

# VMware Cloud Foundation (VCF) 5.2

## Frequently Asked Questions

Technical

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### VCF 5.2 Components

**Q. What software components are being delivered in VCF 5.2?**

A. VMware Cloud Foundation 5.2 includes the following components:

- SDDC Manager 5.2, Cloud Builder 5.2
- ESXi 8.0 U3
- vCenter 8.0 U3
- TKG Standard Runtime 8.0 U3
- vSAN 8.0 U3
- NSX 4.2
- VCF Automation and Operations
- HCX 4.10
- Data Services Manager 2.0

Add-on products are available for Cloud Foundation which are not listed here and are licensed separately.

**Q. What are the primary new features and benefits in VCF 5.2?**

See this [blog article](#).

**Q. What is VMware SDDC Manager?**

A. SDDC Manager is a management appliance that helps customers deploy, manage, and operate their private cloud. It simplifies the process of provisioning new infrastructure, patching, and upgrading infrastructure, and managing passwords and certificates.

**Q. Does SDDC Manager replace other existing management tools, such as vCenter Server?**

A. No. SDDC Manager is part of VMware Cloud Foundation and is used to automate the deployment, scale and lifecycle management of a VCF instance. SDDC Manager deploys a vCenter server for each new workload domain. Once the workload domain has been configured through SDDC Manager, administrators can access the vCenter server console directly to manage the virtualized environment for that workload domain.

**Q. 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 SDDC stack for the management domain for your VMware Cloud Foundation instance. The VM can be deployed on any physical device that has connectivity with the ESXi hosts, including laptops and external hosts. Follow the Cloud Builder UI on the VM to deploy the SDDC stack. Input parameters are entered using the Deployment Parameters Workbook (in either xlsx or JSON format).

**Q. What is a workload domain?**

A. 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. Workload domains are created by allocating new capacity or by importing existing vSphere clusters.

**Q. What is a Management Domain?**

A. The Management Domain is a special purpose workload domain that is used to host the infrastructure components needed to instantiate, manage, and monitor the Cloud Foundation infrastructure. The management domain is automatically created using the Cloud Builder appliance when it is initially configured, or by manually deploying a new SDDC manager instance to an existing vSphere cluster thereby converting it to a Management Domain.

**Q. 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 SDDC Manager. It also allows removing hosts and clusters from a workload domain. Note, converted or imported workload domains created with VCF Import cannot be extended or deleted using SDDC manager. This functionality is unique to domains created using SDDC manager

**Q. Can we have Isolated SSO Workload Domains for multi-tenancy?**

A. Yes. New Workload Domains can create their own SSO domain. Isolated SSO domains can share an NSX-T instance, or a dedicated instance can be used.

**Q. In a VCF consolidated architecture, can we create two or more clusters?**

A. Yes.

## Importing vSphere into VCF

**Q. What are the available options for turning existing vSphere clusters into VCF instances?**

- A. Customers have two options.
- You can convert a vSphere 8.0u3 environment to a Cloud Foundation management domain.
  - You can import a vSphere 7.0u3 and higher environment to a Cloud Foundation workload domain. This assumes there is an existing VCF management domain.

Both approaches allow customers to utilize existing infrastructure and avoid the migration of applications and data.

**Q. Will customers be able to perform cluster-level operations on Converted and imported WLDs?**

A. Yes. Cluster-level operations (e.g. add/remove host) are supported on both converted and imported domains. There are guardrails in place where in some scenarios users will have to perform actions like Add Host directly from the vCenter, and then use the Sync mechanism to update the SDDC Manager inventory.

**Q. Can I convert or import vSphere Clusters with storage other than vSAN?**

A. Yes. We support NFS and VMFS on Fiber Channel (FC) in addition to vSAN.

**Q. Can I convert or import vSphere Clusters where NSX has been installed/enabled?**

A. No. Converting or Importing a vSphere cluster where NSX has been installed/configured is not currently supported.

**Q. Is the Cloud Builder appliance needed to convert a vSphere cluster to a VCF management domain?**

A. No, the conversion of a vSphere cluster to a VCF management domain is accomplished by running prechecks with a script uploaded to vC, manually deploying an instance of the SDDC Manager appliance to the vSphere cluster, copying the VCF Import scripts to the SDDC Manager appliance, and running the scripts on the SDDC Manager appliance to perform the conversion.

**Q. Is VCF Convert / Import available in the UI?**

A. No, VCF Convert / Import is currently a command line tool. There is a script you run that'll check the environment for compliance and execute the process.

**Q. Is the new Sync mechanism a feature of Imported or Converted domains only?**

A. No. It can be used on natively deployed workload domains as well.

**Q. Does a cluster that's being Converted into a VCF domain have to have NSX running to be converted?**

A. No.

**Q. What is the minimum version of vSphere/vSAN required?**

A. To convert, you need to be on the VCF 5.2 build. (i.e. 8.0u3)

To import, you need to be on the VCF 4.5 build. (i.e. 7.0u3)

**Q. What is the minimum vSAN cluster size that can be Converted / Imported to a VCF Management Domain?**

A. 3 nodes

**Q. What is the minimum cluster size that can be Converted / Imported as a VI workload domain?**

A. 3 nodes when using vSAN. 2 nodes when using NFS or FC.

**Q. Can I deploy NSX onto a converted or imported domain?**

A. Yes, scripts are provided to enable deploying NSX (VLAN backed only) to a converted or imported domain.

**Q. Can I deploy NSX with overlay networks on a converted or imported domain?**

A. No, in VCF 5.2 NSX overlay networking, logical routing, and NSX Edge clusters are not supported on converted or imported domains. Only NSX VLAN-backed networking is supported.

**Q. Are single host clusters, 2-node vSAN clusters, or vSAN stretched clusters supported with import scenarios.**

A. No.

**Q. When Converting or Importing vSphere clusters to VCF workload domains, do I need to upgrade everything to VCF 5.2?**

A. No, VCF 5.2 allows running workload domains at different versions. Refer to the VCF documentation for supported versions for a given VCF release.

**Q. Can the source clusters being Converted / Imported be configured using either vLCM baselines or vLCM images or a combination of both?**

A. Yes. You can choose between VUM and vLCM for each workload domain. However, all clusters within a domain must be the same. (i.e. all VUM or all vLCM)

**Q. Can a VCF administrator visually identify through SDDC Manager if a domain/vCenter server was Converted / Imported into VCF?**

A. No

**Q. Where does the customer get the Convert / Import script?**

A. The Convert / Import script can be downloaded from Broadcom Software Portal. It can be run using several different parameters. Follow the runbook in the VCF Admin Guide.

**Q. Will VxRail be supported for Convert or Import?**

A. No.

**Q. Will SDDC Manager deploy VRSLCM on a converted domain?**

A. No. It will need to be deployed manually.

## Networking

**Q. What are my NSX networking options when deploying a new Workload Domain?**

- A. Customers now have the option to deploy a new WLD with one of 2 choices in the SDDC Manager UI.
1. Deploy with a new NSX instance
  2. Join the WLD to an existing NSX instance

**Q. Can I connect my workloads to either NSX virtual networks or VLAN port groups in a WLD?**

A. Yes. Customers have the option to connect workloads to either NSX virtual networks or VLAN based port groups.

**Q. Am I able to manage NSX Advanced Load Balancer from SDDC Manager?**

A. SDDC Manager will deploy the AVI controller cluster, perform password management of the AVI controller, and provide certificate management.

**Q. Will clusters configured within a domain inherit the networking model initially configured for the domain?**

A. Yes.

**Q. Can VCF 5.2 deploy NSX VLAN-backed networking to domains originally configured using vSphere Networking?**

A. Yes, it has scripted workflows useful for organizations who have converted and/or imported vSphere clusters into VMware Cloud Foundation.

**Q. What are Edge TEP Groups?**

A. Tunnel End Point (TEP) Groups provide additional bandwidth and reliability for traffic that is routed through the NSX Edges by allowing flows to be hashed across the multiple edge TEPs.

**Q. Does NSX support Enhanced Data Path (EDP)?**

A. Yes. Enhanced Data Path (EDP), a network stack mode, offers improved performance that results in higher throughput. It's designed for workloads that require high throughput and low latency, such as Network Function Virtualization (NFV), common in the telco industry.

**Q. Why is VCF introducing an XL NSX Manager Appliance?**

A. To provide increased scale. Please see [configmax.vmware.com](https://configmax.vmware.com) for details.

## VCF Edge

**Q. What is VCF Edge?**

A. VCF Edge is a license SKU that provides a cost-effective way to license VMware Cloud Foundation across a min of 25 sites and includes entitlements to all VCF components. A minimum of 16 cores must be used in a single site.

**Q. How is Edge licensed?**

A. VCF Edge licensing can be purchased (in place of standard VCF licensing) for deployments spanning a minimum of 25 sites at a discounted rate. Licensing can span multiple VCF instances. VCF Edge SKUs support a minimum of 16 cores per CPU with a 256-core max per site.

**Q. Is there an exception that can be made for a customer who has 24 (1 short) of the min edge/remote sites?**

A. The min requirement is 25 sites. However, they have a year in which to achieve that quantity of sites.

**Q. Can I configure a domain with clusters configured at multiple sites?**

A. Yes, the VCF Edge SKU does not dictate the architecture. This means that a customer can deploy any architecture they see fit for the edge environment. However, we recommend staying within the architecture boundaries of the SDDC Manager automated deployment workflows for the best cloud experience.

**Q. Does VCF Edge licensing include a vSphere for vSAN witness which allows the vSAN witness to be deployed locally?**

A. Yes, customers have a choice to use vSAN witness in a specialized hardware with dedicated hardware slot or remotely in another Edge location.

**Q. What storage options do I have for VCF Edge?**

A. The VCF Edge SKU does not dictate a specific storage or Architecture. The VCF Edge SKU allows hosts or clusters to be composed using vSAN, vVols or external storage (NFS, VMFS on FC). Remote sites deployed as a VCF Workload Domain using the SDDC manager must follow the requirements of the VCF SDDC manager automated architecture. Using the VCF SDDC Manager Architecture requires a minimum of 3 vSAN nodes or 2 ESXi hosts configured with external storage.

## Storage

### Q. What's new in vSAN 8.0 U3?

- Stretched clusters w/ESA
- vSAN Max VCF support
- vSAN data protection snapshots

### Q. Does VCF 5.2 support vSAN Max?

A. Yes. This is our first release of vSAN Max on VCF. Customers can scale-out storage-only clusters from 4 node minimum to 24 node maximum, and on a per-host basis from 20TB to 360TB.

### Q. What is vSAN Max?

A. vSAN Max is a new deployment option in vSAN that provides disaggregated storage for vSphere clusters. It is powered by the vSAN Express Storage Architecture, or ESA. It provides our customers the ability to deploy a highly scalable storage cluster to be used as primary storage for vSphere clusters, or augment storage for traditional vSAN HCI clusters. This makes vSAN the premier storage platform for powering VMware Cloud Foundation.

### Q. Does vSAN Max support File Services?

A. Yes.

### Q. Is HCI Mesh still supported?

A. Yes, but the official name has changed to vSAN HCI with remote datastores. All the configuration and support capabilities are still intact.

### Q. What is vSAN ESA?

A. The vSAN Express Storage Architecture (ESA) is designed to process and store data with all new levels of efficiency, scalability, and performance. This architecture is optimized to exploit the full capabilities of the very latest in hardware. It was introduced in vSAN 8 and enhanced in vSAN 8 U1 and U2. The ESA in vSAN is an alternative to the Original Storage Architecture (OSA) found in all previous editions of vSAN, as well as an optional architecture in the very latest version.

### Q. Does VCF 5.2 support stretched clusters with vSAN ESA?

A. Yes. However, support of stretched clusters in VCF is via API only. Just as with the OSA, the workflows in SDDC

manager currently do not include a stretched cluster deployment. Support of stretched clusters in VCF is limited to aggregated vSAN HCI clusters. Support of ESA in a stretched cluster configuration while running VCF 5.2 assumes a new deployment of the cluster, as an in-place conversion from OSA to ESA is not supported. Stretched clusters using ESA assumes the use of vLCM, since this is a requirement of ESA powered clusters. VxRail will not support the changing of a stretched cluster to a non-stretched cluster. Also, vSAN Max in a stretched cluster configuration is not supported in VCF 5.2.

### Q. What are the requirements for VMware VCF stretched clusters with vSAN ESA?

A. The requirements for vSAN ESA stretched cluster support with VCF 5.2 are the same as for OSA.

## Compute

### Q. Will TKGS on a vSAN stretched cluster, introduced in vSphere 8u3, be supported on VCF 5.2 as well?

A. Yes. TKGs on a vSAN stretched cluster is supported.

## Lifecycle Management

### Q. How am I notified when patches/upgrades become available?

A. Users need to log into the repository/VMware depot. Once logged in, users are automatically notified from the SDDC Manager user interface when patches and upgrades become available.

### Q. Can I schedule when patches and upgrades are applied?

A. Yes, SDDC Manager allows patches and upgrades to be scheduled to coincide with regular maintenance windows.

### Q. Can I patch/upgrade workload domains independent 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).

**Q. Can SDDC Manager be upgraded by itself, asynchronously?**

A. Yes. SDDC Manager is now decoupled from the VCF upgrade. We can now release critical SDDC Manager fixes and features without upgrading the full stack and add new SDDC Manager specific features at a faster pace. You have been able to do this previously, but it was not supported and could cause functions to break. It is now a supported feature.

**Q. Does this mean you don't have to upgrade the management domain first?**

A. Yes, you only upgrade SDDC Manager.

**Q. What performs all Day-N operations, scaling, and lifecycle management for domains?**

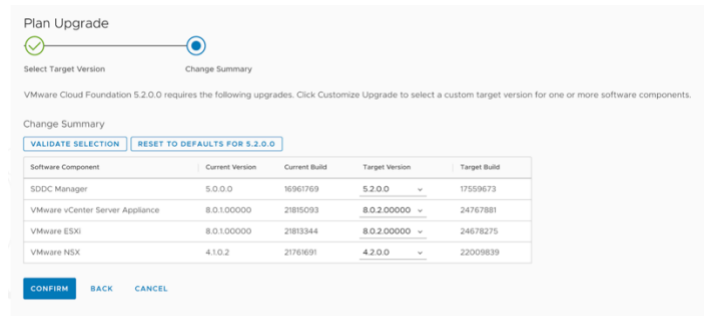
A. SDDC Manager automation

**Q. Can you upgrade a WLD to a version without upgrading the management domain?**

A. Yes, you can upgrade a workload domain (WLD) without upgrading the Management Domain. Note that the Management Domain always needs to be upgraded first and be at the highest version.

**Q. Can we deploy flexible target BOMs with different component releases?**

A. Yes, each domain will be able to deploy different BOMs based on the needs of the workload applications. You start by selecting the target BOM, ie: 5.2, then you can choose to customize that 5.2 BOM for a given Domain. This will allow you to select versions of the components as needed. There are in-built compatibility checks eliminating the need to use the compatibility matrix. Only the versions that are compatible will show up. If there's an error, it'll tell you what needs to change. This is applied at the domain level only, not the cluster level.



**Q. Will there be a GUI for the offline depot?**

A. Yes.

**Q. How does VCF handle synchronizing changes between vCenter Server and SDDC Manager?**

A. Administrators can perform changes from vCenter Server and then synchronize the changes to the SDDC Manager inventory using a script. In-built guardrails have been introduced to prevent some SDDC Manager workflows if vCenter Server and SDDC Manager are not in-sync.

## Configuration Minimums and Maximums

**Q. What is the minimum size of a Cloud Foundation environment with a consolidated deployment?**

A. You need at least 4 servers to run Cloud Foundation. In this scenario, workload VMs are placed in a dedicated Resource Pool in the Management Domain.

**Q. What is the minimum size of a Cloud Foundation environment to use VI workload domains?**

A. You need at least 7 servers to run Cloud Foundation with a VI workload domain. Four servers are used by the management domain, and three servers is the minimum size of other workload domains.

**Q. How do I properly size my VCF environment?**

A. Please review sizing information on [configmax.vmware.com](https://configmax.vmware.com).

**Q. What are the physical server requirements?**

A. Cloud Foundation is supported on vSAN ReadyNode server hardware which meets the minimum requirements



regarding memory, disk types and capacity, and network interfaces. See the Compatibility Guide for VCF 5.2 components.

**Q. What switching hardware is supported?**

A. You can use 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.

**Q. Where can I find my license entitlements?**

A. It's found on the Broadcom Support Portal. Go to [support.broadcom.com](https://support.broadcom.com) and then visit "My Entitlements".

**Q. Where is VCF Documentation stored?**

A. <https://docs.vmware.com/en/VMware-Cloud-Foundation/index.html>

