

HYPERCONVERGED WITH DELL EMC VXFLEX

One of the world's first end-to-end HCI solution for Epic

MEETING HEALTHCARE'S MOST DIFFICULT REQUIREMENTS WITH HCI AND DELL EMC VXFLEX



Modular hyperconverged infrastructure system that delivers extreme scalability and flexibility

- Consolidate multiple workloads that demand high performance, availability, and resiliency onto a single system
- Simplify traditional SAN environments that have high-operational costs and are difficult to scale
- Avoid expensive and risky tech refreshes and data migrations

Dell EMC VxFlex integrated rack is a rack-based hyper-converged solution that leverages Dell EMC VxFlex OS to deliver flexible, scalable, and performant software-defined storage. This solution tested and passed Epic GenerateIO testing to run not only VDI, but both the operational and reporting databases.

Only Dell EMC hyper-converged systems provide standardization, modular scale, tightly integrated converged solutions, life cycle management, and industry-best customer experience—enabling on-demand IT services that further accelerate business outcomes and time-to-value.

Hyperconverged for high-performance applications and databases

Unlike other hyperconverged solutions, every node in the VxFlex cluster is used in the processing of I/O operations, making all I/O and throughput accessible to any application within the cluster. Such massive I/O parallelism eliminates performance bottlenecks and the primary reason why VxFlex is approved for your entire EMR deployment, from presentation, application to database(s). Throughput and IOPS scale in direct proportion to the number of nodes added to the system, improving cost/performance rates with growth. Performance optimization is automatic; whenever rebuilds and rebalances are needed, they occur in the background with minimal or no impact to applications and users.

Dell EMC VxFlex OS is the software that abstracts, pools, and automates block storage in the PowerEdge Servers, meaning all servers participate in servicing I/O requests. Its massively parallel processing ensures that I/O is aggregated and performance scales linearly as the number of servers grows, eliminating bottlenecks.

VDI for end-user flexibility

VxFlex and Dell PowerEdge servers is the perfect match for the end-to-end solution because it gives providers patient data at their fingertips—whether bedside or in a doctor's office, at home, on vacation, or eating at a restaurant. VDI also makes it easy to provision and update desktops and to reduce costs. The high throughput and consistently low latency of VxFlex can easily and efficiently handle demanding EHR workloads. Massive IO performance provides consistent virtual desktop application response times that are faster than those running on physical desktops. This enables doctors and nurses to both spend more time on patient care and tend to more patients because they spend less time logging in and being authenticated.

Mixed hypervisor

VxFlex offers VMware® vSphere integration alongside the ability to support other hypervisors and even bare-metal configurations. This unique ability provides workload flexibility and gives groups within the organization the ability to change requirements as needed if new projects and workloads arise.

The ability to run different hypervisors within the same system also reduces the need to constantly upgrade hypervisors. This alone can be a substantial task requiring project management and IT resources, resulting in lost budget and time. The ability to allow different nodes to run different hypervisors while all sharing the same storage pool allows independent upgrades and shifting to different virtual environments as needed.

Components	Configuration
Compute	Dell PowerEdge servers
Storage	DAS
Networking	Cisco Nexus switches
Server virtualization/OS	VMware vSphere, RHV, bare metal
Bare-metal support	Yes
Management infrastructure	vCenter, VxFlex alerting and monitoring, Dell EMC VxFlex OS
Environmental	Intelligent physical infrastructure consisting of Cabinet 2.0—fully welded and dynamically load-rated



Start small and grow to web scale

VxFlex enables massive scale-out capabilities for your data center. Start with as little as four nodes and grow your EMR environment to web scale. Add nodes one by one within a single rack or scale out with additional racks as compute and storage resources are consumed. This provides your infrastructure with elastic sizing and efficient scalability, allowing you to start small with your proof of concept or new application and grow to web-scale size as your requirements evolve.

Integrated networking

A hyper-converged network can be complex to design, build, and scale and many solutions simply exclude it. Ignoring the network makes it very difficult to plan for growth and as the environment scales, performance degrades.

VxFlex encompasses complete support for the unique requirements of hyper-converged networking. Integrated Top of Rack (ToR), Aggregation, and Out-of-Band Management switches provide optimal network traffic flow. As the VxFlex system scales, the east-west traffic is fully contained within the system, reducing the need for network expertise and changes outside of the solution.

Dell PowerEdge servers

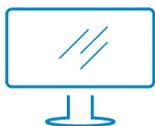
Business applications and workloads vary greatly. Dell EMC strongly believes that one size does not fit all when it comes to hyper-converged infrastructure. With an unmatched hyperconverged infrastructure portfolio, Dell EMC enables IT organizations to accelerate their modernization initiatives by making it easy to deploy infrastructure platforms on which they can build and run both traditional and cloud-native applications. Integrating the latest generation of industry-leading Dell PowerEdge servers with Dell EMC 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. Healthcare organizations can now partner with a single vendor for end-to-end technology solutions that will modernize their data center.

Summary

VxFlex is an HCI offering that delivers the same levels of performance, availability, and resiliency provided by an enterprise-grade SAN using Dell PowerEdge servers and intelligent software. VxFlex is flexible and delivers high performance. It exhibits balanced and predictable behavior, provides a choice of Dell PowerEdge servers, allows for varying performance and capacity ratios, decouples the scalability of compute and storage resources, and can scale enormously and non-disruptively.

VxFlex provides a completely distributed pool of storage capacity and performance. It delivers consistent IOPS and latency, eliminating hotspots—no matter the load.

VxFlex can be arranged to span environments where compute and storage teams are separate or instances where a single team manages both compute and storage. This allows organizations to manage their transition to a fully hyper-converged environment on their own terms and timeline.



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