

# Delivering Customer Choice with VMware Cloud Foundation and Dell EMC Storage.

## Dell EMC Storage Support for VMware Cloud Foundation.

- The first qualified and standardized solution to market for specific workloads of VMware Cloud Foundation.
- Leverage existing storage infrastructure, skill sets, and best practices.

### Benefits

- Reduce TCO.
- Leverage unique functionality of enterprise storage.
- Provide more granular performance scale.

### Use Cases

- **Mission-critical, high-function cloud infrastructure:** Mission-dependent workloads that are currently running on Dell EMC storage architectures and for which the customer wishes to maintain this solution.
- **Database workloads:** Particularly high I/O density workloads for which storage-level performance requirements demand the lowest and most consistent latencies (sub half millisecond).
- **Traditional storage architectures leveraging modern data center IT automation:** Environments that wish to leverage VMware Cloud Foundation to deliver the modern data center while at the same time catering to applications that require traditional storage capabilities.

## Overview

As digital transformation initiatives become pervasive across every industry, organizations often turn to cloud solutions to help increase business agility. In fact, more than 93%<sup>1</sup> of companies are deploying their workloads across two or more clouds, and 77%<sup>1</sup> of those same IT organizations have repatriated some of their public cloud-based applications back on-premises, in many cases to traditional SAN- and NAS-based storage solutions.

VMware Cloud Foundation dramatically shortens the path to a true hybrid cloud, increasing administrator productivity while reducing overall TCO and taking advantage of modern storage architectures. VMware and Dell EMC have extended VMware Cloud Foundation to include traditional enterprise storage platforms within Cloud Foundation domains.

### VMware Cloud Foundation and Dell EMC Enterprise Storage Qualification.

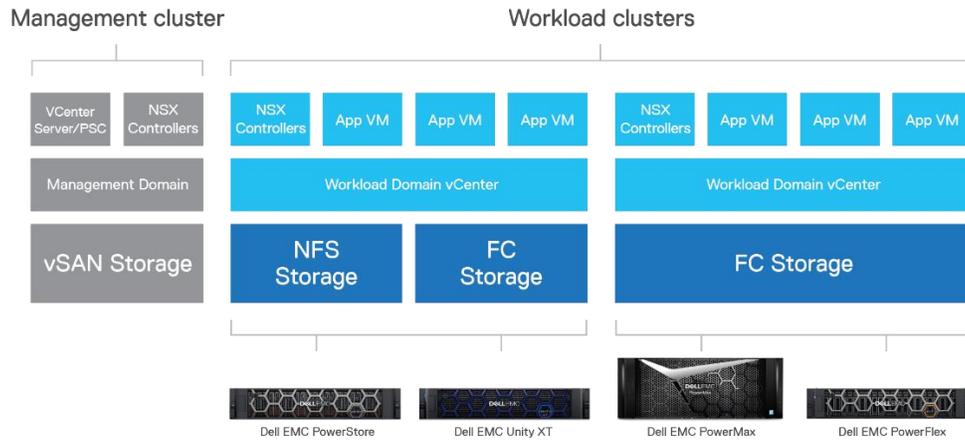
VMware Cloud Foundation provides the simplest path to hybrid cloud through an integrated software platform for both on- and off-premises integrated with purpose-built Dell EMC storage systems. By leveraging a software-defined architecture for compute (VMware vSphere), networking and security (VMware NSX), and hybrid- and multi- cloud management (vRealize), customers have a platform that delivers a consistent, simple, secure, and agile cloud infrastructure that can be deployed on-premises or consumed as-a-service from a public cloud or both.



Figure 1 -VMware Cloud Foundation

## Benefits

Dell Technologies has qualified all current Dell EMC Storage arrays (Dell EMC Unity XT, PowerMax, PowerStore, PowerFlex, PowerVault, SC, and XtremIO) as supplemental VMware VCF Fibre Channel storage running in VCF Virtual Infrastructure (VI) domains (aka workload domains) that require the unique capabilities of these platforms.



**Figure 2 - VCF and Dell EMC Storage Platforms**

The combination of Dell EMC Storage and VMware has the following benefits.

- **Reduce TCO:** By leveraging existing storage investments, people skills, and operational procedures, the overall cost of application deployments on VMware Cloud Foundation can be reduced.
- **Leverage unique functionality of Dell EMC storage,** including highly available enterprise storage architectures, machine learning-based service levels, advanced snapshot and data reduction capabilities, and more.
- **Provide more granular performance scale:** Enterprise storage can scale independently from the compute infrastructure. When application use cases demand high-I/O density solutions, traditional storage can provide that flexibility.

### Key Features and Capabilities

VMware Cloud Foundation deployments are composed of:

- **A management domain that contains the Cloud Foundation management components including:** an instance of vCenter, NSX, vSAN and vRealize Suite.
- **Virtual Infrastructure (VI) or workload domains:** for creating logical pools across compute, storage, and networking that can be leveraged by specific customer application sets. Cloud Foundation implements Virtual Infrastructure (VI) domains for application workloads which are provisioned by SDDC Manager.

Working with VMware, Dell Technologies has qualified selected Dell EMC storage arrays for VMware Cloud Foundation. This adds value beyond what is delivered in the VMware Compatibility Guide (VCG) support for vSphere. The following external storage connectivity options were the first to be qualified for principal storage in Workload Domains within Cloud Foundation:

- **Dell EMC PowerMax:** Dell EMC's flagship enterprise storage platform. With scalability to 4 PB and 15 million IOPs, service level management leveraging machine learning, and data protection capabilities such as SRDF and ProtectPoint Storage Direct, it's no wonder that PowerMax has been the customer platform of choice for mission-critical storage needs for the last three decades.
- **Dell EMC Unity XT:** Dell EMC's flagship mid-range storage platform provides a unified storage (block and file) architecture, extreme ease of use, cloud deployment offerings (Unity Cloud Edition), and the industry's most complete set of certifications. Dell EMC Unity XT is the choice of cost-sensitive customers with broad use case requirements.

Additionally, the latest mid-range storage platform PowerStore is also qualified for VCF Workload Domains:

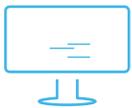
- **Dell EMC PowerStore:** Dell Technologies latest storage platform that provides for extends the

boundaries of midrange data storage platforms with unmatched capabilities for enterprise storage and infrastructure consolidation. Designed for the modern data center, PowerStore's data-centric design with NVMe and hardware-enabled Advanced Data Reduction and 4:1 DRR deliver critical performance and storage efficiency for both traditional and modern applications.

Once configured, core external storage functionalities—such as data compression and deduplication, data-at-rest encryption, and much more—are available to the workloads being deployed on that specific VI domain.

### What is Unique

- **Dell EMC Storage support:** PowerMax and Dell EMC Unity XT were the first external storage offerings qualified for VMware Cloud Foundation.
- **Fully tested stack:** An engineered solution that integrates the entire VMware software-defined stack with guaranteed interoperability to Dell EMC storage and a single support experience.
- **Expanded application use cases:** The solution provides support for expanded application use cases for which specific functionality is required.
- **Flexible storage consolidation use cases:** The solution also provides flexible storage consolidation use cases in which external storage performance can be dialed in on an application basis and varying I/O densities can be optimally and cost effectively accommodated.



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