

# 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.<sup>1</sup>

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<sup>2</sup> with the global leader in virtualization and hyperconverged infrastructure (HCI) software,<sup>3</sup> Dell EMC PowerEdge and VMware offer essentially unrivaled hardware and software HCI solutions.

VMware® vSAN™ is the industry's leading software for HCI, empowering HCI customers to securely run traditional and modern apps in the hybrid cloud. vSAN 7 Update 3 enhancements enable a developer-ready infrastructure, provide platform enhancements that boost security and improve on existing features to simplify operations.

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.

Dell EMC VxRail HCI, with deep VMware software integration, offers a fully curated, turnkey HCI experience for simple, consistent operations across core, edge and cloud.



Dell EMC PowerEdge T340 Server

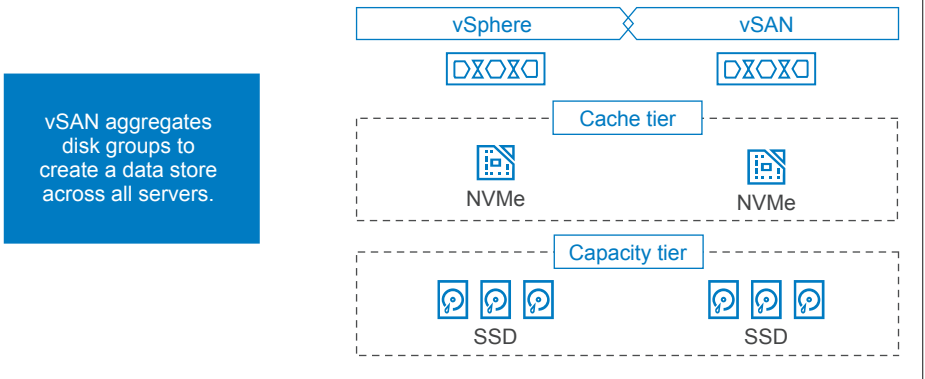
<sup>1</sup> ESG Research Insights Paper, commissioned by Dell Technologies, [The Cloud Complexity Imperative](#), 2020.

<sup>2</sup> IDC, [WW Quarterly x86 Server Tracker](#), 2Q2021, Vendor Revenue & Shipments, September 9, 2021.

<sup>3</sup> VMware, [VMware vSAN Powered HCI Systems Leads the Market in Q1, 2021, According to IDC](#), June 24, 2021.

## VMware vSAN

Enterprise storage in a native vSphere architecture



## 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.<sup>4</sup>

## 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 reduce deployment risks, improve storage efficiency, and quickly and easily scale 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 Nodes portfolio is one of the broadest in the industry with more than 250 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.<sup>5</sup>

### 2 | Identity modules

Twelve 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.

<sup>4</sup> VMware, [VMware vSAN datasheet](#), February 2021.

<sup>5</sup> Based on [VMware vSAN Compatibility Guide](#): December 1, 2020 for Dell EMC vSAN hardware.

Complete  
hypervisor  
and firmware  
updates in  
**fewer  
than 4  
minutes**  
with OMIVV  
and vLCM.<sup>6</sup>

### 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® Server 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 fewer than four minutes versus the 3.5 hours it takes manually.<sup>6</sup>

### 4 | Robust services

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

### 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.

<sup>6</sup> 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.

<sup>7</sup> Dell EMC ProDeploy is not currently available with VMware Cloud Foundation™.

<sup>8</sup> 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,<sup>9</sup> all-NVMe<sup>10</sup> and hybrid<sup>11</sup> 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 server	R740xd			T340			R740		R750	
Profiles	All flash	All NVMe™	Hybrid	All flash	All NVMe	Hybrid	All flash	Hybrid	All flash	Hybrid
CPU	2x Intel® Xeon® Gold 6226			NA	NA	1x Intel Xeon E-2288G	2x Intel Xeon Gold 6226	2x Intel Xeon Gold 5218	2x Intel Xeon Platinum 8358	2x Intel Xeon Gold 6348
Memory	8x 32GB DIMMs	12x 32GB DIMMs	12x 32GB DIMMs	NA	NA	4x 16GB DDR-4	8x 32GB DIMMs	12 x 32GB DIMMs	16x 32GB DIMMs	8x 32GB DIMMs
Cache	2x 400GB SSD SAS	2x 375GB NVMe	2x 400GB SSD SAS	NA	NA	1x 960GB SSD SAS 12Gbps	2x 400GB SSD SAS	2x 400GB SSD SAS	3x 800GB, 12Gbps SSD SAS	2x 800GB SSD SAS 12Gbps
Capacity	10x 3.84TB SSD SAS	10x 1TB NVMe	10x 1.8TB 10K RPM SAS			7x 2.4TB 10K RPM SAS	8x 3.84TB SSD SAS	8x 1.8TB 10K RPM SAS	21x 1.2TB 10K RPM SAS, 12Gbps	14x 1.2TB 10K RPM SAS, 12Gbps
Controller	HBA 330					HBA 330	HBA 330		HBA 355	HBA 355
Network	10G ethernet					10G ethernet	10G ethernet		100G ethernet	100G ethernet
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)			BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)			BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)		BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)	



PowerEdge server	R640			R650			MX740c		
Profiles	All flash	All NVMe	Hybrid	All flash	All NVMe	Hybrid	All flash	All NVMe	Hybrid
CPU	2x Intel Xeon Gold 6226	2x Intel Xeon Gold 6226	2x Intel Xeon Gold 5218	2x Intel Xeon Platinum 8358			2x Intel Xeon Gold 6226		
Memory	8x 32GB DIMMs	4x 32GB DIMMs	12x 32GB DIMMs	12x 32GB DIMMs	16x 32GB DIMMs		12x 32GB DIMMs	12x 16GB DIMMs	12x 32GB DIMMs
Cache	2x 400GB SSD SAS	1x 375GB NVMe	2x 400GB SSD SAS	2x 800GB, 12Gbps SSD SAS	2x 375GB NVMe	2x 800GB SSD SAS	2x 800GB SSD SAS	2x 800GB NVMe	2x 800GB SSD SAS
Capacity	8x 1.92TB SSD SAS	4x 1TB NVMe	8x 1.8TB 10K RPM SAS	8x 1.92TB SATA SSD	8x 1.92TB SSD SAS	8x 1.2TB 10K RPM SAS	8x 3.84TB SSD SAS	4x 800GB NVMe	8x 2TB 7.2K RPM SAS
Controller	HBA 330			HBA 355			HBA 330 MX/MMZ		
Network	10G ethernet			100G ethernet			10G ethernet		
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)			BOSS Controller Card + with 2 M.2 Sticks 240G (RAID 1)			BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)		



PowerEdge server	MX750c			R840		R440	
Profiles	All flash	All NVMe	Hybrid	All flash	Hybrid	All flash	Hybrid
CPU	NA	2x Intel Xeon Platinum 8358	NA	4x Intel Xeon Platinum 8280		2x Intel Xeon Gold 5218	2x Intel Xeon Gold 4214
Memory	NA	16x 32GB DIMMs	NA	12x 32GB DIMMs	24x 32GB DIMMs	8x 32GB DIMMs	
Cache	NA	4x 800GB SSD SAS, 12Gbps	NA	2x 800GB SSD SAS	3x 800GB SSD SAS	2x 400GB SSD SAS	
Capacity		16x 1.92TB SATA SSD		21x 1.92TB SSD SAS	21x 1.2TB 10K RPM SAS	8x 1.92TB SSD SAS	
Controller		HBA 330 MZ		HBA 330		HBA 330	
Network		25G ethernet		10G ethernet		10G ethernet	
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)			BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)		BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)	



PowerEdge server	C6420		XR2	XE2420
Profiles	All flash	Hybrid	All flash	All flash
CPU	2x Intel Xeon Gold 5218		2x Intel Xeon Gold 5218	2x Intel Xeon Gold 6252N
Memory	4x 32GB DIMMs		12x 16GB RDIMMs	12x 32GB DIMMs
Cache	1x 400GB SSD SAS		1x 900GB SSD SATA, 6Gbps	1x 800GB SSD SAS, 12Gbps
Capacity	4x 3.84TB SSD SAS	4x 1.8TB 10K RPM SAS	4x 1.92TB SSD SATA, 6Gbps	3x 1.92TB SSD SAS, 12Gbps
Controller	HBA 330 SAS		HBA 330/330+ SATA	HBA 330/330+ SATA
Network	10G ethernet		10G ethernet	10G ethernet
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)		BOSS controller card + with 2 M.2 Sticks 120G (No RAID), FH or Internal SD Module with 2x 16GB SD Card	BOSS controller card + with 2 M.2 Sticks 120G (No RAID), FH or Internal SD Module with 2x 16GB SD Card

<sup>9</sup> All-flash configs are based on AF-6/AF-4 configs listed on VCG.

<sup>10</sup> All NVMe configs are based on AF-6 configs listed on VCG.

<sup>11</sup> 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 server	R6515		R7515	
Profiles	All flash	Hybrid	All flash	Hybrid
CPU	1x AMD Rome 7742		1x AMD Rome 7742	
Memory	16x 32GB DIMMs		16x 32GB DIMMs	
Cache	1x 800GB SSD SAS		3x 800GB SSD SAS	
Capacity	7x 1.92TB SSD SATA	7x 2.4TB 10K RPM SAS	7x 1.92TB SSD SATA	21x 1.2TB 10K RPM SAS
Controller	HBA 330 Mini		HBA 330	HBA 330 Mini
Network	10G ethernet		10G ethernet	
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)		BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)	

### 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 four-node, two-socket systems.<sup>12</sup>



PowerEdge server	R6525	R7525	R7525
Profiles	All flash	All flash	All flash
CPU	2x AMD Milan 77F3	2x AMD Milan 7763	2x AMD Milan 77F3
Memory	16x 32GB DIMMs	16x 32GB DIMMs	16x 32GB DIMMs
Cache	1x 750GB NVMe	2x 750GB NVMe	2x 750GB NVMe
Capacity	7x 1.92TB SSD SAS	14x 1.92TB SSD SAS	14x 1.92TB SSD SAS
Controller	HBA 355	HBA 355	HBA 355
Network	100G ethernet	100G ethernet	100G ethernet
Boot device	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)	BOSS Controller Card with 2 M.2 Sticks 120G (RAID 1)

Note: Read [this article](#) to learn more about allowable changes in a VMware vSAN ReadyNode™ configuration.

<sup>12</sup> Based on Dell Technologies analysis of the published VMmark 3.1 benchmark data on vmware.com as of September 4, 2020.



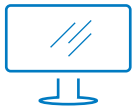


## A strategic partnership that serves your interests

With more than 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.



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