



VMware Cloud Foundation 9.0

What's New Technical

Presenter:
June, 2024

Agenda



Modernize Infrastructure



Deliver a Unified Cloud Experience for Developers

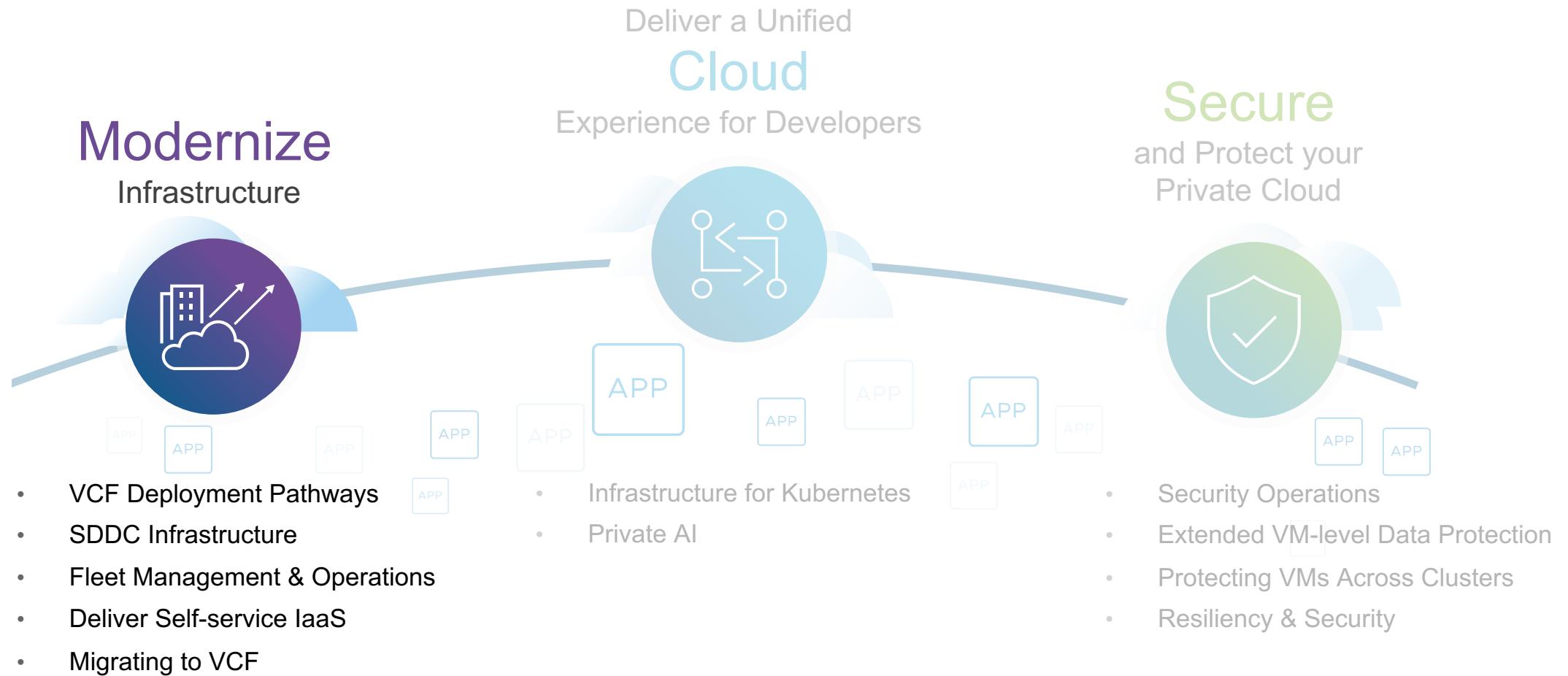


Secure and Protect Your Private Cloud

Appendix

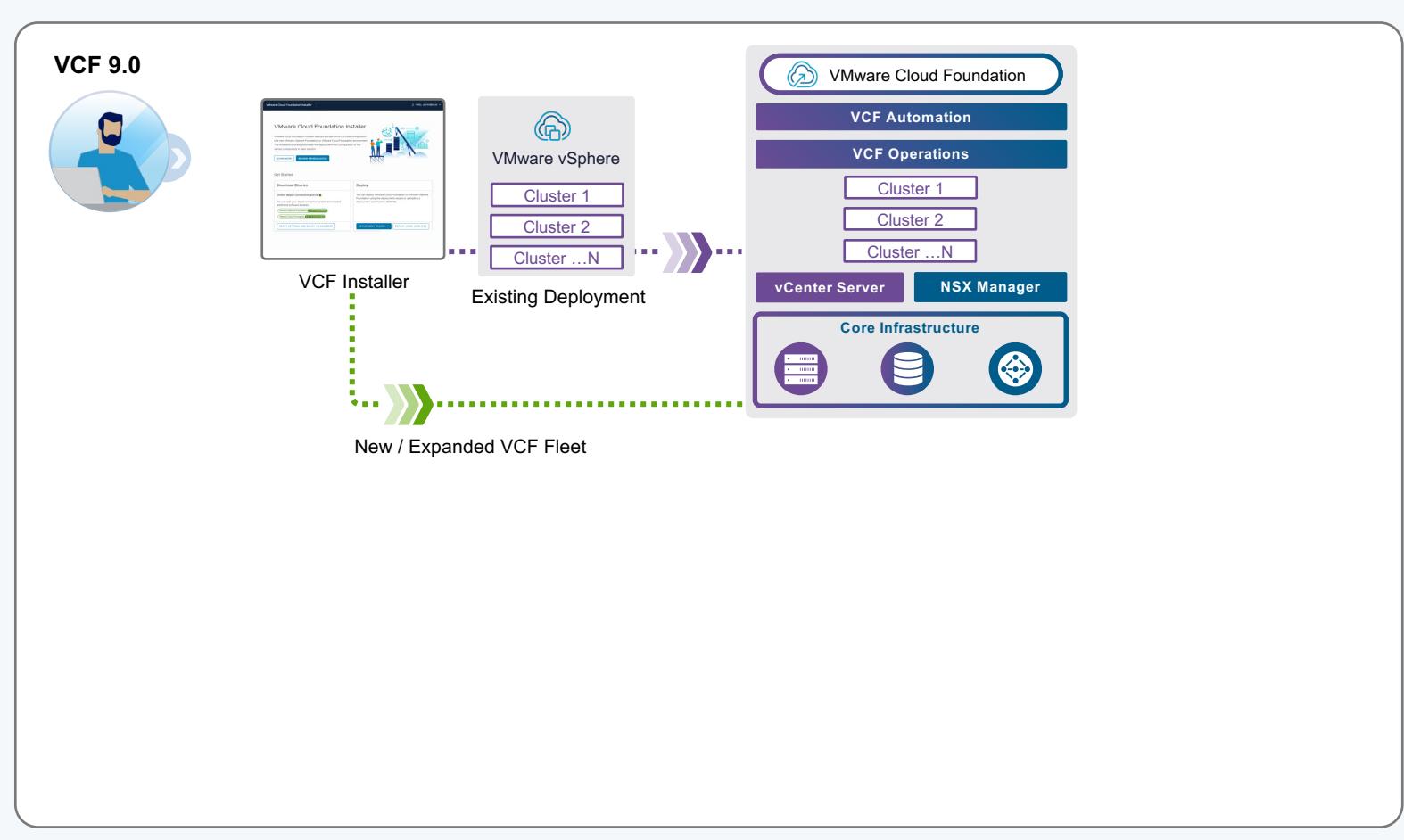
Licensing | Advanced Services | Resources

What's New in VMware Cloud Foundation 9



Deployment Pathways to Suit a Variety of Use Cases

VMware Cloud Foundation deployment workflows from the VCF Installer



VCF Installer Appliance:

**Deploy a new VCF Fleet or
Expand an existing VCF Fleet**

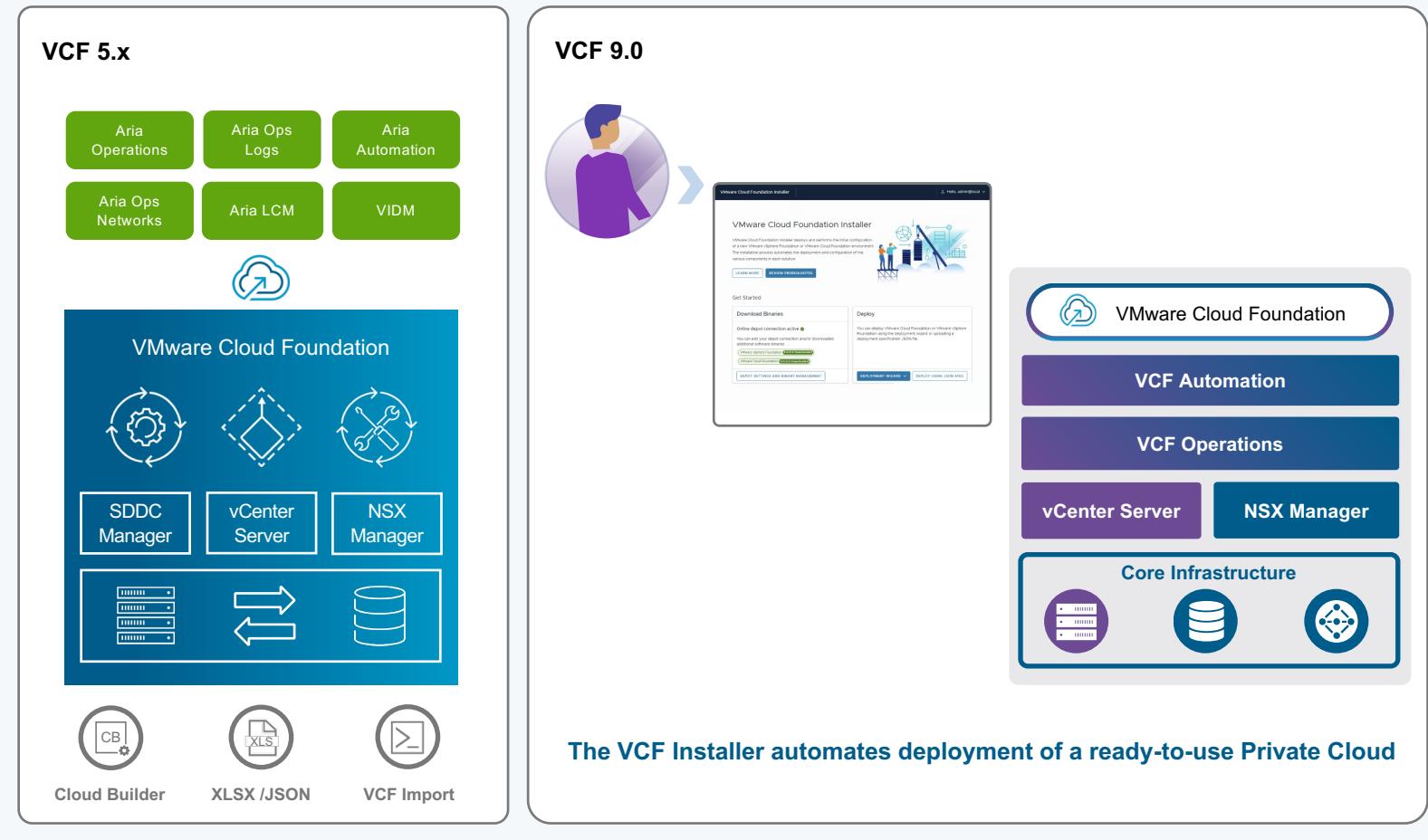
- vSphere with / without vSAN
- VCF Networking (NSX)
- VCF Operations
- VCF Automation

**Converge an existing vCenter
deployment to VCF**

- vSphere with / without vSAN
- VCF Operations
- VCF Automation

Unified Installer Streamlines Deployment

VMware Cloud Foundation Installer Appliance



VCF Installer Appliance:

Streamlines deployment of VCF or VVF from a single appliance

Inbuilt options to re-use existing vCenter, VCF Operations and VCF Automation instances

Full stack deployment and lifecycle management of compute, storage, networking, operations and automation

Generate a re-usable JSON spec which can be uploaded, reviewed and validated from the UI

Flexible Deployment Workflows

VMware Cloud Foundation Installer Appliance



¹ Existing vCenters with NSX installed are not initially supported to be converged to VCF. Existing vCenters with NSX installed can be imported into VCF as Workload Domains

Choice of Depot:

- Online or Offline depot

Choice of Deployment Method:

- Wizard-driven or re-usable JSON

Choice of VCF Topology:

- Deploy to a new or existing VCF Fleet

Deploy New or Existing Components:

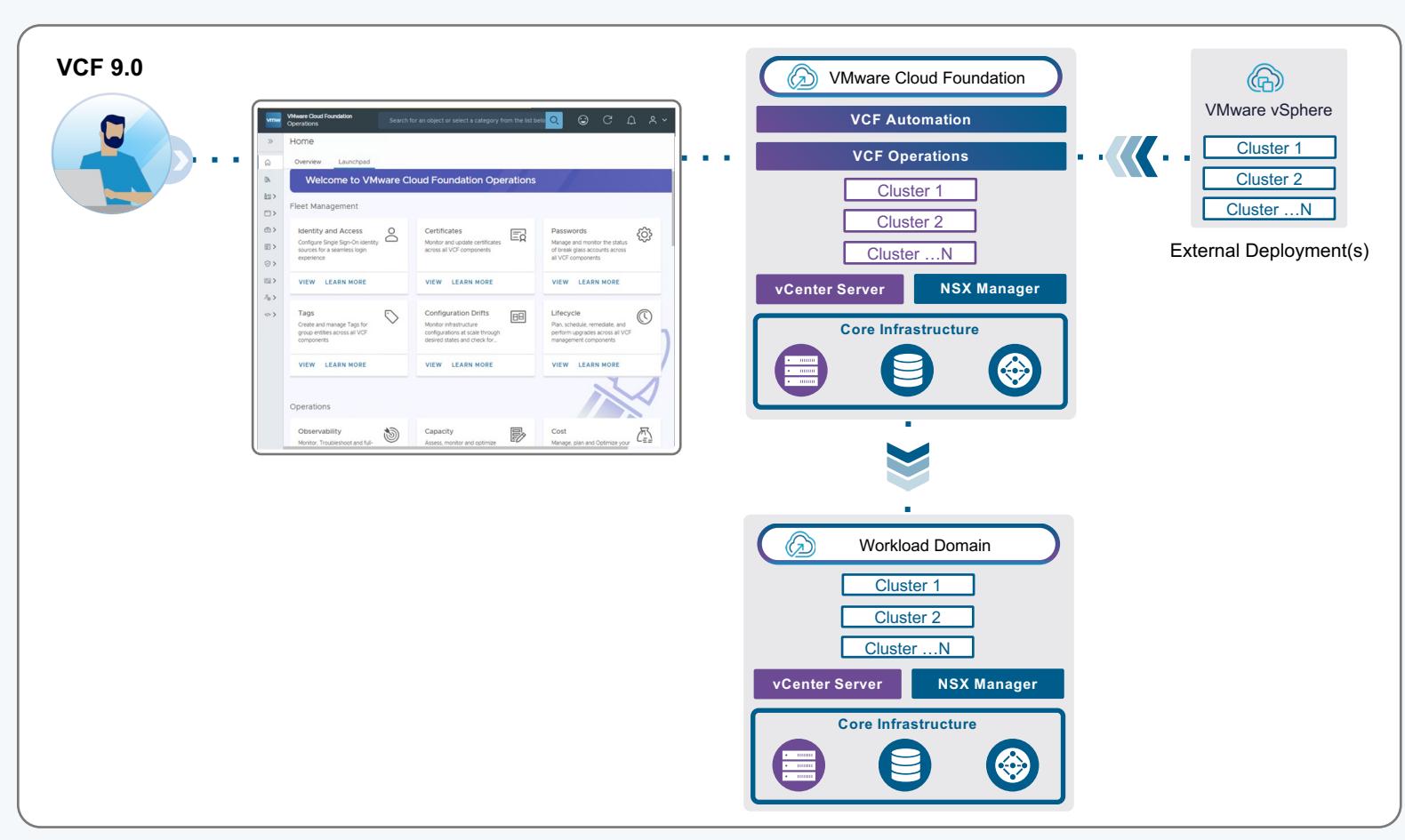
- vCenter, NSX¹, VCF Ops, VCF Automation

Choice of Appliance Model:

- Simple (single node) or HA (multi-node)

Deployment Pathways to Suit a Variety of Use Cases

VCF Operations workflows for workload domain deployment



VCF Operations:

Provides a new and integrated private cloud operations and management experience

Unified operations and management of compute, storage, networking, fleet management and lifecycle management

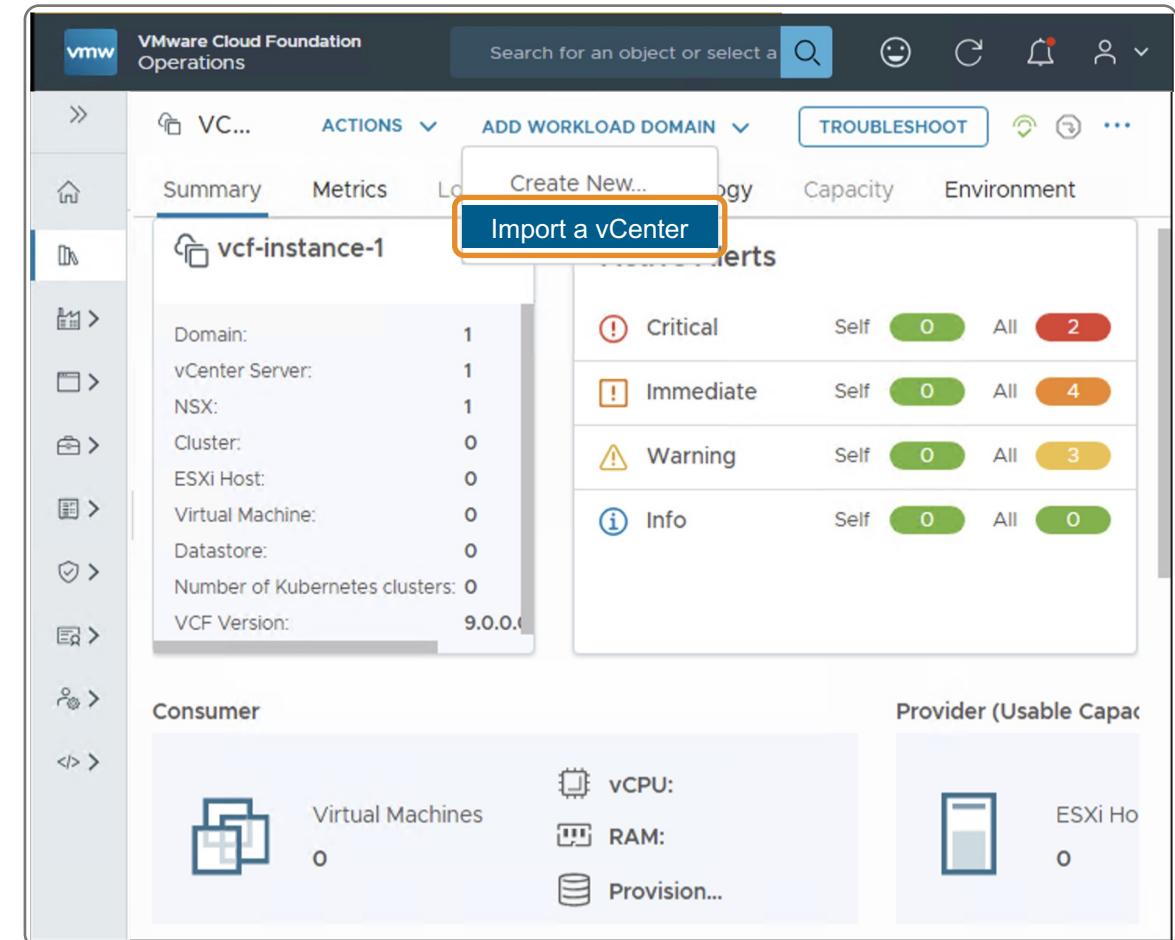
Inbuilt workflows to create new workload domains

External vCenter deployments can be imported into a VCF instance as workload domains for centralized management

Centralize Management of External vCenter Deployments

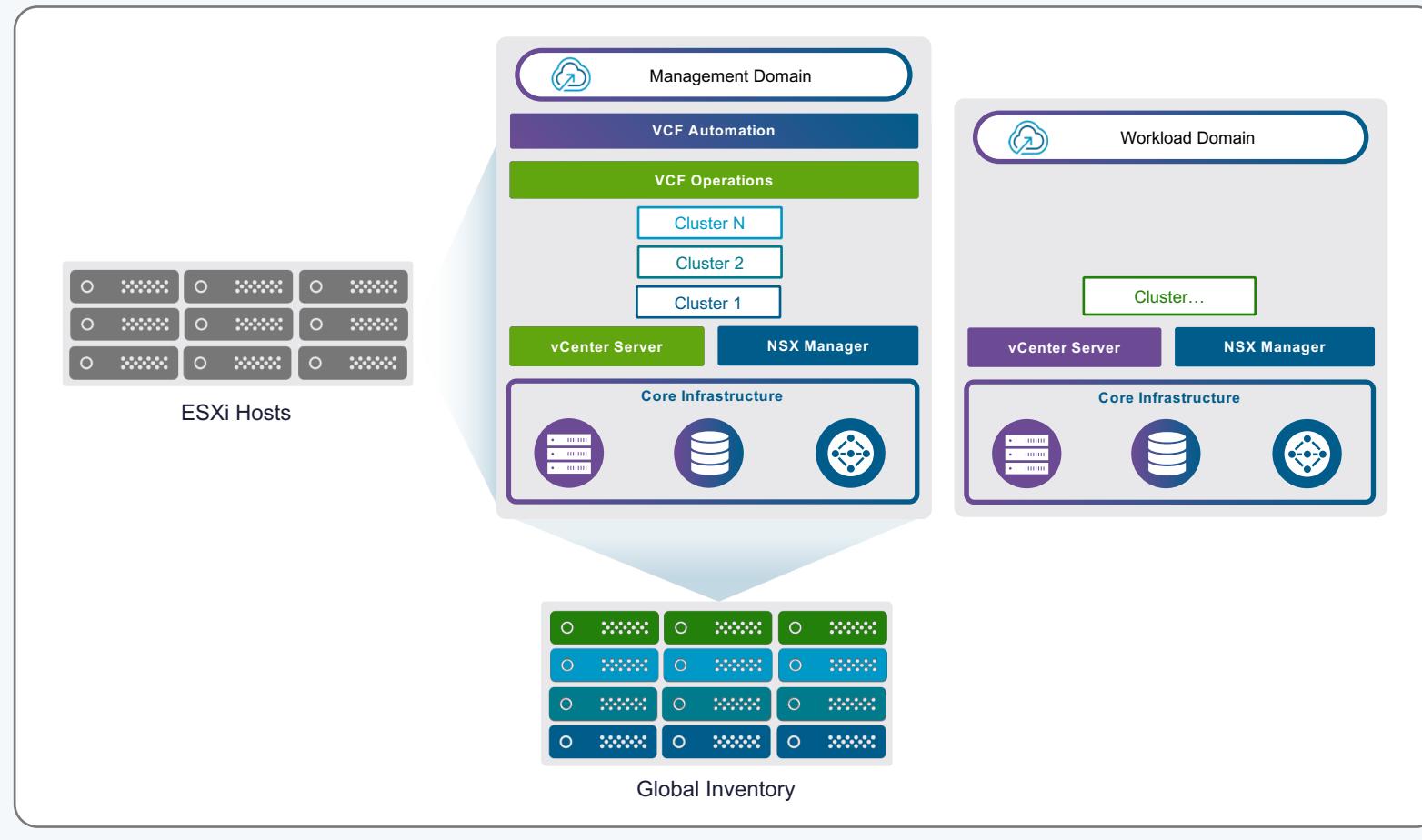
Importing an existing vCenter deployment into VCF with VCF Operations

- VCF Operations provides workflows to import externally managed vCenter environments into VCF
- Eases private cloud adoption by centralizing management and operations which can reduce costs across disparate environments
- Inbuilt workflows negate the need for workload migrations
- **Combinations of vSphere, vSAN and NSX** can be imported
- NSX is deployed as part of the process if it is not already present.



Easily Scale Private Cloud Infrastructure

Host Commissioning, Adding Clusters and Creating Workload Domains



Use the familiar **vSphere client** to scale your private cloud

- Commission ESXi Hosts in bulk or individually to the Inventory
- Network Pools configured for vMotion and Storage
- Add unassigned hosts to new clusters or scale existing clusters

Create new workload domains using VCF Operations

Continue using SDDC Manager for Day N workflows

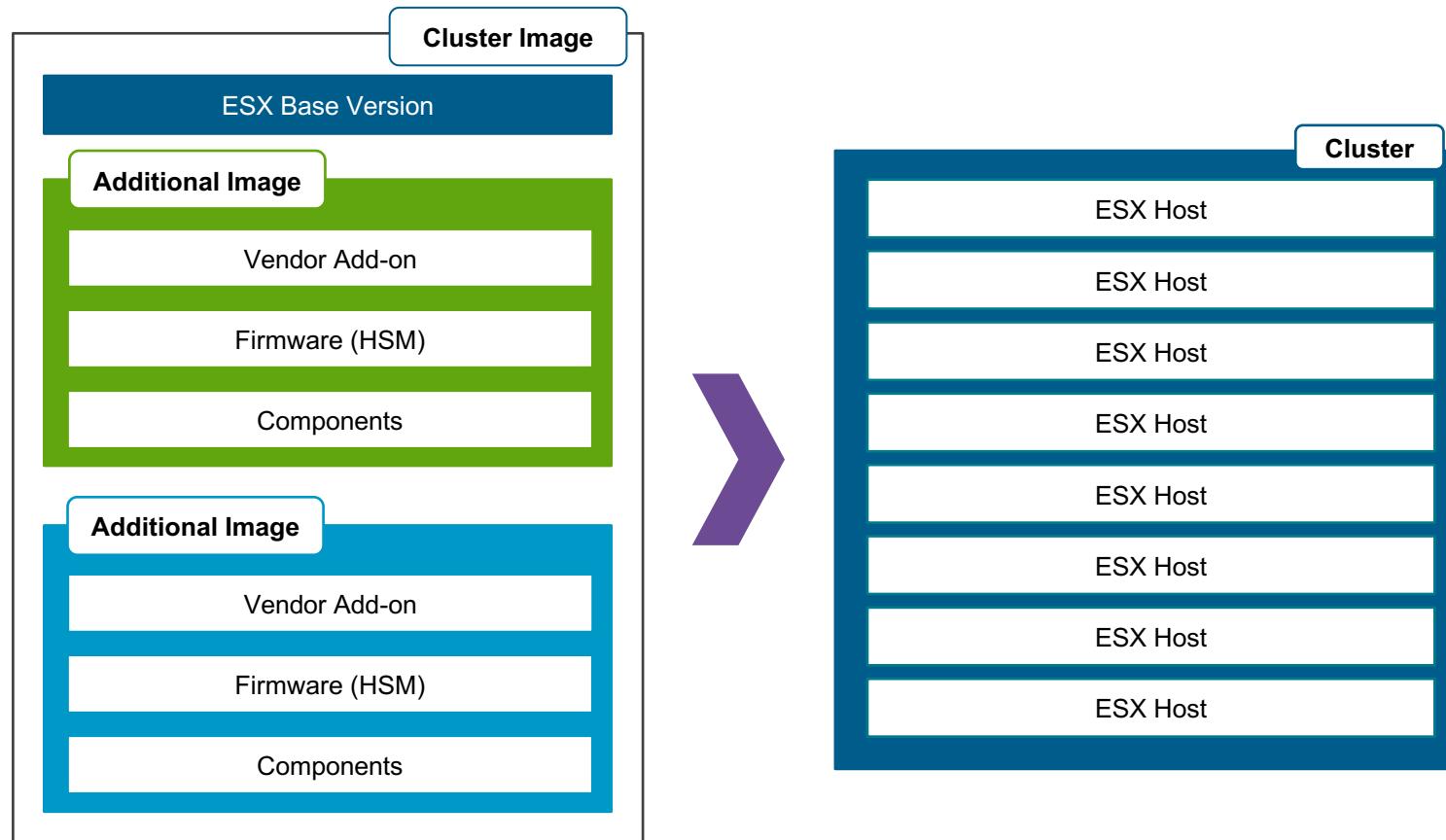
SDDC Infrastructure

COMPUTE | vSphere

- Mixed Vendor Clusters
- Memory Optimization with NVMe
- Configure vGPU Profiles
- Faster vMotion for GPU Workloads
- Configure GPU Reservations
- Live Patch for ESX
- Virtual Hardware Version 22

Build Clusters Your Way

Mixed vendor clusters



Assign additional images manually or automatically

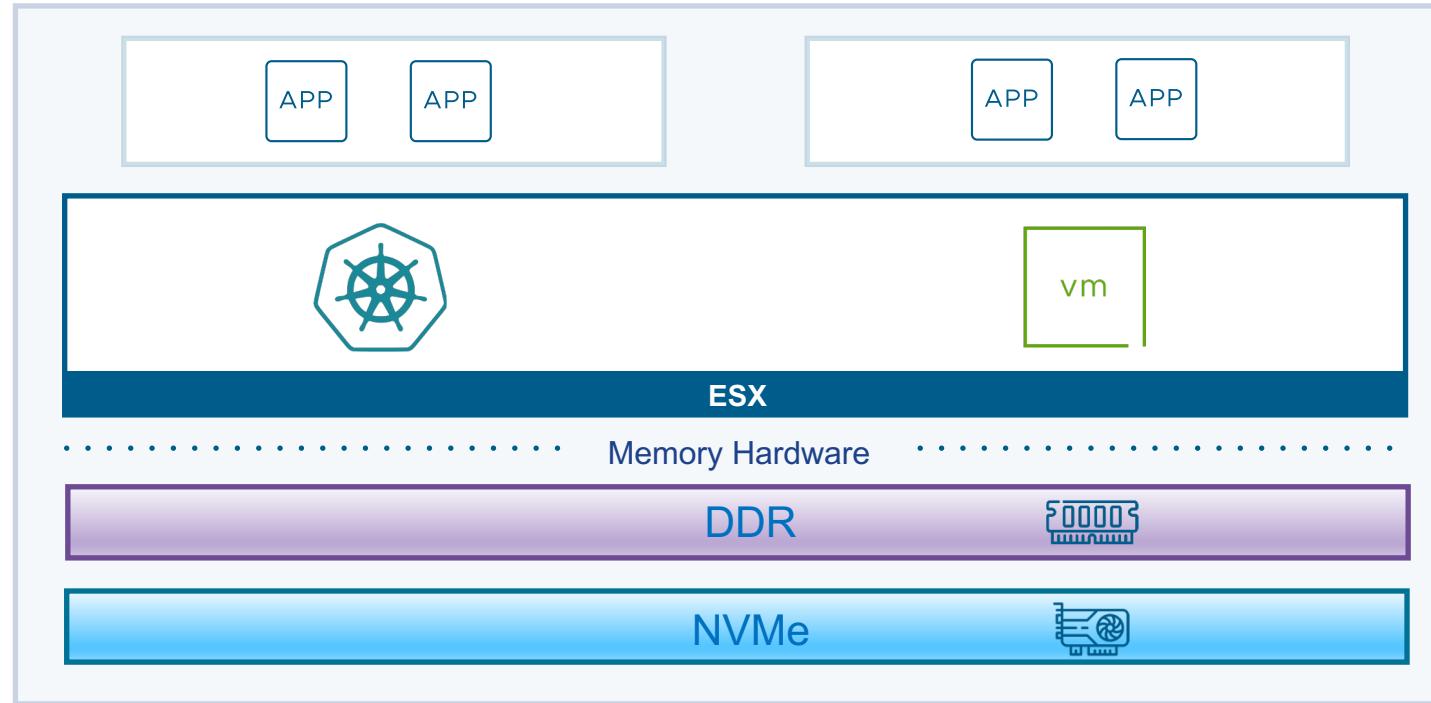
Multiple Hardware Support Managers (HSM) per cluster image

Up to 4 additional images can be created per cluster image

Support multiple server models in a single cluster image

Scale Memory Capacity with Lower TCO

Memory optimization with NVMe



NVMe devices help optimize server resource usage

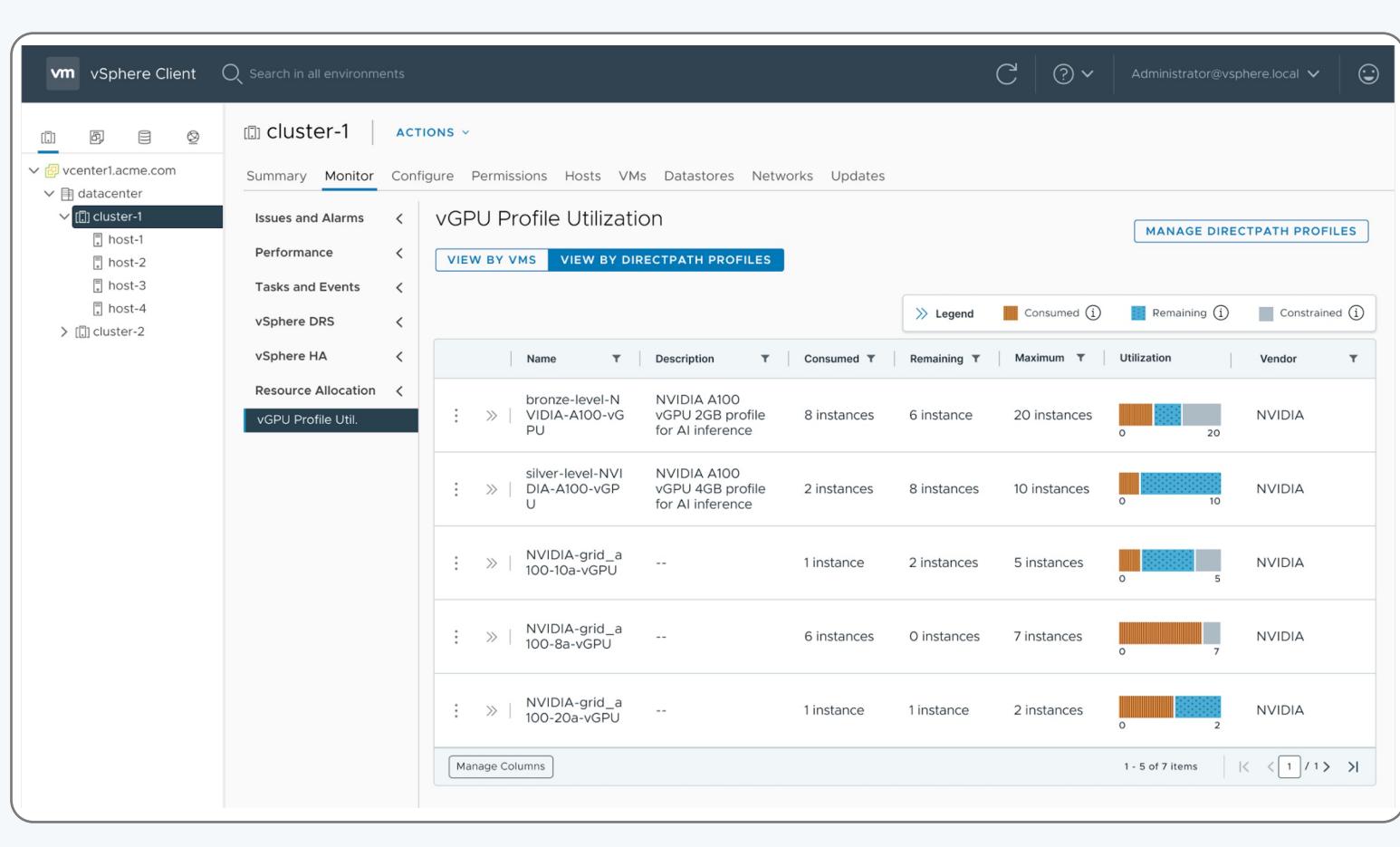
Addresses core-to-memory imbalance

More in-memory computing

Run more workloads with better CPU utilization!

Improved Visibility of GPU Resources

Configure vGPU profiles from the vSphere client



The screenshot shows the vSphere Client interface with the navigation bar at the top. The left sidebar shows the hierarchy: vcenter1.acme.com > datacenter > cluster-1. The 'cluster-1' node is selected. The main content area is titled 'vGPU Profile Utilization'. It has two tabs: 'VIEW BY VMs' (selected) and 'VIEW BY DIRECTPATH PROFILES'. A 'MANAGE DIRECTPATH PROFILES' button is located in the top right of this section. Below these tabs is a legend with three items: 'Consumed' (orange), 'Remaining' (blue), and 'Constrained' (grey). A table follows, listing five vGPU profiles with their details:

Name	Description	Consumed	Remaining	Maximum	Utilization	Vendor
bronze-level-NVIDIA-A100-vGPU	NVIDIA A100 vGPU 2GB profile for AI inference	8 instances	6 instance	20 instances	0 - 20	NVIDIA
silver-level-NVIDIA-A100-vGPU	NVIDIA A100 vGPU 4GB profile for AI inference	2 instances	8 instances	10 instances	0 - 10	NVIDIA
NVIDIA-grid_a 100-10a-vGPU	--	1 instance	2 instances	5 instances	0 - 5	NVIDIA
NVIDIA-grid_a 100-8a-vGPU	--	6 instances	0 instances	7 instances	0 - 7	NVIDIA
NVIDIA-grid_a 100-20a-vGPU	--	1 instance	1 instance	2 instances	0 - 2	NVIDIA

At the bottom of the table are buttons for 'Manage Columns' and a page navigation bar showing '1 - 5 of 7 items'.

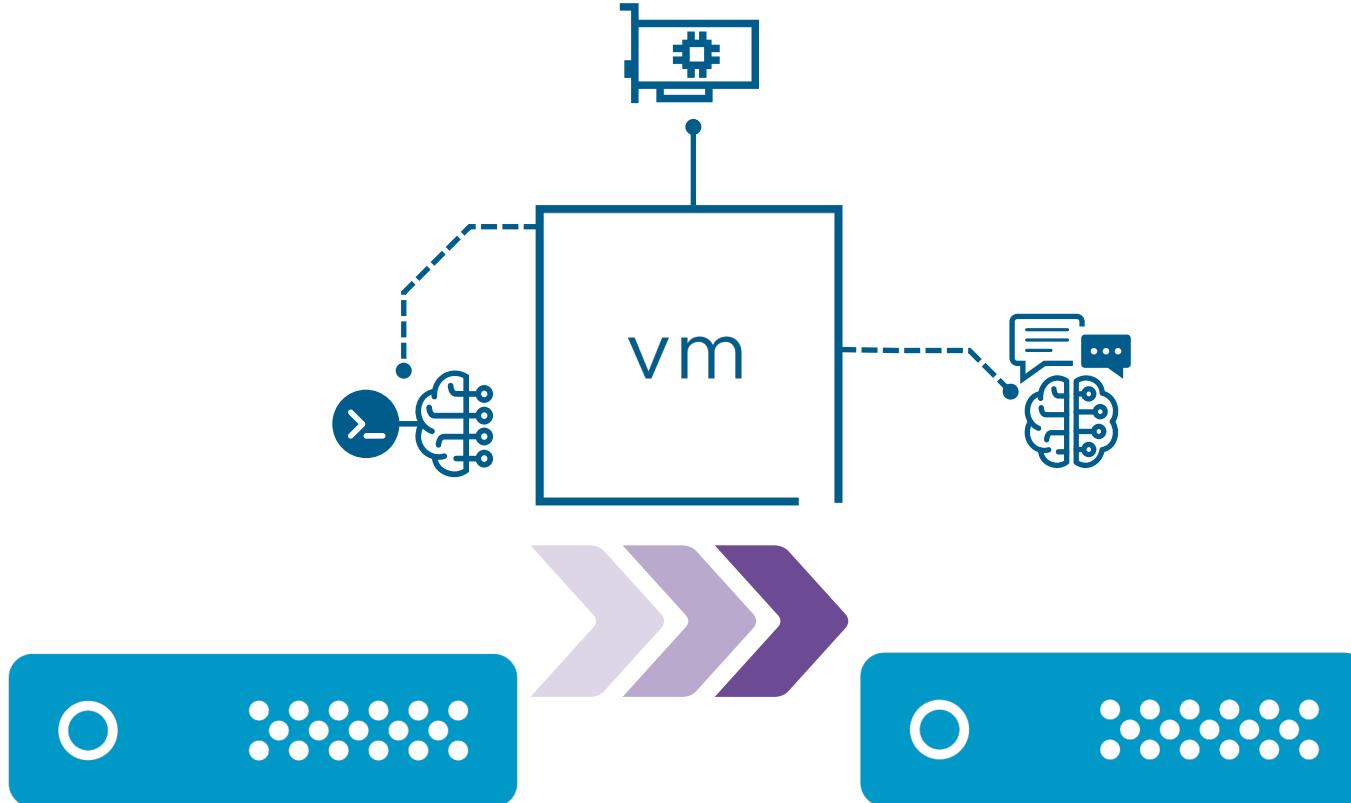
Configure vGPU Profiles for improved visibility of valuable GPU resources

Allows admins to perform capacity assessment and planning of GPU resources

Once configured vGPU profiles can be viewed by Profile name or VM name

Increased Uptime for AI/ML Workloads

Improved vMotion for vGPU enabled VMs



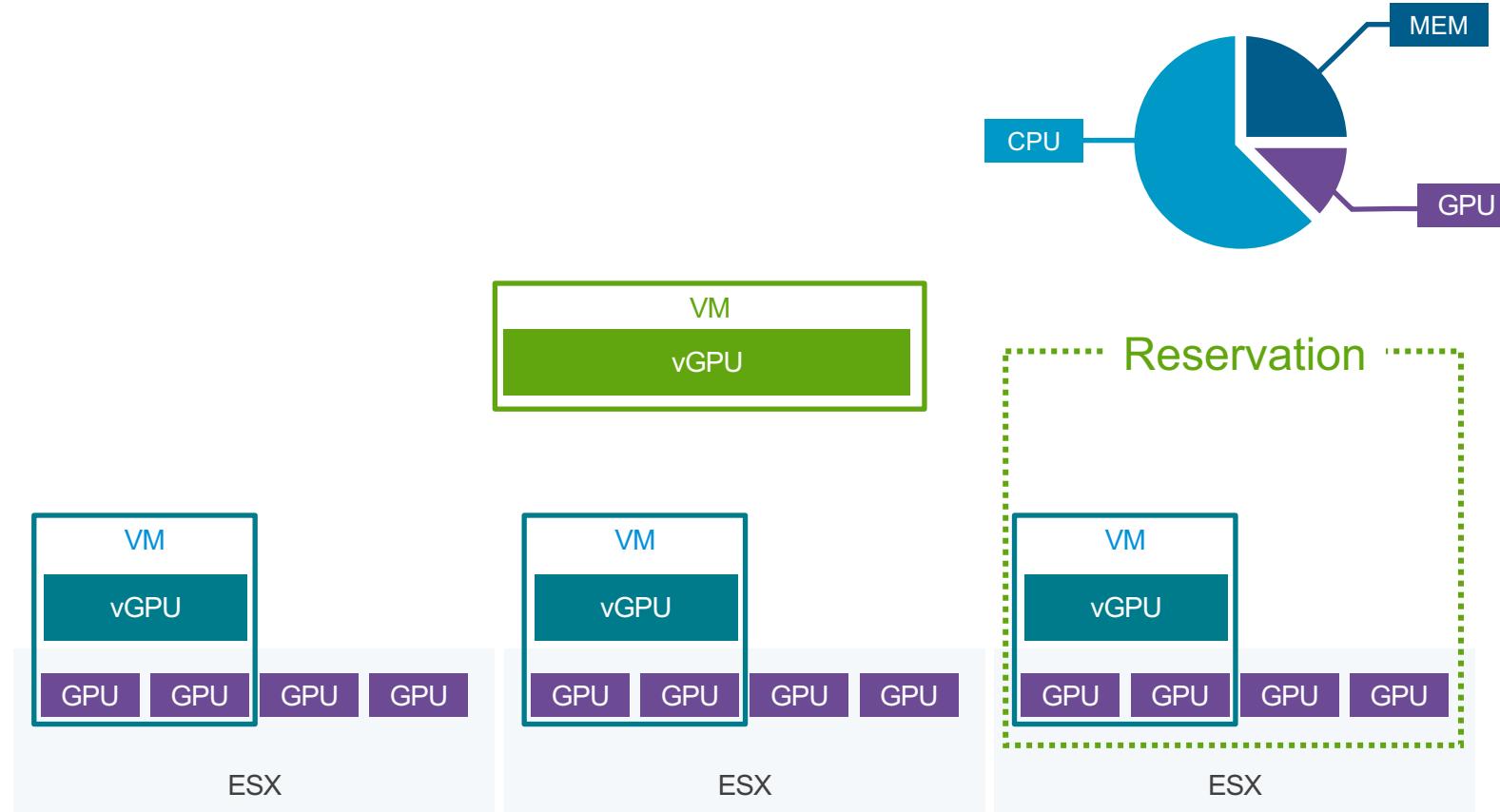
FSR vGPU enabled
VMs even faster

Migrate large vGPU
VMs with less stun
time

**~2 second stun
time for 48GB
vGPU profile**

Achieve Improved Capacity Planning

Intelligent vSphere DRS GPU Resource Placement



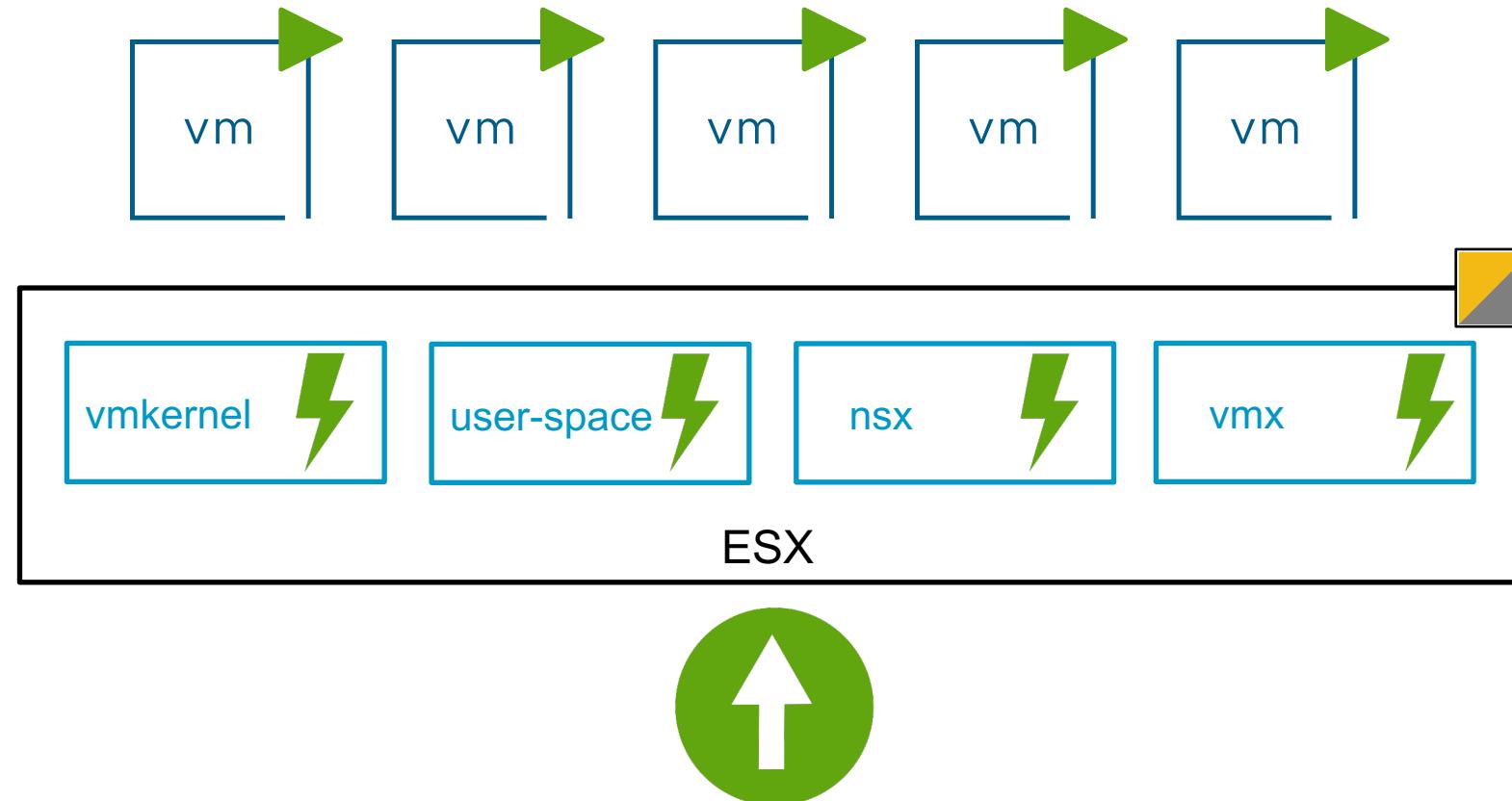
Reserve resource pools for AI applications for future capacity needs

Reservations are defined in Supervisor Namespaces

Raise performance and streamline operations

Patch vSphere Clusters Faster and Less Disruptively

Live Patch even more of ESX



Live Patch vmkernel,
user-space and NSX
components

ESX service restarts
required (non-
disruptive)

Fast-Suspend-
Resume remediates
VMs

**No Evacuation,
VMs stay running**

Virtualized Hardware Innovations

Virtual Hardware Version 22

Up to 960 vCPU

Latest CPU support

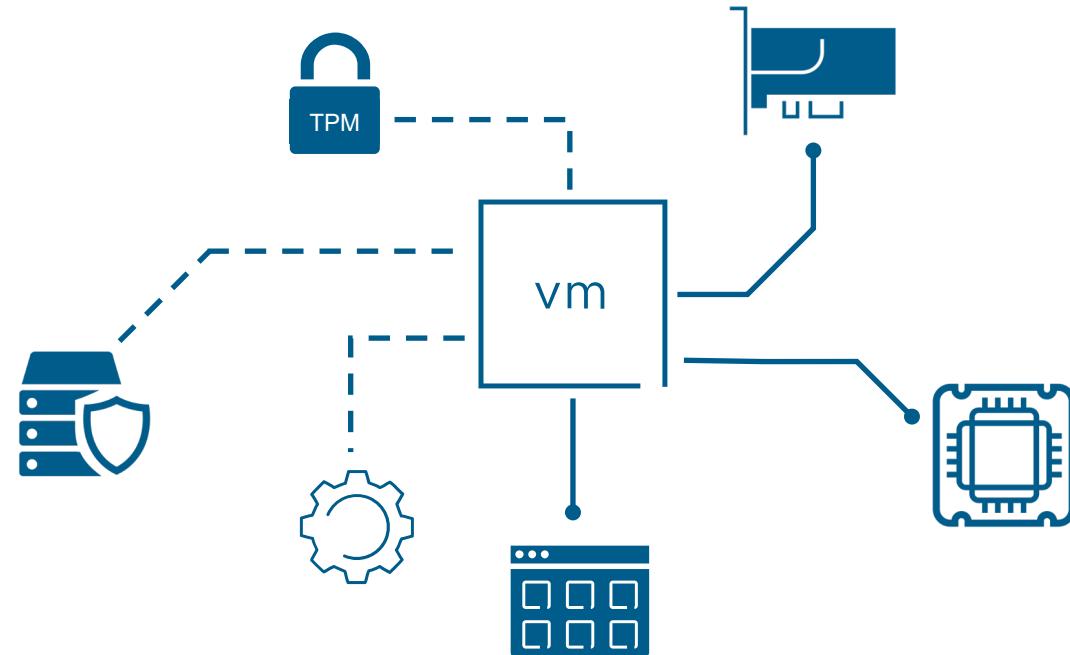
Latest Guest OS support

AMD SEV-SNP and Intel TDX

TPM Spec 2.0 Rev 1.59

New Guest Customization APIs

Virtual NVMe namespace write protection



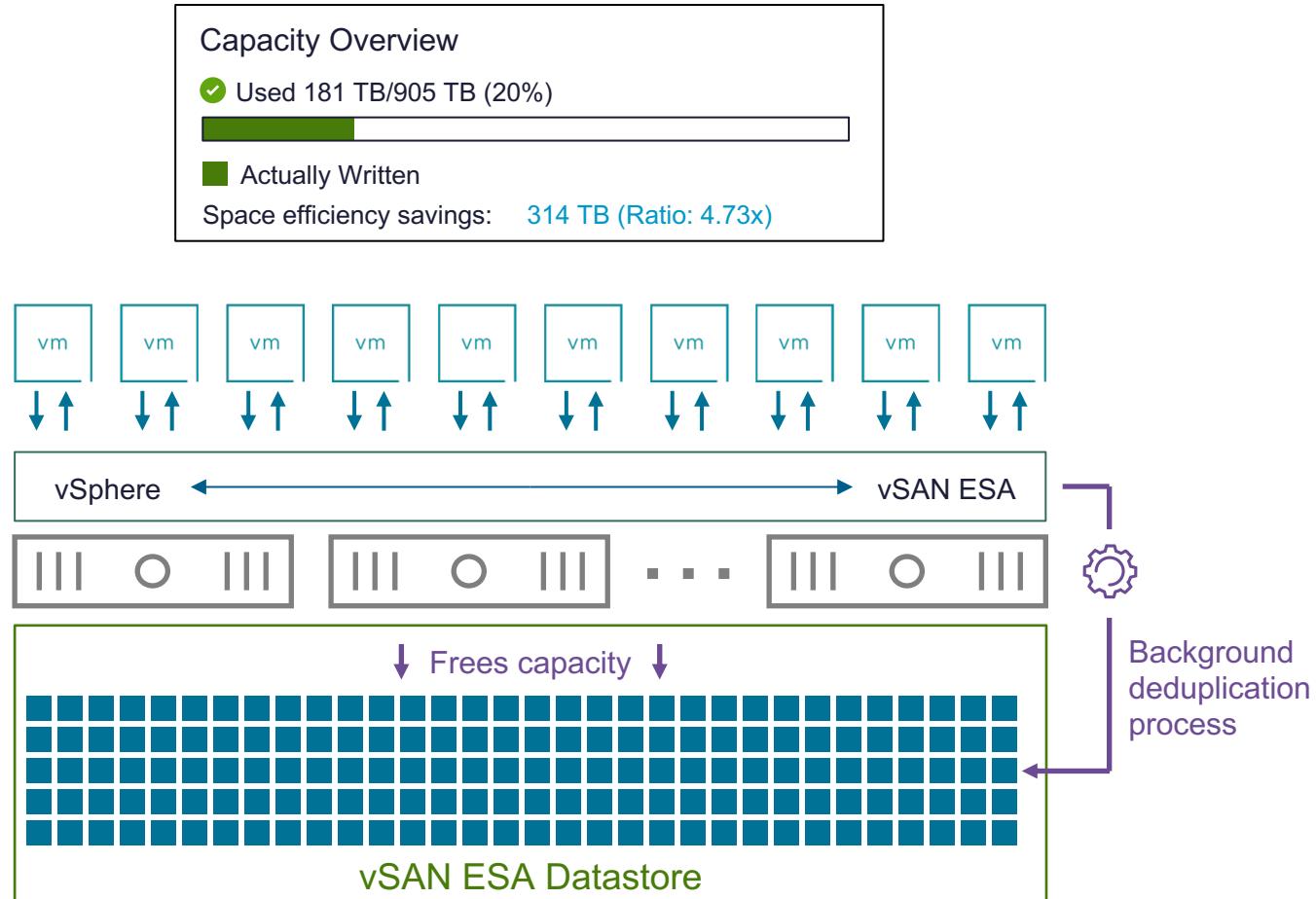
SDDC Infrastructure

STORAGE | vSAN

- vSAN Cluster-wide Deduplication
- vSAN Storage Cluster Traffic Separation
- Improved Scalability with vSAN File Services
- vSAN Stretched Cluster Enhancements

Additional Space Efficiency Reducing Cost Per TB

Cluster-wide deduplication in vSAN ESA as a part of VCF 9.0 (Limited Availability)



Effective. Optimized for maximum space efficiency

- Uses 4KB granularity
- Cluster-wide dedup domain

Runs asynchronously

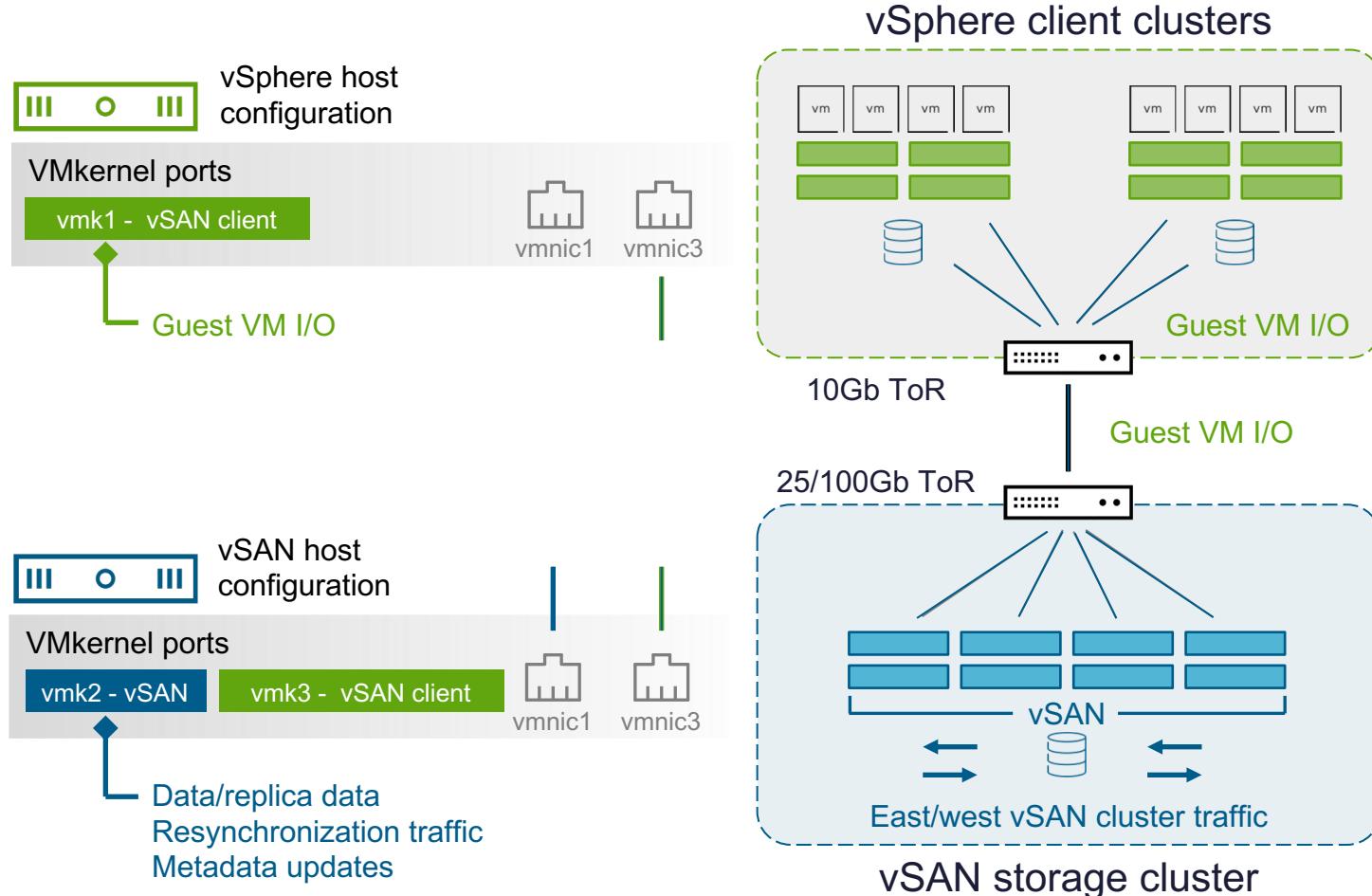
- Adaptive throttling
- Minimal performance impact

vSAN data services integration

- Compression
- Snapshots and clones
- Erasure coding & mirroring
- Data-in-Transit encryption

Faster Performance and Reduced Network Traffic

Network traffic separation for vSAN storage clusters in VCF 9.0



vSAN cluster traffic isolated from vSphere clusters accessing datastore of vSAN storage cluster

Dedicated VMkernel interfaces for:

- vSAN cluster traffic
- vSphere client clusters mounting vSAN storage cluster datastore

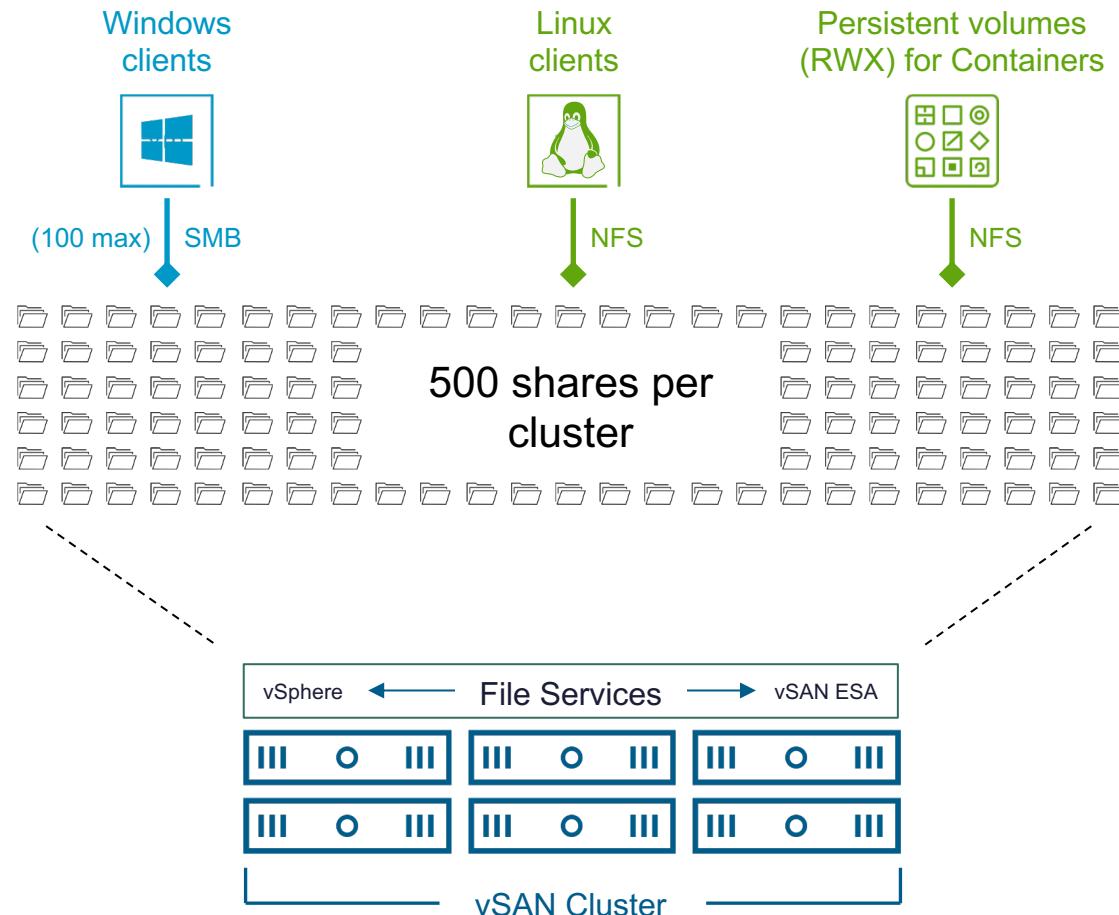
Improves performance and simplifies management

Minimizes network traffic to/from client clusters

- Compressed
- Isolated

Improved Scalability with vSAN File Services in vSAN ESA

Support of up to 500 file shares per cluster in vSAN File Services



2x increase in number of shares supported **per cluster** in vSAN File Services

Beneficial to all use cases

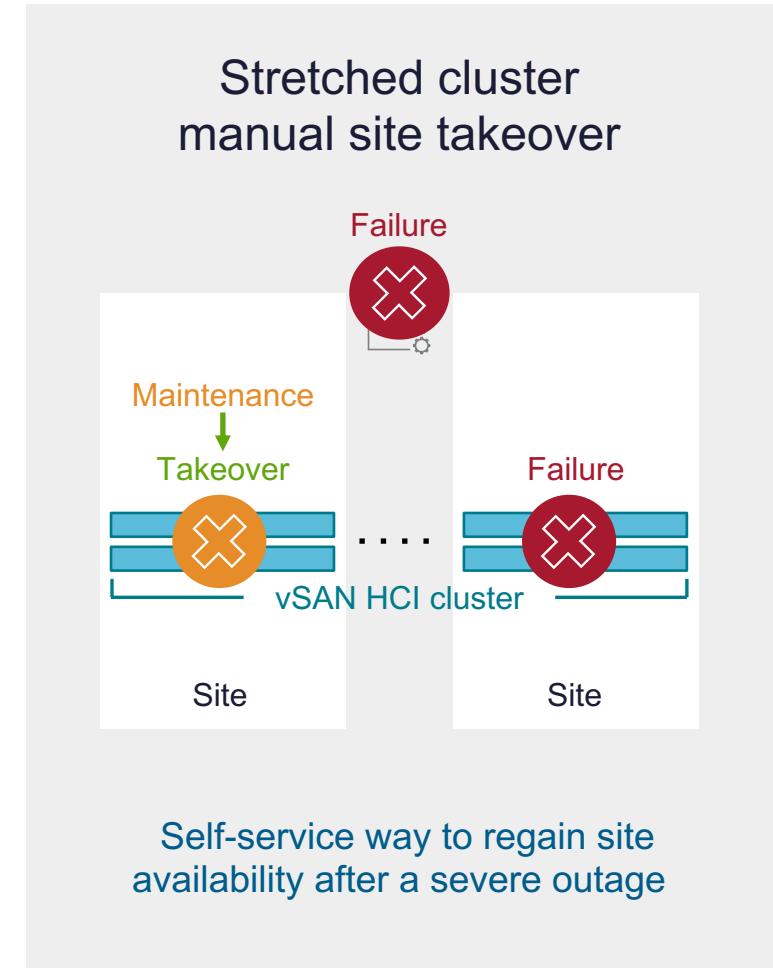
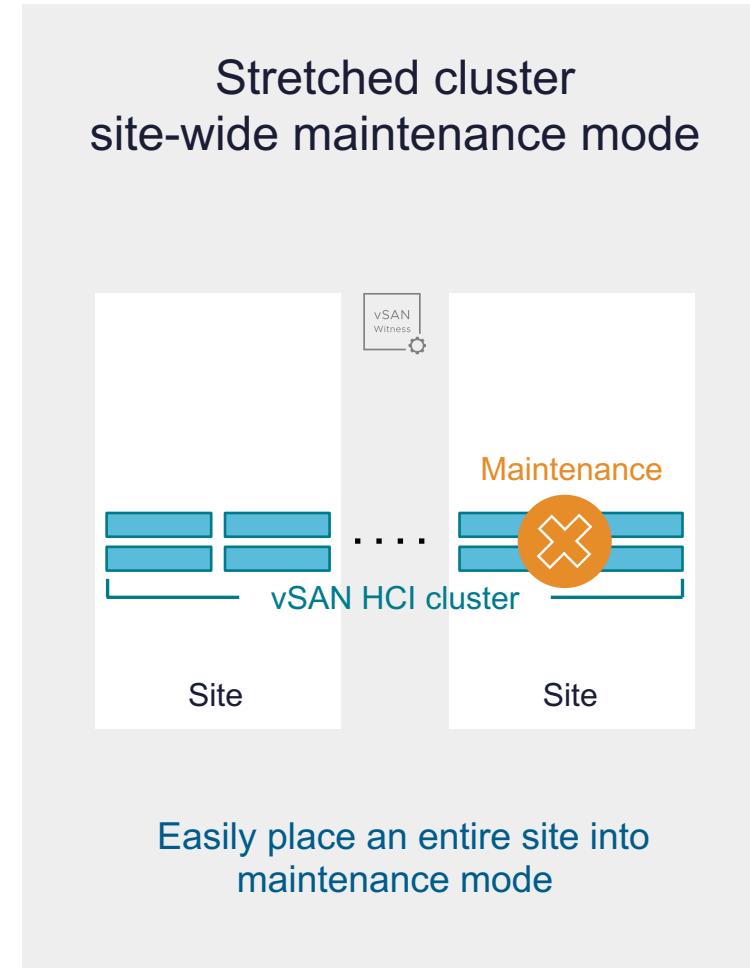
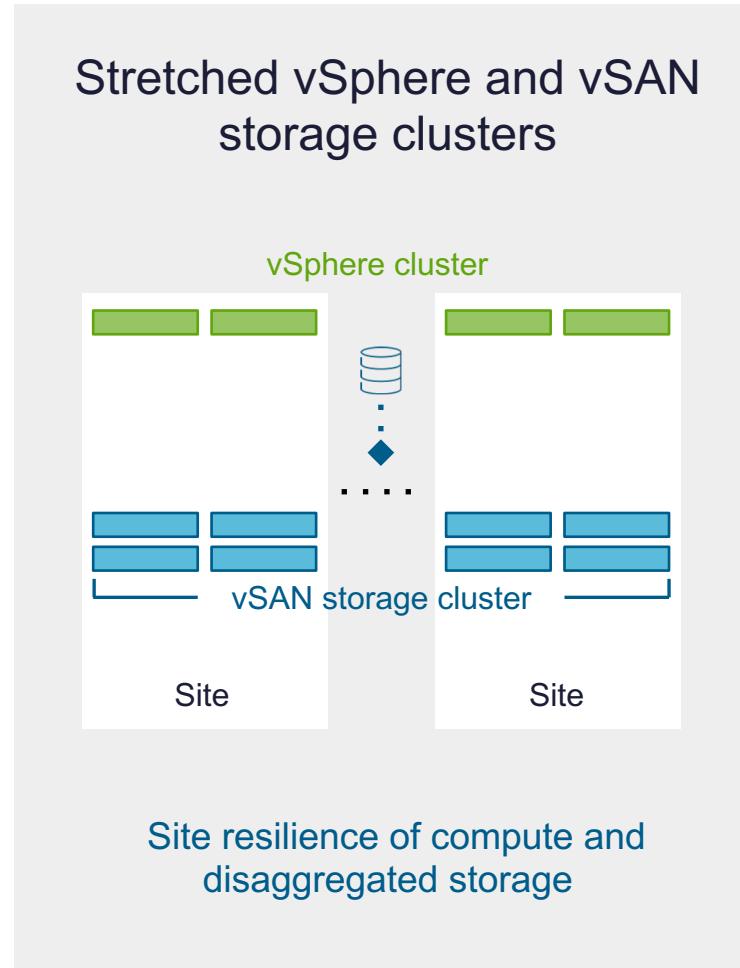
- Cloud native workloads using RWX persistent volumes
- NFS or SMB shares for guest VMs
- NFS or SMB for legacy physical servers

Cluster limit can be a combination of NFS and SMB shares

- No greater than 100 SMB shares per cluster

Improved Flexibility, Operations and Uptime for Stretched Clusters

Support for vSAN storage clusters and new site maintenance and site takeover capabilities



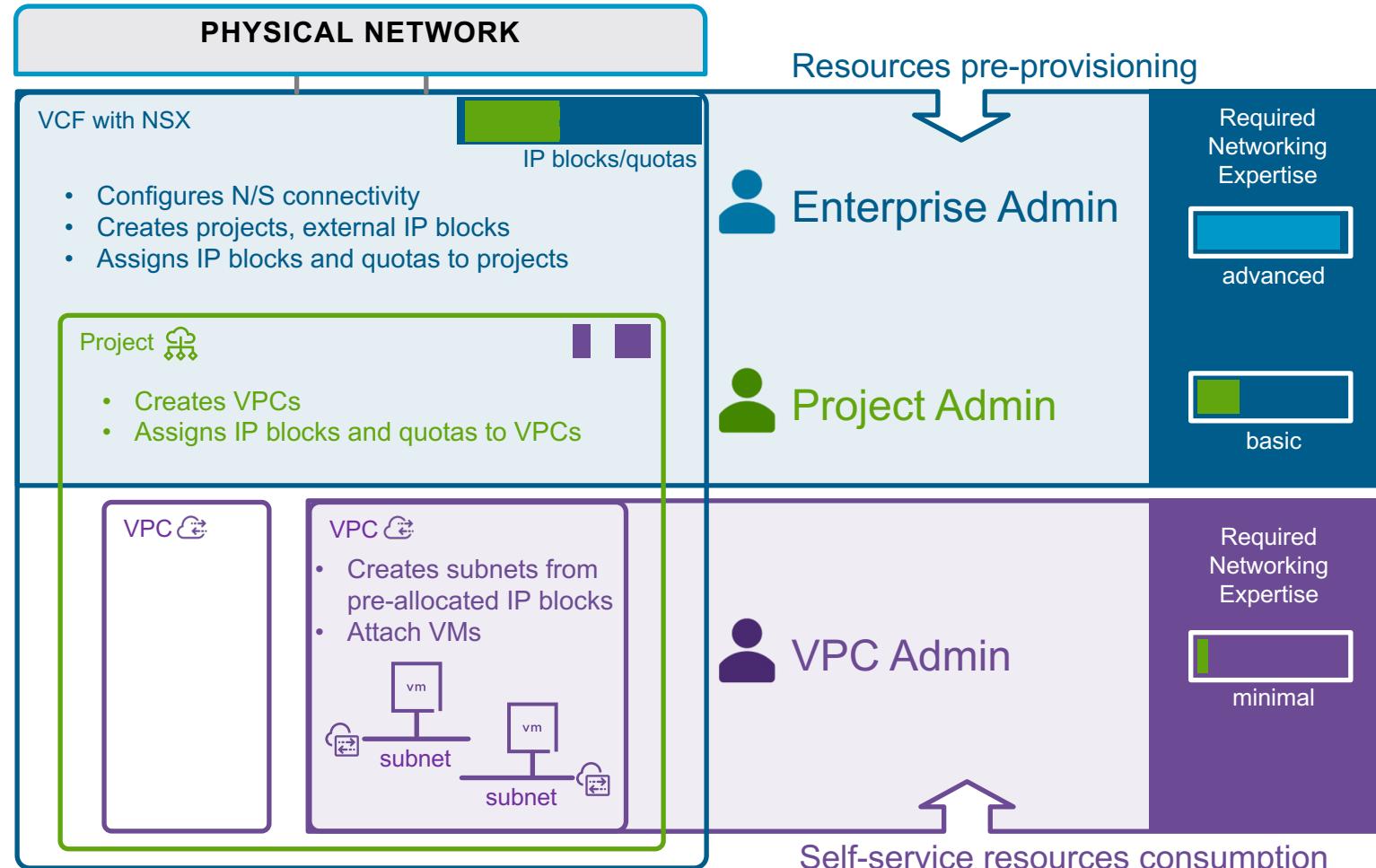
SDDC Infrastructure

NETWORKING | NSX

- Simple Networking with Virtual Private Clouds
- Consume VPCs in vCenter and VCF Automation
- Easily Deploy NSX Edges
- Independent Connectivity Options for each Tier
- External Connectivity with Centralized Services
- External Connectivity with NSX Edges
- High Performance Switching (EDP)

Simple Networking with Virtual Private Clouds (VPCs)

Consistent implementation of Virtual Private Clouds (VPCs) across the platform



Clear role definition allows self-service networking

Enterprise Admin:

- Owns the physical infrastructure

Project Admin:

- A tenant
- No direct access to physical network

VPC Admin:

- End user
- Simple, self-service networking

Consume VPCs in vCenter and VCF Automation

Consistent implementation of Virtual Private Clouds (VPCs) across the platform

vSphere Client Search in all environments C Administrator@VSHERE.LOCAL

my VPC ACTIONS

Summary Monitor

Alarm Definitions

Settings

Properties

Topology

External IPs

my VPC VPC

100.64.0.1/31

VPC Gateway

Select Network

VPC Subnets Distributed Port Groups

Name	Virtual Private Cloud	Location
app-subnet	my VPC	Virtual Private Clouds
new-sub1	new VPC	NSX Managed Folders > new
sub-vpc2	VPC2	NSX Managed Folders > new
web-subnet	my VPC	Virtual Private Clouds

CANCEL OK

VPCs can be configured directly from vCenter and VCF Automation

VPCs and subnets are first-class objects

Attaching a VM to a subnet is straightforward

Easily Deploy NSX Edges

Guided edge deployment workflow available in vCenter

vSphere Client

Configure Edge Node

Edge Node Name (FQDN) * edge1.corp.vmbeans.com

vSphere Cluster * vcenter-mgt-paris-cl01

Resource Pool Resources

Host Group Affinity No

Data Store * vcenter-mgt-paris-cl01-ds-vsan01

Management IP

IP Allocation DHCP Static

Port Group * mgt

Management IP * 192.168.110.11/24

Default Gateway 192.168.110.1

Uplinks

Edge Node Uplink Mapping

Virtual Interfaces	Interfaces	Active PNICs	Standby PNICs
1	fp-eth0	vmnic0	vmnic1
2	fp-eth1	vmnic1	vmnic0

TEP VLAN * 100

IP Allocation (TEP)

DHCP IP Pool

Static IP List

IP Pool * Range-Mgt-TEP

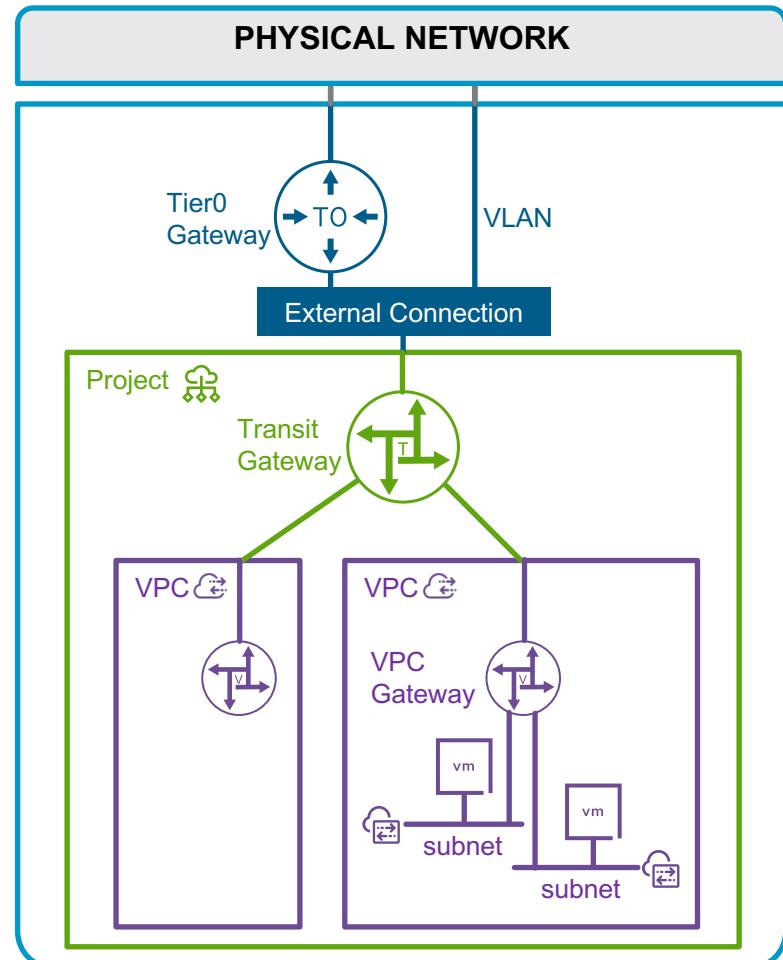
The diagram shows a host connected to a vcenter-mgt-p... cluster. On the host, there is a Management interface (eth0) and an edge1 interface. The edge1 interface is connected to an edge1-fp-eth0 port group, which is further connected to an edge1-fp-eth1 port group. Both edge1-fp-eth0 and edge1-fp-eth1 are connected to an Overlay/VLAN interface. The edge1-fp-eth0 port group has two active uplinks: vmnic0 and vmnic1. The edge1-fp-eth1 port group has two standby uplinks: vmnic1 and vmnic0. A legend at the bottom right indicates that solid lines represent Active connections and dashed lines represent Standby connections.

Deploy Edges with a simple vCenter UI workflow in VCF 9.0:

- The user is guided through entering the required parameters
- A graphical representation is generated in real time

Independent Connectivity Options for Each Tier

Introducing the Transit Gateway and VPC Gateway



The enterprise admin creates external connections

- They represent connectivity to the physical network
- Can be **centralized or distributed** (resp. Tier0 or VLAN)

Transit Gateway (TGW)

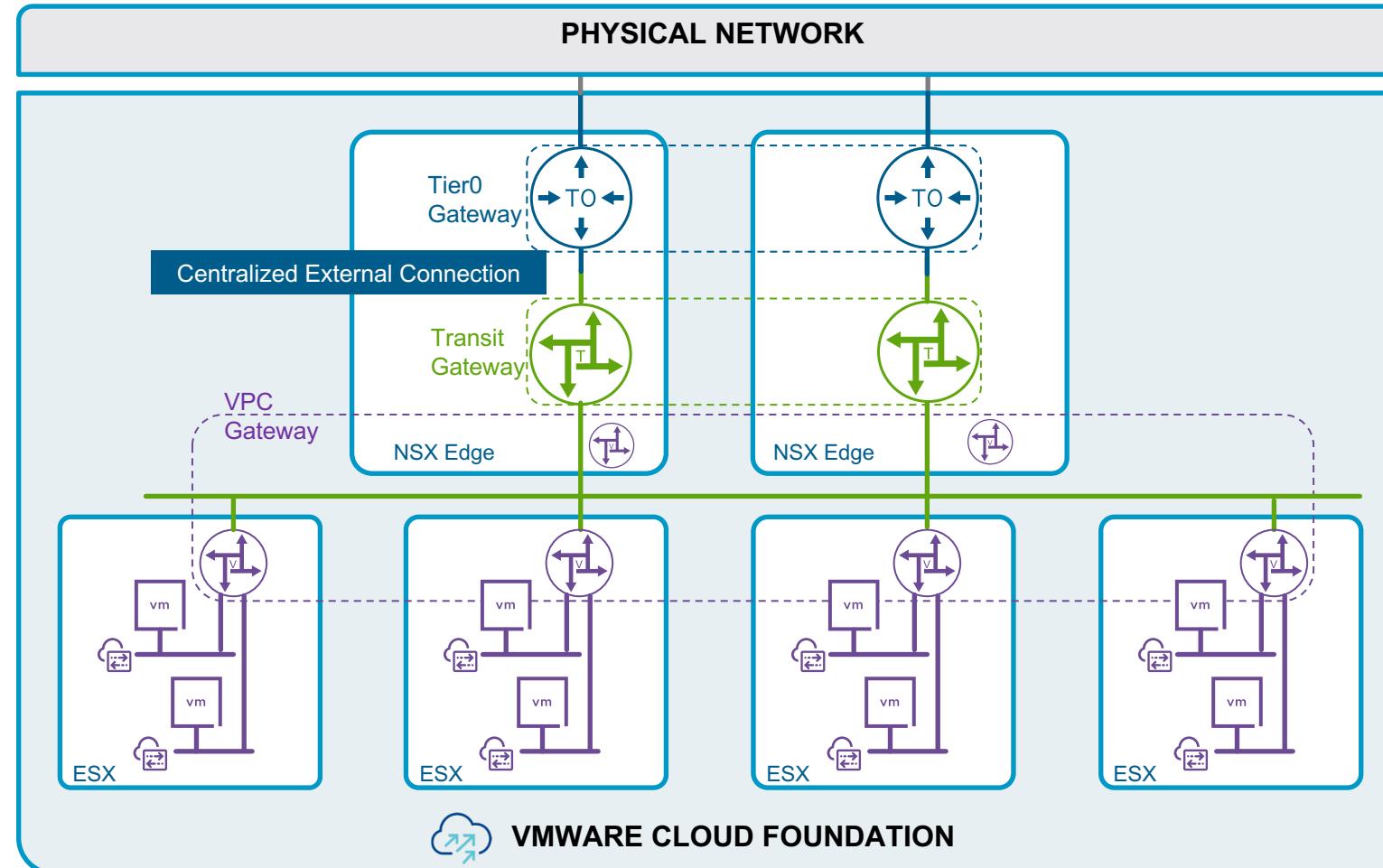
- Owned by the project admin
- One per project today
- Can be **centralized or distributed**, based on the external connection selected by the project admin for N/S connectivity

Virtual Private Cloud Gateway (VPC GW)

- Local to a VPC
- The transit gateway interconnects the VPC gateways within a project

External Connectivity with Centralized Services

Centralized Transit Gateway



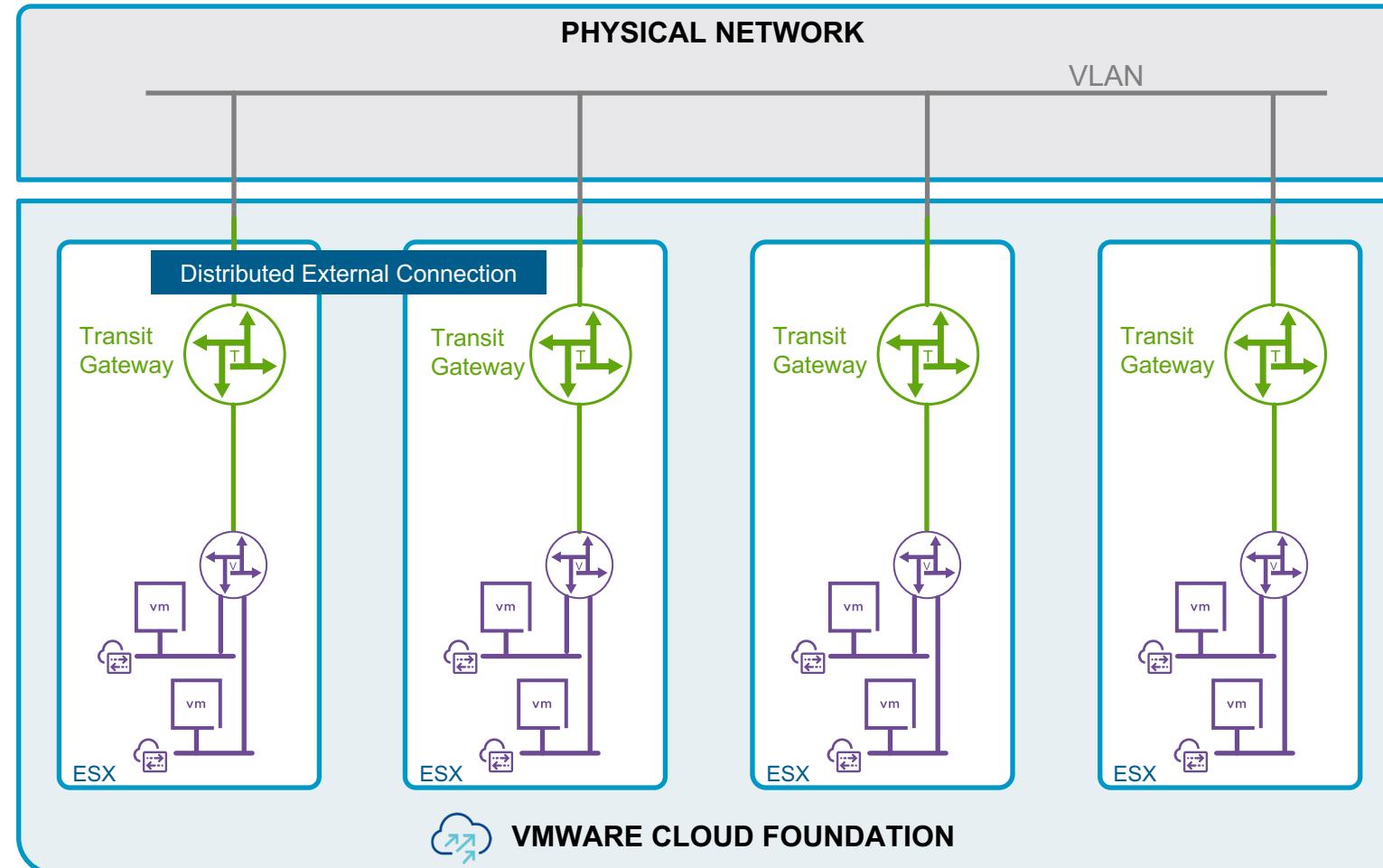
When attached to a **centralized** external connection, the transit gateway has a component running on an NSX edge.

NSX edges required for:

- NAT
- DHCP
- QoS profiles
- Gateway firewall (with license)
- Supervisor cluster and VCF automation modern experience

External Connectivity without NSX Edges

Distributed Transit Gateway



The transit gateway can attach to a **distributed** external connection.

In that case, it has no centralized component:

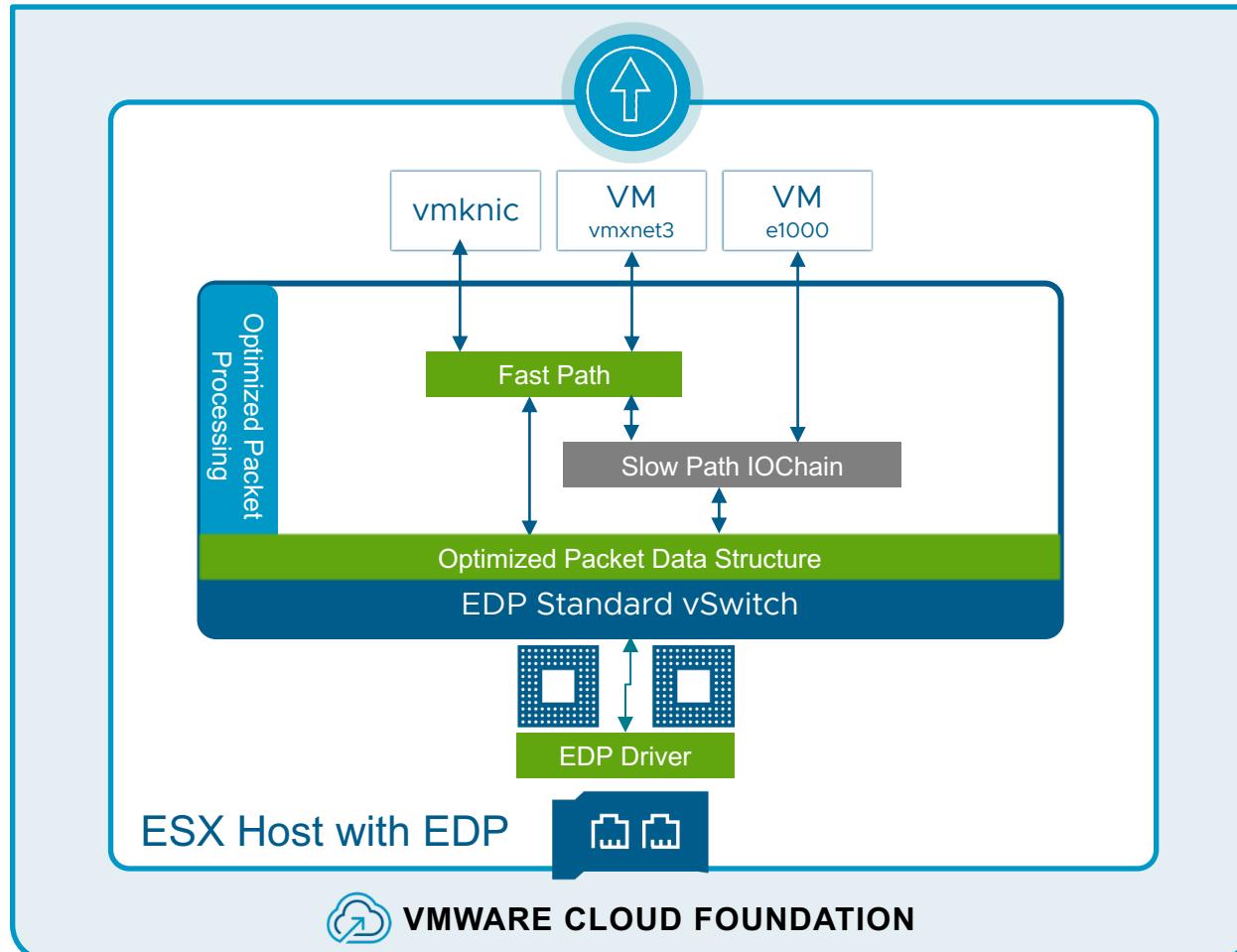
- NSX edges are not required
- All ESX hosts must be connected to a VLAN providing an IP block for external addresses used by VMs

Distributed services:

- 1:1 NAT and
- distributed DHCP

High Performance Switching out of the box

Enhanced Data Path (EDP) Standard as a default



Enhanced Data Path (EDP) standard is enabled by default for new VCF 9.0 deployments

- Does not require tuning
- 50-70% increased performance (for both bandwidth and packets per second)
- EDP driver with improved pNIC queue distribution (pooling and allocations)

EDP dedicated mode can also be configured, as well as the original “standard” VDS mode.

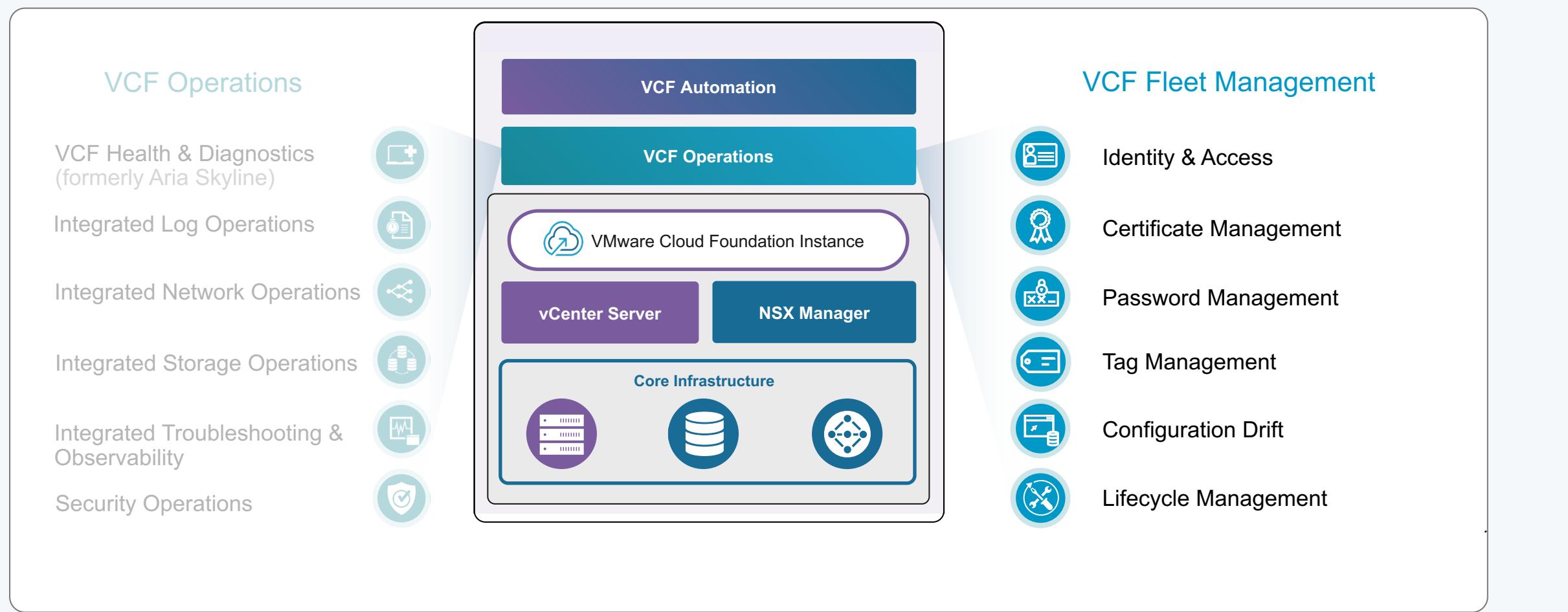
Fleet Management

VCF OPERATIONS

- Unified Operations Experience
- Centralized Fleet Lifecycle Management
- Non-disruptive Upgrades
- Single Sign-on for Administrator Access
- Centralized Certificate Management
- Centralized Password Management
- Configuration Drift Management and Assessment
- Unified Tag Management
- VCF Download Tool for Disconnected Sites

Unified Operations Experience

VCF Operations and VCF Fleet Management



Simplified Lifecycle for VCF Management Components

VCF Operations Fleet Management

VMware Cloud Foundation Operations

Search for an object or select a category from the list below; like metric, feature, dashboard and more ...

VCF Management

Overview Components Tasks Binary Management Depot Configuration Settings

RETURN TO TASKS

Successful	Total Duration
Stage 1	734ms
Stage 2	1s
Stage 3	1h 6m
Stage 4	4s
Stage 5	1h 45m
Stage 6	10s
Stage 7	33s
Stage 8	12s
Stage 9	2s
Stage 10	23s
Stage 11	319ms
Stage 12	1s

Operations-logs import environment (16s)

Push Capabilities to services platform (26s)

Update environment details (692ms)

snapshotInventoryCompute (148ms)

Operations-logs import environment (16s)

Push Capabilities to services platform (26s)

Update environment details (692ms)

snapshotInventoryCompute (148ms)

Enable and manage components from the Overview pane

- Available for VCF Automation, VCF Identity Broker and VCF Operations Fleet Management

“Plan Upgrades” efficiently

Integrations and lifecycle of management components converged into VCF Operations

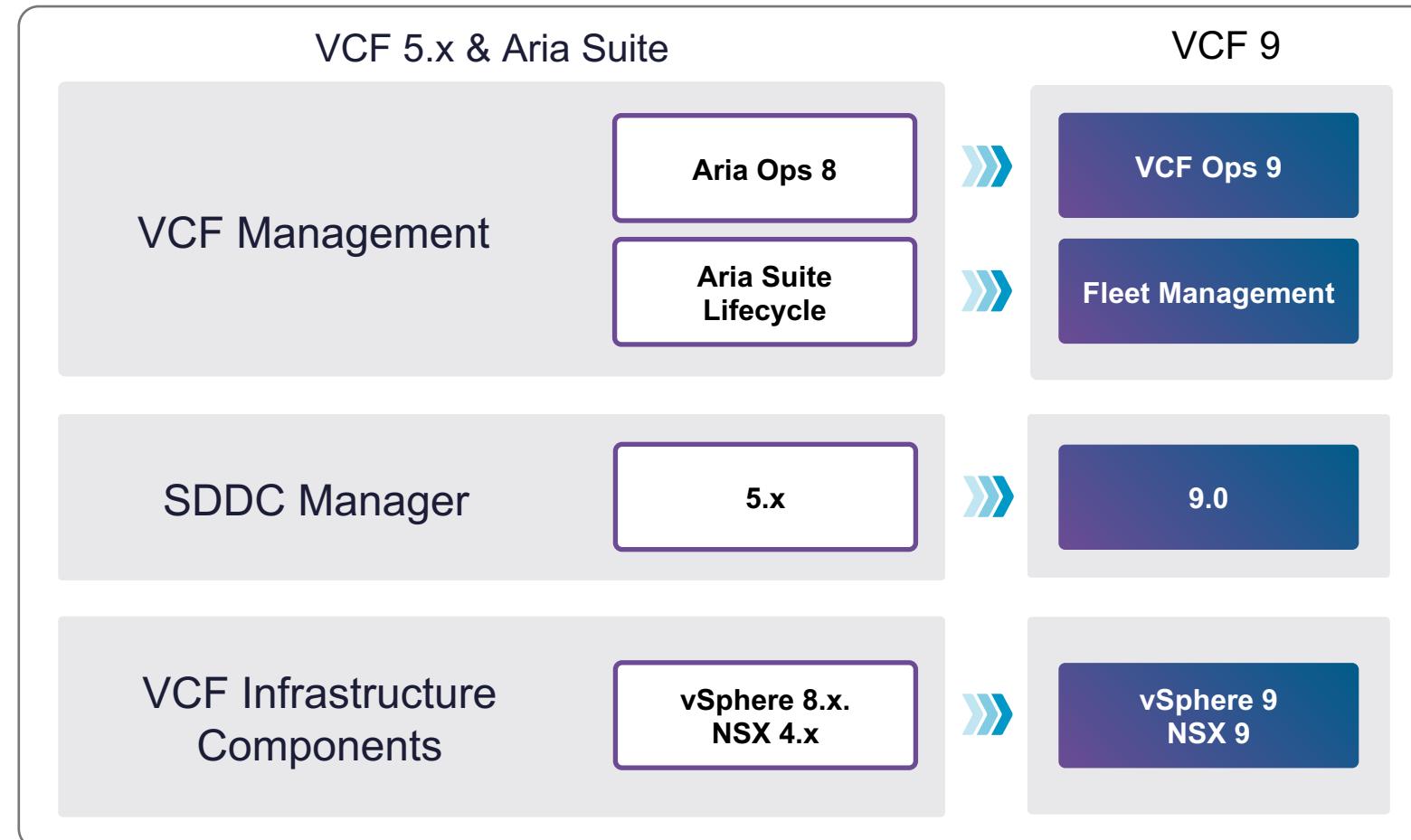
VCF Depot integration for binaries

- Online, Air-Gapped and Dark-Sites

Backup & Restore

Nondisruptive Upgrades to VCF 9

Move up to the latest version without migration or conversion



Key Benefits

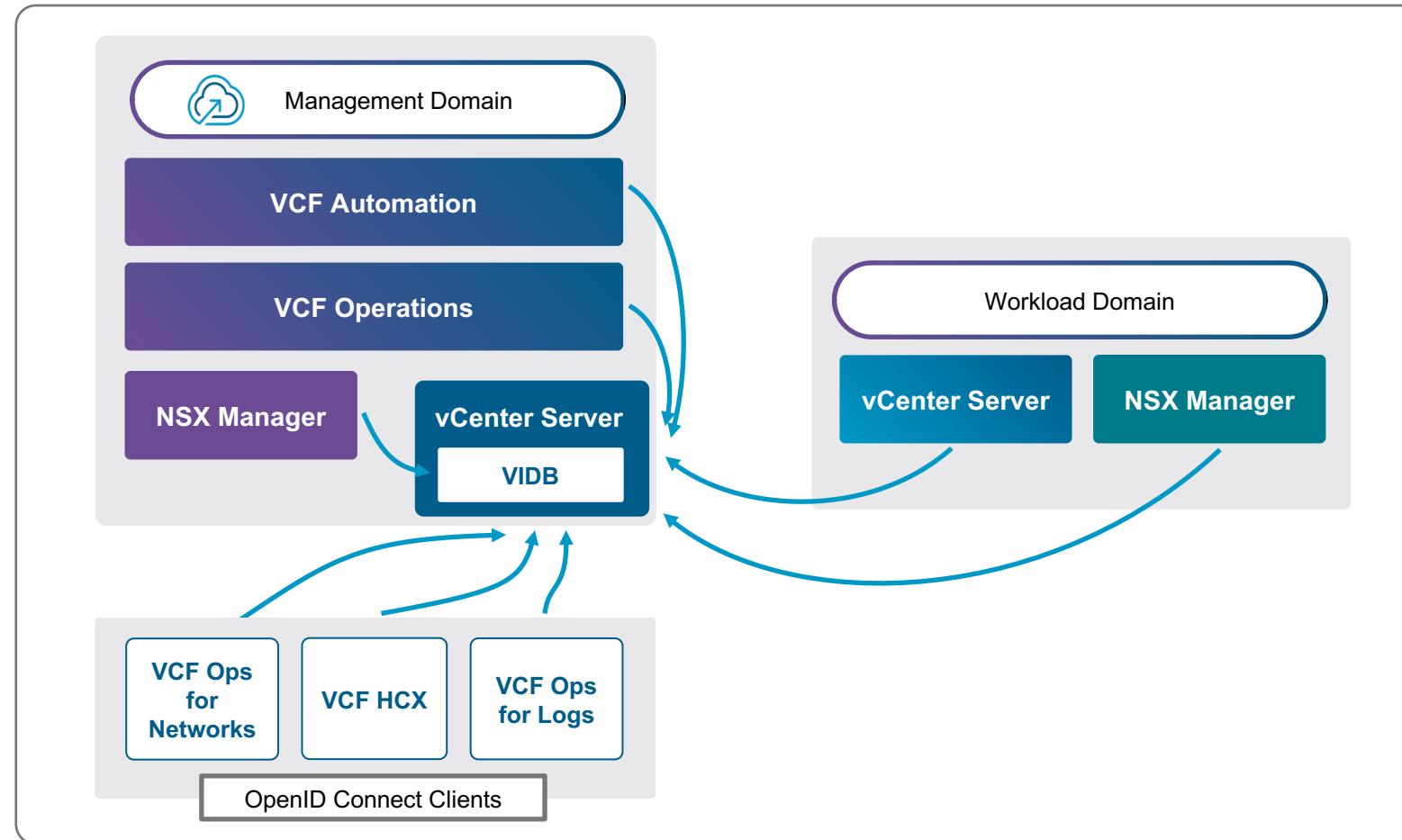
- In-place upgrade from 5.x to 9
- No need to procure additional hardware to migrate
- Take advantage of latest capabilities, including vLCM images

Technical Value

- Upgrade to VCF Operations 9 & deploy Fleet Management
- SDDC Manager 5.x → 9.0
- VCF Ops upgrades remaining infrastructure components

Single Sign-On for Administrator Access Across VCF

New modern identity broker simplifies configuration



All new design with two modes:

- Embedded
- External appliance cluster (supports multiple VCF instances)

Automatic configuration

- vCenter, NSX, Ops, Automation

Supports modern and directory-based identity providers

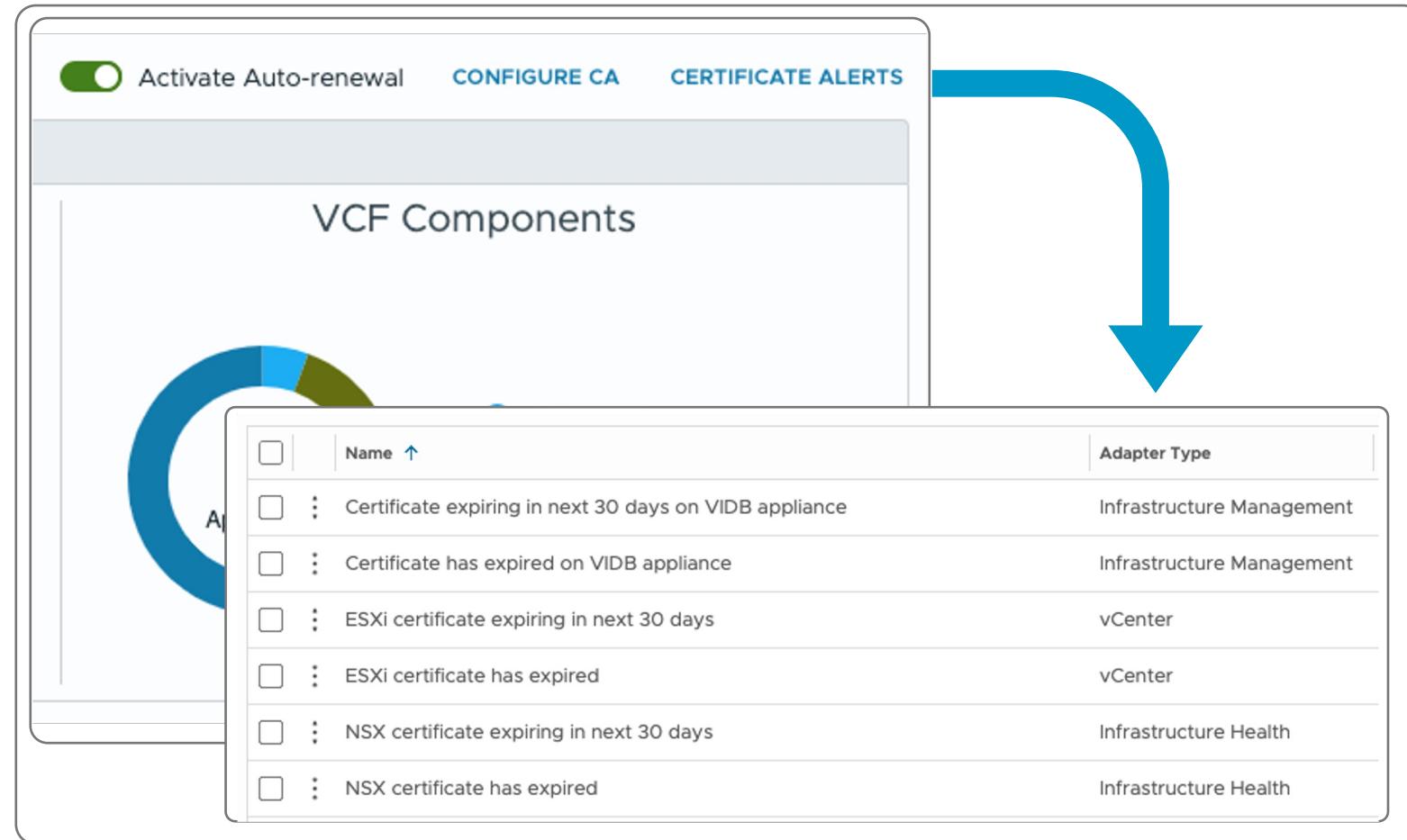
- SAML 2, OIDC, or AD/LDAP

Privileges are set for each VCF component according to user/group

No connector needed, since VIDB is inside the firewall

Centralized Certificate Management

Non-disruptive certificate updates for VCF infrastructure and management components



One interface to manage certificates for VCF Infrastructure & Management components

Supports Microsoft, OpenSSL, or external certificate authorities

Automatic renewal

VCF Operations alerts configured out of the box

Manage VMware ESX host certs

New non-disruptive (NDC) architecture delivers fast and reliable certificate updates

Centralized Password Management

Simplified password management across infrastructure and management components

The screenshot shows the VMware Cloud Foundation Operations interface. The left sidebar has navigation icons. The main area is titled 'Prod' and contains two circular dashboards: 'Account Status' (27 Total Accounts, 27 Active) and 'VCF Components' (19 Total Components, breakdown: 4 NSX Manager, 2 vCenter, 1 SDDC Manager, 12 ESX). Below these are tables for 'VCF Component' details and 'User Accounts'.

VCF Component	Appliance IP/FQDN	User Name	Account Type	Credential Type
NSX Manager	mgmt-nsx.vcf.sddc.lab	admin	SYSTEM	API
NSX Manager	mgmt-nsx.vcf.sddc.lab	audit	SYSTEM	AUDIT
NSX Manager	mgmt-nsx.vcf.sddc.lab	root	SYSTEM	SSH

Manage the key “break glass” admin accounts for VCF components

Passwords can be **reset** in the case they are forgotten

Remediation is used to sync a password that was changed directly on a component

VCF Operations alerts to warn of upcoming password expiration

No longer a need to rotate service accounts – managed internally

Easily Monitor and Address Configuration Differences

Configuration Drift Management and Assessment

The screenshot shows the VMware Cloud Foundation Operations interface. At the top, there's a search bar and a navigation bar with icons for smiley face, refresh, notifications, and user profile. Below the header, there are two donut charts: 'vCenter Instances Drift Status' (25 instances) and 'Clusters Drift Status' (50 clusters). Each chart has four segments: Not Drifted (green), Drift Detected (yellow), Drift Check Failed (red), and Drift Check in Progress (dark grey). Below the charts is a section for 'VCF Instance 1' with tabs for 'Overview' and 'Drifts'. Under 'Drifts', it shows 'vCenter Instances' (Enabled vCenter Instances: 5) and 'Clusters' (Enabled Clusters: 21). There are buttons for 'DETECT DRIFT' and 'DOWNLOAD DRIFT STATUS REPORT'. A table lists drift status for specific clusters:

Cluster	Drift Status	vCenter	Last Drift Check
Cluster-1	⚠️ Drift Detected	sc2-18-185-246-91.eng.vmware.com	xx/xx/xx xx:xx AM
Cluster-2	✅ Not Drifted	sc2-18-185-246-91.eng.vmware.com	xx/xx/xx xx:xx AM

Centrally monitor configuration drift across clusters and vCenters

- Deliver smooth operations with consistency and compliance
- Reduce risk of security breaches
- Ensure environments run smoothly
- Automate Drift Detection
- Schedule Configuration Drift Reports & automate drift detection
- Create and edit Configuration Drift templates
- Control template versioning with Git-Integration

Manage, Identify and Organize Resources

Unified Tag Management

The screenshot shows the VMware Cloud Foundation Operations interface for managing tags. The left sidebar contains navigation icons. The top bar has a search bar and user icons. The main content area is titled 'Tags'. It features a 'Filters' section with 'Tags Per Object' (Multiple or Single) and 'Associable Object Types' (Compute, Cluster, Content Library, Datacenter, Datastore, Datastore Cluster, Distributed Port Group, Distributed Switch, Folder, Host, Library Item, Network, Resource Pool, vApp). A 'CREATE', 'EDIT', 'DELETE', and 'PUSH CATEGORIES' button is available. A modal window titled 'Compute' provides details about resources managed by access control mechanisms and policies, listing 'Tags per object' as Multiple and 'Associable object types' as Compute. Another modal shows 'Tag Values' with items like Standard Host, Requires Attention, Remote, Overcommitment, Load Balancer, Intrusion Detection, and GPU-Enabled Host.

Create, edit, delete categories and tags from a single pane of glass

Import brownfield categories and tags from vCenters and evaluate conflicts

Push categories and tags to vCenters

Pushed tags are persisted across vCenters after vMotion

Centralized consistent behavior across services to create and manage tags

Identify and eliminate duplicate tags across vCenters

VCF Download Tool for Disconnected Sites

Command-line utility supports new, enhanced offline depot and binary transfer scenarios

Binary Download Summary:

Component	Version	Image Type	Status
VROPS	9.0.0.0.24545534	PATCH	SUCCESS
NSX_T_MANAGER	9.0.0.0.24545624	PATCH	SUCCESS
VCENTER	9.0.0.0.24546153	PATCH	SUCCESS
VRA	9.0.0.0.24537489	PATCH	SUCCESS
SDDC_MANAGER_VCF	9.0.0.0.24541835	PATCH	ALREADY_DOWNLOADED

New binary download tool

- Supports VCF 9+
- Integrates infrastructure bundles and UMDS host patches

Essential for disconnected sites

- Initial VCF installation
- Ongoing lifecycle management

VCF 5.x and below continue to use the original OBTU tool

Private Cloud Operations

VCF OPERATIONS

- Integrated Infrastructure Operations - Network
- Integrated Infrastructure Operations – Storage
- Integrated Infrastructure Operations - Logs
- Health and Diagnostics
- Fin-Ops – Chargeback
- Workload Migration Planning

Private Cloud Operations

VCF Operations

VCF Operations

VCF Health & Diagnostics
(formerly Aria Skyline)



Integrated Log Operations



Integrated Network Operations



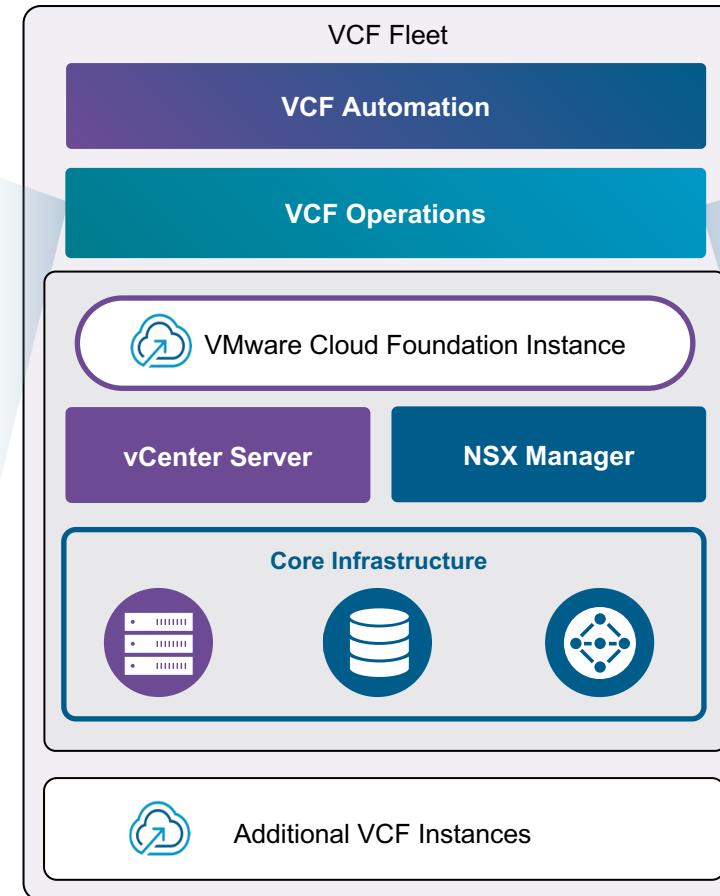
Integrated Storage Operations



Integrated Troubleshooting & Observability



Security Operations



VCF Fleet Management

Identity & Access



Certificate Management



Password Management



Tag Management



Configuration Drift

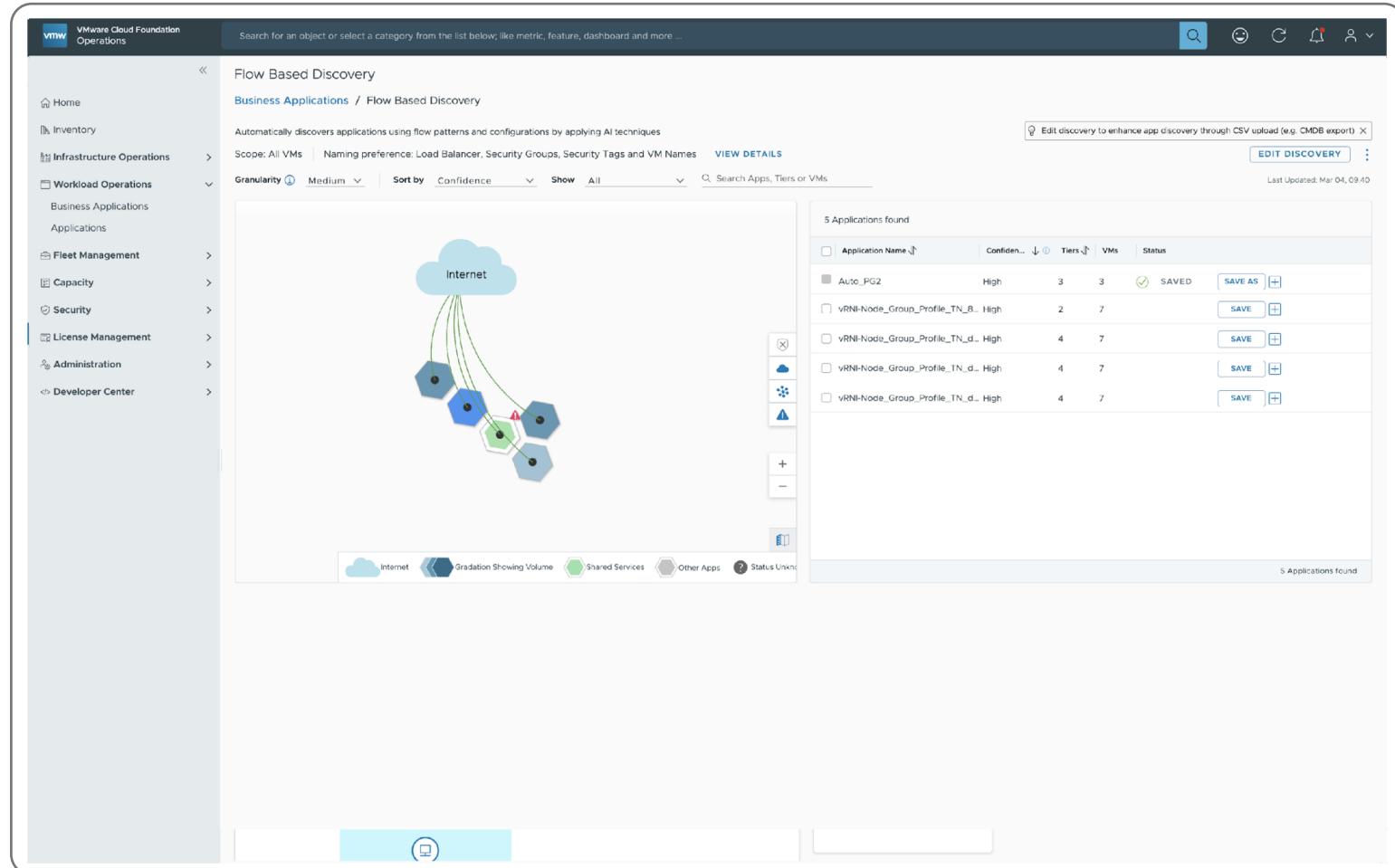


Lifecycle Management



Improve Performance and Reduce Downtime for VCF

Integrated Infrastructure Operations: Network



The screenshot shows the VMware Cloud Foundation Operations interface under the 'Flow Based Discovery' section. The left sidebar includes options like Home, Inventory, Infrastructure Operations (selected), Workload Operations, Fleet Management, Capacity, Security, License Management, Administration, and Developer Center. The main area displays a network diagram with a central node labeled 'Internet' connected to several other nodes. A legend at the bottom identifies icons for Internet, Gradation Showing Volume, Shared Services, Other Apps, and Status Unknown. To the right of the diagram is a table titled '5 Applications found' with columns for Application Name, Confidence, Tiers, VMs, and Status. The table lists five entries, all marked as 'SAVED'. The status column shows green checkmarks for Auto_PG2 and vRNI-Node_Group_Profile_TN_B..., while others show blue plus signs.

Network Operations Home Page

Comprehensive view of entire VCF network

Faster troubleshooting of traffic issues with flow insights

Unified experience for Data source addition

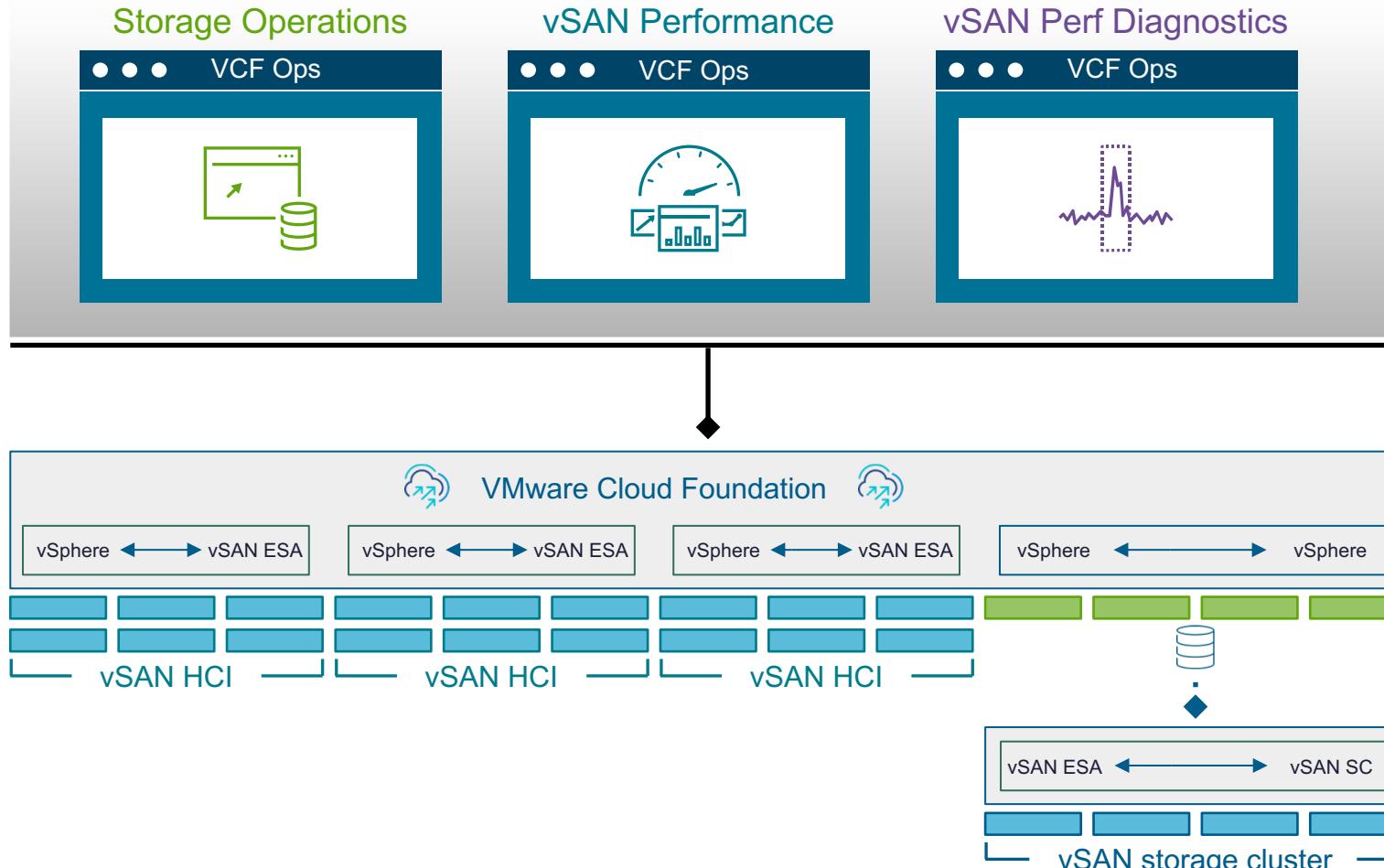
Analyze Flows in addition to metrics and Logs

End-to-end Path Analysis and flow metrics

Discover Business Applications insights using Flow based discovery

Improve Performance and Reduce Downtime for VCF

Integrated Infrastructure Operations: Storage



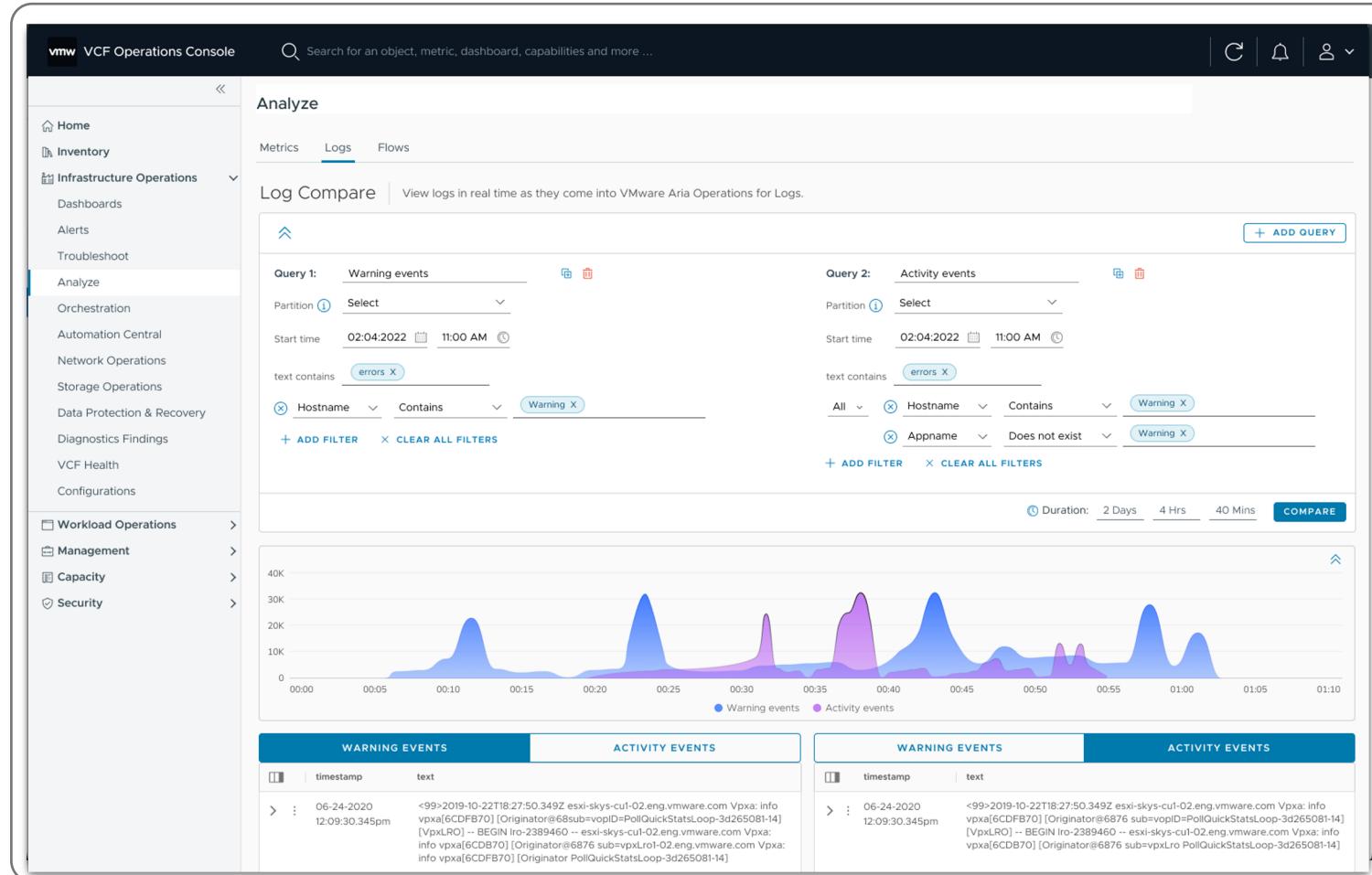
All new dashboards to **monitor and manage storage** powering VMware Cloud Foundation

- 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

Improve Performance and Reduce Downtime for VCF Integrated Infrastructure Operations: Logs



Analyze logs with powerful queries and visualization charts

Accelerated troubleshooting with easy access to logs

Enhanced Log Analysis widget for creating Log-based dashboards

Trigger alerts based on log events
and visualize through charts

Compare Logs to identify anomalies; issue resolution with a side-by-side comparison

Collect Logs and Events from all VCF Components

Discover and Address Known Issues Impacting VCF Software

Health and Diagnostic: Findings, Health Status & Log Assist

Log Assist

Control Panel / Log Assist

With Log Assist, you can select any Inventory object to generate a log bundle and attach it to your support case in the Broadcom Support Portal

To accelerate a case with Broadcom Support, make sure the findings cover the period of support bundles. For more details, see [How to collect a log bundle](#).

INITIATE FOR TRANSFER

Transfer History

Support Case	Create Date
35989242	as028
35989242	kIO182

Activity Feed **Log Bundle Details**

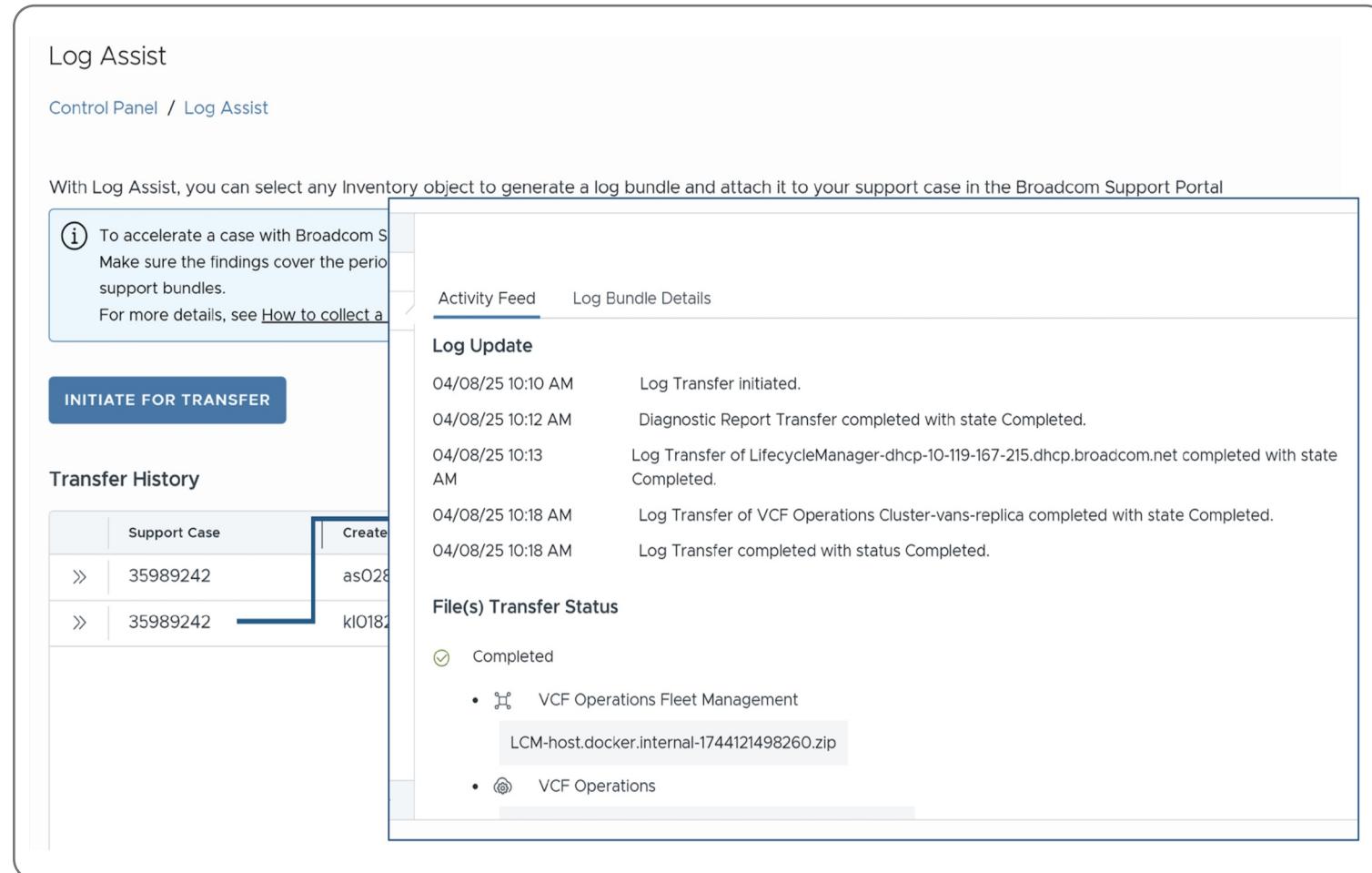
Log Update

Date	Message
04/08/25 10:10 AM	Log Transfer initiated.
04/08/25 10:12 AM	Diagnostic Report Transfer completed with state Completed.
04/08/25 10:13 AM	Log Transfer of LifecycleManager-dhcp-10-119-167-215.dhcp.broadcom.net completed with state Completed.
04/08/25 10:18 AM	Log Transfer of VCF Operations Cluster-vans-replica completed with state Completed.
04/08/25 10:18 AM	Log Transfer completed with status Completed.

File(s) Transfer Status

Completed

- VCF Operations Fleet Management
LCM-host.docker.internal-1744121498260.zip
- VCF Operations



Faster issue detection & resolution

Less reliance and fewer support requests

Reduced turnaround time for issue resolution

Single console to diagnose known issues impacting VCF Health

Understand impacted components with curated remediation steps

View security risks (CVE &VMSA)

Generate and attach log bundles for VCF components

Easily Generate Accurate Bills for Tenants

FinOps Chargeback

Define pricing on various metering options

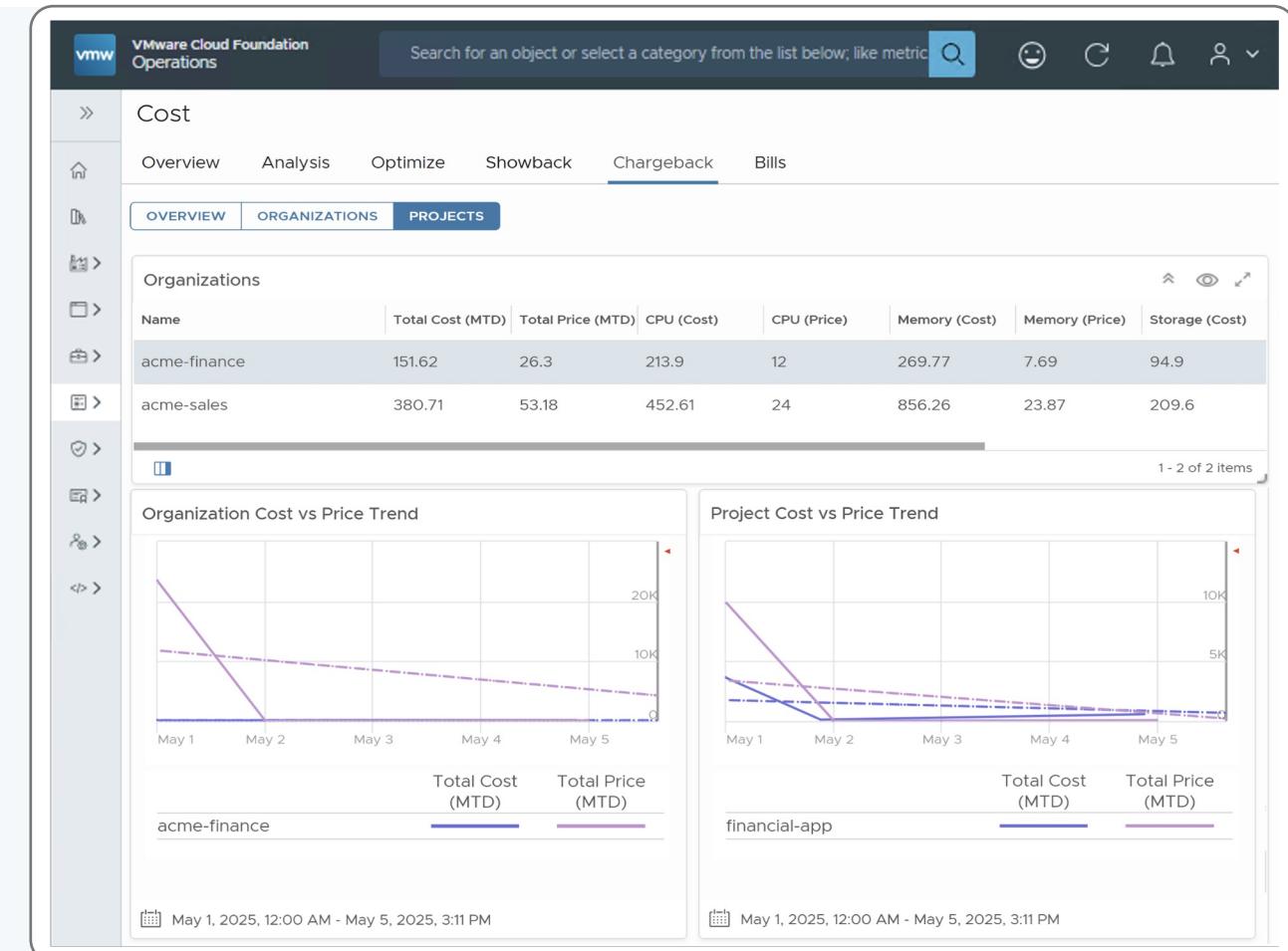
Easy on-demand and scheduled generation of bills per tenant

Bills are visible to tenant administrator on the Automation console

Charge tenants for the infrastructure based on compute, storage, fixed costs, tags, metadata

View and download bills with details on breakdown of charges

Rate cards based on org and region combination



End-to-end Process: Plan, Schedule and Migrate Workloads at Scale

Workload Migration Planning

The screenshot shows the VMware HCX Manager interface for migration planning. At the top, a navigation bar includes a search bar and a date/time selector set to "Now". Below the navigation is a horizontal workflow progress bar with five steps: "CREATE PLAN" (green checkmark), "DEFINE SCOPE" (green checkmark), "CREATE MIGRATION WAVES" (green checkmark), "CREATE MOBILITY GROUPS" (blue circle), and "PERFORM MIGRATION" (blue circle). A "Plan Test" section displays a summary of resources: Total Scope (2), Migration Waves (1), Mobility Groups (1), Memory (85 GB), Cores (20), Storage (2.7 TB), and VM Changes (--). The "Migration Waves" section contains a table with one row:

Migration Wave Name	Manager	Mobility Group C...	VM Count	Description	Action	Wave Status	Source HCX Manager	Last Synced On
Test	10.1.0.10	1	2	--	COMMIT	Planning	--	--

Define Scope using Applications or Members of Applications

Discover Application & Network Dependencies

Create Migration Waves

Overview of Resource Consumption

Create Mobility Groups and Commit to HCX for Migration

Supported Scenarios On-prem;
vSphere only: Migration from Non-VCF vSphere/vCenter to VCF (M&A, DC consolidation)

Deliver Self-service IaaS

VCF AUTOMATION

- What's New with VCF Automation
- Services
- Tenant Management
- Resource Management
- Organizational Management



VCF Automation – Consume the Cloud



Tenant Management

Organize & Allocate Tenant Resources

(*Tenant Management capabilities*)

Tenant/LOB Admin Identity Management.

(*Federated identity, groups, roles config*)

Tenant Operations

(*OOTB Ops, Capacity and Cost, Chargeback*)



Cloud Governance

Governance Policies

(*Quotas, leases, naming, showback*)

Application Blueprints

(*Traditional apps, Modern Apps and AI ML Apps*)

Workflow Orchestration

(*Event-based extensibility and workflow orchestration for IT/Business processes*)



End User Experience

IaaS Surface for VCF

(*cloud services - VM, K8s, Network, Storage, etc*)

Application Catalog

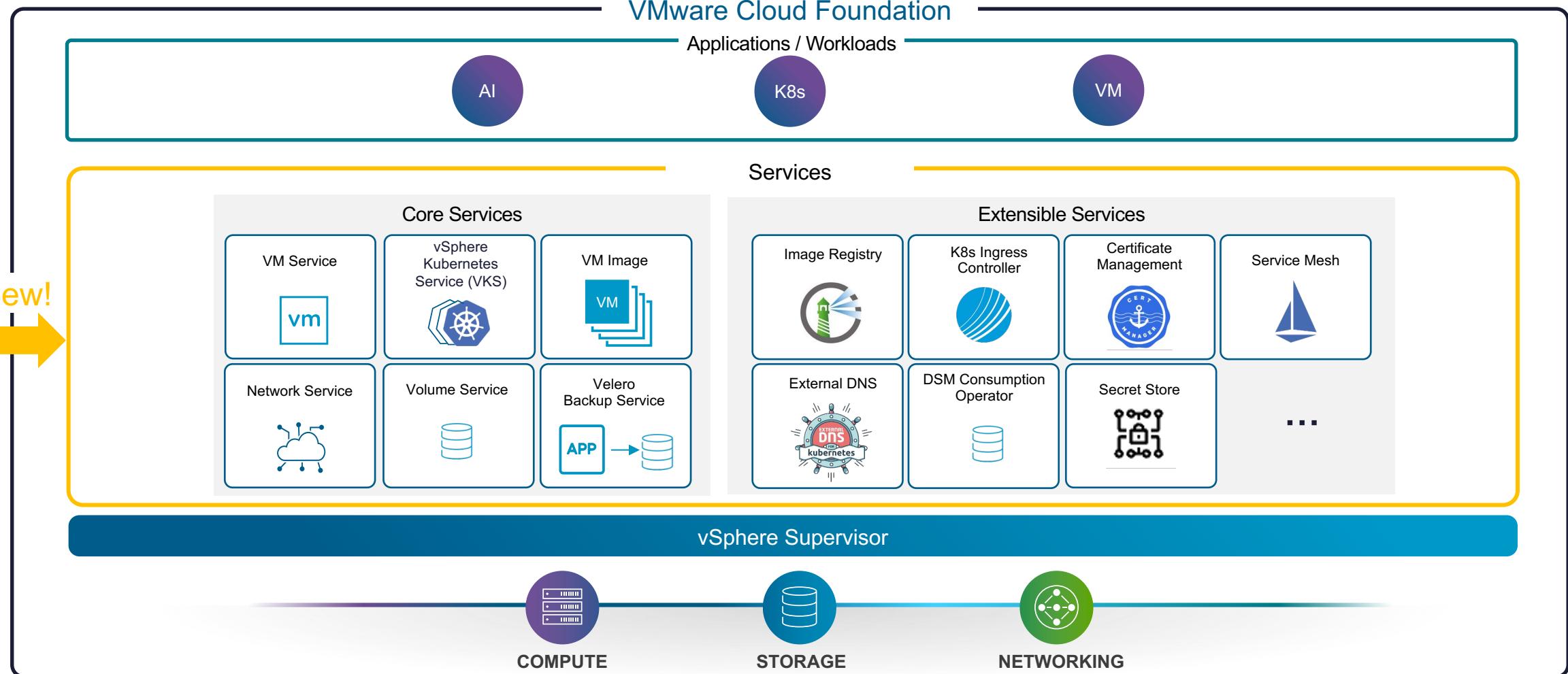
(*OOTB catalogs curating content from vCs, application catalogs, etc*)

Extensible Services Ecosystem

(*Object Storage, Data services, Backup, etc*)

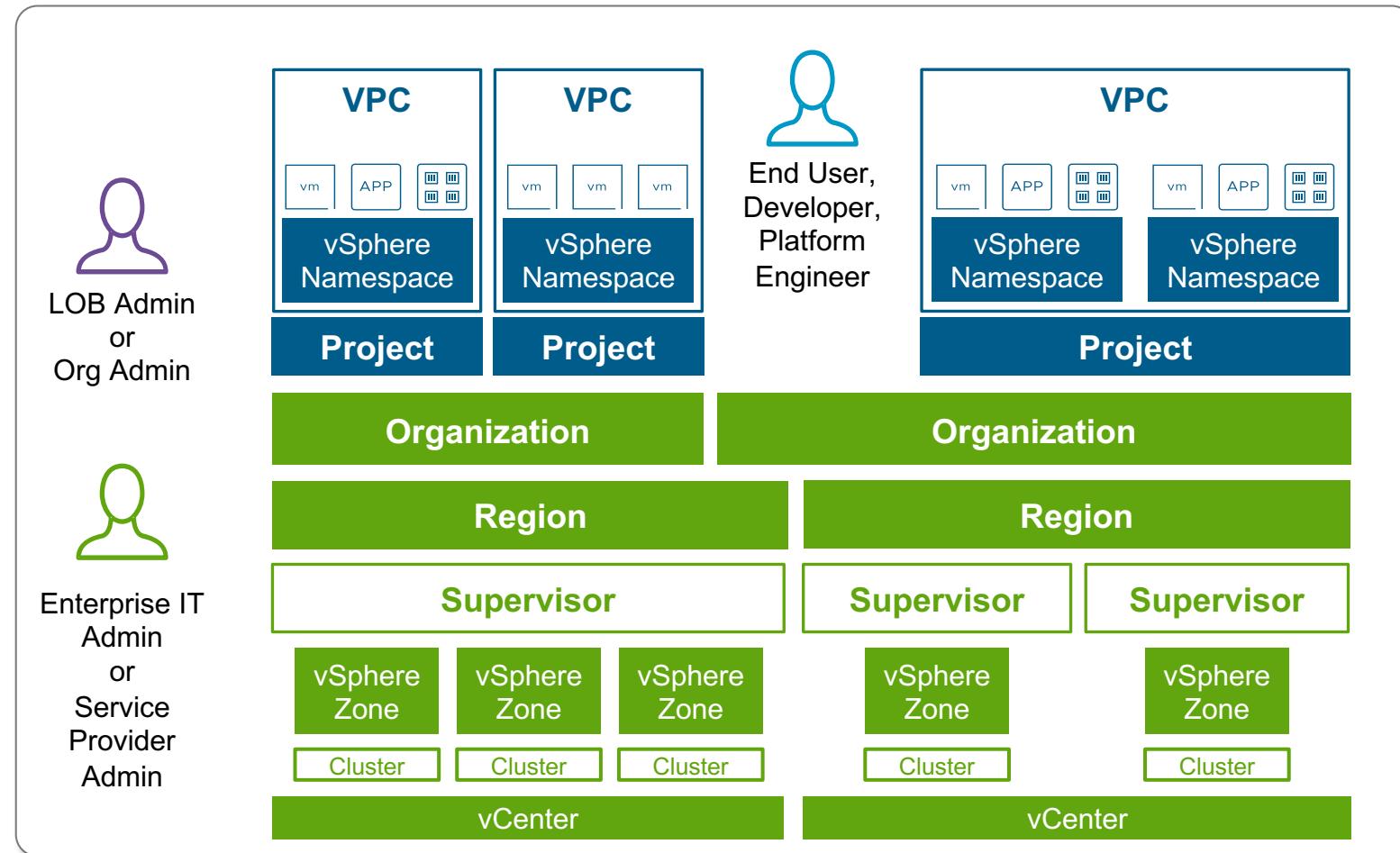
Services

Deliver public cloud-like IaaS services in a private cloud, straight out-of-the-box.
Expand with extensible services, increasing developer satisfaction.



Modern Service Provider Experience

VCF Automation Tenant Management



Self-service consumption for developers and app owners

Secure multi-tenancy

Centralized governance for the IT infrastructure team

Unified platform for VMs and containers

Flexible resource allocation

Cloud-like networking

Streamlined Processes for Efficient Organization Management

Quick Setup and Guided Workflows to Configure Organizations

The screenshot shows the VMware Cloud Foundation Automation interface. At the top, there's a navigation bar with links for Overview, Build & Deploy, Manage & Govern, Orchestrate, Administer, and Inbox. The main area starts with a "Welcome!" message and a summary of organization metrics: Projects (1), Namespaces (3), Policies (0), and Users (7). Below this is a "Total Utilization" section displaying resource consumption: Total CPU (2.2 GHz), Total Memory (5.9 GB), and Total Storage (0 GB). It also shows the "Top 3 Consumers" for each resource type, with "acme" listed for all three. The interface includes a "Services" sidebar with options like Services Overview, Virtual Machine, Network, Kubernetes, and Volume. There's also a "Connect Identity Provider" section and a "Private AI Foundation Quickstart" section. The bottom right features a "Community" section with links to Welcome to VCF Automation, CLI Experience, and a Tutorial to Get Started.

Simplify the adoption process for customers using VCF Automation 9, streamlining processes to save time, reduce errors, and boost productivity.

Enhance onboarding and support to create a better user experience.

- Create organizations with network-isolated workloads and external connectivity through automated project and vSphere namespace creation.
- Guided workflows assist users who opt out of the Quick Start.

Provide Cloud Services

Self-service cloud experience enabled by services

The screenshot shows the VMware Cloud Foundation Automation interface. On the left, there's a sidebar with icons for Overview, Build & Deploy (selected), Manage & Govern, Orchestrate, Administer, and Inbox. The main area is titled 'New Kubernetes Cluster'. It consists of five steps:

- 1. Configuration Type:** Cluster Type is 'Cluster API' and Configuration Type is 'Custom Configuration'.
- 2. General Settings:** Cluster Name is 'kubernetes-cluster-2rd9', Cluster Class is 'builtin-generic-v3.3.0', Kubernetes release is 'v1.32.0---vmware.6-fips-vkr.2', Certificate Rotation is '90 days', Pods CIDR is '192.168.156.0/20', Services CIDR is '10.96.0.0/12', and Service Domain is 'cluster.local'.
- 3. Control Plane:** Replicas is '1', VM Class is 'best-effort-xsmall', Storage Class is 'cluster-wld01-a-vsan-storage-policy', and OS Image is 'Photon'.
- 4. Nodepools:** A single nodepool named 'kubernetes-cluster-nodepool-01q9' is listed.
- 5. Review and Confirm:** A summary of the cluster configuration is provided.

To the right of the configuration wizard is a panel titled 'Kubernetes Resource YAML' which displays the generated YAML code:

```
1 apiVersion: cluster.x-k8s.io/v1beta1
2 kind: Cluster
3 metadata:
4   name: kubernetes-cluster-2rd9
5   namespace: acme-ns-1-by8tt
6   labels:
7     kubernetes-cluster-selector: kubernetes-cluster-2rd9
8 spec:
9   clusterNetwork:
10    pods:
11      cidrBlocks:
12        - 192.168.156.0/20
13    services:
14      cidrBlocks:
15        - 10.96.0.0/12
16    serviceDomain: cluster.local
17    topology:
18      class: builtin-generic-v3.3.0
19      version: v1.32.0---vmware.6-fips-vkr.2
20    variables:
```

Simplify the deployment and management of IT resources.

Increase user productivity by reducing dependence on IT Admins.

User-friendly interface to save time and simplify operations.

- Comprehensive OOTB IaaS services.
- Public cloud-like experience.
- Streamline provisioning of IaaS services with VCFA's interface.

Balancing Access and Efficiency for Optimal Resource Management

Governance for users and resources with Limits and Reservations.

The screenshot shows the VMware Cloud Foundation Automation interface. The top navigation bar includes 'VMware Cloud Foundation' and 'Automation'. The main menu has tabs for 'Overview', 'Build & Deploy', 'Manage & Govern' (which is selected), 'Orchestrate', 'Administer', and 'Inbox'. On the left, a sidebar lists 'Projects', 'Policies', 'Regions', 'Namespaces', 'Namespace Class', 'Networking' (with 'Virtual Private Clouds' and 'Transit Gateways' sub-options), and 'IP Management'. The central content area is titled 'Projects' and contains a list of three projects:

Name	Users and Groups	Namespaces	Description
acme	4	3	Project for the Acme rebuild Team
hr	2	0	Project for the HR department
it	2	2	Project for the IT Department

At the bottom of the list, there are buttons for 'Manage Columns' and '3 projects'.

Enhance efficiency and streamline processes of infrastructure resources.

Achieve control over resources, cost, scaling, and overall operational performance.

- Organization Admins can create projects and vSphere Namespaces, assign users, and view usage/costs.
- A vSphere Namespace is a resource pool that facilitates IaaS provisioning by providing a framework through the vSphere Namespace class.

Enforce Best Practices for Resource and Security Configurations

Implement resource policies with Policy as Code.

```
1 failurePolicy: Fail
2 matchConstraints:
3   resourceRules:
4     - apiGroups:
5       - vmooperator.vmware.com
6     apiVersions:
7       - v1alpha1
8     operations:
9       - CREATE
10      - UPDATE
11    resources:
12      - virtualmachines
13  validations:
14    - expression: object.metadata.labels.environment == 'prod'
15    messageExpression: "All virtual machines should have label environment=prod"
16  validationActions:
17    - Deny
18
```

Create a secure, compliant, and efficient cloud infrastructure while empowering teams with the tools they need to manage policies.

An effective policy management process enables customers to focus on innovation and core business activities.

- Flexible framework for implementing IaaS and Kubernetes policies.
- OOTB templates for day 0 Kubernetes and VM policies

Application Operations visibility

VMs and Kubernetes Services

The screenshot shows the VCF Automation interface. On the left, there's a sidebar with navigation links like Overview, Build & Deploy, Manage & Govern, Administer, and Inbox. Under the Services section, Virtual Machine is selected. The main area displays details for a VM named 'vm1'. It shows the VM is Ready, Powered On, and part of domain 'c11' with IP addresses 192.173.237.3 and fe80::650:56ff. The VM is running an 'ubuntu-22.04' image for 20 hours and has labels 'topology.kub'. Below this, it shows the VM Class as 'best-effort-x' with 2 vCPUs and 2 GiB of memory. Network settings show 'eth0' connected to 'vm-default'. To the right, there's a 'Monitor' tab with six charts: CPU Utilization, Memory Utilization, Disk Latency, Disk Commands / seconds, Network Throughput, and Network Packets / seconds. The CPU chart shows a sharp spike around 4 PM. The Memory chart shows a flat line at 4. The Disk Latency chart shows high volatility. The Disk Commands chart shows a peak at 4 PM. The Network Throughput chart shows a small peak at 4 PM. The Network Packets chart shows a large peak at 4 PM.

- Rich set of metrics for VMs and K8s clusters that can be accessed directly by end-users and developers
- VM – Utilization metric for CPU, Mem, Disk IOPS and Network throughput
- K8s cluster – K8s version, Utilization metrics for CPU, Memory
- Visibility for End users and Developers, not just Admin

Enforce Infrastructure Governance and Enable Self-service

Provide custom blueprint development for tailored IaaS services

The screenshot shows the VMware Cloud Foundation Automation interface. The top navigation bar includes 'VMware Cloud Foundation' and 'Automation'. The user 'Fritz Arbeiter' is logged in. The main menu has tabs: Overview, Build & Deploy (selected), Manage & Govern, Orchestrate, Administer, and Inbox.

The current view is for an 'Ubuntu Machine'. It shows a 'Published versions (1)' button, 'VERSION HISTORY', 'CREATE CUSTOM FORM', and 'ALL ACTIONS' dropdown.

The central area displays a blueprint diagram for an 'Ubuntu Machine'. The diagram consists of three components: 'Namespace' (containing 'Bootstrap_Sec...'), 'Virtual Machine', and a connection arrow between them. A search bar on the left is set to 'e.g. machine' and lists various resource types: Supervisor Namespace, Supervisor Resource, Virtual Machine, Virtual Machine Service, Secret, Persistent Volume Claim, and VKS Cluster.

On the right side, there are two tabs: 'Code' (selected) and 'Properties'. The 'Code' tab shows the JSON schema for the blueprint:

```
1 formatVersion: 1
2 inputs:
3   vm_name:
4     type: string
5     title: Virtual Machine Name
6     description: ' Enter a name for the Virtual Machine'
7   subnet_type:
8     type: string
9     title: Subnet Type
10    description: Select a Subnet Type
11    oneOf:
12      - title: VPC Private Subnet
13        const: private-subnet
14      - title: VPC Private - TGW Subnet
15        const: private-tgw-subnet
16      - title: VPC Public Subnet
17        const: public-subnet
18   vm_size:
19     type: string
20     title: Virtual Machine Size
21     description: Select a Virtual Machine Size
22   oneOf:
```

At the bottom of the interface are buttons for 'DEPLOY', 'TEST', 'VERSION', and 'CLOSE', along with a note 'Last saved 24 days ago'.

Implement controls to enhance security and efficiency for reduced downtime

Accelerate app development and reduce time-to-market

Self-Service Catalog Experience:

- Provide curated catalog items based on IaC templates
- Facilitate the creation of customized IaaS services and publish them to the catalog, as needed

Simplify the Content Management Experience

Centralize content management via Content Hub.

Name	Version	Status	Image Identifier	Content Library	Type
photon-5.0-x86_64	1	Ready	vml-76c9f1dc1c0529cf	vcf-tmm-external	ISO
ubuntu-22-04-server-cloudimg-amd64	1	Ready	vml-82cb3c56607e45eee	vcf-tmm-external	Template
ubuntu-24-04-server-cloudimg-amd64	1	Ready	vml-c43eb206c617169d4	vcf-tmm-external	Template

Streamline the overall content management process

Boost productivity and collaboration with a unified content portal

- Discover vCenter content libraries automatically and allocate new or existing libraries to one or more organizations
- Publish content to the self-service catalog with one click
- Create orchestrator workflows in VCFA that can be easily published to the catalog

Build a Secure, Compliant and Efficient Private Cloud

Streamline organizational resource management and operations

The screenshot shows the VMware Cloud Foundation interface. The left sidebar includes sections for Infrastructure Overview, Infrastructure, Organizations, Networking, Regions, Supervisors, Content Libraries, Services, VCF Services, Data Services, Administration, General Settings, Connections, SDDC Managers, and Access Control. The main content area is titled 'Region Quota' and contains tabs for Overview, Region Quota, and Networking. The Networking tab is selected, showing a table for 'wld-site-a' with the following data:

Name	vcf-tmm-aawld-site-a
Provider Gateway	vcf-tmm-provider-gateway
Edge Cluster	edgecl-wld01-a
Status	Normal

Below this, there is a section for 'Default VPC Connectivity Profile' with an 'EDIT' button, and another for 'VPC Services' showing an Edge Cluster named 'edgecl-wld01-a'.

Highly available and fault tolerant

Comprehensive network isolation

Extensible services ecosystem.

Increased visibility and control:

- Application teams can choose multiple vSphere zones for deploying applications
- Organizations have separate resources and use VPCs to isolate teams in those organizations
- Manage resources, set quotas, control permissions, and offer managed services like encryption and backup

Support Network Governance and Enable Self-service Networking

Manage IP Addresses and Isolation via VPCs.

The screenshot shows the VMware Cloud Foundation Automation interface. The top navigation bar includes the VMW logo, 'VMware Cloud Foundation', 'Automation', and user information ('Fritz Arbeiter' and 'vcf-lmm-aa'). Below the navigation is a secondary menu with tabs: Overview, Build & Deploy, Manage & Govern (which is selected), Orchestrate, Administer, and Inbox. On the left, a sidebar under the 'Networking' section lists 'Virtual Private Clouds', 'Transit Gateways', and 'IP Management'. The main content area is titled 'Virtual Private Clouds' and contains a brief description of what VPCs are. It features a table with two rows of VPC configurations:

Name	Region	Transit gateway	'Private - VPC' IPv4 CIDRs	Default SNAT IP	Namespaces	IP quota status	Status
wld-site-a-Default-VPC	wld-site-a	default@wld-sit...	192.173.237.0/24	10.1.10.0	acme-ns-1-by8tt ...(+1)	● Ok	Success
vpc-8fi9	wld-site-a	default@wld-sit...	10.0.0.0/20	10.1.10.3	acme-ns-2-m4gvil	● Ok	Success

At the bottom right of the table, there are buttons for 'Objects per page' (set to 25) and '2 Objects'.

Enhance Security through network isolation.

- Leverage VPCs networks for each application team to ensure isolation.
- Link each VPC to one or more vSphere Namespaces for resource control.
- Oversee IP addresses provided by IT Admins or external Providers to prevent conflicts.
- Develop and manage IP addresses for internal use.

Migrations

HCX

Integrated Migration Planning
Non-disruptive Workload Migration
Simplified HCX Experience

Seamless Migration Planning and Execution

Automation of Migration Planning between VCF Operations for Networks and HCX

The screenshot shows the VMware Cloud Foundation Operations HCX interface. The left sidebar includes navigation links for Dashboard, Infrastructure, Site Pairs, Interconnect, Transport Analytics, Services (with Migration Planning selected), Network Extension, Migration, Administration, System Updates, Troubleshooting, Audit Logs, Activity Logs, Alerts, and Support. The main content area is titled 'Migration Planning' and contains a 'Getting Started' section with instructions: 'Migration planning starts from VCF Operations for networks. Execute the migration plan with HCX.' Below this is a 'Create a Migration Plan in VCF Operations for networks' section, which lists five steps with green checkmarks: 'Add Migration Attributes (optional)', 'Define Scope', 'Create Migration Waves', 'Create Mobility Groups', and 'Sync to HCX or Manually Export Migration Waves from VCF Operations for networks'. A note under the last step says 'Sync migration waves directly to HCX or manually export workload and network CSV files from VCF Operations for networks.'

Automatically import Plans from VCF Operations for Networks directly into HCX

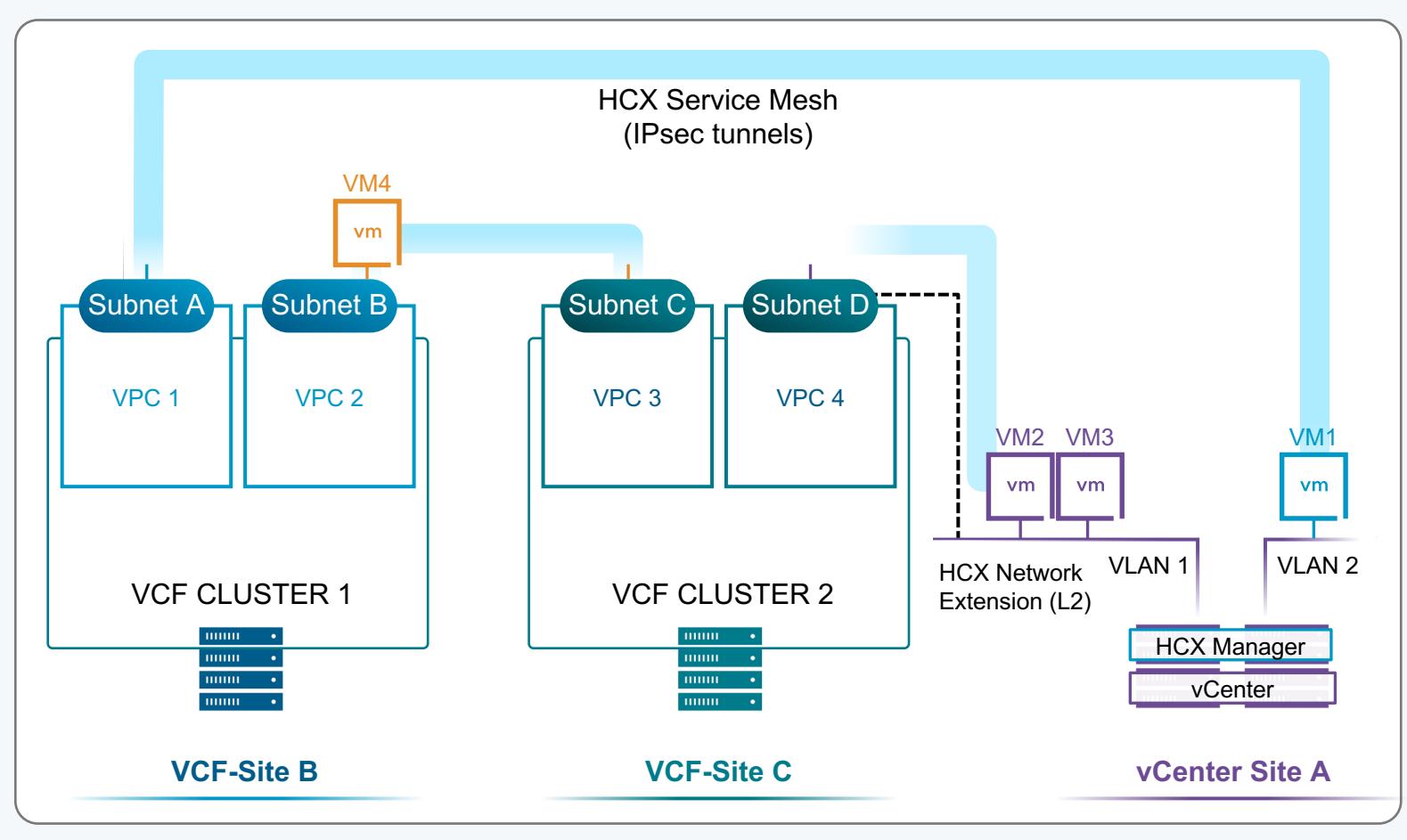
Process imported data to auto-create HCX Networks and Mobility Groups

Ability to modify Migration Wave from HCX

Ability to manually import Migration Wave

Non-Disruptive Workload Migration to VPC

HCX Migration and Network Extension support for NSX VPC



NSX VPC and Project support

Migration To and Between VPCs

L2 Network Extension To and Between VPCs

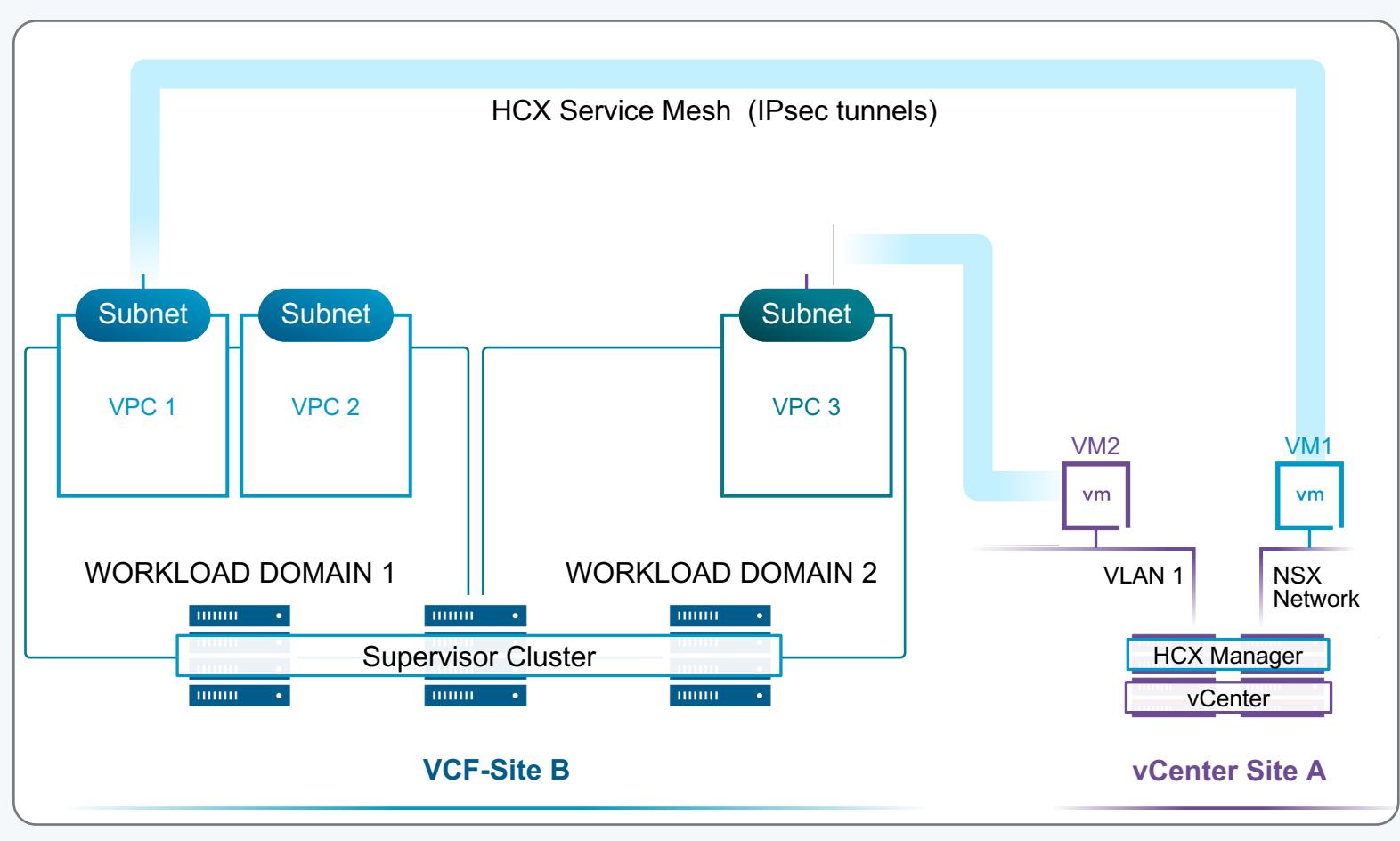
All Migration types and all Extension features supported except MON

Project and VPC as Primary Entities in HCX

Enables non-disruptive migration to VPC

Workload Migration to Supervisor Cluster

HCX Migration support for Supervisor Cluster



Support Supervisor
Onboarding (Migration Only)

Support for multi-NIC VM

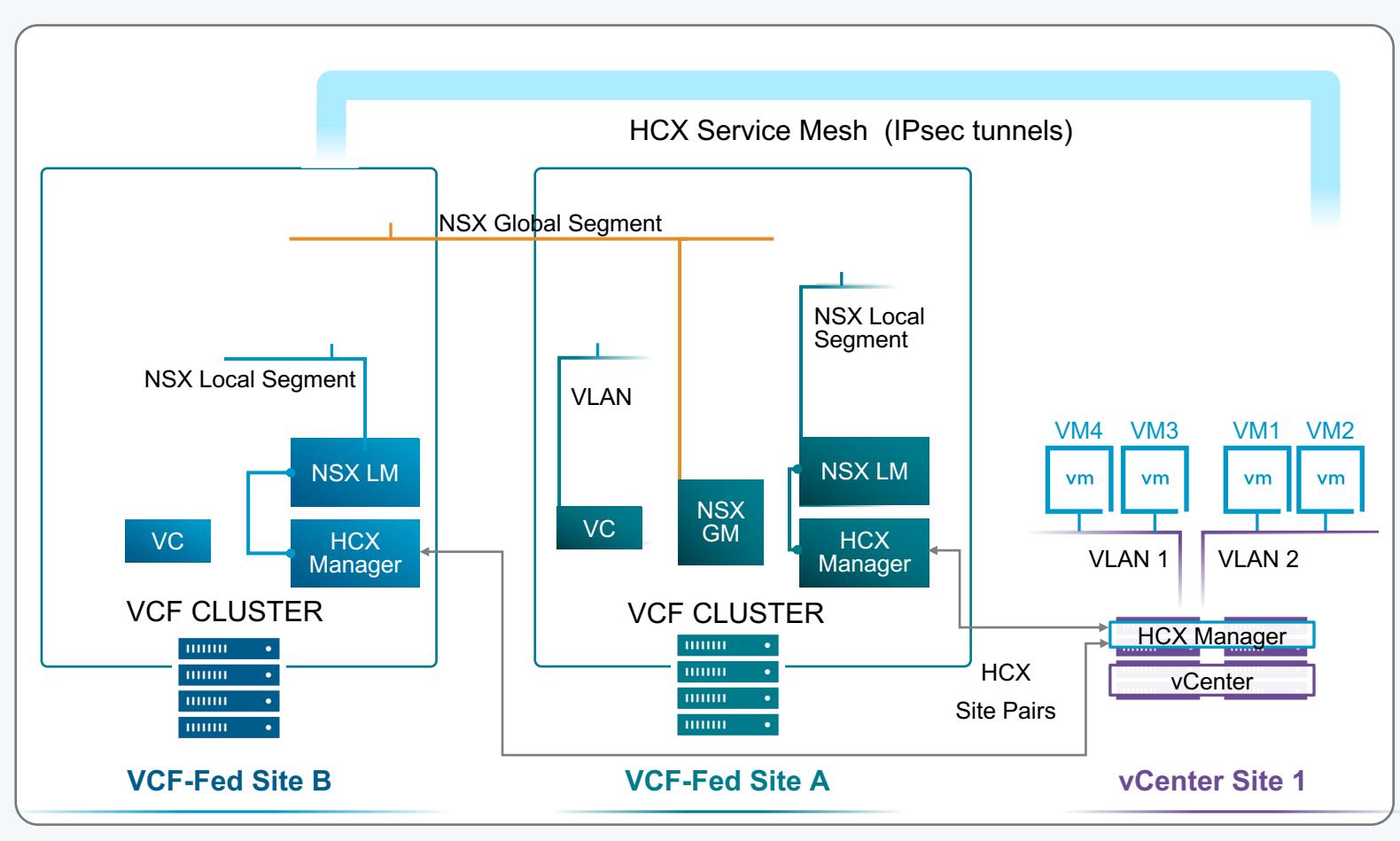
Bulk migration types only

HCX support all Supervisor supported Guest OS

Build with Robust and Resilient Architecture

Non-Disruptive Workload Migration to a Federated Environment

HCX Migration support for NSX Global Objects/Segments



NSX Global Segment is supported in HCX Migration

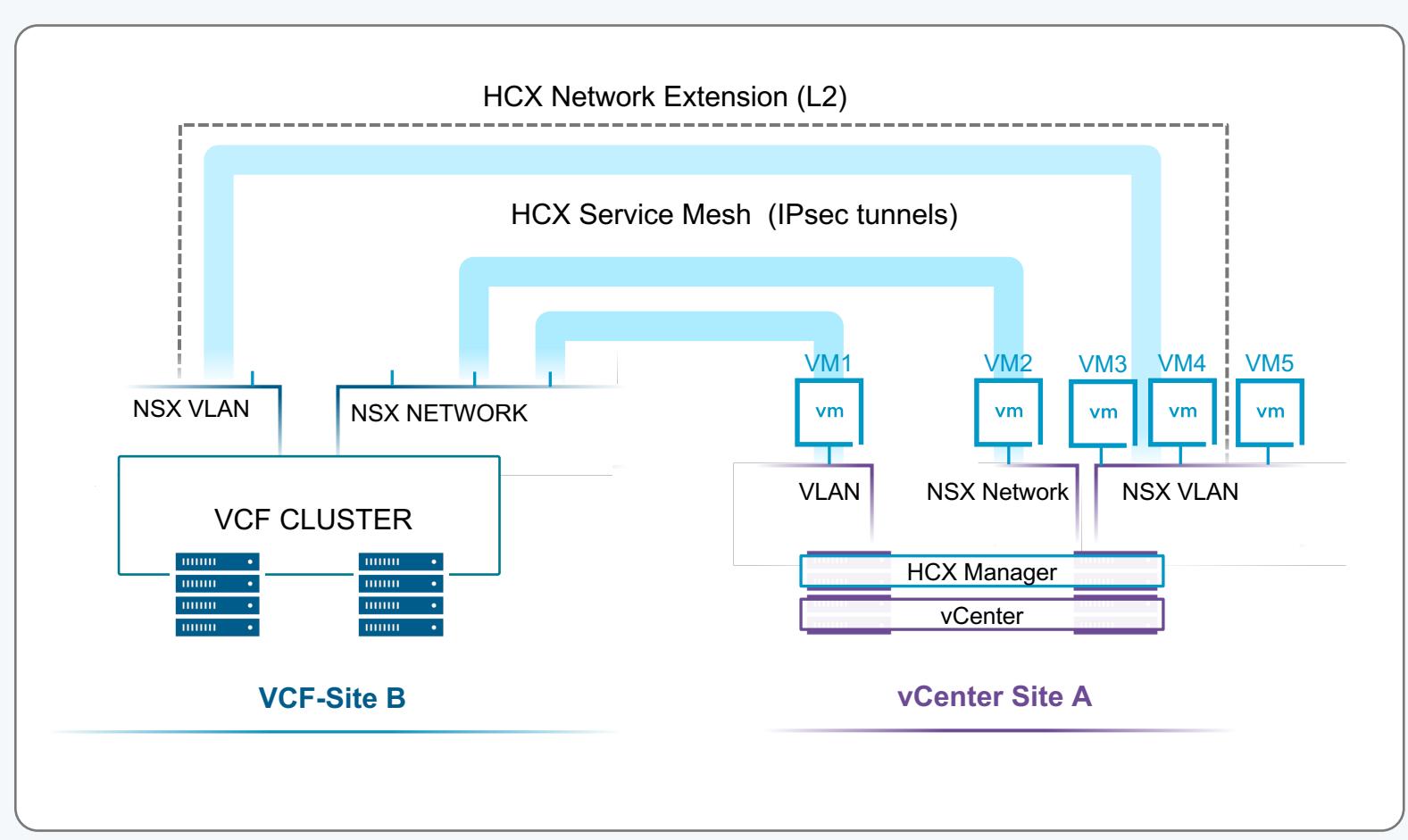
Global Segment is supported in HCX Compute Network Profile as a guest network for the OSAM

Enforcement of NSX Federated Network

Enables non-disruptive migration to NSX Global and Local Segments

Non-Disruptive Workload Migration from NSX VLAN Segments

HCX Migration and Network Extension support for NSX VLAN Segments



NSX-VLAN support

Migration From, To, and Between NSX-VLAN

L2 Network Extension From, To, and Between NSX-VLAN

All Migration types and all Extension features supported except MON

Automates NSX VLAN segment creation at the Dest.

More flexibility by supporting wider migration scenarios

Simplified Deployment Experience with HCX Unified Manager

Single HCX Manager Appliance + Deprecated Features

HCX Manager Unification

- HCX Unified Manager – Only one binary (OVA/OVF) for both Source and Destination sites
- Unified Mgr assumes the role of Cloud or Connector based on the site-pair direction
- Support upgrades from older version (4.11) HCX Cloud, HCX Connector to Unified Mgr
- Unidirectional site pairing and Bidirectional site pairing will be supported as previous version with HCX Unified Manager

Removal of WAN Optimization

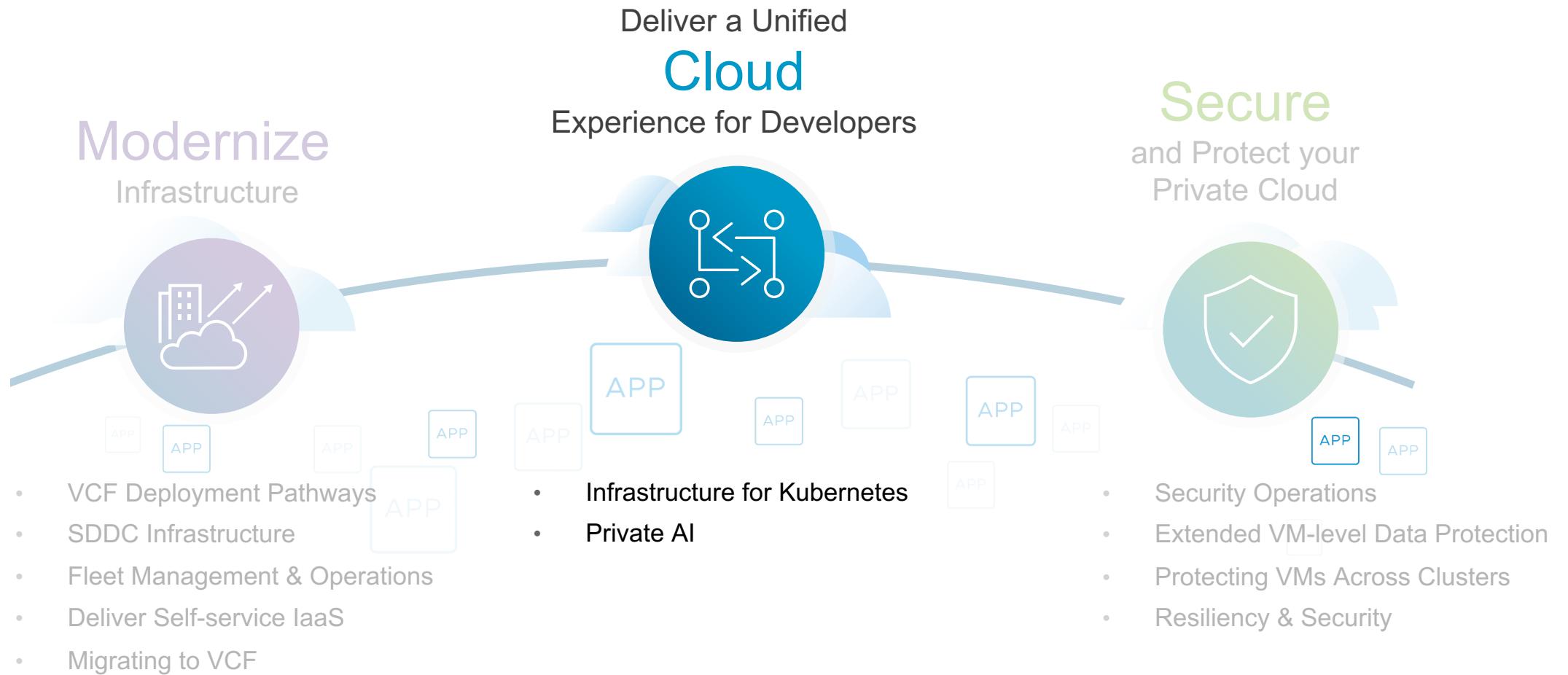
- Deprecation of appliance (WAN-Opt)

Removal of V2T Migrations

Removal of HCX Disaster Recovery

Removal of HCX Plugin from vCenter

What's New in VMware Cloud Foundation 9

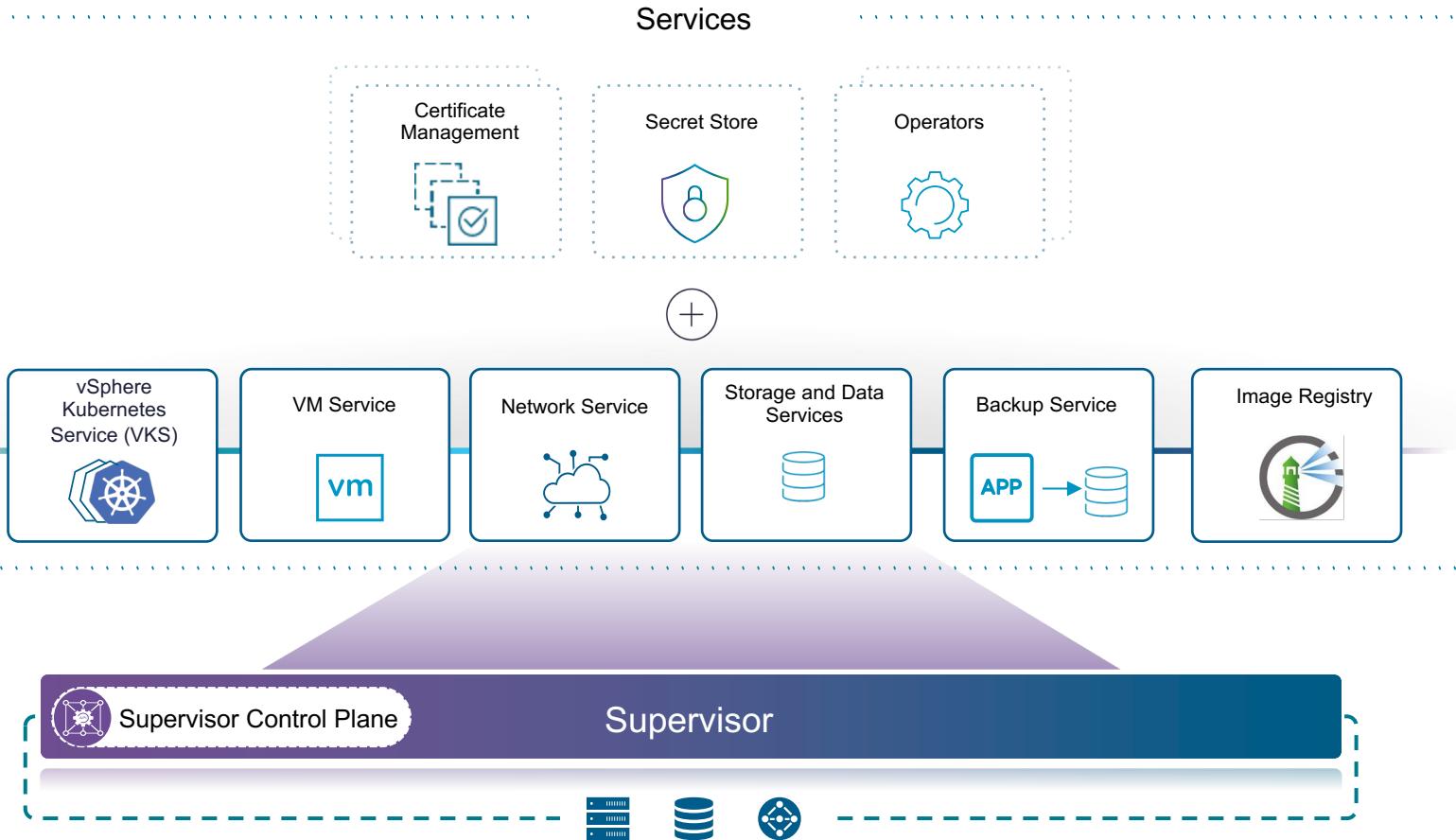


Infrastructure for Kubernetes

- Supervisor, NSX Projects and VPC Integration
- Asynchronous Supervisor Releases
- Deploy Developer-ready Infrastructure at scale

Unlock Cloud Experience with vSphere Supervisor

Deliver a consistent Service consumption experience with an embedded Declarative API



Deploy and manage **Virtual Machines, Kubernetes clusters, and other resources using a single API**

vSphere Supervisor provides an **extensible ecosystem** with Services

Add **new functionality** when needed while providing a **consistent consumption experience**

Enable vSphere Supervisor during Workload Domain creation

Providing consumption ready environments at scale



Workload Domain

General Information

1 General Information

2 vCenter

3 Cluster

4 Image

5 NSX Manager

6 Storage

7 Hosts

8 Distributed Switch

9 vSphere Supervisor

10 Review

General Information

Workload Domain Name i *

vSphere Supervisor

Enable vSphere Supervisor [LEARN MORE](#)

Enables a self-service consumption experience that uses a single declarative API to create resources like Virtual Machines, Kubernetes Guest Clusters, Storage Volumes and other advanced vSphere Supervisor.

vCenter Single Sign-On i *

This creates an isolated workload domain. This domain can be added to VCF SSO later.

SSO Domain Name i *

Enter name for SSO domain

Password Creation

Auto-generate my passwords for newly installed appliances

You can retrieve the generated passwords by using the SDDC Manager API after deployment is complete. For more details see the VCF documentation.

CANCEL

NEXT

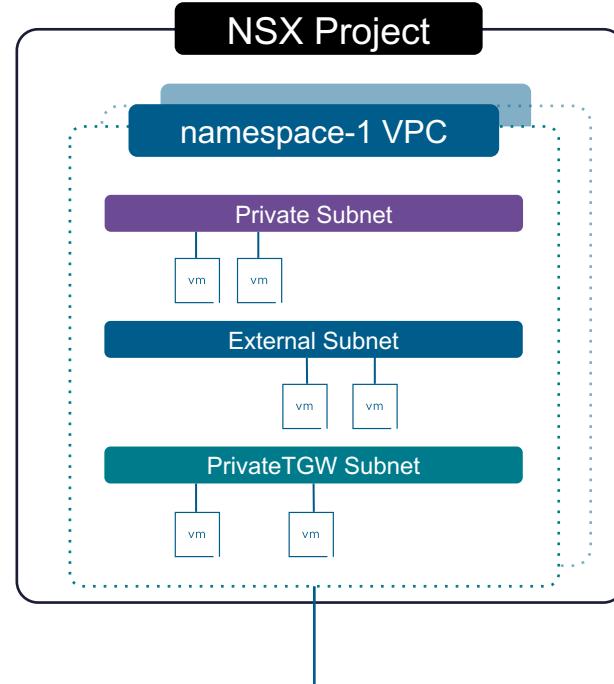
Provide workload isolation with VPC based vSphere Namespace

Creating Network Tenancy

Isolate workloads for apps, teams, or stages of development with vSphere Namespaces

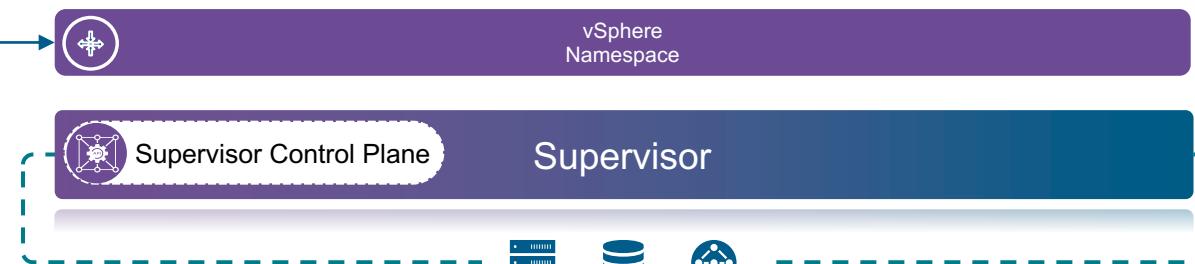
Configure VM Classes and Content Libraries

VPC integration provides Network Tenancy at Namespace Level



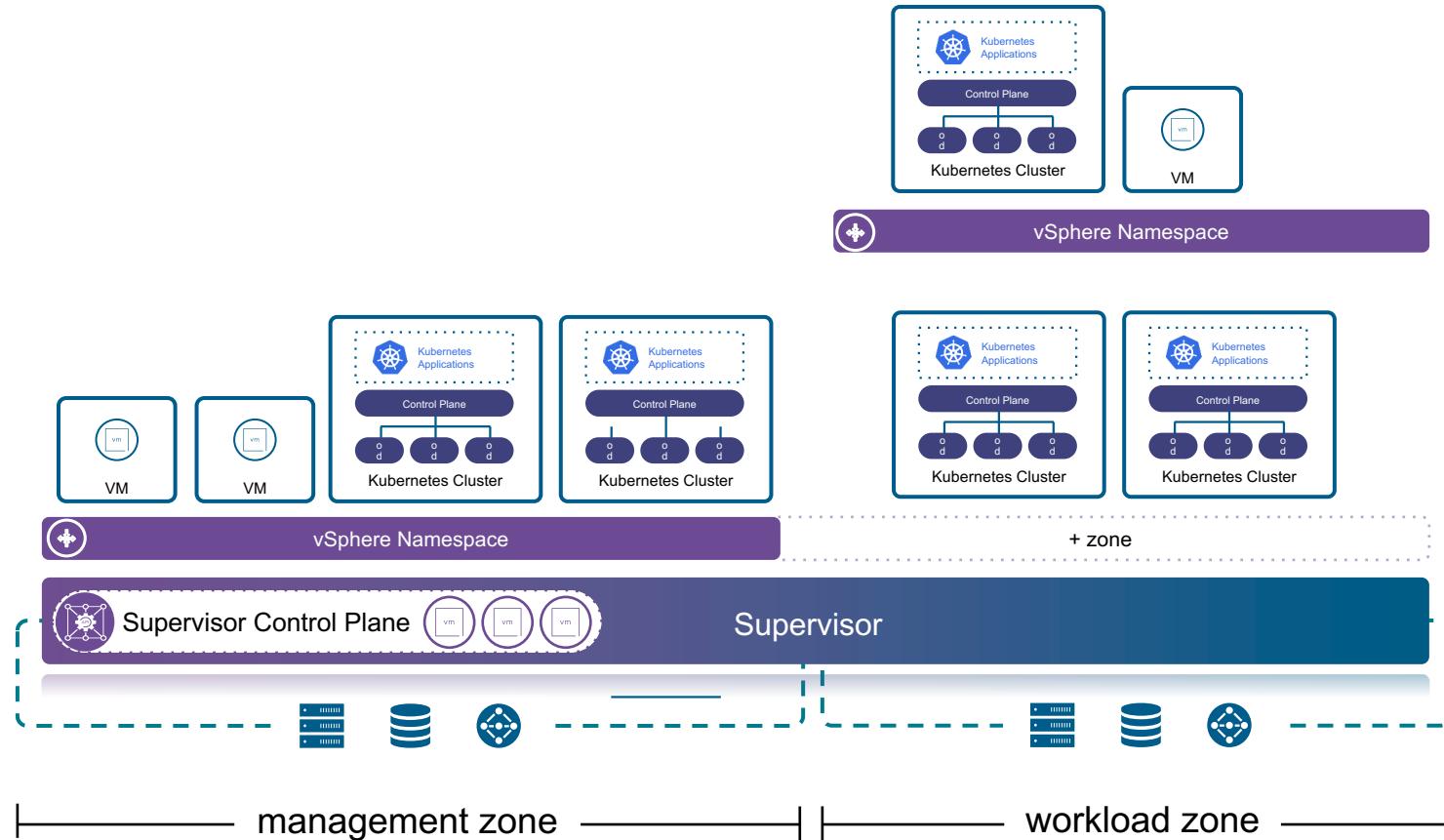
A screenshot of the vSphere Namespace management interface for 'namespace-1'. The interface shows various metrics and configurations for the namespace, including Status, Storage, Capacity and Usage, VM Service, Pods, and Zones. A sidebar on the right lists associated Kubernetes services and clusters.

Category	Value	Unit	Limit
Status	Created 4/30/25		
Config Status	Running		No limit
Kubernetes Status	Active		No limit
Location	supervisor		No limit
Storage Policies	vSAN Default Storage ...	MB	No limit
CPU	0 MHz		No limit
Memory	0 MB		No limit
Storage	0 MB		No limit



Creating Isolation between Control Plane and Workloads

Introducing Management and Workload Zones



Separate management Control plane VMs from workload VMs and Kubernetes clusters

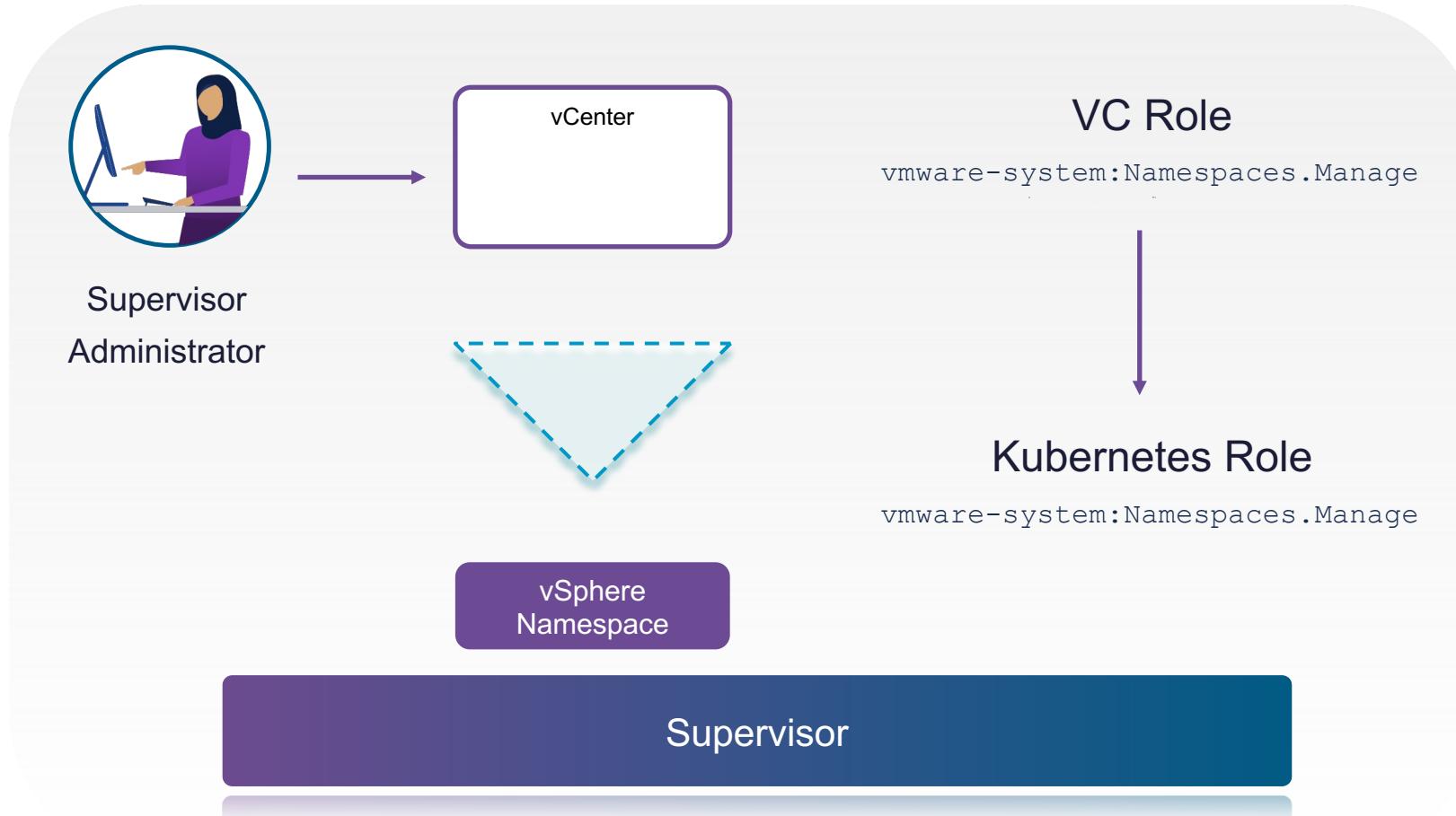
Easily add capacity to vSphere Supervisor with vSphere Zones

vSphere namespaces can span one or more vSphere Zone

Add additional Zones to vSphere Namespace

Empower Platform Operators

Introducing Supervisor Administrator Role in vCenter



Allows VI Admins to **delegate** Supervisor management tasks to **Platform Operators**

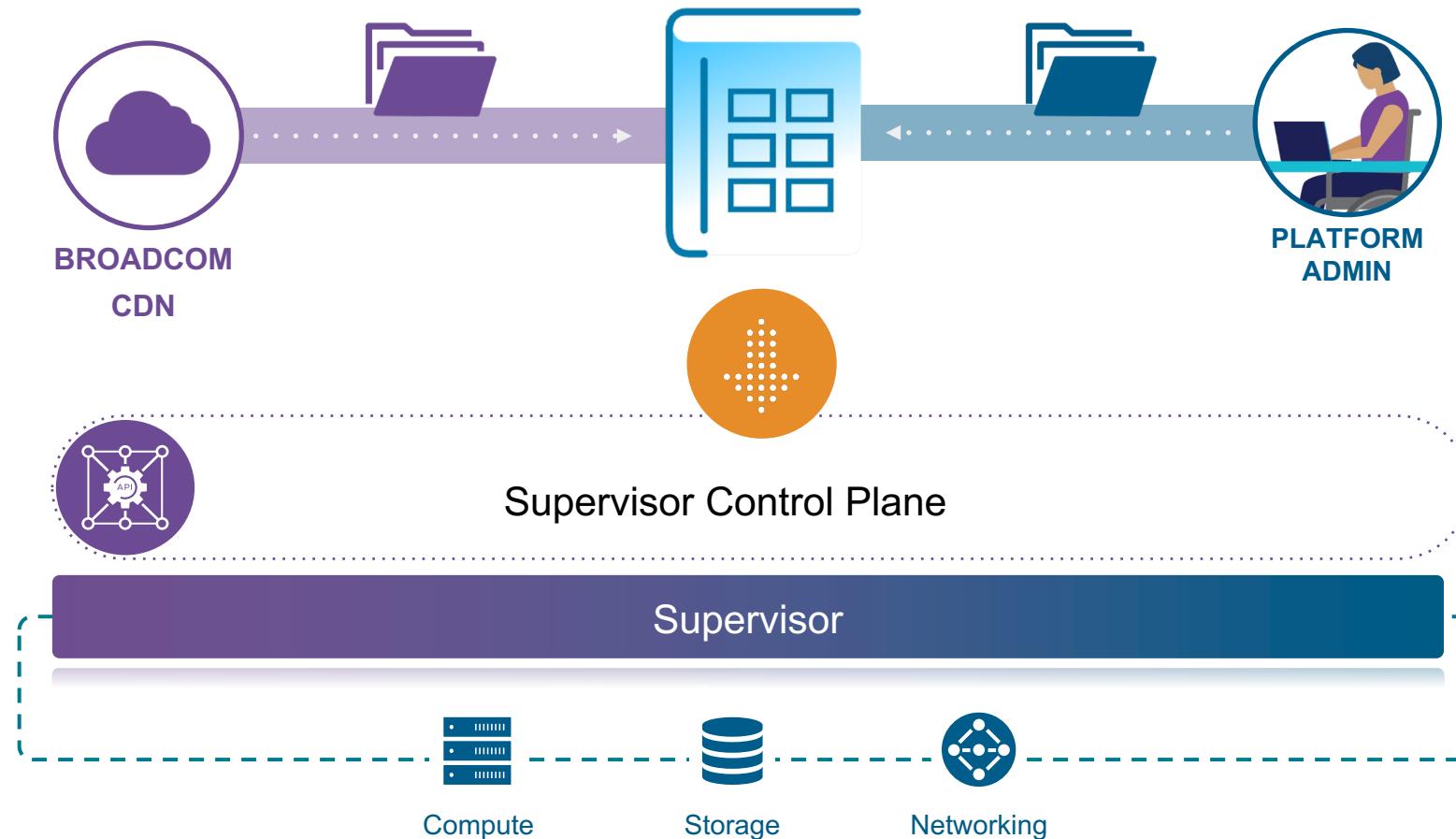
Empower Platform Operators to manage and **update Supervisor** and **services**

vCenter Permissions are unified to Supervisor through Kubernetes RBAC

Bridging the gap between vCenter and Supervisor permissions

Update vSphere Supervisor independently

Delivering Asynchronous Supervisor Releases



Update Supervisor control plane independently of vCenter

Subscribe to Broadcom depot or manage an offline Content Library to deliver updates

Faster delivery of Supervisor releases and new functionality

Private AI

- Private AI Services

Simplify the Deployment of Private AI

VMware Private AI Foundation with NVIDIA

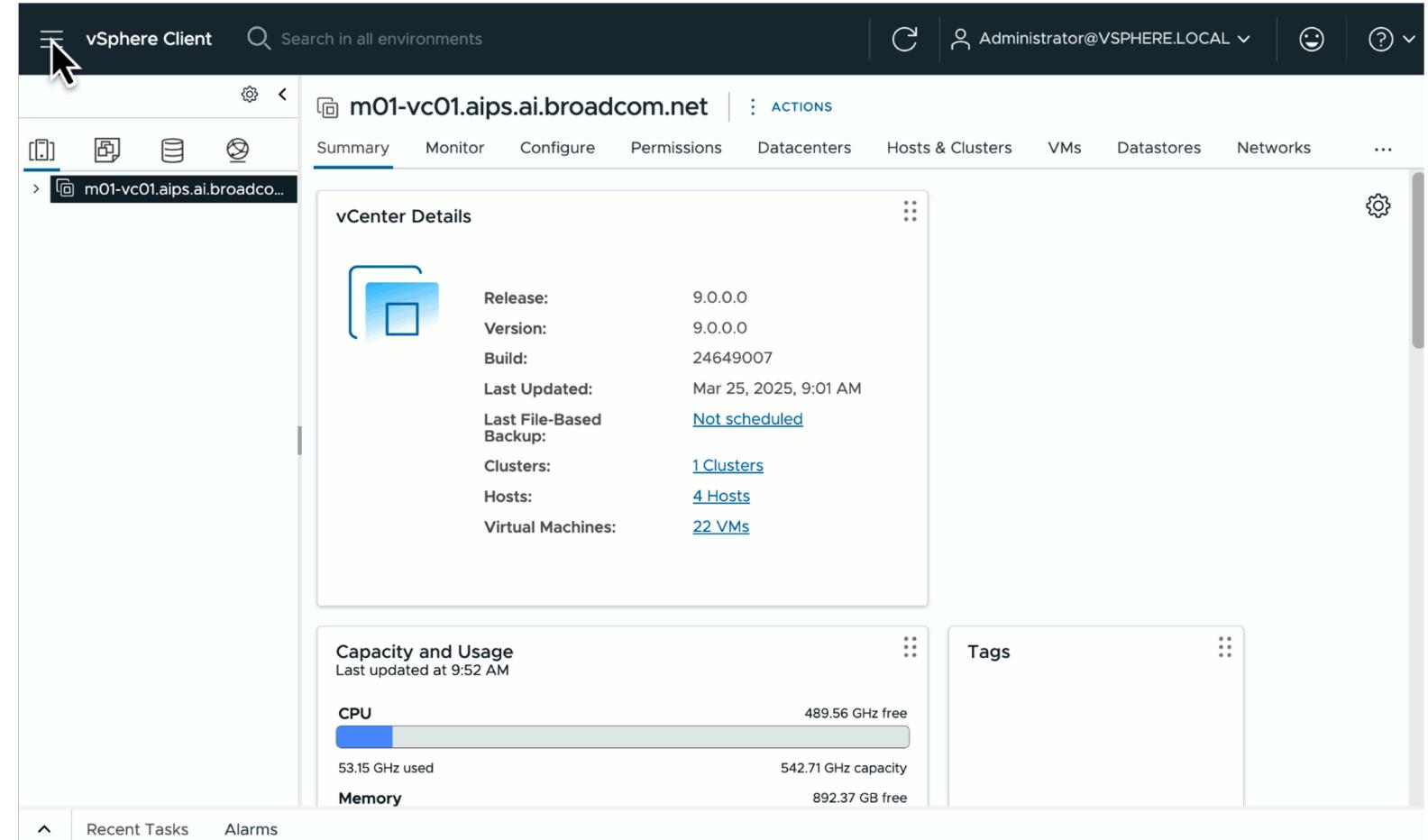
Overview

Configure Cloud Foundation for Private AI workloads using NVIDIA GPU technology and the NVIDIA AI Enterprise Suite

Utilize private cloud infrastructure to run customized AI workloads

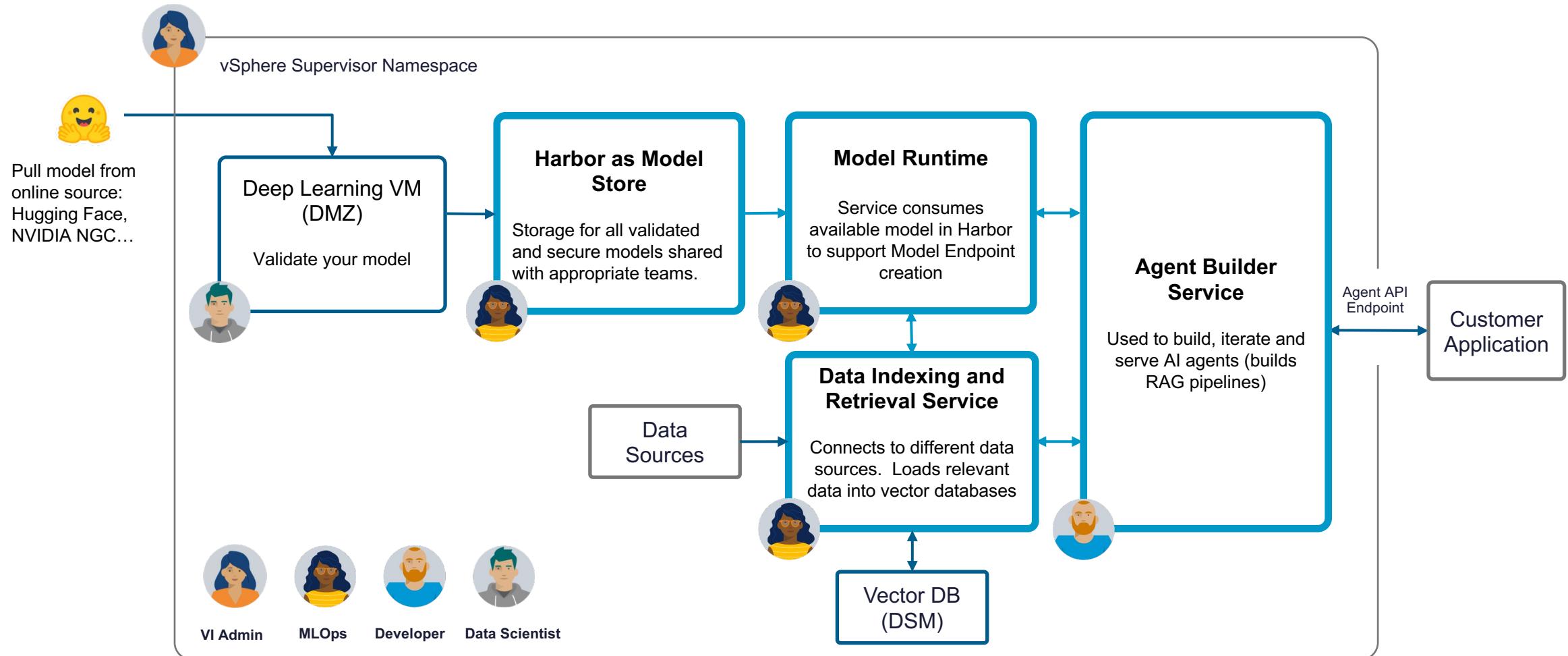
Consumers can utilize different AI application types

Infrastructure is deployed, scaled, lifecycle managed by VCF admin

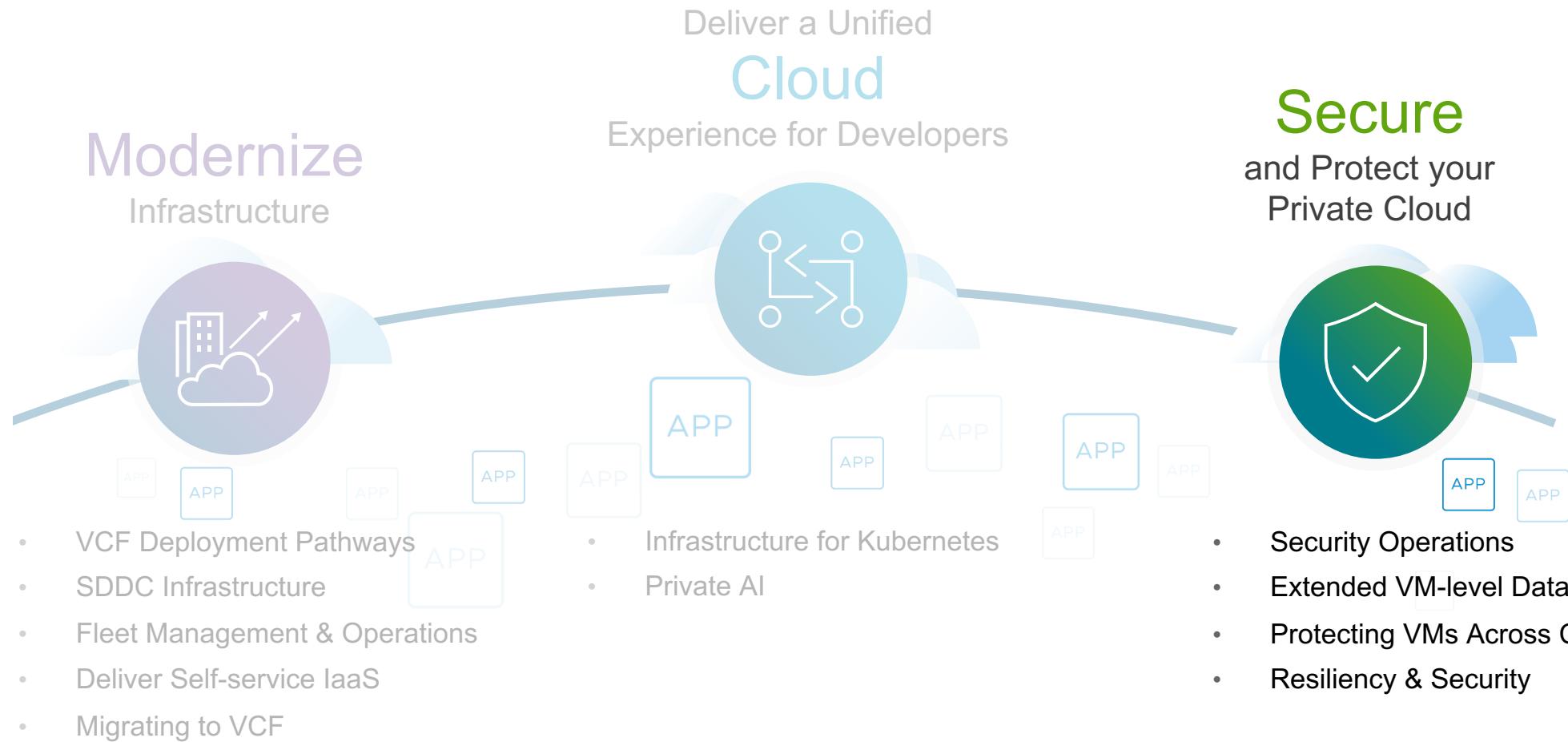


Private AI Services (PAIS)

Model Store | Model Endpoints | Data Indexing & Retrieval | Agent Builder

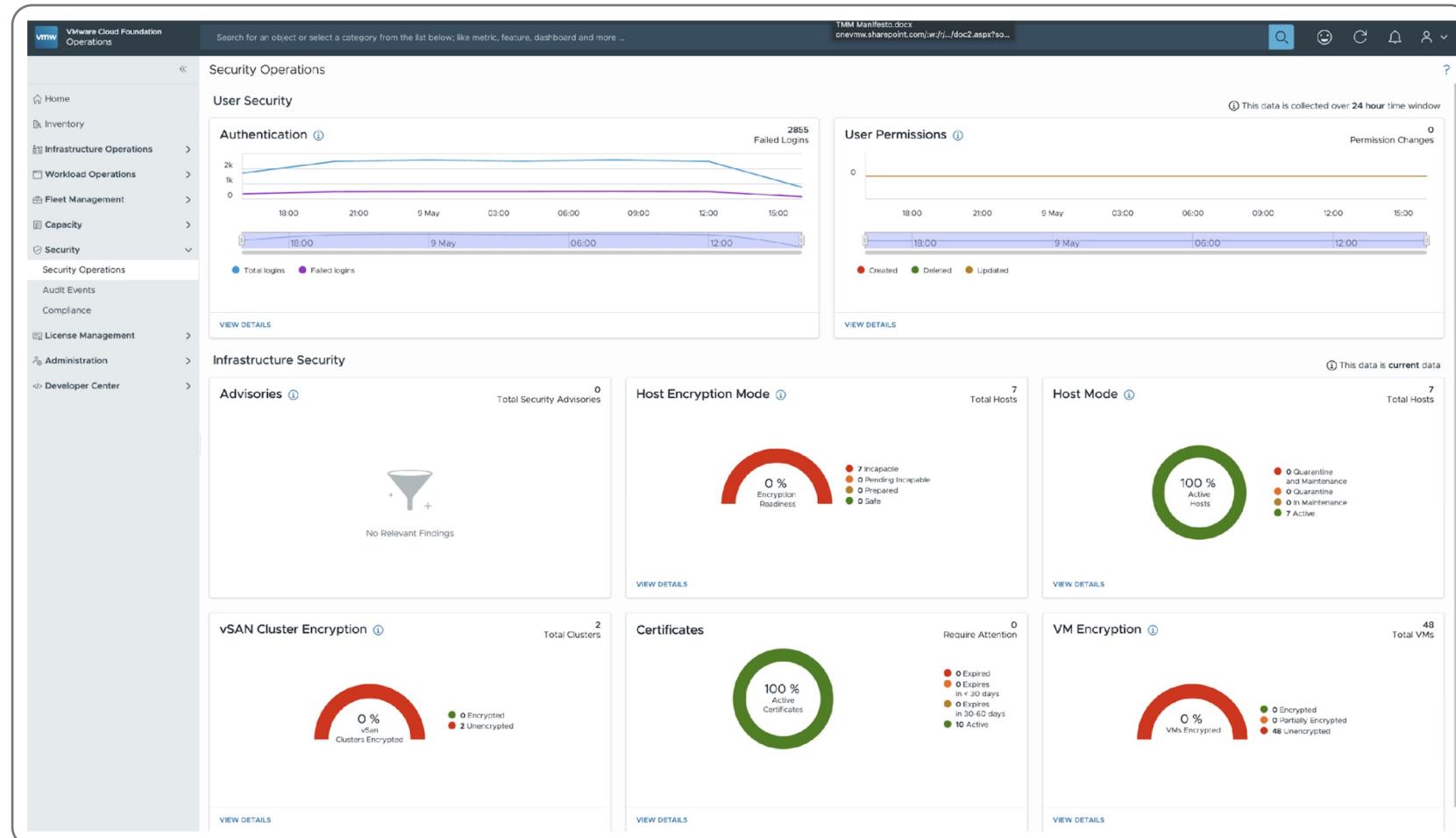


What's New in VMware Cloud Foundation 9



One-Stop Dashboard for Baseline Security Operations

User and Infrastructure Security



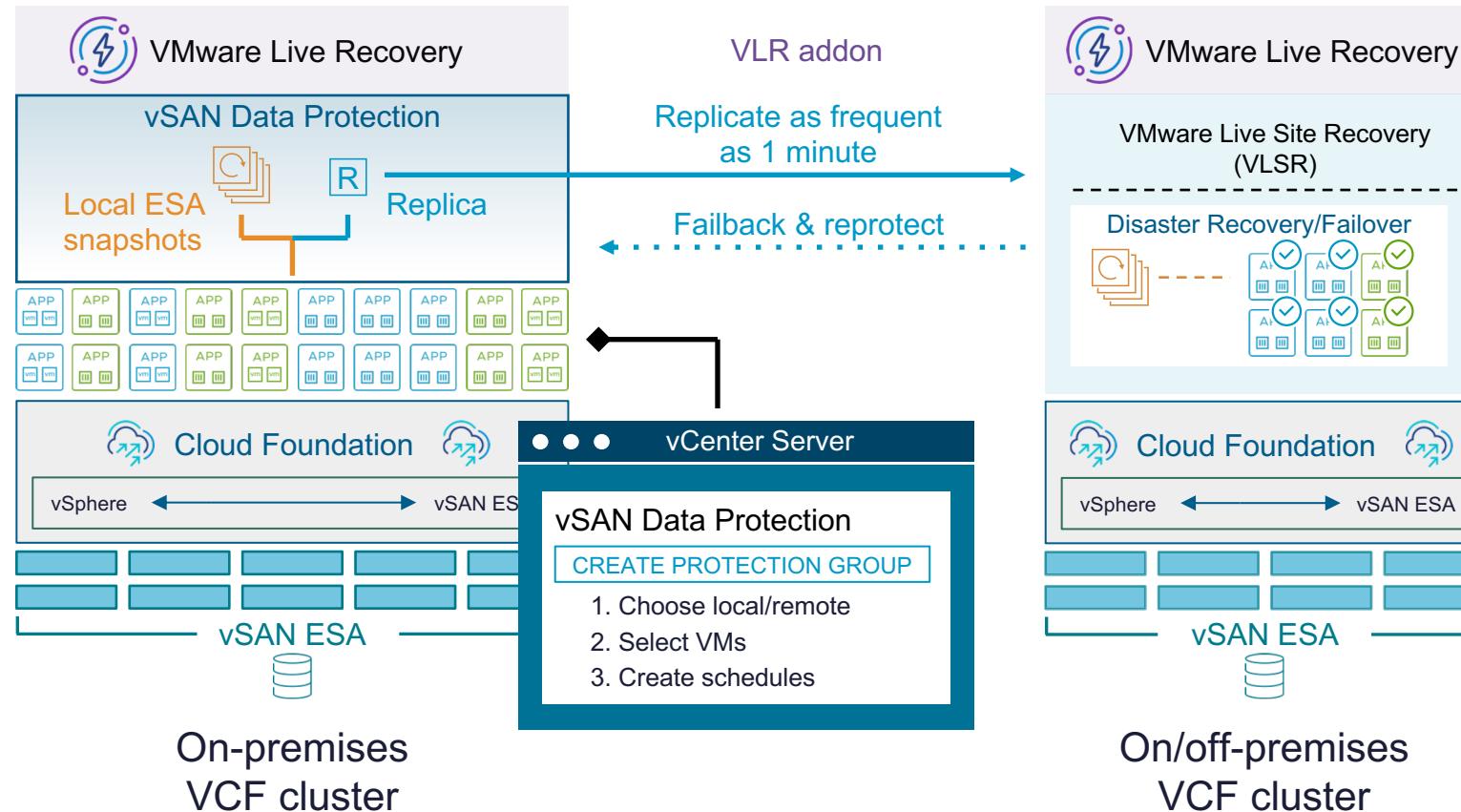
An overview page providing a holistic view of the organization's security stance across VCF deployments.

Benefits:

- Enhanced visibility
- Improved security and resilience
- Proactive defense

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**

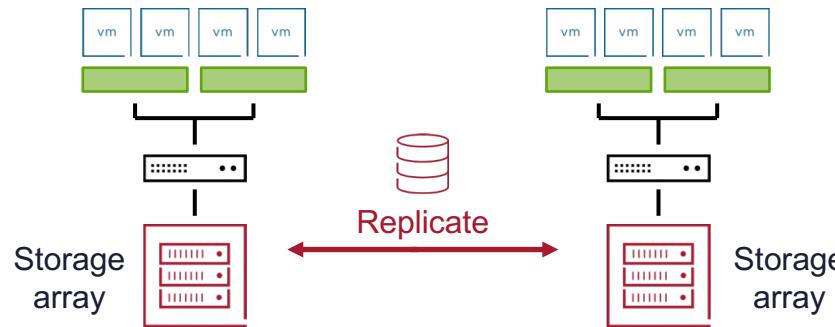
Supports **vSAN HCI and vSAN storage clusters**

Unique Approach for Protecting VMs and Data across Clusters

Approach to remote protection* increase flexibility and capabilities for VCF

Array-based Replication

Snapshot LUN at source followed by replicating LUN to target

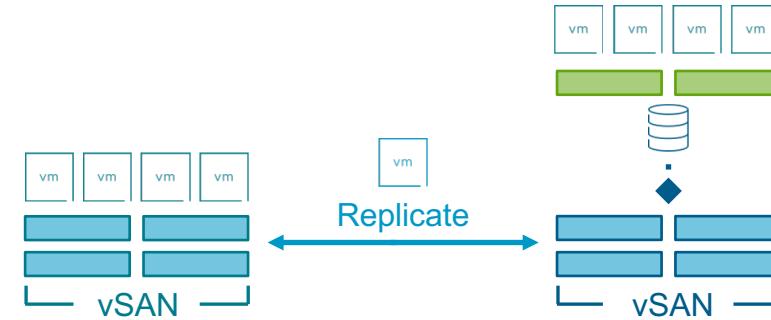


Traits

- Protection and recovery limited to LUN
- May require similar arrays at source and target
- May create a dependency of LUNs across sites
- Additional array tooling needed to protect and restore
- RPO dependent on characteristics of arrays
- Snapshot retention dependent on characteristics of array

vSAN-to-vSAN Replication*

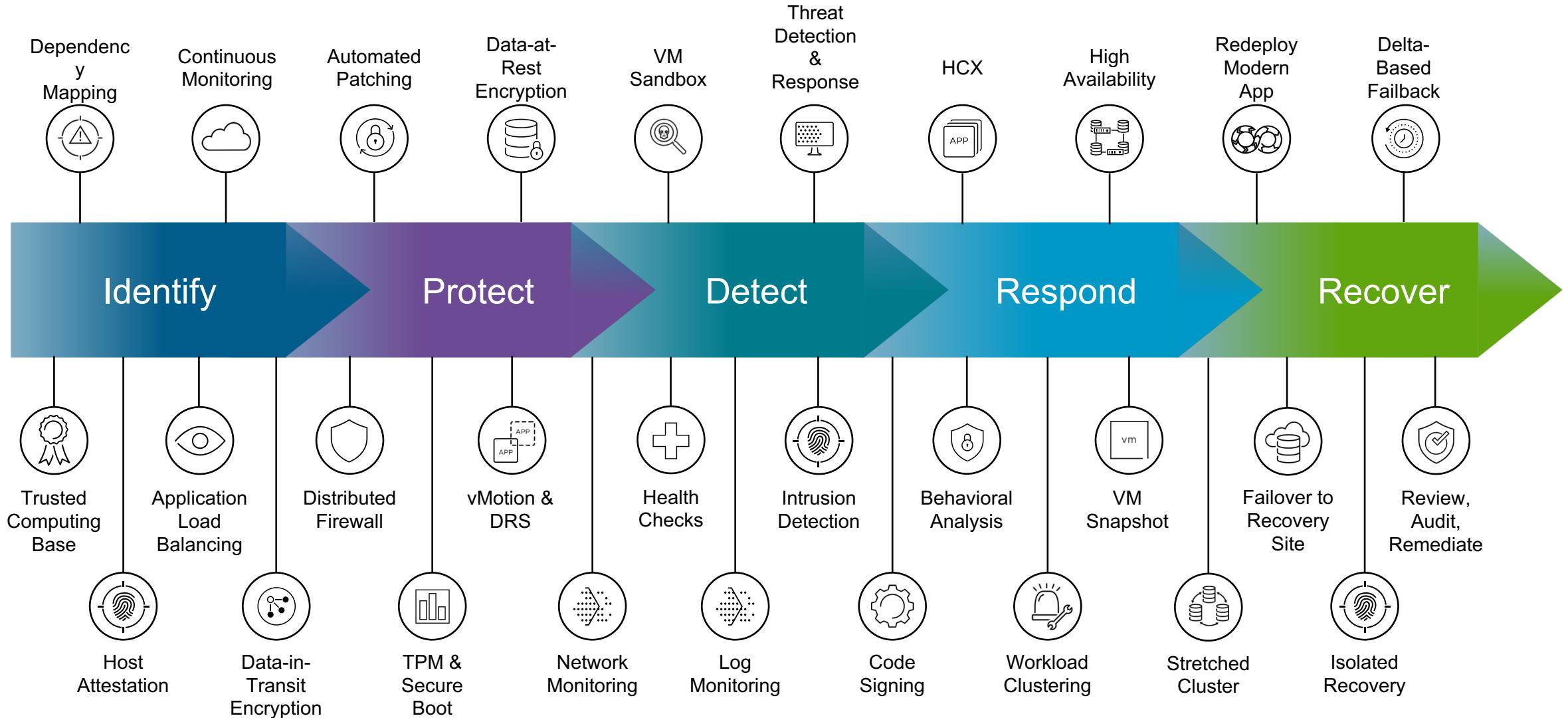
Replicate VM to target followed by snapshotting VM at target



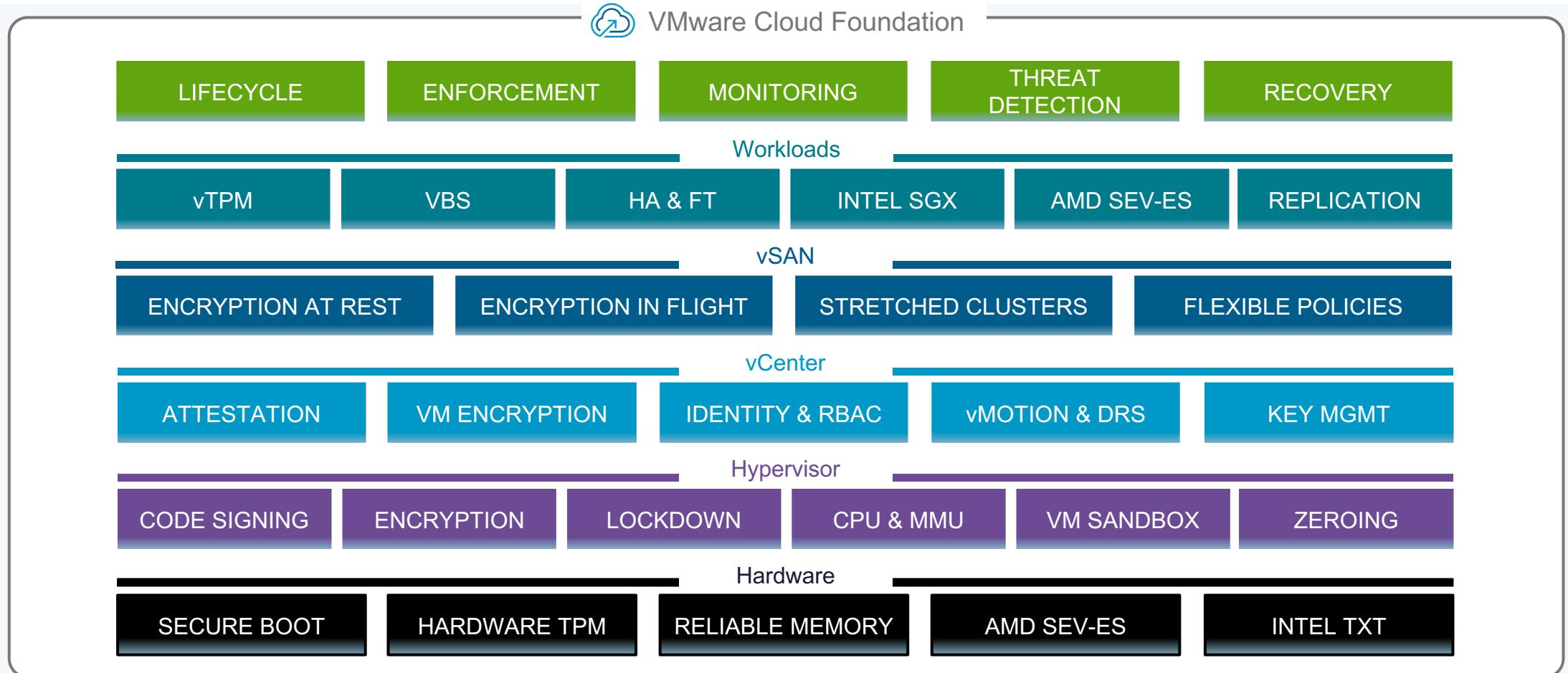
Traits

- **Granular per-VM** protection and recovery
- Source and target **can be dissimilar** vSAN clusters
- Full autonomous **copies** of VMs at each site
- Fully **integrated** protection and recovery **APIs** and **UI**
- **1-minute RPO** – with no need to snapshot source
- Up to **200 snapshots per VM** at each site

Resilience Woven Throughout VMware Cloud Foundation



Security at Every Layer of Cloud Foundation





Thank You

Licensing Overview

- VCF Business Services Console
- Activation using VCF Operations
- Subscription Expiration Behaviour
- Licensing Considerations for Upgrades

Overview of License Changes with VCF 9



What's New with VCF Licensing

- Transition from license keys to a digitally signed license file.
 - [Single license file for all VCF components.](#)
- Cloud Integration with VCF Business Services Console.
 - [Manage entitlement, generate license codes and files, tenant & user mgmt.](#)
- Centralized licensing from VCF Operations (per-VC licensing).
 - [Assign licenses to deployed VCF environments.](#)
- Support for connected and disconnected modes of operation.
- Easy to stay compliant with usage data updates every 180 days.
- Automated reactivation on renewal (for connected environments).

VCF 9 advanced add-on services continue to be licensed separately using license keys (e.g. Live Recovery, vDefend Firewall, Avi Load Balancer, Private AI Foundation)

Cloud Integration with the Business Services Console Portal

VCF Licensing

The screenshot shows the VCF Home page of the Broadcom Business Services Console. The top navigation bar includes links for Products, Solutions, Support and Services, Company, and How To Buy. A 'Broadcom Tester' dropdown is also present. On the left, a sidebar menu lists categories such as License Management, Access Management, Settings, Contact Support, My Downloads, Documentation, and API Documentation. The main content area features a 'Quick Access' section with three cards: 'License Your Environment' (with 'UPLOAD REGISTRATION FILE' button), 'Report Usage' (with 'UPLOAD USAGE FILE' button), and 'Split or Merge Licenses' (with 'MANAGE LICENSES' button). Below this is a 'VCF Solutions Catalog' card with the text 'Discover and deploy curated solutions to maximize your infrastructure's capabilities' and a 'EXPLORE' button.

Cloud Based Portal
vcf.broadcom.com

Central management
of license entitlement

- License Management
- Tenant Management
- User Management

Supports connected & disconnected environments

Centralized License Activation with VCF Operations

VCF Licensing

You are in an evaluation mode which expires on Jun 15, 2025. [Learn more about licensing](#) [GO TO REGISTRATION](#)

VMware Cloud Foundation Operations Search for an object or select a category from the list below; like metric, feature, dashboard and more ...

Registration

VCF Operations is not registered To access your licenses, register VCF Operations with the VCF Business Services console. [LEARN MORE ABOUT REGISTRATION](#)

Connected

Connected mode simplifies registration and license updates, and automates usage reporting.

Step 1: Log in to the VCF Business Services console to obtain an activation code for VCF Operations.

START REGISTRATION

Step 2: Finish your registration by entering the activation code here.

ENTER ACTIVATION CODE

Disconnected

Disconnected mode requires you to manually transfer files for registration, updates of licenses, and usage reporting. Internet connection is not required.

Step 1: Download the registration file.

DOWNLOAD REGISTRATION FILE

Step 2: Upload the registration file to the [VCF Business Services console](#).

Step 3: Import the license file that you downloaded from the VCF Business Services console.

IMPORT LICENSE FILE

Centralized License activation for VCF environment.

Register VCF Operations with Business Service Console.

- Generate Activation Code (connected sites).
- Generate License file (disconnected sites).

Activate licenses.

Stay Compliant.

- Report license usage every 180 days.

Subscription Expiration Behavior



Notification provided 60 days prior to expiration

- Email. Alerts in VCF Operations and vSphere Client
- Seamless activation on subscription renewal

Continue receiving alerts if subscription expires, no degradation of capabilities for 90 days

After 90 days:

- Hosts disconnect from vCenter. Running VMs stay online
- Cannot power on/off VMs. Cannot make configuration changes

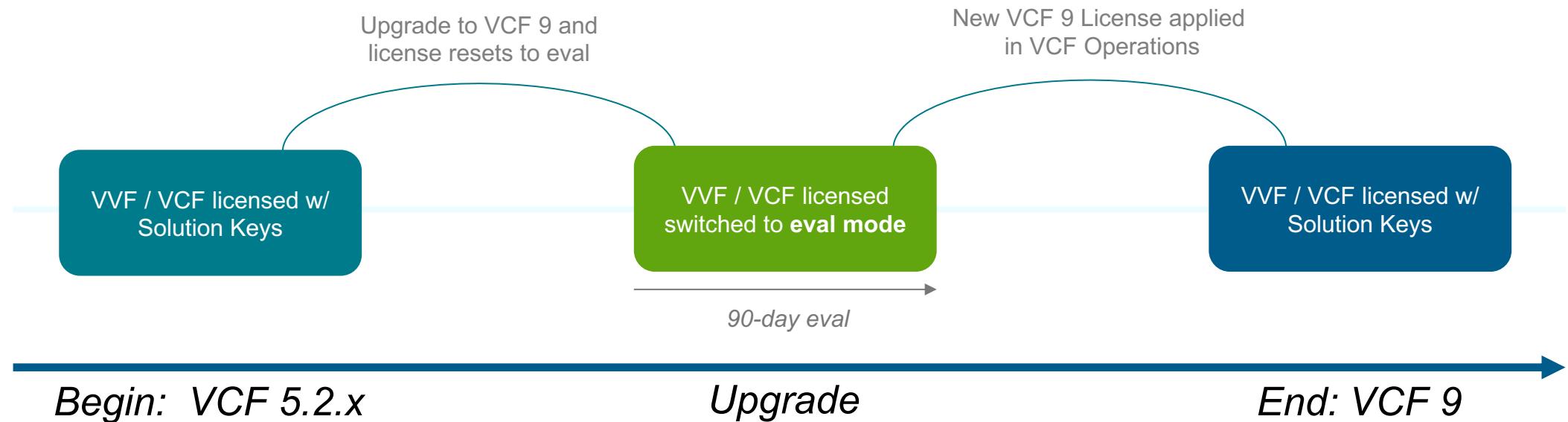
On subscription renewal – hosts automatically reconnect without customer action.

Licensing Considerations for Upgrading to VCF 9

VCF Licensing

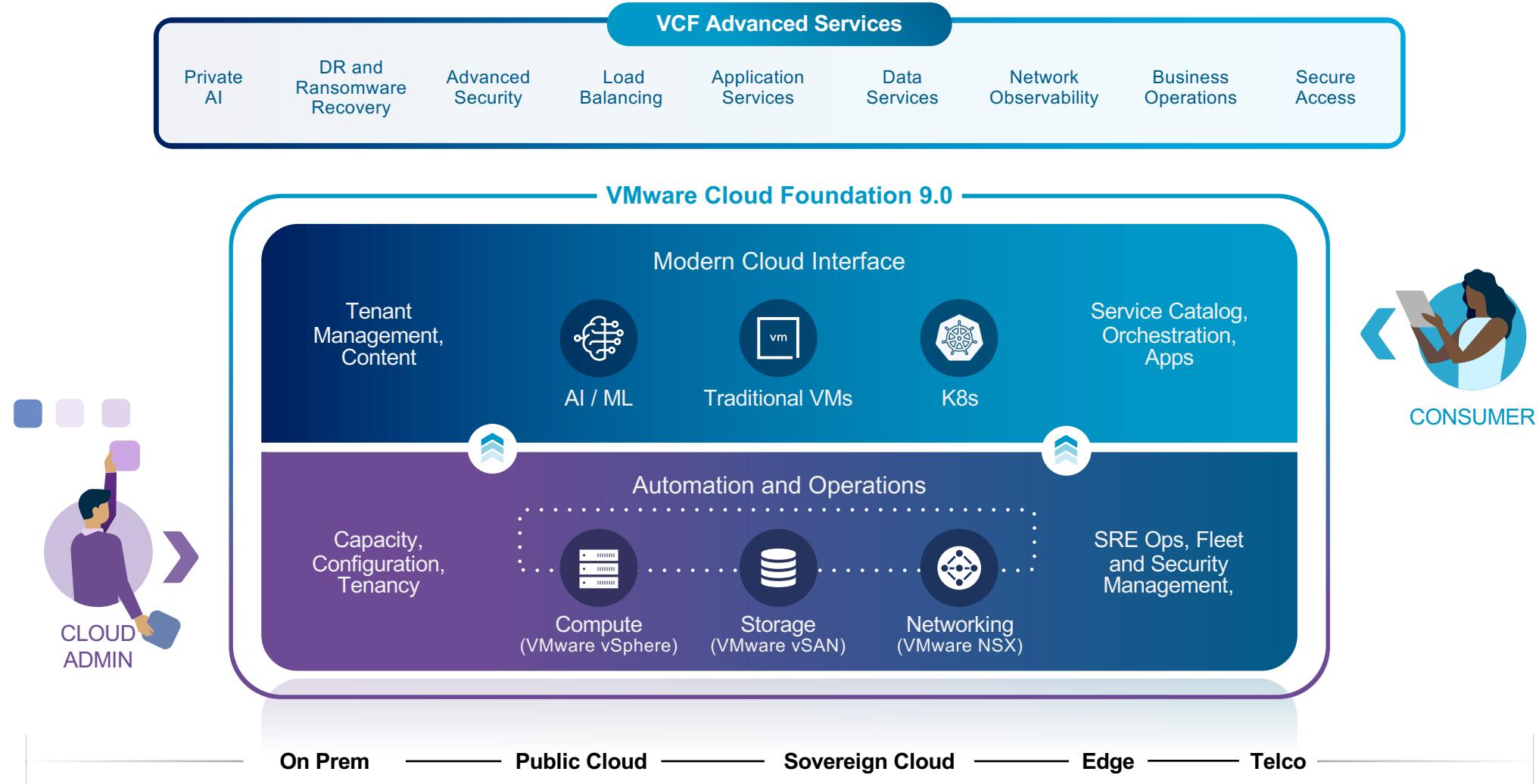
On upgrade to VCF 9

- VCF 5.2.x licenses automatically reset to 'evaluation mode' following upgrade
- Use VCF Operations to activate VCF 9 licenses



Advanced Services

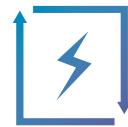
Delivering the Modern Private Cloud



VCF ADVANCED SERVICES



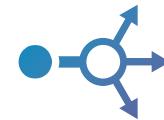
Private
AI



DR and
Ransomware
Recovery



Advanced
Security



Load
Balancing



Application
Services



Data
Services



Network
Observability



Business
Operations



Secure
Access

Resources

Get hands-on experience with VMware Cloud Foundation

VMware Cloud Accelerator Hands-On Platforms



Hands-on Labs

Experience real VMware products, no setup needed

Guided and self-paced learning—follow manuals or explore freely

Evaluate, learn, and test VMware solutions

*Performance and scale are limited

VCF Experience Day

8-10 hours of lecture and hands-on exercises

Facilitated by a local VCF SME

Lab capacity booked in advance



Holodeck Toolkit

Long-running nested sandbox on a physical vSphere host

Deployable to the customer datacenter

Augment the need for POC

Available in standalone and scalable partner design

Hands-on for multiple teams within a datacenter

VMware Cloud Foundation Resources

Product Page	https://www.vmware.com/products/cloud-infrastructure/vmware-cloud-foundation
Documentation	https://techdocs.broadcom.com/us/en/vmware-cis/vcf.html
Blogs	https://blogs.vmware.com/cloud-foundation/
Hands-On Labs	https://www.vmware.com/resources/hands-on-labs
Holodeck	https://www.vmware.com/resources/resource-center?category[]=%E2%80%9CHands-on%20Labs%E2%80%9D
Community	https://community.broadcom.com/vmware-cloud-foundation/home
FAQ	https://www.vmware.com/docs/vmw-cloud-foundation-faqs
YouTube	https://www.youtube.com/c/VMwareCloudFoundation
VCF Posters	https://www.vmware.com/info/vmware-cloud-foundation/resources#infographics

VMware
Feature Request
Portal

<https://vcf.ideas.aha.io/>



VMware Cloud Foundation Training Path

Basic

Level 100

[VCF Overview](#)

Get started with documentation and videos to learn about VCF.

[VCF Data Sheet](#)

This datasheet describes VCF and its key use cases.

[TCO White Paper](#)

Learn how to save with VCF in this total cost of ownership whitepaper.

[Total Economic Impact Study](#)

Forrester's study on the total economic impact of VCF.

Intermediate

Level 200

[Hands-on Labs \(HOLs\)](#)

Self-paced online environments with guided exercises.

[VMware Resource Center](#)

Technical papers, demos, and more.

[Cloud Foundation YouTube Channel](#)

Demos, how-to guides, and more.

[Cloud Foundation Webinars](#)

Register for webinars and watch replays.

[Frequently Asked Questions](#)

Advanced

Level 300

[VCF Experience Day](#)

Unlock the power of VMware Cloud Foundation with our exclusive, expert-led hands-on workshops. These invite-only events offer a deep dive experience to understand VCF comprehensively.

[VCF Holodeck](#)

Experience VCF using a nested deployment on a single vSphere host. Holodeck automates the deployment and configuration of VCF for hands-on experience using self-paced lab modules.