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# VMware Cloud Foundation 9.0 and VMware vSphere Foundation 9.0

## Feature Comparison & Upgrade Paths

This feature comparison document outlines the key differences between our two primary platforms (VMware Cloud Foundation and VMware vSphere Foundation) and our vSphere workload engine.

- 1. VMware Cloud Foundation** – a unified private cloud platform that combines the scale and agility of public cloud with security and performance of on-premises infrastructure, delivering increased productivity and lower Total Cost of Ownership (TCO).
  - VMware Cloud Foundation is a full-stack Infrastructure as a Service (IaaS) platform that delivers software-defined compute, storage, networking, security, and management.
  - Integrated automation enables a self-service platform to rapidly deploy VMs/containers for developer agility.
  - Hardened platform offering built-in resilience, scaling, and clustering for non-stop operations.
  - Provides cloud agility to scale infrastructure without scaling staff, delivering cloud consumption on-premises.
  - Provides automation and orchestration to simplify Day 0, Day 1, and Day 2 tasks.
  - Available as a single SKU to simplify full stack deployment.
- 2. VMware vSphere Foundation** – an enterprise-grade workload platform for modern infrastructure delivering virtualized benefits, simplified management, cost efficiency, scalability and serves as the core foundation for VMware Cloud Foundation.
  - Unified workload platform for running VMs and containers side by side with a native Kubernetes runtime.
  - Intelligent operations management delivers enhanced visibility and infrastructure optimization.
  - Hyperconverged infrastructure integrates compute and storage virtualization for efficient resource management.
  - Simplified deployment and scalability with a single SKU, enabling faster application delivery and future ready infrastructure.
- 3. VMware vSphere** – the enterprise workload engine that modernizes compute infrastructure, provides a powerful foundation for modern workloads and enables security and compliance.



Figure 1: shows VMware by Broadcom simplified portfolio

## Feature Comparison: VMware vSphere Foundation vs. VMware Cloud Foundation

Features	Previous Products	vSphere Foundation	VMware Cloud Foundation
<b>Compute</b>			
Distributed Resource Scheduler, Distributed Switch	vSphere Enterprise Plus	•	•
Cross-VC vMotion, Long Distance vMotion, Direct Path vMotion, Storage vMotion	vSphere Enterprise Plus	•	•
High Availability, Fault Tolerance, Data Protection, Trust Authority	vSphere Enterprise Plus	•	•
Kubernetes Runtime, Automated Multicloud Operations	Tanzu Kubernetes Grid	•	•
vCenter: Backup and Restore, Linked Mode, HA	vCenter Server Standard	•	•
<b>Storage</b>			
Data-at-rest and Data-In-Transit Encryption	vSAN Enterprise	0.25 TiB / Core*	1TiB / Core
Stretched Cluster with Local Failure Protection	vSAN Enterprise	0.25 TiB / Core	1TiB / Core
Petabyte Scale, Disaggregated Storage for vSphere	vSAN Enterprise	0.25 TiB / Core	1TiB / Core
Dedup & Compression	vSAN Enterprise	0.25 TiB / Core	1TiB / Core
<b>Networking</b>			
Networking: Distributed Switching and Routing	NSX Enterprise Plus		•
Large Scale Workload Migration	HCX Enterprise		•
Network Ops: Flow Analysis, App Discovery, M-Seg Planning, Network Assurance and Verification	Aria Operations for Networks		•
<b>Management</b>			
Operations: Performance Optimization, Capacity Management, Compliance, Monitoring and Troubleshooting, Log Analytics	Aria Operations	•	•
Automation: Automated Lifecycle Management, App/Infra Provisioning, Governance	Aria Automation		•
VMware and Third-Party Database, Middleware and Application management packs	Aria Operations Enterprise		•
Monitoring and Troubleshooting for Applications with Open-Source Telegraf	Aria Operations Enterprise		•
Out-of-the-box Monitoring and Troubleshooting for Curated Applications with Telegraf agent	Aria Operations Enterprise		•
Native Public Cloud Monitoring	Aria Operations Enterprise		•
TVS management packs	Aria Ops for Integrations	•Excludes DB & apps	•
VCF Operations fleet management: Workload Domain Management, Lifecycle Management, Certificate Management	SDDC Manager		•
<b>Support</b>			
Broadcom Essential Support – Regional Coverage, 24x7 Support		•	•
Activation/ Upgrade Support for VCF			Purchased Separately
Jumpstart Workshops for VCF (new purchases of VCF ACV > \$500k except for US Pub Sector)			•

(\*)- vSAN capacity increase to 0.25 TiB is available in vSphere Foundation purchases starting 11/22/24.

## Detailed Feature Comparison

- **VMware Cloud Foundation** - includes vSphere, vCenter Standard, vSphere Kubernetes Service (formerly Tanzu Kubernetes Grid service), VCF Operations, VCF Operations for networks, VCF Operations fleet management (formerly SDDC Manager), VCF Automation, vSAN, NSX and HCX.
- **VMware vSphere Foundation** - includes vSphere, vCenter Standard, vSphere Kubernetes Service, VCF Operations and vSAN.
- **VMware vSphere Enterprise Plus** - includes vSphere (vCenter Standard, ESX Enterprise Plus).
- **VMware vSphere Standard** - includes vSphere (vCenter Standard, ESX Standard).
- **VMware Cloud Foundation Edge** - VMware Cloud Foundation Edge is an optimized configuration of VMware Cloud Foundation tailored for edge use cases.
- **Solution License** - VMware Cloud Foundation and VMware vSphere Foundation now include a solution license file that enables access to the different components from a single key.

### Table of Contents:

[\[Compute\]](#) | [\[Storage\]](#) | [\[Networking\]](#) | [\[VCF Automation\]](#) | [\[VCF Operations\]](#) | [\[Advanced Services\]](#)

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Compute</b>					
<b>Kubernetes Runtime and Supervisor Services</b>					
vSphere Kubernetes Service (VKS)			•	•	•
VM Service			•	•	•
Storage Service			• <sup>[2]</sup>	•	•
Network Service			• <sup>[2]</sup>	•	•
Container Registry Service			•	•	•
Harbor Image Registry Service			•	•	•
vSphere Pod Service			•	•	•
Load Balancer Service			•	•	•
Service Mesh				•	•
External DNS			•	•	•
ArgoCD				•	•
Secret Service				•	•
IaaS Policy Service				•	•
Data Services			•	•	•
AI Services			•	•	•
Workload Availability Zones				•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Compute</b>					
<b>Kubernetes Runtime and Supervisor Services</b>					
Simplified VKS cluster lifecycle Management				•	•
VKS cluster management				•	•
Customizable base OS Images			•	•	•
Supervisor Independent Updates				•	•
Custom Zone Optimization				•	•
<b>Operations Management</b>					
vSphere Lifecycle Manager	•	•	•	•	•
Live Patching for ESX	•	•	•	•	•
vCenter Server Profiles	•	•	•	•	•
vCenter Update Planner	•	•	•	•	•
Content Library	•	•	•	•	•
vSphere Configuration Profiles		•	•	•	•
Host Profiles		•	•	[3]	[3]
Auto Deploy		•	•	[3]	[3]
Virtual Volumes (vVols)	•	•	•	•	•
Green Metrics	•	•	•	•	•
<b>Built-in Security</b>					
Identity Federation	•	•	•	•	•
Hardware TPM 2.0 Support	•	•	•	•	•
Virtual TPM 2.0	•	•	•	•	•
FIPS 140-2, and Common Criteria Certification	•	•	•	•	•
TLS 1.2	•	•	•	•	•
TLS 1.3	• [4]	• [4]	• [4]	• [4]	• [4]
Virtual Machine Encryption		•	•	•	•
Standard Key Provider (External KMS)	•	•	•	•	•
Native Key Provider	•	•	•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Compute</b>					
<b>Application Performance</b>					
Per-VM Enhanced vMotion Compatibility (EVC)		•	•	•	•
Instant Clone		•	•	•	•
Distributed Resource Scheduler (DRS)		•	•	•	•
Storage DRS		•	•	•	•
Distributed Power Management (DPM)		•	•	•	•
Storage Policy-Based Management	•	•	•	•	•
I/O Controls (storage)		•	•	•	•
Single Root I/O Virtualization (SR-IOV)		•	•	•	•
vSphere Persistent Memory		•	•	•	•
Memory Tiering		•	•	•	•
NVIDIA GRID vGPU		•	•	•	•
Accelerated Graphics for VMs		•	•	•	•
Dynamic DirectPath IO	•	•	•	•	•
Enhanced DirectPath I/O		•	•	•	•
Vendor Device Group		•	•	•	•
Heterogeneous vGPU profiles on same GPU		•	•	•	•
DRS automation for vGPU workloads		•	•	•	•
DPU Support and Dual DPU Support				•	•
<b>Business Continuity</b>					
vMotion	•	•	•	•	•
Cross-vCenter vMotion	•	•	•	•	•
vCenter Enhanced Linked Mode	•	•	•	•	•
vSMP	•	•	•	•	•
vSphere High Availability (HA)	•	•	•	•	•
Proactive HA			•	•	•
Storage vMotion	•	•	•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Compute</b>					
<b>Business Continuity</b>					
Fault Tolerance	• (2 vCPU)	•	•	•	•
vSphere Replication	•	•	•	•	•
Support for 4k Native Storage	•	•	•	•	•
vSphere Quick Boot	•	•	•	•	•
vCenter File-Based Backup and Restore	•	•	•	•	•
Cross vCenter Mixed Version Provisioning	•	•	•	•	•
Hot and Cold Migration to the Cloud	•	•	•	•	•
Policy-based Governance		•	•	•	•
Kubernetes Automation			•	•	•
Workload Lifecycle Management		•	•	•	•
vCenter Orchestration & Extensibility	•	•	•	•	•
<b>Storage</b>					
vSAN Express Storage Architecture (ESA)			•	•	•
vSAN Original Storage Architecture (OSA)			•	•	•
All-Flash Hardware			•	•	•
Basic Compression and Deduplication			• (OSA Only)	• (OSA Only)	• (OSA Only)
Advanced Compression and Global Deduplication			• (ESA Only)	• (ESA Only)	• (ESA Only)
Data-at-Rest Encryption			•	•	•
Data in-Transit Encryption			•	• <sup>[3]</sup>	• <sup>[3]</sup>
Storage Policy-Based Management			•	•	•
Software Checksum			•	•	•
vSAN over RDMA			•	• <sup>[3]</sup>	• <sup>[3]</sup>
Quality of Service (QoS) – IOPS Limit			•	•	•
Erasure Coding (RAID-5/6)			•	•	•
vSAN storage clusters			•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Storage</b>					
Remote Datastores			•	•	•
Stretched Cluster			•	•	•
2-Node Cluster			•	• <sup>[3]</sup>	• <sup>[3]</sup>
File Services			•	•	•
iSCSI Target Service			•	• <sup>[3]</sup>	• <sup>[3]</sup>
Cloud Native Storage (CNS) Control Plane			•	•	•
vSphere Container Storage Interface (CSI) Driver			•	•	•
Rack Awareness (Fault Domains)			•	• <sup>[3]</sup>	• <sup>[3]</sup>
vSAN Data Persistence Platform			•	•	•
Snapshot Manager			•	•	•
Immutable Snapshots			•	•	•
vSAN-to-vSAN Replication			•	•	•
<b>External Storage</b>					
VMFS - Fibre Channel	•	•	•	• (Principal, Supplemental)	• (Principal, Supplemental)
VMFS - iSCSI	•	•	•	• (Supplemental)	• (Supplemental)
VMFS - FCoE	•	•	•	• (Supplemental)	• (Supplemental)
VMFS - NVMe/FC	•	•	•	• (Supplemental)	• (Supplemental)
VMFS - NVMe/TCP	•	•	•	• (Supplemental)	• (Supplemental)
VMFS - NVMe/RDMA	•	•	•	• (Supplemental)	• (Supplemental)
NFS - v3	•	•	•	• (Principal, Supplemental)	• (Principal, Supplemental)
NFS - v4.1	•	•	•	• (Supplemental)	• (Supplemental)
vVols - Fibre Channel	•	•	•	• (Principal, Supplemental)	• (Principal, Supplemental)
vVols - iSCSI	•	•	•	• (Principal, Supplemental)	• (Principal, Supplemental)



Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>External Storage</b>					
vVols - NVMe/FC	•	•	•	• (Supplemental)	• (Supplemental)
vVols - NVMe/TCP	•	•	•	• (Supplemental)	• (Supplemental)
vVols - NFS v3	•	•	•	• (Supplemental)	• (Supplemental)
Storage I/O QoS Controls (SIOC)		•	•	•	•
Storage Array Integration (VAAI) for Block Storage	•	•	•	•	•
Storage Array Integration (VAAI) for NFS Storage	•	•	•	•	•
Workload (VMDK) Clustering	•	•	•	•	•
Auto config with NFS	•	•	•	•	•
3rd party storage plugins	•	•	•	•	•
Host commissioning and cluster management	•	•	•	•	•
<b>Networking</b>					
vSphere Distributed Switch		•	•	•	•
Link Aggregation Control Protocol (LACP)		•	•	• <sup>[3]</sup>	• <sup>[3]</sup>
Load-Based Teaming		•	•	•	•
Network I/O QoS Control (NIOC)		•	•	•	•
Private VLAN		•	•	•	•
MAC Learning		•	•	•	•
BPDU Guard		•	•	•	•
Guest VLAN Tagging		•	•	•	•
VLAN Backed Networking	•	•	•	•	•
Virtual Networking				•	•
Spoofguard				•	•
L2 Multicast		•	•	•	•
L3 Multicast				•	•
Enhanced Datapath				•	•
Enhanced Datapath for DPUs				•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Networking</b>					
IPv4 and IPv6 Routing				•	•
Dynamic Routing (OSPFv2/BGP/BFD)				•	•
VRF				•	•
EVPN				•	•
NAT				•	•
L2 and L3 VPN				•	•
Quality of Service (QoS)		• (NIOC)	• (NIOC)	• (NIOC and NSX)	• (NIOC and NSX)
NSX Edge Bridge for Networking				•	•
DNS, DHCP and IPAM				•	•
Container Networking with Antrea			•	•	•
Policy, Tagging, and Grouping				•	•
Multi-Tenancy with Projects				•	•
Virtual Private Cloud (VPCs)				•	•
Load Balancing for VCF Infrastructure Components (i.e. VCF appliances) <sup>[12]</sup>				•	•
Layer 4 Load Balancing for vSphere Supervisor (including VM Service, vSphere PODs, and VKS Clusters) <sup>[11],[12]</sup>			•	•	•
Manager / Controller Clustering				•	•
Federation				•	•
NSX Edge in VM and Bare-Metal Form Factor for Networking				•	•
Automated and Manual Manager and Edge Deployment				•	•
Automated Host Prep				•	•
Port Mirroring		•	•	•	•
Netflow/IPFIX		•	•	•	•
Traceflow				•	•
Live Traffic Analysis				•	•
Packet Capture		•	•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>Cloud Management</b>					
<b>VCF Automation</b>					
<b>Modern Cloud Interface</b>					
Self-Service Catalog <sup>[5]</sup>				•	•
Self-Service IaaS <sup>[6]</sup>				•	•
Unified APIs (declarative K8s APIs <sup>[6]</sup>   REST APIs <sup>[5]</sup> )				•	•
<b>Supervisor Services <sup>[6]</sup></b>					
Core Services: VM, VKS, Network, Volume, VM Image, Velero Backup				•	•
Extensible Services (DSM, Contour, Harbor, etc.)				•	•
<b>Governance &amp; Policies</b>					
Zones, Regions, Organization, Project, IAM (for Ent IT Admin) <sup>[5]</sup>				•	•
Namespace Classes, Namespaces, VPC (for Ent IT Admin) <sup>[6]</sup>				•	•
Namespaces & Supervisor Services Management (for LOB Admin) <sup>[6]</sup>				•	•
Policies (approval, lease, day 2 action) (for Org Admin) <sup>[5]</sup>				•	•
IaaS Resource Policies w/ Policy as Code (for Org Admin) <sup>[6]</sup>				•	•
Tenant Identity Management & RBAC (for Org Admin) <sup>[6]</sup>				•	•
Custom Naming Policy (for Org Admin) <sup>[5]</sup>				•	•
Cost Visibility (w/ VCF Operations) (for Ent IT Admin & Org Admin) <sup>[5]</sup>				•	•
<b>Tenant Management <sup>[6]</sup></b>					
Tenant Resource Management (compute, storage, network) (for Ent IT Admin)				•	•
Tenant Network Isolation w/ VCF Networking (for Ent IT Admin)				•	•
Tenant Operations (utilization, chargeback, alerts)				•	•
Tenant Branding (for Org Admin)				•	•
Quick / Manual Setup of Organizations (for Ent IT Admin)				•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>VCF Automation</b>					
<b>Tenant Management</b> <sup>[6]</sup>					
Provider and Consumer Dashboards				•	•
Certificate Management (for Ent IT Admin & Org Admin)				•	•
<b>Content Management</b> <sup>[6]</sup>					
Centralize Content Hub for blueprints, content libraries (VM Images), orchestrator workflows				•	•
Publish content to self-service catalog				•	•
Provider Tenant Admin to Tenant sharing: content library and catalog items				•	•
Content Library Creation				•	•
<b>Infrastructure as Code</b>					
Visual Canvas Template Designer w/ declarative YAML syntax <sup>[5]</sup>				•	•
Blueprints (YAML <sup>[5]</sup>   K8s manifest in YAML <sup>[6]</sup> )				•	•
Git Integration (GitHub, GitLab, Bitbucket) <sup>[5]</sup>				•	•
VCF Automation TF Provider <sup>[5]</sup>				•	•
Automated deployment & configuration of Supervisor Services <sup>[6]</sup>				•	•
Automated deployment & configuration of SDDC objects <sup>[7]</sup> (e.g., NSX n/w, Security Groups, Firewalls <sup>[8]</sup> , Avi LB <sup>[9]</sup> )				•	•
<b>Private AI Automation Services</b> <sup>[6], [10]</sup>					
Catalog Setup Wizard (Automated Private AI service setup)				•	•
GPU-capable DL VM provisioning				•	•
GPU-capable VKS Cluster provisioning				•	•
DSM Integration for RAG-based workloads				•	•
<b>Orchestration &amp; Extensibility</b>					
Workflow Orchestration (VCF Operations orchestrator) <sup>[5]</sup>				•	•
Ecosystem & Partner Services <sup>[6]</sup>				•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>VCF Automation</b>					
<b>Orchestration &amp; Extensibility</b>					
Event Subscription Service, Custom Resources/Custom Day 2, XaaS <sup>[5]</sup>				•	•
Action-Based Extensibility (ABX) (FaaS) <sup>[7]</sup>				•	•
Integrations (Ansible <sup>[7]</sup> , Puppet <sup>[7]</sup> , Tanzu Config <sup>[7]</sup> , ServiceNow ITSM <sup>[7]</sup> , IPAM (Infoblox) / IPAM SDK <sup>[7]</sup> , AD <sup>[7]</sup> )				•	•
<b>Workload Lifecycle Management</b>					
Workload discovery and onboarding <sup>[7]</sup>				•	•
Workload Operations for Providers & Consumers <sup>[6]</sup>				•	•
Day 2 Actions & Custom Actions <sup>[5]</sup>				•	•
Advanced Workload Placement (w/ VCF Operations) <sup>[7]</sup>				•	•
Resource right-sizing and reclamation (w/ VCF Operations) <sup>[7]</sup>				•	•
<b>VCF Operations</b>					
Install			•	•	•
Lifecycle Management			(vSphere Foundation customers utilize vLCM)	•	•
License Management		•	•	•	•
Certificate Management				•	•
Password Management				•	•
Configuration Drift Management				•	•
Centralized Tag Management				•	•
Global inventory			•	•	•
Identity and Access Management, Single Sign-on			•	•	•
GPU & vGPU monitoring			•	•	•
Audit events across vCenter, vSphere, vSAN, and NSX			•	•	•
Log Management			•	•	•
VCF Health and Diagnostics			•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>VCF Operations</b>					
Storage Operations (vSAN)			•	•	•
Visualization (OOTB; Custom): Alerts, Dashboards, Views, Reports, Heat Map, Performance Charts, Super Metrics, Metric Correlation, Relationship Mapping			•	•	•
Performance Monitoring and Analytics			•	•	•
Compliance Management, including regulatory compliance (CSA, DISA, FISMA, ISO, CIS, PCI, HIPAA), custom compliance templates, vSphere hardening			•	•	•
Real-Time predictive capacity management, including trending (Workload What-If analysis), right-sizing, workload optimization (manual and automated)			•	•	•
Troubleshooting with guided remediation			•	•	•
Cost Management and Optimization with Fine-Grained Cost Analytics (Service and Data Center costs, Reclamation, Planning)			•	•	•
Custom Profiles for VMs			•	•	•
Data Protection and Recovery (Integrated VMware Live Cyber Recovery and VMware Live Site Recovery)			•	•	•
Service Discovery and Application Dependency Mapping			•	•	•
Out-of-the-Box Discovery, Monitoring, and Troubleshooting for Packaged Applications				•	•
Extensibility via VMW & 3rd-Party Infrastructure Management Packs (SDDC, Compute, Storage, Network, K8s/Container)			•	•	•
Extensibility via VMW & 3rd-Party App & Management Packs (e.g., DBs, middleware, app management)				•	•
Application Monitoring (Telegraf Agent)				•	•
Logs Alerting			•	•	•
Logs Query API			•	•	•
Logs Scheduled dashboard reports			•	•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>VCF Operations</b>					
Logs Partitioning			•	•	•
Logs Content Pack support vSphere, HCX, VCF Operations fleet management			•	•	•
Security Operations (SecOps)				•	•
Supervisor Cluster monitoring (Metrics and Dashboard)			•	•	•
vSphere Kubernetes Service Cluster monitoring (Telegraf Agent)			•	•	•
<b>VCF Operations for networks</b>					
Network Visibility and Troubleshooting for vSphere, NSX, and HCX				•	•
Network Assessment and Optimization Report				•	•
Virtual flows (VDS IPFIX, VM to VM, VM to Physical)				•	•
Physical flows (NetFlow v7 and v9, and sFlow)				•	•
IPv6 Flows support for vSphere and NSX				•	•
Flow Analytics and Insights (Thresholds and Outliers)				•	•
Application discovery (Automated and Manual - names, tags, RegEx, ServiceNOW, csv)				•	•
Application health, monitoring & troubleshooting, Analytics & Intents				•	•
DNS mapping (import bind file)				•	•
NSX virtual network and physical network fabric visibility (Virtual +Physical)				•	•
Physical Device integration (Cisco, Arista, Juniper, Infoblox) for underlay network visibility				•	•
Network device auto-discovery				•	•
NSX Federation Visibility				•	•
HCX health, monitoring & troubleshooting, including L2 Extension				•	•
Migration Plan, supporting workload mobility across and within Datacenters				•	•

Features	vSphere Standard <sup>[1]</sup>	vSphere Enterprise Plus <sup>[1]</sup>	vSphere Foundation	VMware Cloud Foundation Edge	VMware Cloud Foundation
<b>VCF Operations for networks</b>					
Network Visibility for native Kubernetes (VKS), and Red Hat OpenShift using NSX container plugin				•	•
Avi Load Balancer Integration (Separate Add-On for Avi is required)				•	•
NSX Firewall network segmentation planning and operations (Separate Add-On for vDefend is required)				•	•
VCF Network Operations platform is Federal Information Processing Standards (FIPS 140-2) compliant	N/A	N/A	N/A	•	•
Highlight critical VMs via the Crown Jewels reachability and visibility analysis for security posture				•	•
Visibility of Incomplete TCP sessions for DDoS monitoring				•	•
User friendly Search/Query capability				•	•
Guided network troubleshooting				•	•
Path Visibility for NSX Virtual Network and Underlay Physical network				•	•
Network Map topology visualization across VCF & underlay				•	•
Network assurance & verification (Intents) for VCF & underlay				•	•
<b>Advanced Services (Add-ons)<sup>[13]</sup></b>					
Additional Storage Capacity - vSAN			•	•	•
Disaster Recovery and Ransomware Recovery			•	•	•
Load Balancing			•	•	•
Advanced Security				•	•
Application Services				•	•
Data Services				•	•
Network Observability				•	•
Business Operations				•	•
Secure Access				•	•
VMware Private AI				•	•



## Footnotes

- [1] - VMware vSphere is available in two standalone editions, VMware vSphere Standard and VMware vSphere Enterprise Plus, and is also included as a component in VMware Cloud Foundation and VMware vSphere Foundation. Note that vSphere Standard and vSphere Enterprise Plus are only available as versions up to the 8 Update 3 release. Currently, vSphere 9.0 features are only available as part of VMware vSphere Foundation 9.0 and VMware Cloud Foundation 9.0.
- [2] - Denotes features that are limited to the support of VM Service and VKS.
- [3] - Denotes features compatible with VCF but not integrated with VCF Operations fleet management.
- [4] - For more information about using TLS 1.3 with FIPS 140-3 requirements, consult the product documentation.
- [5] - Available in both Org for All Apps and VM Apps
- [6] - Available in Org for All Apps
- [7] - Available in Org for VM Apps
- [8] - Requires Firewall add-on
- [9] - Requires Avi LB add-on
- [10] - Requires PAIF-N add-on
- [11] - Ingress / Gateway API provided by Contour Ingress Controller / Supervisor Service.
- [12] - It is recommended that customers who need general purpose and advanced load balancing features purchase Avi Load Balancer.
- [13] - Advanced services are available for separate purchases and are not included in the core VMware Cloud Foundation or VMware vSphere Foundation offerings.

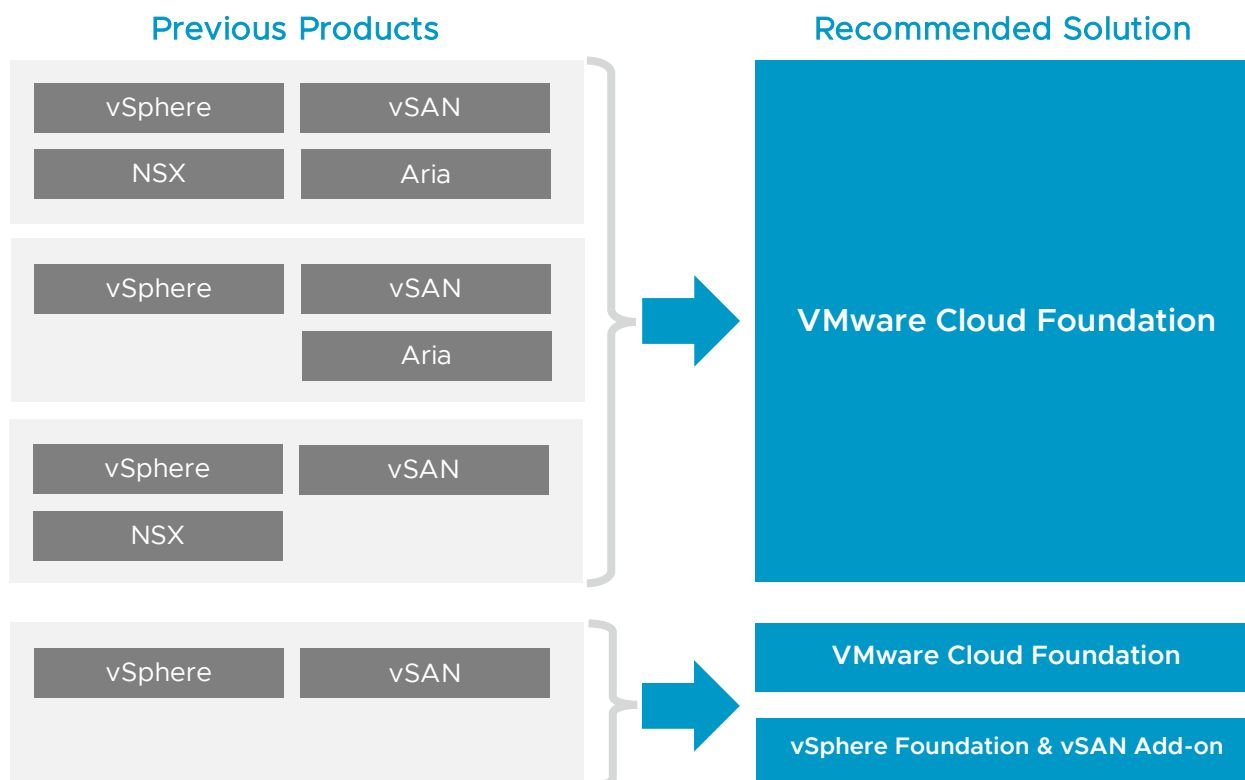
## Upgrade Paths

The below graphics show upgrade paths from previous products to new offerings.

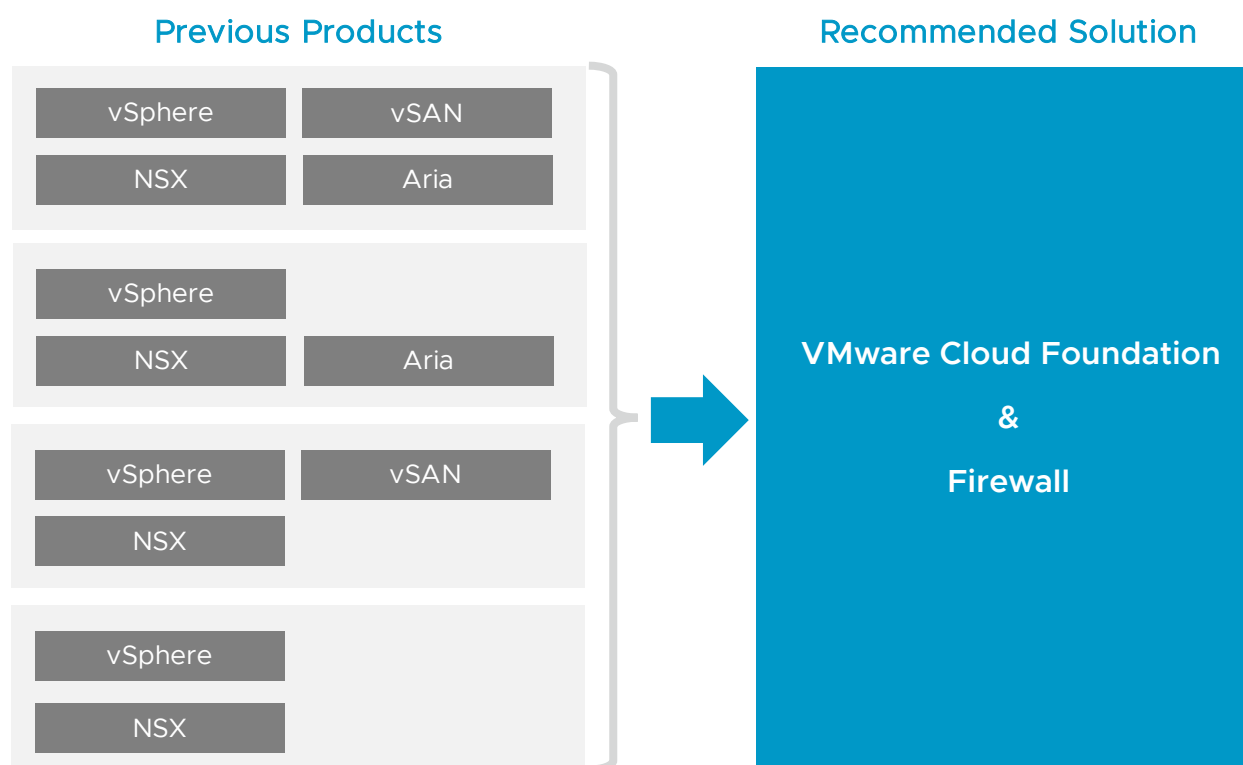
### Compute Paths



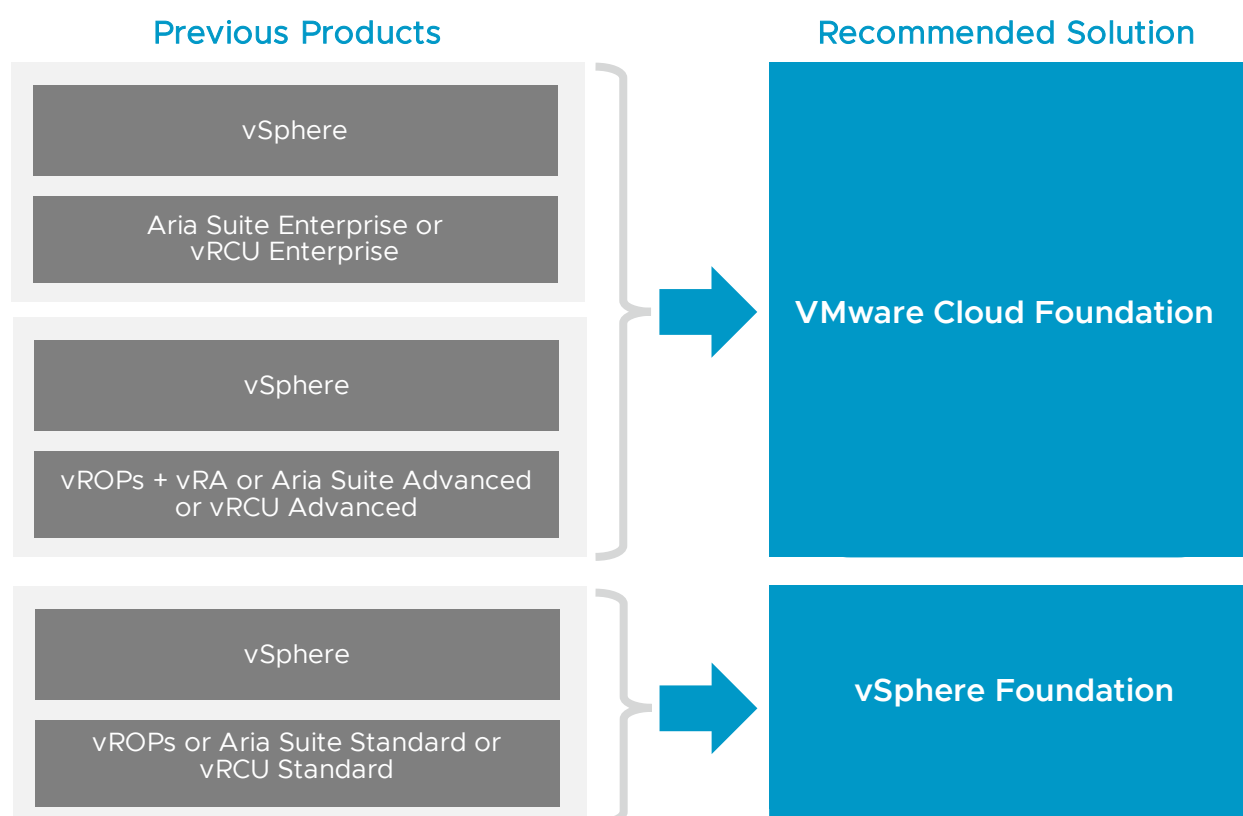
### Storage Paths



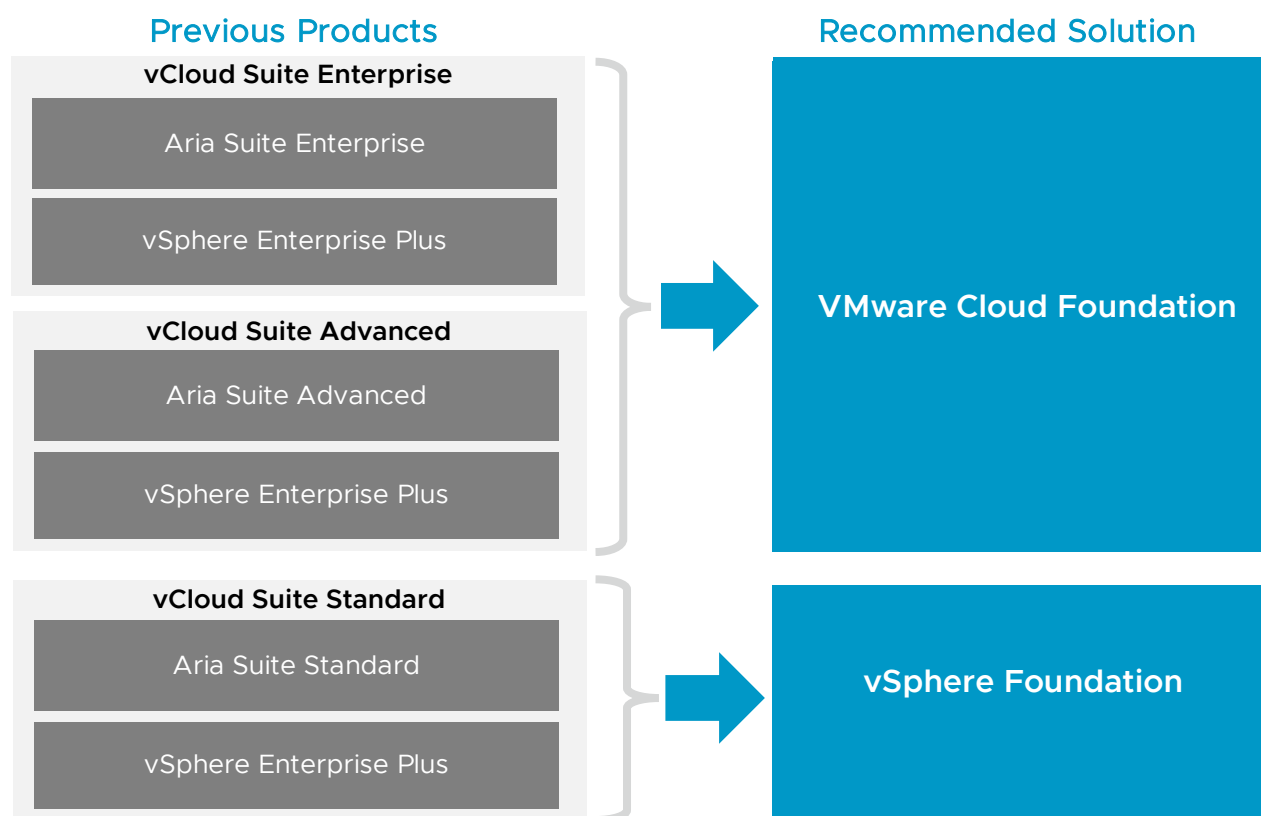
## Networking/ Security Paths



## Management Path



## vCloud Suite Paths



## VCF Paths



For additional details, contact your VMware account team and sales representative.



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#### Disclaimer

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