VMware Cloud on Dell EMC

Practitioners quick reference guide for VDI and published applications workloads

TARGET AUDIENCE
• VDI administrators
• VDI architects
• Infrastructure architects
• IT administrators

As an increasing amount of the global workforce migrates toward flexible and remote workspaces, the need to modernize Virtual Desktop Infrastructure (VDI) platforms has become top-of-mind for many organizations. With increased demands from the business, new service availability, and global deployment options, moving VDI workloads to the public cloud has become an attractive proposition. However, concerns persist around design, accessibility, ease, and security of deploying VDI workloads to the public cloud. VMware Horizon® on VMware Cloud™ on Dell EMC can dramatically simplify VDI infrastructure and Published Applications deployments by combining the simplicity and agility of a public cloud managed service with the security and control of on-premises infrastructure.

This quick reference guide provides practitioners with key considerations to keep in mind and step-by-step recommendations for consuming a VMware managed service to host (VDI) and Published Application workloads on premises. It also provides specific guidance to help IT administrators incorporate these VDI workloads into a new cloud operating model in their datacenter.

Step One: Understand use cases and technical capabilities

VMware Cloud on Dell EMC combines the simplicity and agility of the public cloud with the security and control of on-premises infrastructure delivered as a service to core data center and remote branch locations. It is built upon on the latest VMware software defined data center products, including industry-leading compute, storage, and network virtualization that is optimized for Dell EMC VxRail hyper-converged infrastructure and powered by VMware Cloud Foundation (VCF).
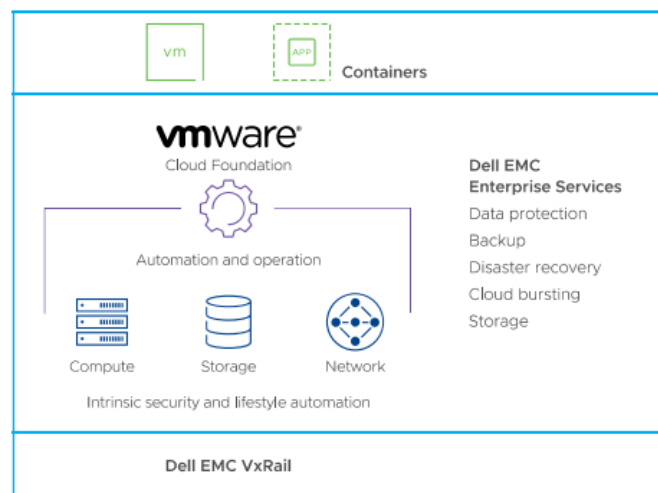

FIGURE 1: VMware Cloud on Dell EMC architecture

VMware Horizon includes out of the box technical capabilities to support deployments on VMware Cloud on Dell EMC:

• **Horizon Cloud Pod Architecture (CPA)** is one of the key technical enhancements facilitating VDI deployment on VMware Clouds: it allows customers to connect Horizon deployments (version 7 or later) across multiple pods and sites for federated management. It can be leveraged to quickly scale up deployments, to a build hybrid cloud solutions, and to provide redundancy for Business Continuity and Disaster Recovery. CPA is exclusively supported on VMware Cloud on Dell EMC and on VMware Cloud on AWS.
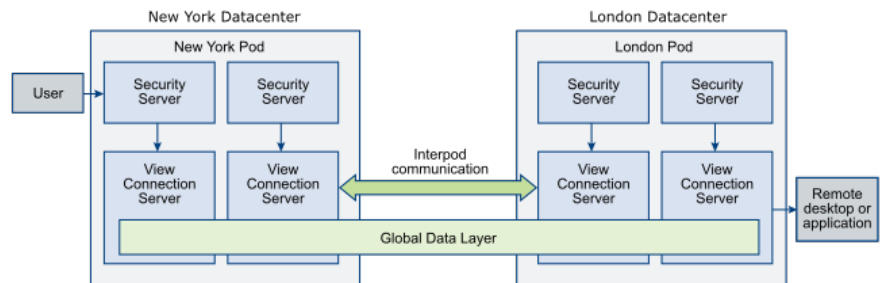

FIGURE 2: Horizon Cloud Pod Architecture (CPA)

• **H**orizon **Just-in-time Management Platform (JMP)** delivers personalized, non-persistent desktops and applications in seconds. JMP enables administrators to drastically reduce the number of images under management with real-time, one-to-many image provisioning and zero downtime updates. JMP helps to reduce infrastructure costs while delivering enterprise grade personalized and managed virtual desktops and applications at scale.

• **Horizon Instant Clones**, one of the key components of JMP, provide the ability to quickly deliver non-persistent, powered-on desktops. Non-persistent powered on desktops reduce infrastructure costs while rapidly providing users with running virtual desktops so they can get to work quickly.

VMware Horizon (*version 7.5 and above*) is fully supported on VMware Cloud on Dell EMC providing a cloud-style consumption model for a range of VDI and Published applications use cases:

VDI Capacity Extension

Use this scenario if you have an existing Horizon infrastructure and need to expand the capacity. You can use VMware Cloud on Dell EMC as:

• Additional capacity for existing virtual desktops and Remote Desktop Session (RDS) hosts infrastructure. Horizon's management components reside outside of VMware Cloud on Dell EMC.

• Additional pods to extend current Cloud Pod Architecture.

New VDI Deployment

Customers leverage this scenario when they need to deploy new infrastructure to host VDI and Published Application workloads but want to benefit from the managed service offering. With this solution all Horizon infrastructure components are locally running on VMware Cloud on Dell EMC. The customer manages the VDI environment and VMware takes care of the underlying infrastructure. Customers can expand this deployment with new pods by adding additional SDDCs on VMware Cloud on Dell EMC.

For example, a customer may have an urgent VDI project that cannot wait for the traditional approach of procuring hardware and software, and then designing, deploying, and configuring the environment before installing VDI. With VMC on Dell EMC all of these steps are compressed into the procurement process and the environment is delivered ready for VDI to be installed.

VDI at remote branch locations

Use this scenario when you want to make VDI available locally at remote locations or branch offices with limited datacenter space and IT staff. This approach minimizes latency for VDI or remote desktop sessions (RDS) that need to access local services and data.

Step Two: Design VDI on VMware Cloud on Dell EMC

The design step is key to successful VDI and Published application deployments on VMware Cloud on Dell EMC. You will start by collecting relevant business and technical requirements and mapping them to the technical capabilities of an SDDC on VMware Cloud on Dell EMC. Depending on the use case, you would need to add details of your current VDI environment, relevant application access information, and Edge specifics.

While planning your infrastructure, pay attention to the networking components including, but not limited to:

• Networking L2/L3 topology and connectivity. Ensure that all required VLANs are properly routed to and from your VMware Cloud on Dell EMC environment.

• Networking security – VMware software defined networking (powered by VMware NSX-T) in your SDDC gives a lot of design options to accommodate strict and complex security requirements by using distributed and or gateway firewalls, including the ability to provide a Microsegmentation service.

• Network services location – DNS, DHCP, etc.

• User access – VPN termination points, Firewall rules, etc.

• Load balancer – work with your load balancer vendor to ensure that a deployment on VMware Cloud platform is supported.

Your design should also include sizing estimates for VMware Cloud on AWS:

1. Number of SDDC (Racks) (each Rack has its separate vCenter).

2. Number of ESXi clusters in an SDDC.

3. Number and type of hosts per cluster.

With the recent introduction of M1d.medium host type, VMware Cloud on Dell EMC is now able to offer a reliable platform to run performance demanding VDI workloads, featuring 96 logical cores (with HT), 768 GB of memory, and enterprise grade 23 GB of row capacity NVMe. *See more details here*.

VDI design should also include steps to define the operational model. These steps involve outlining monitoring and backup processes for VDI workloads, providing updated runbooks, disaster recovery planning, and other operational documentation to help support the VDI environment using a managed service environment.

Customers can bring or expand their existing Horizon perpetual licenses to the VMware Cloud on Dell EMC platform. Additionally, customers can migrate to Horizon Universal licenses for the ability to deploy across multiple private and public clouds.

VMware Cloud on Dell EMC

RESOURCES

Learn more about our VMware Cloud on AWS service at the *VMware Cloud on AWS website*

Get started with *VMware Cloud on AWS Getting Started*

Learn more about *VMware Cloud on AWS Networking and Security*

Review additional information on *Horizon 7 on VMware Cloud on AWS Technical Content*

Horizon 7 on VMware Cloud on AWS Product Resources

See more details with Deploying Horizon on VMware Cloud on AWS

Step Three: Deploy a hybrid Horizon 7 environment

You will leverage your architecture design to prepare for the roll-out of the infrastructure. A typical capacity extension use case consists of the following steps:

• Order your managed infrastructure in the VMware Cloud Services Console:
  – Add new VMware Cloud on Dell EMC location
  – Select rack configuration (R1, R2) per your sizing assessment recommendations
  – Select host type, and number of hosts per your capacity requirements
  – Confirm term commitment and pre-requisites
• Configure network connectivity, firewall rules, etc.
• Configure network services (DHCP, DNS).
• Configure infrastructure services (Active Directory).
• Deploy Horizon infrastructure components (at least version 7.5, 7.12 or higher is recommended).
• Configure Horizon infrastructure components.
• Configure additional components (App Volumes, Unified Access Gateway, Dynamic Environment Manager).
• Configure RDSH / desktop golden images.

Refer to the *Deploying Horizon 7 on VMware Cloud on Dell EMC technical paper* for more deployment details.

Step Four: Operating a hybrid cloud environment

Consuming and deploying a hybrid cloud environment powered by VMware Cloud Foundation as a managed service to support VDI workloads helps customers shift their organization from an IT operating model to a cloud operating model. This shift results in a more manageable cost structure, greater business agility, and better end user productivity. Because this solution is a managed service customers can focus on making their business more resilient while continuing to dedicate their most valuable IT resources to innovation and preparing for growth.

Deploying VDI workloads on VMware Cloud on Dell EMC is simple, fast, and safe.

Call to Action

You can access the *Hands-on Labs (HOL)* to try the VMware Cloud on Dell EMC service. On the Catalog page, search for VMware Cloud on Dell EMC and enroll in the lab. You must have a MyVmware account to access HOL.

Review *Introduction to Horizon 7 Integration* for more technical details.

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