

Dell EMC Vscale Architecture

Business benefits

- **Seamlessly scalable:** seamlessly scales your IT infrastructure across systems and locations to support digital transformation of your business.
- **Agile:** creates adaptive pools of resources available to meet dynamically changing workload demands and evolving capacity requirements.
- **Economical:** maximizes resource utilization and cost-effective use of shared resources, while simplifying operations.

Deployment outcomes

- **Continuous optimization:** Workloads able to always use the most cost-effective technologies and freely move between compute and storage types and virtualized and container paradigms.
- **Policy-driven IT:** Network, compute and storage teams are able to define guardrails and classes while not making them the bottleneck to business agility; retroactively monitor effectiveness and optimize behind the scenes.
- **Return on easier refresh cycles:** Compute, storage, network and virtualization technologies refreshed in modular increments with less effort, while assuring interoperability.
- **Return on investment:** More cost-effective use and management of IT assets through resource-sharing.
- **Incremental scalability:** Add links and switches and increase speed of links as needed without a big initial investment.

Modern data center architecture for dynamically changing business

Dell EMC Vscale Architecture is an industry-proven, modular, pre-engineered architecture for modern, scalable and flexible data centers to meet evolving workload demands and support digital transformation.

Vscale combines the market-leading Dell Technologies 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 is delivered, supported and sustained as a single system through professional services from Dell Technologies and our partners. It 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

The architecture contains the following components:

- **Dell EMC Converged and Hyper-Converged Systems:** Including VxBlock Systems, VxRail and associated Dell EMC Converged Technology Extensions for compute, storage, and data protection.
- **Dell EMC Vscale 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 Vscale Fabric Technology Extensions:** Compute, storage and data protection resources that are directly connected to the Vscale Fabric as shared resources.
- **Dell EMC Vscale Border Technology Connect:** Provides defined points of entry between the Vscale Fabric and enterprise security zones.
- **Dell EMC Vscale Open Technology Connect:** Provides a defined point to connect Vscale network services and legacy, third-party systems to the fabric.
- **Dell EMC VxBlock Central:** Software tool for converged infrastructure health and lifecycle management.
- **Dell EMC Vscale Common Automation Workflows** across management tools, including Cisco UCS Director and Cisco ACI. Compatible with VMware NSX and Virtual SAN, Dell EMC FlexOS, and more.

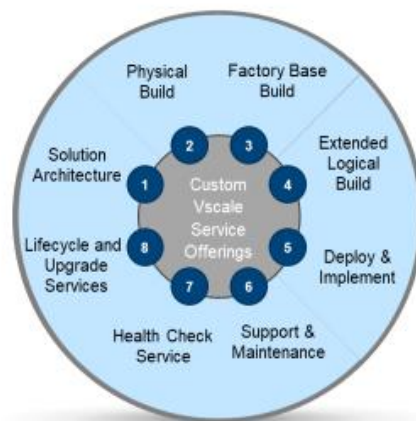
Vscale: Extending the value of convergence

Dell Technologies 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 Technologies converged infrastructure transform IT and their businesses quickly with phenomenal results including 61% lower cost of IT operations, 66% more efficient operations, 52% less time keeping the lights on, 34% faster application deployment lifecycle, 99% less unplanned downtime and 640% five-year ROI.¹

The Vscale Architecture extends the scope and value of a single converged infrastructure system 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 enables 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



Continuum of Vscale professional services

Vscale: Delivering 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.
- **CFOs:** 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.

¹ Based on an IDC White Paper sponsored by Dell Technologies: "The Business Value of Modernizing Mission-Critical Applications with Dell EMC VxBlock Systems", October 2017. Actual results may vary.