

# Dell EMC VxRail

## Designed for VMware, with VMware, to enhance VMware

Dell EMC VxRail™, the jointly engineered hyperconverged infrastructure from Dell EMC and VMware, is the easiest and fastest way to extend a VMware environment. Powered by VMware vSAN™ and managed through the VMware vCenter interface, the 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 3 to 64 nodes in a cluster. For edge deployments, users can choose a fixed two-node cluster or a three-node cluster if they desire future node expandability. 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 VxRail Analytics Consulting Engine (ACE), it has never been easier to keep infrastructure smoothly running.

Built on PowerEdge servers. With a choice of 2<sup>nd</sup> Generation Intel® Xeon® Scalable or 2<sup>nd</sup> Generation 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 Quadro GPUs. 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 comes stacked with mission-critical data services at no additional charge. Data protection technology 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.

VxRail is also backed by Dell EMC’s world-class support with a single point of contact for both hardware and software and includes Dell EMC SRS for call-home and proactive two-way remote connection for remote monitoring, diagnosis, and repair to ensure maximum availability.

### The VxRail portfolio includes:

**E Series:** Go Everywhere 1U/1Node with an all NVMe option and T4 GPUs for a wide range of use cases including artificial intelligence and machine learning. Also available in a single socket server powered by 2<sup>nd</sup> Generation AMD EPYC™ processor with up to 64 cores.

**P Series:** Performance intensive 2U/1Node platform with an all NVMe option, configurable with 1,2 or 4 sockets, optimized for intensive workloads such as databases.

**V Series:** VDI-optimized 2U/1Node platform with GPU hardware for graphics-intensive desktops and workloads

**D Series:** Durable, ruggedized, short depth, 1U/1Node. Designed to withstand extreme conditions such as intense heat and cold, shock, vibration, dust, humidity and EMI. Available in MIL-STD certified configurations.

**S Series:** Storage dense 2U/1Node platform for demanding applications such as virtualized Microsoft SharePoint, Microsoft Exchange, big data, analytics and video surveillance.

**G Series:** Compute dense 2U/4Node platforms for general purpose workloads.

### Compute and memory

	Processors	Cores	Frequency	Memory	Optane PMem*
<b>E Series</b>	Single or dual Intel® Xeon® Scalable Gen 1 and Gen 2	4–56	1.9 GHz–3.8 GHz	64 GB–3072 GB	1536 GB–3072 GB
<b>P Series</b>	Single, dual, or quad Intel® Xeon® Scalable Gen 1 and Gen 2	4–112	1.9 GHz–3.8 GHz	64 GB–6144 GB	1536 GB–6144 GB
<b>V Series</b>	Dual Intel® Xeon® Scalable Gen 1 and Gen 2	8–56	2.1 GHz–3.8 GHz	192 GB–3072 GB	N/A
<b>D Series</b>	Single or dual Intel® Xeon® Scalable Gen 1 and Gen 2	4–48	1.9 GHz–3.8 GHz	64 GB–1024 GB	N/A
<b>G Series</b>	Single or dual Intel® Xeon® Scalable Gen 1 and Gen 2	4–56	1.9 GHz–3.8 GHz	64 GB–2048 GB	N/A
<b>S Series</b>	Single or dual Intel® Xeon® Scalable Gen 1 and Gen 2	4–56	1.9 GHz–3.8 GHz	64 GB–3072 GB	N/A
<b>E Series (AMD)</b>	Single 2nd Generation AMD EPYC™	8–64	2.0–3.2 GHz	64 GB–1024 GB	N/A

\*Intel Optane persistent memory is only supported in App Direct mode

### Storage

	Cache	Flash	Hybrid	NVMe	Drive bays	Disk groups
<b>E Series</b>	Up to 1600 GB SAS 375 GB Intel Optane 1600 GB NVMe	Up to 61.44 TB SAS <i>or</i> Up to 30.72 TB SATA	Up to 19.2 TB SAS	Up to 61.44 TB	10 x 2.5"	2
<b>P Series</b>	Up to 1600 GB SAS 375 GB Intel Optane 1600 GB NVMe	Up to 153.6 TB SAS <i>or</i> Up to 76.8 TB SATA	Up to 48 TB SAS	Up to 153.6 TB	24 x 2.5"	4
<b>V Series</b>	Up to 1600 GB SAS	Up to 153.6 TB SAS <i>or</i> Up to 76.8 TB SATA	Up to 48 TB SAS	N/A	24 x 2.5"	4
<b>D Series</b>	Up to 1600 GB SAS	Up to 46.1 TB SAS <i>or</i> Up to 23.0 TB SATA	Up to 14.4 TB SAS	N/A	8 x 2.5"	2
<b>G Series</b>	Up to 1600 GB SAS 375 GB Intel Optane 1600 GB NVMe	Up to 38.4 TB SAS <i>or</i> Up to 19.2 TB SATA	Up to 12 TB SAS	N/A	6 x 2.5"	1
<b>S Series</b>	Up to 1600 GB SAS	N/A	Up to 96 TB NL SAS	N/A	12 x 3.5" plus 2 x 2.5"	2
<b>E Series (AMD)</b>	Up to 1600 GB SAS 375 GB Intel Optane 1600 GB NVMe	Up to 46.1 TB SAS <i>or</i> Up to 23.0 TB SATA	Up to 14.4 TB SAS	Up to 32 TB	8 x 2.5" (All flash/hybrid) <i>or</i> 10 x 2.5" (All NVMe)	2

### Environmental and certifications

	Ambient operating temperature	Storage temperature range	Operating relative humidity	Operating attitude with no deratings	Heat dissipation
<b>E Series</b>	10°C to 30°C 50°F to 86°F	-40°C to +65°C -40°F to +149°F	10% to 80% (non-condensing)	3048m approx. 10,000 ft	4100 BTU/h
<b>P Series</b>	10°C to 30°C 50°F to 86°F	-40°C to +65°C -40°F to +149°F	10% to 80% (non-condensing)	3048m approx. 10,000 ft	6000 BTU/h
<b>V Series</b>	10°C to 30°C 50°F to 86°F	-40°C to +65°C -40°F to +149°F	10% to 80% (non-condensing)	3048m approx. 10,000 ft	7500 BTU/h
<b>D Series*</b>	5°C to 45°C 41°F to 113°F	-40°C to +70°C -40°F to +158°F	5% to 85% relative humidity with 29°C (84.2°F) maximum dew point	15,000 ft for 1 hour after stabilization	2891 BTU/h
<b>G Series</b>	10°C to 30°C 50°F to 86°F	-40°C to +65°C -40°F to +149°F	10% to 80% (non-condensing)	3048m approx. 10,000 ft	9000 BTU/h (4-node chassis)
<b>S Series</b>	10°C to 25°C 50°F to 77°F	-40°C to +65°C -40°F to +149°F	10% to 80% (non-condensing)	3048m approx. 10,000 ft	4416 BTU/h
<b>E Series (AMD)</b>	10°C to 35°C 50°F to 95°F	-40°C to +65°C -40°F to +149°F	8% to 80% (non-condensing)	3048m approx. 10,000 ft	2107 BTU/h

\*D560F is MIL-STD 810G certified

Networking, fibre channel and GPU					
	Base network connectivity*	Max additional networking ports	Remote Management	Fibre Channel	GPU
<b>E Series</b>	2x25 GbE SFP28 <i>or</i> 4x10 GbE RJ45 <i>or</i> 4x10 GbE SFP+ <i>or</i> 4x1 GbE RJ45**	2x100GbE SFP28 <i>or</i> Up to 8x10 GbE RJ45 <i>or</i> Up to 4x10 GbE SFP+ <i>or</i> Up to 4x25 GbE SFP28	iDRAC9 Enterprise	Up to 4x 16Gb	2x NVIDIA Tesla T4
<b>P Series</b>	2x25 GbE SFP28 <i>or</i> 2x10, 4x10 GbE RJ45 <i>or</i> 4x10 GbE SFP+ <i>or</i> 4x1 GbE RJ45**	2x100GbE SFP28 <i>or</i> Up to 16x10 GbE RJ45 <i>or</i> Up to 16x10 GbE SFP+ <i>or</i> Up to 8x25 GbE SFP28	iDRAC9 Enterprise	Up to 8x 16Gb	N/A
<b>V Series</b>	2x25 GbE SFP28 <i>or</i> 4x10 GbE RJ45 <i>or</i> 4x10 GbE SFP+	2x100GbE SFP28 <i>or</i> Up to 16x10 GbE RJ45 <i>or</i> Up to 16x10 GbE SFP+ <i>or</i> Up to 8x25 GbE SFP28	iDRAC9 Enterprise	Up to 8x 16Gb	1x-6x NVIDIA Tesla T4 <i>or</i> 1x-3x Quadro RTX8000 <i>or</i> 1x-3x Quadro RTX6000 <i>or</i> 1x-3x NVIDIA Tesla V100s/V100 <i>or</i> 1x-2x NVIDIA Tesla M10***
<b>D Series</b>	2x25GbE SFP28 <i>or</i> 2x10GbE RJ45	2x25GbE SFP28 2x10GbE SFP+ 2x10GbE RJ45 4x10GbE RJ45	iDRAC9 Enterprise	N/A	N/A
<b>G Series</b>	2x10 GbE SFP+	2x100GbE SFP28 <i>or</i> Up to 4x10 GbE RJ45 <i>or</i> Up to 2x10 GbE SFP+ <i>or</i> 2x25 GbE SFP28	iDRAC9 Enterprise	N/A	N/A
<b>S Series</b>	2x25 GbE SFP28 <i>or</i> 2x10, 4x10 GbE RJ45 <i>or</i> 4x10 GbE SFP+ <i>or</i> 4x1 GbE RJ45**	2x100GbE SFP28 <i>or</i> Up to 12x10 GbE RJ45 <i>or</i> Up to 12x10 GbE SFP+ <i>or</i> Up to 6x25 GbE SFP28	iDRAC9 Enterprise	Up to 6x 16Gb	N/A
<b>E Series (AMD)</b>	2x10/25GbE SFP28 2x10 GbE RJ45	2x10/25GbE SFP28 2x10GbE SFP+ 4x10GbE RJ45	iDRAC9 Enterprise	Up to 2x 16Gb	N/A

\*Base network connectivity must match for all nodes within a cluster (e.g. all nodes must use 10 GbE)  
\*\*1 GbE connectivity limited to single socket CPU and hybrid storage only  
\*\*\*M10 GPU can only address up to 1TB of memory

Power, dimensions and weight					
	High-efficiency dual redundant AC PSU	High-efficiency dual redundant DC PSU	Redundant cooling fans	Physical dimensions	Weight
<b>E Series</b>	1100W 100V – 240V AC 1600W 200V – 240V AC	1100W 48V DC	8	42.8mm/1.68in H 434.0mm/17.09in W 733.82mm/29.61in D	21.9kg/48.28lb
<b>P Series</b>	1100W 100V – 240V AC 1600W 200V – 240V AC 2000W 200V – 240V AC 2400W 200V – 240V AC	1100W 48V DC	4-6	86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D	28.1kg/61.95lb
<b>V Series</b>	2000W 200V – 240V AC	N/A	6	86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D	28.1kg/61.95lb
<b>D Series</b>	550W 100-240V AC	N/A	6	42.8 mm/1.68 in H 434 mm/17.09 in W 514.35 mm/20.06 in D	13.00kg/28lb
<b>G Series</b>	2000W 220V – 240V AC 2400W 220V – 240V AC	N/A	4	86.8mm/3.42in H 448.0mm/17.64in W 790mm/31.10in D	41.46kg/91.40lb
<b>S Series</b>	1100W 100V – 240V AC	1100W - 48V DC	6	86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D	33.1kg/72.91lb
<b>E Series (AMD)</b>	550W 110V – 240VAC	N/A	6	42.8mm/1.68in H 434.0mm/17.09in W 657.25mm/25.88in D	15.8kg/34.83lb

## Services and Support

<b>Services</b>	ProDeploy: Including pre-deployment planning, project management and 24x7 onsite installation
	ProDeploy Plus: Additional value including post-deployment assistance and training credits
<b>Support</b>	ProSupport: Keep your hardware and software running smoothly with 24x7 access to technology engineers as well as proactive and preventive technologies to help you get ahead of issues.
	ProSupport Plus: Optimize your critical systems and free up staff to innovate the business. ProSupport Plus provides an assigned Technology Service Manager and access to specialized support engineers that quickly diagnose issues and provide personalized guidance to avoid problems before they ever impact your business.



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