

# VMware Cloud on Dell EMC

## Frequently asked questions

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### Solution overview questions

#### 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 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.

#### 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 instances, redundant top of rack (ToR) network switches, a dedicated management plane switch, redundant power distribution units (PDUs), and a redundant pair of VMware SD-WAN™ appliances used to provide the management connection to VMware’s monitoring and service center.

The infrastructure comes pre-built in either a half-height rack or a full-height rack. The half-height rack (R1) supports from 3 to 5 usable instances. The full-height rack (R2) supports from 3 up to 26<sup>1</sup> usable instances. All racks come with a standby VxRail instance for continuity of business purposes.

The following diagram summarizes how the infrastructure rack is configured:

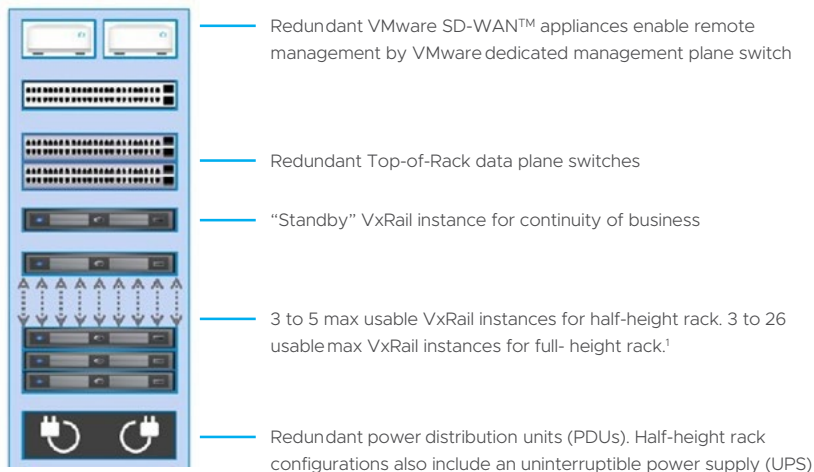


FIGURE 1. VMware Cloud on Dell EMC infrastructure rack

What is the instance naming convention for VMware Cloud on Dell EMC? VMware Cloud on Dell EMC has adopted an instance naming convention consisting of several descriptive elements. The breakdown of the naming convention follows:

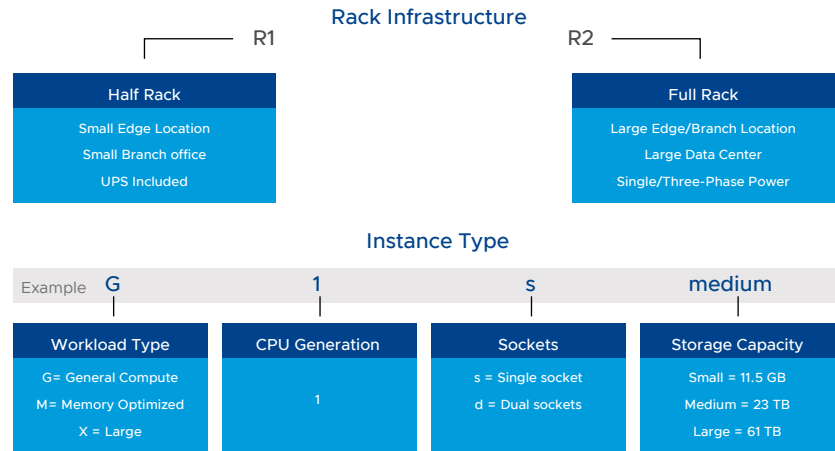


FIGURE 2. VMware Cloud on Dell EMC nomenclature

What instance types are available for VMware Cloud on Dell EMC? The following table provides specifications for the currently available instance types:

HOSTS					
Instance Type	G1s.small	M1s.medium	M1d.medium <sup>2</sup>	X1d.xLarge <sup>2</sup>	M1d.xLarge <sup>2</sup>
Chassis	1U1N (VxRail E560F)	1U1N (VxRail E560F)	1U1N (VxRail E560N)	1U1N (VxRail E560F)	1U1N (VxRail E560F)
CPU cores	24	24	48 (2x24)	48 (2x24)	56 (2x28)
vCPUs	48	48	96	96	112
CPU frequency	3.1 Ghz All Core Turbo	3.1 Ghz All Core Turbo	3.1 Ghz All Core Turbo	2.9 GHz All Core Turbo	2.2 GHz All Core Turbo
RAM	256 GB	384 GB	768 GB	1536 GB	768 GB
Cache storage	800 GB SSD SAS	1.6 TB SSD SAS	3.2 TB NVMe	3.2 TB NVMe	3.2 TB NVMe
Primary storage	11.5 TB SSD	23 TB SSD	23 TB NVMe	61 TB SSD	61 TB SSD
Disk Groups	1	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

TABLE 1. VMware on Dell EMC Host Options

### 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 instance types with different storage capacity. See Table 1 for details.

### HCI Storage scales 1-for-1 with compute capacity. Can I scale up storage separately from compute?

Yes, customers can add external storage under specific conditions. If customers need to add storage capacity without increasing HCI instances, and their VMware Cloud on Dell EMC instances are deployed in Equinix data centers, they can take advantage of Faktion Cloud Control Volumes (CCVs). Faktion CCVs can be connected to a customer's service infrastructure in Equinix data centers over a proprietary, low-latency interconnect. Please contact your VMware sales person for details.

### 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.

### 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.

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

VMware Cloud on Dell EMC is based on the same "cloud releases" of software infrastructure 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.

### Are VMware Cloud on Dell EMC instances offered with specialized hardware components?

Hardware instances are comprised of enterprise class compute, storage, and networking components included in the E560F VxRail HCI appliances. Hardware acceleration, such as GPUs may be considered for future releases.

### 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.

### What is included in the subscription?

The cost of the service includes VMware software defined infrastructure products managed as a service by VMware. It also includes all necessary rack, power, networking, storage, and compute components. The installation of all software and hardware is included in the subscription. Finally, the subscription includes VMware managed security updates and software patching, VxRail firmware updates, proactive monitoring and hardware break-fix service.

### How do customers subscribe to VMware Cloud on Dell EMC?

Customers subscribe to VMware Cloud on Dell EMC through the VMware Cloud Service Portal (CSP). The CSP 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.

#### How is VMware Cloud on Dell EMC paid for?

A customer can either pay using credits (HPP, SPP or Universal), or by 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.

#### 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.

#### 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 the 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.

#### 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.

#### 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](#).

#### Can capacity be expanded?

Customers can order additional instances from the VMware Cloud Service Portal (CSP). VMware will schedule a time with the customer to send a service technician on site to install the additional instances.

#### 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.

#### 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.

#### 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 see the latest certifications.

**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 of 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 have the ability to schedule these updates to accommodate their business needs.

**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 via their internal network. The option to change how vCenter is accessed is in the CSP.

**How often will the VMware software be updated?**

VMware will patch and/or upgrade the infrastructure 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.

**How often will the hardware be refreshed?**

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

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

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

**Operations questions****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.

**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.

**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.

#### 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 instances and detailed views of the health and utilization of individual sites.

#### 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 CSP. When they need to managed virtual machines and hosts they use the familiar vSphere Client. Also, a variety of VMware automation technologies, such as PowerCLI, may be used to manage certain workflow requirements and operational procedures.

#### 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.

#### 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. In an R2 rack with single-phase power a customer can deploy up to 12 hosts. In an R2 rack with three-phase power a customer can deploy up to 26 usable hosts. So long as the 3 host minimum and 8 cluster maximum rules are respected, customers can size clusters according to their needs and rack capacity.

#### 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.

#### 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, but you may specify when updates occur to align with desired maintenance windows.

#### How often will the VMware software be updated?

VMware will patch and/or upgrade the 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 production activities are not interrupted.

#### What applications are supported on VMware Cloud on Dell EMC infrastructure?

Because VMware Cloud on Dell EMC is based on industry-leading VMware technology, it can be a platform for any application customers currently run on vSphere today within the performance thresholds of the infrastructure. Customers can deploy virtual machines, containers, and other vSphere-compatible applications on the service.

### Are vRealize Suite products supported?

VMware has certified key products of vRealize Suite to integrate with VMware Cloud on Dell EMC. This enables customers to combine VMware Cloud on Dell EMC with their existing on-premises or public cloud instances and gives customers a unified cloud management portal for managing all of their compute, network, and storage across cloud environments.

### 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).

### Can a customer run containers and Kubernetes on VMware Cloud on Dell EMC?

Yes. Customers can deploy Kubernetes on-top of VMware Cloud on Dell EMC to orchestrate containerized microservices based applications with Tanzu Standard. This allows customers to run an easy to deploy and upstream conforming Kubernetes distribution. Note that vSphere with Tanzu integration is not currently supported.

### 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

### 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 and the workload networks are connected via fiber from the top of rack switches to the upstream customer network. These connection are 2 x 10 GbE per ToR interconnects for R1 racks. For the R2 racks customers have the option of 2 x 10 GbE or 2 x 25 GbE interconnects per ToR.

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

The management traffic is tunneled over a pair of VMware 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.

### 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 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.

### 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.

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

Each rack includes dual top of rack (ToR) switches that are connected to the existing customer switches over SFP fiber connections. A layer 3 connection is enabled over these links with up to four point-to-point connections using ECMP to balance the traffic flow.

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

Customers access the VMware Cloud on Dell EMC hybrid cloud control plane and use a designated interface to create and configure new NSX-T network segments.

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

VMware Cloud on Dell EMC supports eBGP (external border gateway protocol) for dynamic routing between the TORs and the customer's existing network. 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

### Where can the 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 following locations:

- The Continental United States
- The United Kingdom, France, and The Federal Republic of Germany

## Support Questions

### 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.

### What is the support model?

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

### 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](#).

### 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.

### 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 VMware Global Support Services (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 customer support representatives (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](https://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 on a VxRail instance.

### 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.

CSEs are part of VMware Global Support Services (GSS) and are the primary customer engagement team. A CSE handles all incoming chat and support requests. The CSE also works as a conduit between customers, SREs and other VMware core teams to resolve customer issues.

**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.

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<sup>1</sup>Requires three-phase power to the rack. The maximum usable host count per rack with single-phase power is 12.

<sup>2</sup>This instance type cannot be used in the 'R1' half rack due to the power draw of this instance type when used in the required 3 instance minimum configuration \*\* See [Data Sheet](#) for power and cooling details