



Solution Brief

Introducing Plug & Play SDN Network Fabrics from Dell and Pluribus Networks

Dell and Pluribus Networks help bring more intelligence and programmability to the network with brite box Open Networking switches, Pluribus Networks NetVisor® OS and worldwide support

- Delivers an open approach built with the best-of-breed open networking platforms, operating system and management tools
- Enables an open standards-based Layer 2 (L2) and IP fabric networking solution to help accelerate enterprise deployment of SDN and private/hybrid clouds
- Provides a single point of management through a fabric-cluster that simplifies fabric configuration and automation and includes tap-free network analytics
- Includes global support and services from a company known for its superior capabilities

Fabric challenges for mid-size data center environment

Mid to large-size enterprise data centers continue to be impacted by major trends like demanding applications, virtualization and mobile users that have come to expect wire-speed network performance and anytime/anywhere connectivity. At the same time they are struggling with traditional proprietary network infrastructures that are expensive, hardware-bound, inflexible and hard to manage. In addition, the cost and complexity of using multiple management and monitoring tools for their data center network topologies continues to increase.

The data center network has become a mission-critical superhighway infrastructure that services and regulates this increasing level of traffic and connectivity. IT managers are looking for networking solutions that will provide the agility and application-awareness required to improve the economics, foster faster innovation and shift towards a fully software-defined data center.

A distributed, open, programmable network hypervisor solution

Dell, working closely with Pluribus Networks, is helping enterprise organizations deploy an open, programmable network virtualization solution that will help them not only handle the requirements of today but also transition to SDN and private/hybrid cloud environments for the future. This joint solution will enable enterprise customers to combine the cost-effectiveness of Dell's Open Networking brite box platforms with Pluribus Networks NetVisor OS to build a high-availability fabric cluster with a single point of management and powerful analytics.

Pluribus Networks NetVisor® One-Touch Fabric

The Netvisor distributed fabric, built on top of an open, standards based L2/IP network, permits a Dell ON leaf-spine deployment to be managed, automated and programmed as a single node with associated operational advantages. Where it differs from older centralized approaches is that it is controller-free, distributing this capability across each node. The Netvisor fabric brings together effectively the ease of management of a centralized controller architecture, with the scalability and high availability properties of a fully distributed architecture with no single point of failure.

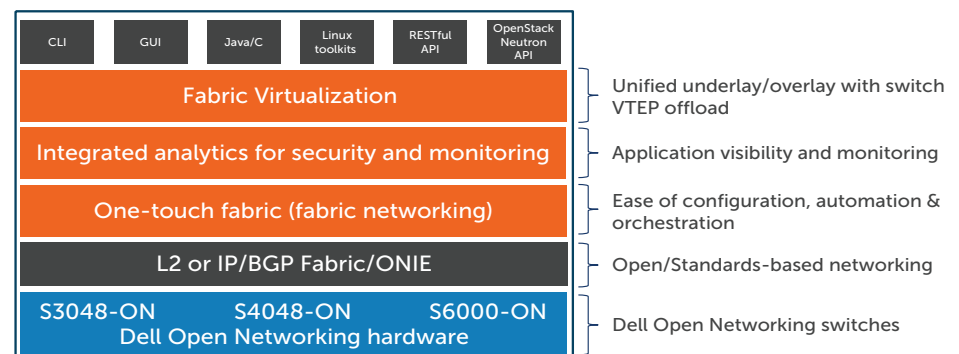


Figure 1: Dell & Pluribus Networks fabric solution

Additional key features and benefits include:

- A broadcast-free L2 fabric offering global provisioning and visibility of resources such as ports, VMs, and traffic flows across the fabric.
- Active-Active Multi-chassis link aggregation (LAG) and Active-Active virtual routing redundancy protocol (VRRP).
- Internal border gateway protocol (iBGP) or external border gateway protocol (eBGP) multi-pathing for highly scalable leaf/spine architectures.
- Standard management interfaces such as a command line interface (CLI), graphical user interface (GUI), and representational state transfer (REST) APIs speak to network operations skillsets, while Linux automation and management toolsets empower development operations.
- Compatibility with third-party networks based and virtual extensible local area network (VXLAN) overlay technologies

Building on the one-touch fabric, Pluribus Integrated Analytics uniquely offers tap-free in-line analytics without the need for a separate visibility fabric. With the proliferation of threats, CIOs realize that traditional perimeter security is only part of the solution. Real protection must be multi-layer, with visibility into both the underlay and the overlay. It also needs to be deployable with existing networking skillsets. Netvisor-based analytics offer this protection, securing the network interior in addition to firewalls at the DMZ or at the vSwitch.

Adding to Netvisor's fabric and analytics capabilities, fabric virtualization unifies the overlay and underlay with scalable VXLAN orchestration and VXLAN tunnel endpoint (VTEP) switch offload, permitting enterprises to scale their SDN deployments. Per-VM flow analytics offers required visibility, and an open architecture eliminates any protocol or vendor lock-in.

Dell Networking open networking switches

Dell has been delivering high-performance, reliable networking solutions for over a decade and today powers some of the world's most demanding enterprise and cloud/Web 2.0 environments. For data centers, this means feature-rich Top-of-Rack and blade switching solutions and high-performance 10/40GbE networking fabrics that fit organizations business and budget.

The broad Dell data center switching product portfolio now includes options with its high-performance fixed form factor 1/10 Gigabit Ethernet S3048-ON, 10/40 Gigabit Ethernet S4048-ON and S6000-ON top-of-rack switches and 10/25/40/50/100 Gigabit Ethernet Z9100-ON switch for modern data center fabric architectures. These Dell switch offerings support the industry standard Open Network Install Environment (ONIE) for zero touch installation of alternate operating systems.

Dell backs up each and every deployment with a comprehensive suite of design, deployment and management services to help customers of any size every step of the way. All of this translates directly into a capability set designed to fit any organization's needs, granting them and their business the power to do more.

Summary

The increasing demands on enterprise data center networks requires they rethink their legacy approach and consider an open and flexible network fabric backbone that can stay ahead of these requirements. A cost-effective, SDN infrastructure can help these organizations future-proof their networks and deliver superior services. Together Dell and Pluribus Networks are transforming the networking landscape with an innovative solution combining a unique one-touch fabric, analytics and market leading brite-box switching platforms, and helping our customers to do more.

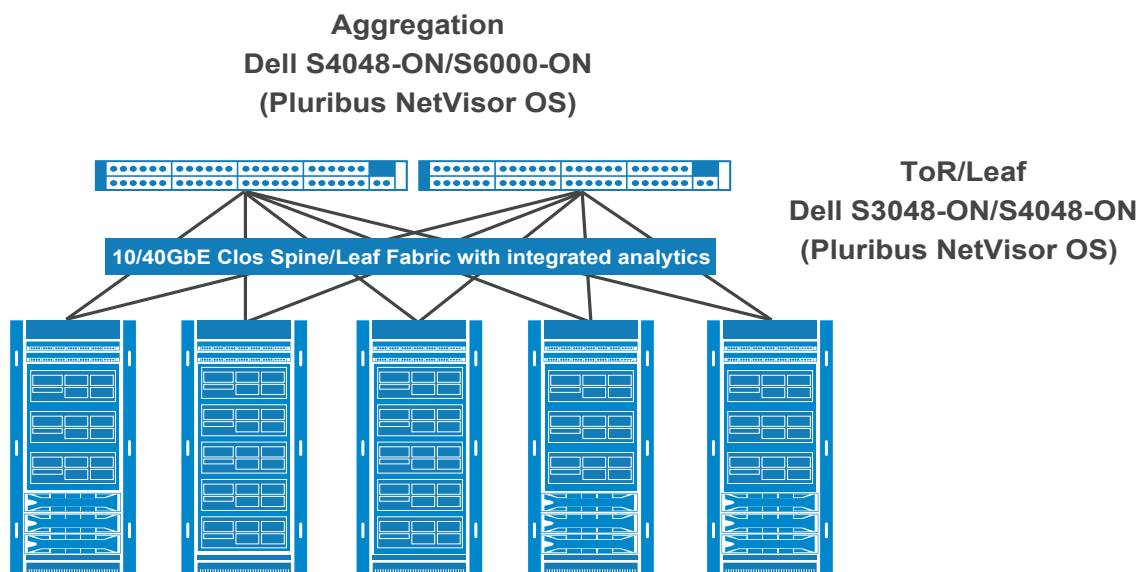


Figure 2: One-touch fabric & analytics solution for mid-sized data centers

For more information go to Dell.com/Networking

