

September 25 - 27, 2018
Amsterdam, The Netherlands



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OpenSwitch and Composable Networking

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Evolution of Network Disaggregation

- Legacy Networking Equipment
 - Proprietary and Single Vendor
 - Monolithic
 - Full Solution
 - Expensive to Maintain
 - Vendor controlled roadmap
 - Single vendor support

Closed Solution:

- Proprietary CLI or other Interfaces
- Management
- Protocol Stack
- Custom OS
- ASIC & Integrated HW

Legacy Networking

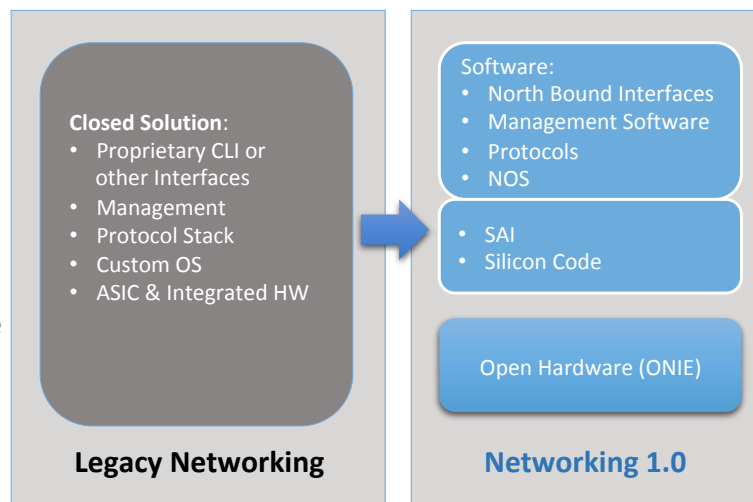


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Open Networking 1.0

- Division of Hardware and Software
 - Open Hardware – ONIE Enabled
 - Programmable Silicon + SAI
 - NOS + Protocols + Management Stack
- (+) Choice of best fit NOS
- (-) Feature delivery tied to software vendor roadmap

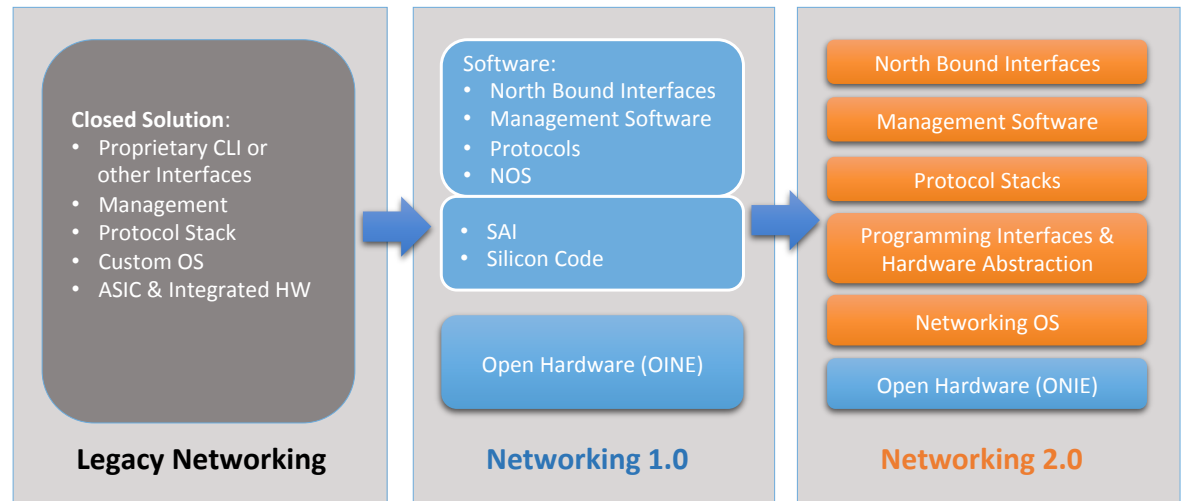




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Open Networking 2.0

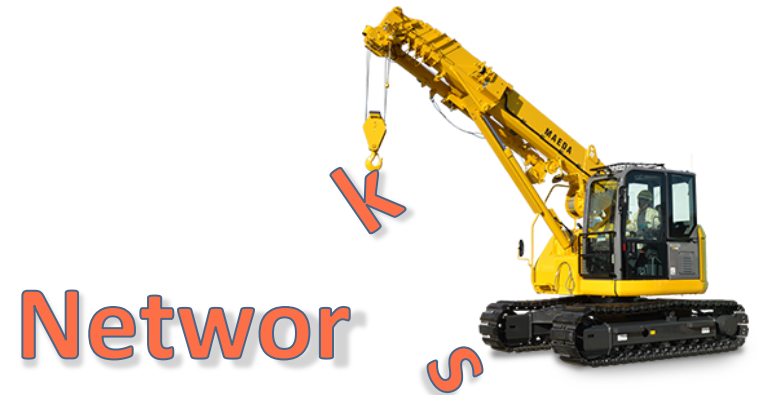
- Full software disaggregation
- Composable Networking:
 - Open Hardware
 - Open Networking OS
 - Micro-services
- Deploy what you need
- Less dependence on single vendor roadmap
- Support Strategy?





Composable Networking

- Building Custom Network Solutions:
 - Using Management & DevOps tools
 - L2/L3 Routing Protocols
 - Considering Scales and Performance
 - Enabling Security Features
 - Using Monitoring and Maintenance tools



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Challenges to Composable Network deployment

- Support model
 - Single Neck to choke
- Workable business model for Vendors
 - Vendors willing to adopt new paradigm
- Open, Closed, or Hybrid?
 - When is a closed source micro-service acceptable ?





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OPX Support

HELP



OPX Support

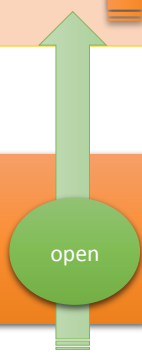


OPX

open



closed



open



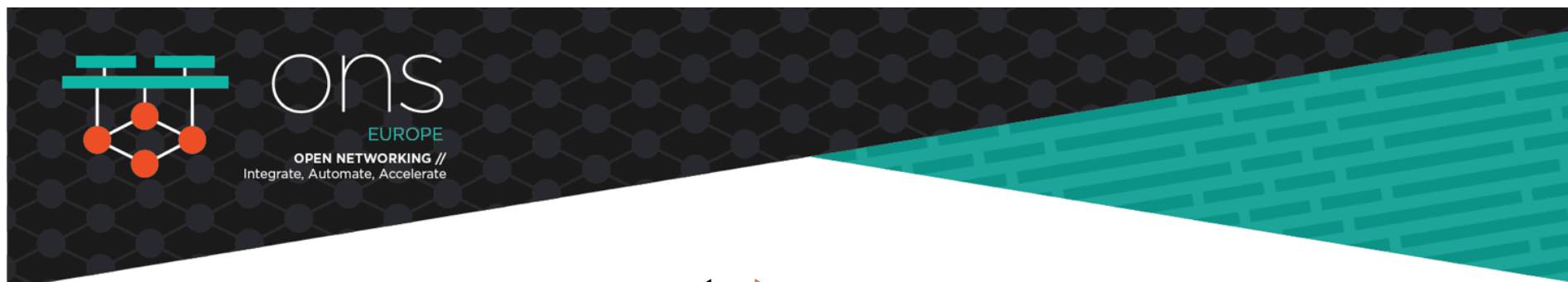
OPX Support

SW Vendor Support


OPX Support

HW Vendor Support

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OPX (OpenSwitch)

- Linux Foundation open source project 
- Diverse growing community led by Dell EMC
- Open source NOS for hardware switches
- Commercial-Grade turnkey solution
- Enables rapid on-boarding of new platforms, protocols & applications



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OPX & Open Networking 2.0

- OPX is designed from grand up based on composable networking architecture
- Total disaggregation of software and hardware
- Choice of hardware and Software solutions based on network needs
- First Open Networking OS with complete support package

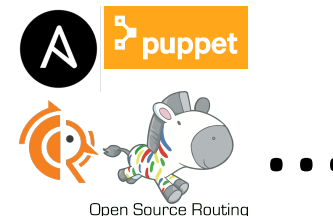


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OPX as composable networking solution

- Ready for popular DevOps tools
- L2/L3 Protocol stacks enabled
- Scalable
- Includes security features
- System and Network Monitoring tools



RADIUS/TACACS+

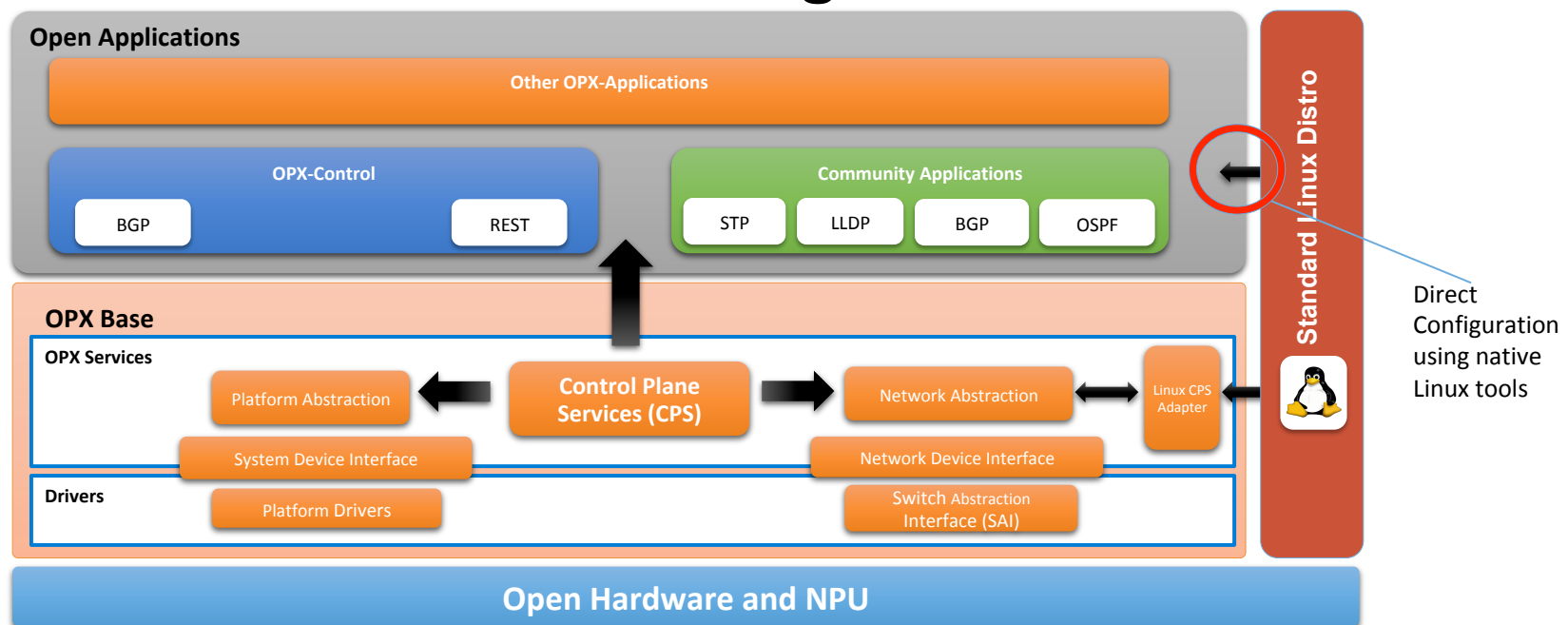


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OPX Architecture & Design

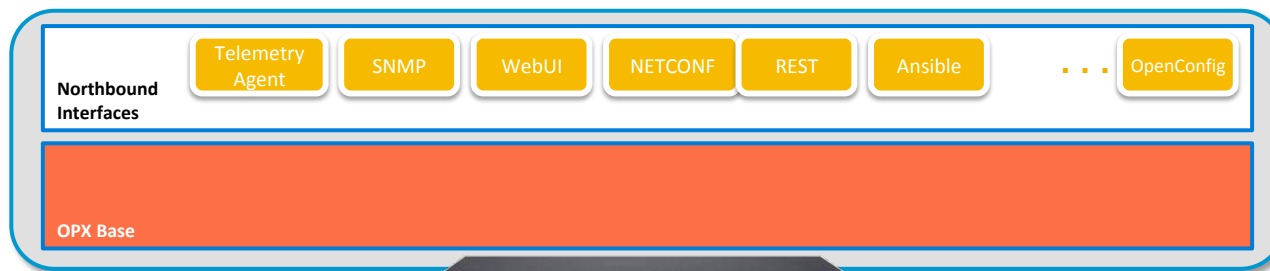
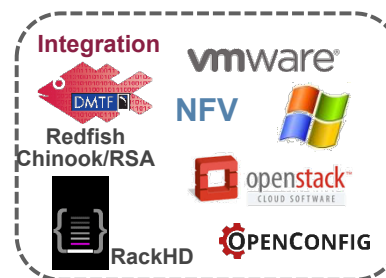
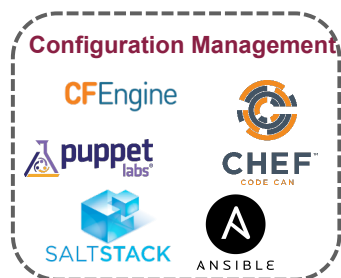


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OPX as a building block...



Open Hardware



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OPX in Action...

- Commercially deployed cases:
 - Verizon Connect:
 - Initially deployed with Quagga
 - Later moved to FRR
 - Awnix:
 - Apstra, DellEMC Open HW, running OPX
 - Open IaaS Network Infrastructure solution

**verizon[✓]
connect**



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Take Away...

- OPX key differentiations
 - Full NOS solution
 - Simple onboarding of partners
 - Proper support model



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Thank You!

Join OPX today
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