Build your hybrid cloud with a truly flexible foundation

Modernize your infrastructure simply with Dell EMC vSAN Ready Nodes built on PowerEdge servers.

Change is all around us, occurring faster than ever before. Technology innovations continue to proliferate. Business needs evolve. And keeping up is hard. It's why many enterprises have turned to a hybrid cloud model — and why 90% of IT admins report increased value and effectiveness from hybrid cloud initiatives.[1]

While the process of simplifying IT is imperative, it's also important to recognize that every business is different. Your workloads are unique. Similarly, your infrastructure must flexibly align with your specific business objectives and needs.

At Dell Technologies, we understand this. And with VMware, we are focused on helping you achieve your goals easily and on your terms. Dell EMC vSAN Ready Nodes, built on PowerEdge servers, are essential building blocks to achieving your hybrid cloud and provide a solid step in that direction.

Dell EMC PowerEdge servers and VMware — leaders in HCI

Pairing the world's #1 server[2] with the global leader in virtualization and HCI software,[3] Dell EMC PowerEdge and VMware offer essentially unrivaled hardware and software HCI solutions.

VMware® vSAN™ is the industry's leading software for hyper-converged infrastructure (HCI), empowering HCI customers to securely run traditional and modern apps in the hybrid cloud with consistent operations from edge to core to cloud.

Dell EMC PowerEdge servers are designed for the modern, evolving data center, providing the highest performance for a diverse set of workloads. Available in rack, tower and modular form factors, PowerEdge servers deliver scalable business architecture, intelligent automation and built-in security.
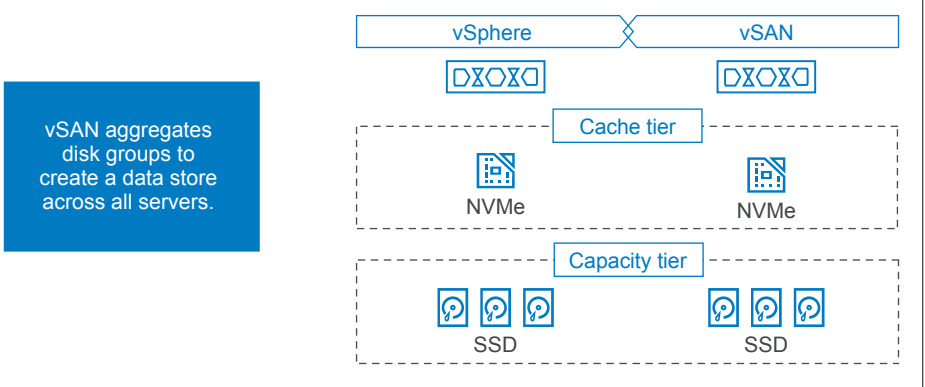
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[1] ESG Research Insights Paper, commissioned by Dell Technologies, "The Cloud Complexity Imperative," 2020.
[2] IDC, "WW Quarterly Server Tracker," Vendor Revenue & Shipments, December 2020.
[3] IDC, "WW Quarterly Converged Systems Tracker," Vendor Revenue, September 2020.

VMware vSAN
Enterprise storage in a native vSphere architecture

vSAN aggregates disk groups to create a data store across all servers.

| vSphere | | vSAN |

Cache tier

NVMe   NVMe

Capacity tier

SSD   SSD

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 VMware vSphere®. vSAN is a radically simple software-defined storage (SDS) solution that delivers flash-optimized, scalable and secure shared storage for virtualized workloads, which can lower your total cost of ownership (TCO) by up to 50% compared to traditional storage.[4]

Simplify with Dell EMC vSAN Ready Nodes

Dell EMC vSAN Ready Nodes are like HCI building blocks for vSAN. They are flexible, engineering-tested, engineering-validated, and jointly certified Dell EMC PowerEdge servers configured for vSAN, which reduces deployment risks, improves storage efficiency, and quickly and easily scales as needed.

Five reasons to choose Dell EMC vSAN Ready Nodes

Dell EMC vSAN Ready Nodes take the guesswork out of deploying HCI environments, enabling faster setup, fewer update steps, and reduced maintenance. But that's not all. Here are five additional reasons to choose Dell EMC vSAN Ready Nodes:

1 | Flexibility to design your hybrid cloud with a broad variety of PowerEdge servers and configurations
Every workload is unique, and you want your underlying hardware and software to be as unique as your workloads. We've designed Dell EMC vSAN Ready Nodes to be flexible and customizable, offering a variety of PowerEdge servers and configurations to choose from.

The Dell EMC vSAN Ready Node portfolio is one of the broadest in the industry with over 180 vSAN Ready Node configurations, powered by the latest Intel® and AMD® processors. Simply choose the best form factor in support of your desired IT and business outcomes. Offerings range from 1U/2U rack servers to modular solutions including PowerEdge MX, based on our kinetic infrastructure which was built specifically for the SDDC.[5]

2 | Identity modules
Nine Dell EMC vSAN Ready Nodes feature identity modules. These uniquely identify the PowerEdge server as a vSAN Ready Node upon boot-up, which helps streamline deployment and updates.

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[4] VMware vSAN datasheet.
[5] Based on VMware vSAN Compatibility Guide: December 1, 2020 for Dell EMC vSAN hardware.

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faster to complete hypervisor and firmware updates with OMIVV and vLCM[6]

3 | **Automation and consistency across hardware and software lifecycle management**

Simplify management tasks with OpenManage Integration for VMware vCenter (OMIVV) and vSphere Lifecycle Manager (vLCM). OMIVV is the Dell EMC PowerEdge server administration tool that manages directly within your VMware vCenter® environment. OMIVV provides:

- Physical and virtual views in one place
- Firmware updates managed from within vCenter
- Expedited server deployment

vLCM is the next-generation solution for vSphere 7 and vSAN 7 lifecycle operations for software and firmware. Dell EMC vSAN Ready Node customers can engage in lifecycle management based on a desired state model that you define and manage at your own pace.

Using vLCM and OMIVV together, you can perform complete hypervisor and firmware updates on an eight-node PowerEdge cluster in under 4 minutes versus the 3.5 hours it takes manually.[6]

4 | **Robust services**

Dell EMC ProSupport offers a single contact — just one phone call — for both hardware and software support with over 1,800 VMware-certified Dell EMC support professionals to serve you. Dell EMC ProDeploy Plus[7] is the market's most complete deployment offering, enabling up to 66% faster deployment of PowerEdge servers.[8]

5 | **Future-proof technology**

Having infrastructure that can scale up, scale down or scale out — or even be repurposed later as a general server — is important. You want your infrastructure to foster future growth, not limit it.

Update your hardware and software with Dell EMC vSAN Ready Nodes and vSAN 7 to unlock your best hybrid cloud with a flexible infrastructure that results in better performance, faster deployment, simplified manageability and, ultimately, better business outcomes.

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[6] Principled Technologies report commissioned by Dell Technologies, "New VMware vSphere 7.0 features reduced the time and complexity of routine update and hardware compliance tasks," August 2020.

[7] Dell EMC ProDeploy is not currently available with VMware Cloud Foundation.

[8] Principled Technologies report commissioned by Dell Technologies, "Bring new systems to production readiness faster and with less effort from in-house administrators," February 2018.
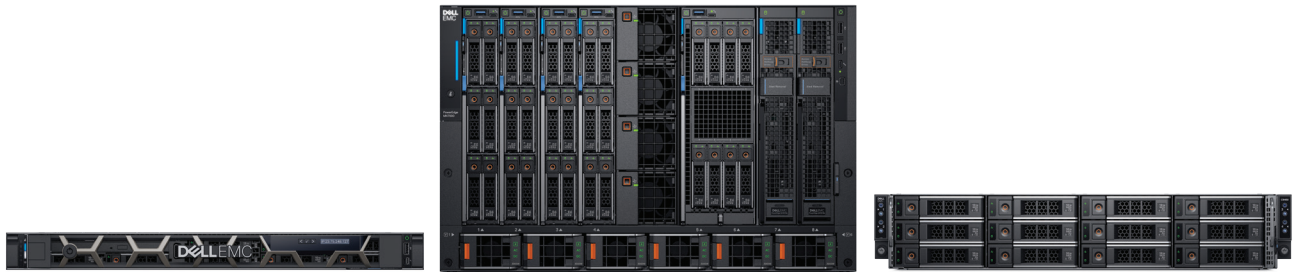
Dell EMC vSAN Ready Nodes Portfolio

All-flash,[9] all-NVMe[10] and hybrid[11] configurations — Intel-based vSAN Ready Nodes

With one of the broadest Dell EMC vSAN Ready Node portfolios in the industry, you can choose the best form factor in support of your desired IT and business outcomes.

	PowerEdge R740xd	PowerEdge R740	PowerEdge R640
Profiles	All-Flash, All NVMe, Hybrid	All-Flash, Hybrid	All-Flash, All NVMe, Hybrid
Processor	Up to two Intel® Xeon® Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor	Up to two Intel Xeon Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor	Up to two Intel Xeon Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor
Memory	Up to 24 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s	Up to 24 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s	Up to 24 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s
Cache	SAS/SATA SSDs, NVMe	SAS/SATA SSDs	SAS/SATA SSDs, NVMe
Capacity	SAS HDDs, SAS/SATA SSDs, NVMe	SAS HDDs, SAS/SATA SSDs	SAS HDDs, SAS/SATA SSDs, NVMe
Controller	HBA330	HBA330	HBA330
Network	10GB or more network card	10GB or more network card	10GB or more network card
Boot device	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB

	PowerEdge R440	PowerEdge MX740c	PowerEdge C6420
Server	All-Flash, Hybrid	All-Flash, All NVMe, Hybrid	All-Flash, Hybrid
Profiles	Up to two Intel Xeon Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor	Up to two Intel Xeon Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor	Up to two Intel Xeon Cascade Lake/ Skylake Scalable processors, up to 28 cores per processor
Memory	Up to 24 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s	Up to 24 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s	Up to 16 DIMM slots, supports RDIMM/ LRDIMM, speeds up to 3200 MT/s
Cache	SAS/SATA SSDs	SAS/SATA SSDs	SAS/SATA SSDs
Capacity	SAS HDDs, SAS/SATA SSDs	SAS HDDs, SAS/SATA SSDs	SAS HDDs, SAS/SATA SSDs
Controller	HBA330	HBA330	HBA330
Network	10GB or more network card	10GB or more network card	10GB or more network card
Boot device	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB

[9] All-flash configs are based on AF-6/AF-4 configs listed on VCG.
[10] All-NVMe configs are based on AF-6 configs listed on VCG.
[11] Hybrid configs are based on HY-6 configs listed on VCG.

All-flash and hybrid configurations — AMD-based vSAN Ready Nodes

Dell EMC vSAN Ready Nodes powered by AMD processors enable flexible and jointly certified building blocks with five server options powered by AMD processors, including two vSAN Ready Node chassis family offerings with identity modules.

	PowerEdge R6515	PowerEdge R7515
Server	All-Flash, Hybrid	All-Flash, Hybrid
Profiles	One 2nd-generation AMD EPYC™ processor with up to 64 cores	One 2nd-generation AMD EPYC processor with up to 64 cores
Memory	Up to 16 DIMM slots, supports RDIMM/LRDIMM, speeds up to 3200 MT/s	Up to 16 DIMM slots, supports RDIMM/LRDIMM, speeds up to 3200 MT/s
Cache	SAS/SATA SSDs	SAS/SATA SSDs
Capacity	SAS HDDs, SAS/SATA SSDs	SAS HDDs, SAS/SATA SSDs
Controller	HBA330	HBA330
Network	10GB or more network card	10GB or more network card
Boot device	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB

Did you know?
The Dell EMC PowerEdge R6525 Server with AMD EPYC 7742 processors achieves 81% higher world-record VMmark® 3.1 with vSAN score for 4-node 2-socket systems.[12]

	PowerEdge R6525	PowerEdge R7525	PowerEdge C6525
Server	All Flash	All Flash	All Flash
Profiles	Two 2nd-generation AMD EPYC processor with up to 64 cores	Two 2nd-generation AMD EPYC processor with up to 64 cores	Two 2nd-generation AMD EPYC processor with up to 64 cores
Memory	Up to 32 DIMM slots, supports RDIMM/LRDIMM, speeds up to 3200 MT/s	Up to 32 DIMM slots, supports RDIMM/LRDIMM, speeds up to 3200 MT/s	Up to 32 DIMM slots, supports RDIMM/LRDIMM, speeds up to 3200 MT/s
Cache	SAS/SATA SSDs	SAS/SATA SSDs	SAS/SATA SSDs
Capacity	SAS/SATA SSDs	SAS/SATA SSDs	SAS/SATA SSDs
Controller	HBA345, HBA355*	HBA345, HBA355*	HBA345, HBA355*
Network	10GB or more network card	10GB or more network card	10GB or more network card
Boot device	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB	Boot Optimized Storage Subsystem: 2x M.2 SSDs 120GB or 240GB

* Certification in progress

Note: Read this article to learn more about allowable changes in a VMware vSAN ReadyNode™ configuration.

A strategic partnership that serves your interests

With over 20 years of collaboration, Dell Technologies and VMware is a partnership you can trust. Power your business well into the future with an infrastructure that adapts to your needs. Dell Technologies and VMware have your best interests in mind with integrated technology solutions, including Dell EMC vSAN Ready Nodes, that help you solve real challenges while evolving and growing your business seamlessly.

Learn more
Discover other PowerEdge and VMware solutions.
Explore our VMware Compatibility Guide.

Learn more
about Dell EMC vSAN
Ready Nodes solutions.

Contact
your Dell Technologies
or channel sales
representative.

View more
resources for Dell EMC
PowerEdge servers.

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