Arpit Joshipura

General Manager

The Linux Foundation

OCP + LF Networking

New

LF Networking and OCP Partner to Jointly Enable SDN and NFV Transformation

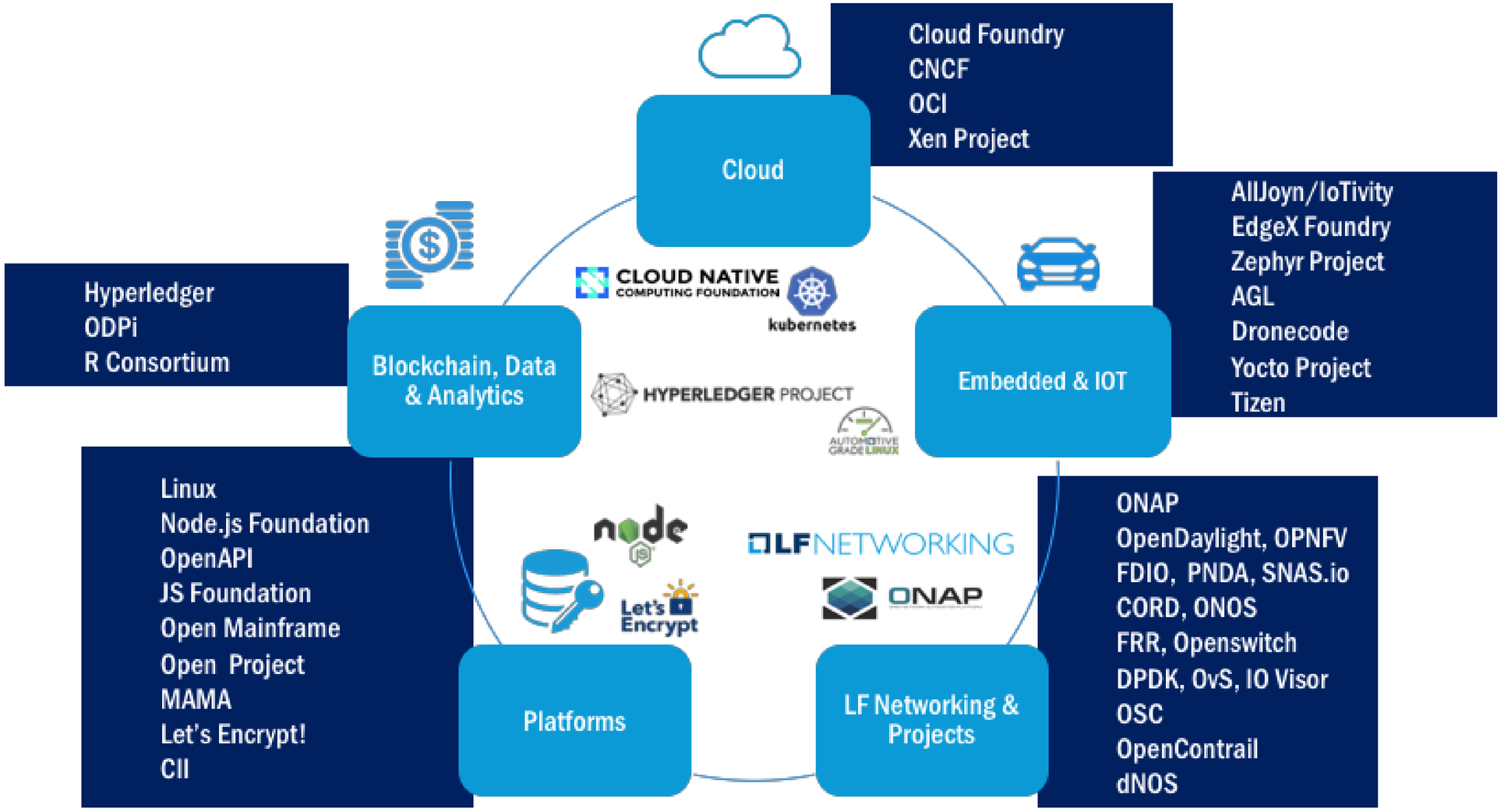
- *Collaboration across open hardware and software to enable full open source stacks*
- *Expanded integration and test of OCP hardware with OPNFV*
- *Harmonization across disaggregated hardware with Switch Network Operating Systems*

SAN JOSE, Calif. (OCP Summit), March 20, 2018—The Linux Foundation and the Open Compute Project (OCP), a collaborative community focused on redesigning hardware technology to efficiently support the growing demands on compute infrastructure, today announced a joint collaboration to further the development of software- and hardware-based open source networking. The organizations will work together to create stronger integration and testing, new open networking features, more scalability, a reduction in CAPEX/OPEX, greater harmonization with switch network operating systems, and increased interoperability for network functions virtualization (NFV) network transformation.

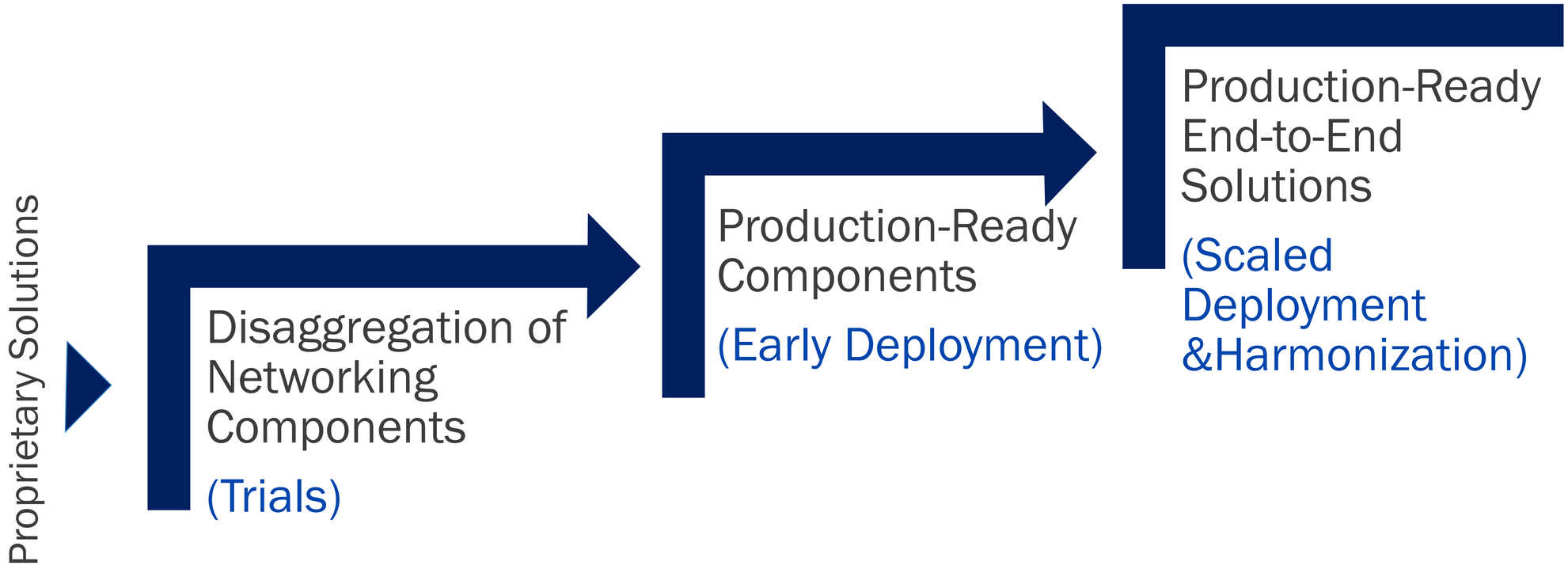
1. Open Source Networking Software Vision & Landscape

2. Best of Open Source Hardware & Software

Open Source Software beyond Linux



Networking Transformation is Now in the 3rd Phase



Market Disruption & Open Source Innovation

VENDOR A, B, C

Services

Features/Service

Mgmt & Ops

Software

Control software

Operating System

Infrastructure

Control Plane CPU

Fabric Silicon

Data Plane Silicon

Market Disruption

Virtual Functions

Software-Defined

Disaggregation

Sample Open Source Projects

Services/WL/Apps

Orchestration and Management

Control Plane SW

Network OS

Control Plane CPU

Leaf Spine Architecture

Data Plane ASIC

Data Plane Acceleration

Data Plane Server

Hardware

OPNFV

THE LINUX FOUNDATION

Drivers: The 5G and IOT Impact to Network

Services

Cloud Services **Residential Services** **Enterprise Services** **IOT Services**

Software & Automation

1000X Data Volume

100X Data Rates

100X Devices (IOT/Autos/..)

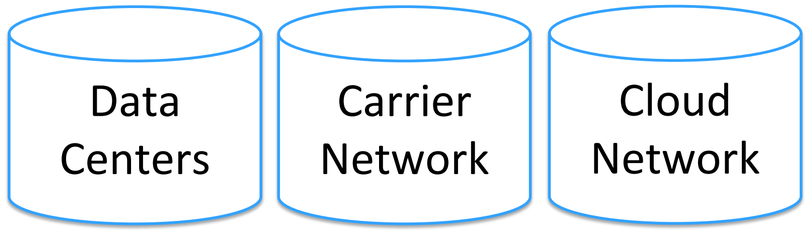
10X Bandwidth

1/5th Latency

Source: Ericsson

Infrastructure

Enterprise
Software Defined Data Centers (SDDC)



Public/Hybrid
Cloud Service Providers
Cloud Hosting
Private Cloud Providers
Web Service Providers

Service Providers
MSO/CableCo

Challenge: Automating Cloud, Network, & IOT Services

Services

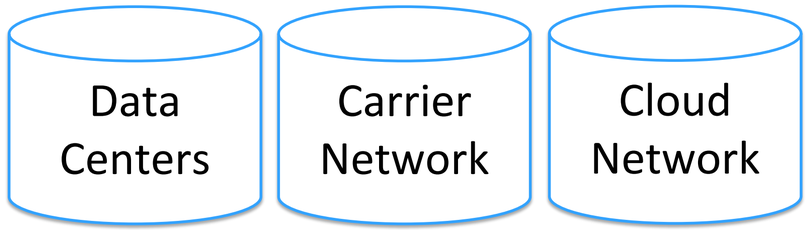
Cloud Services **Residential Services** **Enterprise Services** **IOT Services**

Software & Automation

Fragmented & Disjointed Manual Tooling

Infrastructure

Enterprise
Software Defined Data Centers (SDDC)



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Cloud Service Providers
Cloud Hosting
Private Cloud Providers
Web Service Providers

Service Providers
MSO/CableCo

Vision: Automating Cloud, Network, & IOT Services

Services

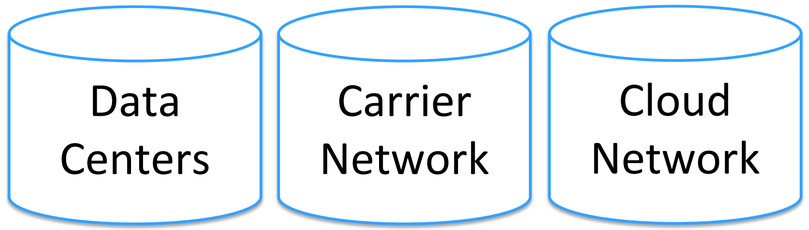
Cloud Services **Residential Services** **Enterprise Services** **IOT Services**

Software & Automation

Mandatory Automation before 5G

Infrastructure

Enterprise
Software Defined Data Centers (SDDC)



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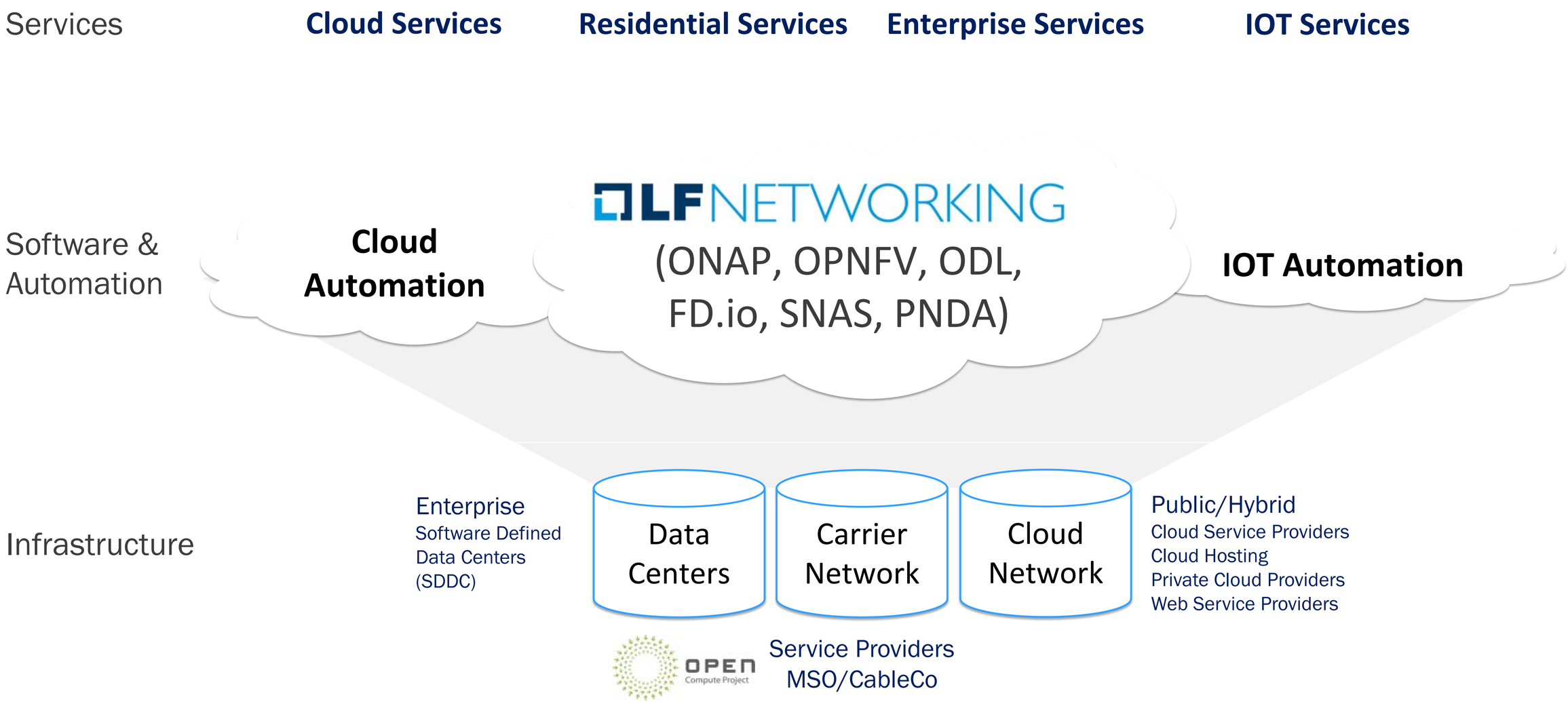
LF Networking Vision: Automating Cloud, Network, & IOT Services

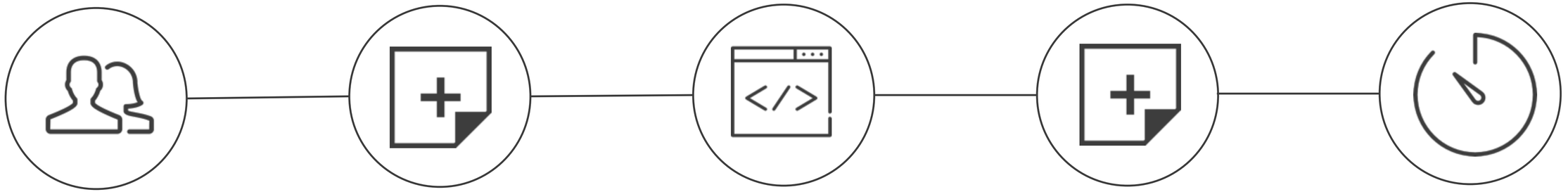


LF Open Source Networking – Carriers, Cloud, Enterprises

9/10
Most Important Projects

60+%
Global Subscribers Represented

15 min
New Service Creation



10/10
Networking Vendors Active

$576 M
Shared Innovation

ONAP · OPEN DAYLIGHT · OPNFV · .io · SNAS.io · pnda · OPENCONTRAIL · FRR · Open Switch · DPDK · OvS Open vSwitch · VISOR PROJECT · CORD · ONOS · OPEN SECURITY CONTROLLER

THE LINUX FOUNDATION

Open Source Networking Landscape
Linux Foundation hosts 9/10 Top projects

Linux Foundation Hosted

Outside Linux Foundation

Services

Software

Infrastructure

- Application Layer / App Server
- Network Data Analytics
- Orchestration, Management, Policy
- Cloud & Virtual Management
- Network Control
- Operating Systems
- IO Abstraction & Data Path
- Disaggregated Hardware

Product, Services & Workloads

CLOUD FOUNDRY

OPNFV System Integration & Test Automation

CI/CD

ONAP

pnda

SNAS.io

Open Source MANO

ARIA

openstack.

CORD

OPEN DAYLIGHT

ONOS

OPEN SECURITY CONTROLLER

OPENCONTRAIL

FRR

Linux

Open Switch

OPEN CONTAINER INITIATIVE

OvS Open vSwitch

fd.io

IOVISOR PROJECT

DPDK

OpenDataPlane.org

CLOUD NATIVE COMPUTING FOUNDATION

OPEN Compute Project®

TELECOM INFRA PROJECT

Standards

tmforum

ITU

MEF

NIST

ONF OPEN NETWORKING FOUNDATION

IETF

ETSI World Class Standards

IEEE 802

CableLabs

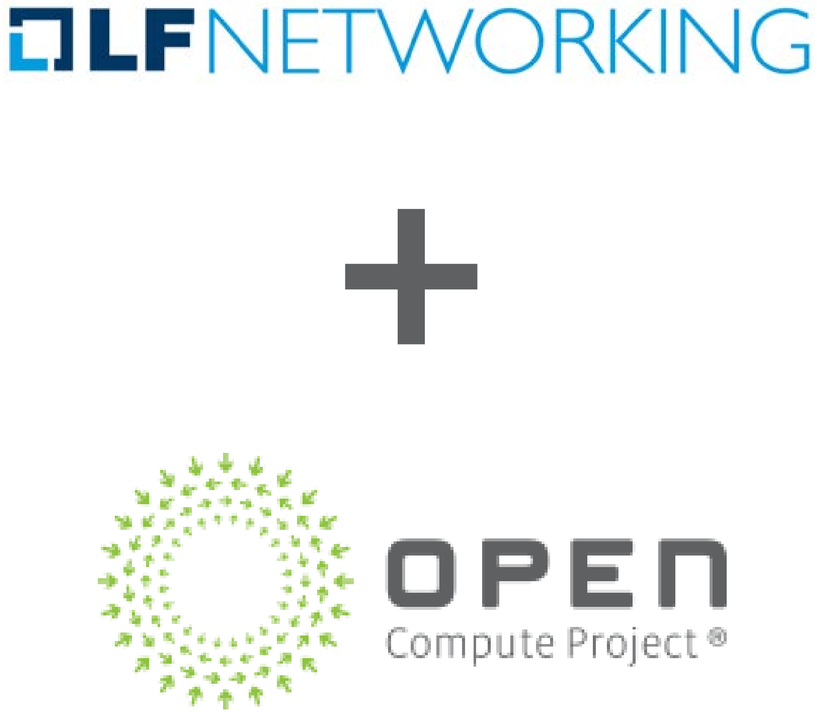
3GPP A GLOBAL INITIATIVE

OIF OPTICAL INTERNETWORKING FORUM

Automation of Network + Infrastructure + Cloud + Apps + IOT

THE LINUX FOUNDATION

Best of Open Source Software & Hardware (LFN+OCP)



- Total community collaboration
  - Hardware Vendors + Silicon Vendors
  - OEM/Manufacturers
  - Software Vendors, SI
  - End Users
- Complete Testing & Automation
  - OPNFV Testing with OCP Hardware – Virtual Central Office
- Easy Re-aggregation
  - White Box
  - Network OS (dNOS, SONiC, OPX, Stratum, FRR)

Learn More

- Come by LF Networking booth
  - Demo (Zero VNF Downtime with OPNFV Doctor on OCP Hardware)

- Come to Sessions
  - EW: Case Studies & Roundtable Roundtable, Wed, March 21, 10:50 - 11:00 AM
  - EW: Compliance & Interoperability, Wed, March 21, 1:00 - 1:30

- Open Networking Summit, Los Angeles, March 26-29
  - Registration for OCP attendees

Discount code: ONSOCS18

OCP SUMMIT

OPEN. FOR BUSINESS.