

# Our vision for the network is open.

# In the face of IT transformation

during this digital age, enterprises and service providers alike are experiencing significant changes. At the core of this transformation is a fundamental shift in IT technologies designed to dramatically alter cost structures and capabilities. At the core, data center networks have become complex and congested, outgrowing their originally intended north/south flow patterns. Tightly coupled networking hardware with proprietary software cannot match the constantly changing requirements of the software layers or keep up with the pace of virtualization and software-defined network demands. At the edge of the network, organizations are looking to replace expensive legacy routers and dedicated physical connections with solutions that are more cost-effective and simpler to manage. There is also a need to keep pace with a growing demand of heavier traffic flows, both at remote locations and for employees working from home. Finally, organizations are looking for an infrastructure that enables a path to move to a hybrid cloud model, balancing the needs of workloads between on-prem and in the cloud.

**Dell** Technologies has one of the broadest open networking portfolios in the industry – spanning both hardware and software. Dell's unique approach involves combining its own developed technologies with those from a broad ecosystem of technology partners.



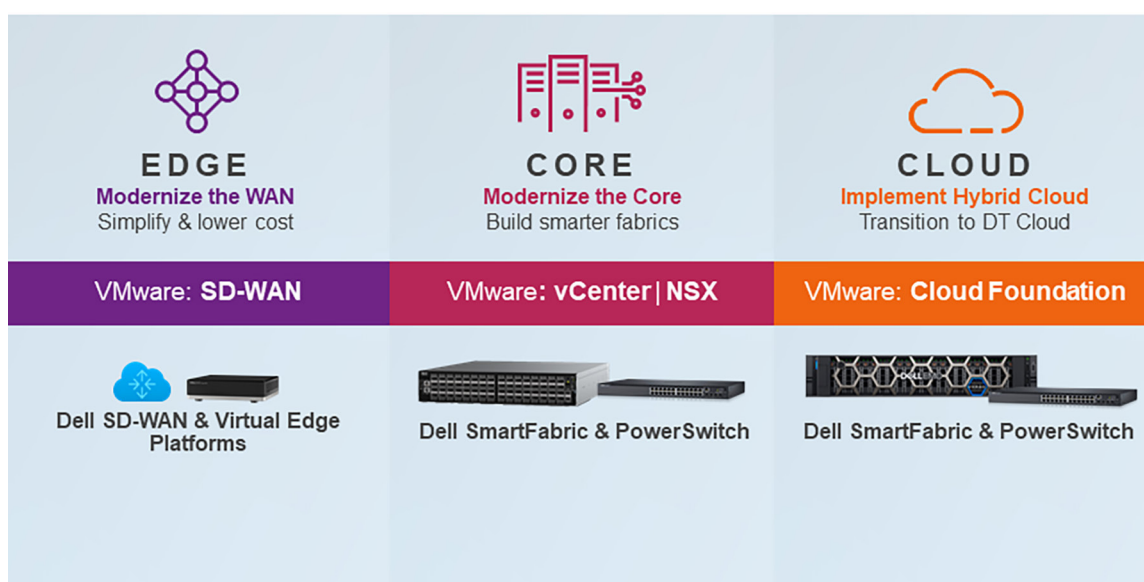
# Dell Technologies believes the future of IT will be more open, agile and cloud-based.

The evolution of networks has seen a shift from legacy, proprietary technologies that are hardware-bound to modern, open technologies that are software-driven. As seen with the rapid adoption of server virtualization throughout data centers, today's organizations are embracing the disaggregated approach of software-defined networking that bring enhanced efficiency, agility and security.

## Our vision for the Network is open

Dell Technologies has one of the broadest open networking portfolios in the industry – spanning both hardware and software. Dell's unique approach involves combining its own developed technologies with those from a broad ecosystem of technology partners, including VMware. The industry has recognized us for leadership in opening up the network through disaggregation of networking hardware and software, providing customers choice based on their unique needs.

We believe that our Open Networking approach and solutions stimulate rapid innovation by helping customers achieve unprecedented levels of flexibility and efficiency. These solutions help minimize the time and effort required to design, provision and manage networks; enable IT managers to leverage open-source tools; and provide expertise to help reduce costly overhead at the edge, in the core and into the cloud.



*Dell Technologies Open Networking Solutions*

# Networking solutions for the Edge

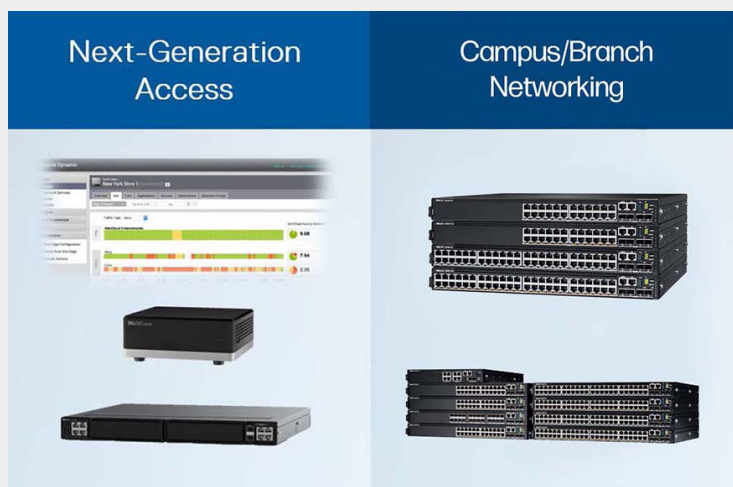
Dell Technologies Networking Edge solutions consist of two key platforms to enable edge modernization through software-defined wide area networks (SD-WAN):

## Dell EMC SD-WAN Solution powered by VMware

- Delivers simple and turnkey WAN transformation with an all-in-one solution combining purpose-built hardware from Dell with VMware's leading Velocloud software as ONE. The Dell EMC SD-WAN Solution is made up of three key components – Dell EMC Edge appliances, Dell EMC SD-WAN Orchestrator for centralized management, and VMware Gateways for secure global connectivity and application-focused networking.
- Dell EMC SD-WAN solutions help to simplify complexity and lower costs – up to a 75% reduction in WAN costs (ESG Research Insights Brief commissioned by Dell EMC. May 2018. Results based on ESG survey of 4000 IT professionals)

## Dell EMC Virtual Edge Platform (VEP)

- Provides a full range of advanced uCPE appliances that provide a modern x86 platform for virtualized networking functions such as routers, firewalls, VPN's and more



These next generation networking appliances are powered by Intel processors and are available with factory-integrated and pre-validated software, saving you time and money. Dell Technologies brings a full complement of support advantages – ProSupport with up to 4-hour SLA response times, ProDeploy managed services to help augment capabilities, and a global supply chain that can deploy your SD-WAN Solution to 100+ countries worldwide with ease.

For campus and branch locations, Dell Technologies offers an extensive line of PowerSwitch N series stackable, fixed form-factor platforms with advanced Power-over-Ethernet (PoE) capabilities to provide data connectivity and power to networked devices, sensors, cameras and wireless access points.



# Networking solutions for the Core

Dell Technologies data center switching solutions are cost-effective and easy to deploy at any scale. From 1 gigabit Ethernet (GbE) to 100GbE and 400GbE multi-rate options, PowerSwitch switches provide optimum connectivity within the rack, between multiple racks, and through modular compute chassis solutions. Dell EMC PowerSwitch switches feature a choice of software options, including Dell EMC SmartFabric OS10, Enterprise SONiC Distribution by Dell Technologies, and a number of options from Dell Technologies' Open Networking software ecosystem and open source communities, to address virtually any enterprise or service provider use-case, or environment at any scale. Additionally, our standards-based networking solutions are interoperable with leading virtualization environments, serving as a foundation for scale-out storage and hyperconverged infrastructure through deep integration for VMware NSX-T, vCenter, vSphere and vSAN and deployments.

**Software-defined networking**  
**Users are**

**4x** more likely to be  
significantly faster than  
competitors on time-to-market

*(ESG Research Insights Brief  
commissioned by Dell EMC, May  
2018. Results based on ESG  
survey of 4000 IT professionals)*

At the top of rack, our latest PowerSwitch S series 25GbE switches help customers unlock the high-speed I/O capabilities inherent in today's server and storage elements, boosting performance 2.5x over legacy 10GbE environments. All of our latest PowerSwitch S series platforms include 100GbE uplinks to facilitate high-speed inter-rack connectivity with our PowerSwitch Z series family of 100GbE and 400GbE fabric switches.

In addition to the migration towards open networking solutions within the data center, customers are also looking to reduce Operating Expenses (OpEx). At Dell Technologies we have a history of building out products and offerings that help to simplify and automate operations.

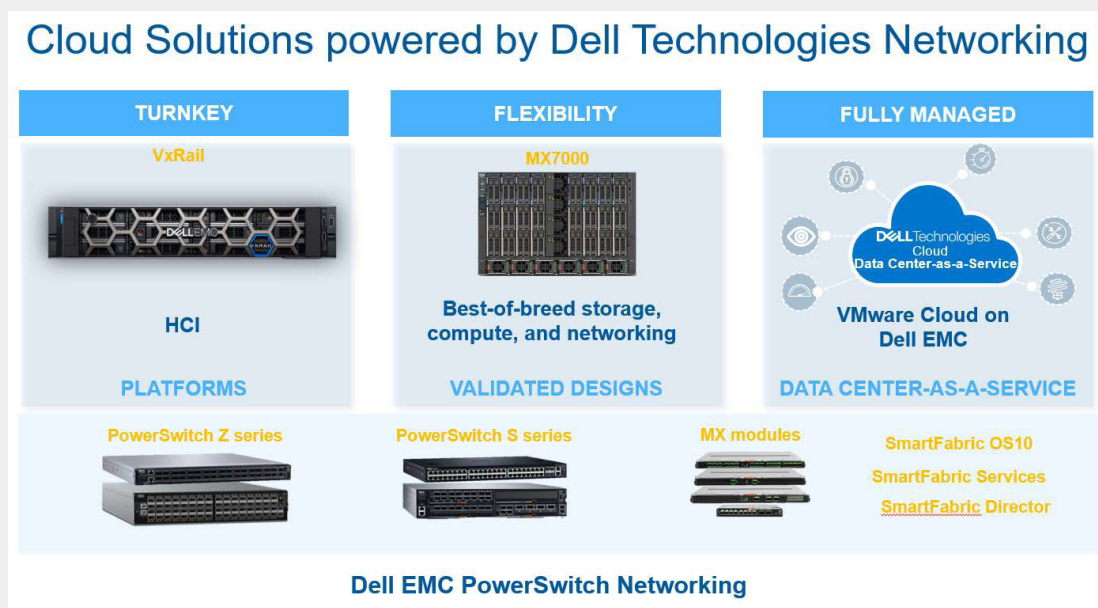
- **Fabric Design Center tool** is a simple-to-use, cloud-based design wizard that will help you design and document a solution specific data center fabric in a few steps.
- **SmartFabric Services** – an integrated component of Dell EMC SmartFabric OS10, enables smarter fabrics and end-to-end management of physical to virtual environments, offering customers the benefits of faster provisioning, integrated automation, and micro-segmentation and security.
- **SmartFabric Director** - is specifically designed to help define, provision and monitor a physical underlay data center fabric that is aware of a virtual network overlay and reacts to changing requirements in real-time.

## Data Center Fabric Networking



# Networking solutions for the Cloud

Dell Technologies cloud is built on Dell EMC Infrastructure leveraging VMware Cloud Foundation, connected to partner clouds to deliver consistency and choice to enable organizations to innovate everywhere and move their businesses forward. Incorporated into this solution are Dell EMC PowerSwitch networking hardware and SmartFabric software and automation components.



There are 3 main options when looking at the Dell Technologies cloud solution:

**Platforms** - Dell Technologies Cloud Platforms deliver the simplest and fastest hybrid cloud deployment path due to VMware Cloud Foundation shipping on VxRail. Organizations will benefit greatly from continued innovations that can be quickly onboarded given the synchronized Dell Technologies product releases and roadmaps. A key component of VxRail is the PowerSwitch switches and SmartFabric Services automation that greatly simplifies the design and deployment of a network fabric.

**Validated Designs** - Validated Designs enable customers to deliver cloud capabilities to a broader set of workloads with pre-tested infrastructure and

deployment guidance. Using Dell Technologies best-of-breed storage, compute, and PowerSwitch networking that's been validated with VMware Cloud Foundation, they can now meet the varied demands of workloads with independent scaling of storage or compute.

**Datacenter-as-a-Service** - VMware Cloud on Dell EMC is our new Data Center-as-a-Service offering. Specifically, it is a cloud infrastructure installed on-premise in the customer core and edge data centers and is to consume and utilize like a cloud service. The foundation of this offer is VxRail - Dell EMC and VMware's enterprise-grade cloud platform that delivers integrated compute, storage and PowerSwitch network capabilities.

# Transform your network today with Dell Technologies

Whatever the size of your organization, Dell Technologies networking solutions can help you derive the full value out of your networking investments. We offer proven end-to-end solutions, comprehensive global services, and a vision that sets the pace in a rapidly changing industry. To find out how we can help you and your network, contact your Dell Technologies representative today.



Plan, deploy, manage and support your IT transformation with our top-rated services

## **Consulting**

Dell Technologies Consulting Services provides industry professionals with a wide range of tools and the experience you need to design and execute plans to transform your business.

## **Deployment**

Accelerate technology adoption with ProDeploy Enterprise Suite. Trust our experts to lead deployments through planning, configuration and complex integrations.

## **Management**

Regain control of operations with flexible IT management options. Our Residency Services help you adopt and optimize new technologies and our Managed Services allow you to outsource portions of your environment to us.

## **Support**

Increase productivity and reduce downtime with ProSupport Enterprise Suite. Expert support backed by proactive and predictive artificial intelligence tools.

## **Education**

Dell Technologies Education Services help you develop the IT skills required to lead and execute transformational strategies. Get certified today.

Learn more at [DellTechnologies.com/Services](https://DellTechnologies.com/Services)

Learn more at [DellTechnologies.com/Networking](https://DellTechnologies.com/Networking)