DELL Technologies

VxRail Spec Sheet

Dell VxRail

Designed for VMware, with VMware, to enhance VMware

Dell 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 to deliver 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 non-disruptively automates upgrades, patches, node additions and node retirement to ensure that VxRail infrastructure maintains a continuously validated state. SaaS multi-cluster management can further enhance operational efficiency by leveraging infrastructure machine learning to aggregate performance metrics and detailed health reports into APEX AIOps Infrastructure Observability, providing a single global view of a customer’s VxRail environment. And, coupled with a broad set of public RESTful APIs, VxRail is uniquely positioned as the platform of choice for greater cloud and IT automation extensibility.

Built on PowerEdge servers with a choice of Intel® Xeon® Scalable or AMD EPYC™ processors, VxRail is configurable with multiple compute, memory, storage, network and accelerator options to cover a wide variety of applications and workloads, and is continuously adopting new technologies like NVMe storage, 100 Gb/s networking, and NVIDIA Data Center GPUs to deliver application performance, availability and diversity for the workloads of tomorrow. And with redundancy built in at every opportunity – from the RAID 1 “BOSS”, high-efficiency redundant power supplies, and multiple networking ports – VxRail is designed for 99.9999% high availability.

With the fast adoption of digital transformation and the proliferation of 5G networks, workloads are expanding outside of traditional core data centers, creating an immediate need for a small footprint, low-cost, easy-to-manage infrastructure option. This is especially true for retail, telecommunications, manufacturing and ROBO customers, whose data collection and data processing needs are increasingly happening at the edge. Customers already benefiting from the simplicity and automation that VxRail provides in the core data center can leverage VxRail satellite nodes, a single node deployment option, to extend these same benefits to the edge.

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

VxRail is backed by Dell Technologies’ world-class support, offering a single point of contact for both hardware and software components and includes Dell Secure Connect Gateway for call-home and proactive two-way remote connection for remote monitoring, diagnosis, and repair to ensure maximum availability.

Dell VxRail Deployment Flexibility

VxRail with vSAN Express Storage Architecture (ESA)

VMware vSAN ESA is a vSAN architecture optimized for high performing, modern hardware. VxRail deployed with vSAN ESA employs a single-tier, all-NVMe storage architecture whose high performance can parallelize I/Os with low CPU overhead. This in turn offers simplified storage device management that allows for adaptive data resiliency and enables RAID-1 performance at RAID-6 capacity.

VxRail with vSAN Original Storage Architecture (OSA)

VxRail with vSAN OSA describes VxRail deployed with original vSAN architecture, configured as a two-tier diskgroup based storage system comprised of dedicated cache and capacity disks.

VMware Cloud Foundation on VxRail

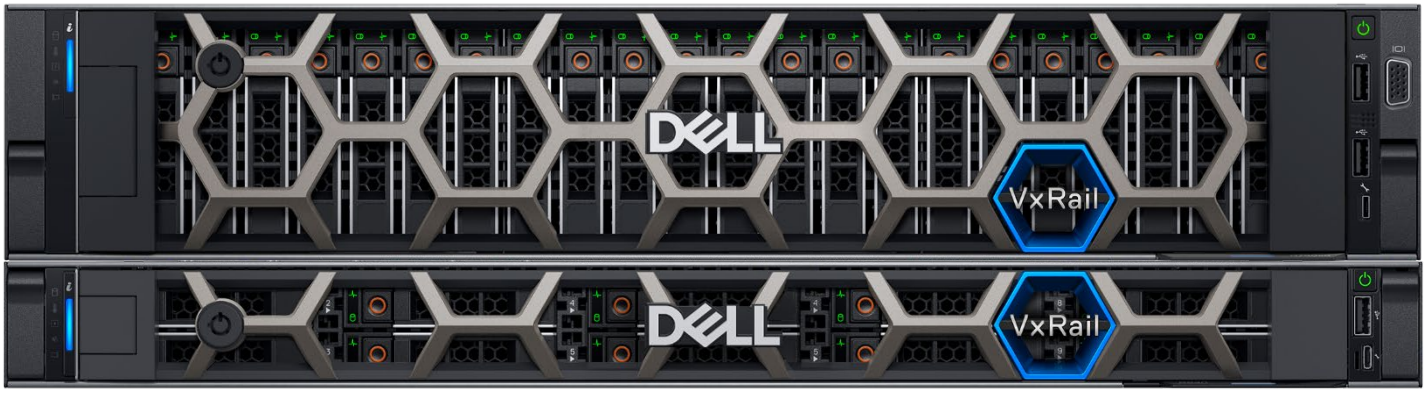
VMware Cloud Foundation on VxRail delivers a simple and direct path to the hybrid cloud and Kubernetes at cloud scale with one complete, automated platform, supporting simultaneous VM and container-based workloads on industry-leading Dell PowerEdge server and Dell Storage across multiple cloud environments. The platform delivers a set of software defined services for compute (with vSphere and vCenter), storage (with vSAN and Dell Storage), networking (with NSX), security, cloud management (with Aria Suite), End User Computing Services (with VMware Horizon and App Volumes), and container-based cloud native platform services (with VMware vSphere 7 with Kubernetes and Tanzu Kubernetes Grid in both private or public environments, making it an ideal operational hub for hybrid cloud.

VxRail satellite nodes

VxRail satellite nodes enable customers to implement a low-cost single node option and benefit from the same VxRail automation, testing and optimization, unique lifecycle management, and deep VMware integration increasing operational efficiencies and standardization across edge locations, without the use of vSAN.

VxRail dynamic nodes

VxRail dynamic node clusters are compute-only vSphere clusters that allow users to scale compute and storage independently based on workload needs. Since VxRail dynamic nodes do not support internal cache or capacity storage, vSAN is not required. The Dell storage portfolio, including Dell PowerFlex, PowerStore-T, PowerMax, and Unity XT, can be leveraged as external primary storage. VxRail and VCF on VxRail solutions can support dynamic node deployments 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 cross-cluster capacity sharing environments where remote vSAN datastores can also be used as primary storage for dynamic node clusters.



VxRail VE-660

Node	VE-660			
Chassis	R660 10 x 2.5” drive bays			
vSAN Type	ESA	OSA		
Storage Type	All NVMe	All NVMe	All flash	Hybrid
CPU	Single or Dual Intel Xeon Scalable (Gen 4 or Gen 5)			
Memory	128 GB to 8192 GB	64 GB to 8192 GB		
Cache	N/A	Up to 1600 GB SAS Up to 3200 GB NVMe		
Storage capacity	Up to 153.6 TB RI or MU NVMe	Up to 122.88 TB RI or MU NVMe	Up to 61 TB SAS or Up to 30 TB SATA	Up to 19.2 TB SAS
Storage controller	N/A		HBA355i or PERC H755 with RAID 1, 5, 6, 10, 50, 60	
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE			
Networking	Up to 3x: 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 Dual port 32Gb / 64Gb HBA			
GPU	Up to 2x: NVIDIA L4 or Up to 2x: NVIDIA A2			
Deployment flexibility	vSAN HCI		vSAN HCI Satellite node Dynamic node	
Additional information	VxRail VE-660 3D Viewer VxRail VE-660 Technical Specifications			

VxRail VP-760 (accelerator optimized)

Node	VP-760			
Chassis	R760 24 x 2.5” drive bays (accelerator optimized)			
vSAN Type	ESA	OSA		
Storage Type	All NVMe	All NVMe	All flash	Hybrid
CPU	Dual Intel Xeon Scalable (Gen 4 or Gen 5)		Single or Dual Intel Xeon Scalable (Gen 4 or Gen 5)	
Memory	128 GB to 8192 GB	64 GB to 8192 GB		
Cache	N/A	Up to 1600 GB SAS Up to 3200 GB NVMe		
Storage capacity	Up to 368.64 TB RI or MU NVMe	Up to 322.56 TB RI or MU NVMe	Up to 161 TB SAS or Up to 80.6 TB SATA	Up to 50.4 TB SAS
Storage controller	N/A		HBA355i or PERC H755 with RAID 1, 5, 6, 10, 50, 60	
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE			
Networking	Up to 2x: Dual 100GbE or Up to 4x: Quad 10 GbE or 25 GbE or Up to 6x: Dual 10 GbE or 25 GbE			
Fibre channel	Up to 5x Dual port 32Gb / 64Gb HBA			
GPU	Up to 2x: NVIDIA L40S or Up to 2x: NVIDIA L40 or Up to 2x: NVIDIA A16 or up to 4x: NVIDIA L4 or Up to 6x: NVIDIA A2		Up to 2x: NVIDIA L40S or Up to 2x: NVIDIA L40 or Up to 2x: NVIDIA A16 or Up to 2x: NVIDIA L4 or Up to 6x: NVIDIA A2	
Deployment flexibility	vSAN HCI		vSAN HCI Satellite node Dynamic node	vSAN HCI Satellite node
Additional information	VxRail VP-760 3D Viewer VxRail VP-760 Technical Specifications			

VxRail VP-760 (storage optimized)

Node	VP-760	
Chassis	R760 28 x 2.5” drive bays (storage optimized)	
vSAN Type	OSA	
Storage Type	All flash	Hybrid
CPU	Single or Dual Intel Xeon Scalable (Gen 4 or Gen 5)	
Memory	64 GB to 8192 GB	
Cache	Up to 1600 GB SAS Up to 3200 GB NVMe	
Storage capacity	Up to 184.32 TB SAS or Up to 92.16 TB SATA	Up to 57.6 TB SAS
Storage controller	HBA355i or PERC H755 with RAID 1, 5, 6, 10, 50, 60	
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE	
Networking	Up to 2x: Dual 100GbE or Up to 4x: Quad 10 GbE or 25 GbE or Up to 6x: Dual 10 GbE or 25 GbE	
Fibre channel	Up to 5x Dual port 32Gb / 64Gb HBA	
GPU	N/A	
Deployment flexibility	vSAN HCI Satellite node Dynamic node	vSAN HCI Satellite node
Additional information	VxRail VP-760 3D Viewer VxRail VP-760 Technical Specifications	

VxRail VS-760

Node	VS-760
Chassis	R760 4 x 2.5” and 12 x 3.5” drive bays
vSAN Type	OSA
Storage Type	Hybrid
CPU	Single or Dual Intel Xeon Scalable (Gen 4 or Gen 5)
Memory	64 GB to 4096 GB
Cache	800 GB SAS 1600 GB SAS or NVMe Up to 3200 GB NVMe
Storage capacity	Up to 144 TB SAS HDD
Storage controller	HBA355i
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE
Networking	Up to 2x: Dual 100GbE or Up to 3x: Quad 10 GbE or 25 GbE or Up to 4x: Dual 10 GbE or 25 GbE
Fibre channel	Up to 4x Dual port 32Gb / 64Gb HBA
GPU	N/A
Deployment flexibility	vSAN HCI
Additional information	VxRail 3D Viewer VxRail VS-760 Technical Specifications

VxRail VE-6615

Node	VE-6615		
Chassis	R6615 with 10 x 2.5” drive bays		
vSAN Type	ESA	OSA	
Storage Type	All NVMe	All NVMe	All Flash
CPU	Single 4th Generation AMD EPYC		
Memory	64 GB to 3072 GB		
Cache drives	N/A	Up to 3200 GB NVMe	Up to 1600 GB SAS Up to 3200 GB NVMe
Storage capacity	Up to 153.6 TB NVMe	Up to 122.88 TB NVMe	Up to 61.4 TB SAS
Storage controller	N/A		HBA355i
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE		
Networking	Up to 2x: Dual 100GbE or Up to 2x: Dual 25GbE or Up to 2x: Dual 10GbE or		
Fibre channel	Up to 2x dual port 32Gb / 64Gb HBA		
GPU	Up to 2x: NVIDIA L4 or Up to 2x: NVIDIA A2		
Deployment flexibility	vSAN HCI		
Additional information	VxRail VE-6615 Technical Specifications		

VxRail VP-7625

Node	VP-7625		
Chassis	R7625 with 24 x 2.5” drive bays		
vSAN Type	ESA	OSA	
Storage Type	All NVMe	All NVMe	All flash
CPU	Dual 4th Generation AMD EPYC		Single or Dual 4th Generation AMD EPYC
Memory	64 GB to 3072 GB		
Cache	N/A	Up to 3200 GB NVMe	Up to 1600 GB SAS Up to 3200 GB NVMe
Storage capacity	Up to 368.64 TB NVMe	Up to 322.56 TB NVMe	Up to 161.28 TB SAS
Storage controller	N/A		HBA355i
Onboard networking	Dual 100GbE or Dual or quad 25 GbE or Dual or quad 10 GbE		
Networking	Up to 4x: Dual 100GbE or Up to 3x: Dual or quad 25GbE or Up to 3x: Dual or quad 10 GbE		
Fibre channel	Up to 2x Dual port 32Gb / 64Gb HBA		
GPU	Up to 2x: NVIDIA L40 or Up to 2x: NVIDIA L40S or Up to 2x: NVIDIA A16 or Up to 6x: NVIDIA L4 or Up to 6x: NVIDIA A2		
Deployment flexibility	vSAN HCI		
Additional information	VxRail VP-7625 Technical Specifications		

VxRail VD-4000

Chassis	VD-4000r	VD-4000z
Chassis	Standard rackmount 2-post, 4-post, or slide rails	Flexible mount options Stacking, VESA plate, DIN rail
Configurations	Up to four 1U nodes, two 2U nodes, or a combination	Up to two 1U nodes or one 2U node
Dimensions	19” x 14” (434mm x 355mm) (19” x 18” 434mm x 457mm with bezel)	10.5” x 14” (267mm x 355mm) (12” x 18” 305mm x 457mm with bezel and latch)
Max weight	17.9kg (39.4lbs)	12.9kg (28.4lbs)
Airflow	Front or reverse airflow configuration	
PSU	1800W 110V/240V AC, 1400W 110V/240V AC or 1100W 48V DC redundant PSU	
Options	Intelligent filtered bezel VD-4000w embedded vSAN witness node	
Additional information	VxRail VD-4000r 3D Viewer VD-4000r Technical Specifications VD-4000w Technical Specifications	VxRail VD-4000z 3D Viewer VD-4000z Technical Specifications VD-4000w Technical Specifications

Node	VD-4510c		VD-4520c	
Sled type	1U		2U	
vSAN Type	ESA	OSA	ESA	OSA
Storage Type	All NVMe			
CPU	Single 3rd Generation Intel Xeon D with 16 or 20 cores	Single 3rd Generation Intel Xeon D with 8, 16 or 20 cores	Single 3rd Generation Intel Xeon D with 16 or 20 cores	Single 3rd Generation Intel Xeon D with 8, 16 or 20 cores
Memory	From 128 GB to 512 GB	From 64 GB to 512 GB	From 128 GB to 512 GB	From 64 GB to 512 GB
Cache drives	N/A	Single 800 GB MU NVMe	N/A	Up to three 800 GB MU NVMe
Capacity drives	Up to four 3.84 TB RI NVMe	Up to three 3.84 TB RI NVMe	Up to twelve 3.84 TB RI NVMe	Up to nine 3.84 TB RI NVMe
Storage capacity	15.36 TB	Up to 11.5 TB	Up to 46.08 TB	Up to 34.5 TB
Storage controller	N/A			
Onboard networking	Quad 25 GbE	Quad 10GbE or 25 GbE	Quad 25 GbE	Quad 10GbE or 25 GbE
PCIe slots	N/A		Two full height full length x16 PCIe Gen 4 slots	
GPU	N/A		Up to 2x: NVIDIA L4 or Up to 2x: NVIDIA A2 or Up to 1x: NVIDIA A30	
PCIe networking	N/A		Dual 100GbE QSFP56 or Dual or quad 25GbE SFP28 or Dual 10GbE BaseT	Dual 100GbE QSFP56 or Dual or quad 25GbE SFP28 or Dual 10GbE BaseT or Quad 1GbE BaseT
Deployment flexibility	vSAN HCI	vSAN HCI Satellite	vSAN HCI	vSAN HCI Satellite
Operating temperature	-5C to 55C (configuration restrictions apply)			
Additional Information	VD-4510c 3D Viewer VD-4510c Technical Specifications		VD-4520c 3D Viewer VD-4520c Technical Specifications	

VxRail E660

Node	E660			
Chassis	R650 10 x 2.5” drive bays			
vSAN type	OSA			ESA
Storage type	All Flash	Hybrid	All NVMe	
CPU	Single or dual Intel Xeon Scalable Gen 3		Dual Intel Xeon Scalable Gen 3	
Memory	64 GB to 4096 GB		128 GB to 8192 GB	128 GB to 4096 GB
Storage class memory	256 GB to 8192 GB Intel Optane 200 Series			
Cache drives	Up to 1600 GB SAS 400 or 800 GB Optane Up to 3200 GB NVMe		400 or 800 GB Optane Up to 3200 GB NVMe	N/A
Storage capacity	61 TB SAS or 30 TB SATA	19 TB SAS	123 TB	153.6TB
Storage controller	HBA355i or PERC H755 with RAID 1, 5, 6, 10, 50, 60		N/A	
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE			Dual or quad 25 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 or quad 25 GbE
Fibre channel	Up to 3x dual port 16Gb / 32Gb HBA			
GPU	Up to 3x: NVIDIA L4 or Up to 3x: NVIDIA A2			
Deployment flexibility	vSAN HCI Satellite node Dynamic node	vSAN HCI Satellite node	vSAN HCI	
Additional information	VxRail E660 3D Viewer VxRail E660, E660F and E660N Technical Specifications			

VxRail P670/F/N

Node	P670		
Chassis	R750 24 x 2.5” drive bays R750 28 x 2.5” drive bays	R750 24 x 2.5” drive bays	
vSAN type	OSA		ESA
Storage type	All-flash	All-NVMe	
CPU	Single or dual Intel Xeon Scalable Gen 3	Dual Intel Xeon Scalable Gen 3	
Memory	64 GB to 4096 GB	128 GB to 4096 GB	
Storage class memory	128 GB to 8192 GB Intel Optane 200 Series	256 GB to 8192 GB Intel Optane 200 Series	
Cache drives	Up to 1600 GB SAS 400 or 800 GB Optane Up to 3200 GB NVMe	400 or 800 GB Optane Up to 3200 GB NVMe	N/A
Storage capacity	Up to 184 TB	Up to 322 TB	Up to 368 TB
Storage controller	HBA355i or PERC H755	N/A	
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE		Dual or quad 25 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 or quad 25 GbE
Fibre channel	Dual port 16Gb / 32Gb HBA		
GPU	N/A	Up to 2x: NVIDIA L40 or Up to 2x: NVIDIA A40 or Up to 2x: NVIDIA A30 or Up to 2x: NVIDIA A16 or Up to 3x NVIDIA L4 or Up to 2x: NVIDIA A2	
Deployment flexibility	vSAN HCI Dynamic node	vSAN HCI	
Additional information	VxRail P670 3D Viewer VxRail P670, P670F, and P670N Technical Specifications		

VxRail V670

Node	V670
Chassis	R750 with 24 x 2.5” drive bays
vSAN Type	OSA
Storage Type	All flash
CPU	Dual Intel Xeon Scalable Gen 3
Memory	128 GB to 4096 GB
Storage class memory	256 GB to 8192 GB Intel Optane 200 Series
Cache	800 or 1600 GB SAS 400 or 800 GB Optane Up to 3200 GB NVMe
Storage capacity	161 TB SAS
Storage controller	HBA355i or PERC H755 with RAID 1, 5, 6, 10, 50, 60
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	Dual port 16Gb / 32Gb HBA
GPU	Up to 2x: NVIDIA L40 or Up to 2x: NVIDIA A40 or Up to 2x: NVIDIA A30 or Up to 2x: NVIDIA A16 or Up to 3x: NVIDIA L4 or Up to 6x: NVIDIA A2
Deployment flexibility	vSAN HCI Satellite node Dynamic node
Additional Information	VxRail V670F Technical Specifications

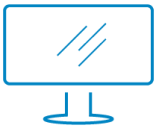
VxRail S670

Node	S670
Chassis	R750 with 12 x 3.5” front drive bays plus 4 x 2.5” rear drive bays
vSAN Type	OSA
Storage Type	Hybrid
CPU	Single or dual Intel Xeon Scalable Gen 3
Memory	64 GB to 4096 GB
Storage class memory	N/A
Cache drives	Up to 1600 GB SAS 400 or 800 GB Optane Up to 3200 GB NVMe
Storage capacity	Up to 144 TB NL SAS
Storage controller	HBA355i
Onboard networking	Dual or quad 25 GbE or Dual or quad 10 GbE
Networking	Up to 3x: Dual or quad 25 GbE or Up to 3x: Dual or quad 10 GbE
Fibre channel	Dual port 16Gb / 32Gb HBA
GPU	N/A
Deployment flexibility	vSAN HCI
Additional information	VxRail S670 Technical Specifications

Dell Technologies Services for Dell 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 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.
Data Migration for Enterprise	Consistent, repeatable, dependable process to plan and manage data migration projects. Migrate data from existing Dell 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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