Dell EMC VxRail

Designed for VMware, with VMware, to enhance VMware

Dell EMC VxRail™, the only jointly engineered hyperconverged infrastructure system with VMware, is the easiest and fastest way to extend a VMware environment. Powered by VMware vSAN™ and managed through the VMware vCenter interface, VxRail provides existing VMware customers a consistent operating experience. As the foundation for Dell Technologies Cloud, VxRail is the first hyperconverged system fully integrated with VMware Cloud Foundation SDDC Manager delivering one, complete, automated platform.

VxRail is a distributed system consisting of common modular building blocks powered by the best-in-class VxRail HCI System Software that allows customers to start small and grow, scaling capacity and performance easily and non-disruptively from 2 to 64 nodes in a cluster. Single-node scaling and storage capacity expansion provide a simple, predictable, cost-effective "pay-as-you-grow" approach for future growth as needed.

VxRail HCI System Software ensures workloads are always up and running with intelligent lifecycle management (LCM) that automates non-disruptive upgrades, patches, node additions or retirement to ensure the VxRail infrastructure is in a continuously validated state. Coupled with detailed health reporting using infrastructure machine learning from SaaS multi-cluster management, it has never been easier to keep infrastructure smoothly running.

Built on PowerEdge servers with a choice of Intel® Xeon® Scalable or AMD EPYC™ processors, VxRail is designed for today's mission-critical workloads in mind, and also delivers multiple compute, memory, storage, network and graphics options to cover a wide variety of applications and workloads. VxRail continuously delivers new technologies such as Intel Optane persistent memory, NVMe cache and capacity drives, 100 Gb/s networking, and NVIDIA Data Center GPUs. And with redundancy built in at every opportunity – from the SATA M.2 RAID 1 "BOSS", high-efficiency redundant power supplies, and multiple networking ports – VxRail delivers 99.9999% high availability

VxRail dynamic nodes expand the way customers can benefit from VxRail HCI System Software. VxRail dynamic node clusters are compute-only vSphere clusters that allow users to scale compute and storage independently based on workload needs. By enabling external fiber channel storage to be used as primary storage, for VxRail and VCF on VxRail solutions, customers can utilize dynamic nodes in a three-tier vSphere architecture to support mission critical data-centric workloads, like financial services and healthcare applications. VxRail dynamic nodes can also extend to VMware vSAN HCI Mesh environments where remote vSAN datastores can also be used as primary storage for dynamic node clusters.

VxRail comes stacked with mission-critical data services at no additional charge. Data protection technologies such as a starter set of licenses for Dell EMC RecoverPoint for VMs is included, with the option of adding Data Protection Suite for VMware and Data Domain Virtual Edition (DD VE) for larger environments that require more comprehensive data protection.

Backed by Dell Technologies' world-class support with a single point of contact for both hardware and software components and includes Dell EMC Secure Remote Services (SRS) for call-home and proactive two-way remote connection for remote monitoring, diagnosis, and repair to ensure maximum availability.

VxRail HCI Platforms

Built on the latest Dell PowerEdge Servers, VxRail's broad portfolio provides the flexibility to choose the best platform to meet your performance, storage, graphics, IO, and cost requirements. No matter your workload, there's a VxRail platform to meet your needs.

E Series: Low profile, cost-effective, go "everywhere" platform. 1U platform with an all NVMe option and NVIDIA Tesla T4 GPUs. Single or dual socket options powered by Intel Xeon or AMD EPYC™ processors. Ideal for remote, branch office, or edge locations where space is at a premium. Use cases include high performance computing (HPC), VDI, AI/ML, and in-memory databases.

P Series: Performance-intensive 2U platform configurable with 1,2 or 4 Intel Xeon Scalable processors, or a single AMD EPYC processor with up to 64 cores. Ideal for business-critical workloads requiring high performance. Use cases include in-memory intensive database applications such as SAP HANA, HPC and AI/ML.

V Series: Virtualization-extended 2U platform with GPU hardware for graphics-intensive desktops and graphics-compute workloads. Ideal for specialized use cases such as high-end 2D/3D visualization leveraging NVIDIA Data Center GPU cards. Use cases include VDI, AI/ML, large/complex CAD models, computer-aided engineering (CAE), seismic exploration, complex DCC effects, 3D medical imaging, photorealistic rendering, high end virtual science, and data analytics.

D Series: Durable, ruggedized, short-depth platform with a filtered bezel for dust resistance. Designed to withstand extreme conditions such as intense heat and cold, shock, vibration, dust, humidity, and EMI. Available in MIL-STD and DNV-GL Maritime certified configurations. Ideal for space-constrained, remote locations with extreme conditions. Use cases include mobile command centers, retail POS systems, video surveillance, and GPS mapping on the go.

S Series: Storage-dense 2U platform available as single or dual-socket with hybrid storage options to deliver a maximum capacity of 96 TB per node. Ideal for dense storage workloads whose storage capacity scales faster than CPU or memory. Use cases include demanding applications such as virtualized Microsoft SharePoint, Microsoft Exchange, big data, analytics, and video surveillance.

G Series: Compute-dense 2U/4-node platform available as single or dual-socket with up to 224 cores. Ideal for environments that require maximum processing power in small spaces. Use cases include processor-dense and general-purpose virtualized workloads.

Node	E660		E560N
Chassis	R650 with 10 x 2.5" drive bays		R640 with 10 x 2.5" drive bays
Type	All Flash	Hybrid	All NVMe
CPU	Single or dual Intel Xeon Scalable Gen 3		Single or dual Intel Xeon Scalable Gen 2
Memory	64 GB to 8192 GB DDR4 3200MT		64 GB to 3072 GB DDR4 2933MT
Storage class memory	256 GB to 8192 GB Intel Optane 200 Series		128 GB to 3072 GB Intel Optane 100 Series
Cache drives	Up to 1600 GB SAS Up to 800 GB Gen 2 Optane 1600 GB NVMe		Up to 800 GB Gen 2 Optane 1600 GB NVMe
Storage capacity	61 TB SAS or 30 TB SATA	19 TB SAS	61 TB
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE		Dual 25 GbE or Dual or quad 10GbE
Networking	Up to 2x: Dual 100GbE or Up to 3x: Dual or quad 25 GbE or Up to 3x: Dual or quad 10 GbE		Up to 2x: Dual 100GbE or Up to 2x: Dual 25 GbE or Up to 2x: Dual or quad 10 GbE
Fibre channel	Up to 3x QLogic or Emulex dual port 16Gb / 32Gb HBA		Up to 2x QLogic or Emulex dual port 16Gb / 32Gb HBA
GPU	Up to 2x NVIDIA Tesla T4		Up to 2x NVIDIA Tesla T4

Node	E665		
Chassis	R6515 with 10 x 2.5" drive bays	R6515 with 8 x 2.5" drive bays	
Type	All NVMe	All Flash	Hybrid
CPU	Single 2nd or 3rd Generation AMD EPYC		
Memory	64 GB–1024 GB		
Storage class memory	N/A		
Cache drives	Up to 800 GB Gen 2 Optane 1600 GB NVMe	Up to 1600 GB SAS 375 or 750 GB Optane 1600 GB NVMe	
Storage capacity	Up to 61 TB	Up to 61 TB SAS Up to 30 TB SATA	Up to 14 TB
Onboard networking	Dual 25 GbE or Dual 10 GbE		
Networking	Single: Dual 25 GbE or Single: Dual 10 GbE		
Fibre channel	Single QLogic or Emulex dual port 16Gb / 32Gb HBA		
GPU	N/A		

Node	P670	P580N
Chassis	R750 with 28 x 2.5" drive bays	R840 with 24 x 2.5" drive bays
Type	All flash	All NVMe
CPU	Dual Intel Xeon Scalable Gen 3	Quad Intel Xeon Scalable Gen 2
Memory	128 GB to 8192 GB DDR4 3200MT	384 GB to 6144 GB
Storage class memory	256 GB to 8192 GB Intel Optane 200 Series	2048 GB to 12288 GB Intel Optane 100 Series
Cache drives	Up to 1600 GB SAS Up to 800 GB Gen 2 Optane 1600 GB NVMe	Up to 800 GB Gen 2 Optane 1600 GB NVMe
Storage capacity	184 TB SAS	Up to 153 TB
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE	Dual 25 GbE or Dual or quad 10 GbE
Networking	Up to 2x: Dual 100GbE or Up to 3x: Dual or quad 25 GbE or Up to 3x: Dual or quad 10 GbE	Up to 2x: Dual 100GbE or Up to 3x: Dual 25 GbE or Up to 3x: Dual or quad 10 GbE
Fibre channel	Up to 3x QLogic or Emulex dual port 16Gb / 32Gb HBA	Up to 2x QLogic or Emulex dual port 16Gb / 32Gb HBA
GPU	N/A	Up to 2x NVIDIA Tesla M10***
		***M10 GPU limits system memory to 1TB

Node	P675	
Chassis	R7515 with 24 x 2.5" drive bays	
Type	All NVMe	All flash
CPU	Single 2nd or 3rd Generation AMD EPYC	
Memory	64 GB–2048 GB	
Storage class memory	N/A	
Cache	Up to 800 GB Gen 2 Optane 1600 GB NVMe	800 or 1600 GB SAS
Storage capacity	Up to 153 TB	Up to 153 TB SAS or Up to 76 TB SATA
Onboard networking	Dual 25 GbE or Dual 10 GbE	
Networking	Single: Dual 100GbE or Up to 3x: Dual 25 GbE or Up to 3x: Dual or quad 10 GbE	
Fibre channel	Up to 3x QLogic or Emulex dual port 16Gb / 32Gb HBA	
GPU	Up to 2x NVIDIA Tesla T4	

Node	V670
Chassis	R750 with 24 x 2.5" drive bays
Type	All flash
CPU	Dual Intel Xeon Scalable Gen 3
Memory	128 GB to 4096 GB DDR4 3200MT
Storage class memory	256 GB to 8192 GB Intel Optane 200 Series
Cache	800 or 1600 GB SAS Up to 800 GB Gen 2 Optane 1600 GB NVMe
Storage capacity	161 TB SAS
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE
Networking	Up to 2x: Dual 100GbE or Up to 3x: Dual or quad 25 GbE or Up to 3x: Dual or quad 10 GbE
Fibre channel	Up to 3x QLogic or Emulex dual port 16Gb / 32Gb HBA
GPU	Up to 6x NVIDIA Tesla T4 or Up to 2x A100 or Up to 2x A40 or Up to 2x A30 or Up to 2x NVIDIA Tesla M10***
	***M10 GPU limits system memory to 1TB

Node	D560	
Chassis	XR2 with 8 x 2.5" drive bays	
Type	All flash	Hybrid
CPU	Single or dual Intel Xeon Scalable Gen 2	
Memory	64 GB–1024 GB	
Storage class memory	N/A	
Cache drives	Up to 1600 GB SAS	
Storage capacity	Up to 46 TB SAS or Up to 23 TB SATA	Up to 14 TB SAS
Onboard networking	Dual 25 GbE or Dual 10 GbE	
Networking	Single: Dual 25 GbE or Single: Dual or quad 10 GbE	
Fibre channel	N/A	
GPU	Single NVIDIA Tesla T4	
Certifications	Available in MIL-STD-810G and DNV-GL Maritime certified configurations	

Node	S570
Chassis	R740 with 12 x 3.5" front drive bays plus 2 x 2.5" rear drive bays
Type	Hybrid
CPU	Single or dual Intel Xeon Scalable Gen 2
Memory	64 GB–3072 GB
Storage class memory	N/A
Cache drives	Up to 1600 GB SAS
Storage capacity	Up to 96 TB NL SAS
Onboard networking	Dual 25 GbE or Dual or quad 10 GbE
Networking	Up to 3x: Dual 25 GbE or Up to 3x: Dual or quad 10 GbE
Fibre channel	Up to 3x QLogic or Emulex dual port 16Gb / 32Gb HBA
GPU	N/A

Node	G560	
Chassis	C6400 with up to four C6420 sleds each with 6 x 2.5" drive bays	
Type	All flash	Hybrid
CPU	Single or dual Intel Xeon Scalable Gen 2	
Memory	64 GB – 2048 GB	
Storage class memory	N/A	
Cache drives	Up to 1600 GB SAS Up to 800 GB Gen 2 Optane 1600 GB NVMe	
Storage capacity	Up to 38 TB SAS or Up to 19 TB SATA	Up to 12 TB SAS
Onboard networking	Dual 10 GbE	
Networking	Single: Dual 100GbE or Single: Dual 25 GbE or Single: Dual or quad 10 GbE	
Fibre channel	N/A	
GPU	N/A	

Specifications and dimensions	
VxRail Owner's Manuals and Technical Specifications	VxRail P570 Series, V570 Series, and S570 Series Owner's Manual VxRail E560 Series Owner's Manual VxRail E665 Series Owner's Manual VxRail P580N Series Owner's Manual VxRail D560 Series Owner's Manual VxRail G560 and G560F Owner's Manual VxRail E660 and E660F Technical Specifications VxRail P670F and V670F Technical Specifications VxRail P675F and P675N Owner's Manual

VxRail dynamic nodes

Built on Dell PowerEdge Servers, VxRail dynamic nodes bring all the benefits of VxRail HCI System Software but with a choice of external storage options. Choose from Dell EMC PowerStore-T, PowerMax, or Unity XT. Delivering storage data services; data reduction, SRDF, and metro node. Alternatively leverage existing VxRail storage capacity via VMware vSAN HCI Mesh.

Node	E560F	P570F	V570F
Chassis	R640	R740	
CPU	Dual Intel Xeon Scalable Gen 2		
Memory	128 GB to 3072 GB DDR4 2933MT		
Storage class memory	128 GB to 3072 GB Intel Optane 100 Series		N/A
Storage capacity	N/A external storage required		
Onboard networking	Dual 25 GbE or Quad 10GbE		
Networking	Dual 100GbE, Dual 25 GbE, Dual or quad 10 GbE		
Fibre channel	QLogic or Emulex dual port 16Gb / 32Gb HBA		
GPU	Up to 2x NVIDIA Tesla T4	N/A	Up to 6x NVIDIA Tesla T4 or Up to 3x A100 or Up to 3x A40 or Up to 3x A30 or Up to 2x NVIDIA Tesla M10***
			***M10 GPU limits system memory to 1TB

Dell Technologies Services for Dell EMC VxRail*

Deployment Services

ProDeploy for Enterprise	Accelerate technology adoption with expert deployment designed for your environment. Includes a site readiness review, 24x7 deployment hours, onsite or remote installation, disposal of packaging materials, remote installation and configuration of system software and information transfer to technical support team.
ProDeploy Plus for Enterprise	Accelerate even the most complex deployments. Includes all the above, plus a designated Support Service Manager, onsite installation & configuration of system software, 30-days post deployment configuration assistance, and training credits for Dell EMC Education Services.
Residency Services	Specialized, certified VxRail experts to help you quickly adopt and integrate VxRail Hyperconverged Infrastructure. Option for onsite, remote, and short-term engagements.
Date Migration for Enterprise	Consistent, repeatable, dependable process to plan and manage data migration projects. Migrate data from existing Dell EMC hardware, from third party hardware, and from onsite or public clouds.
Data Protection services	Implementation of Data protection Suite for VMware, Configuration for Data Domain Virtual Edition, or Implementation of RecoverPoint for Virtual Machines.
Stretched Cluster services	Implementation of stretched clusters, which provide a redundant system to help prevent data lost due to system failures or catastrophic events.
Top-of-Rack switch	Installation & Implementation for Top-of-Rack switch

Support Services

ProSupport for Enterprise	One source for comprehensive data center hardware and software support. Includes 24x7 remote technical support, next business day or 4hr mission critical onsite support, 3rd party collaborative assistance, access to software updates.
ProSupport Plus for Enterprise	Single source of system-level support. Includes all the above, plus priority access to specialized support experts, predictive detection of hardware failures, 3rd party software support, and assigned service account manager, proactive assessments and recommendations, and proactive systems maintenance.
ProSupport One for Enterprise	Offers flexible site-wide support for large and distributed data centers with more than 1,000 assets. When you choose ProSupport One for Data Center, you'll get: • Designated senior ProSupport One technical and field engineers who are trained on your environment and configurations • Flexible on-site support and parts options that fit your operational model • A tailored support plan for your operations staff
Optimize for Infrastructure	Year-round guidance on the operational health of your systems. Year-round, in-depth analysis and strategic guidance to keep your systems optimized and configured for continuous peak performance
Keep Your Hard Drive/Keep your Component for Enterprise	Maintain control of your highly sensitive data by retaining possession of failed drives or components when receiving replacements without incurring additional costs
Data Sanitization and Data Destruction for Enterprise	Secure data on retired, returned, or redeployed systems. Data Sanitization renders data unrecoverable through a process of overwriting the data. Data Destruction physically destroys the device.
Technical Account Manager service	TAMs for VxRail can be purchased to help in areas like Infrastructure Guidance and/or Designated Remote Support.
Onsite Diagnosis	**Onsite troubleshooting on your behalf by a skilled technician to any site** • Skip phone-based hardware troubleshooting and have a technician dispatched directly to your site • Save time and resources, let our experts troubleshoot and diagnose hardware issues for you Avoid the need to reallocate IT staff to satellite locations or unmanned data centers
Hardware Upgrade services	Installation of physical and logical components of hardware upgrades. Includes node expansions (adding nodes to an existing cluster), storage expansions (adding drives to existing VxRail nodes) and hardware expansions (adding hardware components to existing VxRail nodes).

*Availability and terms of Dell Technologies Services may vary by region and by product.

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