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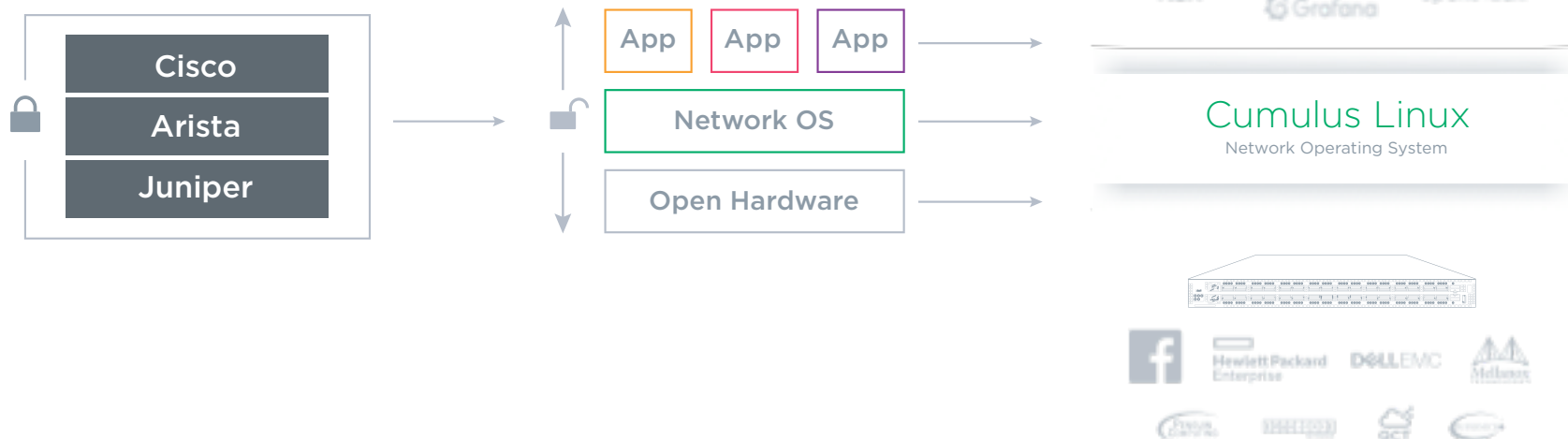
Open Networking Deployment in Production

Attila de Groot | Sr. Systems Engineer | Cumulus Networks

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Network Disaggregation



Cumulus OCP customers

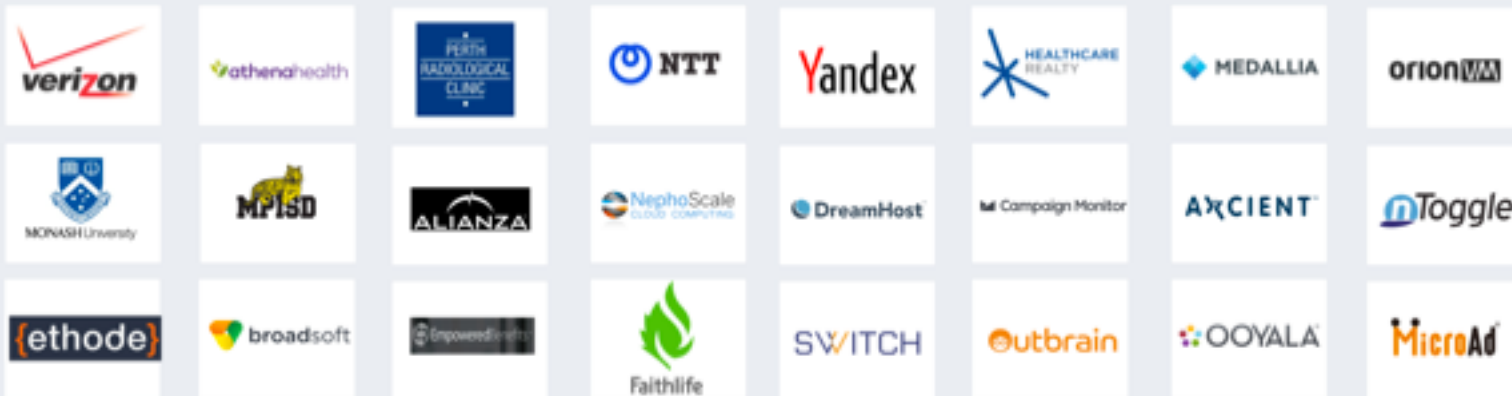


28%
of Fortune
50 Companies

25%
of Mega-Scale
Public Clouds

>4M
Ports Powered by
Cumulus Technology

1100+
Customers Across
Many Industry Verticals



Open hardware & disaggregation



Juniper



QFX 3500

Cisco



Nexus 3100



Nexus 9000

Arista



7500E



7250X

Extreme



X770

OCP open switchgear



HCL:

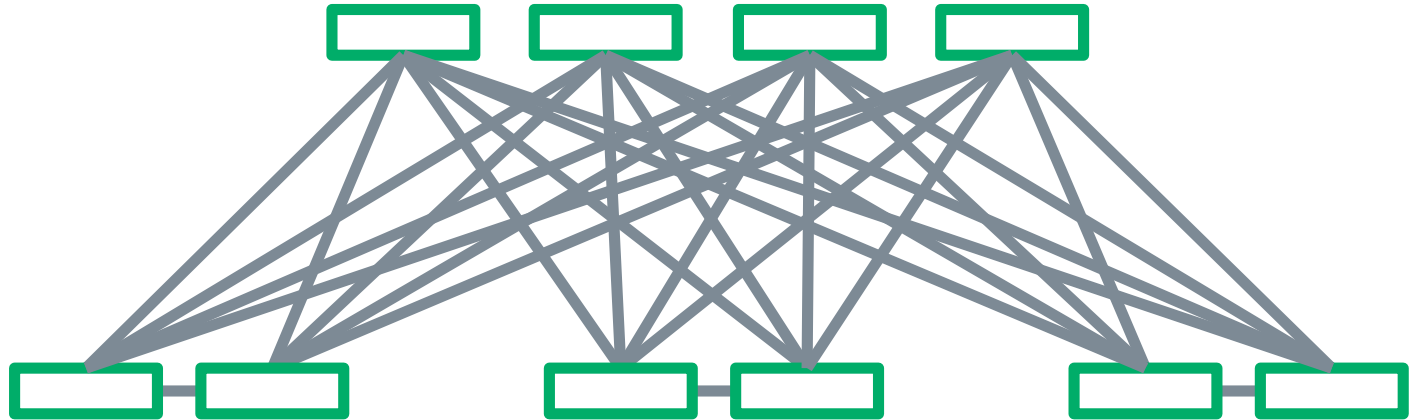
Edge-Core, Facebook, Penguin, HPE,
Agema/DNI

powered by

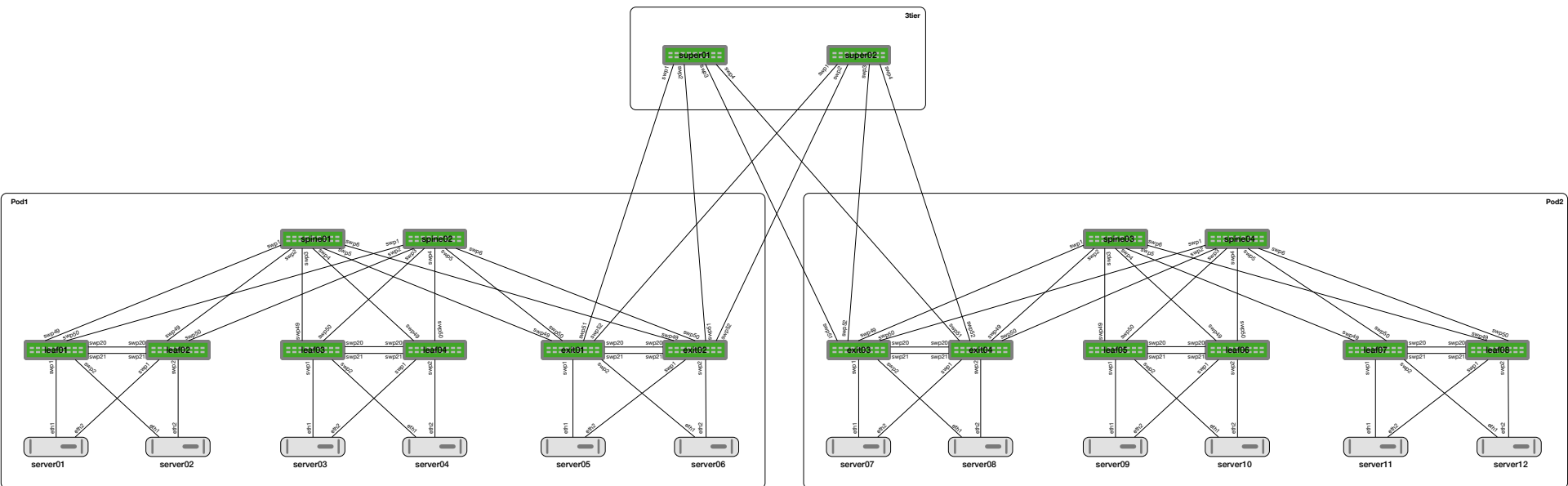


Trident II

Simple Architecture – Spine and Leaf



3-Tier Spine and Leaf



OCP Chassis



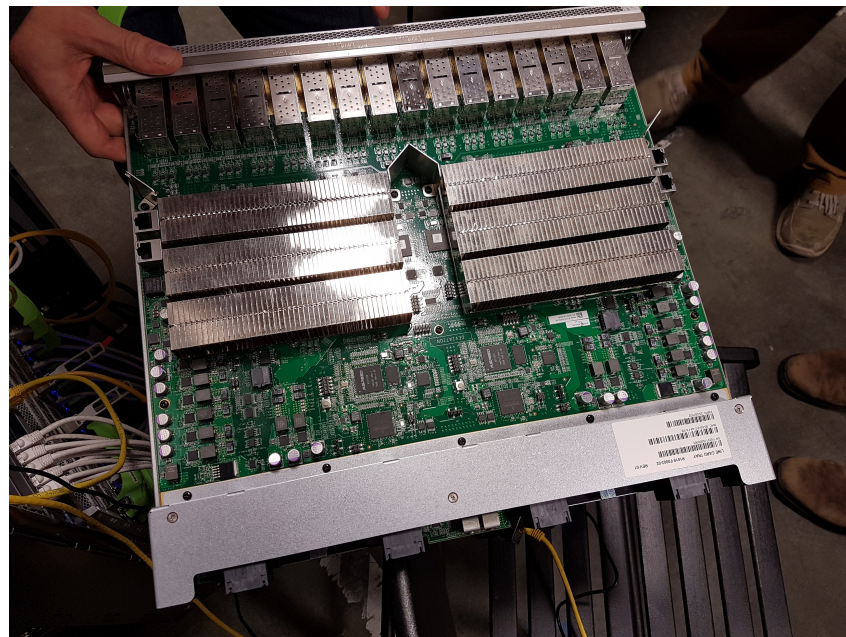
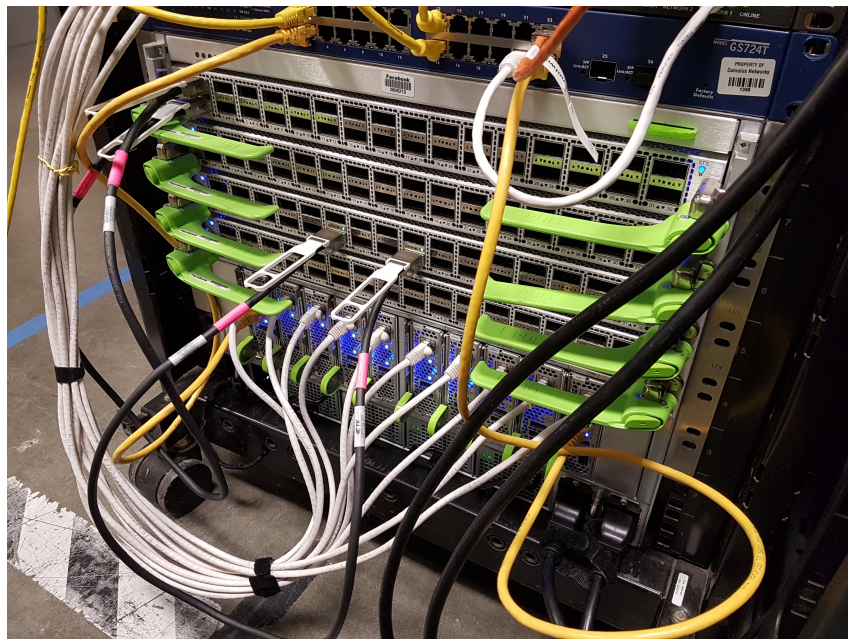
Edge-Core OMP800



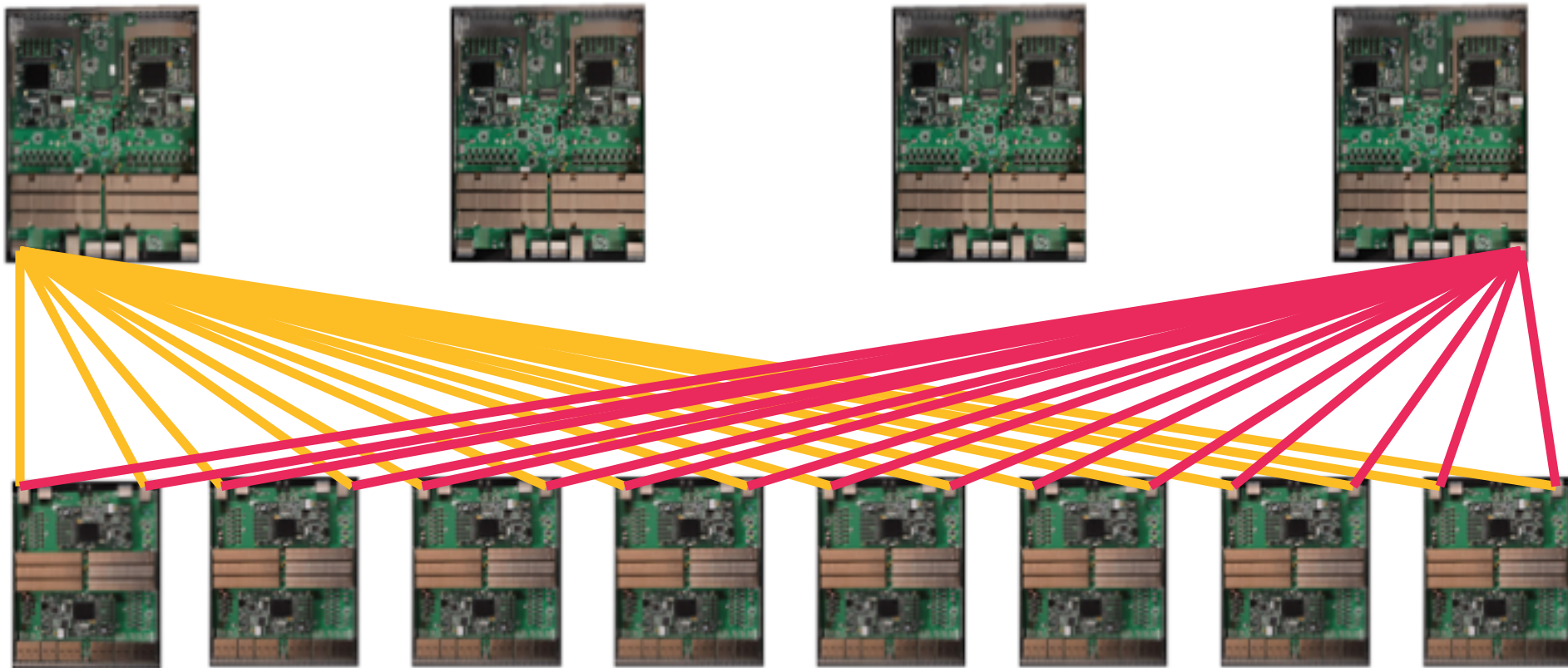
Facebook Backpack

Open hardware and disaggregation

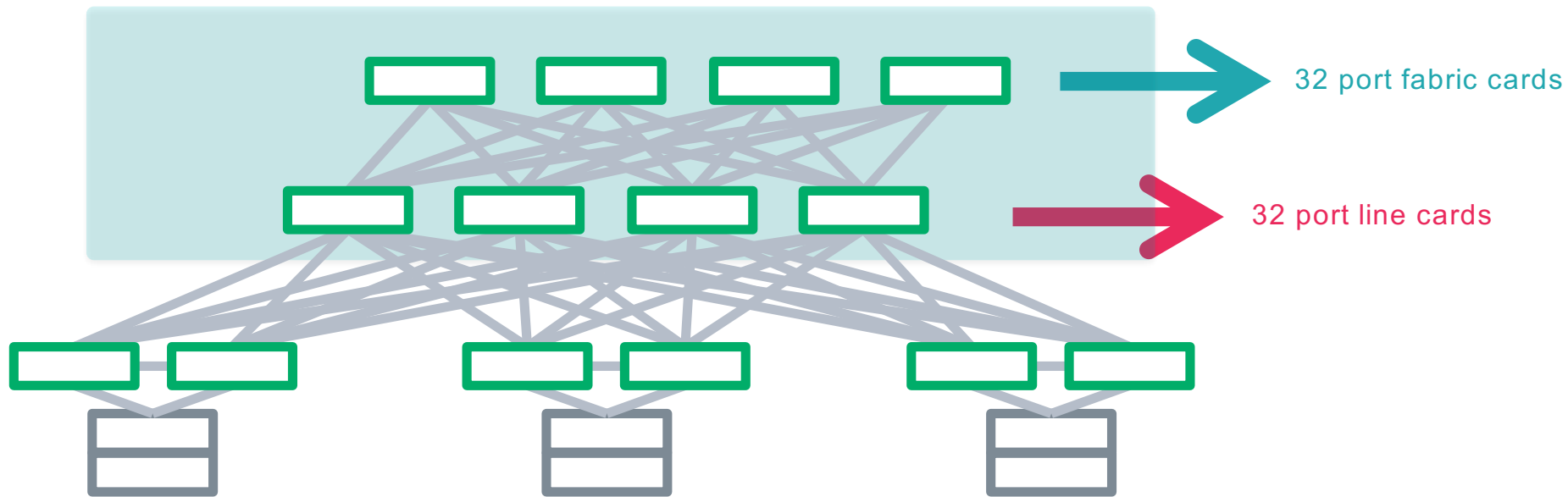
Facebook Backpack



Edge-Core OMP800 Fabric Connectivity



3-Tier Spine and Leaf





ONIE – “PXE on steroids”

- Born from decades of PXE baggage, talented embedded engineers, and disaggregation goal across the industry
- No need for console
Simply scp the operating system directly to ONIE!
- Backwards-compatible w/PXE setup
(DHCPv4 and TFTP)
- <https://github.com/opencomputeproject/onie>

onie



ONIE

From loading dock to production



Boot into ONIE

- Management interface network discovery
- OS image source discovery
- File name search (`onie-installer`)
- Install Cumulus Linux



Reboot into Cumulus Linux

- Zero touch provisioning
- Optional step to invoke provisioning script
if DHCP option 239, run script



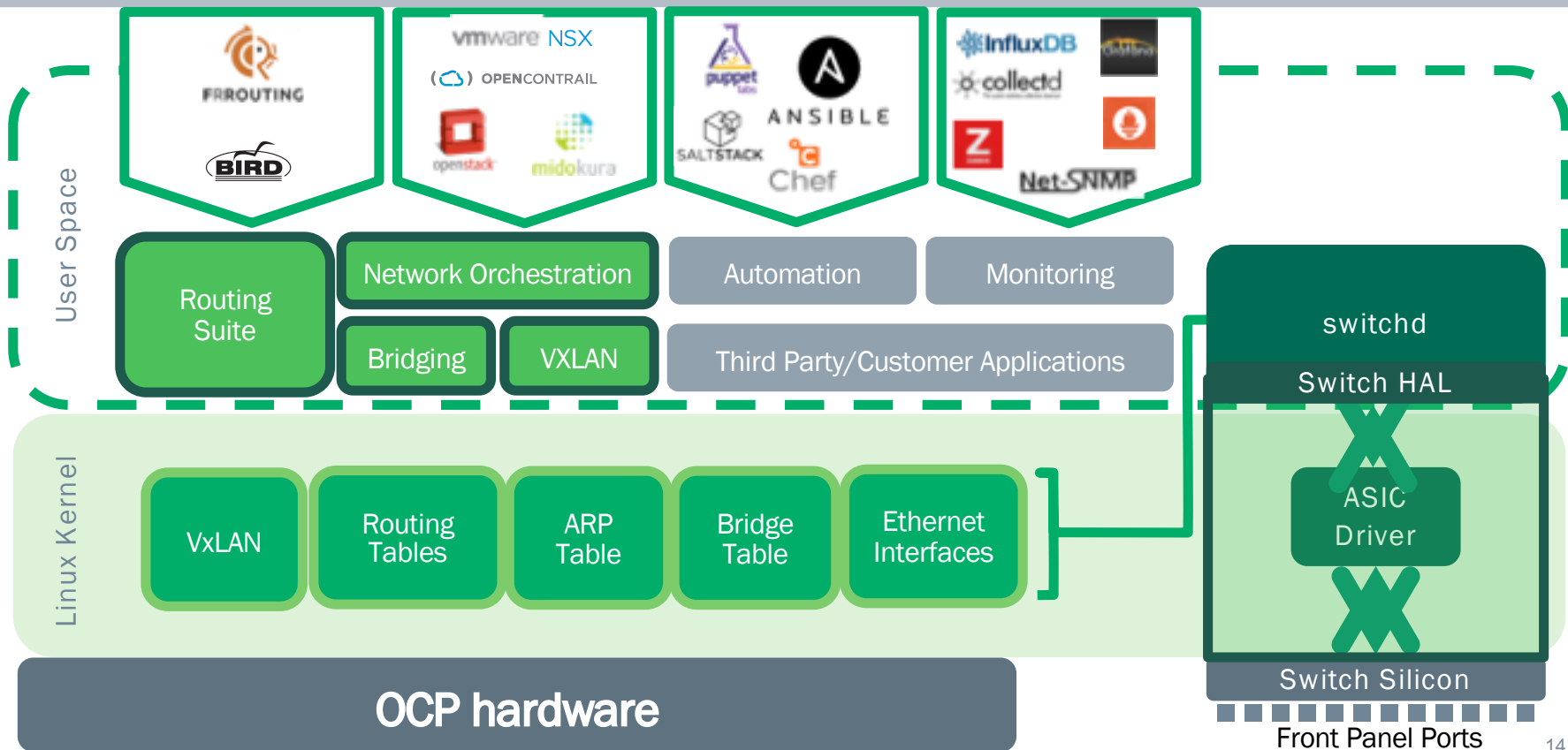
Subsequent boot ups

- Normal Cumulus Linux restart



Cumulus Linux architecture on OCP hardware

Uniform operating model – write any tools, use any apps



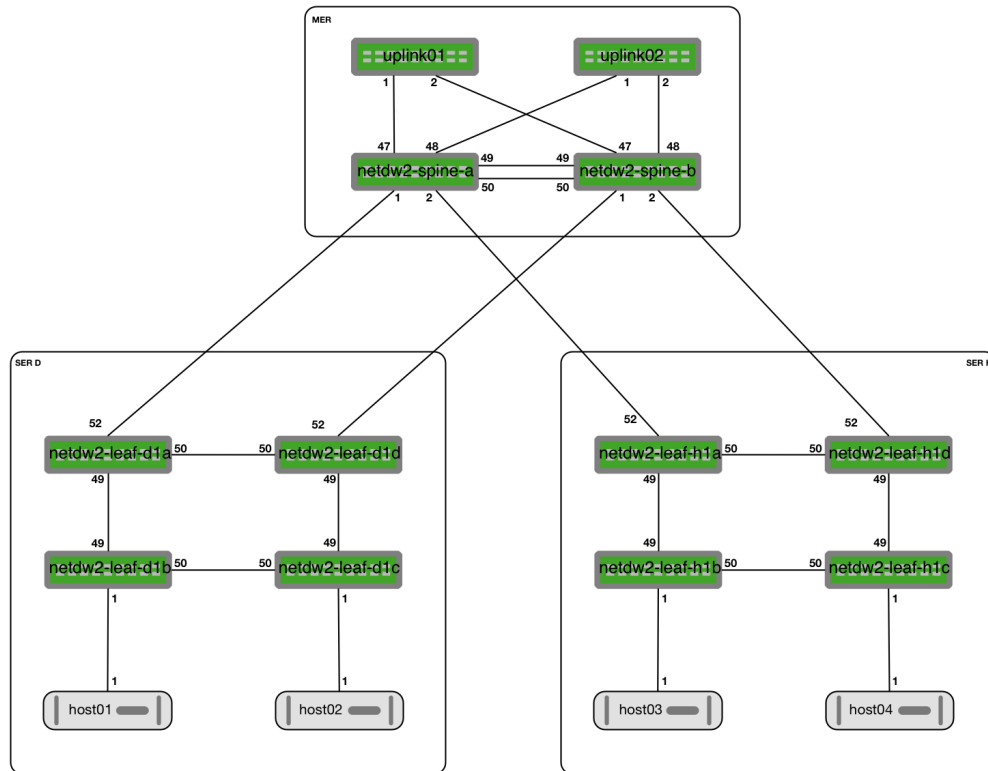
Customer use-case

Campus Deployment

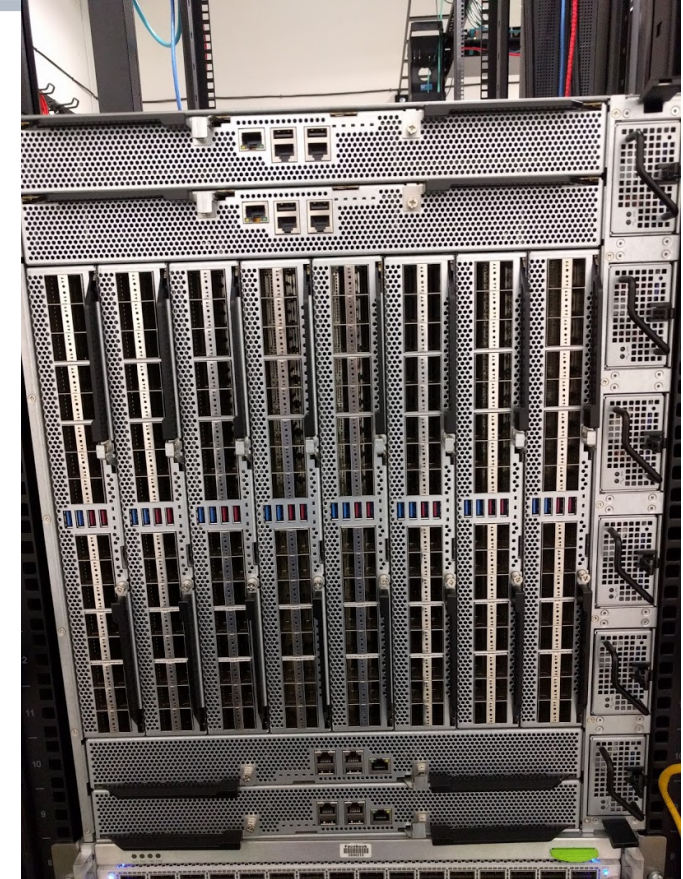


Naturalis Biodiversity Center

- Campus deployment
- Greenfield building
- Automated with ONIE and Ansible



Automated provisioning demo



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