

VMware Cloud Foundation Frequently Asked Questions (FAQs)



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VMware Cloud Foundation Releases

VMware Cloud Foundation 5.2 and 5.2.1

Q1. What are the new features in VMware Cloud Foundation 5.2 and VMware Cloud Foundation 5.2.1?

A. The following features are new to VMware Cloud Foundation 5.2 and 5.2.1:

- **VCF Import (vSphere & vSAN):** VCF Import integrates existing vSphere environments into VMware Cloud Foundation, centralizing management and optimizing resources without needing a full rebuild. [VCF 5.2]
- **VCF Edge:** VCF Edge is an optimized VMware Cloud Foundation configuration for edge use cases, offering scalable, cost-efficient, flexible, hassle-free management and consistent infrastructure from data center to edge. [VCF 5.2]

- **TKG as Independent Service:** VCF Legacy Integration integrates existing vSphere environments into VMware Cloud Foundation, centralizing management and optimizing resources without needing a full rebuild. [VCF 5.2]
- **Simplify Adoption of Overlay Networks:** VCF Networking simplifies virtual networking adoption, offering a public cloud-like experience. Using NSX, it integrates with existing setups for smooth migration to overlay networks with minimal effort and downtime. [VCF 5.2]
- **Flexible and Live Patching:** Live Patching allows seamless, real-time updates to ESX hosts without downtime, while Flexible BOM Patching ensures compatibility and easy patch management through VCF-tested updates using UI and API tools. [VCF 5.2]
- **Dual DPU Support:** Dual DPU support boosts availability and performance. Active/Standby ensures continuity against failures, while dual independent DPUs double offload capacity and provide isolation. [VCF 5.2]
- **vCenter Reduced Downtime Upgrade (RDU) for LCM:** VCF users can now use VCF Operations fleet management (previously known as SDDC manager) workflows and leverage vCenter RDU to execute a vCenter upgrade. vCenter RDU is a migration-based approach to upgrading vCenter and reduces the vCenter downtime to less than 5 minutes. [VCF 5.2.1]
- **VCF support for NSX in-place upgrades for VMware Update Manager (VUM) clusters -** VCF users now have the choice to perform NSX in-place upgrade (for VUM clusters), which eliminates the need for a maintenance mode during the upgrade of NSX hosts. [VCF 5.2.1]

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- **Support vSAN Per TiB Licensing in "License Now" in VCF 5.2.1 (along with "License Later):** VCF users can now apply the vSAN TiB Capacity License within VCF Operations fleet management UI to expand storage capacity for their Workload Domains (WLD) and clusters. [VCF 5.2.1]
- **Support VMware Update Manager (VUM) and vSphere Lifecycle Manager (vLCM) clusters in same WLD:** VCF users now have the flexibility to deploy and upgrade both VUM and vLCM clusters within the same VI WLD. [VCF 5.2.1]
- **Support vSAN Per TiB Licensing in "License Now" in VCF 5.2.1 (along with "License Later):** VCF users can now apply the vSAN TiB Capacity License within VCF Operations fleet management UI to expand storage capacity for their Workload Domains and clusters. [VCF 5.2.1]
- **Setup vPAIF enabling infrastructure from vSphere UI:** The VCF users can leverage a centralized guided setup flow to configure an optimized environment for the VMware Private AI Foundation with NVIDIA (vPAIF-N) which will enable the consumers of the vPAIF-N infra to maximize the potential of the NVIDIA GPU enabled ESX hosts for their purposes. [VCF 5.2.1]
- **Manage all certificates and passwords from a single UI (Todor) -** the certificate and password mgmt. functionality of the VCF Operations fleet management is now integrated in the vSphere Client to simplify and speed-up day-to-day operations. [VCF 5.2.1]

- ESX 8.0 U3 P04
- vCenter Standard 8.0 U3
- vSphere Kubernetes Service
- vSAN 8.0 U3 P04
- VCF Operations fleet management 8.18
- VCF Operations network insight 6.14
- VCF Automation 8.18.1
- VCF Operations HCX 4.10
- NSX 4.2.1 (L2-L3 Networking)
- Data Services Manager 2.1

Q3. What are the advanced add-on services available for VMware Cloud Foundation?

- A. The following advanced add-ons are available for VMware Cloud Foundation:
- VMware Live Recovery
 - VMware vDefend Firewall
 - VMware vDefend Firewall with Advanced Threat Protection
 - VMware Avi Load Balancer
 - vSAN Add-On
 - VMware Tanzu Application Platform
 - Tanzu Intelligence Services
 - Private AI Foundation
 - Professional Services

Q2. What is being delivered in VMware Cloud Foundation 5.2.1?

- A. VMware Cloud Foundation 5.2.1 includes the following components:
- VMware SDDC Manager 5.2.1

Q4. What is VMware Cloud Foundation?

- A. VMware Cloud Foundation is a comprehensive, private-cloud platform with integrated, enterprise-

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class compute, storage, networking, management, and security, resulting in an industry-leading TCO.

Q5. Can I install the VMware Cloud Foundation software myself?

- A. Yes, however, it is highly recommended that you work with VMware Professional Services or your Solution Provider to receive assistance with your deployment. VMware provides documentation for customers to deploy the Cloud Foundation software on their own. Visit the [Documentation](#) page for more information on how to deploy Cloud Foundation.

Q6. What technical support options are available for VMware Cloud Foundation?

- A. Broadcom Software Maintenance Essential Support is included with VCF.

Q7. What other Services and Lifecycle Support are offered?

- A. Broadcom Software Maintenance Essential Support is included with VCF
- VMware Pro Cloud Services: help customers adopt and consume VCF faster. These Professional Services are aligned to common customer use cases and were built by combining VMware Validated Solutions with field-proven best practices.
 - Extended Expert Services: provide a flexible way to add experienced VMware consultants to your team to accelerate your project timelines.
 - VCF Technical Adoption Manager (TAM): provides subject matter expertise to help you speed adoption by conducting technology assessments, providing solution guidance, and recommending operations optimizations.
 - Learning: training and certification programs to grow your skills.

Q8. Where can I find more information and resources?

- A. You can find additional VMware Cloud Foundation information here:
- Product Page: [vmware.com/go/cloudfoundation](https://www.vmware.com/go/cloudfoundation)
 - Documentation: [vmware.com/go/cloudfoundation-docs](https://www.vmware.com/go/cloudfoundation-docs)
 - Community: <https://community.broadcom.com/vmware-are-cloud-foundation/home> Talk to your VMware Sales team.
 - Broadcom Software Maintenance Essential Support <https://www.broadcom.com/support>
 - Professional Services and Lifecycle Support <https://www.vmware.com/professional-services.html>
 - VMware Learning <https://www.vmware.com/learning.html>

GPU Support

Q9. Does VMware Cloud Foundation support the NVIDIA AI Enterprise (NVAIE) Suite and GPUs?

- A. Yes, VMware Cloud Foundation 4.4 or later supports the NVAIE Suite. This integration with NVAIE allows IT admin teams to deliver and provision GPU resources easily, while allowing data scientists to easily consume and scale GPU resources quickly when they need.

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Perpetual Offerings

- Q10. Does VMware by Broadcom offer perpetually licensed products?
 - A. No, learn more about Broadcom's Business Transformation. [LEARN MORE](#)

Subscription Offerings

- Q11. Can a customer purchase individual products a-la-carte?
 - A. No, customers can only purchase eligible offerings: VMware Cloud Foundation or vSphere Foundation.
- Q12. Can customers deploy VMware Tanzu with VMware Cloud Foundation?
 - A. VMware Tanzu is a broad portfolio of products. Specifically, vSphere Kubernetes Service (formerly Tanzu Kubernetes Grid) is included in VMware Cloud Foundation. Additional Tanzu products are available for purchase and can be deployed as advanced add-ons on top of VMware Cloud Foundation.
- Q13. Where can I go for additional information on VMware Cloud Foundation Pricing and Packaging?
 - A. Consult with your Broadcom Sales Representative, channel partner or qualified OEM partner for pricing.

License Portability

- Q14. What is the new VCF License Portability entitlement for customers?
 - A. VCF License Portability allows customers to port their purchased licenses of qualified VCF and Applicable Add-On to any compatible endpoint whether that's in their own data center, a hosting provider, a cloud service provider or

hyperscaler cloud environment as their needs evolve. There is feature parity across the deployment options when customers participate in [License Portability](#).

- Q15. What are the benefits of License Portability?
 - A. License Portability enables customers to preserve the investments that customers make in VCF by providing an option for customers to port their VCF licenses to any endpoint as their IT strategies shift. Over time, Broadcom will work with cloud service providers offering fully integrated managed solutions with VCF to develop a list of certified destination endpoints.
- Q16. Will customers have the option to port their eligible VCF licenses as part of the cloud provider's fully integrated solution?
 - A. Yes, Broadcom is working with cloud service providers offering managed solutions with fully integrated VCF to be part of the VCF ecosystem that ensures a consistent experience for customers porting their eligible VCF licenses.
- Q17. What are the qualified licenses eligible for the VCF License Portability?
 - A. Here are the qualified licenses for the Program:

Product & Add-Ons
VMware Cloud Foundation
vSAN
vDefend Firewall
vDefend Firewall with Advanced Threat Prevention
Avi Load Balancer (ALB)

Table 1: Qualified licenses for the Program.

New licenses will be added to the table once licenses become qualified.



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Q18. Can customers port individual components of VCF?

A. No, the entire set of VCF components must be ported to the cloud service endpoint.

Q19. Can customers port older or upgraded VCF licenses that are not on the qualified list?

A. No, only the qualified VCF and Applicable Add-On licenses purchased after December 13th, 2023, and listed above, will be eligible. Customers upgrading older VCF licenses to the latest version do not qualify for License Portability entitlements.

Q20. Can customers use any other Broadcom (or VMware) licenses to port to any endpoints?

A. Only the list of qualified VCF and applicable add-on licenses are eligible.

Q21. Where can I find a list of certified partner endpoints?

A. The list is coming soon and can be found [here](#) for the most up-to-date listing of certified partner endpoints when they are made available.

VCF Operations Fleet Management

Q22. What is VCF Operations fleet management?

A. VCF Operations fleet management (previously known as SDDC Manager) is the management appliance deployed by Cloud Builder as part of the VMware Cloud Foundation Bring-up process. VCF Operations fleet management is unique to VMware Cloud Foundation and contains in-built workflows that automate daily operational tasks, scaling and the lifecycle management of the platform.

Q23. Can I add VCF Operations fleet management to an existing vSphere deployment?

A. No, a customer will need to deploy the full VCF stack to be able to utilize VCF Operations fleet management. An existing vSphere deployment cannot be upgraded to VMware Cloud Foundation without redeployment. Contact sales for more information.

Q24. What is the difference between VCF Operations fleet management and VCF Automation (formerly Aria Automation)?

A. VCF Operations fleet management automates the installation and lifecycle management of the vSphere, vSAN, NSX, and VCF Automation, VCF Operations components from bring-up and configuration to patching and upgrading, making it simple for the cloud admin to build and maintain VCF.

Q25. Does VCF Operations fleet management replace other existing management tools, such as vCenter?

A. No, VCF Operations fleet management is exclusive to VMware Cloud Foundation and is used to automate the deployment, scale, and lifecycle management of a VCF instance.

VCF Operations fleet management deploys a vCenter for each new workload domain. Once the workload domain has been configured through VCF Operations fleet management, administrators can access the vCenter console directly to manage the virtualized environment for that workload domain.

Q26. What is Cloud Builder?

A. Cloud Builder is a Photon OS VM that is delivered as an OVA file. It contains all code and product bits to automate the deployment of the full stack for the management domain for your VMware Cloud

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Foundation instance. The VM can be deployed on any physical device that has connectivity with the ESX hosts, including laptops and external hosts. Follow the Cloud Builder UI on the VM to deploy the VCF stack. Input parameters are entered using the Deployment Parameters Workbook xlsx or a JSON file can be used.

Q27. How can VCF Operations fleet management be protected by backup?

- A. In Cloud Foundation 4.3 and later releases, VCF Operations fleet management backup and recovery capabilities have been enhanced, allowing administrators to configure external backup targets as well as scheduled backups.

Hardware

Q28. What are the physical server requirements?

- A. VMware Cloud Foundation is supported on vSphere-compatible server hardware which meets the minimum requirements for VMware Cloud Foundation and the desired workloads.

For additional detailed hardware compatibility information, please reference the VMware Compatibility Guide.

Q29. What switching hardware is supported?

- A. You can use those Enterprise-grade network switches that meet the requirements of vSAN, and which are capable of meeting the scale demands of a highly connected set of vSAN hosts.

Workload Domains

Q30. What is a workload domain?

- A. Workload Domains are a logical abstraction of private Cloud capacity that is provisioned automatically by VCF Operations fleet management and administered and patched independently. Workload Domains provide a unit of consumption at the SDDC level by presenting an integrated selection of compute, storage, and network resources for business workloads to run in.

Q31. Why would a user create another workload domain?

- A. In order to scale deployments, assign unique characteristics and maintain workload isolation, it is a best practice to create additional workload domains for new workloads.

Q32. How many nodes are required for the management domain?

- A. The management domain leverages vSAN for storage and requires a minimum of 4 nodes.

Q33. How many vCenter instances can be deployed in a workload domain?

- A. Each workload domain has one dedicated vCenter instance. (Note: Only one vCenter license is needed per Cloud Foundation instance).

Q34. Can I extend/delete a workload domain after it has been created?

- A. Yes, Cloud Foundation provides a fully automated process for creating, extending, and deleting workload domains using VCF Operations fleet management. If supplemental storage has been added to the workload domain, manual processes

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may be required to provision or un-provision this storage accordingly.

variety of additional storage options available as supplemental storage.

Q35. Can I reduce the size of a workload domain?

- A. Yes, VMware Cloud Foundation allows removing hosts and clusters from workload domains.

Q39. Which principal storage options are supported with VMware Cloud Foundation?

- A. VMware Cloud Foundation can consume and is validated against vSAN, vVols, NFS v3, and VMFS on FC. vSAN is the only principal storage option for the management domain. NVMe-oF and iSCSI are not currently supported as principal storage for Workload Domains.

Storage

Q36. What is the difference between Principal storage and Supplemental storage within VMware Cloud Foundation?

- A. Principal storage is selected when creating a management domain, workload domain, or when creating a new cluster within a workload domain. Supplemental storage may be added to management or workload domain clusters after their creation. Principal storage is required for every cluster. Supplemental storage can be used for additional storage options. Both principal and supplemental storage can be used for primary workloads/use-cases.

VMware recommends using vSAN as the principal storage for all workload domains to leverage the benefits of managing and maintaining a full software-defined stack. vSAN is also updated and patched by VCF Operations fleet management. Updating and patching non-vSAN storage is a manual task and falls outside of the lifecycle management offered by VCF Operations fleet management. For more detailed compatibility information, please reference the [VMware Compatibility Guide](#).

Q37. Can I change the principal storage selection after creating a workload domain cluster?

- A. No, you must create a new cluster within the workload domain or a new workload domain to change the principal storage selection. vMotion can be used to move the VMs to the newly created cluster. Supplemental storage can be manually added or removed without re-creating the cluster.

Q40. Which supplemental storage options are supported with VMware Cloud Foundation?

- A. VMware Cloud Foundation supports the use of NFS (v3, or v4.1), VMFS on FC, iSCSI, NVMe-oF, and vVols as supplemental storage. Supplemental storage is not integrated to or shown within VCF Operations fleet management.

Q38. Is vSAN required with VMware Cloud Foundation?

- A. Yes, vSAN is required for the Cloud Foundation management domain principal storage. It is possible to add supported storage options as supplemental storage for the management domain. The workload domains may use vSAN or a supported storage option for principal storage, with a

Q41. Can I use any server to create a workload domain when utilizing non-vSAN storage?

- A. Yes, any vSphere-compatible server can be used for a workload domain cluster not using vSAN. They do not need to be vSAN ReadyNodes in this case. Please reference the [VMware Compatibility Guide](#).

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Q42. Does VMware Cloud Foundation support vSAN Stretched Clusters?

- A. Yes, VMware Cloud Foundation 5.2, which uses vSAN 8 U3) now supports the Express Storage Architecture in a stretched cluster topology. Customers will be able to configure workload domains that can provide site level resilience for their workloads and data.

Q43. Is stretched clustering supported for a workload domain configured for Kubernetes?

- A. Yes, vSAN 8 U3, available in VCF 5.2, supports vSAN Stretched Clustering for workload domains that are configured for Kubernetes Workload Management.

Q44. Is vSAN ESA supported on VMware Cloud Foundation?

- A. Yes, vSAN ESA is supported on VCF 5.1 or later.

Q45. Is vSAN MAX supported on VMware Cloud Foundation?

- A. Yes, vSAN 8 U3 brings support for vSAN MAX clusters as principal storage in VMware Cloud Foundation 5.2. VCF customers now use vSAN MAX as a primary, centralized shared storage solution for all VMware Cloud Foundation workloads.

Q46. Is vSAN ESA supported for Stretched Clusters on VMware Cloud Foundation?

- A. Yes, VMware Cloud Foundation 5.2, which uses vSAN 8 U3) now supports the Express Storage Architecture in a stretched cluster topology. Customers will be able to configure workload domains that can provide site level resilience for workloads and data. But the support of site-level resilience doesn't capture the true benefit of this new capability. VCF workloads can be stored with much higher levels of resilience, while consuming less capacity, and reducing the data sent across the Inter-site link (ISL).

Q47. Which vSAN features are not supported by VMware Cloud Foundation?

- A. Please see the [VMware Feature Comparison](#) document for detailed information on included features.

Networking

Q48. What is included in VCF Networking?

- A. VCF Networking services include:
- NSX
 - HCX
 - Antrea container networking
 - vSphere networking
 - VCF Operations for networks (formerly Aria Operations for Networking)

Q49. How is NSX integrated into VCF Networking?

- A. VMware NSX provides virtualized network services such as distributed switching, routing, bridging, load balancing, NAT, VPN, and automation services in VMware Cloud Foundation. Security services such as distributed and gateway firewalling and advanced threat prevention are now available in a new [VMware vDefend Security Solutions](#) offering that requires additional entitlement.

Q50. Can a customer connect externally configured vCenter or NSX instances to a VMware Cloud Foundation deployment?

- A. No, connecting externally configured vCenter or NSX instances to VCF is not supported. VCF provides capabilities to automate management and scaling of the platform using SDDC workflows and APIs.

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Customers should work with their account team to evaluate your transition to VCF.

Q51. What is NSX Federation and how does it work in VMware Cloud Foundation?

- A. NSX Federation simplifies the consumption of networking and security in VCF. Customers can federate and manage multiple NSX data centers from a single pane of glass using the NSX Global Manager (GM). GM provides a graphical user interface and REST APIs to configure consistent stretched networking and security policies, workload mobility, and simplified disaster recovery across multiple locations. Please consult [NSX Administration Guide](#) for more details.

Q52. What VCF deployment models does NSX Federation support?

- A. NSX Federation supports the following deployment models:
- Two or more Mgmt WLD of different VCF instances (standard and consolidated VCF architecture)
 - Two or more VI WLD of different VCF instances (standard VCF architecture)
 - Two or more VI WLD in the same VCF instance using dedicated LM in each (standard VCF architecture)
 - Mgmt WLD and VI WLD in the same VCF instance (using dedicated LM in each).
 - Non-VCF NSX Local Manager (LM) deployment and any WLD in a VCF deployment
 - GM-Active cluster and GM-Standby cluster
 - Single GM-Active cluster cross location (low latency cross locations).

Please consult [VMware Configuration Min/Max Tool](#) page for details about the NSX Federation scale.

Q53. What are the limitations of NSX Federation in VMware Cloud Foundation deployments?

- A. Here are some notable limitations to be aware of:

1. VCF Operations fleet management functions (such as password rotation, certificate replacement, LCM, etc.) do not support the NSX Global Manager. Further, VCF Operations cannot collect data from the Global Manager, and VCF Automation cannot provision workloads with Global Managers.
2. VMware Cloud Foundation does not support NSX Federation between a VI WLD in one VCF instance and a Mgmt WLD in another VCF instance.
3. NSX Federation in VCF 4.2 or later releases only supports greenfield deployments. Please raise a ticket with GSS and your account team to evaluate if NSX Federation is suitable for your existing VCF deployment (production).

Q54. Does NSX Federation support VxRail deployments?

- A. Yes, NSX Federation is supported in the following deployments:

- NSX Federation for multiple VxRail greenfield deployments are supported from VCF 4.3. There is no support available for brownfield environments prior to VCF 4.3.
- NSX Federation for VxRail and non-VxRail greenfield deployments are supported from VCF 4.3. There is no support available for brownfield environments prior to VCF 4.3.

Q55. What are the NSX Edge clusters and when should they be used?

- A. NSX Edge clusters connect your virtual network domain to the physical domain, providing ingress and egress access as well as other networking services

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such as routing, bridging, gateway firewalling, load balancing, VPN, and NAT. NSX Edge clusters in VMware Cloud Foundation comprise of two or more NSX Edge transport nodes (VMs) that can be deployed on a per-workload domain or per-cluster basis. Edge clusters are recommended for all workload domains. Edge clusters are required prior to deploying vSphere Kubernetes Service and when deploying VCF Operations and VCF Automation components in VCF-aware mode connected to AVN (Application Virtual Network).

Q56. How is the new Data Center Network Assessment in VCF Operations network insight different from the existing Virtual Network Assessment?

- A. The new Data Center Network Assessment provides more details on network traffic, such as inefficient hair-pinned traffic, and how VMware NSX can help improve application performance. The previous Virtual Network Assessment focused more on security traffic policy and network segmentation.

Data Services Manager

Q57. What is Data Services Manager?

- A. Data Services Manager streamlines the deployment, management, and scaling of essential data services, including PostgreSQL, MySQL, and AlloyDB Omni (Tech Preview), within your VCF-powered private cloud. Leveraging deep VCF integration, these data services seamlessly align with VCF's high availability, clustering, lifecycle management, and comprehensive monitoring and

troubleshooting capabilities. Additionally, VCF Automation ensures effortless consumption of these services.

Q58. What are the requirements to use Data Services Manager?

- A. The only required component of VCF to deploy and run Data Services Manager is vSphere.

VCF Automation

Q59. What is happening to VCF Automation Pipelines?

- A. VCF Automation Pipelines (formerly, VMware Aria Automation Pipelines and VMware vRealize Code Stream) is a continuous integration and continuous delivery (CI/CD) tool used to build pipelines that model the software release process in DevOps lifecycle. This feature is being deprecated in VCF 9. The intention to deprecate has been communicated in the release notes for VCF 5.2.1 and the software bits will be removed with the launch of VCF 9.

Q60. How do I purchase VCF Automation Config (formerly, Aria Automation SaltStack Config) and VCF Automation for Secure Hosts (formerly, Aria Automation SaltStack SecOps) capabilities?

- Q61. Workload Configuration Management (formerly, VMware Aria Automation Config) and Workload Compliance and Vulnerability Management (formerly, VMware Aria Automation for Secure Hosts) are now features of VMware Tanzu Salt, which is a component of VMware Tanzu Platform. VMware Tanzu Platform is available as an add-on to VMware Cloud Foundation (VCF). To learn more, visit [VMware Tanzu Platform](#).

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VMware Cloud Foundation Edge

Q62. What is VMware Cloud Foundation Edge?

A. VMware Cloud Foundation Edge is an optimized configuration of VMware Cloud Foundation specifically designed for edge use cases. VMware Cloud Foundation Edge replaces the remote cluster capability and delivers a private cloud infrastructure-as-a-service solution optimized for edge sites with integrated enterprise-class compute, storage, networking, management and security capabilities. Please note that VMware Cloud Foundation Edge should be deployed at the Edge sites ONLY.

Q63. Where can I get pricing and licensing information for VMware Cloud Foundation Edge?

A. Please consult with your Broadcom Sales Representative, channel partner or qualified OEM partner to get pricing information for VMware Cloud Foundation Edge.

Q64. How is VMware Cloud Foundation Edge different from VMware Cloud Foundation?

A. VMware Cloud Foundation Edge contains all the core components of VMware Cloud Foundation. Additionally, it provides vSphere with vSAN Witness Appliance that can be deployed locally which is specifically useful in scenarios where customers do not want to use a VCF Operations fleet management.

Q65. Do I need to use VCF Operations fleet management to deploy Edge?

A. No, it is not mandatory. VMware Cloud Foundation Edge provides customers flexibility to choose and deploy either a full stack or only the components of an infrastructure (compute, networking, storage, management, VCF Operations fleet management etc.) as per their business needs.

Q66. What are the minimum requirements for VMware Cloud Foundation Edge instances for each edge site?

A. With VMware Cloud Foundation Edge, customers have the option to deploy the full stack or elements of the full stack at the edge. See table below, but for additional information, go to:

<https://configmax.esp.vmware.com/home>.

VMware Cloud Foundation Edge - Minimum Nodes by configuration

	VCF Operations fleet management	No VCF Operations fleet management
vSAN	4	3
vSAN w/ Shared Witness	Not Supported	2
External Storage	4	2

*Min 2 nodes are recommended for failover and high availability. But customers can deploy 1-node minimum in case of external storage or local storage without VCF Operations fleet management.

Patching and Upgrading

Q67. What software components can be patched/upgraded using VCF Operations fleet management?

A. VMware vSphere, vSAN, NSX, vCenter, and VCF Operations fleet management components are patched and upgraded using VCF Operations fleet management or the API. VCF Operations fleet management is used to manage the inventory and lifecycle management of a VMware Cloud Foundation instance and should be used to operate and maintain the environment.

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Q68. Can I schedule when patches and upgrades are applied?

A. Yes, VCF Operations fleet management allows patches and upgrades to be scheduled to coincide with regular maintenance windows.

Q69. Can I patch/upgrade workload domains independently of each other?

A. Yes, workload domains and clusters can be upgraded independently of each other. VMware Cloud Foundation lifecycle management allows workload domains and clusters to be updated sequentially (one after another) or in parallel (at the same time).

Q70. Can critical patches be applied to a VMware Cloud Foundation component?

A. The Async Patch Tool (AP Tool) can be used to apply critical patches to VCF components between VCF releases. The AP Tool is supported for VCF 4.2.1 and above.

Config Max and Mins

Q71. What is the minimum size of a VMware Cloud Foundation environment with a consolidated deployment?

A. You need at least 4 servers to run Cloud Foundation in a consolidated architecture. Workload VMs are placed in dedicated resource pools in the Management Domain.

Q72. What are the minimum/maximum host requirements to configure a VMware Cloud Foundation environment with a single VI workload domain?

A. For detailed information, please reference the [Config Min/Max Tool](#).

Q73. How many workload domains can a VMware Cloud Foundation instance have?

A. Cloud Foundation always has 1 management domain and up to 14 VI workload domains. Each workload domain can contain multiple ESX host clusters. This limit is imposed by the max number of vCenter instances that can be configured in enhanced linked mode which supports up to 15 vCenter, and each workload domain has its own vCenter.

See <https://configmax.vmware.com> for more information.

Security Advanced Add-Ons

Q74. What are the security add-ons available with VMware Cloud Foundation?

A. VMware Cloud Foundation customers are eligible to add on the following security services:

- VMware vDefend Firewall
- VMware vDefend Advanced Threat Prevention
- VMware vDefend Firewall with Advanced Threat Protection
- VMware Avi Load Balancer

Q75. What is VMware vDefend Firewall?

A. VMware vDefend Firewall is a software-defined Layer 2-7 firewall purpose-built to secure virtualized workloads in a private cloud. It provides stateful firewalling capabilities that can be used by organizations to protect against the lateral movement of threats. VMware vDefend Firewall is available in two form factors: a Distributed Firewall that can be deployed at each vSphere workload and a Gateway

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Firewall that can be deployed on a vSphere host, either as a Virtual Machine (VM) or as an ISO image on a physical server.

Customers get the best of both worlds by deploying enterprise-grade features in private and hybrid cloud environments such as VMware Cloud Foundation and consuming application services with cloud-native elasticity and automation. It is available as an add-on to VCF and VVF, as well as standalone.

Q76. What is VMware vDefend Firewall with Advanced Threat Protection?

A. VMware vDefend Firewall with Advanced Threat Prevention (ATP) is a software-defined Layer 2–7 firewall purpose-built to secure virtualized workloads in a private cloud. It provides stateful firewalling with threat prevention capabilities that protect organizations against advanced threats. ATP combines multiple detection technologies—Intrusion Detection/Prevention System (IDS/IPS), Network Sandboxing, and Network Traffic Analysis (NTA)—with aggregation, correlation, and context engines from Network Detection and Response (NDR).

Q79. Will Security Add-Ons for VMware Cloud Foundation work in a vSphere environment?

A. VMware Avi Load Balancer is the only Security Add-On that will work in a standalone environment or in VMware vSphere Foundation/vSphere environments. All other Security add-ons can only be used as a part of VMware Cloud Foundation environments running NSX 3.2 or later.

Q77. What is VMware vDefend Advanced Threat Protection?

A. VMware vDefend Advanced Threat Prevention (ATP) provides network security capabilities that protect organizations against advanced threats. vDefend ATP combines multiple detection technologies – Intrusion Detection/Prevention System (IDS/IPS), Network Sandboxing, and Network Traffic Analysis (NTA) – with aggregation, correlation, and context engines from Network Detection and Response (NDR).

Q78. What is VMware Avi Load Balancer?

A. VMware Avi Load Balancer provides local and global load balancing, Kubernetes ingress, web application firewall and application analytics across on-premises data centers and any cloud. Avi is an API-first and self-service software-defined platform that delivers applications consistently across bare metal servers, virtual machines and containers to ensure a fast, scalable, and secure application experience.