Accelerating Next Generation Data Center Fabrics with Software Defined Networking

Big Virtual Switch eliminates the barriers of traditional network technology, enabling up to 50% more virtual hosts on existing compute infrastructure.

Dell and Big Switch Networks
Today’s enterprises face a turbulent business climate that has produced never-before-seen levels of competition and rapidly changing consumer behavior. At the same time, powerful new business models are emerging that provide an unprecedented opportunity for businesses that can adapt more rapidly and execute with greater agility, efficiency and precision. New technology has enabled IT to respond to business demands with new capabilities; however, traditional networking technologies have not kept pace and today encumber businesses with inefficient manual processes and a near complete inability to integrate into modern application frameworks.

Dell has partnered with Big Switch Networks to address this challenge. The Big Switch Networks Open SDN platform delivers advanced network virtualization and a robust suite of applications for customers impacted by limitations of both their virtual and physical infrastructure. The combined Dell / Big Switch Networks solution delivers the compelling benefits of the Big Switch Controller with Dell’s Virtual Network Architecture providing comprehensive end-to-end solutions that make enterprise SDN adoption simple.

Cutting edge innovation delivered over the industry’s most powerful switching platform
Dell and Big Switch Networks joint approach to SDN is designed to provide cutting-edge capabilities by taking the best architectural innovations from the latest SDN applications and delivering these across trusted platforms and technologies. Dell’s hybrid OpenFlow platform enables users to take advantage of the latest SDN innovations at their own pace by enabling a traditionally configured network to deliver SDN features as granularly as a single port at a time. This approach complements Big Switch's industry leading fault tolerance and high availability features, creating an ideal balance that provides the proven maturity and stability of the industry-leading FTOS software with the ability to rapidly and easily provision SDN-enabled features across this trusted platform.

Maximize density, minimize overhead
The introduction of server virtualization enabled an order of magnitude increase in the efficiency of server infrastructure, and today SDN can unlock these same benefits for the network. Dell 12th generation servers can now drive never-before-possible levels of server I/O performance but traditional networking technology cannot keep pace with the demands of cloud-era workloads. Big Virtual Switch implementations deliver up to fifty percent increases in virtual machine density in customer deployments.
A strategic enabler for top enterprise networking initiatives

Network Virtualization
Network Virtualization from Big Switch Networks and Dell can enable the creation of Virtual Network Segments that can extend across a distributed fabric.

Network Virtualization
What is it?
Dynamically creating multiple independent and segregated L2 broadcast domains on the same physical network infrastructure, irrespective of the physical topology.

Benefit
• Provides support for Layer 2 multi-tenancy.
• Centralizes and simplifies management of the network infrastructure, physical and virtual.

Centralized Policy Management
An Open SDN from Big Switch and Dell can provide a single network control plane for an entire data center and beyond, centralizing policy management and automating policy application and enforcement.

Centralized Policy Management
What is it?
Centralize the administration of network policies (such as authentication, admission control, authorization, and application aware network provisioning).

Benefit
Simplifies network provisioning and configuring network-wide policies that can be applied uniformly to end user devices and the data traffic associated with them.
Multi-tenancy

An Open SDN from Big Switch and Dell also enables robust carrier-grade network segmentation and isolation on a highly automated platform.

Multi-tenancy

What is it?
Dynamically creating segregated networks that stitch workloads and services together for multiple, independent tenants, on the same physical network infrastructure.

Benefit
- Simplifies workload aware network orchestration, traffic steering, service insertion.
- Supports overlapping IP addresses, MAC addresses, etc.
- Delivers the benefits of MPLS and VRF enabled multi-tenancy with the automation and application integration capabilities of SDN.

About Dell

Dell Inc. (NASDAQ: DELL) listens to customers and delivers innovative technology and services that give them power to do more. Dell Software helps customers of every size take advantage of new technologies and address organizational challenges to grow their businesses and remain competitive. For more than a decade, Dell has been making strategic software acquisitions and partnering in the industry to support and enable the hardware and services solutions it provides to customers. In 2012, Dell formed a dedicated software division to extend its capabilities in software IP and total solutions offerings. Dell security, systems management, business intelligence and application software draw on the strength of Dell’s distribution capabilities and reputation to help clients in every industry achieve better business outcomes. For more information, visit www.dell.com.

About Big Switch Networks

Big Switch Networks is the leading platform-independent Software-Defined Networking (SDN) vendor. The company's highly scalable Open SDN architecture leverages industry standards and open APIs that enable customers to deploy dynamic and flexible networking applications, including data center network virtualization. Big Switch Networks is backed by the largest SDN ecosystem of OpenFlow applications and physical and hypervisor switches. The company’s commercial controller, network virtualization, and applications, which accelerate delivery of cloud services, are in customer trials today. For more information, visit bigswitch.com.