



Dell Networking Solution Brief

Dell XC accelerates your business with Dell Networking

Flexible scale-out fabric solutions for hyperconverged infrastructure

The Dell difference

Dell helps you choose the networking products and services that best fit your hyperconverged data center needs. Dell delivers:

- Plug-and-play building blocks to grow capacity and capability as needed
- Open, pragmatic and proven solutions
- Open networking options
- Quick and efficient scalability to meet growing user and business demands
- Worldwide presence and expertise, with over 15 years in storage and storage networking
- Complete end-to-end solution development, deployment and support
- A modular portfolio of customer-centric Pro-Support services

Datacenter decisions drive an organization's ability to be competitive. Today's IT plays a vital role in generating new business value, delivering new services and capturing new markets. Decisions made within IT departments have never been more important to the broader business. To better align with the rapidly changing needs of business, datacenters must adjust from a world with silos of infrastructure-centric decisions to an environment that enables workload-centric decisions.

In response to the challenges of rapid change, many IT departments are opting to replace outdated datacenter infrastructure with fully integrated systems. While there are many choices to adopt integrated systems, hyperconverged infrastructure comes to the top. Hyperconverged infrastructure offers IT departments the ability to collapse core storage and compute silos into a cluster of industry-standard servers that are highly virtualized and managed through a single pane of glass.

Among the fundamental advantages of hyperconverged infrastructures is simplification. Centralized storage systems and SAN switches are no longer necessary. The result is a flexible infrastructure that allows IT to consolidate purchasing, powering, cooling, management and maintenance of storage and SAN infrastructures.

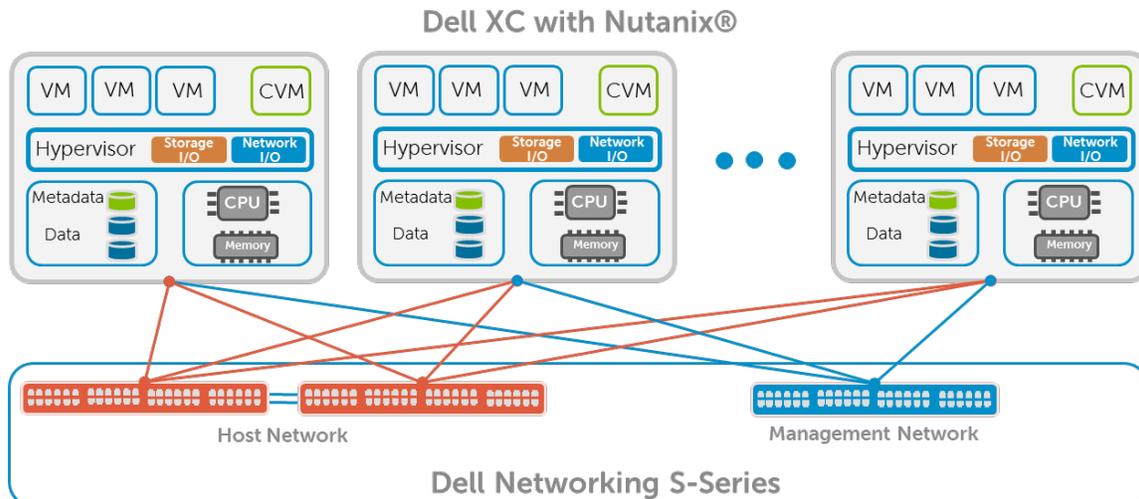
The Dell XC web-scale converged appliance powered by Nutanix® web-scale software enables both large and small IT organizations to efficiently consolidate and run all virtualized workloads on a single system.

Networking in a hyperconverged era

The software-defined, shared-nothing, scale-out approach to storage provides flexibility, scalability and high performance while eliminating performance bottlenecks.

One network for any type of data

A traditional data center mandates specialized networks focused on forwarding specific type of data such as storage or compute. A hyperconverged data center demands that the same network be robust enough to handle any type of data.



Higher performance for higher utilization rates

Hyperconverged appliances push the scale of virtualization to a new limit. Higher virtualization results in higher utilization of available network bandwidth. A hyperconverged data center demands that the network must be able to deliver predictably high performance at all times.

Scale-out approach for growth

A key tenet of hyperconverged data centers is the truly modular scale-out approach. Scalability allows customers to adapt their system to ever-increasing workload requirements as demand arises, rather than purchasing in advance of their needs. A hyperconverged data center demands that network fabric must also scale-out.

Resilient architecture for predictable performance

Customers today expect IT services to be available at all times, whenever and wherever it is needed. In a hyper-fast business climate, there is no time for application downtime. A hyperconverged data center demands that network must be architected to offer a resilient framework that handles link, component or device failures without impacting the application.

Dell Networking enables cloud with Dell XC appliance powered by Nutanix®

Dell Networking makes the journey to the cloud a simple and no-risk reality. Built with the Dell XC hyperconverged appliance, our resilient high-performance architecture improves availability and helps meet Service Level Agreements (SLAs) more effectively.

Dell XC appliances with Nutanix® provide a tiered storage solution to VMs. Every host in an XC cluster houses a Controller VM (CVM), which runs the Nutanix software and handles all storage I/O operations for the host's hypervisor and all the VMs residing on that host. In the case of ESXi, the host server's SSDs and hard disk drives are directly passed through to the CVM for management.

Administrators can create a storage container from the Dell XC cluster's disks for all of the cluster's hosted VMs. Dell XC cluster nodes typically have a small number of fast but low-capacity SSDs and a larger number of slower but high-capacity HDDs. Dell XC's storage tiering/prioritization works to move data to the most appropriate location (either local SSDs, cluster SSDs, or HDDs) based on availability of fast storage and how frequently the data in question is accessed. By converging compute and storage resources into single appliance nodes, scaling Dell XC clusters out is easy and flexible.

The combined Dell Networking and Dell XC solutions with Nutanix® enable faster, more secure delivery of highly available applications while driving down total cost of ownership.

A robust fabric for any type of traffic

Dell Networking switch and networking architecture is designed to ensure that all critical applications and workloads deliver excellent performance. Storage, host, VM mobility, fault tolerance and other types of data with unique traffic personas are provided connectivity to best ensure an always-on user experience.

Modular and flexible growth

As one of the biggest proponents of the spine-and-leaf architecture based on fixed Ethernet switches, Dell Networking lowers the cost of initial deployment. Customers are able to grow the networking fabric in smaller steps while ensuring predictably high performance for all Dell XC appliances.

Highly-resilient fabric resulting in better SLAs

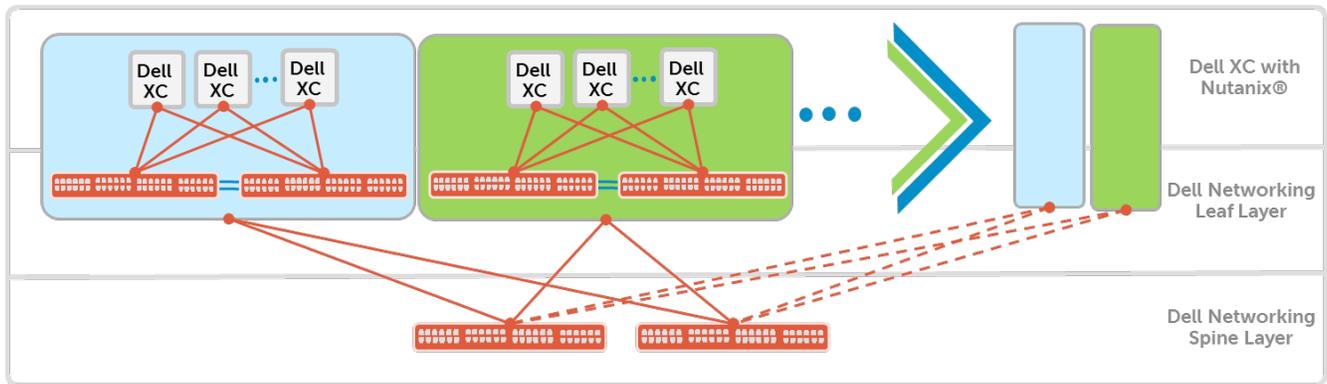
A highly resilient network architecture with extensive interoperability test and validation processes and technologies such as Virtual Link Trunking (VLT) reduces network and application downtime. Fewer downtime events allows IT to more effectively and predictably meet their SLAs, freeing up time for more valuable activities.

Faster time to deployment contributes to business agility

Hyperconverged infrastructure based on Dell XC with Nutanix® and Dell Networking has been designed to significantly reduce design and deployment times while enabling a much faster time to application and service availability. In rapidly changing business conditions, fast IT response time is critical to the success of the organization.

Do more with less

Dell XC and Dell Networking’s approach of leveraging industry-standard hardware reduces overall cost of the solution for the customer. The building blocks of this solution consume less rack space, less power, and less cooling capacity, resulting in more resources for IT.



Dell Networking switches for the future-ready data center based on Dell XC web-scale appliances

Dell offers a comprehensive portfolio of High-performance Ethernet switches. Powered by Dell Networking Operating System, these switches are carefully validated to ensure they are ready to meet your hyperconverged data center needs.

Switch	Type	Ports	Ideal for
Dell S4048-ON	ToR/Fixed	48x10Gbe with 6x40GbE	Single rack cluster Multi-rack spine-and-leaf
Dell S4820T	ToR/Modular	48x10GbE with 4x40GbE	Single rack cluster Multi-rack spine-and-leaf
Dell S6000-ON	ToR/Fixed	112x10GbE with 4x40GbE	Single rack cluster Multi-rack spine-and-leaf
Dell S6100-ON	ToR/Modular	128x10GbE	Single rack cluster Multi-rack spine-and-leaf
Dell S3000-ON	ToR/Fixed	48x1GbE with 2x10GbE	Management network

Dell Storage Networking Services

Whether you are seeking product support or complete IT outsourcing, Dell can deliver services based on your needs.

Consulting services

Achieve better business outcomes with professional guidance pertaining to your network. Improve networking performance, add functionality and leverage existing infrastructure to maximize your investment.

Deployment services

Let us install and correctly optimize your network with a comprehensive set of remote and on-site deployment services.

Managed services

Free yourself to focus on your business and allow Dell to fully manage and monitor your multivendor network with triage, resolution, and Tier 2 and 4 engineering support.

Support services

Gain access to service professionals 24 hours a day who can help you configure, troubleshoot and diagnose your network. Dell ProSupport™ experts also help resolve complex issues related to third-party connectivity Cisco, Brocade, Juniper, HP and Aruba.

End-to-end technology solutions

Reduce complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage, and Networking, Dell Enterprise Solutions and Services deliver innovation at any scale. And if you're looking to preserve cash or increase operational efficiency, Dell Financial Services™ has a wide range of options to make technology acquisition easy and affordable. Contact your Dell Sales representative for more information.

[Learn More at Dell.com/TechCenter/StorageNetworking](http://Dell.com/TechCenter/StorageNetworking)

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