



DELL EMC VXRAIL™

The standard in hyper-converged infrastructure

The Dell EMC VxRail™ Appliance, the exclusive hyper-converged infrastructure appliance from Dell EMC and VMware, is the easiest and fastest way to extend and simplify a VMware environment. Powered by VMware vSAN™ and managed through the vCenter interface, the Dell EMC VxRail Appliance provides existing VMware customers an experience with which they are already familiar. Seamless integration with existing VMware tools also lets customers leverage and extend their current IT tools and processes.

The Dell EMC VxRail Appliance architecture is a distributed system consisting of common modular building blocks that scale linearly from 3 to 64 nodes in a cluster. With the power of a whole Storage Area Network (SAN), it provides a simple, cost-effective hyper-converged solution that delivers multiple compute, memory, storage, network and graphics options to match any use case and cover a wide variety of applications and workloads.

Based on industry-leading VMware vSAN and vSphere software and built with new Intel® Xeon® Scalable Processors including high memory options, the Dell EMC VxRail Appliance allows customers to start small and grow, scaling capacity and performance easily and non-disruptively. Single-node scaling and storage capacity expansion provide a predictable, “pay-as-you-grow” approach for future growth as needed. Built on the 14th generation of PowerEdge servers, the bedrock of the data center, VxRail is designed for today’s mission-critical workloads by offering more processor, flash storage and network connectivity options than its predecessor. VxRail also delivers new technologies such as NVMe drives, 25 Gb/s connectivity, NVIDIA P40 GPU’s and high memory option CPUs. Performance is better than ever with 2x better response times and up to 2x better IOPS.

The Dell EMC VxRail Appliance comes stacked with mission-critical data services at no additional charge. Data protection technology including Dell EMC RecoverPoint for VMs and VMware vSphere Data Protection are incorporated into the appliance, 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.

The Dell EMC VxRail Appliance 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 ESRS for call-home and proactive two-way remote connection for remote monitoring, diagnosis, and repair to ensure maximum availability.

Detailed specifications and a comparison of the Dell EMC VxRail Appliances on 14th generation PowerEdge Servers follows.

| | E Series | V Series | P Series | S Series |
|--|---|--|---|---------------------------|
| Compute, storage and memory (per node) | | | | |
| Chassis | 1U1N | 2U1N | 2U1N | 2U1N |
| Intel™ Xeon™ Scalable Processors including high memory options | | | | |
| CPU sockets | Single or dual | Dual | Single or dual | Single or dual |
| CPU cores | 4 – 56 | 8 – 56 | 8 – 56 | 4 – 56 |
| CPU frequency | 1.7 GHz – 3.6 GHz | 1.8 GHz – 3.6 GHz | 1.7 GHz – 3.6 GHz | 1.7 GHz – 3.6 GHz |
| RAM* | 64 GB – 3072 GB | 128 GB – 3072 GB | 64 GB – 3072 GB | 64 GB – 3072 GB |
| Cache SSD** | 400 GB – 1600 GB SAS or 800 GB – 1600 GB NVMe | 400 GB – 1600 GB SAS | 400 GB – 1600 GB SAS or 800 GB – 1600 GB NVMe | 400 GB – 1600 GB SAS |
| Hybrid storage | 1.2 TB – 19.2 TB SAS | 1.2 TB – 48 TB SAS | 1.2 TB – 48 TB SAS | 4 TB – 48 TB SAS |
| All flash storage | 1.92 TB – 30.7 TB SAS or 1.92 TB – 30.7 TB SATA | 1.92 TB – 76.8 TB SAS or 1.92 TB – 76.8 TB SATA | 1.92 TB – 76.8 TB SAS or 1.92 TB – 76.8 TB SATA | Hybrid only |
| Drive bays | 10 x 2.5" | 24 x 2.5" | 24 x 2.5" | 12 x 3.5" and 2 x 2.5" |
| Max disk groups | 2 | 4 | 4 | 2 |
| Boot Optimized Storage Solution (BOSS) | 2 x 240GB SATA M.2 RAID 1 | 2 x 240GB SATA M.2 RAID 1 | 2 x 240GB SATA M.2 RAID 1 | 2 x 240GB SATA M.2 RAID 1 |
| Max PCIe GPUs | n/a | 1x-2x NVIDIA Tesla M10 or 1x-3x NVIDIA Tesla M60 or 1x-3x NVIDIA Tesla P40 | n/a | n/a |

*To achieve maximum memory performance, all RAM slots should be occupied

**1600 GB cache SSD is only in hybrid configurations or via NVMe cache

***Adding GPUs reduces total RAM and additional network connectivity

| | E Series | V Series | P Series | S Series |
|-------------------------------|----------|----------|----------|----------|
| Clustering and scaling | | | | |
| Max nodes* (per cluster) | 64 | 64 | 64 | 64 |
| Min nodes (per cluster) | 3 | 3 | 3 | 3 |
| Scaling increment (in nodes) | 1 | 1 | 1 | 1 |

*8 nodes maximum per cluster in 1 GbE models

| | E Series | V Series | P Series | S Series |
|--|---|--|--|--|
| Networking (per node) | | | | |
| Appliance connectivity* | 2x25 GbE SFP28 or 4x10 GbE RJ45 or 4x10 GbE SFP+ or 4x1 GbE RJ45** | 2x25 GbE SFP28 or 4x10 GbE RJ45 or 4x10 GbE SFP+ | 2x25 GbE SFP28 or 4x10 GbE RJ45 or 4x10 GbE SFP+ or 4x1 GbE RJ45* | 2x25 GbE SFP28 or 4x10 GbE RJ45 or 4x10 GbE SFP+ or 4x1 GbE RJ45* |
| Management port | 1x1 GbE iDRAC9 Enterprise RJ45 | 1x1 GbE iDRAC9 Enterprise RJ45 | 1x1GbE iDRAC9 Enterprise RJ45 | 1x1 GbE iDRAC9 Enterprise RJ45 |
| Optional connectivity (max additional ports) | Up to 8x10 GbE RJ45 or Up to 4x25 GbE SFP28 | Up to 16x10 GbE RJ45 or Up to 16x10 GbE SFP+ or Up to 8x25 GbE SFP28 | Up to 16x10 GbE RJ45 or Up to 16x10 GbE SFP+ or Up to 8x25 GbE SFP28 | Up to 12x10 GbE RJ45 or Up to 12x10 GbE SFP+ or Up to 6x25 GbE SFP28 |

*Appliance connectivity must match for all nodes within a cluster (all 1 GbE or all 10 GbE or all 25 GbE)

**1 GbE connectivity limited to single socket CPU and hybrid storage only

| | E Series | V Series | P Series | S Series |
|-------------------------------------|--|---|---|---|
| Power and dimensions | | | | |
| High-efficiency dual redundant PSU* | 1100W 100V – 240V AC 1100W -48V DC | 2000W 200V – 240V AC | 1100W 100V – 240V AC 1100W -48V DC 1600W 200V – 240V AC | 1100W 100V – 240V AC 1100W -48V DC |
| Redundant cooling fans | 8 | 6 | 4 or 6 | 6 |
| Physical dimensions | 42.8mm/1.68in H 434.0mm/17.09in W 733.82mm/29.61in D 21.9kg/48.28lb | 86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D 28.1kg/61.95lb | 86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D 28.1kg/61.95lb | 86.8mm/3.42in H 434mm/17.09in W 678.8mm/26.72in D 33.1kg/72.91lb |

*PSUs must be sized correctly to prevent thermal throttling under certain workloads

| | E Series | V Series | P Series | S Series |
|---|--|-----------------------------------|-----------------------------------|-----------------------------------|
| Environmental and certifications | | | | |
| Ambient operating temperature | 10°C to 30°C 50°F to 86°F | 10°C to 30°C 50°F to 86°F | 10°C to 30°C 50°F to 86°F | 10°C to 25°C 50°F to 77°F |
| Storage temperature range | -40°C to +65°C -40°F to +149°F | -40°C to +65°C -40°F to +149°F | -40°C to +65°C -40°F to +149°F | -40°C to +65°C -40°F to +149°F |
| Operating relative humidity | 10% to 80% (non-condensing) | 10% to 80% (non-condensing) | 10% to 80% (non-condensing) | 10% to 80% (non-condensing) |
| Operating attitude with no deratings | 3048m approx. 10,000 ft | 3048m approx. 10,000 ft | 3048m approx. 10,000 ft | 3048m approx. 10,000 ft |
| Heat dissipation | 4100 BTU/hr | 7500 BTU/hr | 6000 BTU/hr | 4416 BUT/hr |
| Certifications | UL (Covers cUL and does not require CSA), CE, EMC, FCC | | | |



[Learn more](#) about Dell EMC VxRail Appliances



Contact a Dell EMC Expert

1-866-438-3622