

VMware Cloud on Dell EMC

Frequently asked questions

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Solution overview questions

1. What is VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC combines the simplicity and agility of the public cloud with the enhanced security and control of on-premises infrastructure, delivered as-a-service. This fully managed VMware Cloud service provides a simple, secure, and scalable infrastructure for customer on-premises data center, co-lo and edge locations. VMware's industry leading compute, storage, and networking software stack is integrated with Dell EMC VxRail hardware for a complete infrastructure solution. The unique approach of this service empowers customers to focus on business innovation and differentiation, while VMware operates the entire infrastructure end-to-end.

2. What infrastructure is included in VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC's service includes all required infrastructure hardware including specific VxRail hosts, redundant ToR (Top-of-Rack) network switches, a dedicated management plane switch, redundant power distribution units (PDU), and a redundant pair of VeloCloud SD-WAN appliances used to provide the management connection to VMware's monitoring and service center. When customers order a multi-rack configuration the second rack has two additional spine switches added to the rack creating a spine leaf network architecture across the racks. All infrastructure ordered comes pre-built and arrives with VMware SDDC software pre-installed. Each rack is a standard full-height rack, which supports from 3 up to 26* usable hosts. All racks come with a standby host for business continuity purposes. Each rack configuration come preconfigured and tested in the topology they will be deployed in. The rack(s) are labeled, crated and shipped so that onsite deployment time is significantly reduced, typically being completed in a few days at most.

The following diagram summarizes how a single infrastructure rack is configured:

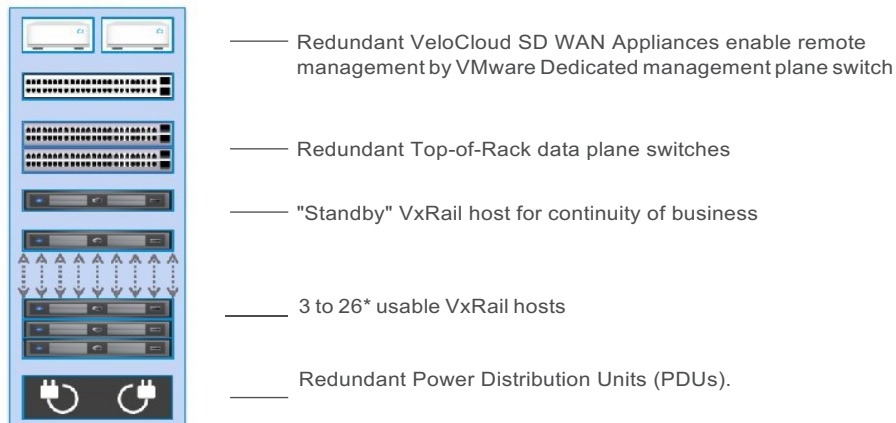


Figure 1. VMware Cloud on Dell EMC infrastructure rack

*Requires three-phase power to the rack. The maximum usable host count per rack with single-phase power is 12

3. What is the host type naming convention for VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC has adopted a host type naming convention consisting of several descriptive elements. The breakdown of the naming convention follows:

VMware Cloud on Dell EMC Host Naming Nomenclature

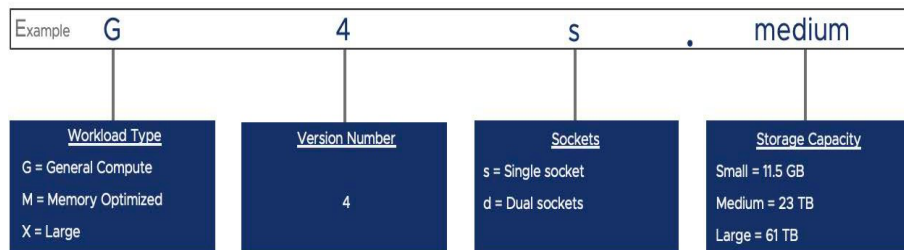


Figure 1. VMware Cloud on Dell EMC host naming nomenclature

4. What Host types are available for VMware Cloud on Dell EMC?

The following table provides specifications for the currently supported host types:

HOSTS						
Host Type	M1d.xSmall	G1s.small	M1s.medium	M1d.medium	M1d.xLarge	X1d.xLarge
Chassis	VxRail E560F 1U1N	VxRail E560F 1U1N	VxRail E560F 1U1N	VxRail E560N 1U1N	VxRail E560F 1U1N	VxRail E560F 1U1N
CPU cores	2 x 28	1 x 28	1 x 28	2 x 28	2 x 28	2 x 28
vCPUs ¹	112 (56 Cores)	56 (28 Cores)	56 (28 Cores)	112 (56 Cores)	112 (56 Cores)	112 (56 Cores)
CPU frequency	2.2 GHz All Core Turbo	2.2 GHz All Core Turbo	2.2 GHz All Core Turbo	2.2 GHz All Core Turbo	2.2 GHz All Core Turbo	2.2 GHz All Core Turbo
RAM	768 GB	256 GB	384 GB	768 GB	768 GB	1536 GB
Cache storage	1.6 TB SSD SAS	1.6 TB SSD SAS	1.6 TB SSD SAS	3.2 TB NVMe	3.2 TB NVMe	3.2 TB NVMe
Primary storage	3.8 TB SSD	11.5 TB SSD	23 TB SSD	23TB NVMe	61 TB SSD	61 TB SSD
Disk Groups	1	2	2	2	2	2
Power Supplies**	Redundant x 750W 100-240v	Redundant x 750W 100-240v	Redundant x 1100W 200-240v	Redundant x 1100W 200-240V	Redundant x 1100W 200-240V	Redundant x 1100W 200-240V

**See VMware Cloud on Dell EMC [Data Sheet](#) for power and cooling details

Table 1. VMware on Dell EMC Host Options

5. What storage will be provided with VMware Cloud on Dell EMC deployments?

VMware Cloud on Dell EMC clusters are built on hyperconverged infrastructure powered by VMware vSAN storage technology. We offer an array of host types with different storage capacity. See [Table 1](#) for details.

6. Are workloads, VMs, containers, and data in transit protected from unauthorized access?

VMware Cloud on Dell EMC offers data encryption through vSAN encryption, and data transfers are protected from snooping with industry-standard encryption technologies.

7. Can I bring my own hardware to VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC is a fully managed cloud service that includes specific hardware and software provided exclusively by VMware and Dell. As a result, this solution is unable to accommodate the use of existing hardware.

8. What versions of vSphere, vSAN, and NSX does VMware Cloud on Dell EMC include?

VMware Cloud on Dell EMC will be using the same “cloud releases” of the SDDC components as VMware Cloud on AWS, which is released on a regular cadence. Therefore, VMware Cloud on Dell EMC always uses the most recent version of vSphere, vSAN, and NSX.

9. Are VMware Cloud on Dell EMC hosts offered with specialized hardware components?

VMware Cloud on Dell EMC hosts are comprised of Dell Technologies VxRail enterprise-class compute appliances with integrated Flash storage, Dell networking Switches, VMware VeloCloud SDWAN Appliances and other industry-standard components.

10. What are the subscription terms for VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC subscription is available through a 1 or 3-year term commitment. Contact VMware Sales for details.

11. What is included in the subscription?

The cost of the service includes a complete, fully managed single or multi-rack infrastructure sized to address the customer's needs. This infrastructure comes pre-built at the factory and arrives pre-loaded with VMware vSphere, vSAN, and NSX software.

It includes all necessary rack, power, networking, storage, and compute gear as well as full 24x365 service, 4-hour onsite break fix visits, and full lifecycle management of hardware and software that includes patching and software upgrades.

12. How do customers subscribe to VMware Cloud on Dell EMC?

Customers subscribe to VMware Cloud on Dell EMC through the VMware Cloud Console (VCC). The VCC provides customers with a self-service journey where they learn more about the service, size the service infrastructure they need, and provide additional details about their environment that allows the infrastructure to be configured at the factory. Alternatively, customers can work with their VMware account

team to order the service.

13. How is VMware Cloud on Dell EMC paid for?

A customer can either pay using credits (HPP, SPP or Universal), or pay monthly via invoice. A customer can either pay upfront, or if approved to pay by invoice, then choose to pay monthly or just pay the invoice directly. Monthly payments can either be made via credit card, paid by monthly invoice, or using an existing payment credits fund. Please note that if paying monthly, early termination of service will result in a contractual penalty.

14. Do customers need to pay separately for VMware vSphere, vSAN and NSX licenses once subscribed to VMware Cloud on Dell EMC?

No, the VMware Cloud on Dell EMC subscription includes VMware vSphere, vSAN and NSX software for the term of the contract.

15. What if a customer decides to stop using the service?

VMware will arrange for the infrastructure to be picked up and removed from the customer's site. VMware will go through a standard decommissioning process where a VMware SRE will execute a remote wipe of the infrastructure and delete all data. Dell will coordinate a date with the customer to retrieve the hardware, and after the hardware is removed a second stage [NIST 800-88 secure wipe](#) is performed and the hardware is recycled. Please note that early termination of service may result in a contractual penalty.

16. How long will it take to deliver the hardware once it has been ordered?

Once the service order is confirmed, it takes roughly 4-6 weeks to factory-build the customer's service infrastructure and dispatch it with a deployment technician to the customer site for installation. There is no added charge for the on-site deployment of the service infrastructure.

17. What are the terms of service for VMware Cloud on Dell EMC?

For complete and detailed information on the service please consult the [Service Description](#) document and [VMware's Cloud Service Offering Terms of Service](#).

18. Can capacity be expanded?

Customers can order additional hosts from the VMware Cloud Console (VCC). VMware will schedule a time with the customer to send a service technician on site to install the additional hosts.

19. Can capacity be customized?

To meet SLAs and ensure a cost-effective solution, the service is prescriptive and not customizable by the customer. The service offers several predetermined capacity options that customers can select to best fit their requirements.

20. Where will the customer's data reside?

The customer's data will always reside on-premises and the customer will retain full control over their data and workloads.

21. What compliance certifications has VMware Cloud on Dell EMC achieved?

The service has achieved compliance certifications for SOC2 type-1 & SOC2 type-2, ISO27001, ISO27017, ISO27018, CCPA, GDPR, and the Cloud Security Alliance (CSA) Star Security assessment. Go to [VMware Cloud Trust Center](#) to get the latest.

22. How is VMware Cloud on Dell EMC managed?

The infrastructure is operated and managed by VMware Site Reliability Engineers (SREs). Customers can view the status of their service in the Cloud Services Portal (CSP), which will show all their deployments, the status of each deployment, and any actions the VMware SREs have taken to ensure the health and uptime of the service. This is also where customers will be informed when patches or updates need to be applied. Customers can schedule these updates to accommodate their business needs.

23. How do customers access the platform?

Customers manage their overall service through the Cloud Services Portal (CSP), while daily customer management of virtual machines and the associated virtual environment are done through vCenter. vCenter can be accessed over the Internet by traversing VMware's secure SD-WAN management devices, but most customers will opt to manage vCenter over their internal network. The option to change how vCenter is accessed is in the CSP.

24. How often will the SDDC software be updated?

VMware will patch and/or upgrade the SDDC software when new versions are made available. The customer's infrastructure and operations team will be notified when a maintenance window is needed to facilitate upgrades or patching. There will be an option to defer maintenance windows, so production workloads are not interrupted.

25. How often will the hardware be refreshed?

Hardware typically will be refreshed at the end of its practical lifespan, which is 5 years.

26. Will there be extra "standby" capacity in the rack for faster recovery or capacity expansion?

An additional "standby" host comes in every rack. This host is not counted as one of the hosts ordered with the service. For example, if a customer orders a 5 host system the rack will arrive with a 6th "standby host." This host is only activated by VMware SREs and provides compute and storage capacity in the event of a production-host outage or maintenance.

27. Does this service support multi-rack configurations?

Yes, VMware Cloud on Dell EMC is built on a scalable architecture that supports multi-rack deployments as a fully managed service. The result is that customers can order data center scale configurations of the service that allow IT to mitigate the need for significant infrastructure refresh CapEx.

Multi-rack configurations of this service include the spine/leaf networking equipment that connects multiple racks and provide a single pair of high-bandwidth uplink connections to the customer data center network. The VMware Cloud on Dell EMC service scales to replace existing multi-rack data center infrastructures though an operationally-costed, fully managed subscription service that deploys in a matter of hours to days – not weeks and months.

28. How does VMware Cloud on Dell EMC support modern Kubernetes workloads?

VMware Cloud on Dell EMC supports modern Kubernetes workloads through a combination of high-performance compute infrastructure and VMware Tanzu services included with this service. VMware Cloud on Dell EMC is built around a Dell VxRail Cloud-class compute infrastructure performance optimized for VMware environments. Also included is VMware Tanzu services, which includes a fully Managed Tanzu Kubernetes Grid (TKG) as well as Tanzu Mission Control (TMC) essentials cluster management. Together, this powerful combination ensures customers can run modern enterprise applications through having the resources to run, containerize, and easily manage their applications.

Operations questions

29. Who is responsible for directory service integration?

The customer performs the same Active Directory or LDAP integration for the VMware Cloud on Dell EMC service as they do for customer managed vSphere environments.

30. Does the customer have full control of vCenter in VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC operates with a shared responsibility model similar to VMware Cloud on AWS. Customers can perform the administrative tasks in vCenter required for VM workload management. Certain low-level configuration and management actions are restricted and only performed by SREs.

31. Who has access to customer applications and data?

As with any cloud service, customers own and control data and applications running on VMware Cloud on Dell EMC infrastructure. Customers can refer to [VMware Cloud on Dell EMC documentation](#) for details.

32. How will a customer's operations team monitor applications and infrastructure on VMware Cloud on Dell EMC?

VMware Cloud on Dell EMC is based on proven VMware technologies, so existing tools and operational best practices may still be used for application monitoring. The VMware Cloud on Dell EMC service includes dashboards to show customers an aggregated view of all their service hosts and detailed views of the health and utilization at individual sites.

33. What is the user interface for VMware Cloud on Dell EMC infrastructure?

VMware Cloud on Dell EMC workloads are managed through a variety of interfaces depending on the use case. When a customer needs to manage the overall service they use the VMware Cloud Console (VCC). Virtual machines and hosts are managed using the same vSphere Client they are familiar with. A variety of VMware SDDC automation technologies, such as PowerCLI can be used to manage certain workflow requirements and operational procedures.

34. Does the vCenter Server for VMware Cloud on Dell EMC integrate with my other vCenter Servers?

Yes, VMware Cloud on Dell EMC supports Hybrid Linked Mode to integrate with other vCenter Servers.

35. Does VMware Cloud on Dell EMC support multiple vSphere Clusters?

Yes. With multi-cluster support in VMware Cloud on Dell EMC, customers can create up to 8 clusters in a rack with a minimum of 3 hosts in each cluster. As long as the 3 host minimum and 8 cluster maximum rules are respected, customers can size clusters according to their needs and rack capacity.

36. What backup and recovery measures are part of the VMware Cloud on Dell EMC service?

The VMware Cloud on Dell EMC service provides automatic backup of site configurations, that can be recovered on behalf of a customer. Backup of applications and data are the customer's responsibility. Through the Partner Ready for VMware Cloud program, a variety of popular data protection solutions are offered.

37. As a customer, what control do I have over update and patch timing?

Because updates are handled by VMware, you cannot determine whether or not updates will happen, however you can specify the best times for your businesses to receive updates or patches to align with desired maintenance windows.

38. How often will the SDDC software be updated?

VMware will patch and/or upgrade the SDDC software when new versions are made available. The customer's infrastructure and operations team will be notified when a maintenance window is needed to facilitate upgrades or patching. There will be an option to defer maintenance windows so that the production activities are not interrupted.

39. What applications are supported on VMware Cloud on Dell EMC infrastructure?

Because VMware Cloud on Dell EMC is based on industry-leading Dell ISS hardware and VMware SDDC technology, this service platform can run any application customers currently running on vSphere today within the performance thresholds of the infrastructure. Customers can deploy virtual machines, Tanzu services managed containers, and other vSphere-compatible applications on the service.

40. Are vRealize Suite products supported?

Yes, VMware Cloud on Dell EMC supports vRealize. This enables customers to combine VMware Cloud on Dell EMC with their existing on-premises or public cloud hosts and gives customers a unified cloud management portal for managing all their compute, network, and storage across cloud environments.

41. Can a customer run virtual desktop infrastructure on VMware Cloud on Dell EMC?

Yes. VMware has certified VMware Horizon Desktop to run on VMware Cloud on Dell EMC. With this certification, customers can build out their Horizon Desktop deployments leveraging VMware Cloud on Dell EMC as the underlying digital foundation for Virtual Desktop Infrastructure (VDI).

42. Can I migrate workloads between VMware Cloud on Dell EMC infrastructure and private data centers or public clouds?

Yes, customers have the flexibility to migrate workloads between VMware Cloud on Dell EMC and private data centers. Options include the following:

- If L2VPN is configured, it is possible to perform zero-downtime live migrations with vMotion from existing on premises infrastructure onto the new rack. This is critical for applications that cannot be easily re-addressed or cannot be disrupted until a later point in time.
- Cold VM migrations, manual uploads of ISO images and VM templates are also possible and do not require a L2VPN.
- For large environments that require bulk migrations, customers can leverage HCX. HCX is VMware's automated workload mobility platform. With this add-on service customers can now enable HCX Advanced with no additional cost or license. VMware automatically deploys HCX into the VMware Cloud on Dell EMC service. Once HCX is deployed and connected to a customer's existing environment they can leverage the advanced migration tools in the platform to move workloads between VMware Cloud on Dell EMC and their existing data center. In addition to the included licenses VMW provides end to end support for HCX to help customers resolve technical problems and answer questions.

Networking questions

43. What physical network connections are required for a VMware Cloud on Dell EMC deployment?

There are two types of connections from the rack: one for management and one for customer workload networks. The management connections are 1 Gb fiber or copper interfaces. The workload networks are connected via fiber from the top of rack (ToR) switches in Rack-1 to the upstream customer network. Customers have the option of 2 x 1GbE, 2 x 10 GbE or 2 x 25 GbE interconnects per ToR.

44. How does management traffic reach the VMware Cloud on Dell EMC infrastructure?

The management traffic is tunneled over a pair of VeloCloud SD-WAN devices that share a single IP address from an existing customer network. This IP address can be assigned statically or through DHCP and can be placed behind a NAT firewall. The IP must be allowed outbound access to the Internet on ports TCP 443 and UDP 2426.

45. What networks does VMware Cloud on Dell EMC infrastructure use for management?

Within the rack, there are several management networks that provide the typical VMware SDDC capabilities such as ESXi management, vMotion, vSAN, and NSX-T. This is a /24 CIDR block and must be routable to networks in the data center if workload migration is desirable. There is also an out-of-band network for device and server management consoles (iDRAC). This is a /24 and does not need to be routable. In the cloud service, there is also a dedicated private network for each organization that can service multiple VMware Cloud on Dell EMC sites. This is a /24 CIDR block and does not need to be routable.

46. Why should the subnets that customers allocate for management networks be routable?

To enable management capabilities such as Hybrid Linked Mode and workload migration, the network must be able to connect to other networks in the data center.

47. How does the VMware Cloud on Dell EMC infrastructure connect to the existing data center networks?

Each deployment includes dual ToR (Top-of-Rack) switches located in the first rack. Each ToR has two designated ports for connecting to the existing customer network. Each port can connect at 1Gb, 10Gb, or 25Gb to the customer network. For multi-rack service infrastructure configurations, two additional spine switches are installed in Rack-2. Each ToR then has 4x100Gb connections to the spine switch. The spine switches are for East/West traffic only. All North/South traffic leaving the infrastructure to the customers network is routed through the designated ports in Rack-1. The four uplinks from Rack-1 to the customer network are configurable using static routing or eBGP for dynamic routing.

48. How do customers create new networks on the VMware Cloud on Dell EMC infrastructure?

Customers access the VMware Cloud Console for their VMware Cloud on Dell EMC account and use a designated interface to create and configure new NSX-T network segments.

49. Can I use my existing VLANs inside VMware Cloud on Dell EMC?

Existing VLANs can be extended into VMware Cloud on Dell EMC using the included HCX migration tool. The Layer 2 network VLANs will be created as NSX Segments inside VMware Cloud on Dell EMC. Using HCX Layer 2 network extension will allow customers to easily migrate existing applications into VMware Cloud on Dell EMC without having to change IP addresses.

50. What routing protocols are supported for workload networks on the infrastructure?

VMware Cloud on Dell EMC now supports eBGP (external border gateway protocol) for dynamic routing between the TORs and the customer's existing network. This improves upon static routing in earlier versions of the product. However, static routing can still be utilized. Dynamic routing with eBGP enables fast routing fail-over in the event of a ToR switch failure or upstream aggregation switch failure. Fail-over from one ToR switch to the other requires the underlay network to update its routing tables so that packets can route to the right destination bi-directionally. eBGP automates this between autonomous systems in a quick and efficient way without manual customer intervention.

Availability Questions

51. Where can the service be deployed and consumed?

VMware Cloud on Dell EMC has two major dependencies for availability in a particular region. First the VMware Cloud Service must be available in a specific region. Second Dell EMC must have the local infrastructure to support VxRail and rack assembly and the distribution network to provide delivery and support. VMware Cloud on Dell EMC is currently available in the United States, United Kingdom, Germany, and France

Support questions

52. What support offerings are available?

SaaS Production Support is standard with VMware Cloud on Dell EMC and is included in the overall service cost. With VMware Cloud on Dell EMC, deployment and full management of the infrastructure are included in the cost of the subscription. There are no additional professional services required to consume the service.

53. What is the support model?

VMware product support will be provided by Cloud Support Engineers (CSE) through the Cloud Services Portal (CSP). This includes both chat and support request filing via the CSP "In-Product Support Panel." Infrastructure support is managed by a team of Site Reliability Engineers (SREs).

54. What are the VMware end user terms and conditions for VMware Cloud on Dell EMC?

Please consult the [Service Description](#) document and [VMware's Cloud Service Offering Terms of Service](#).

55. How do customers get support?

Customers are encouraged to manage their cloud service through the Cloud Services Portal (CSP), which includes an in-product experience to engage with support teams.

56. What is the customer support flow?

Organization owners or their delegates, will go directly to the Cloud Services Portal (CSP) to chat with support or file support issues.

When the customer engages the in-product support feature, they will have the option to chat with a CSE member immediately or file an SR for callback. Chat engagement will be handled directly in the CSP portal, while SRs will be routed to GSS technical support.

Should the case require platform assistance to resolve, the GSS team will raise an incident to engage the SRE team. While not preferred, exception processes are in place should a customer reach out directly to VMware or Dell EMC CS Teams (CSRs) for support. The VMware CSR team will file a case on behalf of the customer and let them know they can expect a call back from the CSE team. There is no phone queue. At Dell, the CSR team will instruct the customer that the solution is fully supported and operated by VMware. They will then provide instructions to engage VMware directly for support either via support.vmware.com or directly through the CSP. A similar reminder message will also be posted to Dell's support site, should a customer look up the product or service tag.

57. How are Site Reliability Engineers (SREs) different from Cloud Support Engineers (CSEs)?

The SRE is part of the VMware product organization and works in the background to manage the core platform, ensuring ultimate reliability. The SRE is responsible for monitoring, maintenance and life cycle management, while also working with Product Engineering directly for continuous improvement. For VMware Cloud on Dell EMC, the SRE Team is also interlocked with Dell EMC in the background to address any hardware issues.

A CSE is part of VMware Global Services (GSS) and is the primary customer engagement team. The CSE handles all incoming chat and support requests to assist customers in realizing their business needs and use-cases. The CSE also works as a conduit between customers, SREs and other VMware core teams to resolve customer issues.

58. What happens to the service if the management network loses connectivity?

In the event the management network loses connectivity to the Internet the VMware SRE team will not have management visibility to the customer's environment during the outage. However, the on-premises VMC on Dell EMC infrastructure and workloads will continue to run, and the customer will retain access to vCenter. The SRE team will regain management oversight when the Internet connection to the SD-WAN switches is restored.