MBCOM TECHNOLOGIES | vmware by Broadcom

Adria Forum 2025

vSAN Modern Storage Solution for Private Cloud

Bruno Šunjić

Senior Solutions Engineer, MBCOM Technologies, Broadcom Representative

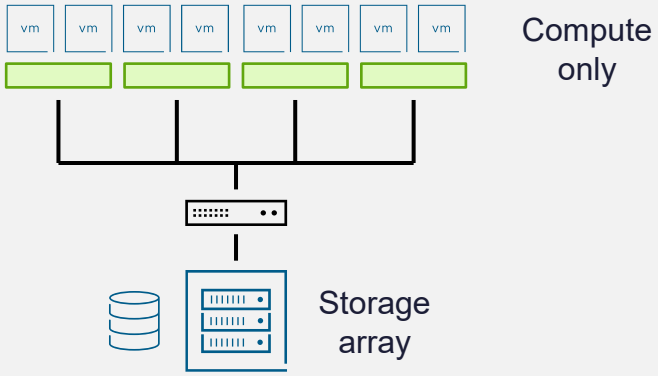
14th October 2025.

Evolving your Platform for the Demands of Today and Tomorrow

Remove hardware dependencies, decrease TCO, increase agility

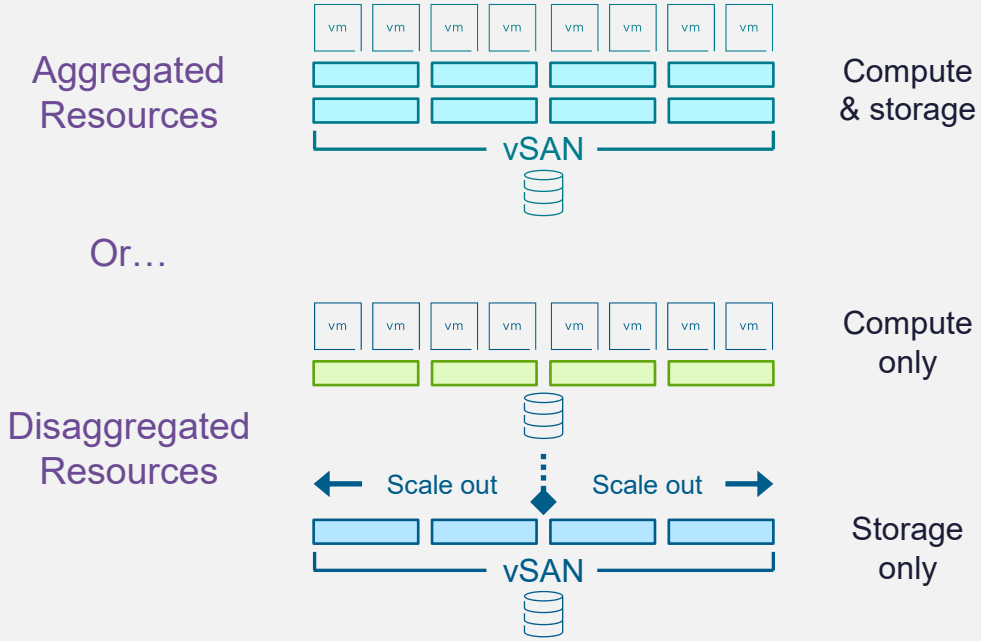
Legacy Three-Tier

- Proprietary storage hardware
- Limited scalability
- Siloed management
- Inflexible



Hyperconverged

- Commodity server hardware
- Distributed scale-out storage
- Common management
- Highly flexible

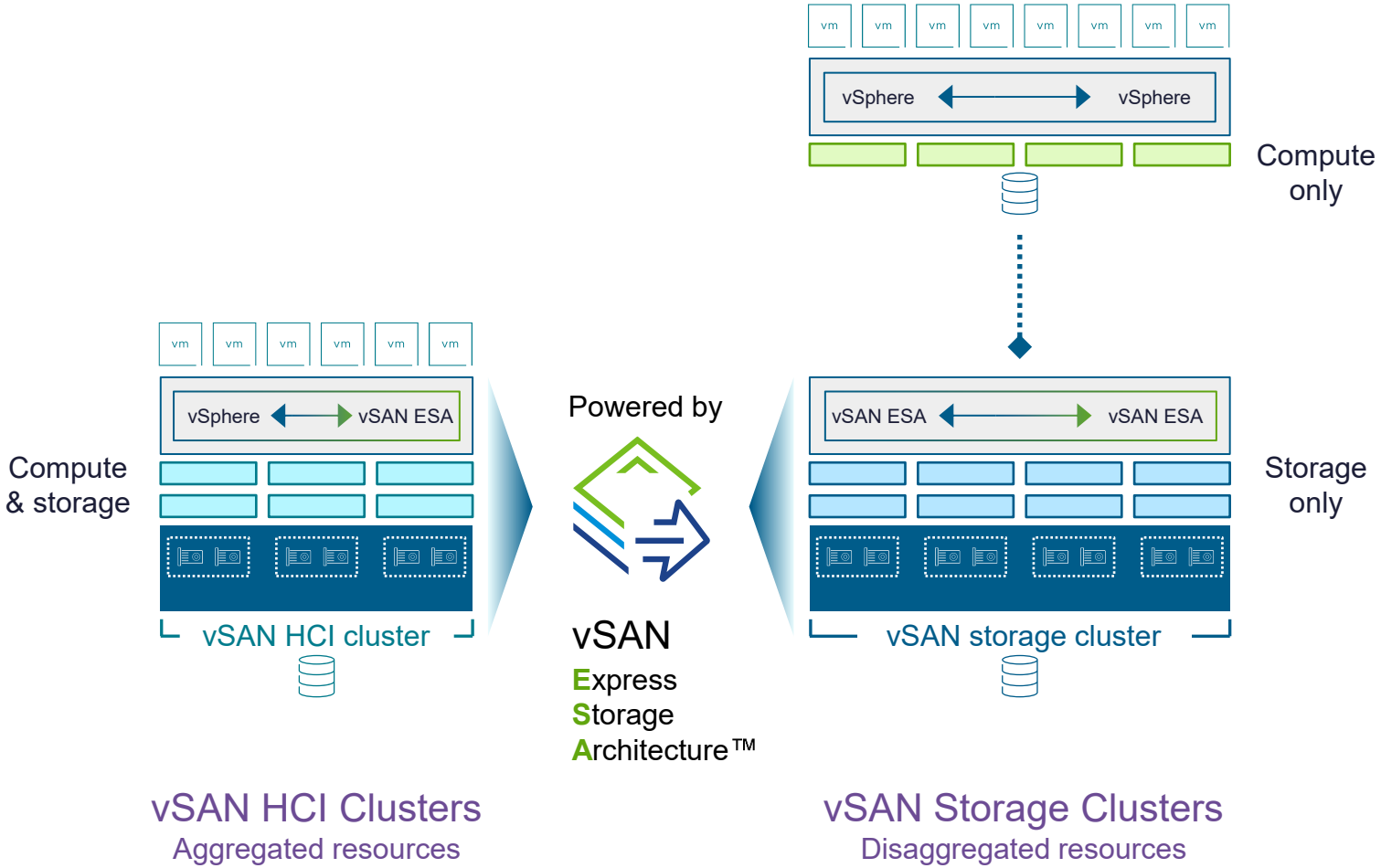


The Solution

VMware vSAN Express Storage Architecture

Next Generation Architecture built into vSAN

vSAN Express Storage Architecture™ (ESA) in vSAN



Next generation storage architecture for the workloads of today and tomorrow

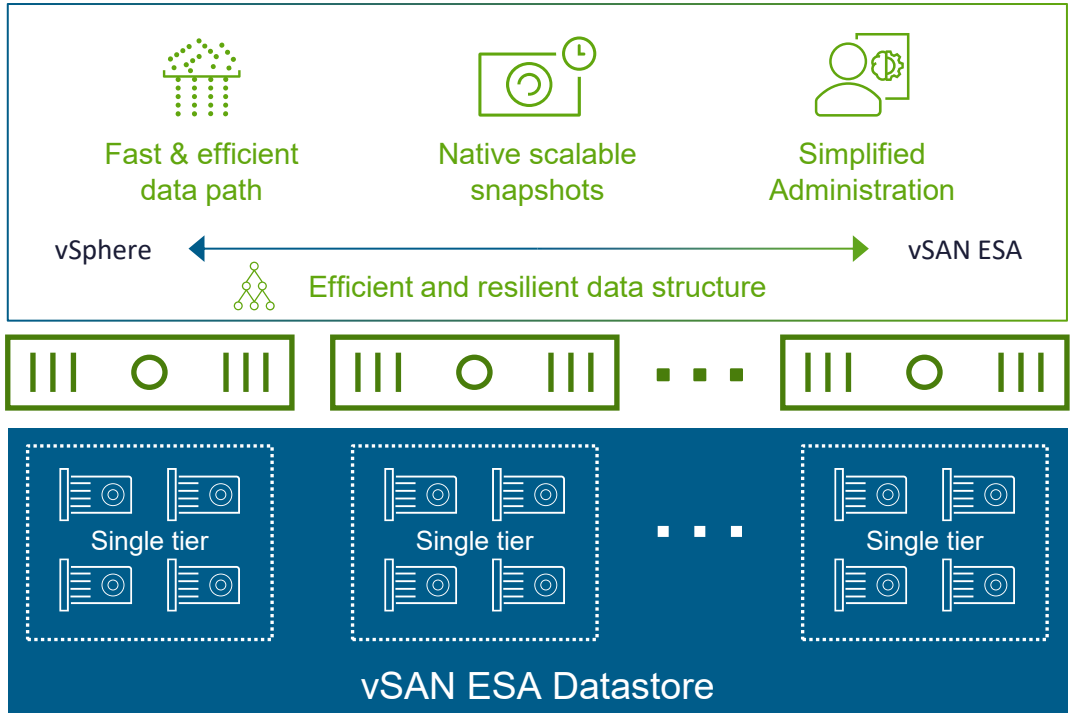
Optional, **alternative architecture** to the vSAN original storage architecture

Available when running on qualified hardware in ESA **approved vSAN ReadyNodes**

Powers aggregated **vSAN HCI clusters** and disaggregated vSAN storage clusters

A New Way to Process and Store Data Efficiently

vSAN Express Storage Architecture



Performance

More data on less hardware

Fewer hosts to process data

Efficiency

More capacity on less hardware

Fewer hosts to process data

New Capabilities

vSAN Data Protection

vSAN storage clusters, etc.

With VMware Cloud Foundation, vSAN is storage that you already own!

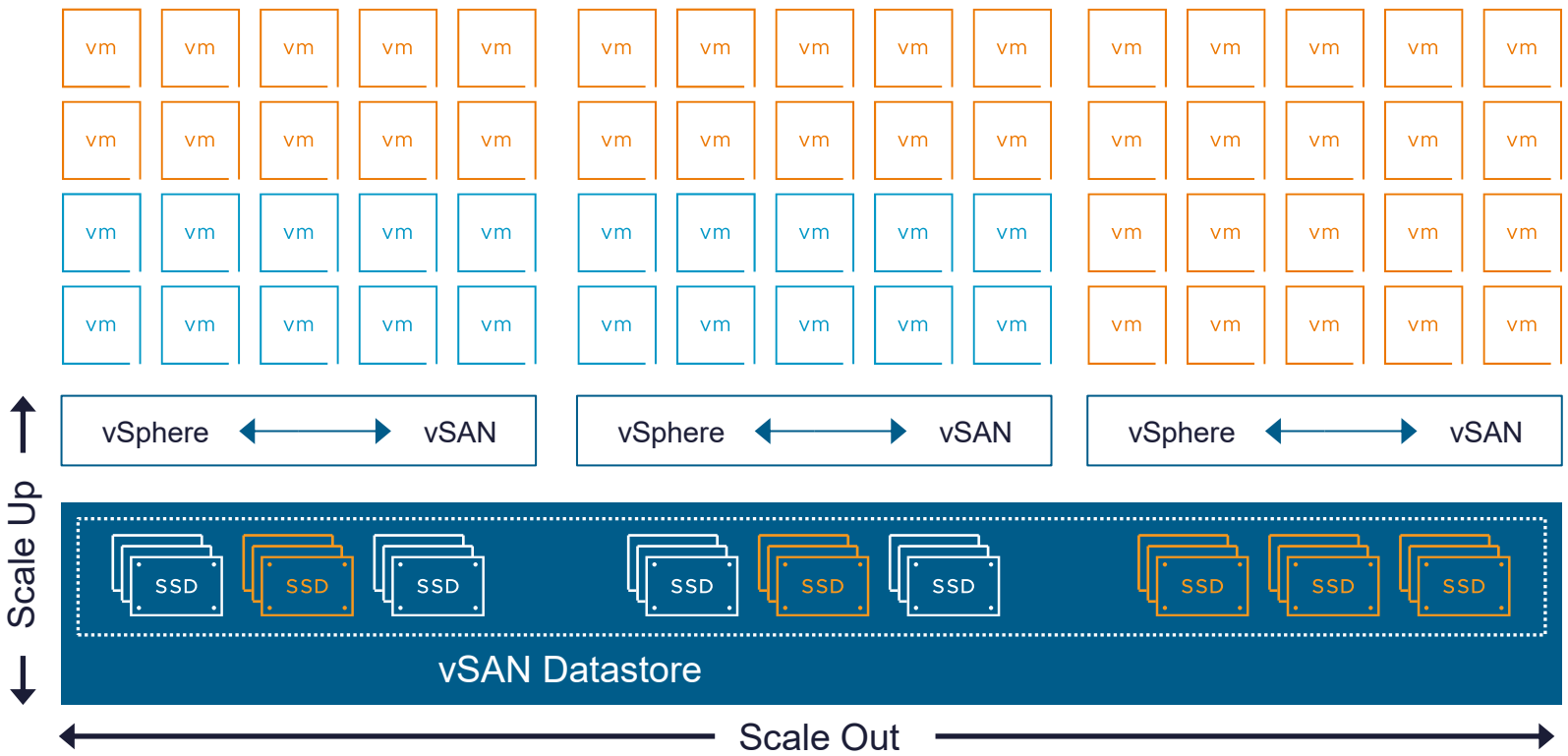
Consume it the way you want, where you want.

VMware Cloud Foundation

1 TiB of vSAN storage with every VCF core licensed

The vSAN Difference

Scale UP and OUT for maximum agility



Add capacity the way you want

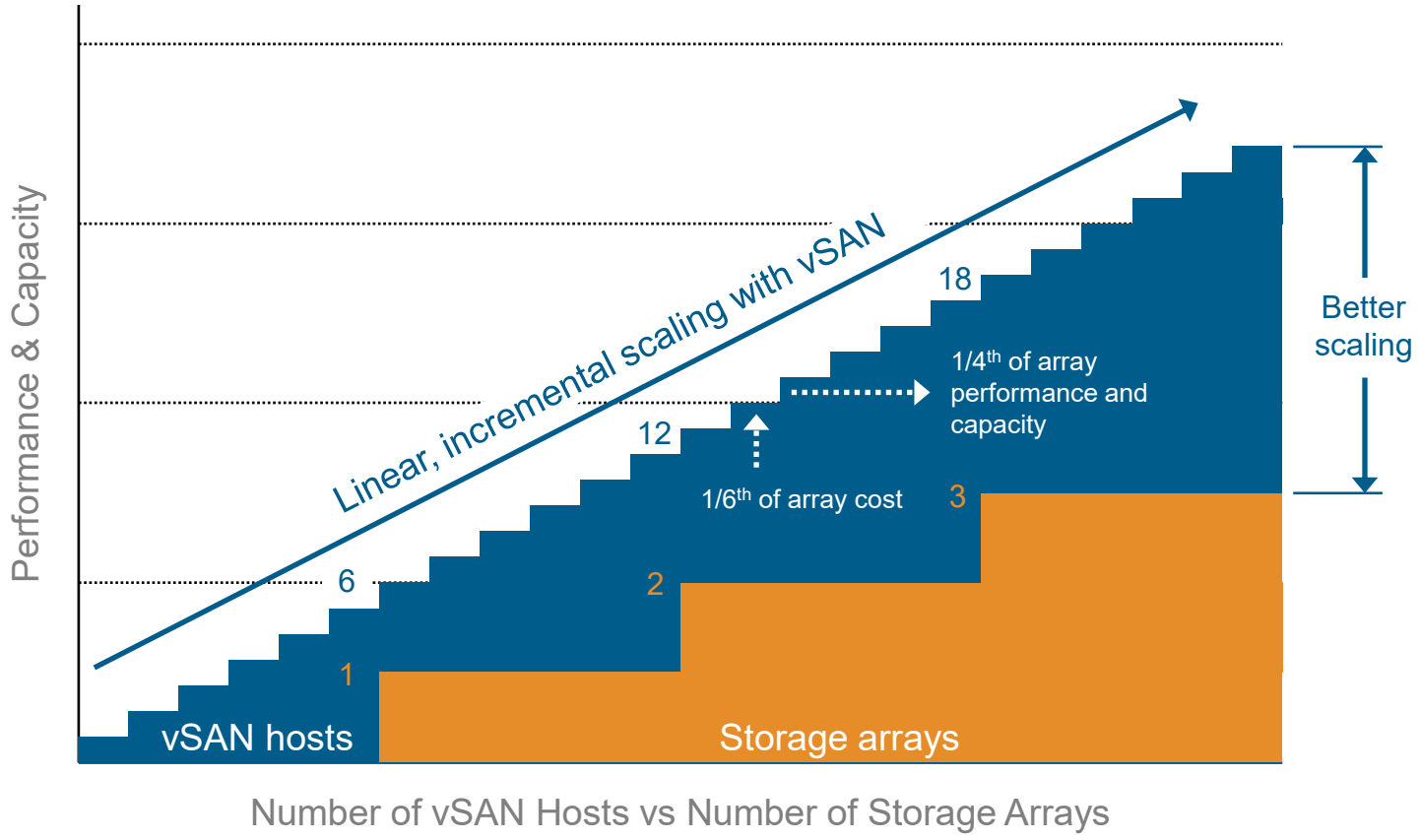
Scale **UP** by adding drives

Scale **OUT** by adding hosts

Agile, cost-effective cluster designs

Better Scaling and Cost Model than Traditional Storage Arrays

Cost advantages with vSAN HCI or vSAN storage clusters versus traditional storage arrays



Incrementally grow your cluster one host at a time, which adds:

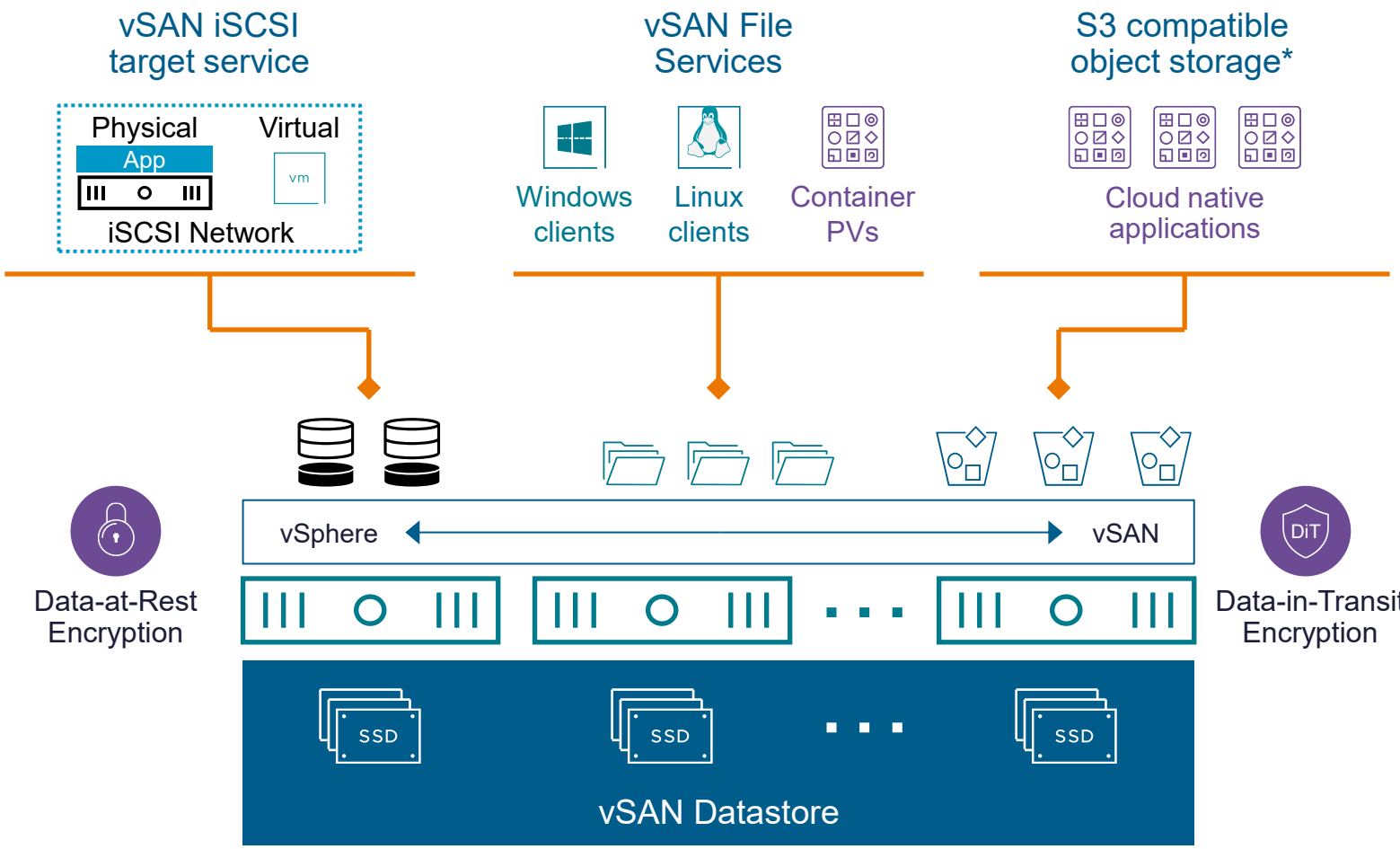
- Storage capacity
- Storage performance
- CPU processing power
- Networking bandwidth

Linear and predictable growth that is not found with traditional arrays

vSAN storage entitlement included in VCF license, driving a **31% lower cost** compared to a storage array

Additional Data Services to Meet your Business Requirements

Easily tailor unique data services on a per cluster basis



Extend vSAN **beyond native VM storage**

Enable/disable based on **organizational needs**

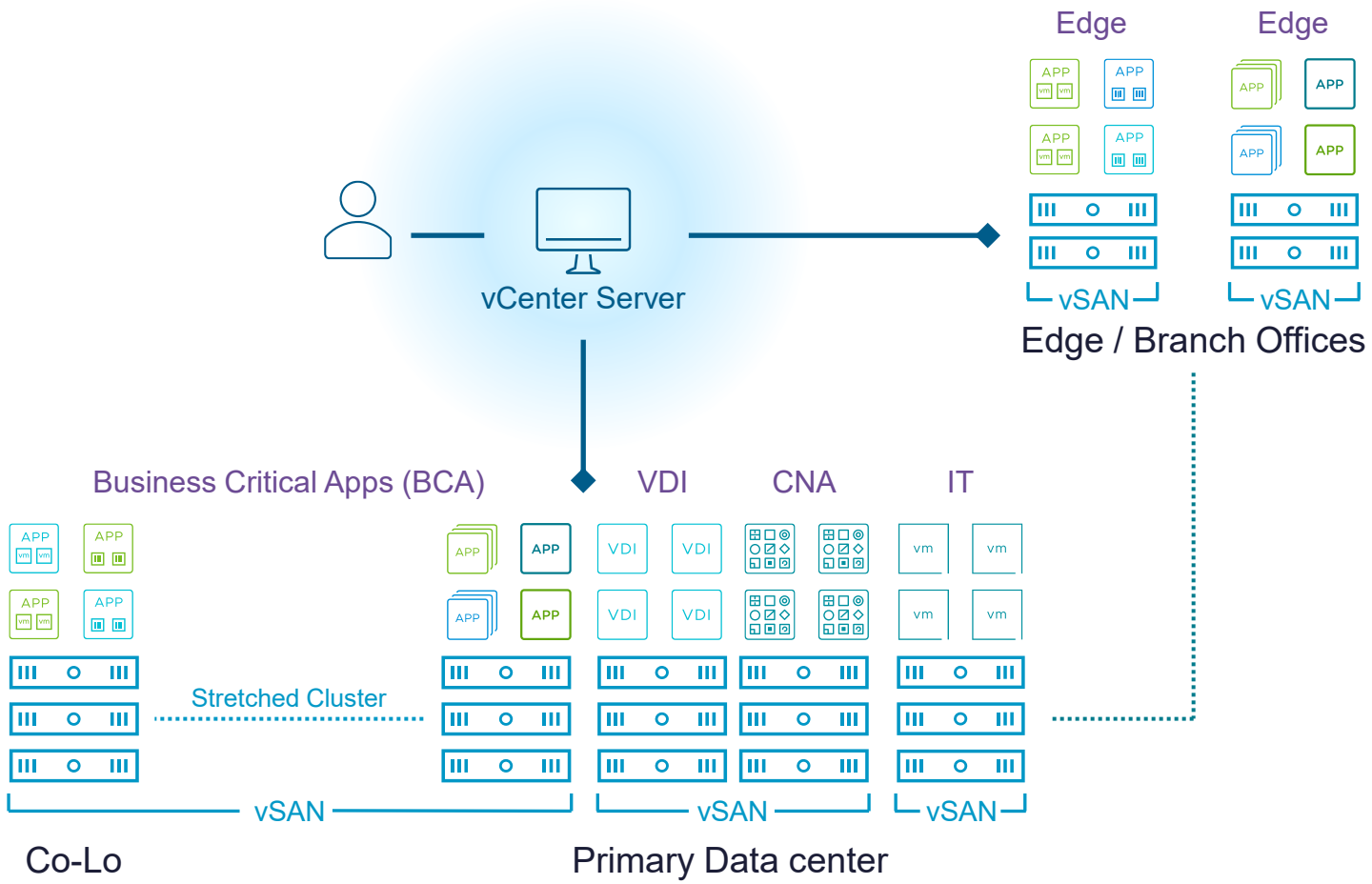
- SMB and NFS file services
- iSCSI block access for legacy workloads
- S3 compatible object storage*

Provide FIPS validated **data-at-rest** and **data-in-transit encryption**

*When using a 3rd party certified solution through VMware vSAN Data Persistence platform

Run Multiple Workloads and Topologies Simultaneously

Provides flexibility in powering many types of workloads across different environments



Power **multiple application types** using vSAN

- Business Critical Apps (BCA)
- Cloud Native Apps (CNA)
- IT Core Infrastructure svcs.
- Virtual desktops (VDI)
- Edge (2-Node Clusters)

Easily adapt configuration to evolving needs

Use **multiple topologies** across environment

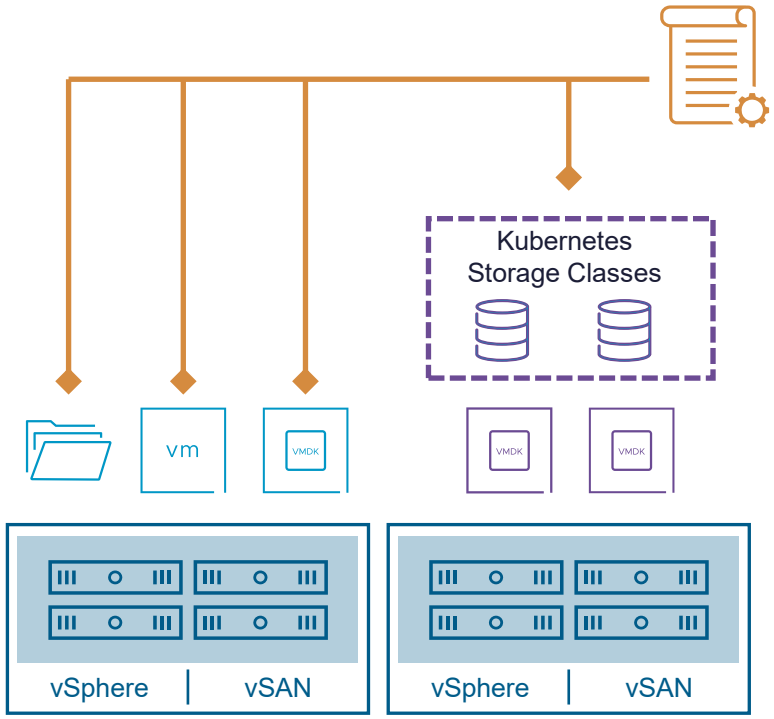
Manage through single interface

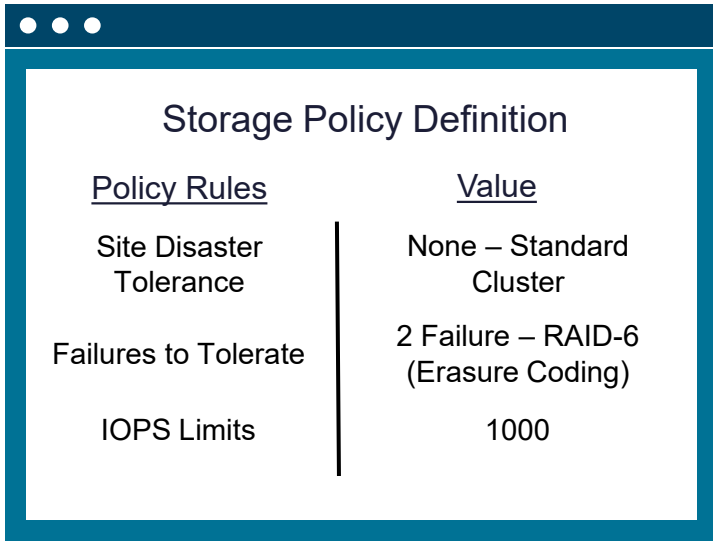
Letting Software do the Work

Simplicity and efficiency for the new era of IT

Deliver Performance and Protection Based on Application Needs

Granular storage policy-based management (SPBM)





Define storage protection and performance **outcomes**

Assign policy to:

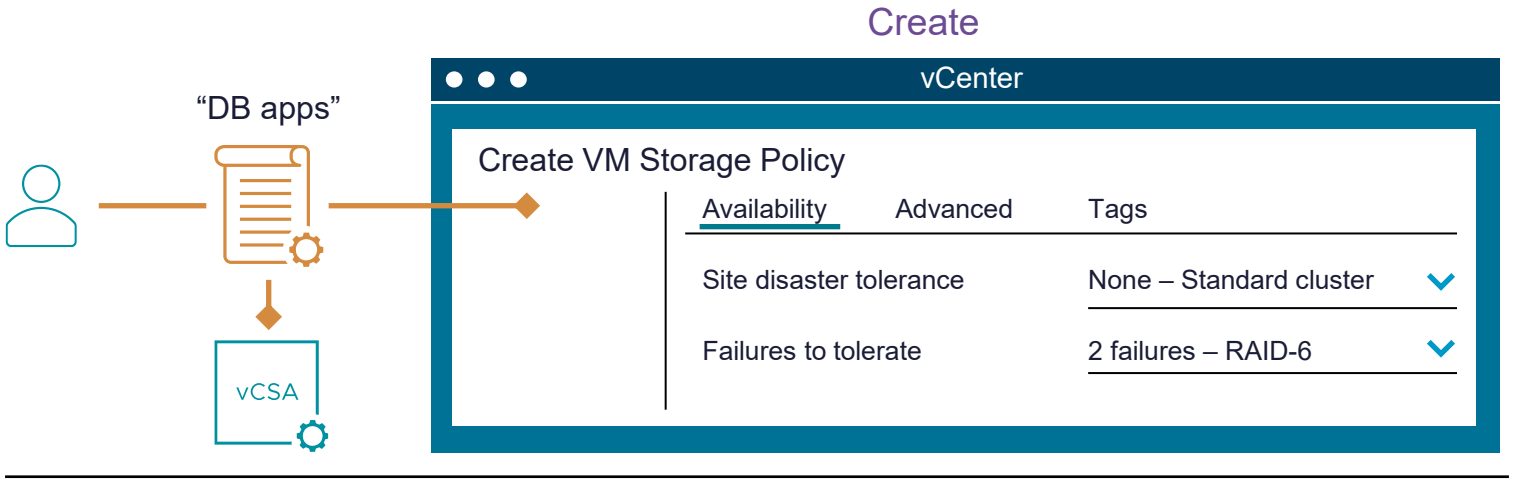
- Many VMs
- Single VM
- VMDK of VM
- First-class disks for container persistent volumes
- File share served by vSAN file services

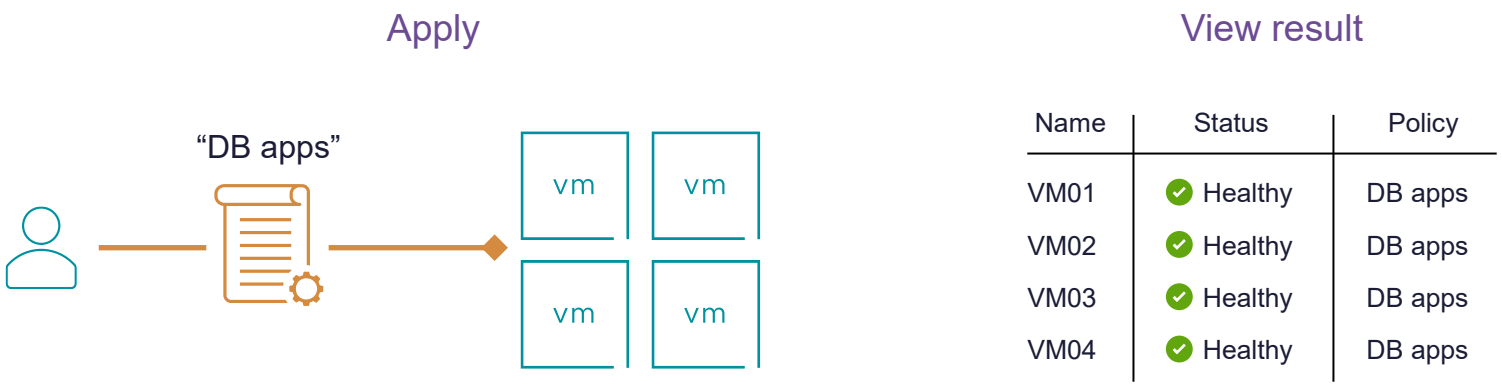
Managed in vCenter Server

Simple and **scalable**

Easily Define and Assign Outcome to your Applications

SPBM – Creating and assigning a storage policy





View result

Name	Status	Policy
VM01	Healthy	DB apps
VM02	Healthy	DB apps
VM03	Healthy	DB apps
VM04	Healthy	DB apps

Create a policy

1. Define level of resilience and data placement method
2. Define other storage policy settings as required
3. Name it and save it

Apply a policy

1. Highlight VMDK, VM, or group of VMs
2. Click "Edit VM storage polices"
3. Select desired storage policy
4. View result

Flexible Topologies

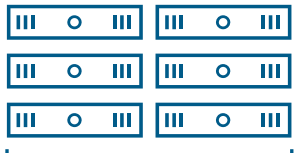
Accommodating various topologies affordably, through software

Topologies You Need for the Requirements You Have

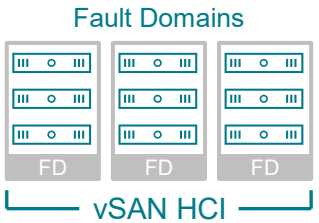
Support a combination of on-premises, multi-site, or edge topologies

Consistent storage management & monitoring

Storage-only

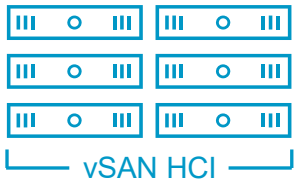


Storage-only



Storage & compute

Storage & compute



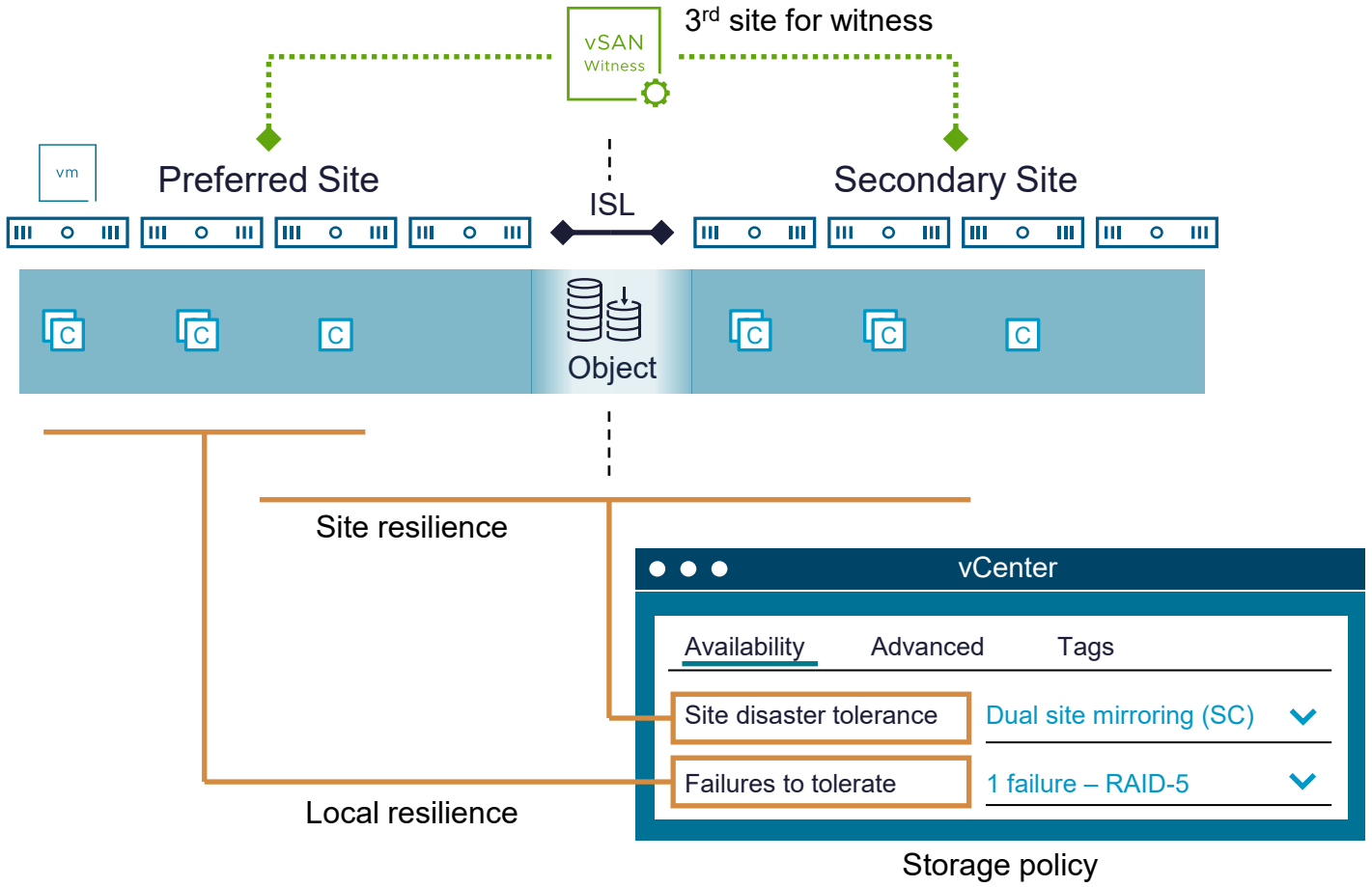
Storage & compute

Storage & compute

On-prem Multi-Site	On-prem Single Site	Remote Edge

Low Cost Local and Remote Resilience

Easy and intuitive integrated stretched clustering technology



Stretch a **single vSAN cluster** across 2 physical sites

Maintains **object data availability** during:

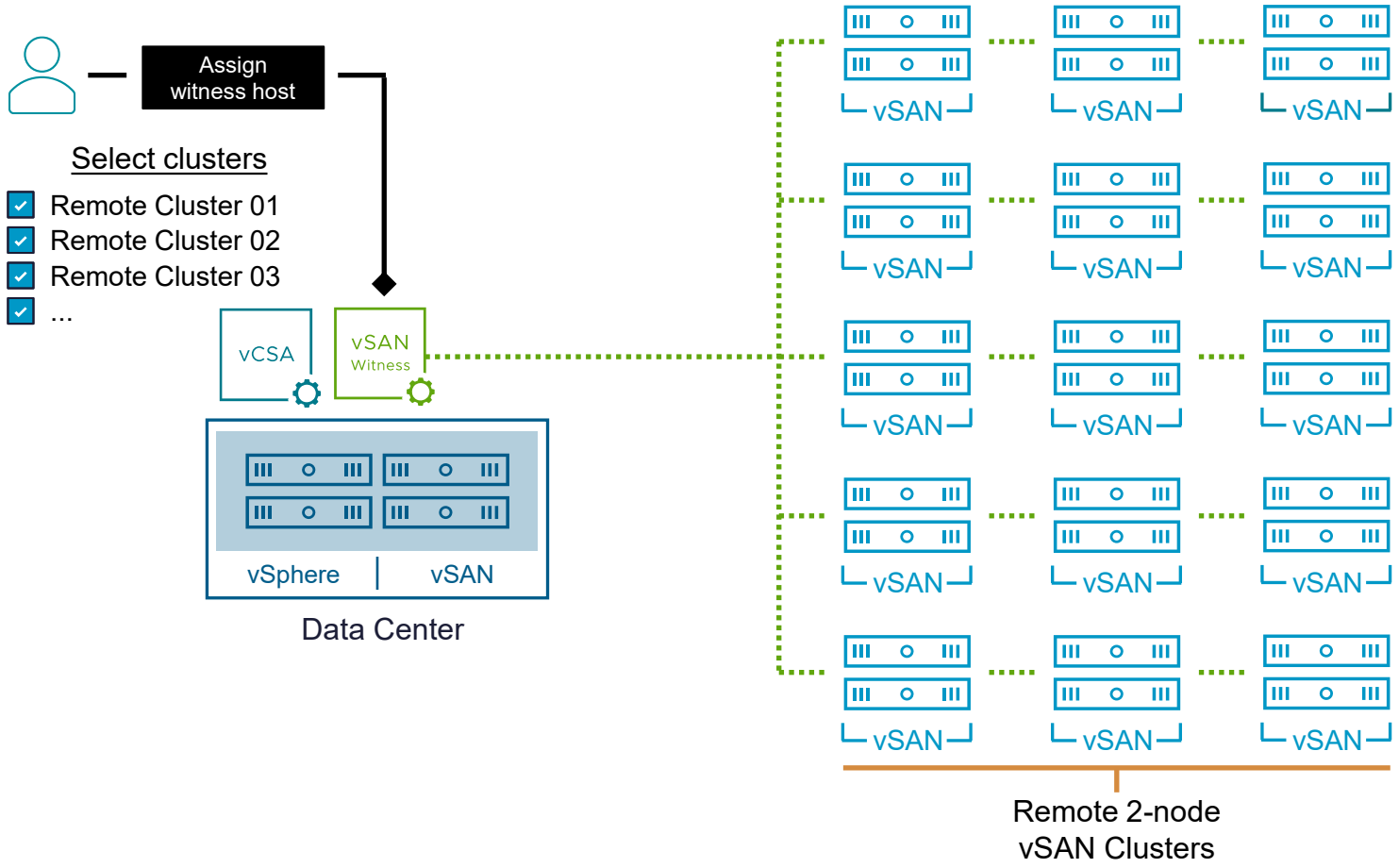
- Failures within a site
- Failures of a site

Resilience settings applied using **storage policies**

Integrated with vSphere **HA** and **DRS**

Easily Accommodate Branch Office Environments

vSAN for remote locations



Consists of **2 nodes** at **remote site**

- Power up to 64 clusters per witness
- Store data resiliently

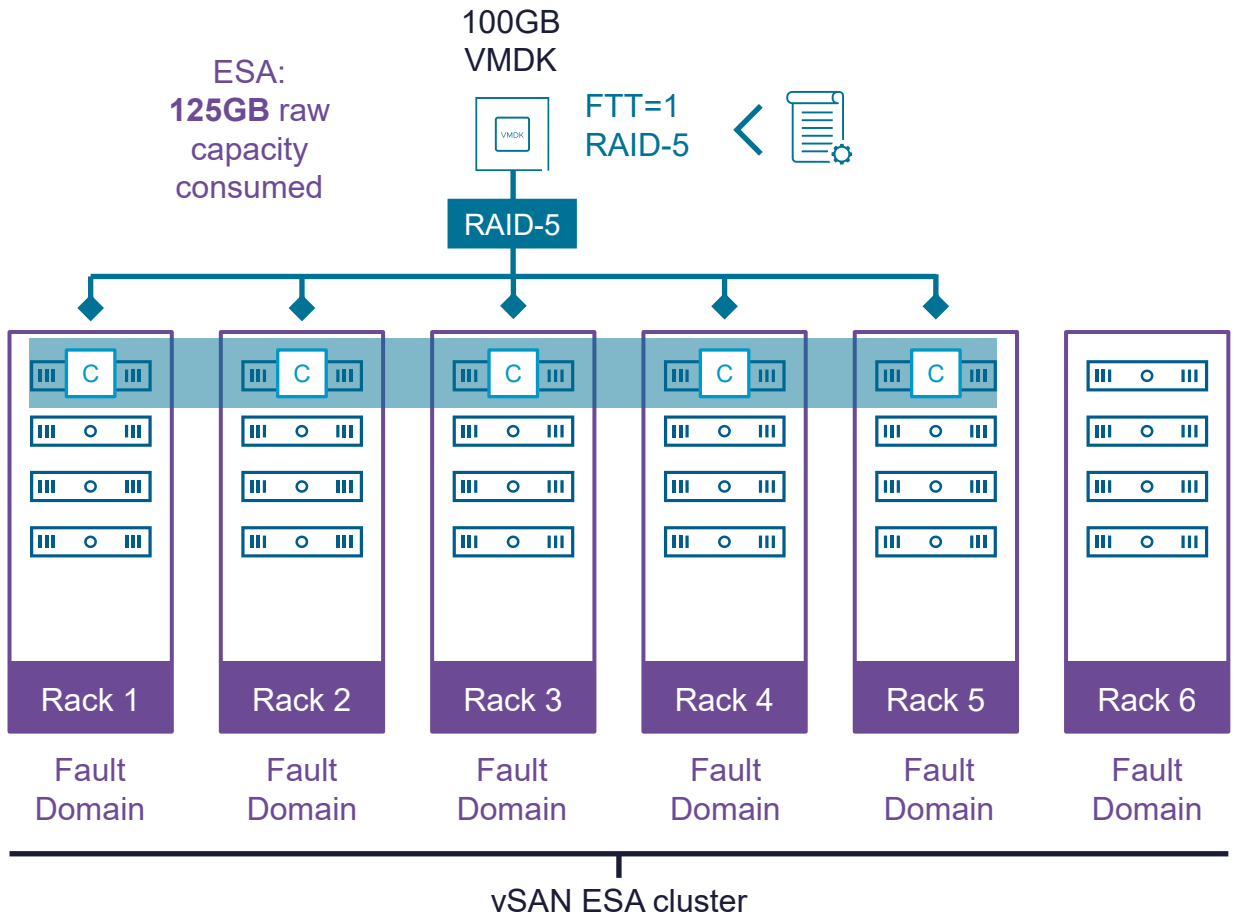
Primary data center runs **virtual witness host appliance**

- Determines availability during failure
- Responsible for 1 or more remote sites

2 node clusters managed by **single vCenter server** at primary data center

Provide Awareness of Topology and Rack Designs

vSAN custom fault domains



Create **explicit** fault domains in **cluster configuration** to increase availability

Ensures object is distributed across fault domains to ensure resilience in the event of a fault domain failure

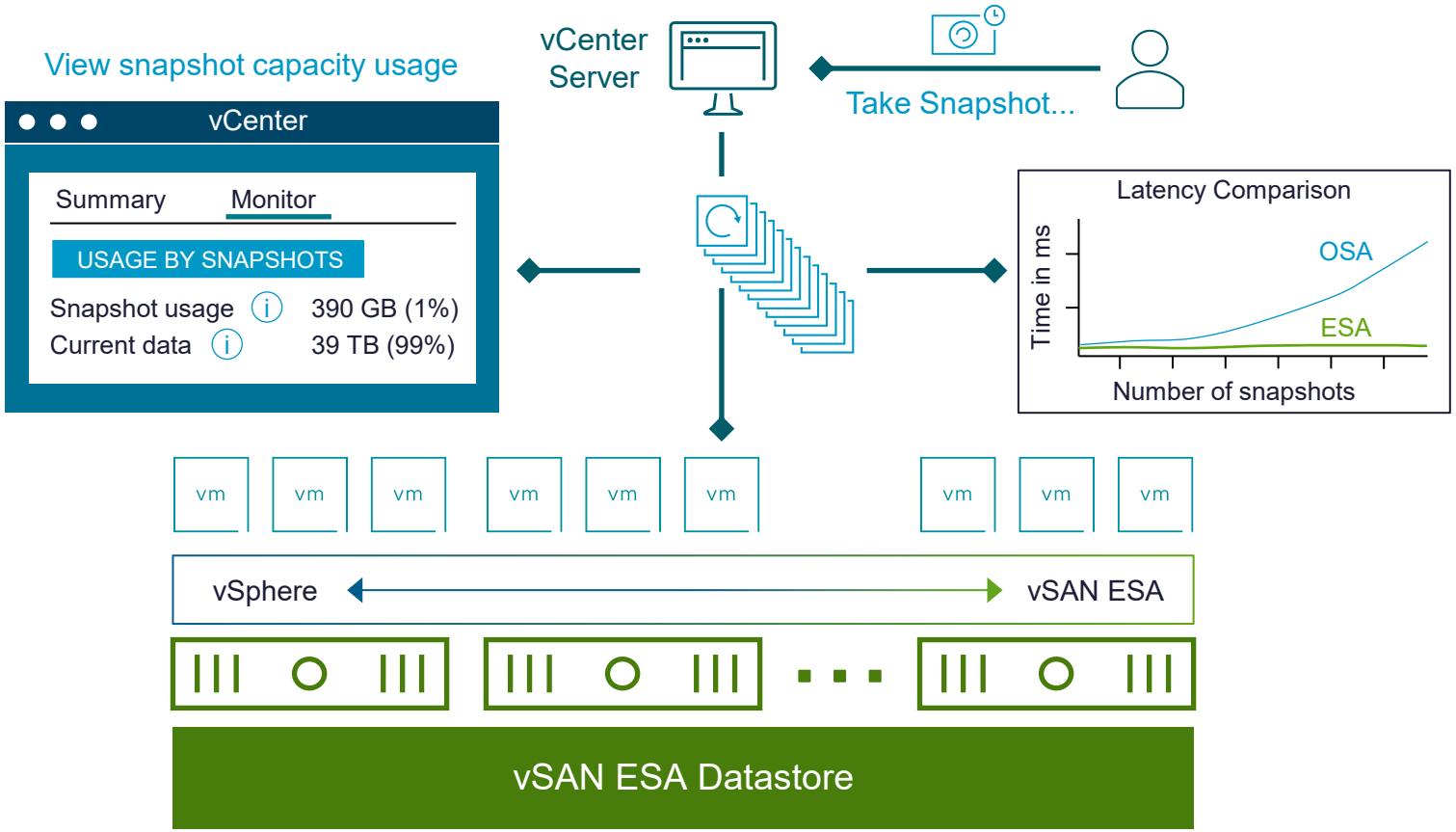
Most common use is for **rack-level resilience**

Automatically manages data placement to adhere to:

- Assigned storage policy
- Fault domain configuration

Capture Point-in-Time States of Data Fast and Efficiently

Scalable, high performance native snapshots exclusively in vSAN ESA



Supreme **performance**

- Consistent
- Fast consolidation
- Low stun times

Highly **scalable and efficient**

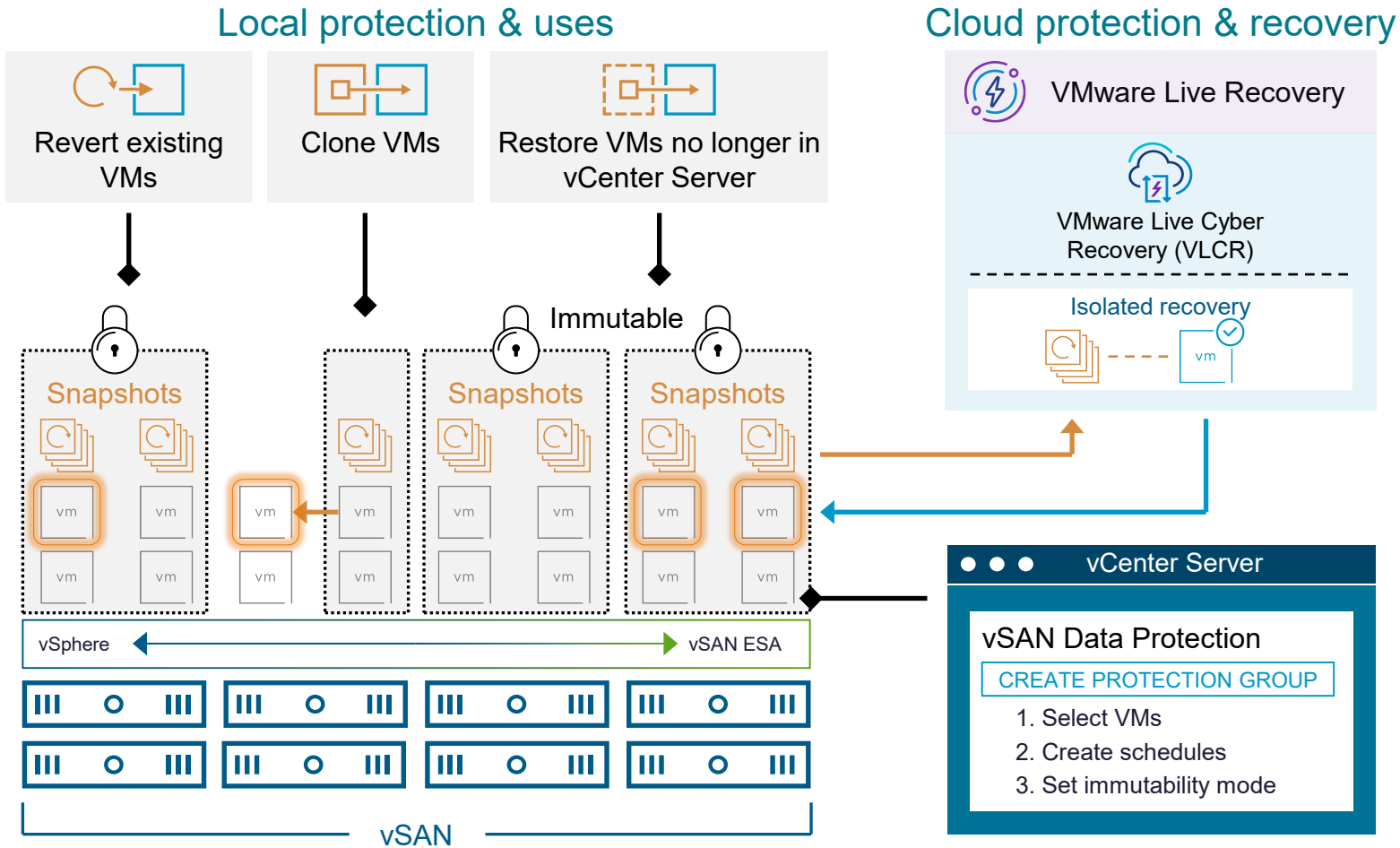
Seamless integration with vSphere & 3rd party VADP backup solutions

Improved performance for SRM & vSphere Replication

Successfully **take snapshots** of objects **in degraded states**

Protect and Recover VMs against Accidental and Malicious Activities

vSAN Data Protection in the Express Storage Architecture



Use vSAN ESA snapshots to provide **immutable protection**

Policy-based **protection groups**

- Group applications & VMs
- Define protection and retention

New UI and **scheduler**

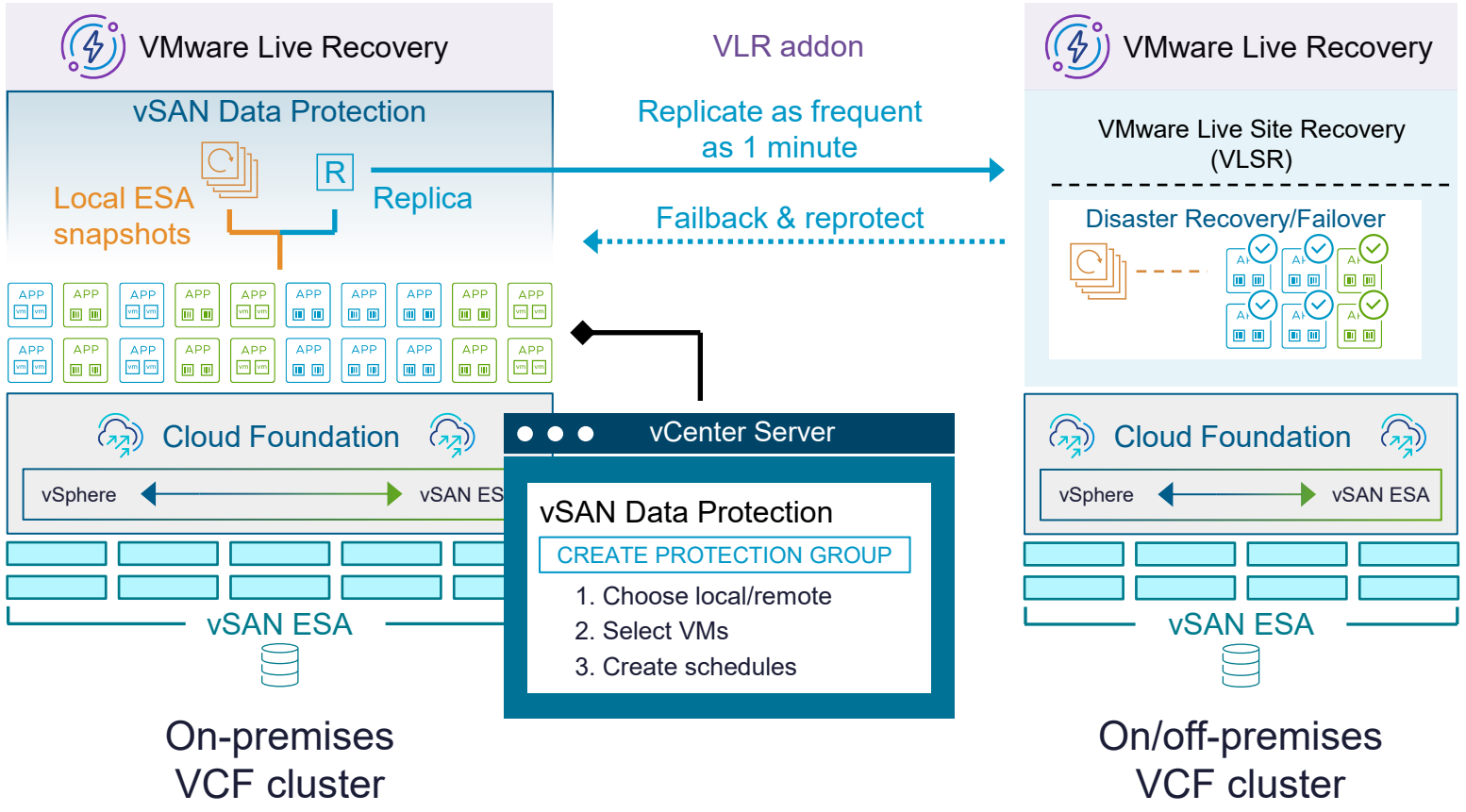
Integrates with **VMware Live Cyber Recovery**

Supports **multiple use cases**

- Ransomware recovery
- Recover VMs from accidental deletion
- Clone VMs for operational agility

Extend VM-Level Data Protection to Remote vSAN Clusters

vSAN-to-vSAN replication as a part of VMware Live Recovery* (VLR)



- Protect VMs **locally and remotely** using vSAN ESA snapshots
- Replicate and recover courtesy of the **VMware Live Recovery (VLR)**
- Use policy-based **protection groups** to define local and remote protection outcomes
- Create relationships between multiple sites using site pairs
- Ideal for **disaster recovery, isolated recovery or long-term archiving**
- Supports **vSAN HCI** and **vSAN storage clusters**

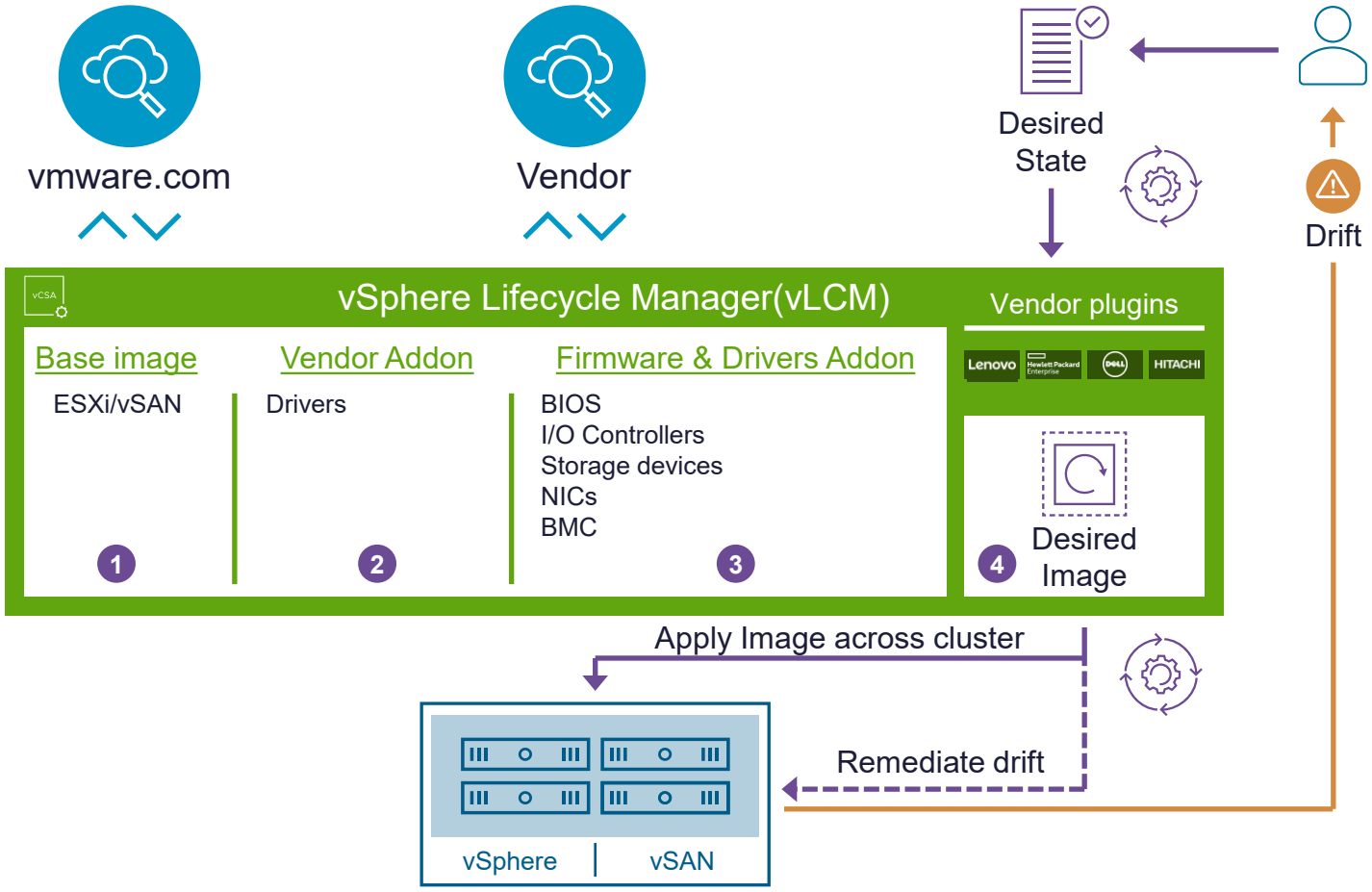
* Replication a part of the VLR addon license

Agile, Integrated Management

Deploy, operate, and optimize using software you already know

Lifecycle Management at Scale – A Simpler Approach

vSphere Lifecycle Manager (vLCM) – Unified software and firmware management



Uses **desired-state model** for all lifecycle operations

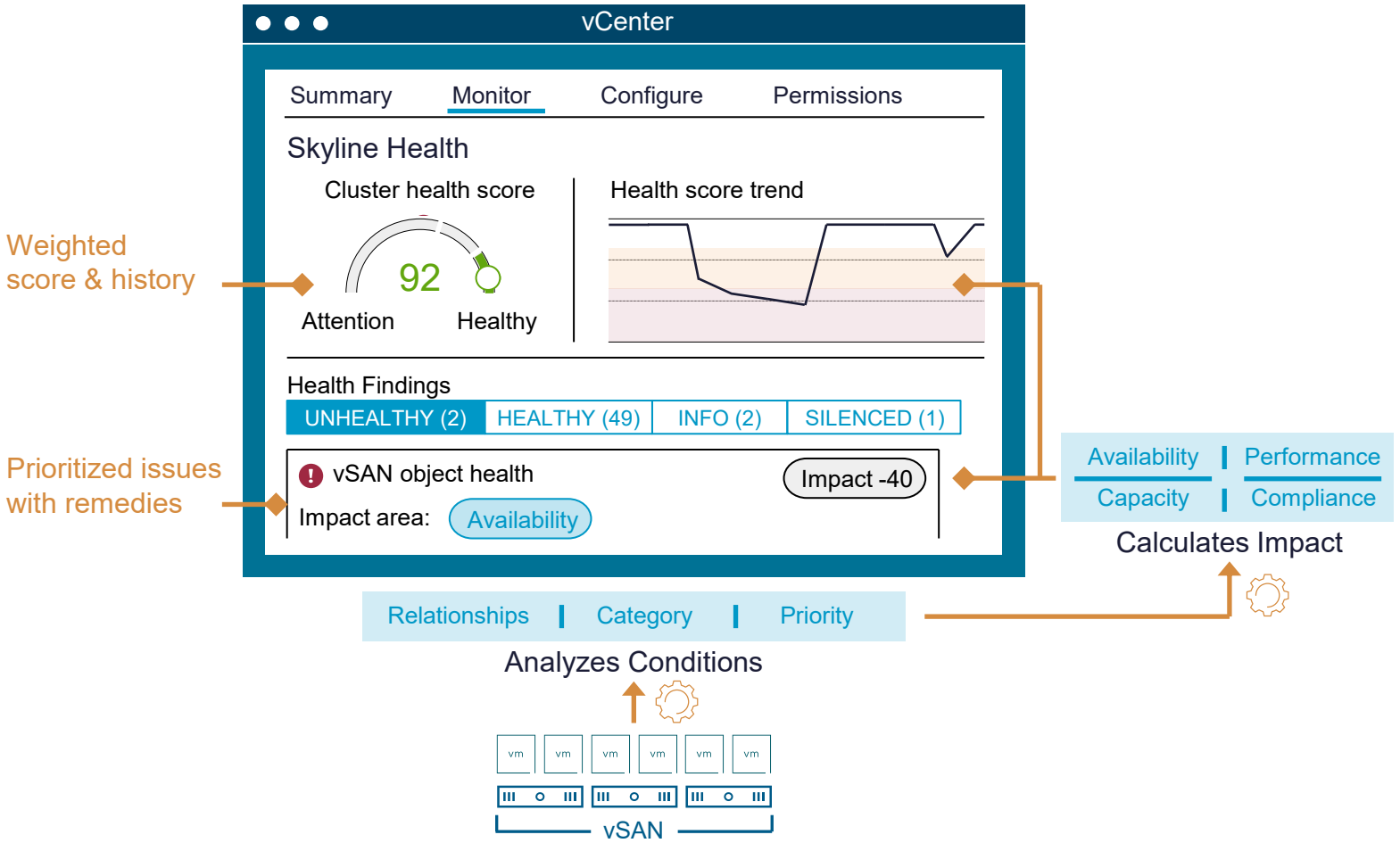
Manage hosts at cluster level

- Hypervisor
- Drivers
- Firmware

Modular framework supports vendor **firmware plugins** from **Cisco, Dell, Fujitsu, Hitachi, HPE**, and **Lenovo**

Simple, Insightful Cluster Health Status and Troubleshooting

Skyline Health intelligent cluster health scoring, diagnostics and remediation



Provides **cluster health score** for **at-a-glance** condition of **cluster**

Prioritizes identified issues to **help address** most important condition **first**

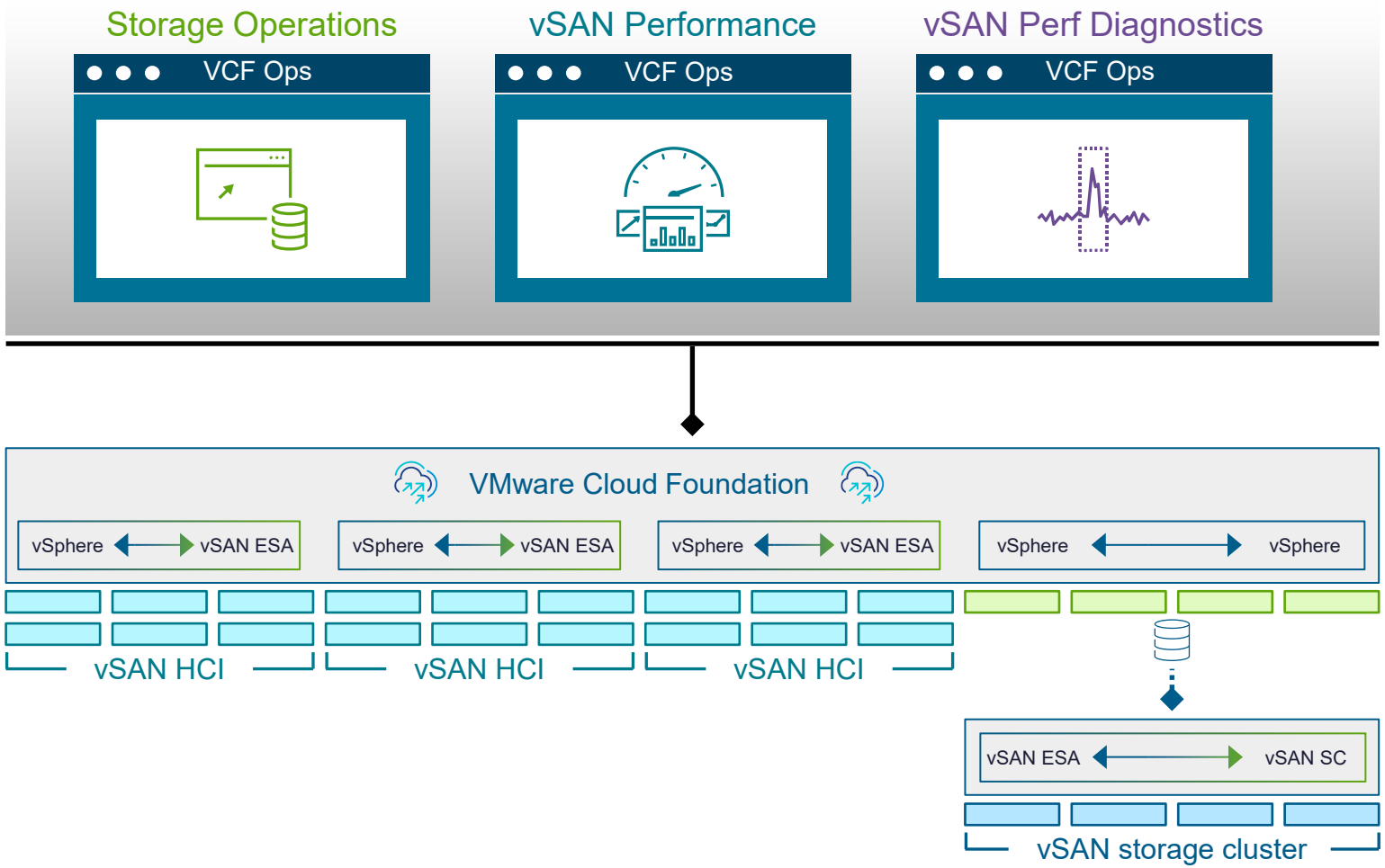
Weighs issues using common Administrator **responsibilities**

- Data availability
- Performance
- Capacity utilization
- Efficiency & Compliance

Take action on the **most important issue**, first

Global Visibility and Insight for Storage in VMware Cloud Foundation

Storage dashboards for your VCF infrastructure



All new dashboards to **monitor storage** powering VMware Cloud Foundation

- Storage Operations Overview
- vSAN Performance
- vSAN Performance Diagnostics

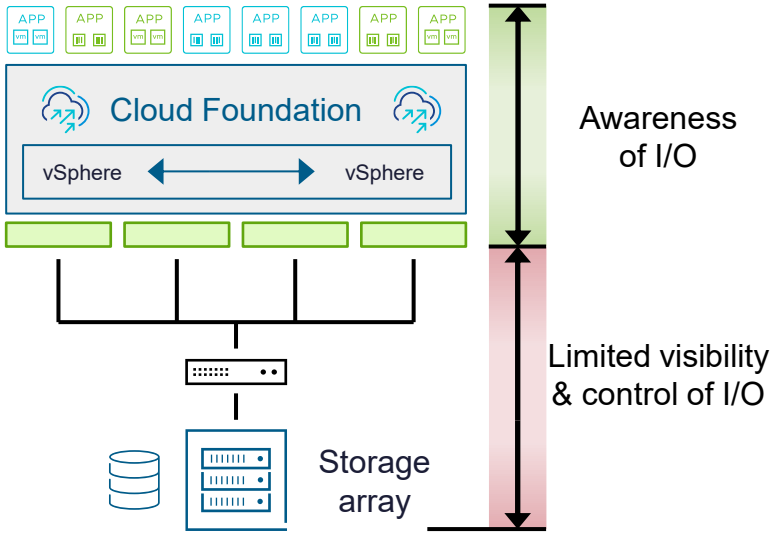
Holistic views provide at-a-glance conditions **across multiple clusters**

Key metrics and **health information** retrieved from vSAN APIs

Why VCF with vSAN is Better: Awareness, Intelligence, and Control

End-to-end monitoring and control when using vSAN to power VCF vs the competition

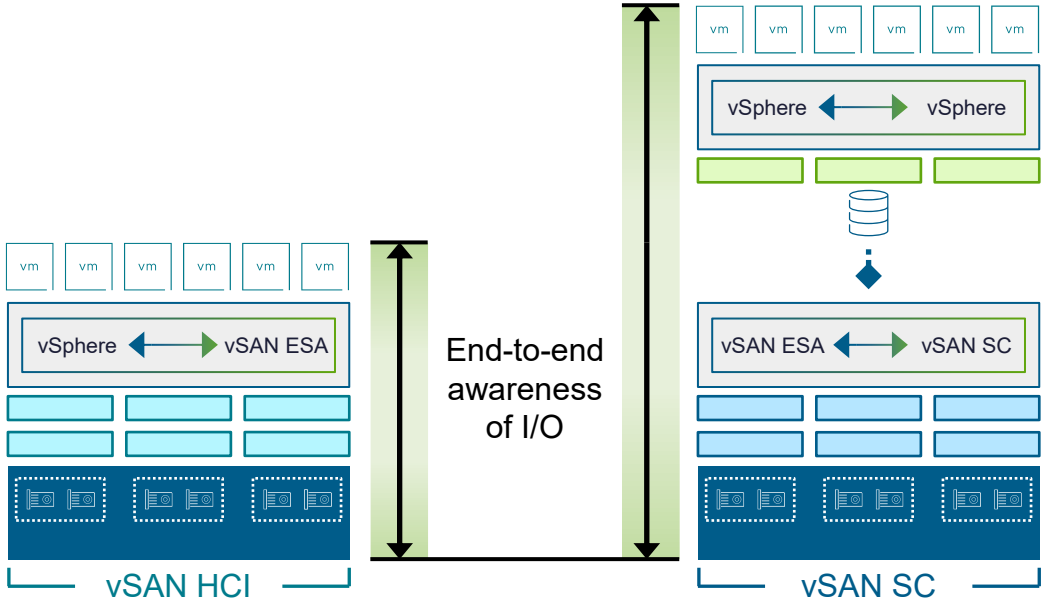
Traditional Storage



Pain Points

- **I/O managed arbitrarily** by array after leaving hosts
- Array measures metrics in **different ways** from a different location
- **Limited visibility** of I/O when troubleshooting

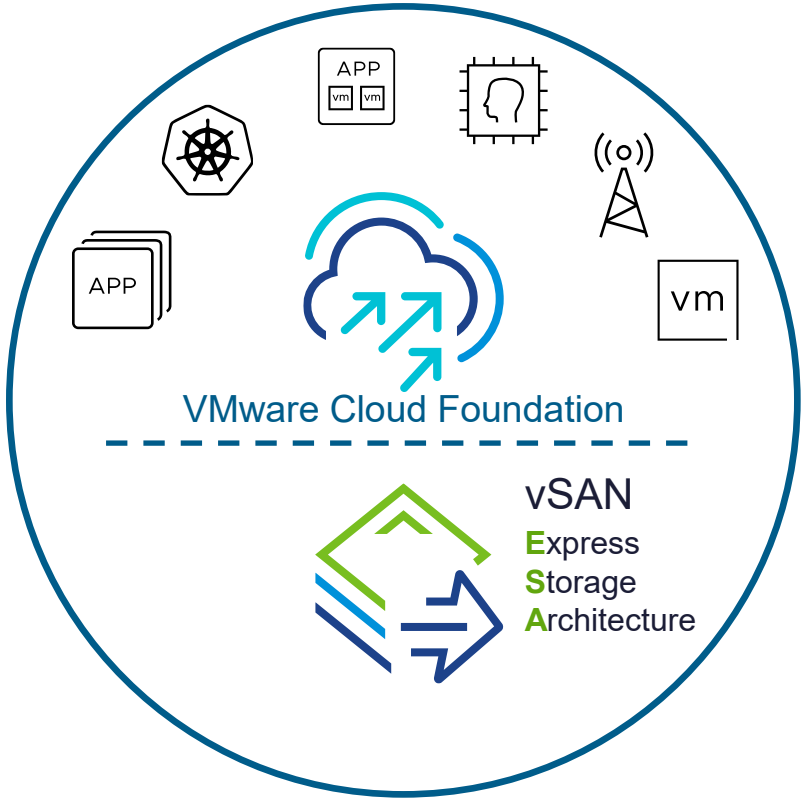
VCF powered by vSAN ESA



Benefits

- I/O managed and controlled from **end to end**
- All metrics **measured in the same way**, from the same location
- **Full visibility** of I/O simplifies troubleshooting

vSAN ESA is the ideal storage platform for VMware Cloud Foundation



MBCOM TECHNOLOGIES | vmware by Broadcom

Adria Forum 2025

Thank You