Modern data center architecture for dynamically changing workload demand and digital transformation

Dell EMC Vscale Architecture is the gold standard, modular, pre-engineered architecture for modern, scalable, and flexible data centers to meet evolving workload demands and support digital transformation of businesses.

It combines the market-leading Dell EMC portfolio of converged infrastructure systems with pools of compute, storage, and data protection resources; a common Cisco network fabric; a common layer of management software; and a path for further data center transformation through integration with existing legacy IT investments.

The architecture enables the most flexible and optimal way to scale out modern data centers and share resources across multiple converged systems, including systems across distributed sites:

- Providing a standardized, high-performance network fabric
- Converting islands of converged systems into a highly leveraged pool of resources
- Serving up shared compute, storage, and data protection resources
- Allowing third-party legacy systems to integrate with converged system resources

Extending the Value of Convergence to DATA CENTER Scale-Out

Dell EMC offers well-documented IT operational and business advantages of buying versus building infrastructure by providing compute, storage, and network technologies that are engineered, manufactured, managed, supported, and sustained together as one product.

Customers of Dell EMC converged infrastructure transform IT and their businesses quickly with phenomenal results: Deploying 4.6 more applications; introducing new services to market 4.4 times faster; reducing downtime by 96 percent; and saving 41 percent in IT operations.¹

The Vscale Architecture extends the scope and value of a single converged infrastructure system (engineered, manufactured, managed, supported, and sustained as one product) to the entire data center comprised of multiple converged systems and to systems distributed across multiple data centers:

- Engineering and manufacturing all systems and the network fabric according to a common standard that assures interoperability across shared resources
- Managing all systems through a common layer of monitoring software and common provisioning/configuration tools
- Supporting all systems, including the network fabric, through a single call
- Sustaining all systems through scheduled firmware and hypervisor release upgrades, pre-tested/pre-validated for interoperability across shared resources

ARCHITECTURAL COMPONENTS


- Dell EMC Vsphere Fabric: A scalable, Cisco network fabric that connects multiple Dell EMC systems and modular components to create a shared pool of adaptive resources: Contains either a spine-leaf LAN and/or edge-core-edge or collapsed core SAN fabric.

- Dell EMC Vsphere Fabric Technology Extensions: Compute, storage, and data protection resources that are directly connected to the Vsphere Fabric as shared resources.

- Dell EMC Vsphere Border Technology Connect: Provides defined points of entry between the Vsphere Fabric and enterprise security zones.

- Dell EMC Vsphere Open Technology Connect: Provides a defined point to connect Vsphere network services and legacy, third-party systems to the fabric.


- Dell EMC Vsphere Common Automation Workflows across management tools, including Cisco UCS Director, Dell EMC ViPR, and Cisco ACI. Compatible with VMware NSX and Virtual SAN, EMC ScaleIO, and more.

Modern Data Center Architecture Delivers Value to Stakeholders Across the Enterprise

- CEOs: Gives you best path to evolve IT so you can digitally transform your business for top-line growth while saving operational costs that you can directly apply to the bottom line – or reinvest savings into IT for further advantage.

- CFO: Enables data center modernization, growth, and operations in the most cost-effective way – plus resource-sharing that maximizes the utilization and return on existing and new investments.

- Line of Business Owners: Provides the availability, performance, and capacity elasticity to assure that service delivery meets your goals and customer expectations.

- CTOs/VPs of Infrastructure and Operations: Provides a policy-based, flexible, and simple operational model that enables you to continually optimize delivery of your current mission-critical workloads and free up capacity to support your business’ further digital transformation.

- Operations Staff/System Administrators: Provides a pre-engineered solution with standardized tooling that enables you to execute your day-to-day tasks with confidence and count on single-call support and a single-source for pre-validated release upgrades.

Vscale Architecture

The gold standard architecture for modern data centers extends the scope and value of an individual Dell EMC engineered converged infrastructure system to Dell EMC multi-system, multi-data center environments.