



### Dell EMC VxRack System

Modular rack-scale engineered system that delivers extreme scalability and flexibility

- Start small and grow to data-center scale in flexible discrete increments.
- Easy to manage and provision new resources.
- Integrated networking simplifies scale-out
- Software-defined or bare-metal architecture provides workload flexibility.
- Dell EMC VxRack System series and Dell EMC pre-engineering, manufacturing, life cycle assurance, and support greatly simplify data center operations.

### VxRack System Options

- Dell EMC VxRack FLEX—hyper-converged infrastructure powered by Dell EMC ScaleIO
- Dell EMC VxRack SDDC—hyper-converged infrastructure powered by VMware Cloud Foundation

# DELL EMC VXRACK SYSTEM

## Rack-Scale Engineered Systems

Converged infrastructure brings together the disparate infrastructure elements that power IT, including servers, data-storage devices, networking functions, virtualization, management software, orchestration, and applications. The purpose: to simplify IT by breaking down the silos in the data center, reversing the status quo of static and inflexible pools of resources. Converged-infrastructure solutions are proven to significantly speed deployments, make infrastructure more agile, and simplify IT operations—all of which is critical to successfully deliver IT as a service.

The Dell EMC VxRack System is a rack-scale engineered system that complements Dell EMC's other converged and hyper-converged systems. These self-contained units of servers, networking, and storage are well suited for use cases that require a highly scalable infrastructure. The system can incorporate multiple software-defined storage and networking technologies, a choice of hypervisors, and can support bare-metal workloads. The flexible, modular design of Dell EMC VxRack Systems meets the scalability, performance, and efficiency requirements of modern data centers, enabling IT organizations to deploy a wide range of both traditional business applications and cloud-native applications.

In contrast to traditional converged infrastructure solutions, hyper-converged infrastructure (HCI) is a software-defined architecture with integrated compute, networking, software-defined storage, and virtualization. The Dell EMC VxRack System SDDC and Dell EMC VxRack System FLEX both enable compute, storage, and networking functions to be decoupled from the underlying infrastructure and run on a common set of physical resources that are based on industry-standard x86 components. Using hyper-converged infrastructure, customers can start with a small deployment, and then flexibly scale out to support dynamic workloads and evolving business needs.

## KEY FEATURES AND BENEFITS

The VxRack System is the only rack-scale engineered system that satisfies the scalability and management requirements of today's data centers. IT organizations that are moving toward a software-defined architecture can utilize the VxRack System for a diverse set of use cases, especially in situations where application growth is unpredictable. This includes, but is not limited to, Infrastructure as a Service (IaaS) at scale, Platform as a Service (PaaS), business-critical mixed workloads, agile test and development environments, centralized Virtual Desktop Infrastructure (VDI) deployments, hybrid-cloud solutions, and cloud-native services (OpenStack).

- **Agility.** Integrated compute, network, and storage in a modular system, not discrete hyper-converged units.
- **Unparalleled Performance.** Experience performance that scales linearly as you expand.
- **Scale as you Grow.** Start with a minimal number of nodes and rapidly scale to hundreds or thousands of nodes as needed, eliminating the need to overprovision resources up front.
- **Flexible Configurations.** Add compute enclosures with various CPU, memory, and storage options to meet specific application or workload requirements.
- **Unified Management.** Simplified operations and management through integrated provisioning, configuration, and a unique management toolset from Dell EMC.
- **Data Protection.** Options to integrate Dell EMC Avamar, Dell EMC Data Domain, Dell EMC RecoverPoint for Virtual Machines.
- **Same Dell EMC Experience.** VxRack System is engineered, manufactured, managed, supported, and sustained as one by Dell EMC. Dell EMC Release Certification Matrix (RCM) validation and Dell EMC Support for all system components help mitigate risk.

## MULTIPLE SYSTEM OPTIONS

The VxRack System System can be manufactured and configured in two different options:

### Dell EMC VxRack System FLEX

- Leverages Dell EMC ScaleIO to virtualize the server's direct-attached storage into a shared network-based storage pool that is similar to SAN storage
- Creates a flexible foundation for delivering IaaS at scale that can support a wide range of use cases (separately or in combination)
- Makes it easy to deliver massive performance at extreme scale—1000+ nodes—by distributing data across all available storage resources
- Capable of supporting bare metal/multiple hypervisors

### Dell EMC VxRack System SDDC

- Powered by VMware Cloud Foundation delivering a VMware SDDC that is easy to deploy and operate
- Full lifecycle management of hardware and software with the SDDC Manager, resulting in greater simplicity and faster time-to-value
- Integrated physical and virtual network capabilities including VMware NSX™ network virtualization
- Easily scale incrementally supporting hundreds of HCI nodes

## DELL POWEREDGE SERVERS

Business applications and workloads vary greatly, and Dell EMC strongly believes that one size does not fit all when it comes to hyper-converged infrastructure. With an unmatched hyper-converged infrastructure portfolio, Dell EMC enables IT organizations to accelerate their modernization initiatives by making it easy to deploy infrastructure platforms on which they can build and run both traditional and cloud-native applications.

Integrating industry leading Dell PowerEdge servers with Dell EMC's HCI offerings is another example of the power of the combined companies. Dell EMC's ability to deliver the entire hyper-converged infrastructure stack (from software through servers to storage) provides even more customer value, enabling faster innovation while leveraging Dell's world-class supply chain to drive down costs. IT organizations can now partner with a single vendor for end-to-end technology solutions that will modernize their data center.

The VxRack System built on PowerEdge servers provides better all-flash economics and addresses new customer use cases for both traditional and cloud-native workloads running in mixed environments.

For the VxRack System, two PowerEdge-based options are available (1U/1N based on PowerEdge R630; 2U/1N based on PowerEdge R730xd), both of which can be configured with all flash, storage only, or hybrid. Dell PowerEdge servers provide

- **Better all-flash economics:** New Dell PowerEdge-based nodes for VxRack System with latest Intel processors offer 2.5X more usable flash capacity for a similar price versus previous generation nodes.
- **Application acceleration:** Fully integrated PCIe fabric accelerates the speed of storage input-output (I/O) operations and reduces latency, resulting in improved performance of I/O-intensive applications, such as Oracle, SAS, Kdb+, Parallel File System, and Hadoop applications.

## SIMPLIFIED MANAGEMENT EXPERIENCE

### Dell EMC Vision Intelligent Operations

Dell EMC Vision Intelligent Operations is management software for the VxRack System that gives you the agility to meet your business's dynamically changing workload demands, drives effective utilization of system resources to maximize return on investment, and simplifies operations to reduce OPEX.

Vision software provides system administrators with a single-user interface to efficiently deploy, monitor, sustain, and support VxRack Systems resources.

- **Deploy.** Enables logical partitioning of resources for specific users, reallocation of resources for new users and expansion of capacity for existing users, and installation of server virtualization (base operating system/hypervisor) and virtual storage-area software to scale out the system with new compute and storage nodes.
- **Monitor.** Tracks the health of all system compute, storage, and network components, including key performance indicators, so you can proactively assure workload availability, manage performance, and plan capacity.
- **Sustain.** Provides Release Certification Matrix (RCM) compliance reports to identify drift from desired firmware and software release levels, and facilitate system updates with new releases to optimize system performance and fix bugs.
- **Support.** Accelerates problem resolution by aggregating log and configuration data for Dell EMC Customer Support and provides knowledge base, 24/7 Dell EMC support contact, and process information.
- **Single Pool of Resources.** Vision software provides a dashboard for managing all Dell EMC Systems as a single pool of resources. Vision software also delivers VxRack System health and performance monitoring, RCM (firmware/software), and compliance information to ensure a consistent view of the VxRack System across their respective dashboards.

## DELL EMC EXPERIENCE

Dell EMC is a leading innovator of intelligent converged infrastructure systems. Customers rely on Dell EMC VxBlock Systems, Dell EMC Vblock Systems, and VxRack Systems for the fastest deployment of data center infrastructure. Dell EMC Systems are engineered to deliver the highest performance, operational simplicity, and scalability for the lowest TCO. Every system is a true converged infrastructure—each is engineered, manufactured, managed, supported, and sustained as ONE product.

- Dell EMC Systems are standardized architectures based on best-in-breed technologies.
- Dell EMC manufacturing completes integration, testing, and validation of every VxRack System. This ensures that it is delivered within 60 days and is operational within hours of arrival.
- Every VxRack System includes Dell EMC Vision software to enable standardized, more efficient, continuous processes for system provisioning, health management, and life cycle management.
- Every VxRack System is sustained by a Release Certification Matrix (RCM), a documented set of firmware and software releases for all VxRack System components, pre-tested and certified for interoperability, and regularly delivered to customers to simplify upgrades and keep systems stabilized and optimized.

## ABOUT DELL EMC

As a member of the Dell Technologies unique family of businesses, Dell EMC serves a key role in providing the essential infrastructure for organizations to build their digital future, transform IT and protect their most important asset, information. Dell EMC enables our enterprise customers' IT and digital business transformation through trusted hybrid cloud and big-data solutions, built upon a modern data center infrastructure that incorporates industry-leading converged infrastructure, servers, storage, and cybersecurity technologies.

Dell EMC brings together Dell's and EMC's respective strong capabilities and complementary portfolios, sales teams and R&D. We seek to become the technology industry's most trusted advisor, providing capabilities spanning strategy development, consultative services and solution deployment and support to help our customers and partners drive the digital transformation of their businesses.

We work with organizations around the world, in every industry, in the public and private sectors, and of every size, from startups to the Fortune Global 500. Our customers include global money center banks and other leading financial services firms, manufacturers, healthcare and life sciences organizations, Internet service and telecommunications providers, airlines and transportation companies, educational institutions, and public sector agencies.