



CORD

Examining Carrier Drivers for SDN & NFV and the Case for CORD

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Carrier Drivers for SDN, NFV, and Cloud-centric Infrastructure

Open our Network

Modular

Programmable via robust Network API's, service creation and execution



Simplify and Scale

Common NFV Infrastructure

New operational paradigms

Emergent significant stressors include Video and Internet of Everything



Increase Value

Agile, Elastic, Dynamic

Cost-Performance leadership

Enable new growth services & apps

World class, industry-leading security, performance, reliability

Facilitate new business models and associated monetization paradigms

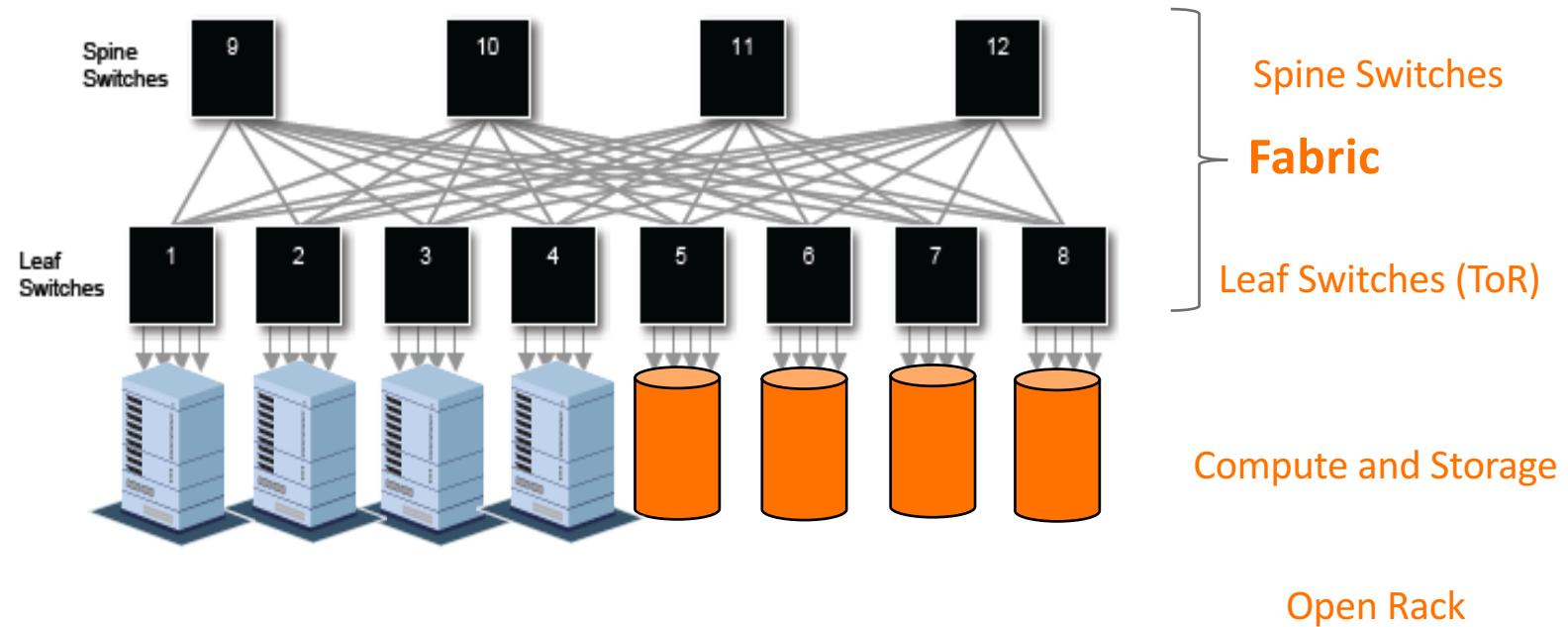
Architecture and Technology Directions

Decouple HW from SW – NFV

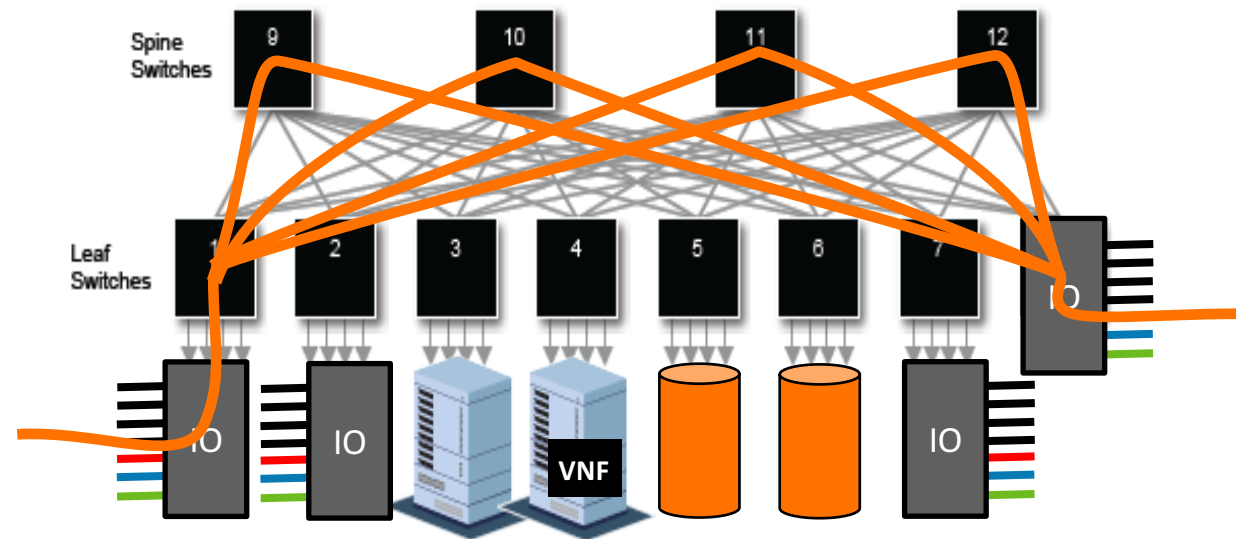
Separate Control from Forwarding – SDN

Combining cloud, NFV and SDN, enables a near real time network cloud, distributed and integrated through the WAN, optimized for packet

OCP Provides Open, Vanity Free Hardware - Typical of Data Center Architecture

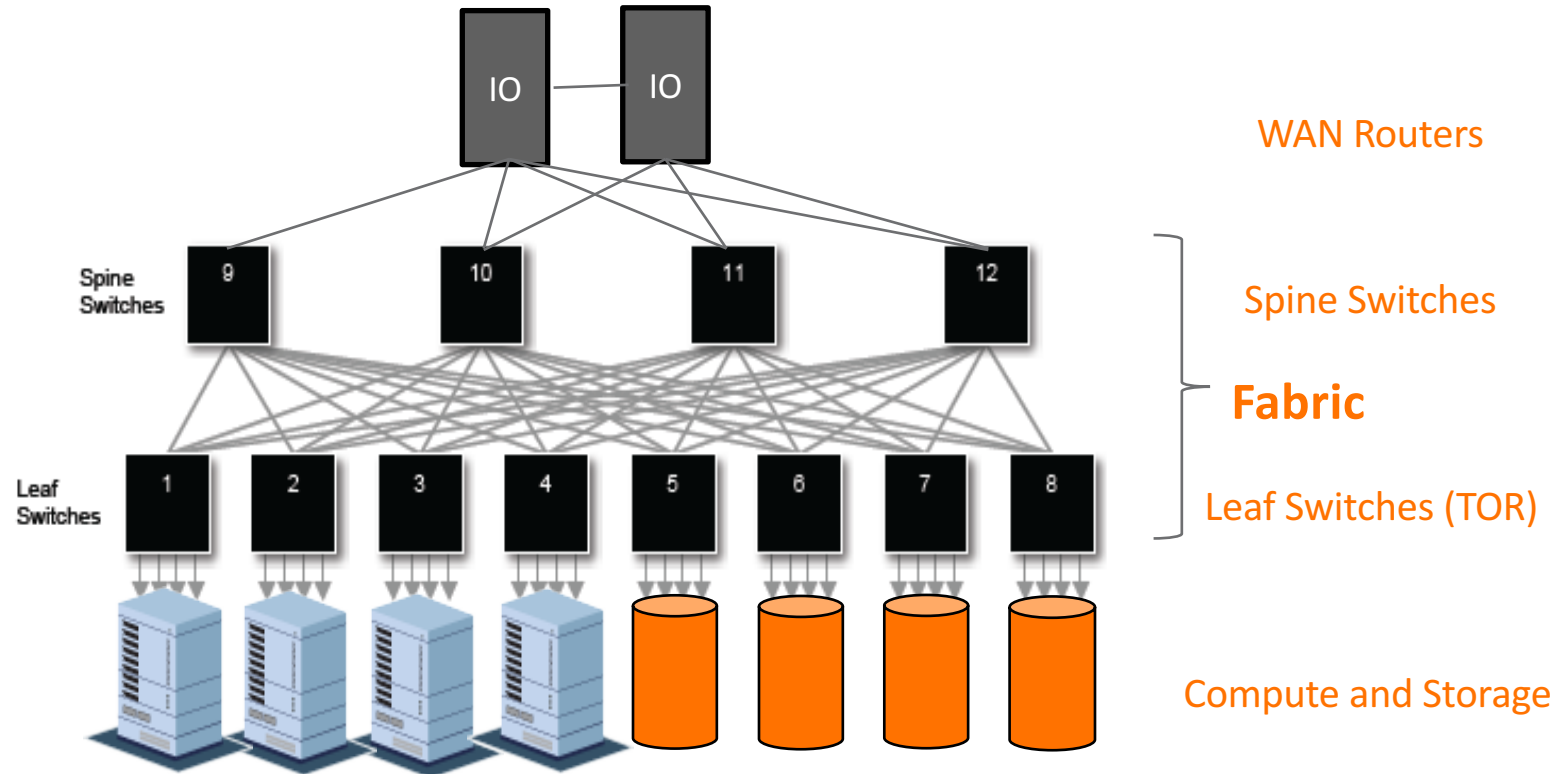


CORD Fabric interconnects IO with VNFs, supports network slicing and scale-out for robust switching and aggregation



VNF = Virtual Network Function

CORD provides **simple IO** modules that work with the fabric for scale out

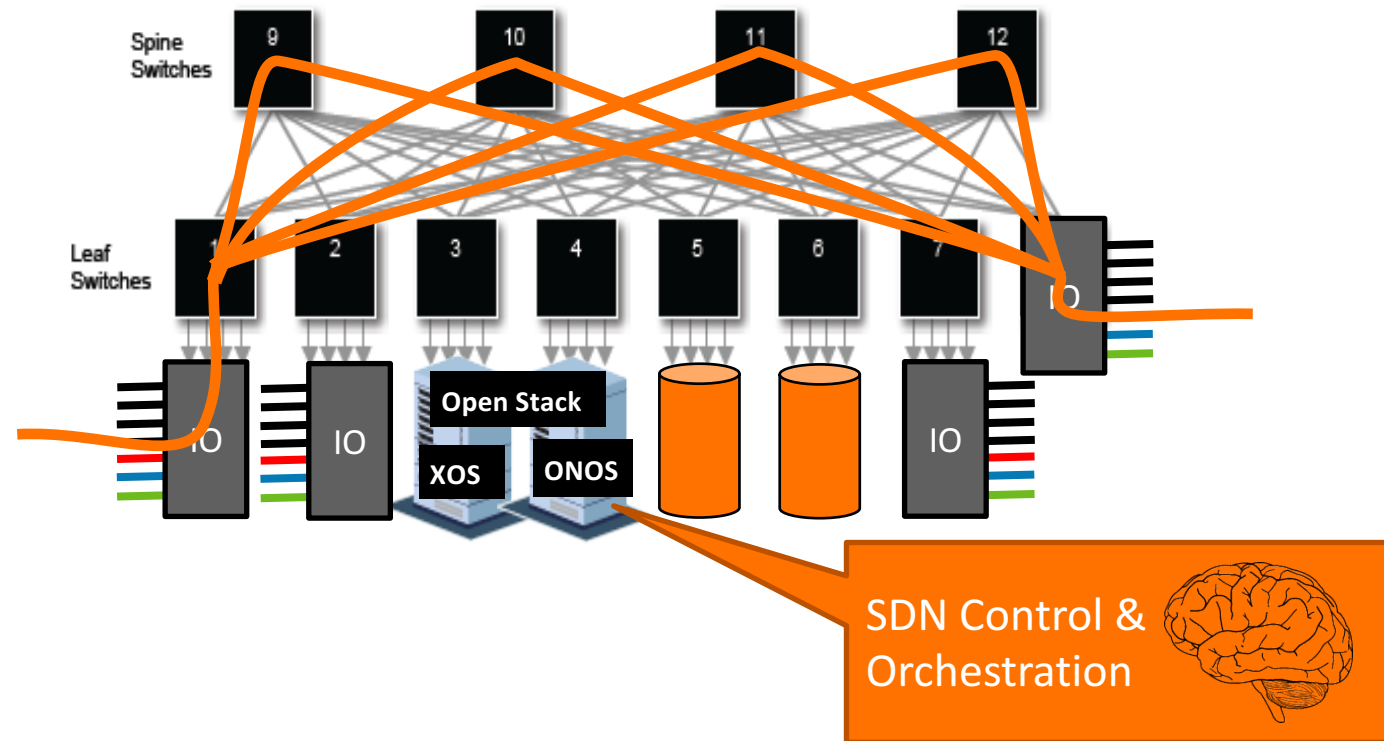


CORD control includes open, flexible control and orchestration

ONOS: An SDN controller with high availability, elasticity, and cloud architecture

OpenStack: The open standard for orchestration

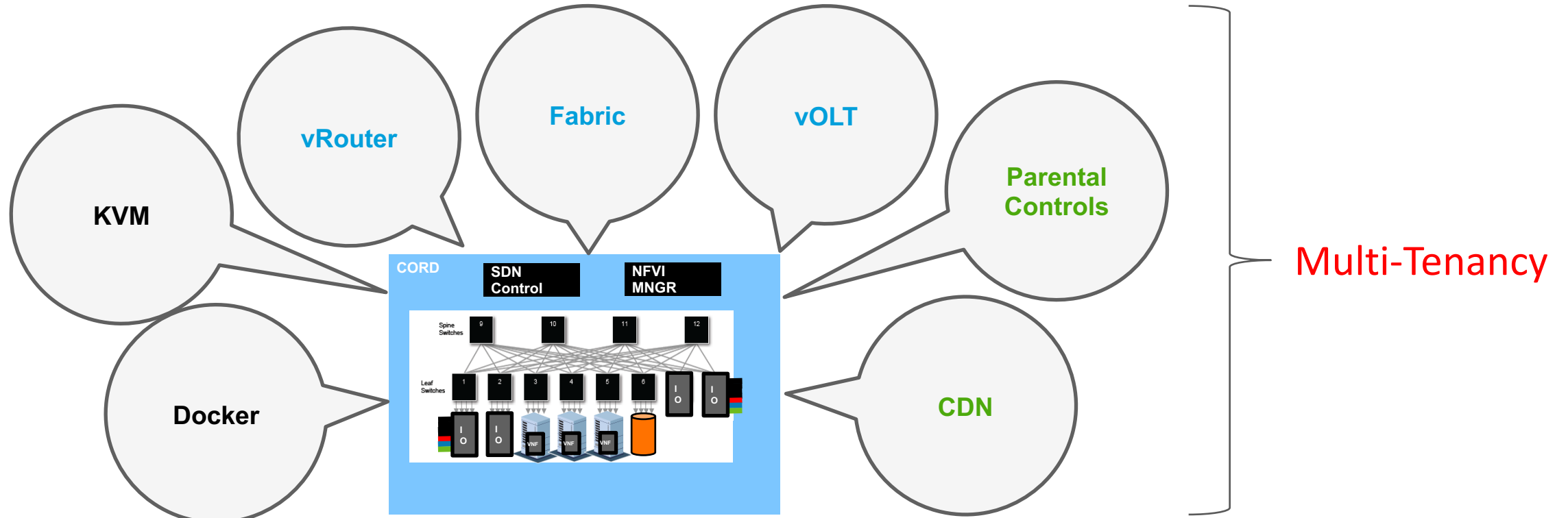
XOS: A lightweight framework for defining and composing (micro) services.



Diverse Types of Network Functions

Re-Usable Functions

3rd Party Applications



CORD Community

Vibrant, Collaborative Community of Developers, Users & Suppliers

- Linux Foundation Project using OCP-Spec Hardware
- Open Networking Lab
- 2 Commercial Providers
- 4 Alliances with Standards Development Organizations
- 15 Partner Corporations
- 30 Collaborating Organizations
- Hundreds of Individual Contributors

Summary: The Case for CORD or Central Office Re-architected as a Datacenter

Carrier Desires:

- Commodity NFV Infrastructure
- Robust Switching and Aggregation
- Simple IO Modules that work with Fabric
- Flexible, Scalable, Available Control Plane
- Open Orchestration
- High-Level Service Composition Environment
- Diverse types of Virtual Network Functions
 - Re-useable VNFs
 - 3rd Party Services
 - Multi-Tenancy
- Community Ecosystem to support Open Innovation
- Optional Vendor Support, Maintenance, Customization

CORD Delivers:

- Open Compute Project (OCP) Servers
- Fabric from OCP Switches and OVS
- vOLT, vG.Fast, vCE (MEF), (vNB)
- Open Network Operating System (ONOS)
- Open Stack
- XOS
- KVM, Docker
- vSG, vRouter, Fabric, vOLT
- CDN, Parental Controls
- Cloud Tenants and Network Slicing
- Open CORD community
- Multiple Vendor support for CORD and extensions

<http://opencord.org>

<http://opencompute.org>

