



## POWEREDGE MODULAR INFRASTRUCTURE

Dell EMC PowerEdge Modular Infrastructure is built from the ground up for the software defined data center. The PowerEdge platform is designed to support the right balance of density, capacity, and flexibility to meet the needs of both traditional and cloud-native workloads. Customizable modules of compute, storage and networking are easily and rapidly scaled and managed. And the OpenManage portfolio delivers innovative systems management that makes you more efficient and your infrastructure more productive and reliable. Choose PowerEdge Modular Infrastructure for a worry free IT that is secure and scalable - with no compromises.

PowerEdge FX2 Architecture	PowerEdge FX2 	PowerEdge FX2S 
Form factor	Full-width, 2U enclosure	Full-width, 2U enclosure
Description	An industry standard 2U rack-mount chassis that supports shared, redundant power and cooling, I/O fabric and management infrastructure and accommodates compact, customizable blocks of server storage and networking.	
I/O slots	Not Available	Supports up to 8 low-profile/half-length PCIe 3.0 modules
Server Sleds	Up to 8 FC430 Up to 4 FC630 Up to 4 FC640 Up to 2 FC830 Up to 1 FC830 mixed with up to 2 FC630/640	Up to 8 FC430 Up to 4 FC630 Up to 4 FC640 Up to 2 FC830 Up to 1 FC830 mixed with up to 2 FC630/640
Storage Sleds	Not Available	Up to 2 FD332 mapped to 4 FC430 Up to 3 FD332 mapped to 1 FC630/640 Up to 2 FD332 mapped to 2 FC630/640 Up to 2 FD332 mapped to 1 FC830
Power Supplies	Hot-plug PSUs: Platinum rated – 2400W, 2000W, or 1600WAC in 1+1 redundant or ROA or 2+0 non-redundant configurations	Hot-plug PSUs: Platinum rated – 2400W, 2000W, or 1600WAC in 1+1 redundant or ROA or 2+0 non-redundant configurations
Fans	8 hot-swappable fans provide cooling to the I/O components in the system	8 hot-swappable fans provide cooling to the I/O components in the system
I/O and Ports	Choice of 3 Dell EMC modules: FN410s 4-ports SFP+, FN410t 4-port 10Gb Base-T, FN2210s 4-port Combination of 2 Fibre Channel and 2 Ethernet ports, or 2 pass-through modules.	Choice of 3 Dell EMC modules: FN410s 4-ports SFP+, FN410t 4-port 10Gb Base-T, FN2210s 4-port Combination 2 Fibre Channel and 2 Ethernet ports, or 2 pass-through modules.
Embedded Management	One Chassis Management Controller (CMC)	One Chassis Management Controller (CMC)

**PowerEdge  
Blade Chassis**

**PowerEdge M1000e**








**PowerEdge VRTX**



Form factor	10U modular enclosure	Tower or 5U rack modular chassis
Description	Data center efficiency with shared power, cooling, networking and management infrastructure	Integrates servers, storage, networking and management into a quiet data center under your desk
I/O slots	Not Available	Up to 8 PCIe slots
Server sleds	Up to 8 M830 Up to 16 M640 Up to 32 quarter height blades	Up to 4 M640 Up to 2 M830
Storage sleds	Internal: PS-M4110 Blade Array External: Dell Storage PS Series, SC Series and MD Series	Internal: Up to 12 x 3.5" or 25 x 2.5 drives (SED available) External: Up to four MD1200 (12 x 3.5" drives) or MD1220 (24 x 2.5" drives)
Power supplies	Supports up to six 3000W high-efficiency power supplies or up to six -48V DC 2700W in 3+3 grid redundant, 2+1 power redundant and 2+0 non-redundant configurations	Supports up to four 1100W or 1600W AC power supply units (PSU) in 3+1 and 2+2 redundant configurations
Fans	9 hot-pluggable, redundant fan modules provide cooling to the I/O components in the system	6 hot-pluggable, redundant fan modules and 4 blower modules
I/O and ports	6 total blade I/O modules for 3 fully redundant fabrics	Internal 1GbE 24-port switch Internal 10GbE switch
Embedded management	Chassis Management Controller (CMC)	Chassis Management Controller (CMC) Internal 1GbE 8-port pass-through module

“The hardware was delivered by Dell OEM Solutions, and we assembled the Dell EMC PowerEdge VRTX based solution in a third of the time for a conventional rack and server configuration.”  
- Toru Nakada, Healthcare IT (HCIT) Supply chain leader, GE Healthcare Japan

“Our elementary school always has a need to use application servers for reading and writing applications, and we now have the ability to quickly launch additional virtual servers to support that with the Dell PowerEdge VRTX solution.” - Dan Marakowski, Technology coordinator, Clayton Public Schools

PowerEdgeFX Components	PowerEdge FC830	PowerEdge FC640	PowerEdge FC430	PowerEdge FD332
			 	
Form factor	Full-width, 1U, 4-socket server sled	Half-width, 1U, 2-socket server sled	Quarter-width, 1U, 2-socket server sled	Half-width, 1U, storage sled
Description	Powerhouse with dense compute, memory scalability and extensive storage	Flexibility and performance with best-in-class density	Right balance of performance, memory and I/O	Ultimate dense direct-attached storage with unprecedented flexibility
Ideal workloads	Virtualized database – SAN, dense performing compute and performance database	Dense virtualization, rack server consolidation, software defined storage, business computing (CRM, ERP), enterprise HPC, big data analytics, database, private and hybrid cloud environments	Data centers that seek dense virtualization, software defined storage, dense HPC and small Hadoop clusters	Dense software defined storage, Hadoop Clusters, local database and dense DAS
Chassis enclosure	Up to 2 sleds per PowerEdge FX2/ FX2S 2U rack-mount chassis	Up to 4 sleds per PowerEdge FX2/ FX2S 2U rack-mount chassis	Up to 8 sleds per PowerEdge FX2/ FX2S 2U rack-mount chassis	Up to 3 sleds per PowerEdge FX2S 2U rack-mount chassis. Requires at minimum 1 compute sled.
Processor	Up to four Intel® Xeon® processor E5-4600 v4 product family processor, with up to 22 cores per processor	Up to two Intel Xeon Scalable processors, with up to 28 cores per processor	Up to two Intel Xeon processor E5-2600 v4 processors, with up to 18 cores per processor	Not Available
Memory	48 DDR4 DIMM slots, 1.5TB max. Speeds up to 2400MT/s	16 DDR4 DIMMs slots, 2TB max. Supports RDIMM / LRDIMM /AEP, speeds up to 2666MT/s	8 DDR4 DIMMs slots, 512GB max, with speeds up to 2400MT/s	Not Available
Disk	Front drive bays: Up to 8 x 2.5” SAS/SATA/ (HDD/SSD)	Front drive bays: Up to 2 x 2.5” SAS/SATA/ (HDD/SSD)	Front drive bays: Up to 2 x 1.8” SATA SSDs	Up to 16 x SFF storage devices per FD332 SATA/SAS (HDD/SDD)
NVMe	Optional support for up to 2 Express Flash NVMe SSD	Optional support for up to 2 Express Flash NVMe SSD	Not Available	Not Available
PCIe slots	Access up to 8 PCIe 3.0 expansion slots in FX2S chassis	Access up to 8 PCIe 3.0 expansion slot in FX2S chassis	Access up to 2 PCIe 3.0 expansion slot in FX2S chassis	Not Available
Security	TPM 1.2/2.0 optional Cryptographically signed firmware Secure Boot	TPM 1.2/2.0 optional Cryptographically signed firmware Hardware root of trust Secure Boot System Lockdown System Erase	TPM 1.2/2.0 optional Cryptographically signed firmware Secure Boot	Not Available

PowerEdge Blade Components	PowerEdge M830	PowerEdge M640	PS – M4110	
Form factor	Full-height blade, 4-socket server sled	Half-height blade 2-socket server sled	Double-wide, half-height blade storage	
Description	Designed to boost application performance, consolidation and time-to-value in data center or remote office applications	Designed for high performance with best-in-class density for exceptional scalability	Enables a fully virtualized solution integrating storage, servers and networking within one blade chassis	<p>“Anana has seen the costs of infrastructure scaling fall around 30 percent through the combined power of the Dell EMC FX architecture and VSAN.”</p> <p>-Gareth Evans, Head of infrastructure, Anana.”</p>
Ideal workloads	Ideal for memory-intensive, I/O-intensive or heavy-use workloads in exceptionally demanding databases, technical computing and virtualized environments	Virtualization, software defined storage, HPC applications	Offers multiple configurations to address mission-critical, high-performance workloads and high-capacity workloads	
Chassis enclosure	2 sleds per PowerEdge VRTX 8 sleds per PowerEdge M1000e	4 sleds per PowerEdge VRTX 16 sleds per PowerEdge M1000e	4 PS-M4110 arrays per chassis	
Processor	Up to two Intel Xeon processor E5-4600 v4 processors with up to 22 cores per processor	Up to two Intel Xeon Scalable Processors, up to 28 cores per processor	Processors included within the array	
Memory	48 DIMMs in total; Supports RDIMM/LRDIMM, speeds up to 2400MT/s, 3TB max	16 DDR4 DIMMs in total; Supports RDIMM /LRDIMM, speeds up to 2666MT/s, 2TB Max ECC Registered DDR4	Dual controllers with 2GB non-volatile memory per controller	<p>“In one move, we’ve reduced our IT footprint by 80 per cent through our adoption of the Dell EMC PowerEdge FX architecture.”</p> <p>- Chris Weswell, IT technical specialist, Blackpool Teaching Hospitals NHS Foundation Trust</p>
Disk	Up to 12 x 1.8" SSD, up to 4 x 2.5" SAS/SATA (HDD/SSD), up to 2 x 2.5" SAS/SATA (HDD/SSD)	Up to 2 x 2.5" SAS/SATA (HDD/SSD)	Up to 14 x 2.5" SAS/SATA HDD or up to 9 x 2.5" SAS HDD and up to 6 SSD	
NVMe	Optional support for up to 2 x 2.5" Express Flash NVMe SSD	Optional support for up to 2 x 2.5" Express Flash NVMe SSD	Not Available	
PCIe slots	2 x PCIe 3.0	2 x PCIe 3.0	Not Available	
Security	TPM 1.2/2.0 optional Cryptographically signed firmware Secure Boot	TPM 1.2/2.0 optional Cryptographically signed firmware Hardware root of trust Secure Boot System Lockdown System Erase	CHAP authentication; access control for iSCSI; access control for management interfaces including RADIUS support; IPSEC and SED	

# Dell EMC Solutions

When you buy a Dell EMC server, you get more than just hardware. You get access to IT solutions end-to-end. Dell and EMC together bring industry-leading expertise into a common platform to help you transform your data center. Dell EMC can deliver PowerEdge technology at any level of integration – from a best-in-breed platform, to a pre-integrated fully turnkey hybrid cloud implementation or any step in-between. Combining the PowerEdge server infrastructure with Dell Services and Financial Solutions allows you to modernize your data center faster, more affordably and with less risk.

## OpenManage Systems Management



Spend less time on routine maintenance and stay focused on your business-critical priorities, thanks to the intelligent automation capabilities of PowerEdge servers. OpenManage™ System Management means your servers can take care of themselves, with zero touch configuration, proactive support notification and easy system erase when it is time for systems to be retired or redeployed. With iDRAC's agent-free server management, you can utilize consistent methods to manage servers regardless of the installed OS and workloads. You can remotely manage PowerEdge servers via scripts with the new, Redfish-compliant iDRAC Restful API, Dell and third-party consoles, or legacy APIs.

## Dell EMC Services



To fully implement a modern infrastructure, organizations require reliable, comprehensive IT services to drive IT transformations, accelerate adoption of new technologies and maximize productivity.

**Architect:** Get started with our IT Transformation Workshop to accelerate your transformation to becoming an agile business partner and broker of services to the business.

**Implement:** The ProDeploy Enterprise Suite helps you get more out of your new technology starting day one. Trust Dell EMC experts to lead deployments from basic hardware installations through planning, configuration and complex integrations.

**Manage:** The ProSupport Enterprise Suite ensures 24x7 access to elite ProSupport engineers along with automated, proactive and predictive tools enabled by SupportAssist. Our personalized service and preventative measures help you get ahead of problems before they happen.

## Dell EMC Data Center Infrastructure

Dell EMC Data Center Infrastructure (DCI) simplifies and manages critical infrastructure in and around the data center serving the needs of your business. A complete portfolio of racks, power and cooling solutions lets you scale as your data center needs grow.



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