

# Trellis

Multi-purpose leaf-spine  
fabric designed for NFV

# Trellis – Multi-purpose Leaf-Spine Fabric

Open Network Operating System

192.168.0.101  
192.168.0.101  
# Switches: 5

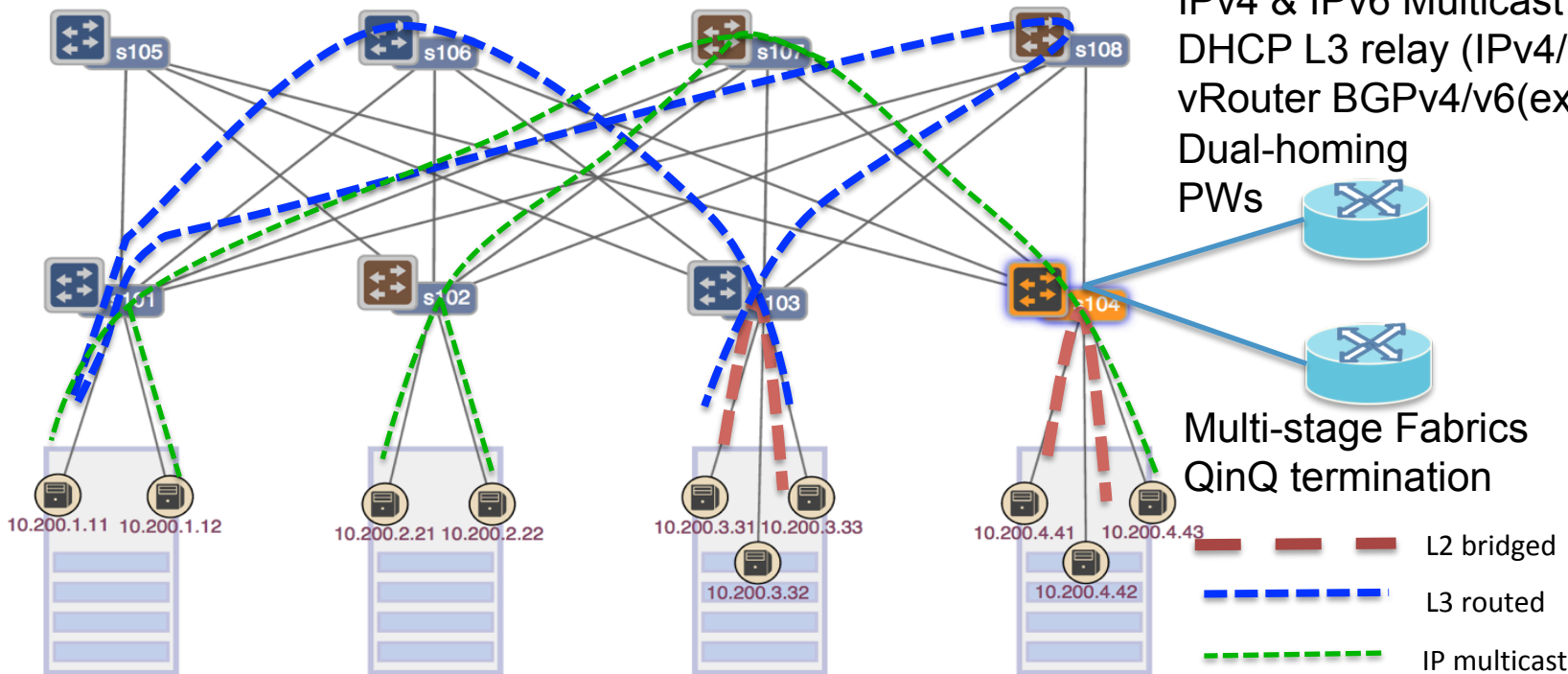
192.168.0.102  
192.168.0.102  
# Switches: 3

192.168.0.103  
192.168.0.103  
# Switches: 0

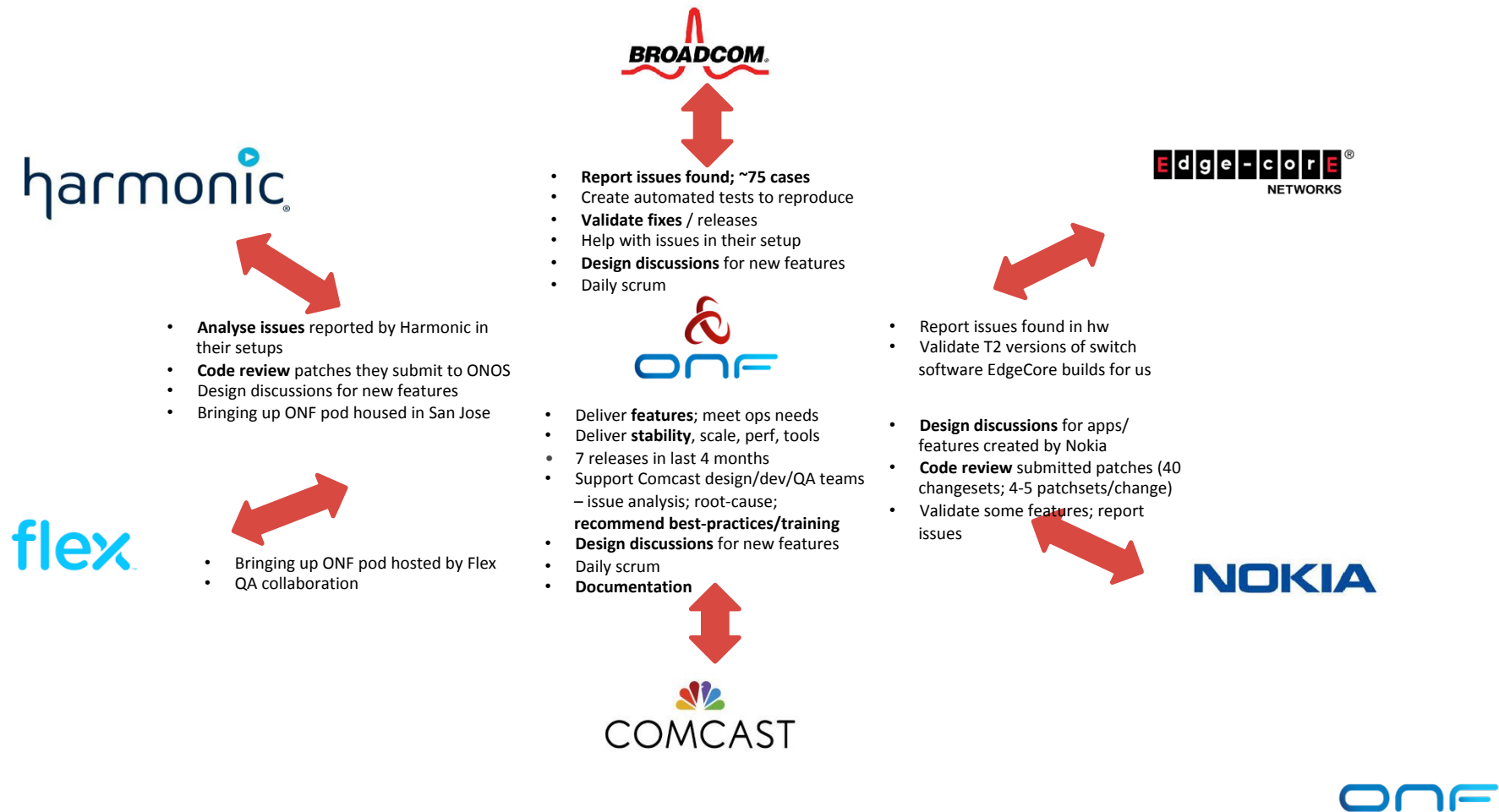
ONOS Cluster

Access & Trunk VLANs  
IPv4 & IPv6 & MPLS SR  
IPv4 & IPv6 Multicast  
DHCP L3 relay (IPv4/v6)  
vRouter BGPv4/v6(ext.)  
Dual-homing  
PWs

Multi-stage Fabrics  
QinQ termination



# Trellis – Towards Production Readiness



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December '17 – March '18

## Support Comcast

- **Support Comcast design/dev/QA/ops teams** – issue analysis; root-cause;
- **Recommend best-practices/ training**
- Design discussions for new features & architectural improvements
- **Daily scrum**
- Documentation

## Support Other teams

- **Broadcom**
- **Nokia**
- **Harmonic**

## Deliver New Features

- **Pseudo wires** for in-band control
- Routing in **H-Agg** based topologies
- **Multicast** improvements
- **Dual-homing** improvements
- Other smaller features
- **ISSU** architectural discussions/progress

## ONOS Stability & Scale

- Focus on stability of ONOS distributed stores (**9 releases of Atomix in last 4 months**)
- Scale investigation ongoing

## Tooling

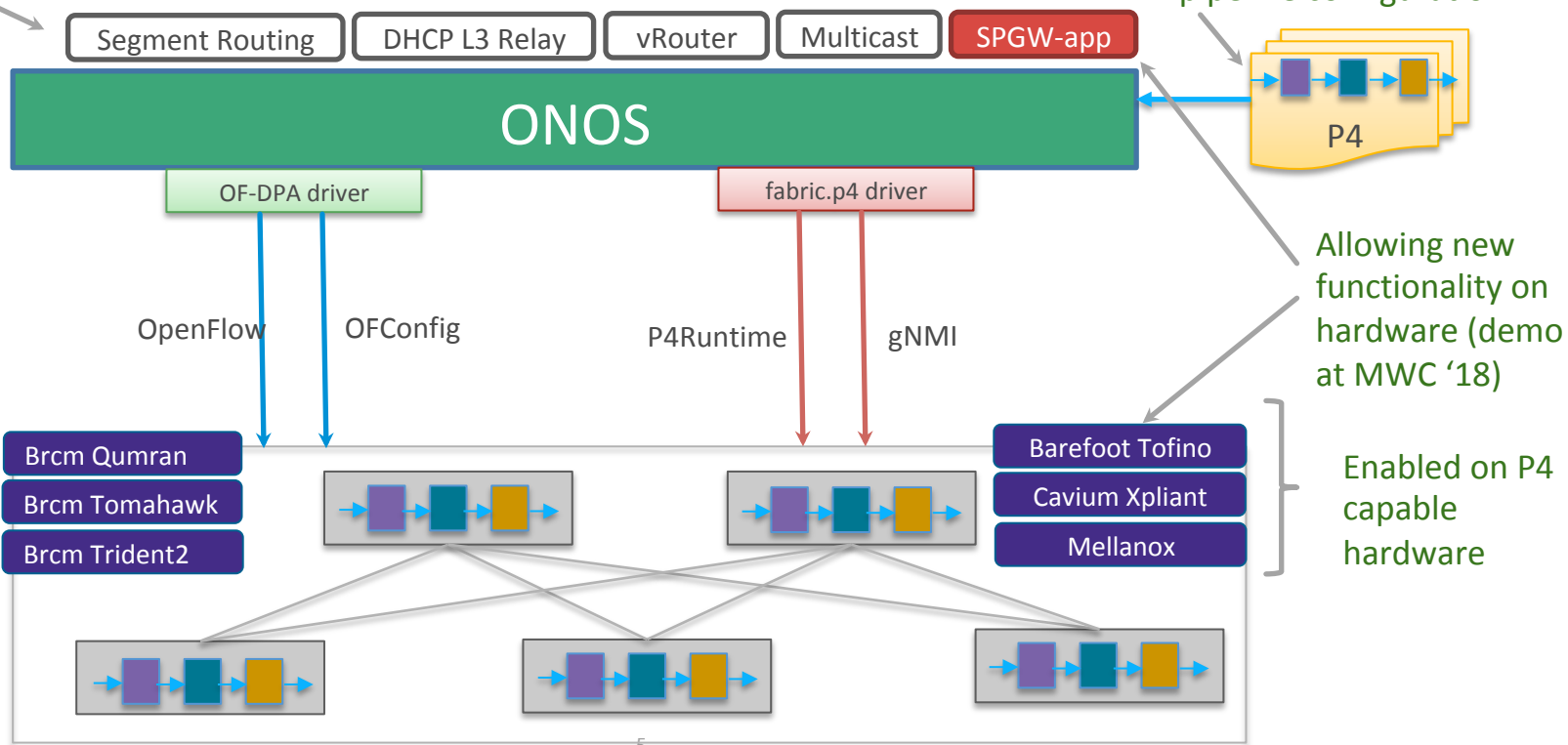
- **T3** – Trellis Troubleshooting Tool
- **onos-diag**: Diagnostics collection tool

## QA

- Developing automated feature tests (**220 new tests in the last 4 months**)
- Extending framework for hardware based tests

# Trellis & P4

Same set of Trellis applications on ONOS

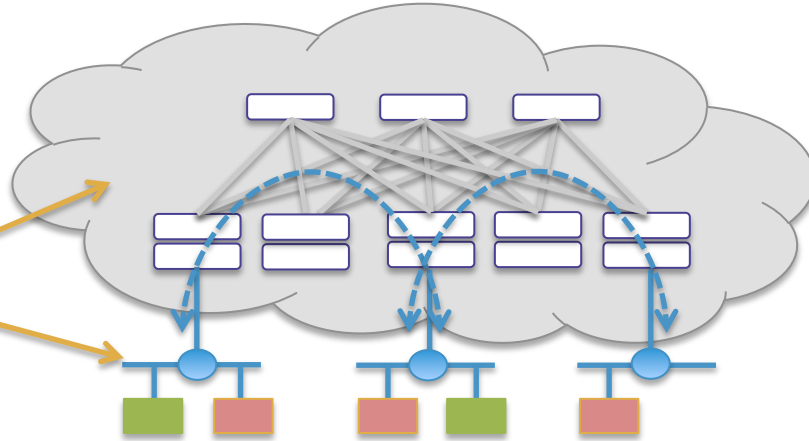


# Trellis – CORD Network Infrastructure



Unified SDN Control  
Of Underlay & Overlay

ONOS  
Controller Cluster &  
Apps



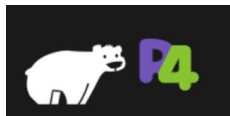
Datacenter Leaf-Spine  
Fabric Underlay

Virtual Network  
Overlay

Trellis Provides **Common control** over underlay & overlay networks, including

- Service Composition for Tenant Networks
- Distributed Virtual Routing
- Optimized Delivery of Multicast Traffic Streams

**Trellis is the enabling Network Infrastructure for CORD**



Thank you !

and more...

