DELL Technologies

Build a Network That's Open to Change

Design and develop large-scale fabrics that meet the needs of demanding modern workloads like Gen AI, on your terms.

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The world is advancing at a rapid clip. A global pandemic, emerging technologies, and a continual influx of data have put new demands on your IT infrastructure, and tremendous strain on your network. We've hit a point where it's no longer enough to keep up with change. Rather, it's about being prepared for whatever comes next.

While great strides have been made in the server and storage space in terms of, for example, virtualization, convergence, and disaggregation, networks have been slower to follow suit. Traditionally rigid and proprietary, networks create a lot of extra work for IT admins who would like to spend more time innovating and modernizing the network than responding to issues or maintenance demands.

At Dell Technologies, we're dedicated to changing that. On one hand, we're bringing something unique and differentiated — an open networking option — that is generating industry buzz and recognition. On the other, we're putting the Dell Technologies brand, our end-to-end offering, and global supply chain to work for your business and networking objectives.

Our evolved open networking vision brings massive scalability along with added agility in open, disaggregated solutions. Pick and choose the hardware, software, and network operating systems that best fit your requirements within your data center and at the edge. At the same time, take advantage of automation, innovative management tools and other key integrations that streamline and simplify your experience with open networking technology.

Challenges with an evolving networking landscape

When it comes to your network, do you feel like you are operating in response mode? Are you dealing with changing traffic patterns, settling for rigid and slow-moving proprietary solutions, struggling to maintain capacity? Is your network complex, and do you spend a lot of time simply maintaining it? Do you worry it will not deliver scalability, exceptional performance and reliability across AI fabrics? If you answered “yes” to these questions, you’re not alone.

For years, **network traffic patterns** were somewhat predictable, but that is changing. The global pandemic brought work from home mandates and massive shifts in network traffic. Instead of operating from a central location within the network, your employees — now working remotely — are accessing applications and files within your data center from outside locations. This puts an increased load on your network.

At the same time, more network traffic is generated through the use of **generative AI,** machine learning and virtualization — **emerging solutions** that have exponentially increased the collection and flow of data.

Most networking vendors run systems with **proprietary features and functionality**. While this wasn’t really a problem when you could patiently wait for the next system upgrade, the new reality is that you must move faster than proprietary systems with long development cycles will allow.

We recognize that you’re looking for **easier, more seamless ways of keeping up with demand**. You want a network and an **AI fabric** that is optimized for today, but that also provides flexibility to adopt new features and functionality tomorrow without undergoing a forklift upgrade.

Finally, many network operating systems are super complex. They’re still using command line interface (CLI) for management. And manual management using CLIs is labor intensive and prone to error.

All these factors have created greater demand for larger networks, networks that can scale faster and are more flexible and amenable to change.

Dell Technologies is keenly aware of the challenges that exist in the networking space and what must be done to address the limitations brought on by slow-moving legacy, proprietary networks.

We want to simplify multi-cloud connectivity and dramatically improve your experience. Only with powerful, highly scalable and agile data center and edge networking solutions can you address these challenges and take your network infrastructure to the next level.

An open networking, standards-based approach completely disaggregates hardware and software as well as the networking operating system itself. This provides more freedom to choose your desired networking components and provides silicon diversity. You can build a network that is customized to meet your needs, and avoid vendor lock-in.

As capacity requirements shift, emerging technologies like generative AI bring new demands. Networking is a vital component of AI infrastructure. When the unexpected occurs, we want you to confidently move forward with a network that is **flexible**, **simple to operate**, and **scalable**. With many AI workloads running on large clusters of servers requiring constant communication between each other and storage, **AI workloads need robust networking** to avoid bottlenecks. If your networking is insufficient for the AI workload, training and inference times will increase, slowing data processing and time to insights.

The value of our open networking vision

With Dell Technologies Open Networking, we offer a complete strategy that combines networking scalability and agility with standards-based hardware and innovative, best-in-class software solutions — and the automation tools to streamline a large amount of manual intervention.

You'll be in a better position to meet workflow and application demands with greater network flexibly and control.

Open to scale

Dell Technologies Open Networking is designed around a highly scalable, cloud-ready data center network fabric. It leverages real-world tested Software for Open Networking in the Cloud (SONiC) OS, originally developed and hardened by Microsoft® for hyperscale cloud environments.

Enterprise SONiC Distribution by Dell Technologies helps IT organizations to run their business with the innovation, automation and reliability that comes from the first commercial offering of SONiC with production-ready enterprise feature enhancements and global support targeted for demanding cloud, data center and edge fabrics. And we've hardened it with extensive testing and validation across our Dell PowerSwitch portfolio.

Enterprise SONiC Distribution by Dell Technologies is the first commercial version to provide **enterprise-ready features** and **global support** for large-scale environments.

The SONiC OS is built around a containerized architecture that uses standards-based APIs and enjoys a **thriving developer community and vendor ecosystem**. You gain flexibility to adapt various applications to your environment — and run only what you need. Dell's Enterprise SONiC has a dedicated roadmap of features to support emerging modern workloads like **virtualization and generative AI**. The solution is also backed by a large community of developers who are constantly delivering new software and applications.

Achieve better outcomes for data center networking solutions by easily integrating the latest open source and virtualization innovations.

Open to choose

Dell Technologies Open Networking enables greater agility to customize a just-right network that leverages modern, **cost-effective, open standards-based** solutions. You can choose from a broad offering of innovative network infrastructure platforms, network operating systems, components of the OS, and native network tools and applications. Our disaggregated hardware, software and OS offering for the data center and network edge is tested, certified and globally supported.

For example, you can take advantage of the highly scalable Enterprise SONiC Distribution by Dell Technologies or other full-featured software-defined networking operating systems, like SmartFabric OS10 software.

In the past, Dell Technologies worked closely with Microsoft on the Switch Abstraction Interface (SAI), which is what allows us to run different types of operating systems on our switching hardware. You can now choose from a broad range of Ethernet switches for core, edge or cloud deployments.

The Dell PowerSwitch portfolio is designed for architectural agility and flexibility, helping you smoothly migrate to a software-designed data center. With Dell PowerSwitch portfolio, you can deploy clusters with 1000s of nodes with l**ow latency** and **high throughput** using high bandwidth switching and improved **congestion monitoring**, **flow control** and transport protocols available in Dell's Enterprise SONiC network operating system.

In addition to switches, we offer multi-function solutions that operate at the network edge. Dell Virtual Edge Platforms (VEP) are edge platforms ideal for remote offices, districts, and more. These edge solutions greatly reduce the cost of remote connections by leveraging existing broadband facilities. The VEP platforms are also disaggregated, which means you can interchange components such as virtual firewalls.

Open to simplify

At Dell Technologies, we simplify the design, deployment and operations of the network infrastructure from edge to core to cloud. We break down silos, help reduce mundane and repetitive tasks, and give your IT admins freedom to spend more time on new services and innovation.

We greatly simplify management and integration with state-of-the-art data center networking automation software like Red Hat® Ansible®, Dell SmartFabric, and CloudIQ. For example, the Dell SmartFabric OS10 with SmartFabric Services automates up to 99% of the network configuration steps for VxRail hyperconverged environments.

And by eliminating a lot of the manual activities, you can also minimize errors, which is great news given that 90% of issues occur because of human error: someone misconfiguring a port or protocol setting, for example.

Open up the network — and connect to new possibilities

Network modernization is the ultimate objective. But we understand that you don't want just any solution. You want an enterprise- or telco-grade network that is proven to scale and grow with your business — that's customized for your specific needs, easier to integrate and manage, and fully supported by the Dell Technologies brand.

Working together, let's take your network to the next level. Where you can integrate more easily with other systems and have the capacity to address tomorrow's traffic patterns.

Where you can support the adoption of new technologies, new workloads, and applications. Where you can automate and simplify network management, removing the stigma of network complexity moving forward. And, most importantly, where you are open to new technologies, new shifts — and, of course, new possibilities.

Learn more.

Click here to learn more about Dell Technologies Open Networking.

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