
AWS
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ENT308

Scaling VMware Cloud on AWS storage using Amazon FSx for NetApp ONTAP

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VMware Cloud on AWS – faster, easier, and cost-effective path to the hybrid cloud

VMware technologies delivered as a service on the world's most popular public cloud

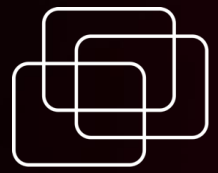


VMware SDDC delivered as a cloud service on AWS



Easy workload portability and hybrid capabilities

Direct access to the power of native AWS services for modernization goals



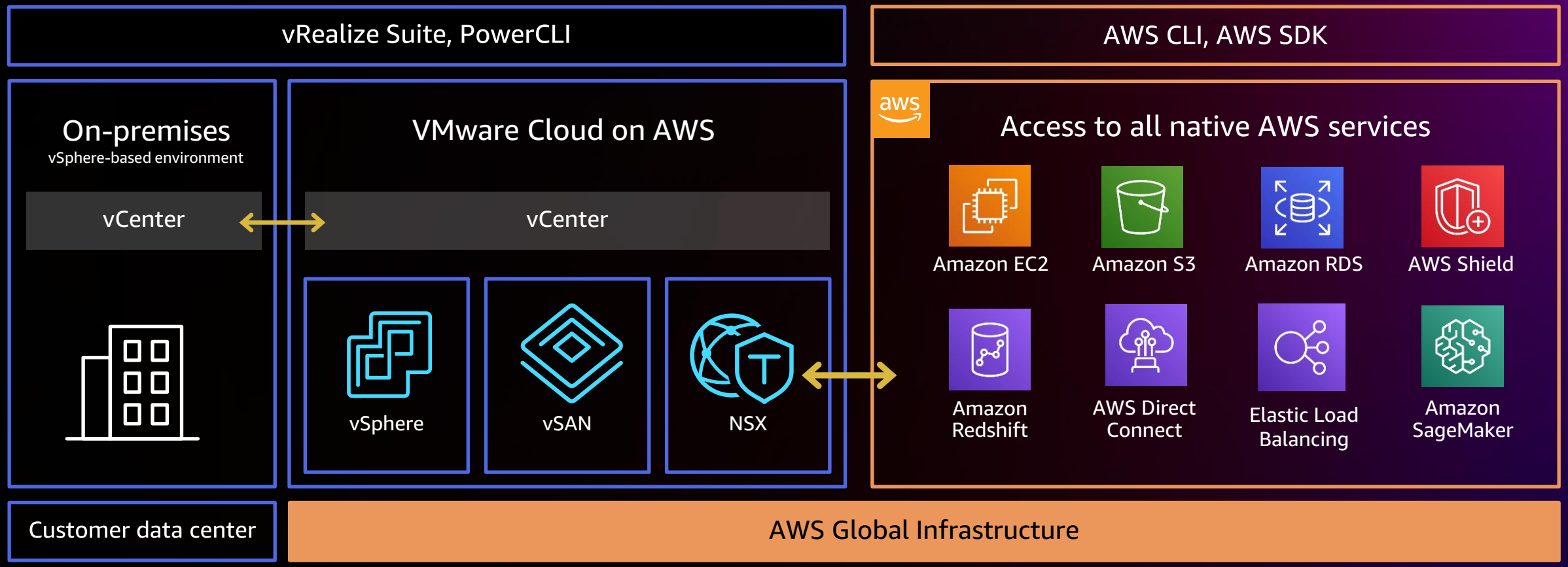
Consistency and familiarity of VMware technologies



Existing and new apps with containers and VMs

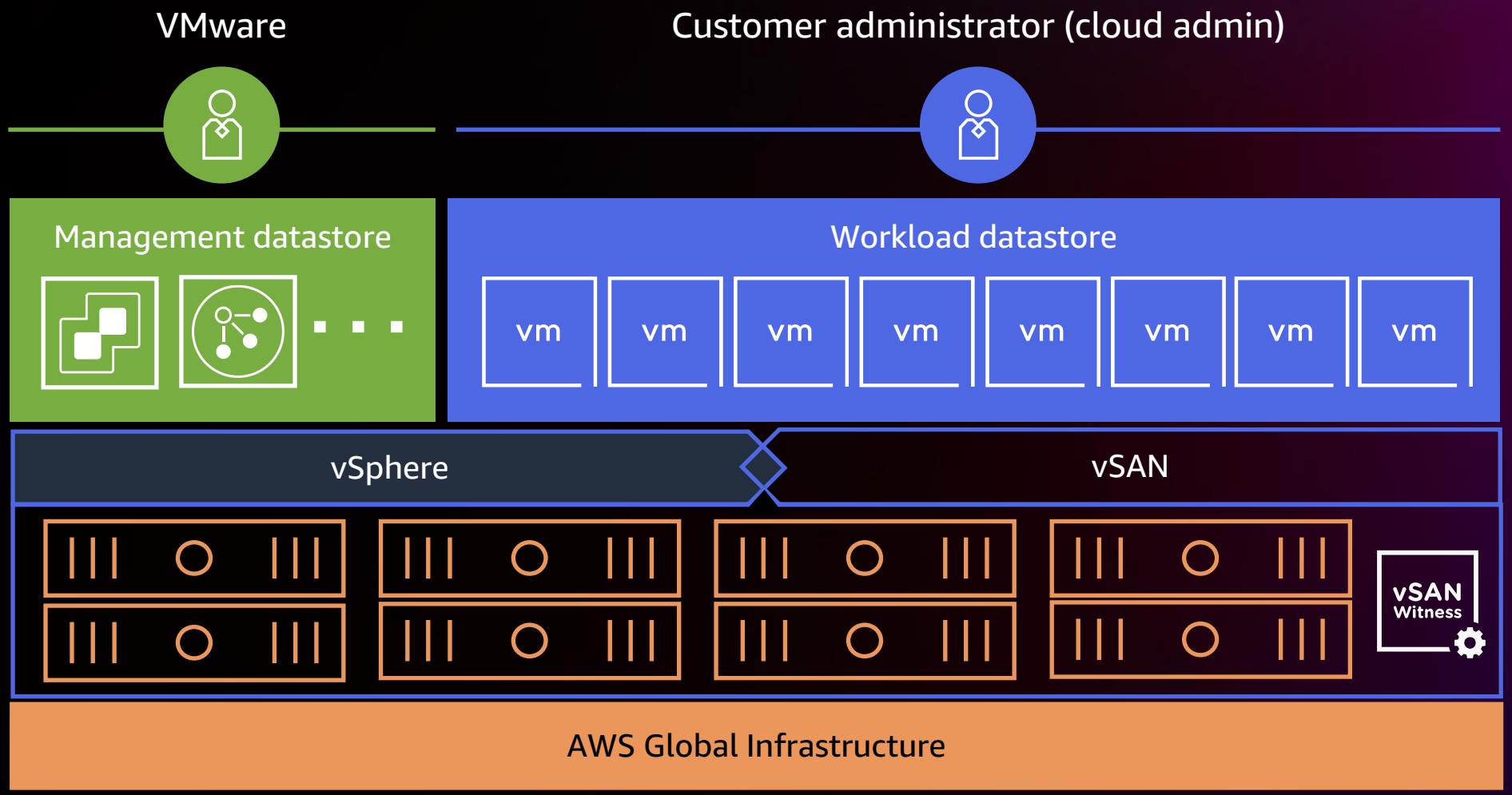
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VMware Cloud on AWS



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VMware vSAN Storage



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Challenges



Costs

A certain amount of compute often comes with a certain amount of storage



Troubleshooting

The tightly coupled architecture of hyperconverged infrastructure (HCI) can make it challenging to isolate the source of a performance bottleneck



Maintenance

Reduction in amount of storage and available flash

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What is Amazon FSx for NetApp ONTAP?

NetApp®

Fully featured NetApp ONTAP



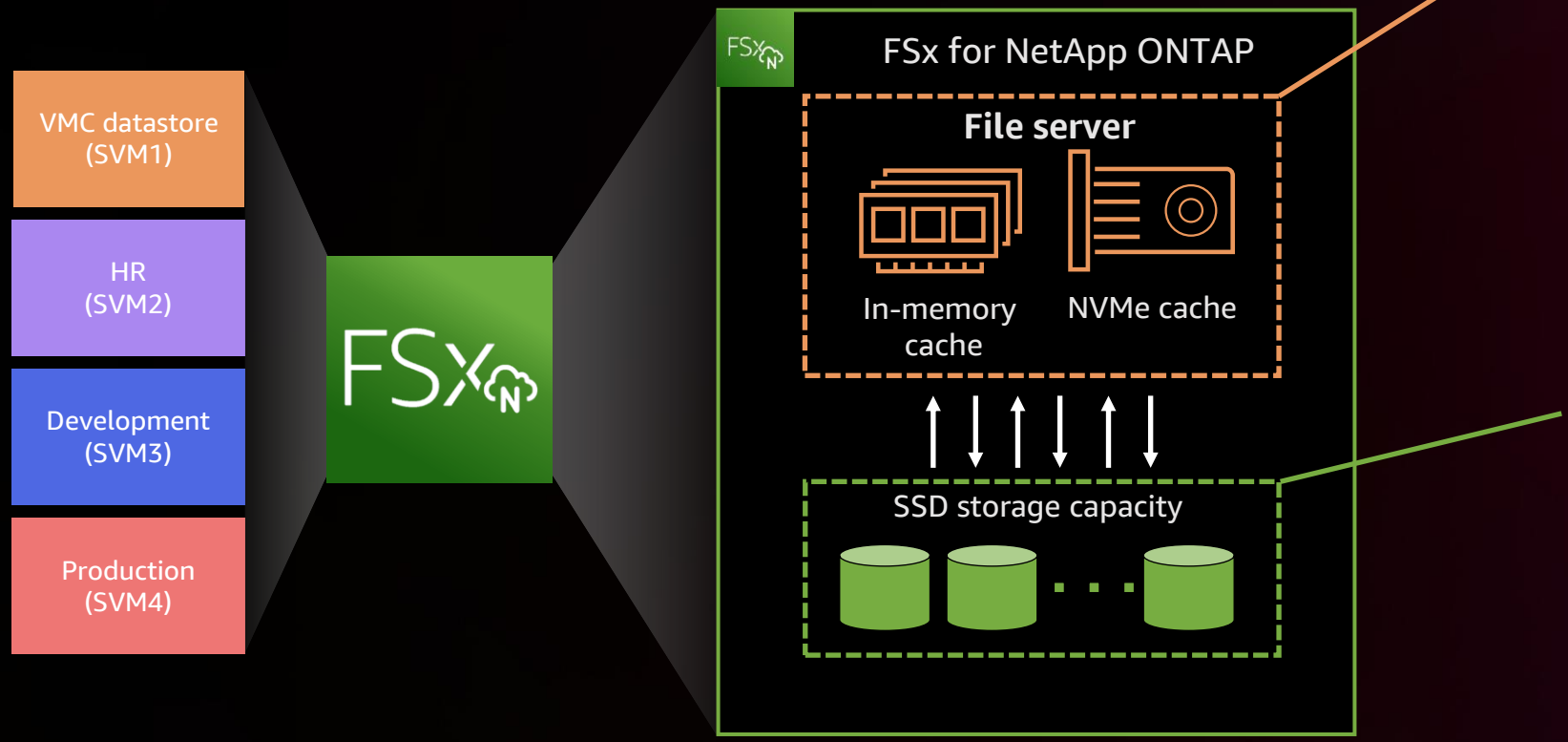
With the simplicity, agility, and scalability of an AWS service

- Concurrent multi-protocol access (NFS, SMB, iSCSI)
- Snapshots/cloning (FlexClone)
- Replication (SnapMirror)
- Storage efficiency capabilities
  - Deduplication
  - Compression
  - Compaction
  - Thin provisioning

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What is Amazon FSx for NetApp ONTAP?



File server (throughput)

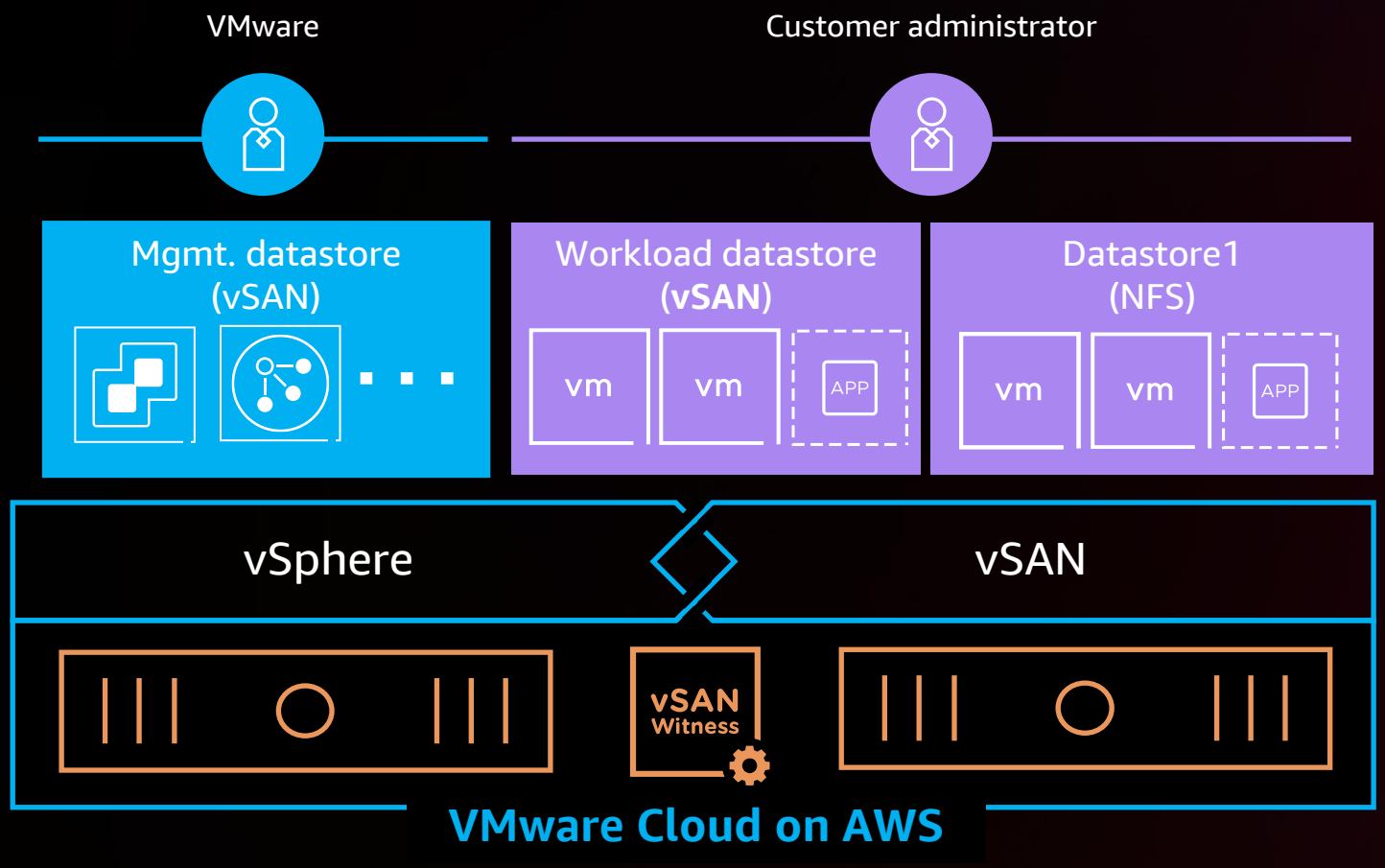
- Controls the resources available
  - CPU
  - Memory: Read cache
  - NVMe storage: Extended read cache
  - Network bandwidth
- Scale up or down non-disruptively

SSD storage capacity

- Physical capacity pool
  - Raw SSD capacity (up to 192 TiB)
  - Disk IOPS (up to 80,000 IOPS)
  - Disk throughput (up to 2,048 MBps)
- Disk IOPS scale up/down on demand
- Disk capacity scales UP

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Supplemental NFS datastore support for VMware Cloud on AWS



NFS datastores

- Generally available
- 4 datastores per cluster
- API and user interface integration

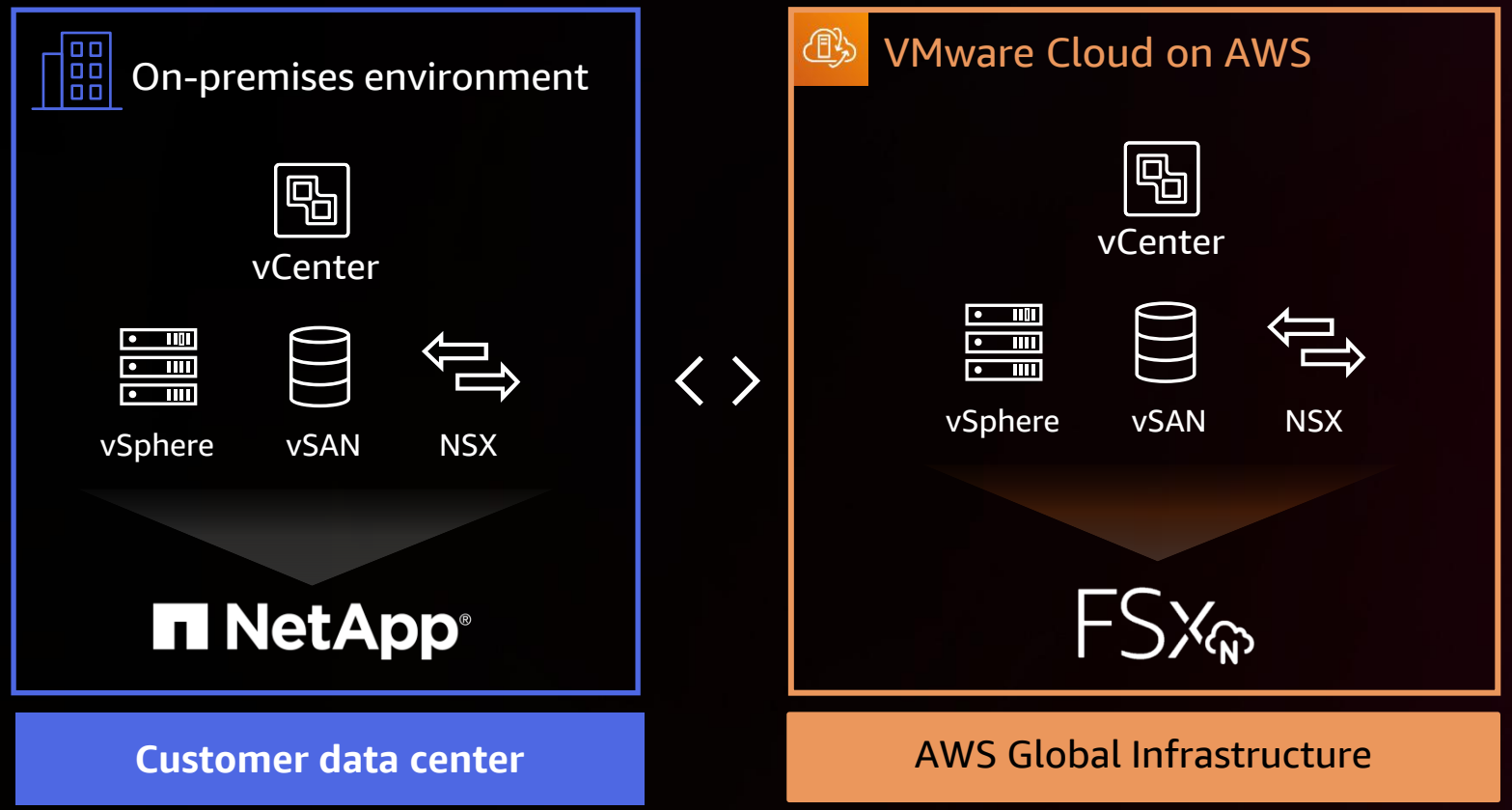
Benefits

- Right size storage to control cost
- Full access to ONTAP's enterprise data management capabilities
- Accelerate migration – rehost on AWS without changing code or how you manage your data

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Consistent security, cloud governance, and operations

VMWARE CLOUD ON AWS WITH FSX FOR ONTAP – HYBRID CLOUD SOLUTION

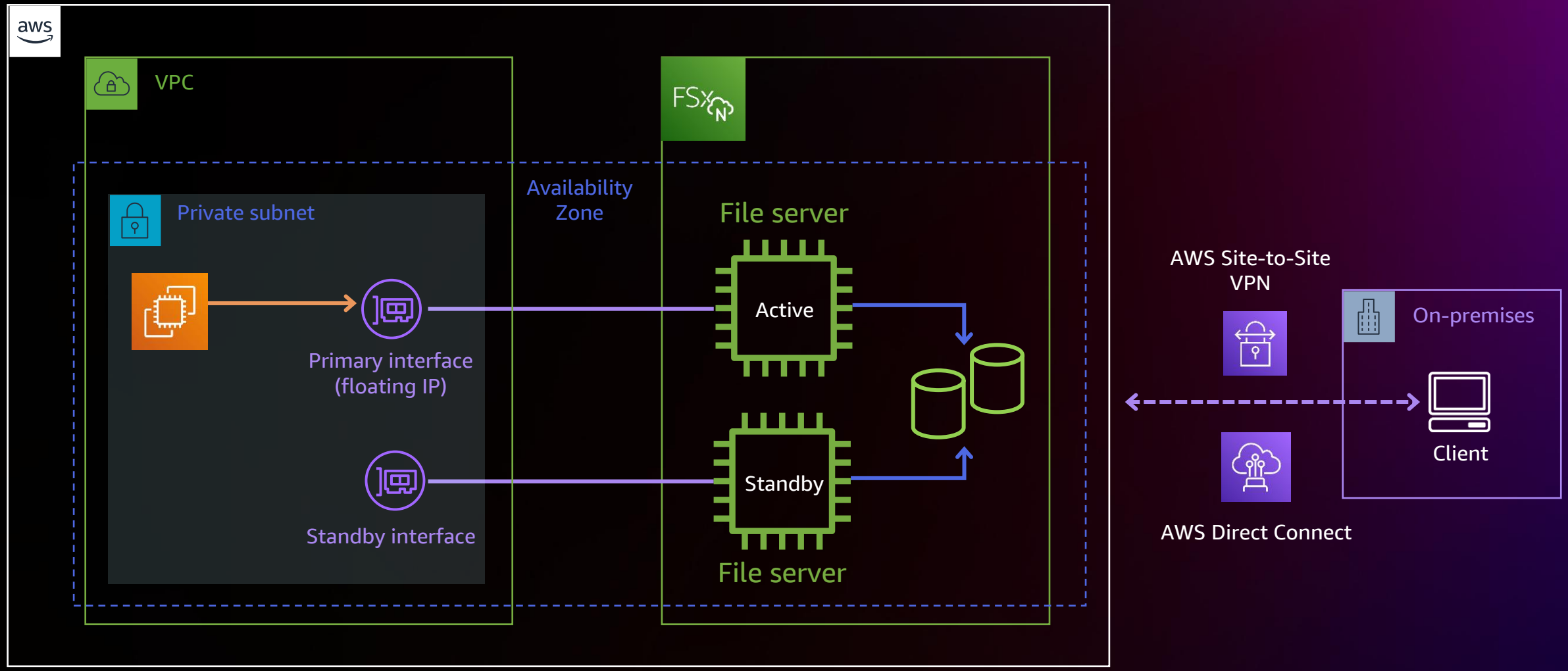


- Avoid re-platforming or re-architecting applications
- Reduce the cost of running VMware workloads in the cloud by scaling storage independent of compute
- Enhance IT efficiency & accelerate new application value

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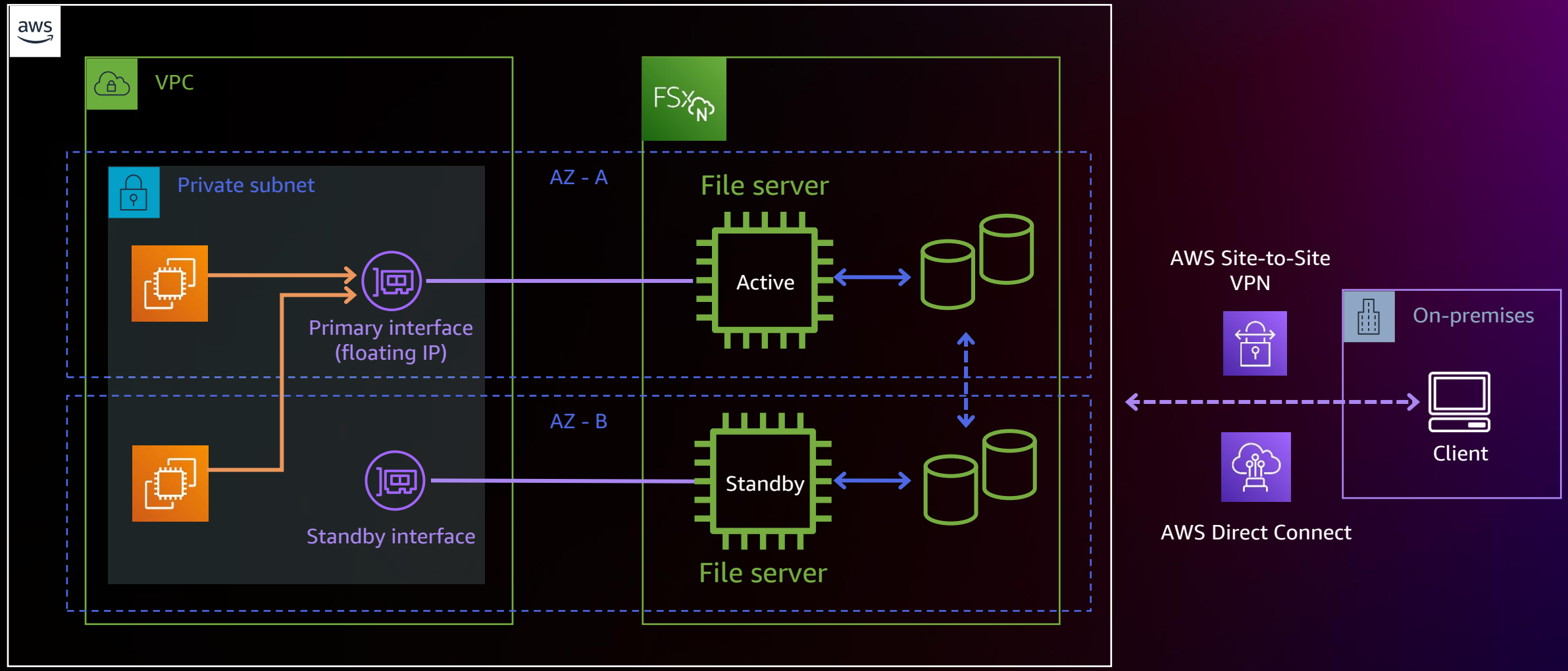
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Single Availability Zone



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Multiple Availability Zones

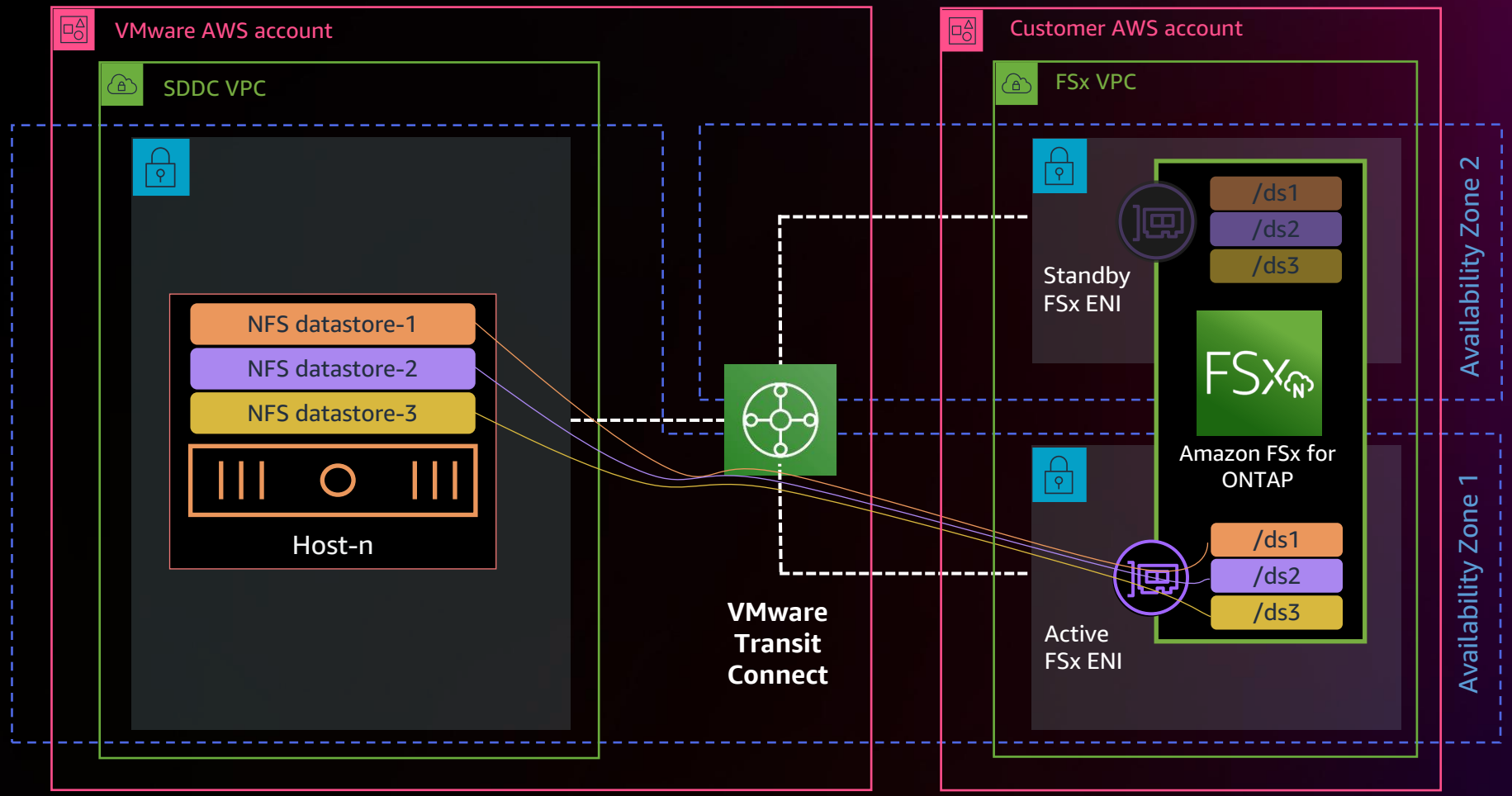


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Integrating FSX with VMware Cloud on AWS

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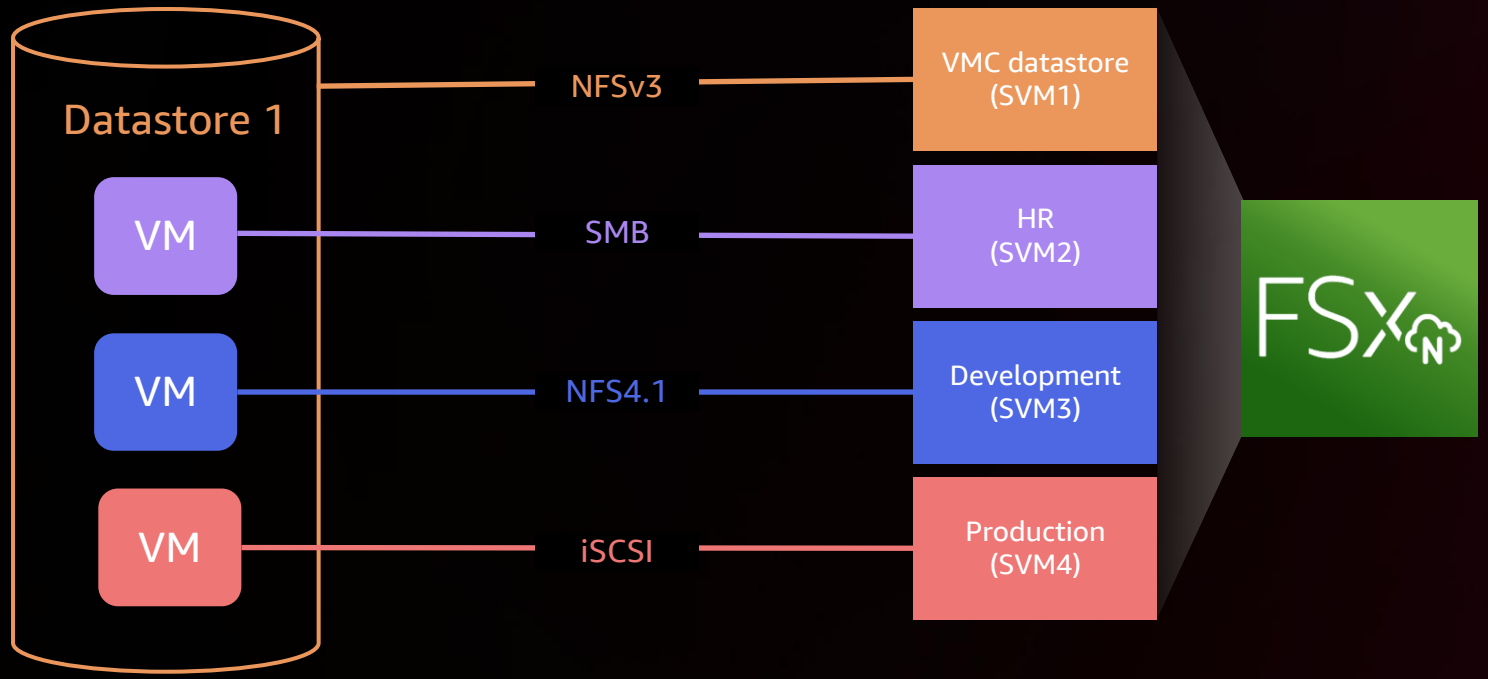
FSx for ONTAP datastore connectivity overview



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Beyond datastore support

FSX FOR NETAPP ONTAP – MULTI-TENANT AND MULTI-PROTOCOL

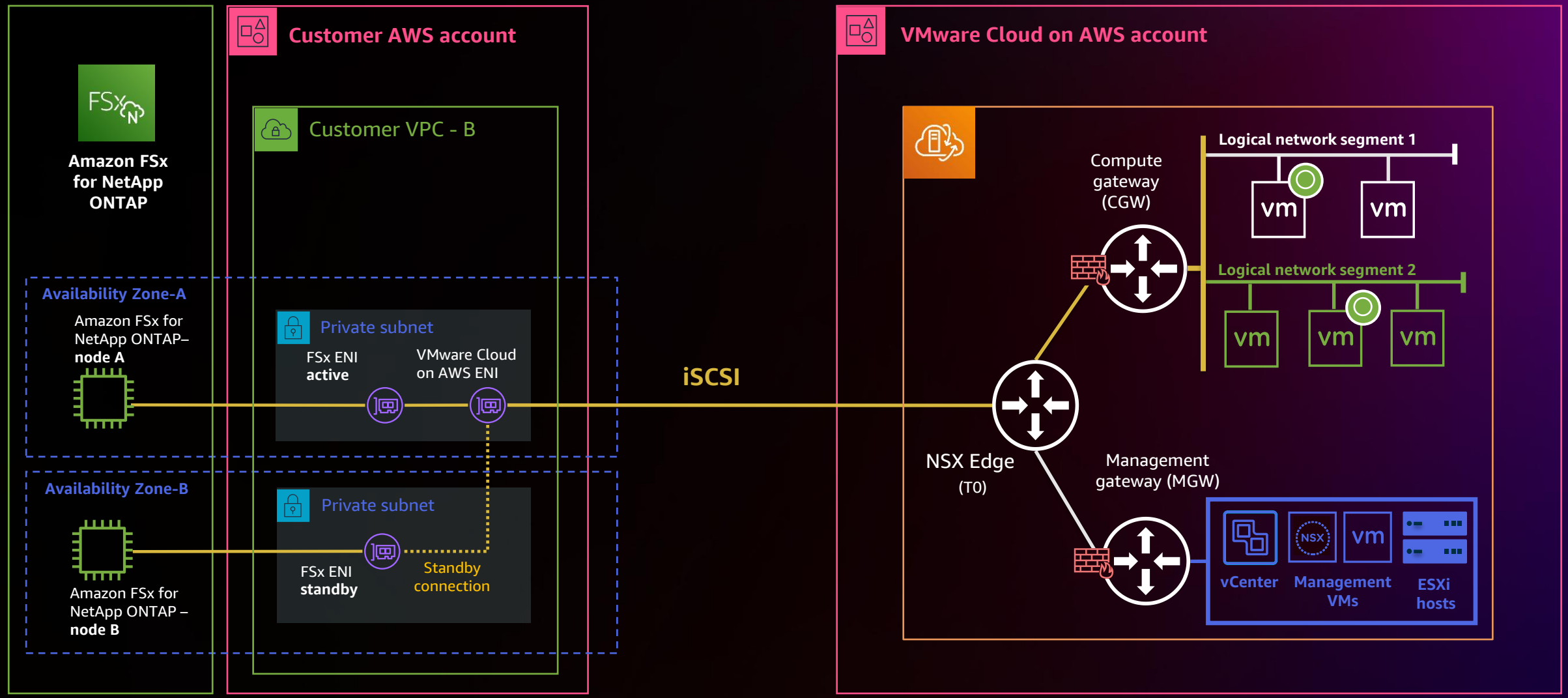


- **Multi-tenant via Storage Virtual Machines (SVM)**
- **Multi-protocol**
  - NFS
  - iSCSI
  - SMB
- **Data management**
  - Snapshots
  - Clones
  - Replication
  - QoS
  - Cloud tiering

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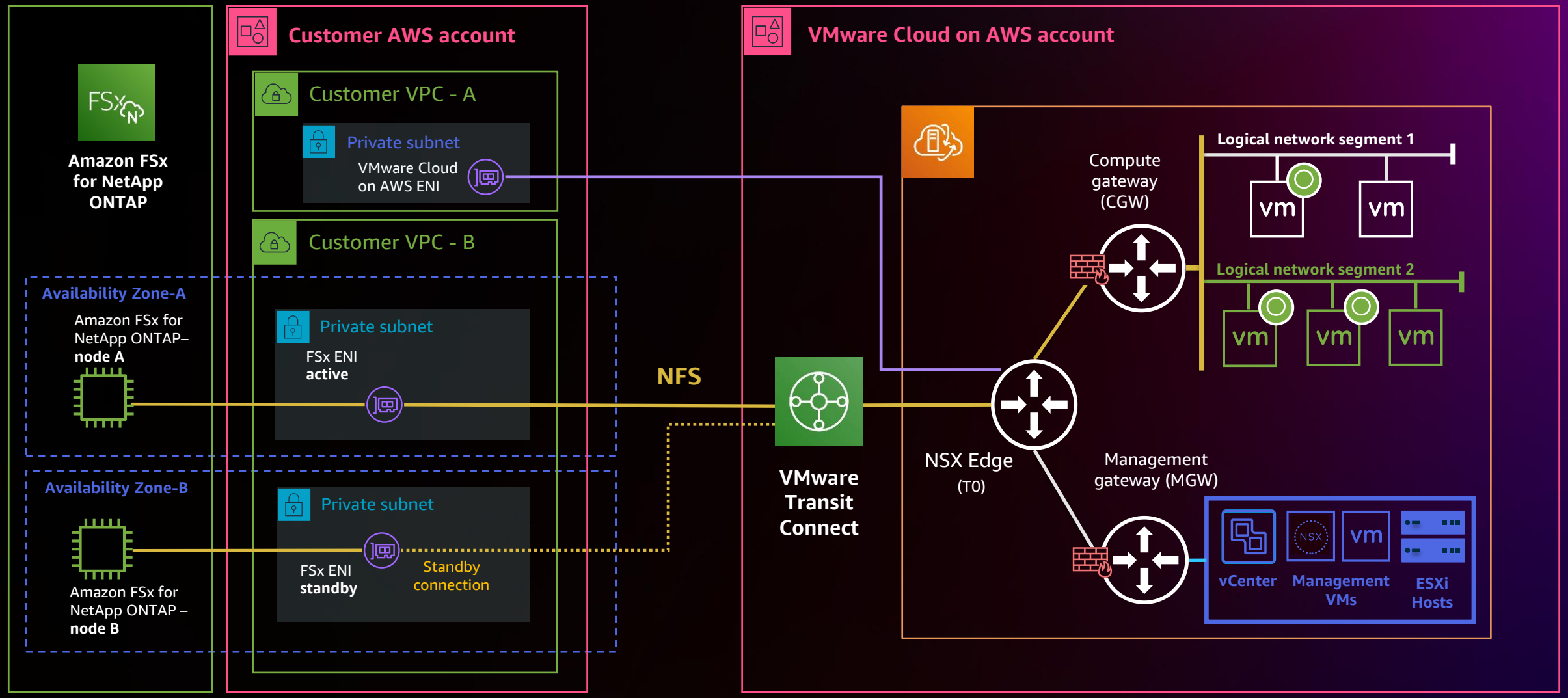
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iSCSI block storage over elastic network interface



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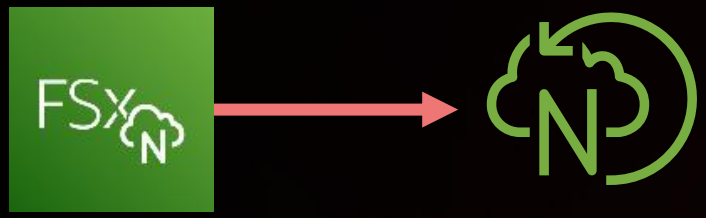
NFS and SMB protocols over VMware Transit Connect



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Backups and disaster recovery

- Amazon FSx backups
  - Built-in, fully managed backups
  - Crash-consistent & incremental



AWS Backup support for Amazon FSx for NetApp ONTAP

- Cross-Region replication
  - Full support for SnapMirror and SnapVault
  - Automatic replication between ONTAP systems
  - Crash-consistent & incremental
  - Customers deploy 2+ FSx file systems



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Pricing



https://cloud.netapp.com/vmc-fsxn/roi

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Additional resources

Product page
https://aws.amazon.com/fsx/netapp-ontap
https://aws.amazon.com/vmware/

Documentation
https://docs.aws.amazon.com/fsx/latest/OntapGuide

Reference Architecture
https://d1.awsstatic.com/architecture-diagrams/ArchitectureDiagrams/fsx-for-netapp-ontap-with-vmware-cloud-ra.pdf

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