Keynote: Open Networking 2.0
Raising the Game for the Networking Industry

Gavin Cato
Senior Vice President of Development Engineering for Networking, Dell EMC
The Journey We’ve Been On (As an Industry)

Closed Networking
- Proprietary Architectures & Management
- Hundreds of Protocols
- Proprietary Networking OS
- Proprietary ASICs

Open Networking
- Standard Orchestration & Automation Tools
- Optional SDN/NVO Controller
- Any Networking OS
- Open Standard Hardware
- Merchant Silicon
The Driving Forces

CSPs
Enterprises
Vendors

- Agility & Speed
- Security
- DNA
- Economics
- Openness
- Innovation, Value Creation
The Journey Forward

Open Networking

- Standard Orchestration & Automation
- Optional SDN/NVO Controller
- Any Networking OS
- Open Standard Hardware
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Open NOS “2.0”

- Composite Stack(s)
  Custom Stack Design, Assembly & Delivery

- Expandable Modes of Ops.
  Use Cases, Chipset, Adaptation Layers
  Intent- & app-based routing, P4, Stratum, etc.

- Mission-Critical Deployments
  Industrial-grade, underpins premium CSP brand
  24/7 Global support, best-in-class supply chain
Mapping The Path Ahead

Open Networking Hardware Platforms (ONIE-enabled)
E.g. Dell EMC S-Series-ON, Z-Series-ON

Open NOS “1.0”  Open Networking Evolution  Open NOS “2.0”

Drivers, SDK, SAI, SAI Extensions, P4

Management & Orchestration / Telemetry
Function & Service Assembly, Delivery

Dell EMC OS10 Enterprise Edition
Control Plane Services
OS10 Base

Dell EMC OS10 Open Edition
Protocol Stack / NOS
Control Plane Services
Open Source Base OPX

SDK

Open Networking Partners

Dell EMC OS9

Application Community Contributions

Community Contributions
VNFs, NW Services, Plug-Ins

Hardware

Standard Linux Distribution

Platform Abstraction  Network Abstraction

Open Networking Evolution

Open NOS “1.0”
Enabling An Automation Framework

Open Source MANO
Industry Initiatives

- SAI
- Network Abstraction Platform
- CPS
- Linux Adaptation

Configuration Management
- CFEngine
- puppet labs
- CHEF
- SALTSTACK
- ANSIBLE

Monitoring
- splunk
- Ganglia
- Nagios
- entity
- cactus
- smpir
- solarwinds

Integration
- DMTF
- NIFV
- openstack

Northbound Interfaces
- CLI
- SNMP
- WebUI
- Netconf
- REST
- Ansible
- Puppet
- Open Config

Open Interfaces
- Platform Services
- CPS
- SAI
- Network Abstraction
- Linux Adaptation

Open Networking Platforms: OS10 / OpenSwitch (OPX)
Learn more about OS10 Open Edition and OPX in production at Verizon Connect
Wednesday, March 28 from 12:15pm - 1:05pm

See our live demos in the Dell EMC booth #43
- Composable Networks: OPX / MetaSwitch / FRRouting
- NW Monitoring & Telemetry: OPX CPS API, Broadcom, Cavium
- OPX/ODL Controller Integration with Inocybe Technologies

Develop and contribute code to the OPX community
Discuss with Staff in the Dell EMC booth #43
THANK YOU