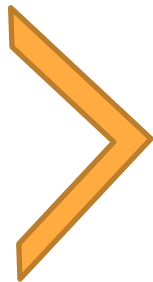


Tungsten Fabric Update



TungstenFabric joined Linux Foundation



SDN ECOSYSTEM in LF



Why we are working to join the LF and LF-N:

- We're cloud-native—run in containers, cloud and Kubernetes—but also support more outside the CNCF
- Cross-project integrations already exist with OPNFV, ONAP, DPDK and other LF projects
- Enlarge open community, eliminating network vendor / developer hold-outs over “openness” FUD
- Easy for LF and LF-N members to join our project, and most of our members are also LF members
- Events, infrastructure and idea collaboration economies of scale inside large foundation
- Trusted foundation operations solve ad hoc funding and marketing support

COMMUNITY



Principles:

- Open and inclusive
- Provide strong technical and architectural oversight
- Competitive ideas welcome
- Rough consensus and running code will always win
- Iterate and evolve

COMMUNITY



- Online:
 - Downloads and trial sandbox
 - Talk with 700+ people: Slack, Mailing lists
 - Follow: Blog, YouTube, Facebook, Twitter
 - GitHub: Presentations, Tutorials
- Live (see calendar) :
 - Conferences: OpenStack, KubeCon, ONS, Re:invent and GC Next
 - Meetups: host your own or join some
 - User Group events: often at conferences
 - Governance summits
- Groups: Governance, Technical, Infrastructure
- Community manager: Greg Elkinbard

COMMUNITY MEMBERS



FEATURES



Routing & Switching



Network Services



Load Balancing



Security & Policies



Performance & Scale



Gateway Services



Rich Analytics



Service Chaining



HA & Upgrades

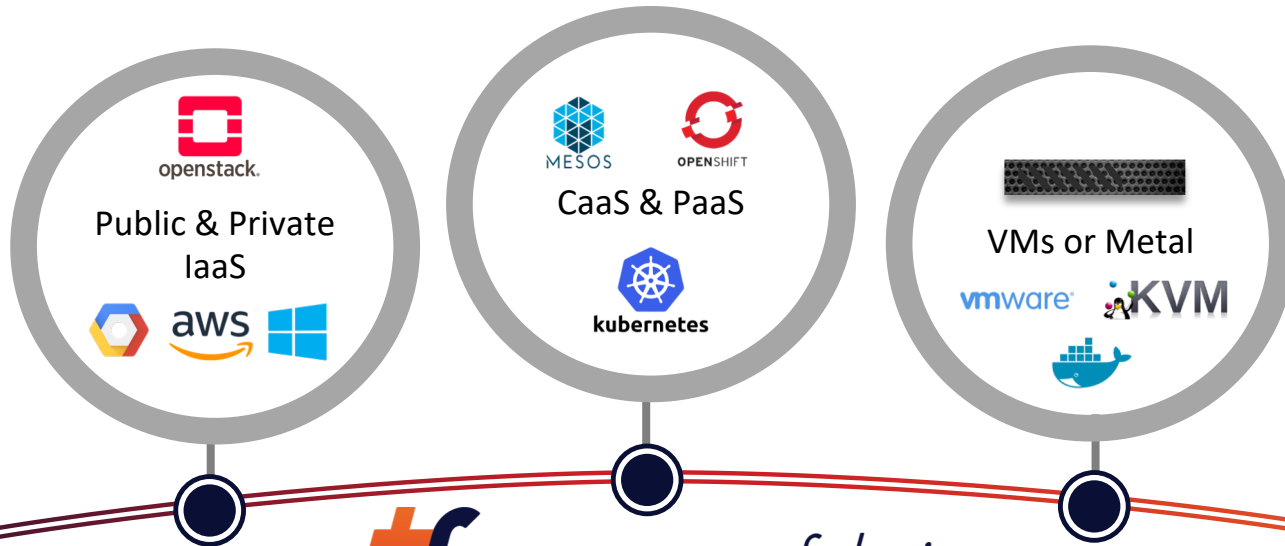


APIs/Orchestrations

1 LESS VARIABLE IN BIMODAL IT & MULTICLOUD

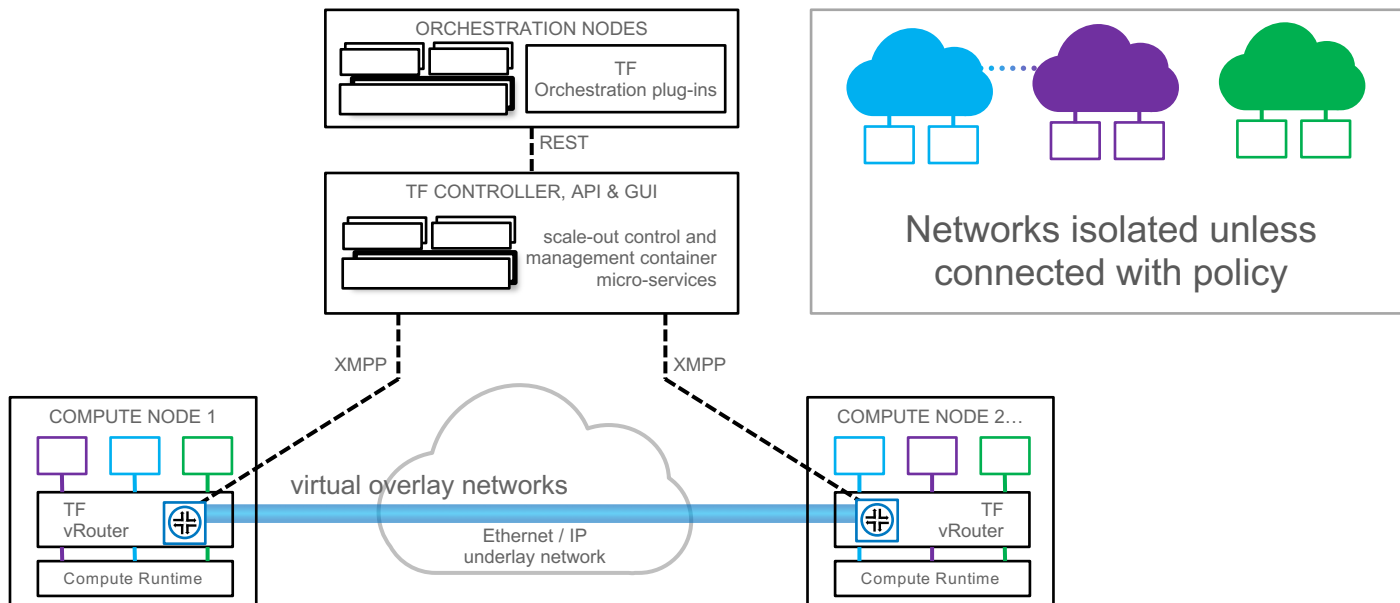
RULE THEM ALL WITH ONE

automated secure open SDN

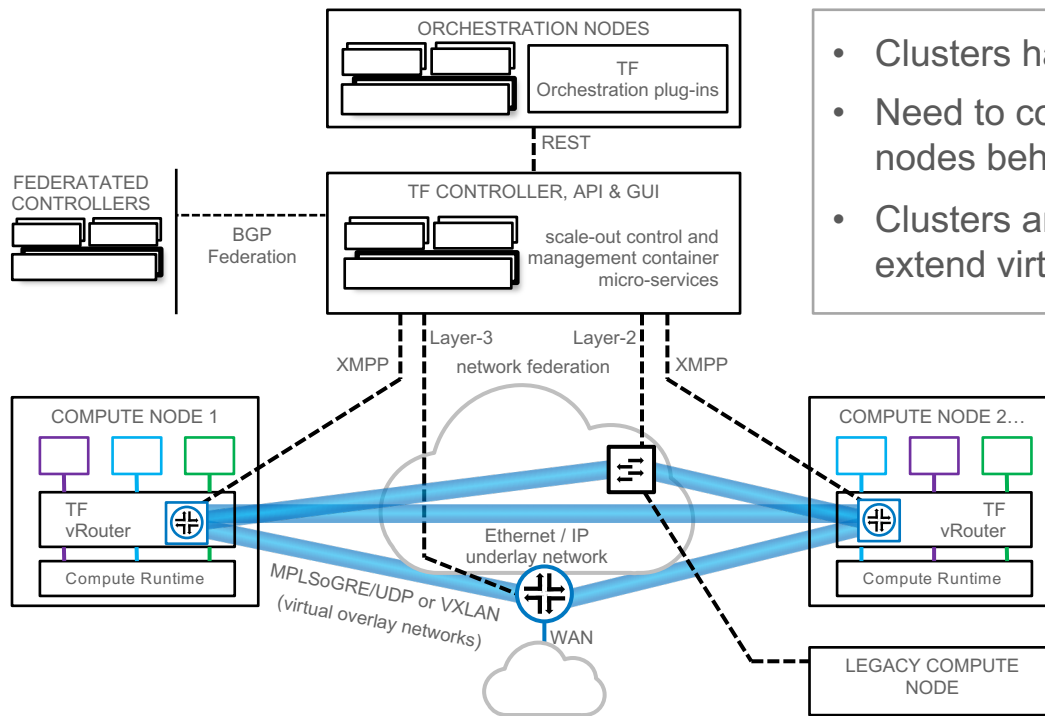


*tungstenfabric*

ARCHITECTURE OVERVIEW



ARCHITECTURE EXPANDED



- Clusters have gateway (WAN)
- Need to connect legacy metal nodes behind switches
- Clusters are federated to extend virtual networks

INSTALLATION



- Ansible playbook to flexibly deploy Tungsten Fabric binaries



- Helm charts to easily operate Tungsten Fabric components on Kubernetes



- Install-time option with OpenShift to deploy with Tungsten Fabric



- Tungsten Fabric binaries available on DockerHub and we're improving CI/CD



- Commercial integrations into lifecycle tools like RH OpenStack Director

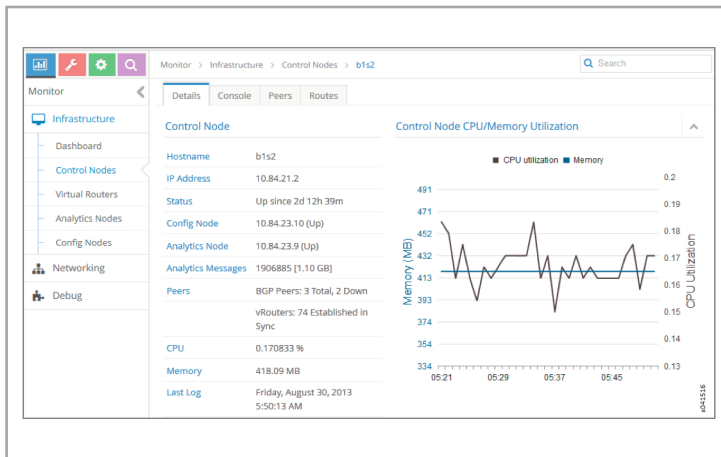
USER EXPERIENCE

NORTH-BOUND API

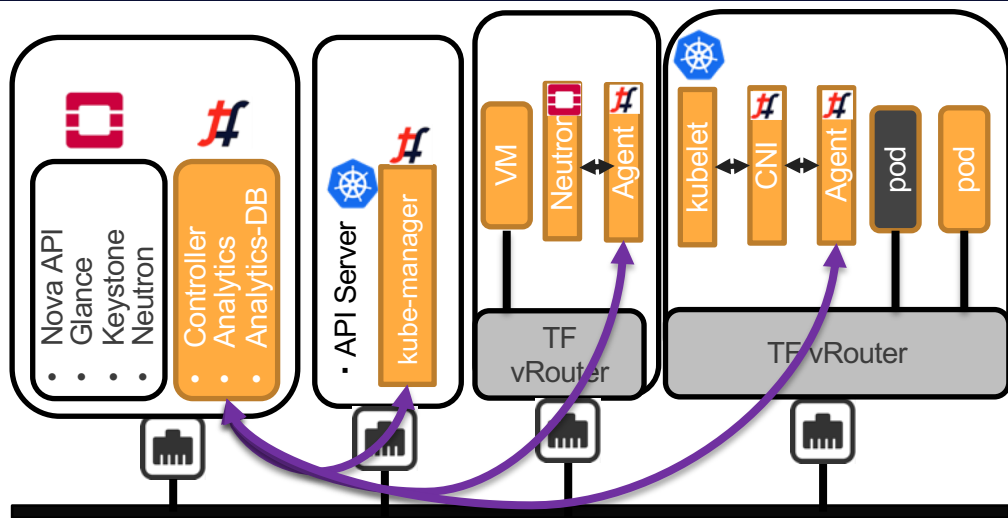


- REST API
- HTTPS authentication and role-based authorization
- Used for GUI
- Used for declarative configurations as code
- Generated from data model

GUI



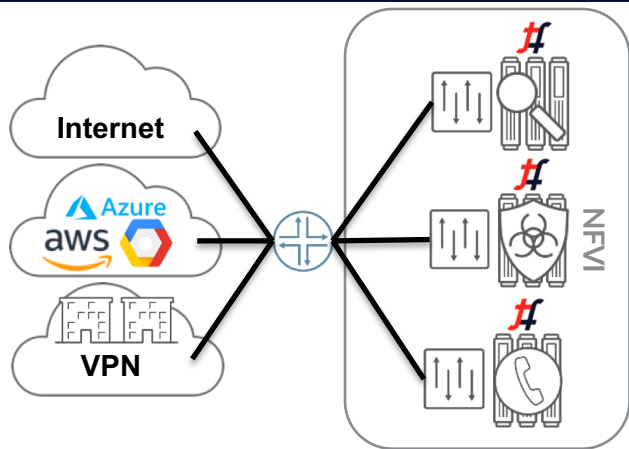
IaaS/CaaS Use Case



TungstenFabric can work with both Openstack and K8S at same time. It can extend same Virtual-network between VM and POD.

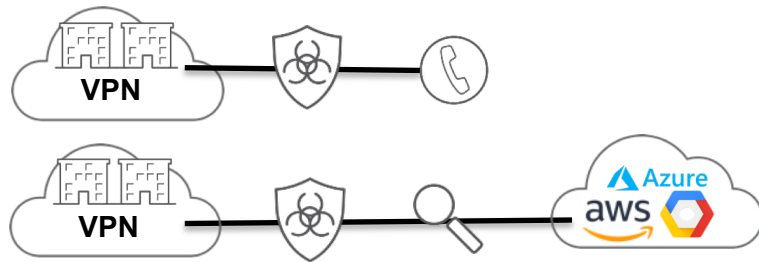
Also same security policy such as Security Group or Label based FW is attached to both VM and POD.

NFVI Use Case



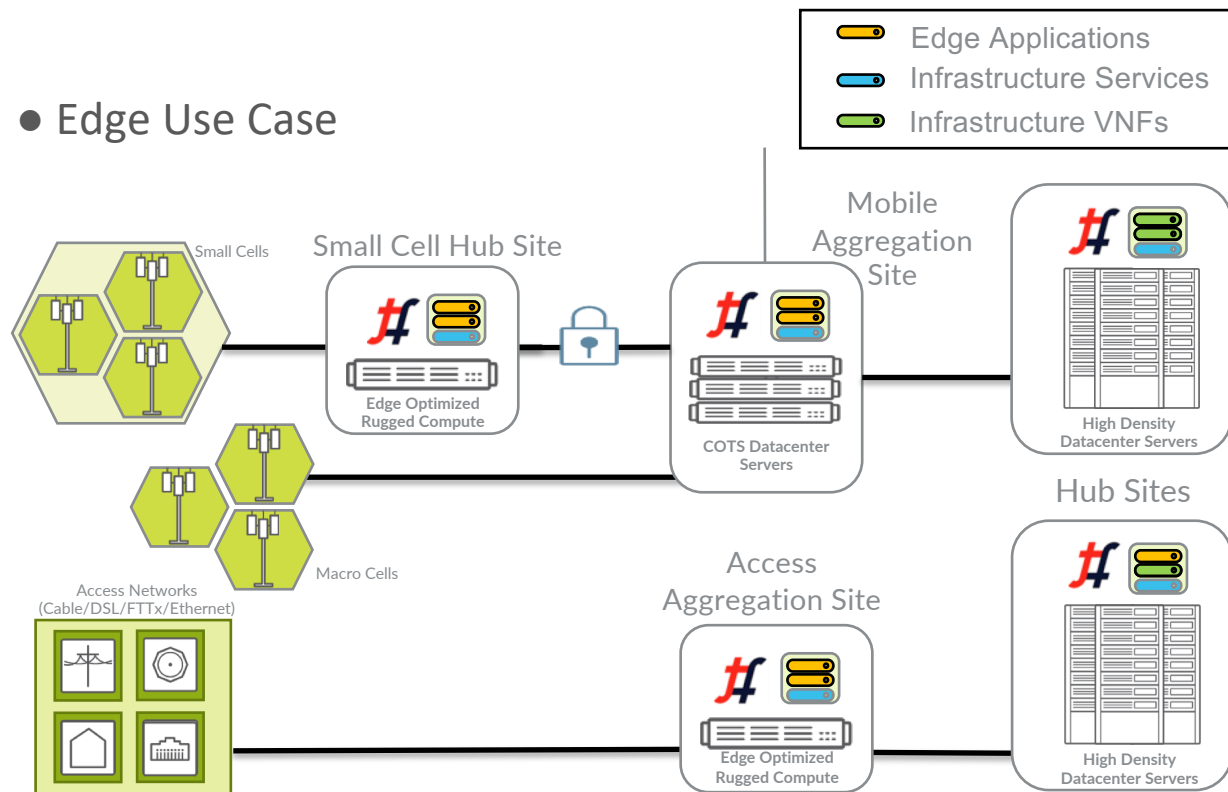
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Also same security policy such as Security Group or Label based FW is attached to both VM and POD.



Edge Computing Use Case

● Edge Use Case



USE CASES

Infrastructure

- Authentication
- Caching
- Traffic Optimization

Mobile

- CUPS
- Network Slicing
- Gi-LAN Services
- cRAN

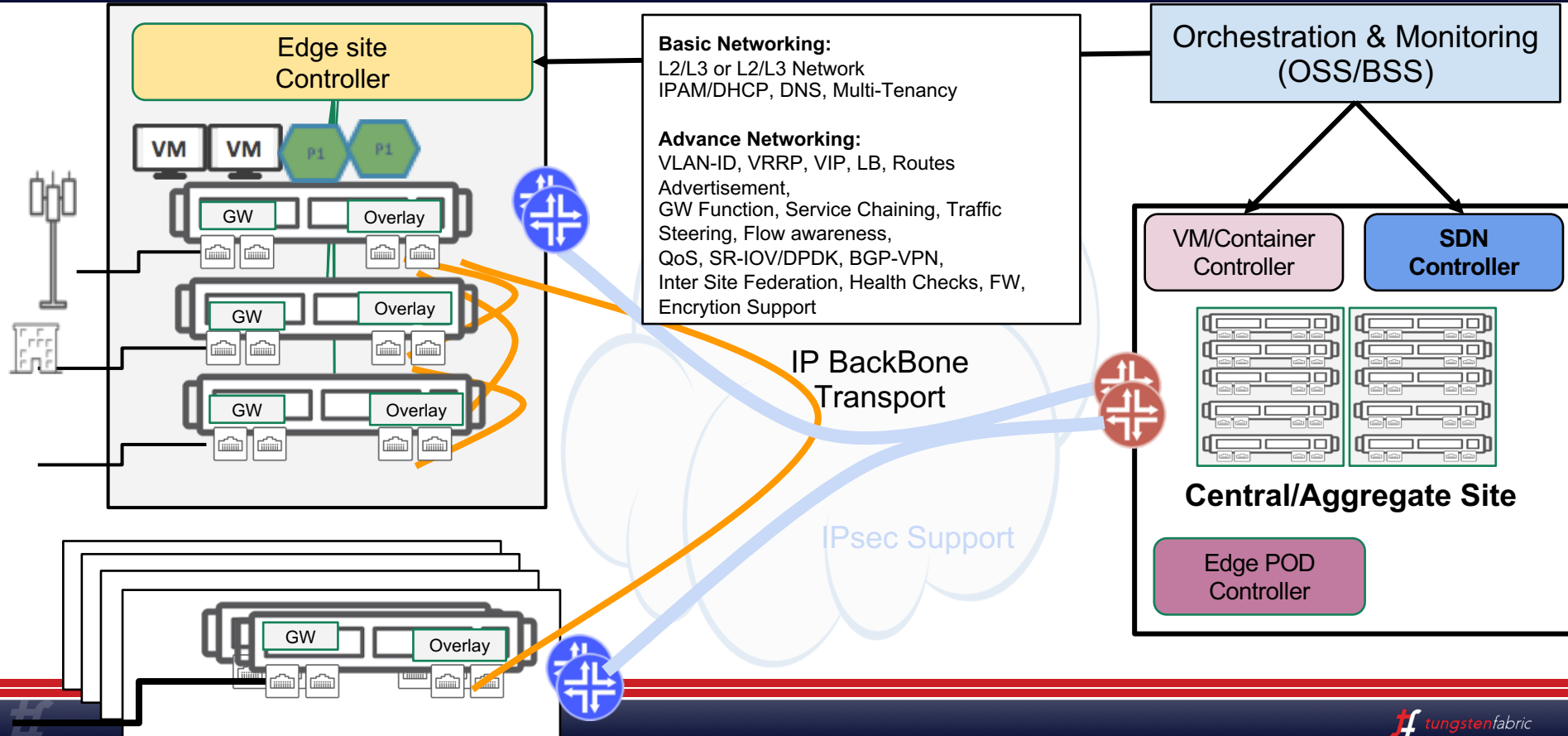
Wireline

- vBNG
- vCCAP

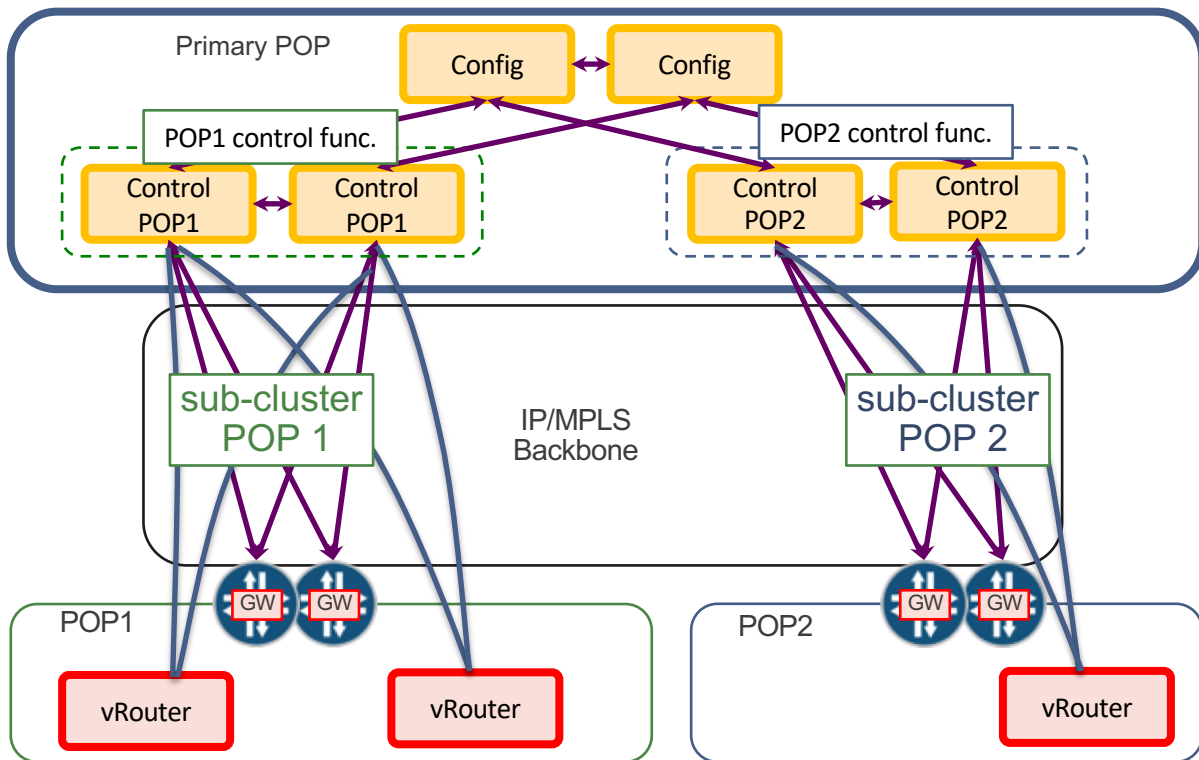
Enterprise

- Retail Services
- IoT Data Aggregation

Edge Computing Use Case



Control node Scale out



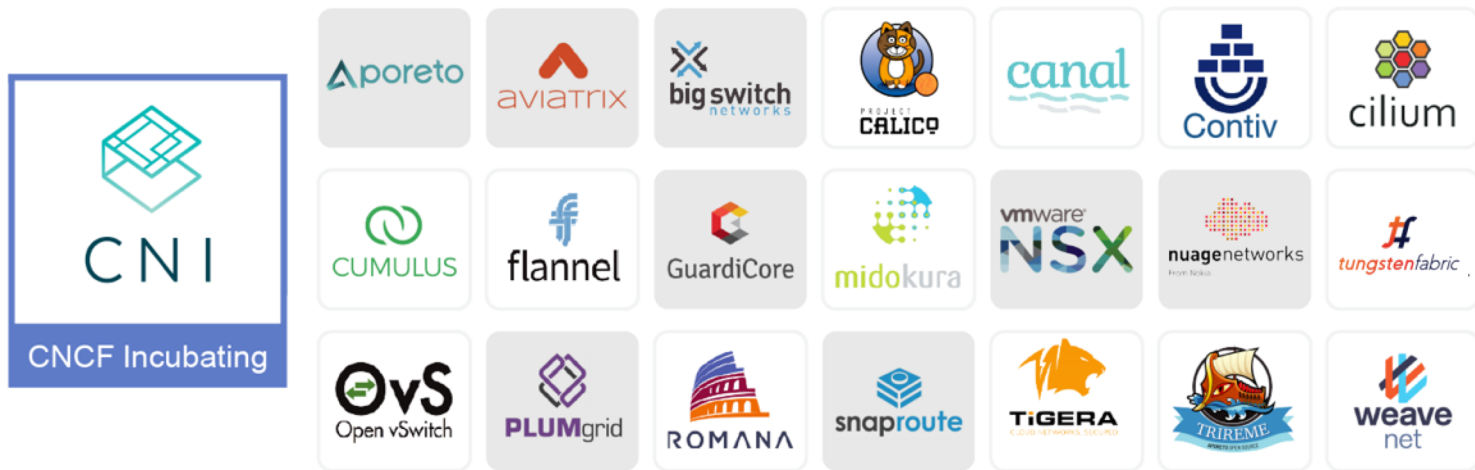
3 Sites:

1 Primary POP and 2 small POPs (POP1 and POP2)

- CN, GW and Vrouter for a POP belong to the same sub-cluster
- All Control Nodes are deployed on a same site (CN are “logically” in a POP from a routing point of view)



SDN ECOSYSTEM in CNCF



Beyond cloud-native... Do you care about:

- High-performance forwarding
- Proven cloud-grade, carrier-grade scale
- Feature rich for Kubernetes and LB, beyond CNI
- Feature rich in general for net + sec
- Multi-tenancy
- Open source / community
- Open standards-based federation
- Multiple orchestrator support
- Solid vendor backing and optional services
- Collapsing stacked SDNs: e.g. K8s on OpenStack
- Ease of use

