

Transform IT with Dell EMC vSAN Ready Nodes, Hyperconverged Building Blocks for VMware vSAN™

Did You Know?

50% of the Global 2000 use VMware vSAN™¹



- 1 Dell Technologies family, delivering robust SDDC infrastructure and solutions
- Transform IT with Dell EMC vSAN Ready Nodes, hyperconverged building blocks for VMware vSAN™
- 17 years of partnership
- Over 1,800 VMware-certified Dell EMC support professionals

IT transformation is core to making better business decisions faster, simplifying operations, and enabling a rapid response to evolving market conditions and opportunities. But transformation doesn't happen overnight. IT leaders face a host of difficult challenges — exponential data growth, legacy systems, variable workloads, security and more — with budgets typically flat or trending down.

The path to IT transformation can also seem complex. From virtualizing the data center, to embrace of the cloud, to the adoption of hybrid cloud, transforming IT is a journey rather than a destination. A hyperconverged infrastructure (HCI), one that virtualizes compute, storage and network resources together, can address much of the pain, offering increased agility, scalability and simplicity while managing operational costs down.

Dell EMC PowerEdge Servers and VMware Can Simplify HCI

Dell EMC PowerEdge servers, the bedrock of the modern data center, are custom-built for HCI. PowerEdge servers offer the latest in server innovations, scalability, and security, along with elegant control via plug-ins like OpenManage Integration for VMware vCenter® (OMIVV). OMIVV enables intelligent systems management, empowering administrators to easily and quickly deploy new servers, view both physical and virtual server health, and install firmware updates directly from vCenter, the control center of a VMware vSphere® environment.

Pairing the world's #1 server³ with the global leader in virtualization⁴ and HCI⁵ software, Dell EMC PowerEdge and VMware offer essentially unrivaled hardware and software HCI solutions.

Enterprise Storage Virtualization Native to vSphere

As a core building block of the software-defined data center (SDDC), VMware vSAN™ powers leading HCI solutions with a high-performance architecture native to vSphere. vSAN is a radically simple software-defined storage (SDS) solution that delivers flash-optimized, scalable and secure shared storage for virtualized workloads, helping lower total cost-of-ownership (TCO) by up to 50%⁶ compared to traditional storage.

vSAN Use Cases

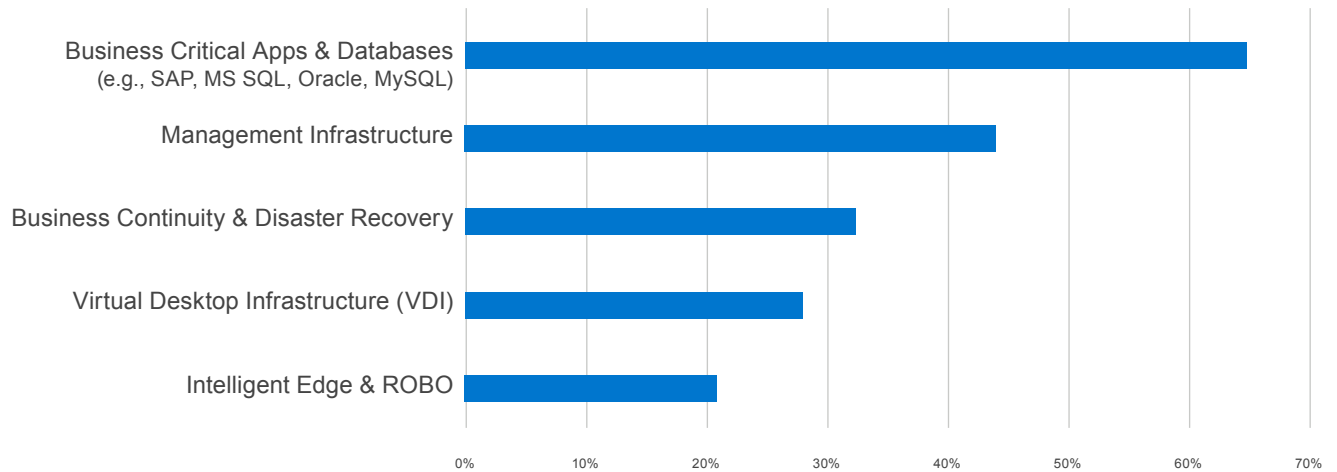


Chart 1. Commonly run applications in vSAN

Together, PowerEdge servers and vSAN deliver a compelling experience across nearly any vSAN use case. A powerful and robust Dell EMC PowerEdge MX solution running vSAN can support up to 40% more virtual machines (VM) and 55.9% faster response times when compared to HPE Synergy and Cisco UCS® vSAN Ready Node solutions.⁷ PowerEdge servers also enable up to 12x more database IOPS and 98% lower latency within a vSAN cluster.⁸

Kickstart HCI with Dell EMC vSAN Ready Nodes

Preconfigured, tested, and jointly certified to run vSAN, Dell EMC vSAN Ready Nodes take the guesswork out of deploying an HCI environment, enabling faster setup, fewer update steps, and reduced maintenance. As a key feature of the PowerEdge portfolio, Dell EMC vSAN Ready Nodes offer OMIVV, delivering 130% faster deployment and a 97% reduction in administration time.⁹ Dell EMC offers one of the broadest vSAN Ready Node portfolios in the industry, with more than 125 certified configurations spanning all-flash, rugged, hybrid rack, and kinetic infrastructure models.¹⁰

- 125+ Dell EMC vSAN Ready Node configurations¹⁰
- 130% faster deployment with 97% less administration time via OMIVV⁹
- Dell EMC PowerEdge MX yields up to 40% more VMs and 55.9% lower storage latency⁷

Dell EMC was also the first OEM to offer premiere vSAN Ready Node configurations with dedicated software Identity Modules. An Identity Module self-identifies the server as a vSAN Ready Node upon boot-up, streamlining deployment and updates while simplifying the support process. OS options include BOSS with-and-without SD cards, or SD cards with no BOSS.

Dell EMC ProDeploy and ProSupport Services Help Customers Stay on Path

Beyond industry-leading hardware and software, Dell EMC ProDeploy and ProSupport services help customers stay focused on what matters most to their business. Deploy PowerEdge servers or vSAN Ready Nodes with virtually no disruption to productivity. Perform maintenance and updates without taxing limited operational resources.

With over 1,800 VMware-certified Dell EMC support professionals, customers have a single support contact for hardware and software, with nearly all L1 and L2 calls handled without escalation to VMware.¹¹ Dell EMC ProDeploy Services delivers up to 66% faster deployment, including software installation and configuration of the OS, firmware and VMware hypervisors.¹²

Dell EMC ProDeploy Plus Services for PowerEdge servers is the most robust deployment service offering, providing the following three services critical to an SDDC:

- Onsite installation and configuration of the operating system
- Onsite installation and configuration of the hypervisor
- Connection of the host (server) to storage

A Complete Solution-Based Approach to Data Center Modernization

Dell EMC is committed to helping customers realize the full value of their data center transformation. From finding the right solution to match customer needs, to hardware-software design and deployment, to ongoing support with

an eye toward future opportunities, Dell EMC is there every step of the way. A key step on the road to HCI, PowerEdge vSAN Ready Nodes running industry-leading VMware vSAN deliver the performance, efficiency and flexibility required – with available deployment and support – to drive customer success.

Starting All-flash and Hybrid Rack Configurations

The chart below demonstrates all PowerEdge servers available as Dell EMC vSAN Ready Nodes. The individual configurations are reference architectures listed on the VMware vSAN Compatibility Guide. For a complete view of all 125+ configs available, [click here](#).



Server	PowerEdge R440		PowerEdge R640		PowerEdge C6420	
	All-flash	Hybrid	All-flash	Hybrid	All-flash	Hybrid
CPU	Intel® Xeon® Sky Lake		Intel® Xeon® Cascade Lake/Sky Lake		Intel® Xeon® Cascade Lake/Sky Lake	
Memory	256GB	128GB	512GB	384GB	128GB	128GB
Storage (Cache Tier SAS/SATA)¹³	800GB (400 GB x 2), 15.36 TB (1.92 TB x 8)	400GB (400 GB x 1), 7.2TB (1.8 TB x 4)	1.6 TB (800 GB x 2), 15.36 TB (1.92 TB x 8)	800GB (400 GB x 2), 14.4 TB (1.8 TB x 8)	400GB (400 GB x 1), 3.2 TB (1.6 TB x 2), 15.36TB (3.84 TB x 4)	400GB (400 GB x 1), 7.2TB (1.8 TB x 4)
Network	Quad Port Networking					



Server/Blade	PowerEdge R740		PowerEdge R740xd		PowerEdge XR2
	All-flash	Hybrid	All-flash	Hybrid	All-flash
CPU	Intel® Xeon® Cascade Lake/Sky Lake		Intel® Xeon® Cascade Lake/Sky Lake		Intel® Xeon® Sky Lake
Memory	512GB	384GB	672GB	384GB	192GB
Storage (Cache Tier SAS/SATA)¹³	1.6 TB (800 GB x 2), 46.08 TB (3.84 TB x 12)	800GB (400 GB x 2), 14.4 TB (1.8 TB x 8)	2.5 TB (800 GB x 3), 48 TB (4.0 TB x 12), 80.64TB (3.84 TB x 21)	2.5 TB (800 GB x 3), 25.2TB (1.2 TB x 21)	960 GB (960 GB x 1), 7.68 TB (1.92 TB x 4)
Network	Quad Port Networking				

Starting All-flash and Hybrid Rack Configurations, continued



Server/Blade	PowerEdge R740xd2		PowerEdge FC640	
	Hybrid		All-flash	Hybrid
CPU	Intel® Xeon® Cascade Lake/Sky Lake		Intel® Xeon® Cascade Lake/Sky Lake	Intel® Xeon® Sky Lake
Memory	384 GB			
Storage (Cache Tier SAS/SATA) ¹³	2.5 TB (800 GB x 3) 42TB (2 TB x 21),		1.6 TB (800 GB x 2), 26.88 TB (1.92 TB x 14)	1.6 TB (800 GB x 2), 14 TB (1 TB x 14)
Network	Dual Port Networking			

Chart 2. vSAN Ready Nodes Powered by the Latest Intel Technology

PowerEdge MX NVMe All Flash and Hybrid Configurations



Server	PowerEdge MX740C	
	All-flash	Hybrid
CPU	Intel® Xeon® Sky Lake	
Memory	384GB	
Storage (Cache Tier SAS/SATA) ¹³	3.2 TB (800 GB x 4), 3.2 TB (800 GB x 4), 61.4 4 TB (3.84TB x 16)	3.2 TB (800 GB x 4), 32 TB (2TB x 16)
Network	Dual Port Networking	

Chart 3. vSAN Ready Nodes Powered by the Latest Intel Technology

AMD All-flash and Hybrid Configurations



Server/Blade	PowerEdge R6415		PowerEdge R7415		PowerEdge R7425	
	All-flash	Hybrid	All-flash	Hybrid	All-flash	Hybrid
CPU	AMD® EPYC™ (Naples)					
Memory	256GB		512GB		512GB	
Storage (Cache Tier SAS/SATA)¹³	800GB (400 GB x 2), 1.6 TB (800 GB x 2), 15.36 TB (1.92 TB x 8)	800GB (400 GB x 2), 14.4 TB (1.8 TB x 8)	2.5 TB (800 GB x 3), 1.6 TB (800 GB x 2), 48 TB (4.0 TB x 12), 80.64TB (3.84 TB x 21)	1.6 TB (800 GB x 2), 25.2TB (1.2 TB x 12)	2.5 TB (800 GB x 3), 48 TB (4.0 TB x 12), 80.64TB (3.84 TB x 21)	14.4TB to 200TB
Network	Dual port networking					

Chart 4. vSAN Ready Nodes with AMD EPYC processors, designed for software defined storage with 128 PCIe lanes

¹VMware earnings report, FY19 Q2.

²IDC WW Quarterly Converged Systems Tracker, 2018, Q4, April 4, 2019 - Vendor Revenue.

³IDC WW Quarterly x86 Server Tracker, 2018Q4, Mar. 6, 2019 – Units & Vendor Revenue.

⁴[Network World, Feb. 20, 2019.](#)

⁵IDC WW Quarterly Converged Systems Tracker, 2018, Q3, Dec. 18, 2018 - Vendor Revenue. IDC Q4 data showing systems running VMware hyperconverged software as compared to other vendors.

⁶VMware [vSAN 6.7 datasheet](#).

⁷Principled Technologies report commissioned by Dell EMC, “[Ensure greater uptime and boost VMware vSAN cluster performance with the Dell EMC PowerEdge MX platform](#),” November 2018.

⁸Principled Technologies report commissioned by Dell EMC, “[Faster, More Powerful Handling of Database Workloads](#),” June 2017, using the DVDStore2 benchmark comparing R720 servers with HDD-based

EqualLogic shared storage versus R740xd servers with Internal NVMe and SAS SSD disks in a 2-node vSAN cluster. Actual performance will vary based on configuration, usage and manufacturing variability.

⁹Based on Dell EMC internal competitive testing of PowerEdge and OMIVV versus Cisco UCS manual OS deployment in June 2018. Results extrapolated from four servers to twenty-four servers. Actual results will vary.

¹⁰Based on Dell EMC review of complete vSAN Ready Node offering across all OEMs listed on [VMware vSAN Compatibility Guide](#) on June 10, 2019.

¹¹Based on internal Dell EMC services data.

¹²Principled Technologies report commissioned by Dell EMC, “[Bring new systems to production readiness faster and with less effort from in-house administrators](#),” November 2017.

¹³Capacities shown are common ranges of raw, configurable storage per node. To calculate cluster storage, multiply by 4 for all-flash and by 3 for hybrid.



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