

PowerVault ME5 for Virtualization

Empower your virtual environment with affordable performance and reliability

Modern IT environments increasingly depend on virtualization to consolidate workloads, improve agility, and reduce operating costs. To fully realize these benefits, the storage platform underpinning a virtualized infrastructure must offer a balance of performance, simplicity, and affordability. Dell PowerVault ME5 storage, the smart choice for cost-effective virtualization at scale, is designed to meet these requirements—delivering speed, block-based storage tailored for small to medium businesses, branch offices, and departmental use cases. This solution brief outlines key considerations, recommended practices, and technical requirements for deploying PowerVault ME5 in virtualized environments such as VMware vSphere and Microsoft Hyper-V.

Dell PowerVault



Simple

PowerVault ME5 simplifies your operations with an intuitive interface and effortless management, making data storage and administration easier than ever. Its straightforward design eliminates complexity, freeing up time and resources so you can focus on achieving your business goals without disruptions.

Fast

Designed for 99.999% availability, PowerVault ME5 delivers fast, efficient, and dependable performance, accelerating data access and optimizing storage to reduce costs. Its reliable design safeguards your data while simplifying management, so you can focus on growth with confidence.

Affordable

PowerVault ME5 offers high-performance storage with a low acquisition cost, cost-effective TCO, and a flexible pay-as-you-grow model. It empowers businesses to scale seamlessly, optimize budgets, and focus on success without compromise.

PowerVault ME5 and Virtualization: A Perfect Fit

PowerVault ME5 is purpose-built for virtualized workloads, offering up to 800,000 IOPS and dual-active controllers in a compact and cost-efficient package. It supports multiple connectivity options—iSCSI, Fibre Channel, and SAS—making it a flexible foundation for virtualization deployments of varying sizes and complexity. Whether serving as primary storage for virtual machines, backup targets, or supporting test and development environments, the ME5 platform offers reliable and scalable performance with enterprise-class capabilities.

Use Cases and Deployment Flexibility

PowerVault ME5 is well-suited to a wide range of virtualized use cases. Common deployments include VM datastores for vSphere or Hyper-V clusters, storage pools for test/dev workloads, and secondary volumes used in backup or disaster recovery configurations. Organizations can deploy ME5 in one of three primary modes: as a SAN over iSCSI or Fibre Channel, or as a direct-attached storage (DAS) array using SAS for one or two hosts. This flexibility allows IT teams to align storage infrastructure with business and budgetary needs.

Key Considerations for Virtualized Environments

PowerVault ME5 supports VMware ESXi versions 8.0 and later, as well as Microsoft Hyper-V on Windows Server 2022 and newer. Both platforms benefit from ME5's block storage capabilities, particularly when leveraging thin provisioning and automated tiering to optimize capacity utilization. Storage administrators should select appropriate RAID levels based on workload characteristics—RAID 10 for performance-intensive applications, RAID 5 or 6 for general-purpose VMs. ME5's thin provisioning and storage pools enable efficient space utilization and flexible resource allocation.

Network Configuration and Best Practices

In virtualized SAN deployments, proper network configuration is critical to achieving performance and resiliency. For iSCSI deployments, Dell recommends implementing dedicated storage VLANs, enabling jumbo frames and using NIC teaming for path redundancy. Fibre Channel deployments benefit from proper zoning and redundant paths between hosts and storage targets. Direct-attached SAS connections, while simpler, should still include dual controllers and cabling for failover protection.

Multipathing should be enabled and configured using the round-robin policy in VMware or MPIO in Windows environments to ensure balanced use of storage paths and prevent bottlenecks. PowerVault ME5's support for ALUA (Asymmetric Logical Unit Access) ensures seamless failover and optimized path selection.

VMware and Hyper-V Integration

VMware users can integrate PowerVault ME5 directly into their vSphere environments by provisioning VMFS datastores. Dell's vCenter plug-in further streamlines storage provisioning, monitoring, and performance analysis directly within familiar management interfaces. Hyper-V administrators can deploy ME5 volumes as Cluster Shared Volumes (CSV) to support high availability across hosts.

Snapshots and volume copies can be scheduled or manually triggered to protect VMs and recover rapidly from user error or corruption. These features are accessible via the intuitive PowerVault Manager interface or CLI tools and require no additional licensing.

Monitoring, Management, and Data Protection

PowerVault ME5 simplifies system oversight with its modern web-based GUI—PowerVault Manager—which provides real-time health status, performance metrics, and provisioning controls. SNMP and email alerting help maintain proactive oversight of storage conditions. Integration with third-party tools such as vCenter, SCVMM, or Dell OpenManage adds additional visibility in broader IT environments.

To ensure business continuity, the dual-controller architecture of ME5 delivers high availability by design. In the event of a controller or path failure, I/O is automatically and transparently redirected. Data protection is further enhanced by native snapshot and replication capabilities, allowing administrators to create robust data recovery strategies and, if needed, replicate data to a secondary ME5 system for offsite protection.

Performance Tuning and Validation

To get the most from PowerVault ME5 in a virtualized setting, Dell recommends regular performance tuning. This includes setting optimal queue depths on host systems, enabling host-side caching where appropriate, and periodically benchmarking workloads using tools like VMware IOAnalyzer or IOMeter. Monitoring historical performance trends allows administrators to identify growth patterns and make informed scaling decisions.

Summary

Deploying Dell PowerVault ME5 in a virtualized environment provides a powerful combination of affordability, simplicity, and enterprise-class features. Its flexible connectivity, modern data protection capabilities, and high availability make it an ideal storage platform for organizations virtualizing critical workloads on VMware, Hyper-V, or both. By following best practices in network configuration, storage provisioning, and performance tuning, IT teams can ensure their virtualized infrastructure is both robust and ready to grow. PowerVault ME5 is built for VMs yet priced for business.

Take the next step toward improving your virtualization performance and reliability

Contact a Dell Technologies expert today to discuss your specific needs and build a tailored solution for your organization.



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