

# Optimize Your VMware Workloads on Google Cloud

Webinar

# Introductions



**Oded Berman**  
Product Marketing  
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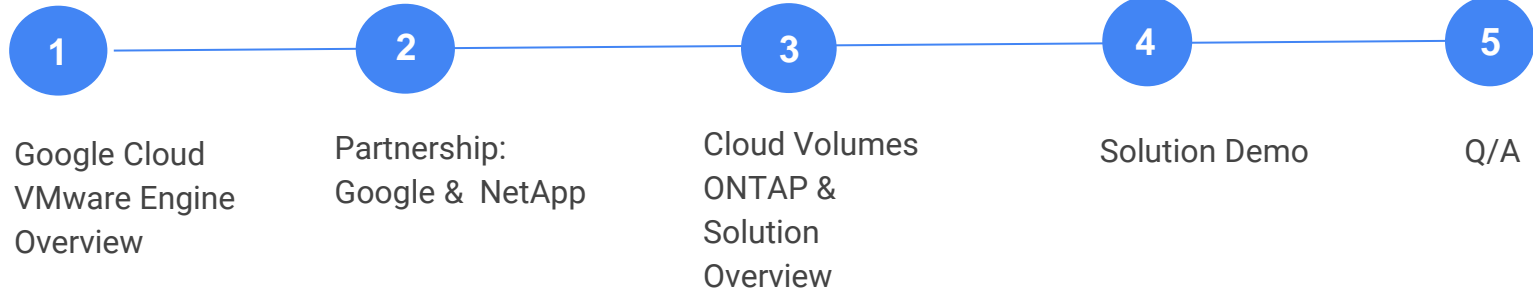


**Yuval Kalderon**  
Cloud Solutions Architect  
Cloud Data Services  
NetApp



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Solution Lead EMEA,  
Google Cloud VMware Engine  
Google Cloud

# Agenda



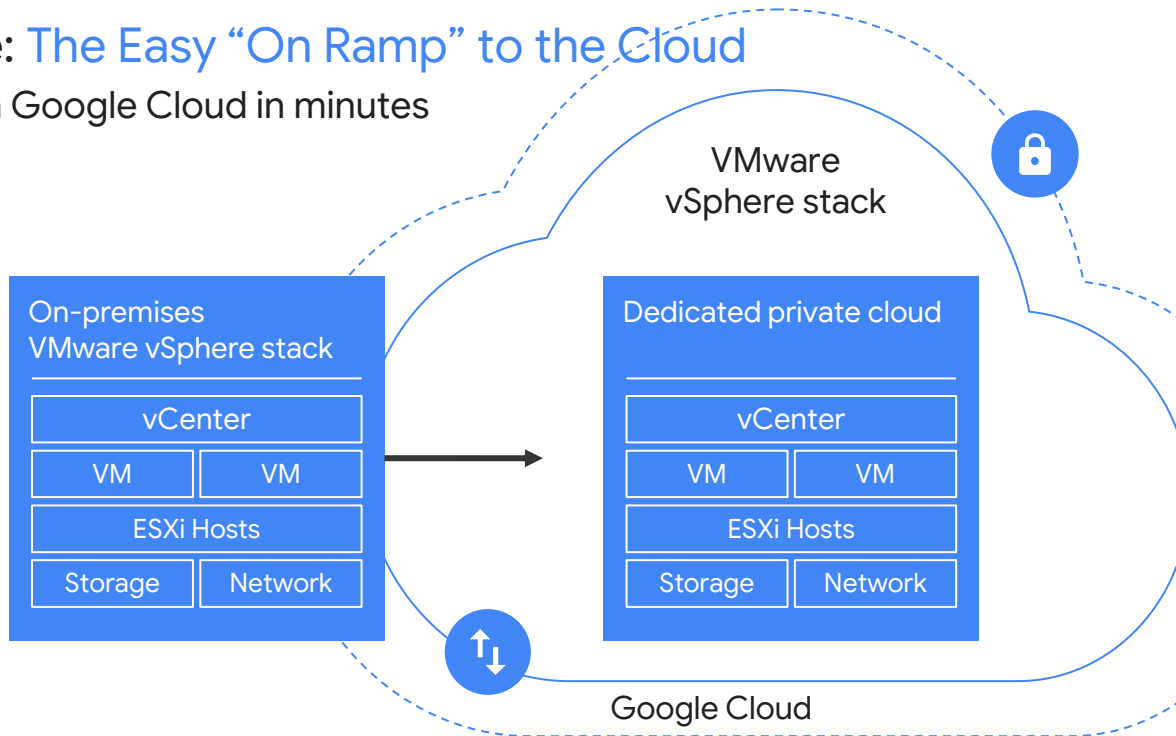
# Google Cloud VMware Engine: The Easy “On Ramp” to the Cloud

Provision your VMware environment in Google Cloud in minutes

Bring your VMware-based environments to Google Cloud **without major modifications**

Management, networking services, operating platform and backend infrastructure run **at scale by Google Cloud**

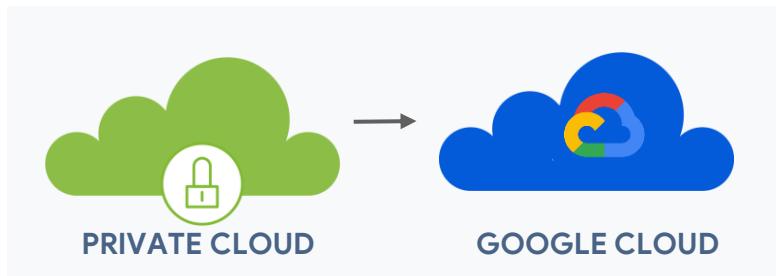
Sold and supported by Google



The solution is verified and certified by VMware

# What is Google Cloud VMware Engine

GCVE BRINGS THE **POWER OF VMWARE** TO GOOGLE CLOUD



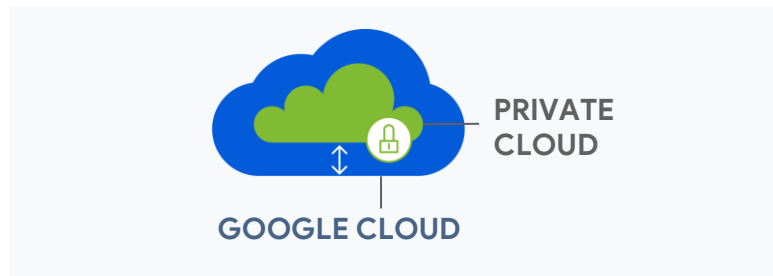
## Operational Continuity

- 100% Compatibility with existing tools, skills, and processes
- Network and security consistency
- Same data protection and Audit Models

## Native VMware on Google Cloud

- Private Environment
- Hyperconverged, all-flash architecture
- Fully isolated, dedicated, bare-metal infrastructure

GCVE BRINGS THE **SCALE OF GOOGLE CLOUD** TO VMWARE



## Cloud-like Consumption Model

- Elasticity: Pay-as-you grow / shrink as needed
- Provision in minutes
- Efficiencies and economies of scale

## Cloud Services & Ecosystem

- Consume Hybrid architectures and solutions to lower TCO
- Take advantage of rich services such as storage, logging, ML and more.
- Unify management across public + private

# Customer and Google Cloud Roles



## Customer Responsibility

Customers create and manage [workload VMs](#).  
No change to application management surface.

## Google Responsibility

Automated [monitoring, patching and upgrades](#)  
API driven management of VMware SDDC  
Automated Remediation of failed components  
Frees customers from infrastructure operation toil.

# Google Cloud VMware Engine: Service Components

Sold on the basis of hyperconverged nodes

Model	ve1-standard-72
CPU	2.6 GHz, 3.9 GHz turbo (x2) Cascade Lake 36 Cores, 72 Hyper-Threads
Memory	768 GB
Storage	~20TB All-Flash NVMe Distributed vSAN
Network	100 Gbps, non-oversubscribed Fully Redundant Network Design

Built-in **VPC Cloud Networking**

**Direct, High-Speed Access** to all Google Cloud Services such as **BigQuery, Anthos, Cloud Operations, Cloud Storage** and others

End-to-End **Google Cloud Support**

# Key Use Cases

Aligning intended use to long term cloud strategy



## Datacenter Extension and Hybrid Cloud

Retire or extend your data center to the cloud. Benefit from **on-demand burst capacity** as your business requires it.



## Disaster Recovery

Build or shift disaster recovery capabilities to the cloud, lower cost, **remove operational burdens**.



## Compute Intensive applications

Scale on-demand and **achieve consistent performance** for compute intensive applications such as VDI without having to refactor applications



## Application Modernization

Build and securely connect both legacy and cloud-native workloads across environments. Access cloud native services and **unify operations**.



# The Benefits from Google Cloud VMware Engine Can Enable Cloud Native Capabilities Faster For Your Enterprise



## Ease migration

Move VMware workloads to the cloud as-is  
No refactoring  
Maintain continuity



## Lower costs

Deliver efficiency  
Leverage Google Cloud economies of scale



## Run securely

Run with confidence  
Provide best in class security



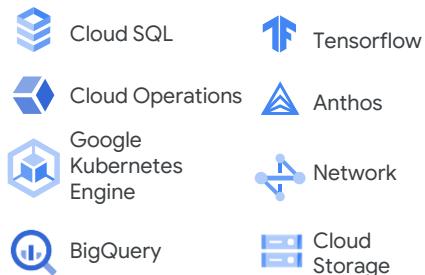
## Create operational agility

Operational continuity  
Unified management



## Innovate

Build on Google Cloud services



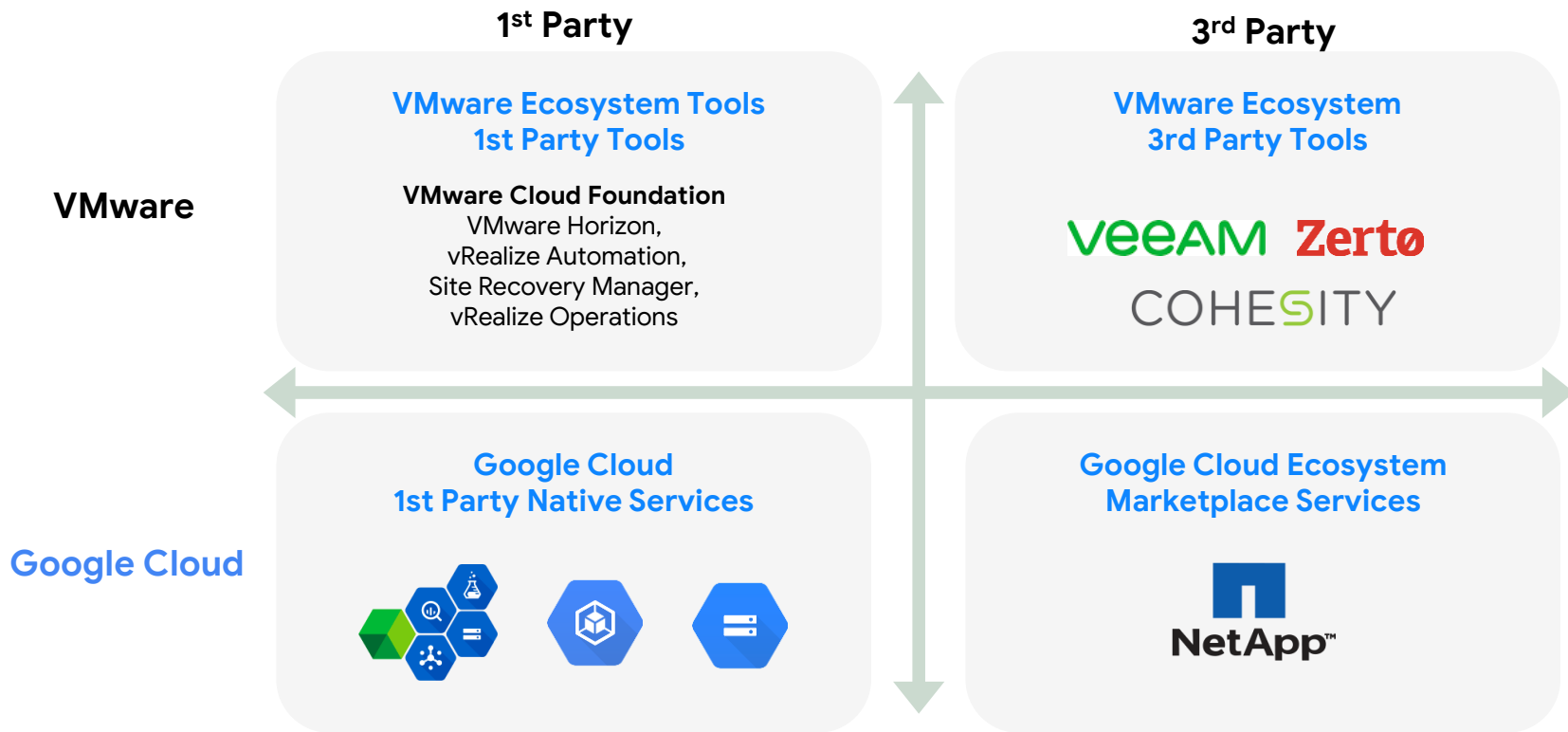
Migrate

Run

Innovate



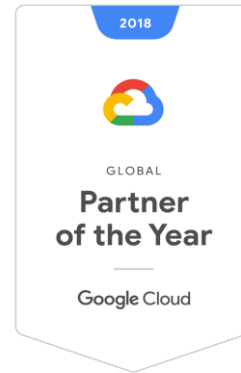
# Google Cloud VMware Engine: Service Ecosystem



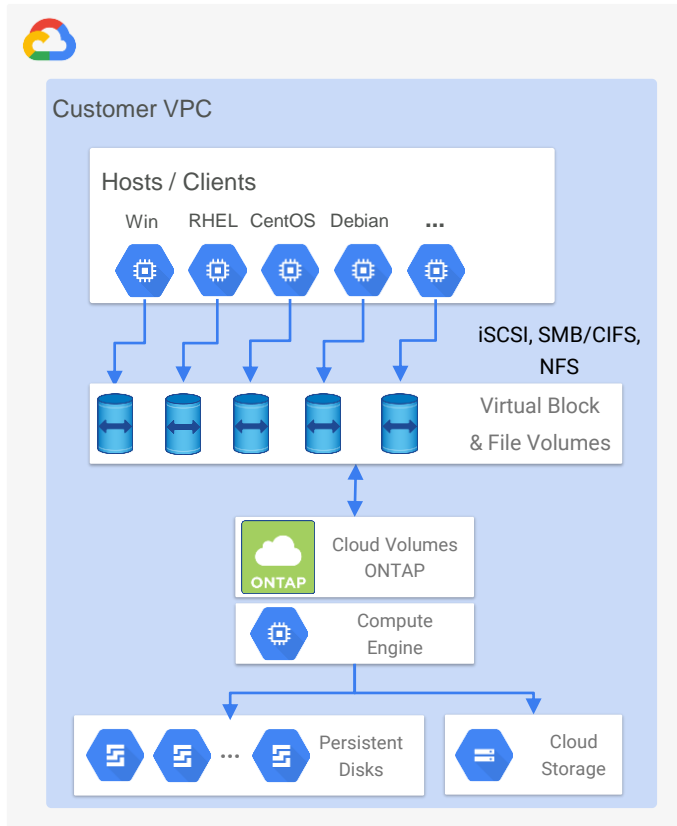


Together, NetApp and Google Cloud are helping customers unlock the power of their data with a strategic alliance providing a tightly integrated, self-service, multiprotocol, file service offering in GCP.

## Enabling Customer Innovation



# Cloud Volumes ONTAP for Google Cloud: Overview & Architecture



A fully-fledged version of [ONTAP](#)

Same [ONTAP](#) tools and processes

Consumes native Google Cloud services

Up to [368TB](#)

Flexible consumption: PayGo & BYOL

Supported in [all](#) regions

Deployed and managed through [NetApp Cloud Manager](#)

# Cloud Volumes ONTAP for Google Cloud: Use Cases

- 1 VMware on Google Cloud
- 2 Bursting to Google for HPC and Analytics
- 3 Storage Consolidation for File-based Workloads



# Cloud Volumes ONTAP for Google Cloud: Use Cases

## VMware on Google Cloud

Disaster Recovery to the Cloud

Move existing DR to the cloud or build new DR capability in the cloud

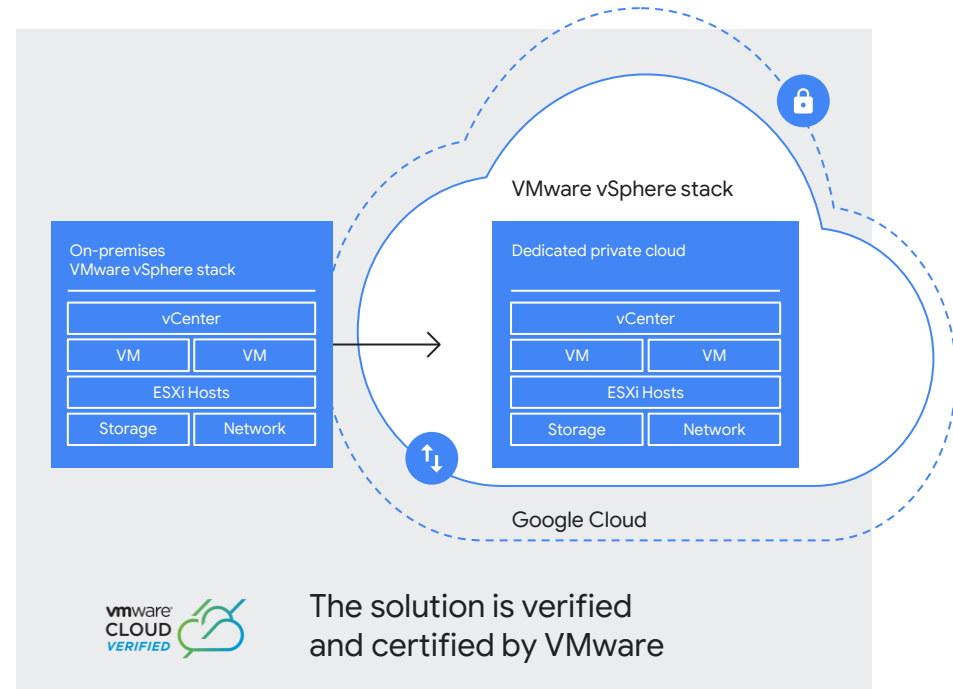
Burst into the Cloud

Expand into the cloud and leverage on-demand capabilities of the cloud

Analytics or Test/Dev environments

Migration to the Cloud

Move production workloads to the public cloud



# Potential Roadblocks for Cloud DR

## Challenges that Impede Progress

### Complexity of Moving Data to the Cloud

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Differences between on-prem and cloud environment that demands application rewriting

### Strict Data Management Requirements

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Snapshots, backups, security, privacy compliance, etc.

### Data Storage Costs

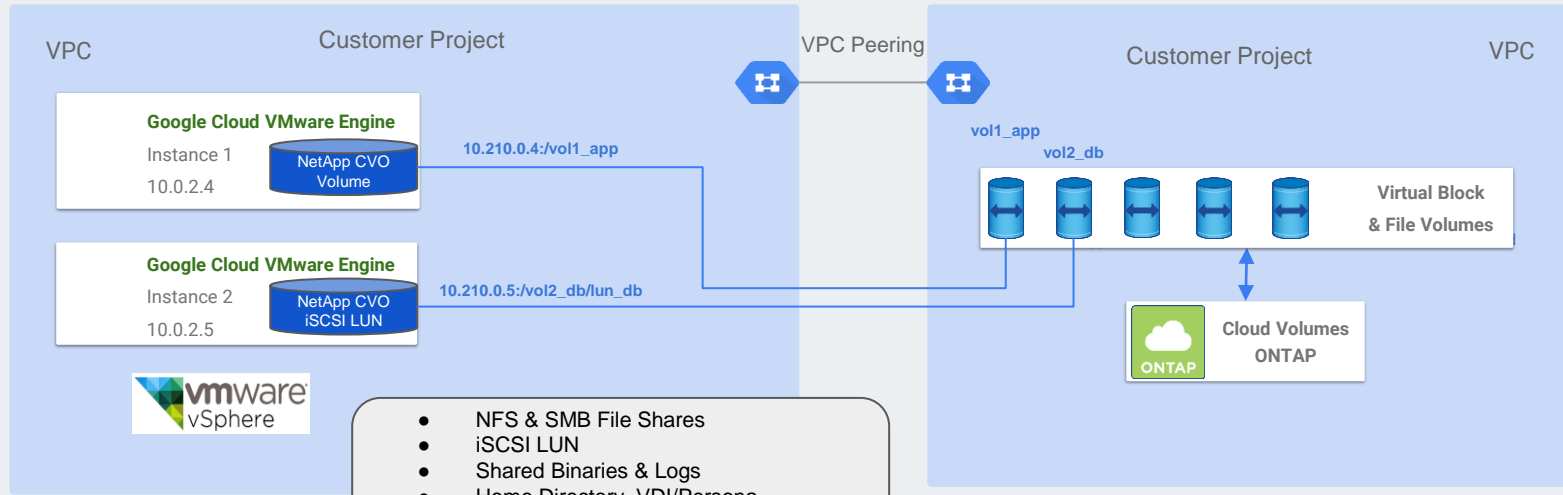
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Sub-optimal cost/performance ratio

# Architecture: Google Cloud VMware Engine & Cloud Volumes ONTAP - In-Guest



Region

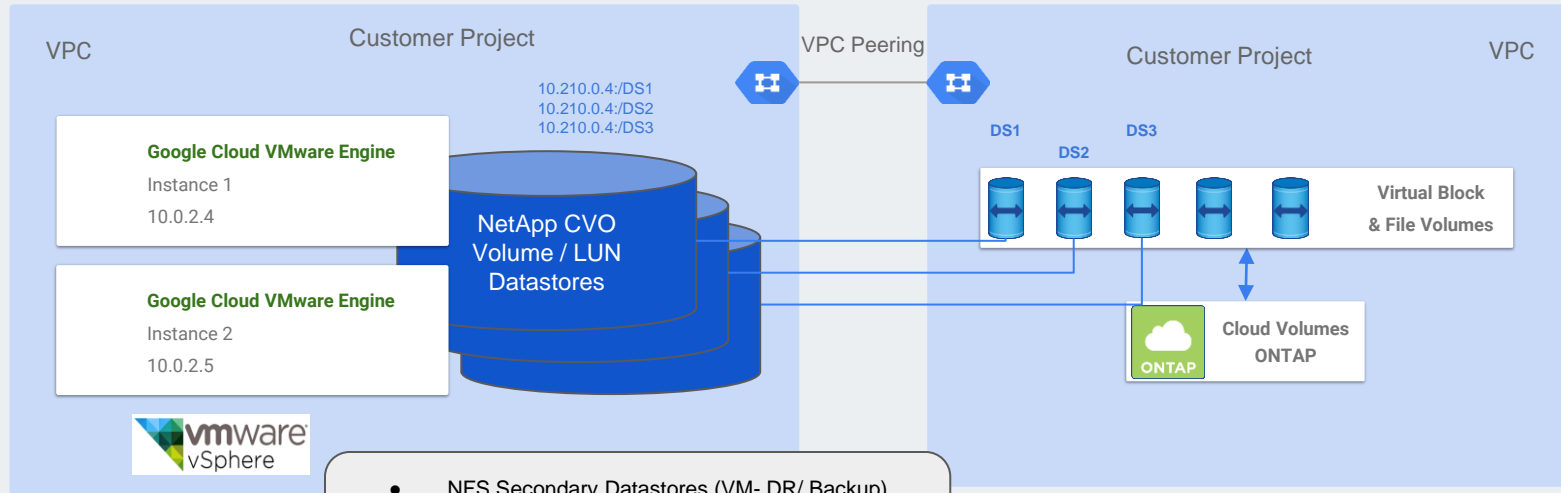




# Architecture: Google Cloud VMware Engine & Cloud Volumes ONTAP - Datastores



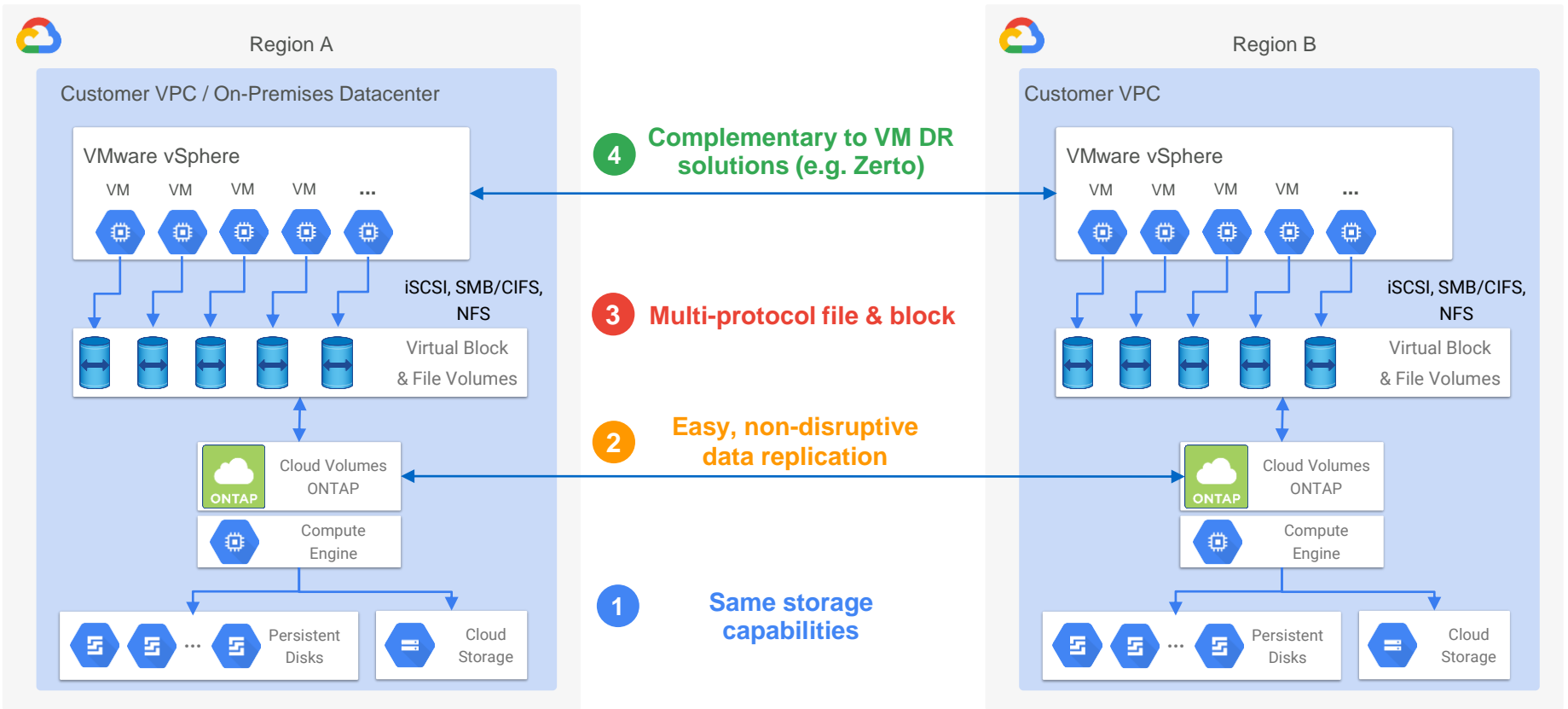
Region



- NFS Secondary Datastores (VM- DR/ Backup)
- iSCSI VMFS Secondary Datastores
- ESX Shared repositories



# VMware DR on Google Cloud with Cloud Volumes ONTAP Architecture Diagram



# Cloud Volumes ONTAP : Features & Benefits



## Standard File & Block Interfaces

Everything your app expects: POSIX compliant multiprotocol NFS/SMB as well as iSCSI



## Easy to Use

Deployed in minutes with Cloud Manager  
Every operation can be done with APIs



## Available Everywhere

Available on Google Cloud Marketplace  
Supported in all Google Cloud regions



## Containers & Microservices

Integrated with Kubernetes & Anthos



## Built-in Data Protection & Mobility

Data is secured locally with Snapshots and remotely with an easy replication for Backup/DR



## Accelerated CI/CD

Huge datasets can be instantly cloned or remotely cached for dev/test or analytics



## Enhanced Performance

Increased IOPS and reduced latency with multiple concurrent writes and intelligent caching



## Reduced Storage Costs

70% lower costs with storage efficiencies and cold data tiering to Google Cloud Storage

# Demo



# Next Steps

**Learn more :**

<https://cloud.google.com/vmware-engine>

<https://cloud.netapp.com/ontap-cloud>

**Need help getting started ?**

<https://cloud.google.com/vmware-engine/docs/quickstart-prerequisites>

<https://console.cloud.google.com/marketplace/details/netapp-cloudmanager/cloud-manager>

**Read the announcement blog :**

<https://cloud.google.com/blog/topics/hybrid-cloud/announcing-google-cloud-vmware-engine>



# Q&A

# Thank You

