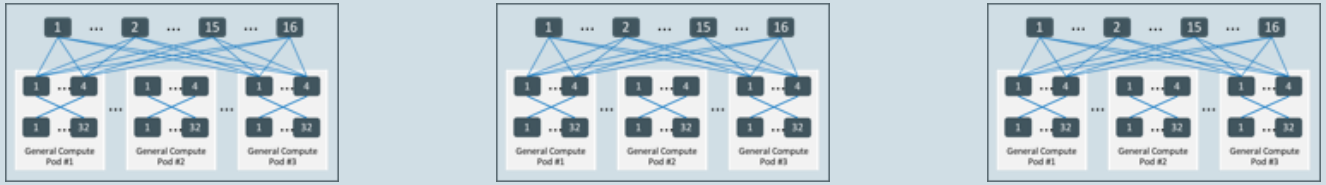
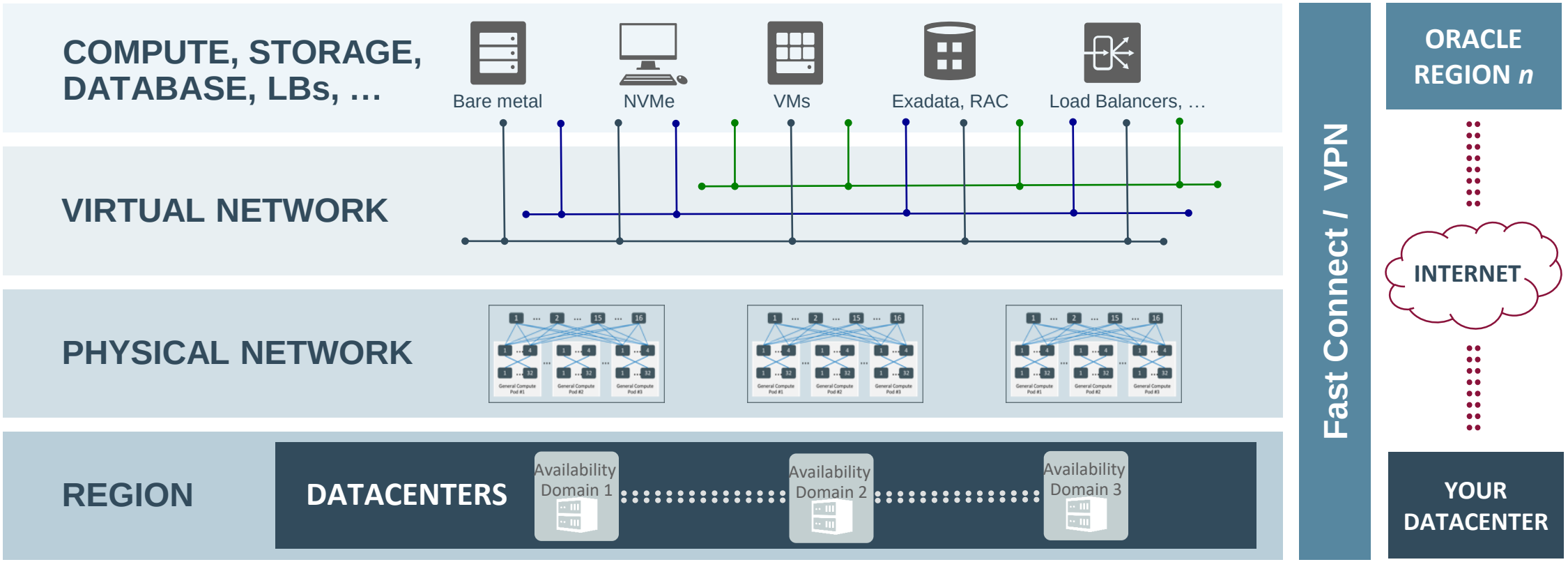
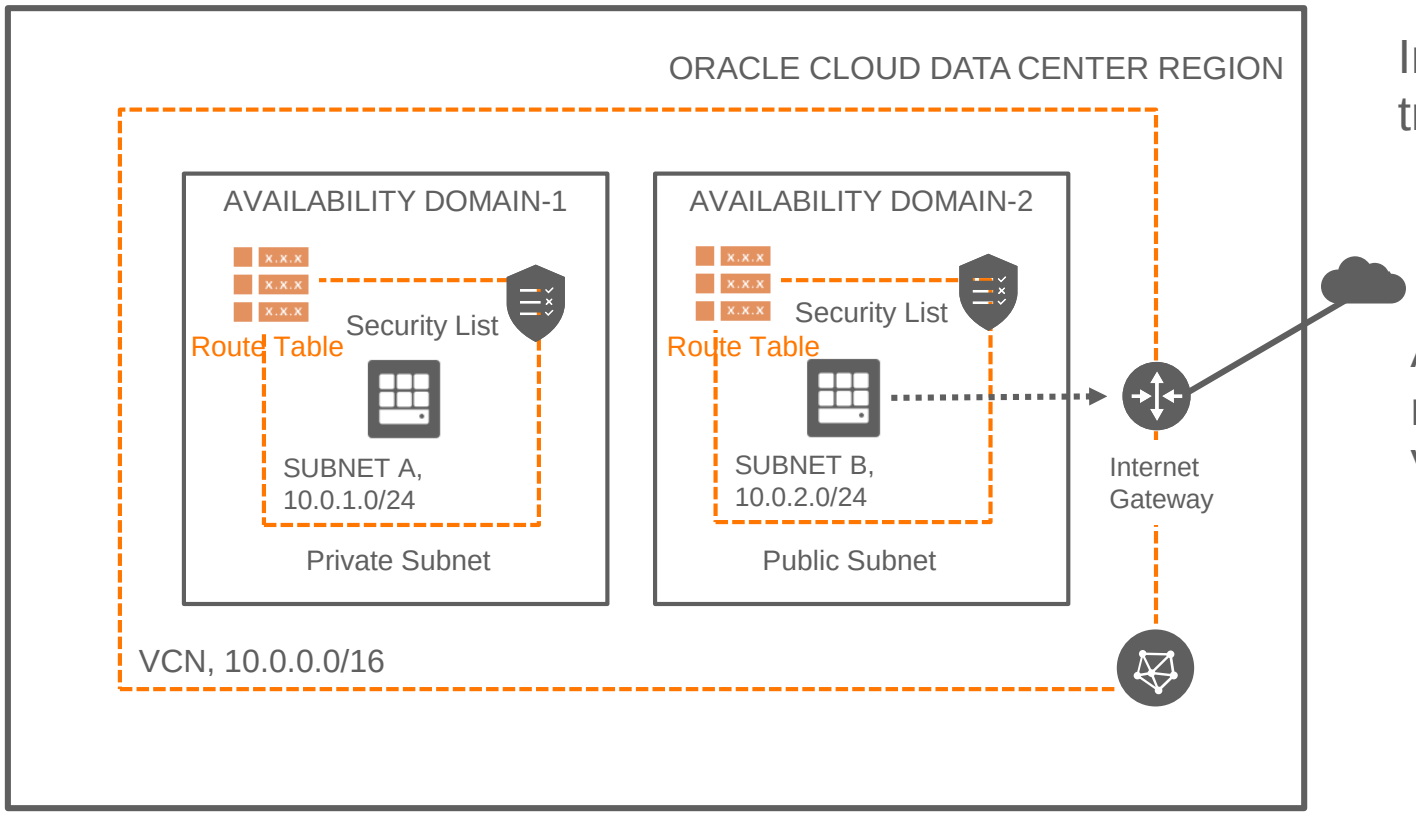


REGION

Oracle Cloud Infrastructure – Innovation at its Core



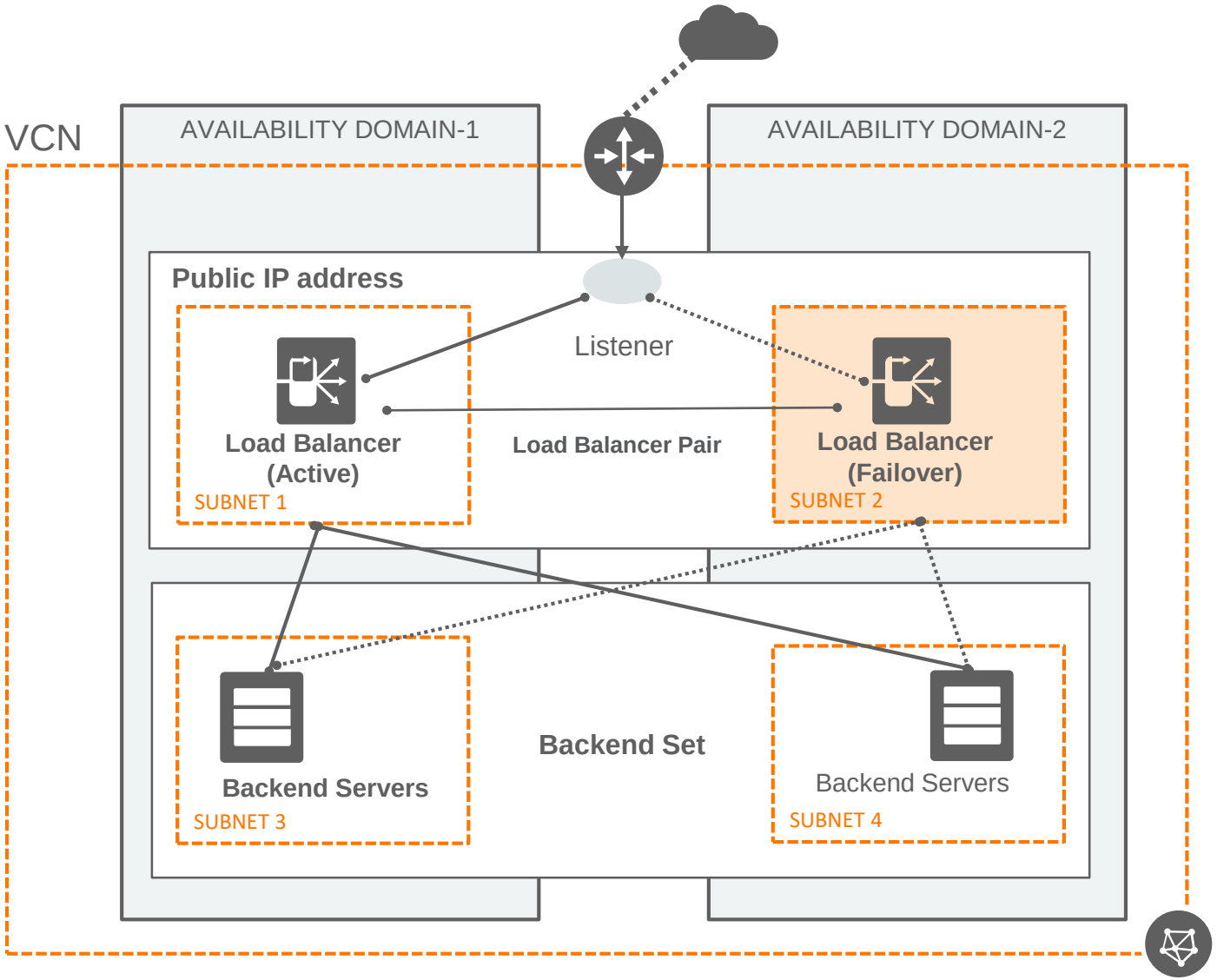
VCN Basic Objects



Internet Gateway provides a path for network traffic between your VCN and the internet

After creating an Internet Gateway, you must add a route for the Gateway in the VCN's Route Table to enable traffic flow

Public Load Balancer



- Public Load Balancer accepts traffic from the internet using a public IP address that serves as the entry point for incoming traffic
- Regional Load Balancer
- Requires 2 subnets, each in a separate AD; Subnet1 – primary Load Balancer; Subnet2 – stand-by Load Balancer for High Availability in case of an AD outage
- Public IP is attached to Subnet1; Load Balancer and IP switch to Subnet2 in case of an outage
- Service treats the two Load Balancer Subnets as equivalent and you cannot denote one as "primary"