CORD: An Exemplar Platform
CORD – Reinventing the Network Edge

Users

Edge Cloud

Telco Cloud

Public Clouds

White Box Peripherals
CORD as a Multi-Access Edge Platform

- Service Delivery Platform
- Software Stack
- Server
- Switching Fabric
- Access Device (Wired)
- Access Device (Wireless)
- Known & Yet Unknown Services
- Lifecycle Management
- Configuration and Control
- To Backbone
CORD as a Multi-Access Edge Platform

Software Stack:
• ONOS, XOS, OpenStack, Kubernetes

Switching Fabric:
• Leaf-Spine Fabric
• OpenFlow/P4 enabled
• White Boxes
• ONOS as SDN OS
• Fabric Apps on ONOS

~25 services residential, mobile, & enterprise use cases

Server

Metro-Ethernet
GPON OLT
XGS-PON OLT
RAN
eNB w/ xRAN

Server

ROADM
Disaggregated ROADM

Lifecycle Management
Configuration and Control
**Exemplar Platform – CORD**

Global Automation

XOS

- vSG
- vEPC
- Openstack/Kubernetes
- OPC Servers

SDN Controller

- VTN
- Fabric
- vRouter
- OCP Switches / Leaf-Spine Fabric

- ONOS
- VOLTHA

- vOLT
- OLT

- xRAN
- RAN

Access Peripherals

Telco Cloud
Automated Configuration

TOSCA Workflows
- Provision & Configure Services
- Runtime Operation

Protobuf-based Models
- Schema that Model Services
- Core set Loaded at Boot Time
- Dynamically Updated at Runtime

Helm Charts
- Containers that Implement Services
- Core set Loaded at Boot Time
- Dynamically Updated at Runtime

Kubernetes (Optionally MaaS)
Multi-Stage CI/CD Pipeline

On-Board

Configure

Build

Operate (Test)

Workflows

Development Time

Build Time

Run-Time

On-Board

Configure

Build

Operate (Test)
Multi-Stage CI/CD Pipeline

Service

On-Board

Profile

Configure

Target

Build

Workflow

Jenkins
(140 Tests)

CORD Controller

OCP Hardware

Integration tests run nightly on 22 physical PODS worldwide.

Development Time

Build Time

Run-Time

Gerrit

DockerHub