Dell EMC vSAN Ready Nodes

Reduce project risk and improve storage efficiency with a VMware vSAN building block that's quick to scale.

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Because "software-defined" means hardware matters more than ever

New applications are producing more data than ever, challenging IT to adopt a simpler, more streamlined and cost-effective approach to storage. This has drawn many enterprises to VMware® vSAN™ — a software-defined storage (SDS) solution for hyper-converged infrastructure (HCI). vSAN delivers high-performance, flash-optimized hyper-converged storage for any application — at a fraction of the cost of traditional, purpose-built storage and other less efficient HCI solutions.[1]

But one of the biggest misconceptions about the software-defined world is that the hardware doesn't matter anymore. Quite the opposite. The performance of the software — and your return on investment (ROI) — depends heavily on the performance and reliability of the hardware. And not all hardware is created equal. You need a partner you can trust to deliver reliable infrastructure in easily purchased and deployed building blocks that can scale at the speed required to keep pace with data growth.

Invest in hardware that's purpose-designed to support VMware vSAN
Dell EMC vSAN Ready Nodes are pre-configured and validated building blocks that reduce deployment risks, improve storage efficiency, and let you quickly and easily scale storage as needed. Dell EMC vSAN Ready Nodes are built on Dell EMC PowerEdge servers that have been pre-configured, tested and certified to run VMware vSAN. Each Ready Node includes just the right amount of CPU, memory, network I/O controllers, HDDs and SSDs that are best suited for VMware vSAN.

Reduce project risk
Dell EMC vSAN Ready Nodes are jointly validated solutions in tested and certified server configurations for accelerating vSAN deployment. Dell EMC and VMware have collaborated on vSAN for more than four years, putting the technology through thousands of hours of testing.

Improve storage efficiency
Dell EMC vSAN Ready Nodes improve storage efficiency while reducing capital expense (CAPEX) with server-side economics, affordable flash and grow-as-you-go scaling. Reducing the time and effort it takes to deploy and manage compute and storage infrastructure reduces operational expense (OPEX).

Scale quickly
Dell EMC vSAN Ready Nodes enable easy deployment with factory-installed, pre-configured and pre-tested configurations for a range of needs. Faster configuration, fewer update steps, and reduced time for maintenance, troubleshooting and resolution all add up to a solution that scales quickly.

[1] HCI powered by vSAN can lower total cost of ownership up to 50% due to hardware choice, server-side economics, and affordable flash. "VMware Hyper-Converged Infrastructure," VMware.com.

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As the only software-defined storage platform native to VMware vSphere®, vSAN helps customers evolve to HCI without risk while lowering IT costs and providing an agile solution ready for future hardware, cloud and application changes. vSAN delivers flash-optimized, secure storage with the industry's first native HCI encryption solution at a fraction of the cost of traditional, purpose-built storage and less-efficient HCI solutions.[2]

Are you facing any of these challenges?

Optimizing servers for vSAN is time consuming
Dell EMC vSAN Ready Nodes are jointly tested and certified solutions that take the guesswork out of building vSAN architecture. Based on trusted and proven PowerEdge Servers, Dell EMC vSAN Ready Nodes offer powerful processors, high core counts, maximum memory densities, big I/O pipes, lots of fast internal storage and innovative modular NIC (network interface card) technology. You'll also benefit from the simplicity of having a single trusted source for the entire solution — which is installed, implemented and supported globally by Dell EMC.

Maximizing storage efficiency is becoming more difficult
Dell EMC vSAN Ready Nodes can increase storage efficiency with up to 10x greater storage utilization with dramatically lower storage capacity and costs.[2] Capital expenditures are minimized because you have the flexibility to spend less up front and scale only if necessary. Administrative overhead is reduced with fewer interfaces, fewer steps to complete tasks and reduced need for specialized knowledge. System management integration across servers, storage and networking from Dell EMC OpenManage and VMware vCenter Server® plug-ins means that one team can manage the day-to day operations of compute and storage in one tool. Additionally, you can accelerate responsiveness to traditionally time-consuming tasks – from troubleshooting to performance tuning – with intelligent analytics, advanced monitoring and VM-level automation.

Scaling is expensive and time consuming
Dell EMC vSAN Ready Nodes are pre-configured building blocks, specifically designed to simplify deployment and speed scaling. Dell EMC offers adaptable implementation options with a broad choice of rack-optimized or blade systems. To scale up, simply add flash devices to existing hosts for increased performance, or add hard drives or flash devices to increase capacity. To scale out, just add more hosts with hybrid or all-flash devices.

[2] VMware vSAN 6.6 datasheet, "Evolve without Risk to Secure Hyper-Converged Infrastructure," March 2017.

Dell EMC vSAN Ready Nodes

Not all workloads have the same requirements, so Dell EMC provides a variety of ready-to-order options and select factory-installed configurations based on different levels of workload requirements for performance and capacity.

Starting all-flash and hybrid rack configurations

	vSAN Ready Nodes powered by the latest Intel technology					
	Dell EMC PowerEdge R440 Server		Dell EMC PowerEdge R640 Server		Dell EMC PowerEdge C6420 Server	
	All-flash	Hybrid	All-flash	Hybrid	All-flash	Hybrid
CPU	Intel® Xeon® Gold 5118		Intel Xeon Silver 4114 to Intel Xeon Gold 6126	Intel Xeon Gold 5118	Intel Xeon Gold 5118	Intel Xeon Gold 5118
Memory	192GB to 384GB	192GB to 384GB	192GB to 384GB	192GB to 384GB	192GB to 384GB	192GB to 384GB
Storage[3]	7.68TB to 30.72TB NVMe 32TB (Max)	3.68TB to 16TB	7.68TB to 15.36TB NVMe SSD 70TB (Max)	4TB to 10.8TB	7.68TB to 15.36TB NVMe 16TB (Max)	3.6TB to 8TB
Network	On-board dual port and dual port network daughter card	On-board dual port and dual port network daughter card	Dual port networking (daughter card and add-in card)	Dual port networking (daughter card and add-in card)	Dual port mezzanine card and quad port add-in card	Dual port mezzanine card and quad port add-in card
	Dell EMC PowerEdge R740 Server		Dell EMC PowerEdge R740xd Server		Dell EMC PowerEdge FC430 Blade	
	All-flash	Hybrid	All-flash	Hybrid	All-flash	
CPU	Intel Xeon Silver 4114 to Intel Xeon Gold 6126	Intel Xeon Gold 5118	Intel Xeon Gold 6126	Intel Xeon Gold 6126	Intel Xeon E5-2670 v3 Intel Xeon E5-2680 v4	
Memory	192GB to 384GB	192GB to 384GB	192GB to 384GB	192GB to 384GB	256GB	
Storage[3]	15.36TB to 46.08TB	8.4TB to 14.4TB	38.4TB to 80.64TB NVMe SSD 204.8TB (Max)	8.4TB to 25.2TB	5.76TB NVMe SSD 70TB (Max)	
Network	Dual port networking (daughter card and add-in card)	Dual port networking (daughter card and add-in card)	Dual port networking (daughter card and add-in card)	Dual port networking (daughter card and add-in card)	QLogic® 57810 Dual Port 10Gb Direct Attach/SFP+ Low Profile Network Adapter	

[3] Capacities 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.

AMD all-flash configurations

	vSAN Ready Nodes with AMD EPYC processors, designed for software defined storage with 128 PCIe lanes		
	Dell EMC PowerEdge R6415 Server	**Dell EMC PowerEdge R7415 Server**	**Dell EMC PowerEdge R7425 Server**
	All-flash	**All-flash**	**All-flash**
CPU	AMD® EPYC™ 7351P	AMD EPYC 7351P	AMD EPYC 7351
Memory	8GB to 1024GB	8GB to 1024GB	8GB to 2TB
Storage[3]	7.68TB to 15.36TB	7.68TB to 80.64TB	46.08TB to 80.64TB
Network	Dual port networking and LOM add-in card	Dual port networking	Quad port networking with network daughter card

Why Dell EMC?

The combination of Dell and EMC brings together two industry-leading companies with strong reputations for value and innovation. Dell EMC holds leadership positions in some of the biggest and largest growth categories in the IT infrastructure business, and that means you can confidently source your IT needs from one provider — Dell EMC.

- #1 in hyper-converged systems[4]
- #1 converged infrastructure[5]
- #1 in traditional and all-flash storage[6]
- #1 virtualized data center infrastructure[7]
- #1 cloud IT infrastructure[8]
- #1 server virtualization and cloud systems management software (VMware)[9]
- #1 in data protection[10]
- #1 in software-defined storage[11]

[4] IDC WW Quarterly Converged Systems Tracker, December 2017, Vendor Revenue — CY17Q3.

[5] IDC WW Quarterly Converged Systems Tracker, Q1 2017, June 2017, Vendor Revenue.

[6] IDC WW Quarterly Enterprise Storage Systems Tracker, September 2017, Vendor Revenue — EMC Q2 2017.

[7] Dell EMC Annual Report, 2015.

[8] IDC WW Quarterly Cloud IT Infrastructure Tracker, April 2017, Vendor Revenue — EMC Q4 2016.

[9] IDC WW Virtual Machine and Cloud System Market Shares 2016, July 2017.

[10] Dell EMC Pulse, "Gartner Recognizes EMC as a Leader in the 2016 Data Center Backup and Recovery Software Magic Quadrant," June 2016.

[11] IDC WW Semiannual Software Tracker, 2H2016, April 2017.

Services and financing

Get the storage you need to support the business

Don't wait to find out more about how you can reduce project risk and improve storage efficiency with a VMware vSAN building block that's quick to scale. Contact your Dell EMC sales representative, or visit the Dell EMC vSAN Ready Nodes web page to learn more.

Dell EMC Factory Install service (optional)

The process of installing and deploying a node for VMware vSAN can be time consuming and risky. Getting the details right — including firmware levels and configuration settings — is critical. Dell EMC vSAN Ready Nodes Factory Install service helps you experience an error-free first boot so you can focus on the project — not on system configuration. Deployment is easy because:

- Firmware levels are configured correctly up front.
- Software versions are already installed for all components.
- The configuration arrives ready to add to a vSAN cluster.

Dell EMC Professional Services

Solutions customized for your needs

Leverage on-site integration or application implementation with Dell EMC IT Transformation and Consulting Services.

Deployment assistance when you need it

You can trust Dell EMC to deploy the racked configuration in your data center, including network cabling, operating system, firmware and hypervisor with Dell ProDeploy.

Support is always on for you

Enjoy unlimited access to 24x7 chat, email and phone support services with how-to assistance and disaster recovery from Dell ProSupport.

Dell Financial Services

- Full-service leasing and financing solutions are located throughout the US, Canada and Europe.
- Dell Financial Services can finance the total technology solution.
- Efficient electronic quoting and online contracts offer the best customer experience.

Learn more about Dell Financial Services.

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