

Designed for VMware: Dell EMC PowerStore Storage Appliance.



Dell EMC PowerStore

Dell EMC PowerStore is a new storage appliance that delivers new levels of operational simplicity and agility for VMware environments.

PowerStore also provides the flexibility to host virtualized applications directly on the appliance with its available AppsON capability.

Benefits

- Integrated into the VMware management paradigm – improving administrator efficiency.
- Run virtualized applications co-resident with data - reducing latency.
- Linear scale-out and scale up increasing both storage capacity and performance for VMware environments.
- Optimized for NVMe and SCM – the latest in modern data storage technology.
- Always inline data reduction – both compression and deduplication improving vVols storage footprint.

Overview

VMware vSphere is the most widely adopted virtualization platform today – running in over 80% of organizations supporting diverse workloads¹. VMware has evolved from server virtualization to a complete ecosystem that now includes networking and storage. It also provides management and automation as well as cloud functionality. With the release of vSphere 7.0, VMware now enables organizations to run cloud-native, containerized applications side by side with virtualized applications.

VMware supports connection to external storage in vSphere through the vStorage API for Array Integration (VAAI) which allows the offload of storage intensive operations from vSphere to the storage array. This storage integration has been extended through vStorage APIs for Storage Awareness (VASA) allowing vSphere to recognize the capabilities of storage and leverage this through VMware Virtual Volumes (vVols). vVols provides a management framework for external storage and offers flexibility of choice for changing workloads – traditional VMs, containerized applications managed by Kubernetes, object storage and more.

Dell EMC's latest storage platform – Dell EMC PowerStore – is built with VMware in mind and natively integrates into VMware management frameworks making it easy for VMware administrators to manage storage and improve their efficiency. PowerStore accommodates modern data sets and was designed to utilize modern storage technologies, such as NVMe and Storage Class Memory. It is designed for vVols with simple to use native integration and also supports container storage needs.

PowerStore is the start of a new paradigm in Enterprise Class storage – designed to not only scale to meet growing data needs but also provide integrated data reduction, automatic data placement recommendations, and machine learning to streamline storage operations and bring these to vSphere deployments.

PowerStore embodies Dell Technologies' learning from decades of working with VMware around storage platforms. It provides independent scaling of both compute and storage, it also includes inline always-on data efficiencies such as de-duplication and compression, built-in encryption to protect customer data, a ML engine advising the best data placement for application data, and the ability to host local virtualized applications through

¹ <https://www.controlup.com/hypervisor-market-share-controlup-perspective/>

its AppsON feature which improves operational efficiency. Additionally, PowerStore X, ships with VMware ESXi installed and provides highly available VMware services for hosted virtual applications and containers. PowerStore is also qualified for deployment in Virtual Infrastructure (or workload) domains through VMware Cloud Foundation (VCF) as both principal and supplemental storage.

Whilst 91% of data today is created and processed in centralized datacenters², the changing nature of data from business background and centralized data, to IoT and mobile, requires a more agile data storage platform – a platform such as PowerStore. It is an ideal storage appliance for this changing data landscape as it provides not only a scalability for the storage of this data but also the ability to process this data locally with VMware virtualized applications via AppsON, thereby reducing latency and delivering results rapidly.

PowerStore AppsON Use Cases:

- **New-style Database workloads:** NoSQL databases that also need sub-millisecond responses.
- **Remote Office/Branch Office:** Locations that need access to corporate data locally yet are space constrained, and optionally also need local compute for items needing immediate processing.
- **Remote Data needing immediate analysis:** Data sets that need immediate analysis or processing before being moved to a corporate data location. Ideal use cases could be automated farming, eHealthcare, or remote driving assistance.

Benefits

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

- **Reduce TCO:** By leveraging existing storage investments, people skills, and operational procedures, the overall cost of application deployments utilizing PowerStore in VMware environments and with VMware Cloud Foundation can be reduced.
- **Leverage unique functionality of enterprise storage:** Customers can now leverage the advanced and unique functionality of Dell EMC storage platforms on which they have come to rely, including highly available storage architectures, machine learning-based service levels, advanced snapshot and data reduction capabilities, and now the ability to run applications co-resident with their needed data.
- **Provide more granular performance and scale:** Enterprise storage can scale independently from the compute infrastructure. When application usage demands high-I/O density solutions, traditional storage can provide that flexibility.

Key Items

- **PowerStore X:** Dell EMC's latest storage platform takes storage in a bold new direction, combining the fundamental benefits of enterprise shared storage with the capabilities of an on-board hypervisor. Integrating the PowerStore's container-based software architecture with VMware ESXi to provide unmatched operational and management integration between storage and a virtualized compute environment. For data centers this results in a seamless migration capability for applications which can be deployed on external VMware servers or directly on PowerStore with AppsON while simultaneously supporting their bare-metal server and legacy applications. For a variety of edge, ROBO, IoT and tactical environments, the option to collapse the hardware stack with PowerStore X, while maintaining the full functionality of a scalable storage platform, provides organizations with new infrastructure consolidation options.
- **PowerStore T:** Dell EMC's mid-range storage platform provides unified storage for block, file, and vVols data. It enables flexible growth through its intelligent scale-up and scale-out capability allowing growth not only of capacity but also performance. In addition, automated management of resources across the cluster results in superior storage utilization and simplified administration. PowerStore enables application storage for VMware Cloud Foundation (VCF) with both block and file protocols, supporting needs for portability across today's hybrid cloud environments.

² *The Future of Software-Defined Storage in Data Center, Edge and Hybrid Cloud*, ID G00354839