

# Network Infrastructure for the Future-Ready Service Provider

Big Communications Event 2016  
Austin, TX



# Service Providers globally are at a **crossroads**

## 1. **New architectures and technologies**

changing the velocity, ease, and economics of service creation and delivery.

## 2. **New services and business models**

designed to harness the 'always-on, instant-access' device experience.

## 3. **New competitive landscape**

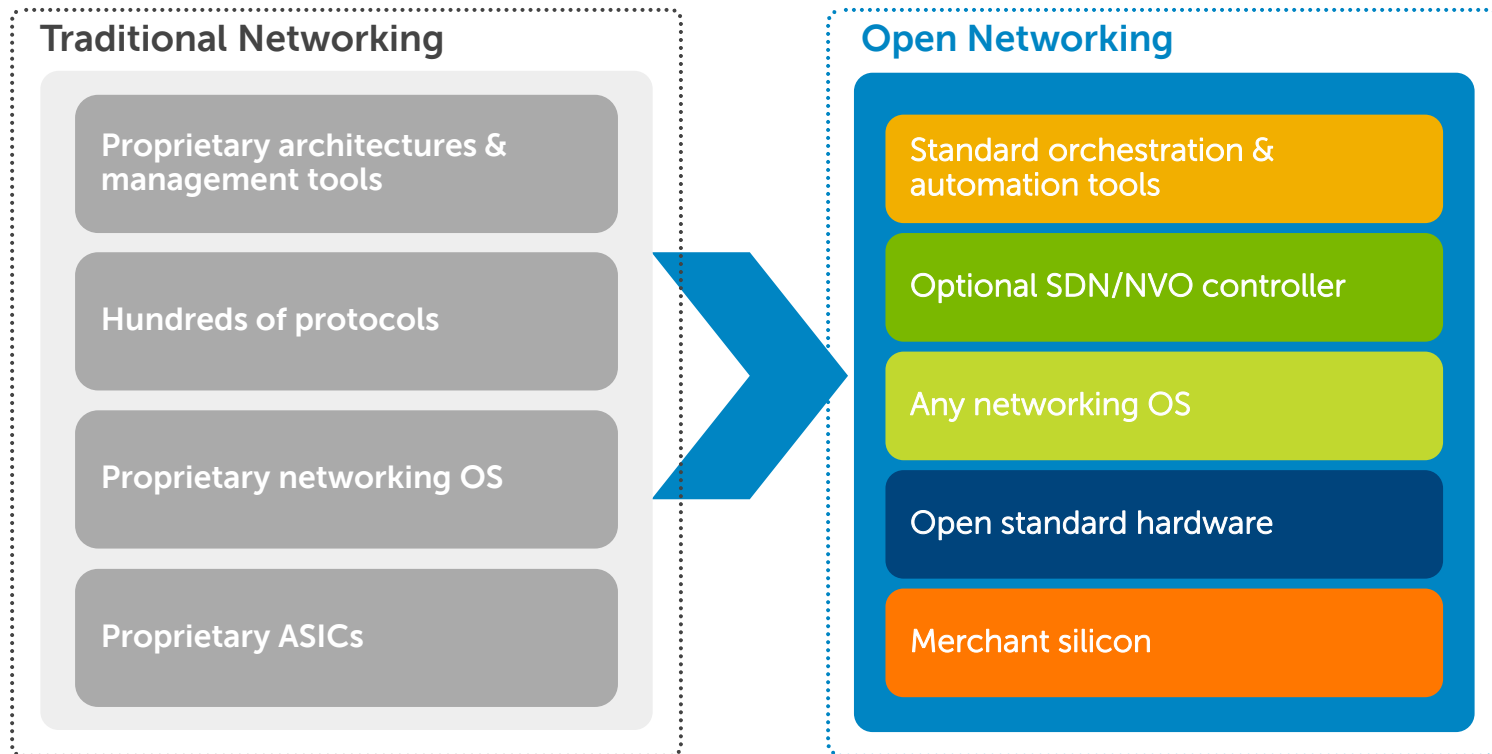
challenging the status quo of connectivity and service offerings.

Experience

# Open Networking



# The Power of Open Networking

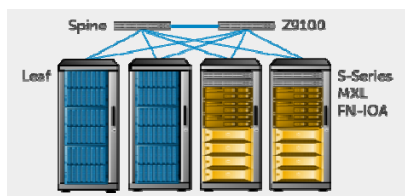


# Enabling **infrastructure modernization** at any scale

Fabric scale

➤ Industry-leading high-performance, open leaf-spine fabric solutions

## Unstaffed PoP



**10's of servers:** Cost-effective 40/100GbE spine + in-rack/leaf switching from 1GbE to 100GbE

## Central Office



**100's of servers:** Cost-effective 40/100GbE spine + in-rack/leaf switching from 1GbE to 100GbE

## Hyperscale Data Center

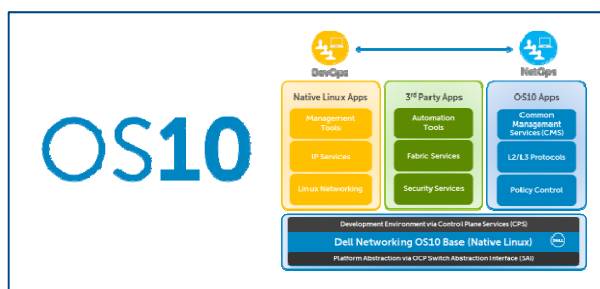


**1000's of servers:** Massively scalable Clos-based 100GbE spine-leaf fabric + in-rack switching from 1GbE to 100GbE

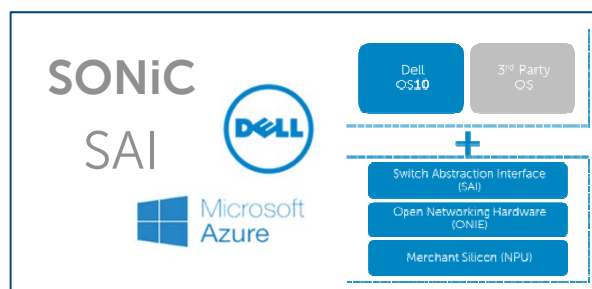
Workload/Server/VM density

# Dell Networking ingredients

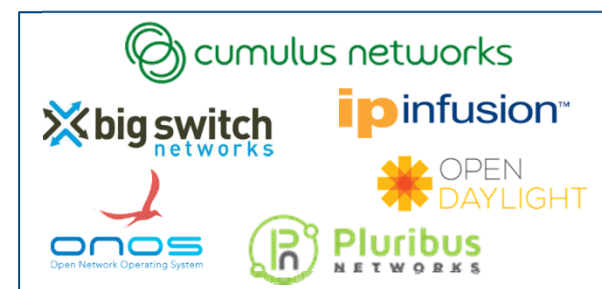
## Open Software



## Open Source



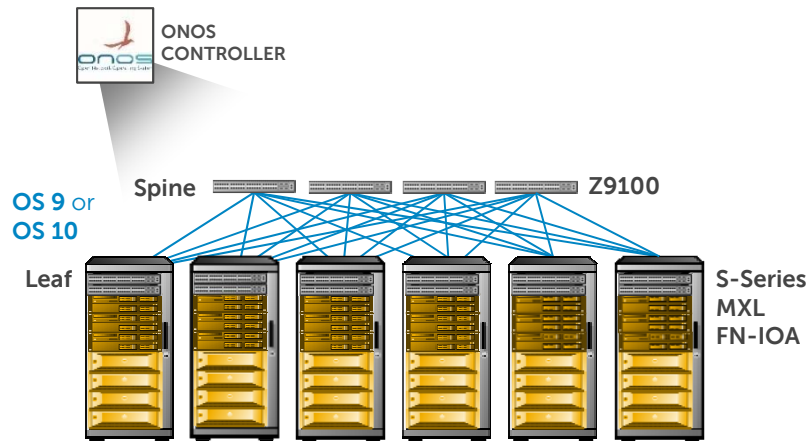
## Open Ecosystem



## Open Platforms



# Fabric solutions with Dell Networking software



OS9 & OS10  
Dell Networking

## Fabric solutions with OS9

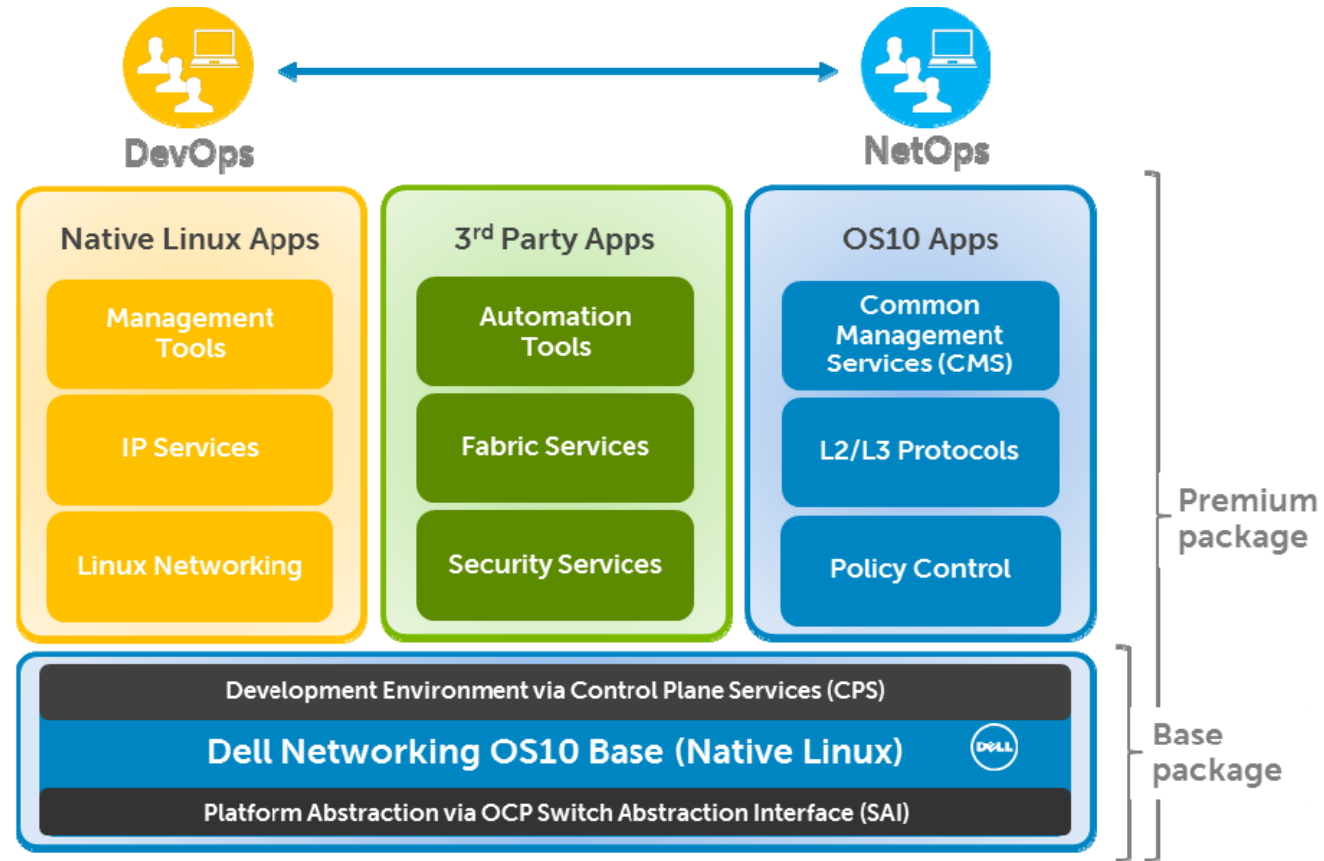
- Industry hardened modular software architecture. outfitted with advanced switching & routing features
- Design and optimized for feature-rich operation at scale and proven in the largest most-demanding environments
- Support for OpenFlow and industry-standard APIs RESTful APIs for programmatic forwarding plane

## Fabric solutions with OS10



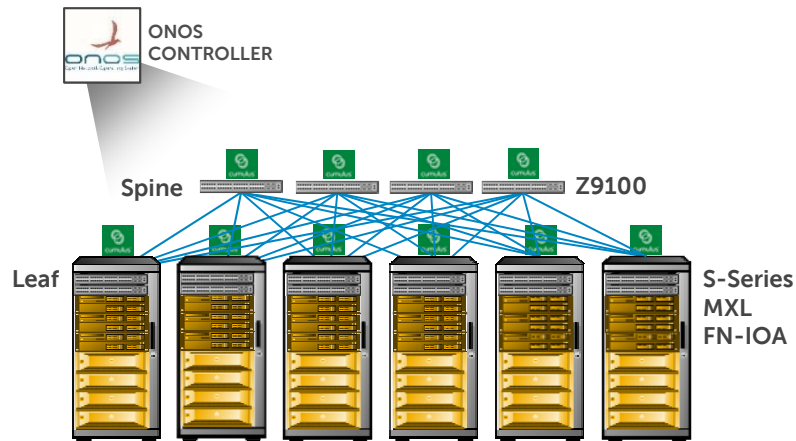
- Converge operations across server, storage, networking elements
- Leverage common open source tools and best-practices (Data models, commit rollbacks)
- Implement advanced use-cases: e.g. application level routing, container networking

# OS10—Software for the open networking era





# Fabric solutions with Cumulus Networks



Open Networking Solutions



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## Cumulus Linux OS

- Delivers high capacity fabrics with unprecedented price performance.
- Enables large ecosystem of native Linux applications and automation tools while delivering new levels of innovation and flexibility
- Support large-scale Clos fabrics and next generation architectures.

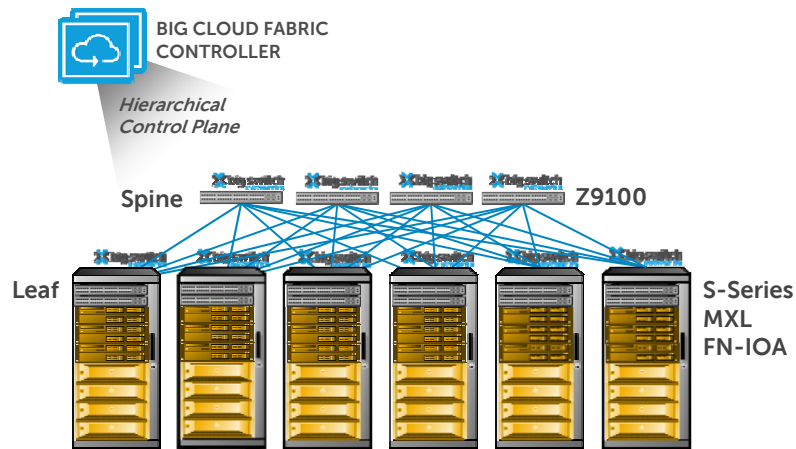
## Recent showcase



- ✓ Simplified scaling with OpenStack
- ✓ 300 server nodes with OpenStack plus 24 switches (S6000-ON & S4048-ON) were brought up in <6 hours



# Fabric solutions with Big Switch Networks



Open Networking Solutions



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## Big Switch Big Cloud Fabric™ (BCF)

- Supports both physical and virtual (multi-hypervisor) workloads and choice of orchestration software.
- Provides L2 switching, L3 routing and, L4-7 service insertion and chaining while ensuring high bisectional bandwidth.
- Scalable fabric, fully resilient with no single point of failure and supports head-less mode operations

## Recent showcase

verizon



big switch networks

redhat

openstack

**Need:** Elastic, scalable network with faster service enablement

**Solution:** S6000-ON & S4048-ON with BCF — 50 racks in 5 Data Centers

**Results:** Resiliency at scale. No bandwidth bottleneck. Design Flexibility. Reduced Operational Complexity. Integrated security and visibility



## Your next steps

**1**

**Meet our executives and engineers at the show**

**2**

**Request a workshop and technical deep-dive**

**3**

**Customize your own proof-of-concept**



## Partner call-to-action

**1**

**Join the Open Networking ecosystem**

**2**

**Engage in the OS10 developer's ecosystem**

**3**

**Team on solutions development & trials**

Learn more:  
**[dell.com/networking](https://dell.com/networking)**





The power to do more