

Data Services for Cloud Native Workloads

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Agenda

- Cloud native storage fundamentals
- Recovery point and recovery time objectives (RPO/RTO)
- Data services
- Demo
- About Diamanti
- Q&A

Cloud Native Storage Fundamentals



Scaling



Resiliency



Isolation



Tiering



Mobility

Cloud Native Storage Fundamentals



Scaling

- Capacity
- Performance - bandwidth & IOPs
- Provisioned IOPS - ability to scale up & down



Resiliency

- Microservices can fail & restart
- Requires per volume services
- Defined by storage class



Isolation

- Noisy neighbor
- Per volume encryption
- Storage class

Cloud Native Storage Fundamentals



Tiering

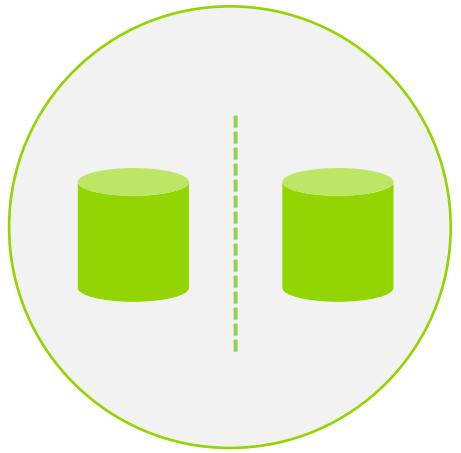


Mobility

- Media Types
 - Different life cycles
- Virtualize Tiers
 - Standardized infrastructure
 - Drive-writes per day for each volume
 - Storage classes have been designed to do the same

- Application mobility requires efficient data mobility
- Migration/Replication
 - Across datacenters
 - Across clouds

Data Services



Mirroring



Snapshots

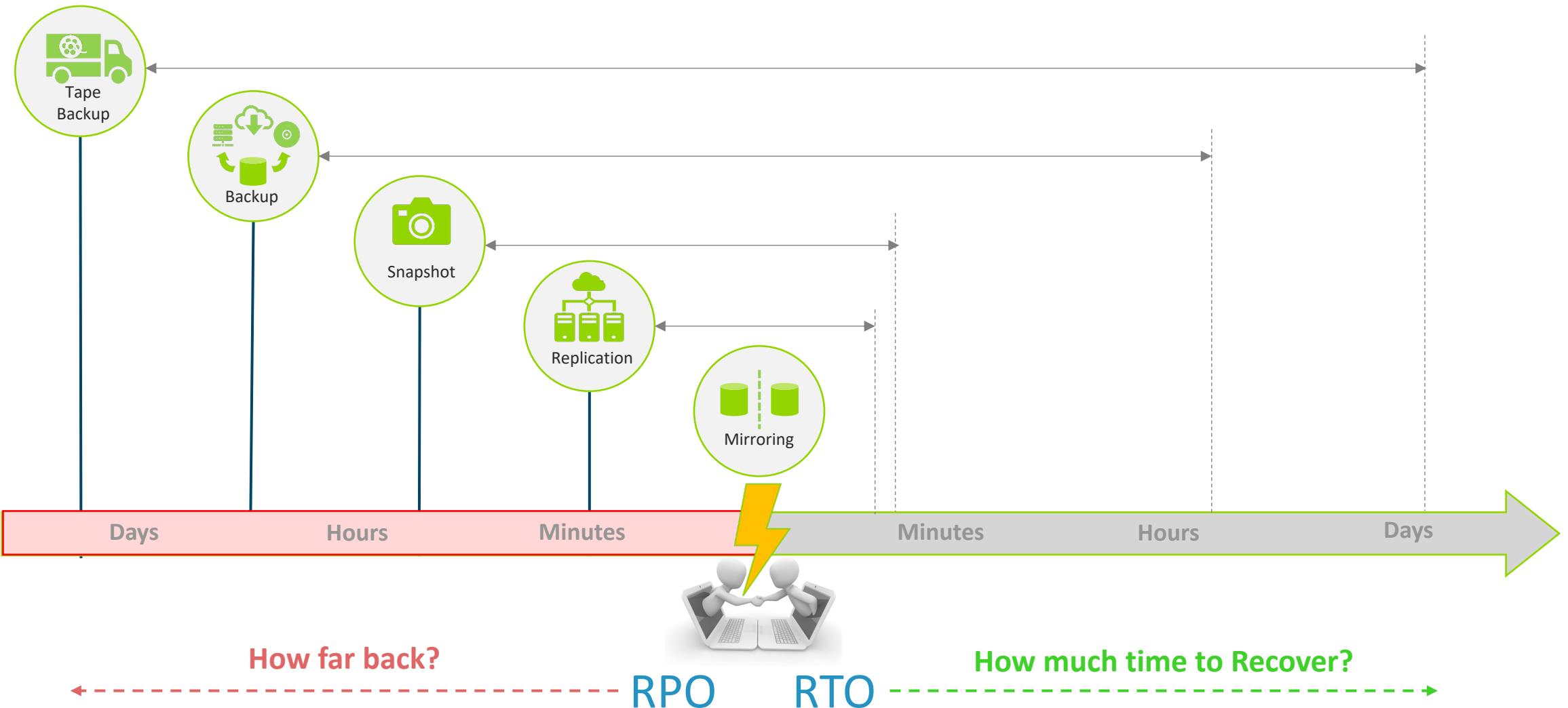


Backup



Replication

Data Recovery Point / Recovery Time



Snapshot Architecture Matters

- Are snapshots space-optimized?
- Does it require data-copy?
- How fast can the data be restored (instant restore)?
- Can snapshot access be a different tier?
- Does addition of snapshots affect parent volume performance?



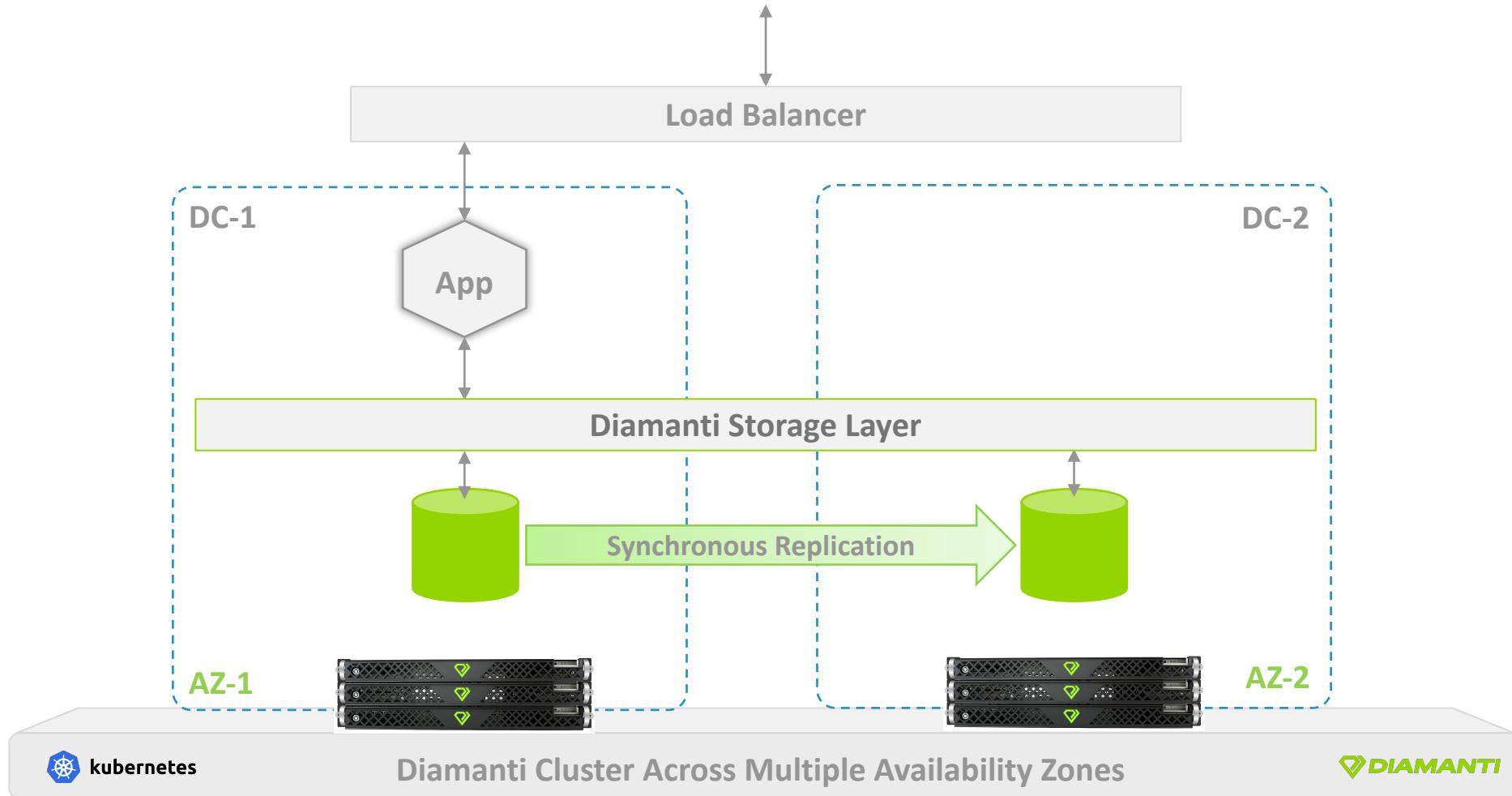
Demo Time



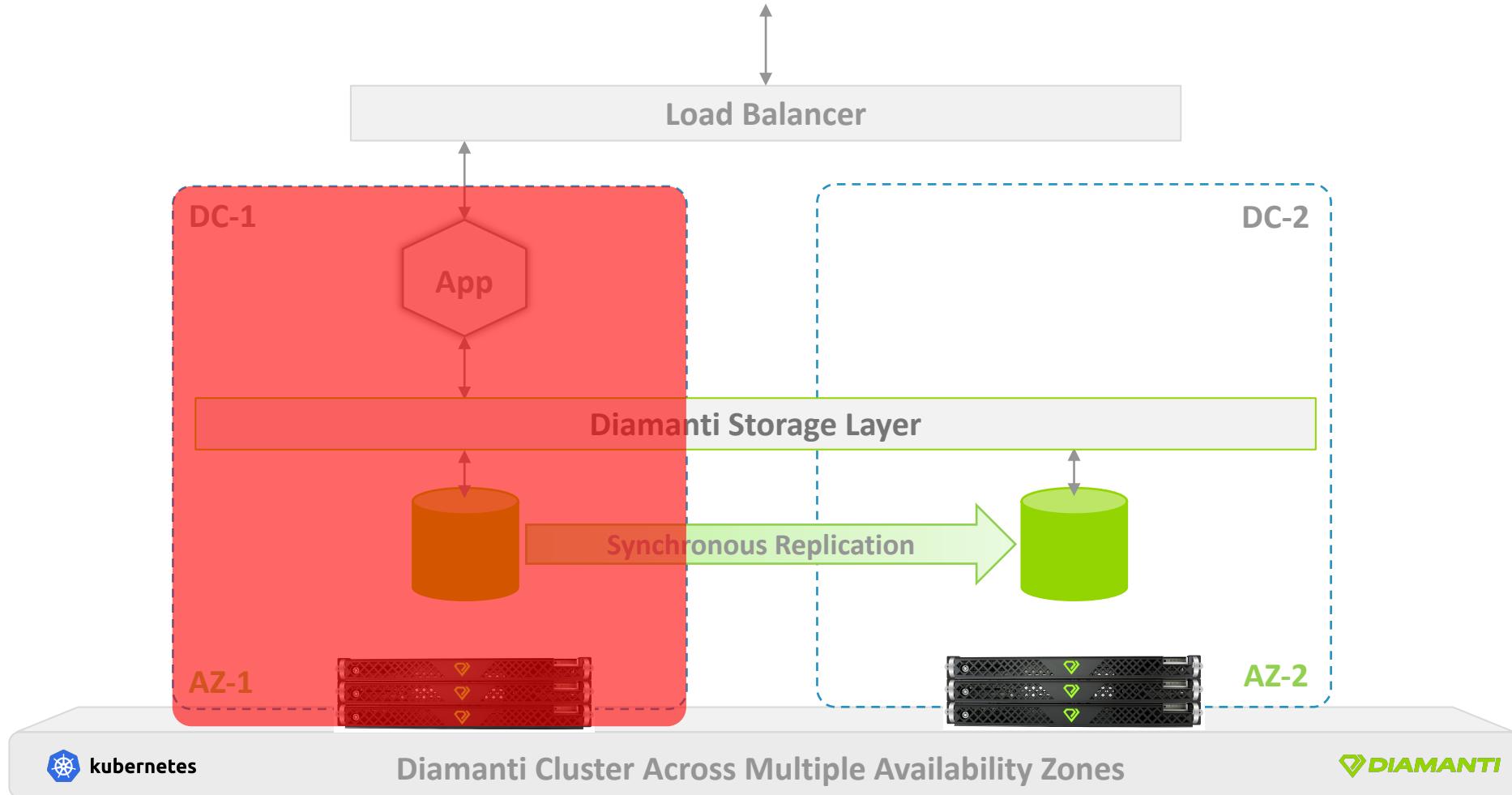
Demo

Mirroring and Stateful
Application Failover

Demo: Mirroring and Stateful Application Failover



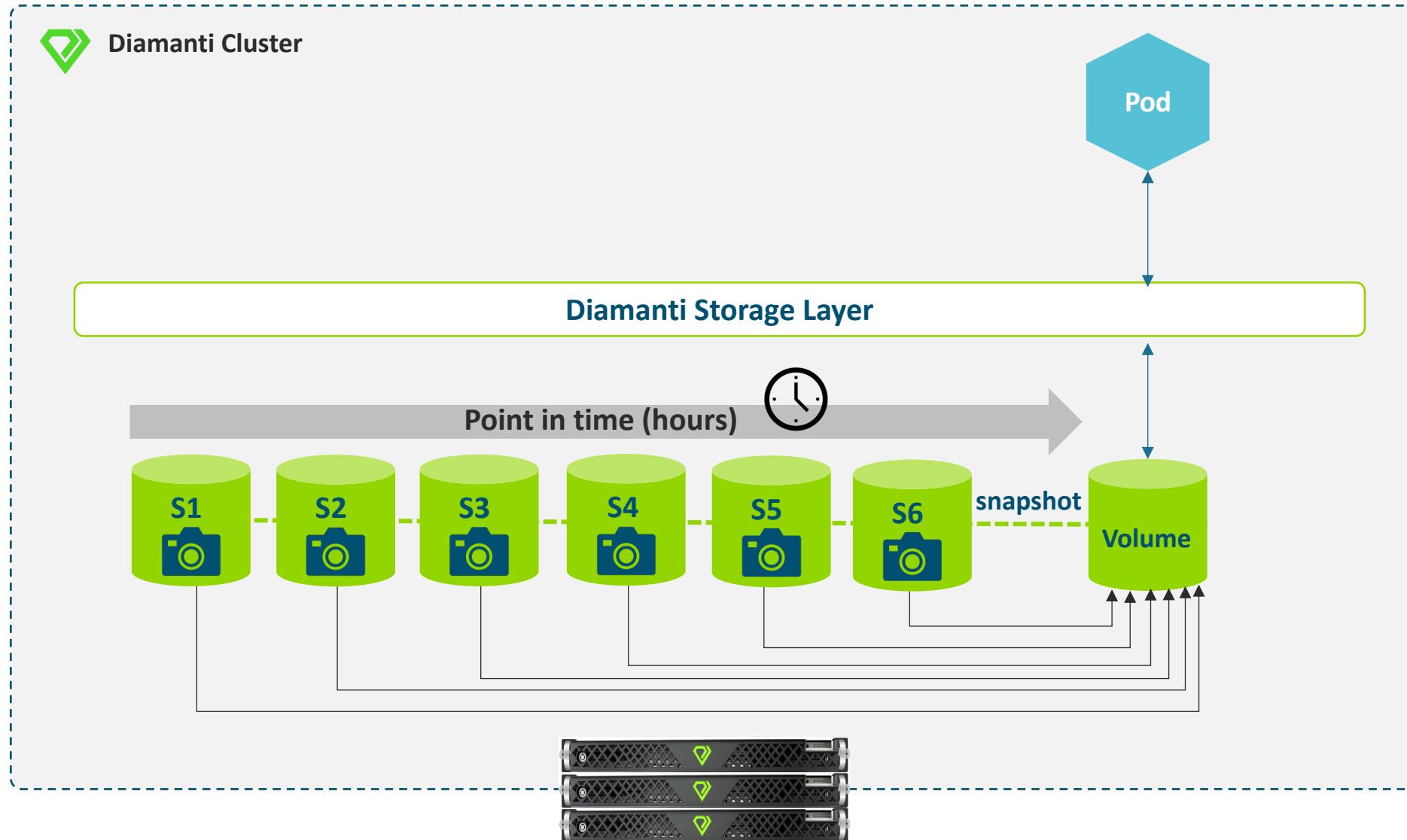
Demo: Mirroring and Stateful Application Failover



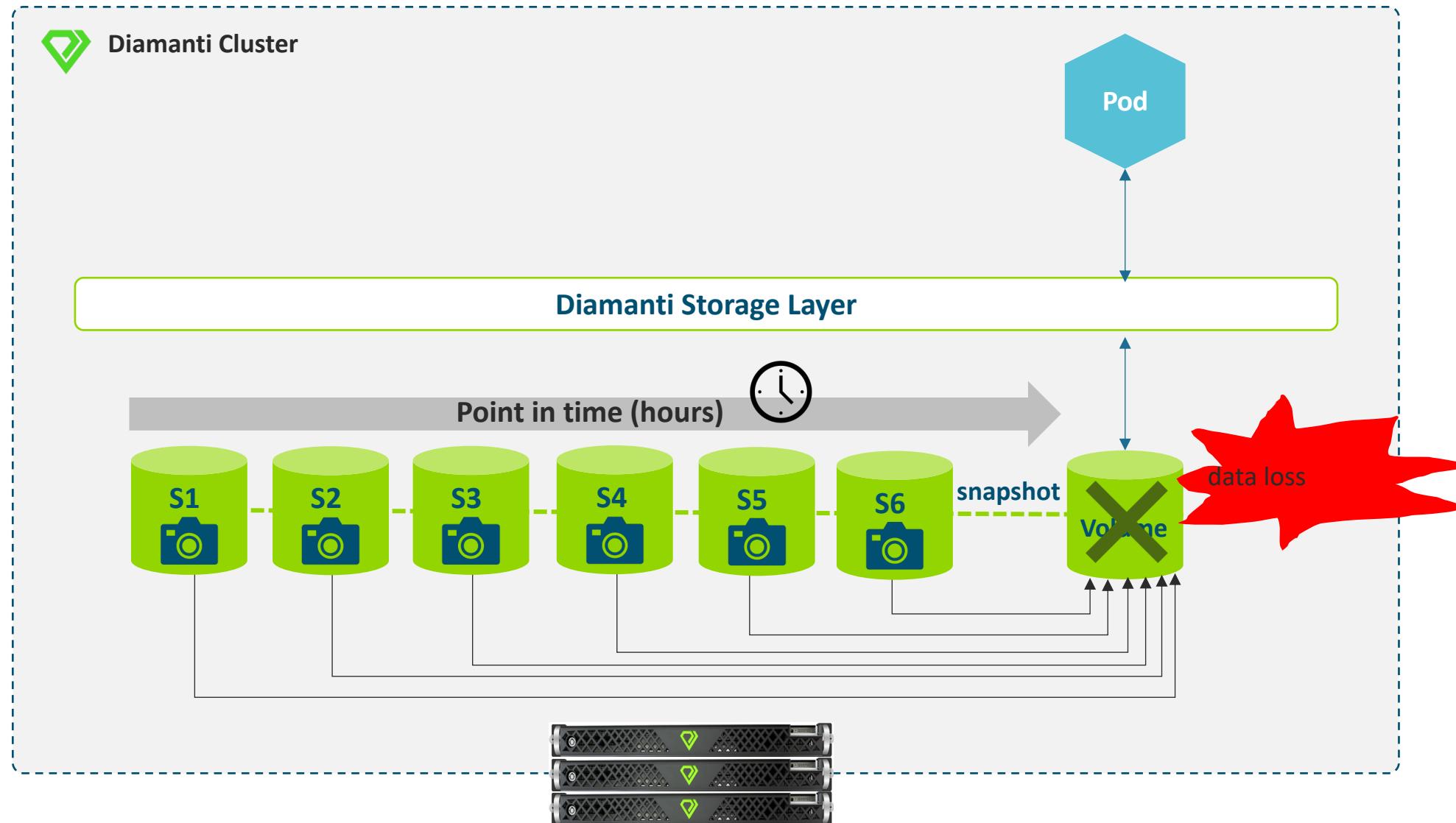
Demo

Instant Volume Restore
with Snapshots

Demo: Instant Volume Restore with Snapshots



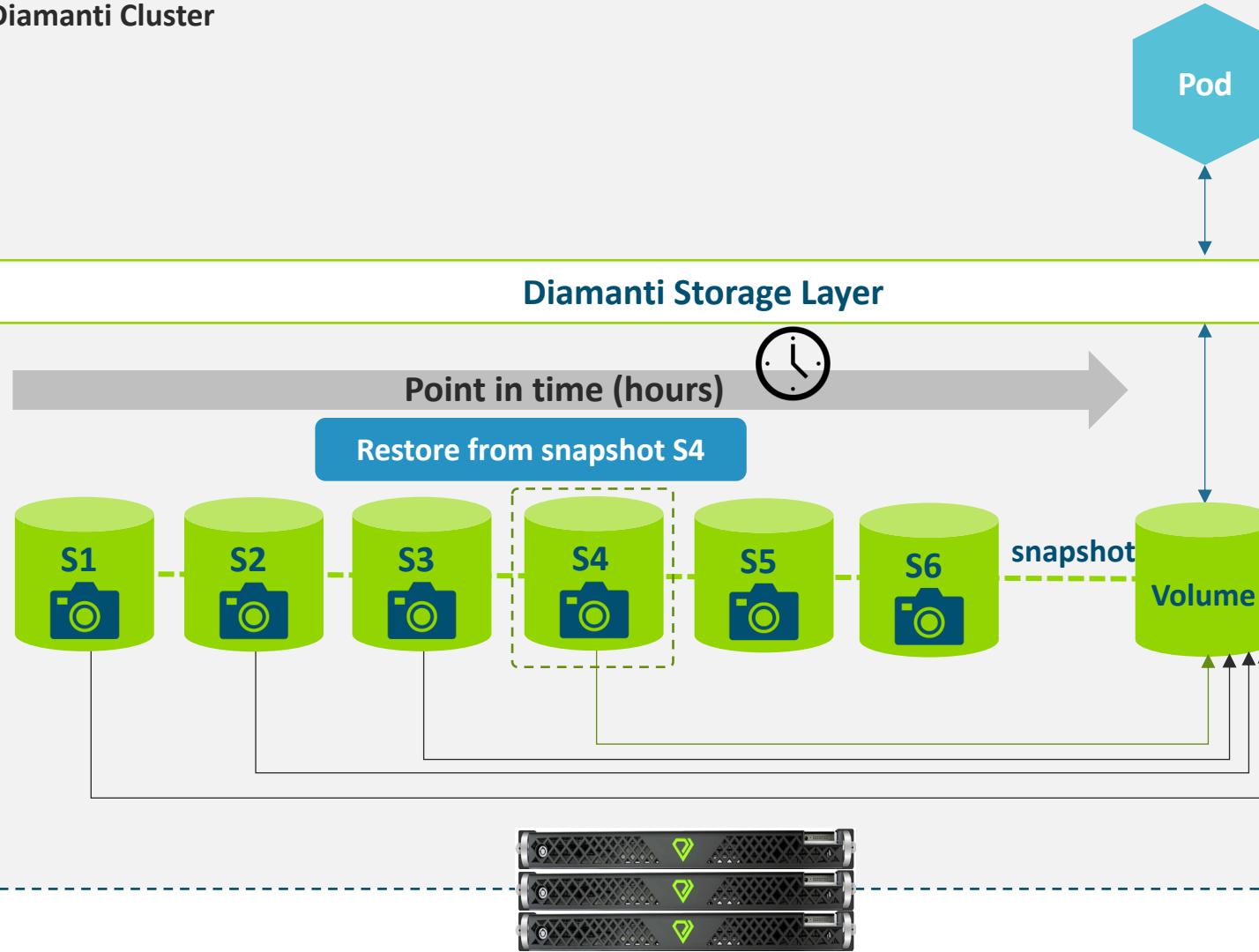
Demo: Instant Volume Restore with Snapshots



Demo: Instant Volume Restore with Snapshots



Diamanti Cluster

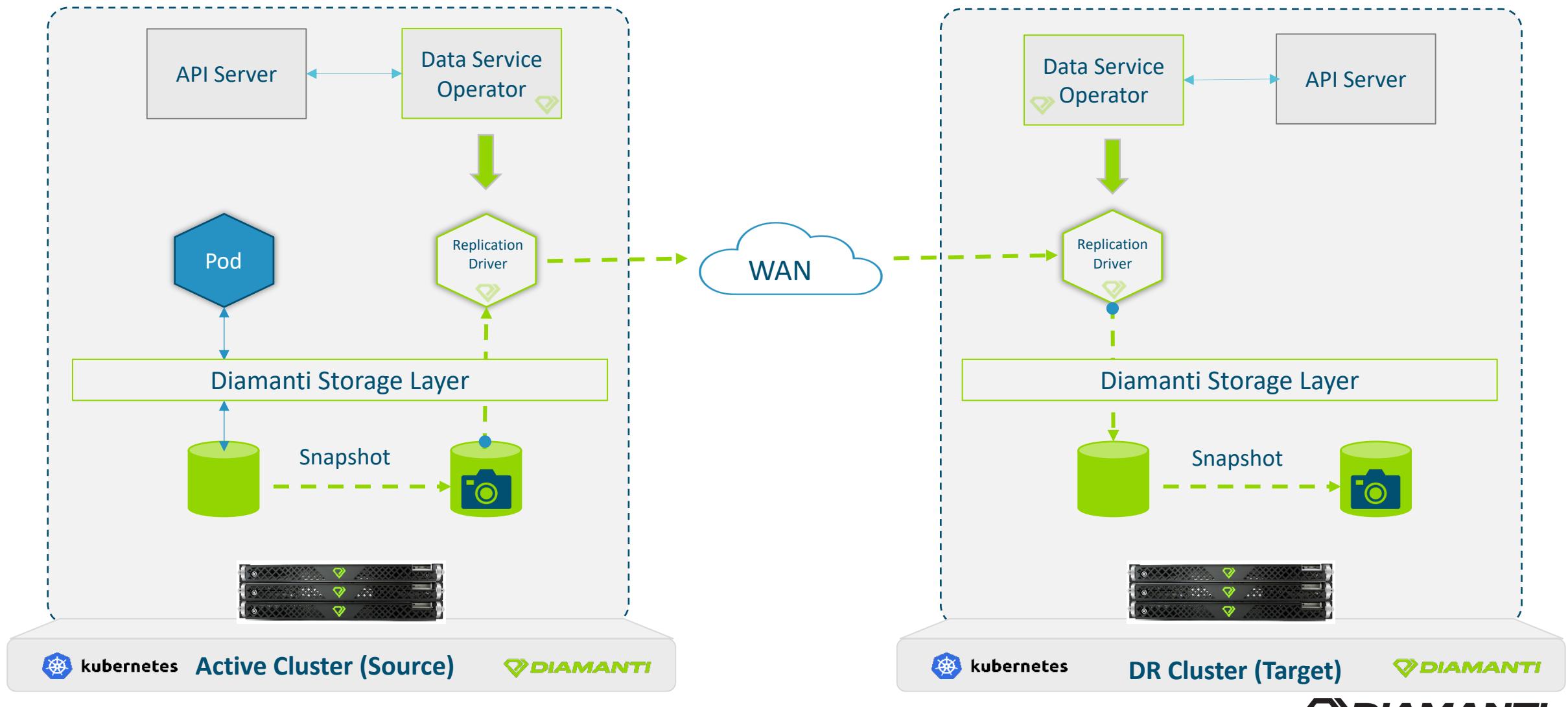


- Restore volume to snapshot S4

Demo

Disaster Recovery with
Replication Across
Clusters

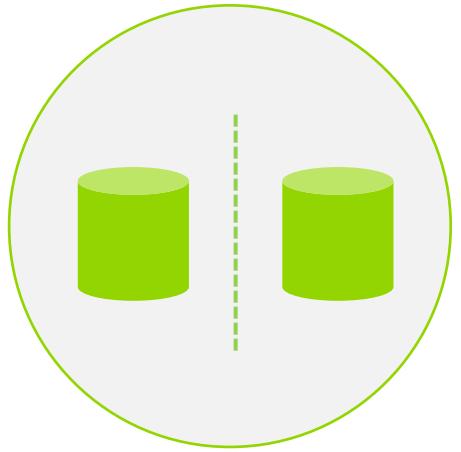
Demo: Disaster Recovery with Replication Across Clusters



CSI – Conduit to Data Services in Kubernetes

- Container Storage Interface (CSI) evolved from FlexVolume
 - Enabled stateful applications to run on Kubernetes
- Scheduler extensions
 - Schedule cloud native workloads using specific well-defined attributes to match the best infrastructure and resource choices

Data Services



Mirroring



Snapshots



Backup



Replication

Data Services Infrastructure for Cloud Native Workloads

Key Requirements

- Scalability
 - Capacity
 - Performance
- Resiliency
 - Per volume basis
- Isolation
 - Noisy neighbor
 - Security
- Tiering
 - One infra many apps
 - Policy based QoS
- Mobility
 - App and data
 - Migration
 - Replication
- RPO/RTO targets
- Form factor
 - Dedicated
 - Hyperconverged
 - Cloud
- Cost per unit of storage
- Resource efficiencies
 - Leverage advancements in silicon

What Next



Register for Upcoming Webinars

Register at <https://diamanti.com/events>

- **Supercharge Stateful Applications on Kubernetes**

Thur, May 21

1pm Eastern / 10am Pacific



Resources

<https://diamanti.com/resources/>

- **White Paper:** Build vs. Buy - Choosing the Right Kubernetes Infrastructure
- **Case Study:** Intesa Sanpaolo Fast-Tracks its Digital Transformation with the Diamanti



Request a Demo

Complete the form at
<https://diamanti.com/demo/>

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Q&A

Thank You