Open. Together.
How ONF Builds on OCP Products for Telco/Cableco Broadband Access

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The ONF Ecosystem

Vibrant Operator Led Consortium  160+ Members Strong

www.opennetworking.org
CORD

Central
Office
Rearranged as a
Datacenter

Economies of a Datacenter
Agility of a Cloud Provider

Mobile Services
Enterprise Services
Residential Services

XOS

Trellis
ONOS

RAN
VOLTHA
Stratum
OMECE
ODTN

Disaggregated Radio Units
Disaggregated PON OLTs
Shared Virtualized Servers: VMs & Containers
ROADM (To Core)

ONF Open Source Software Stack for Access and Edge

Open. Together.
ONF Curated Solutions

ONF helps operators and supply-chain assemble these projects into Deployable Access and Edge Solutions.
OLT Disaggregation

EMS

VLANs, IGMP, 802.1x, Mcast ...

Backplane

PON
MAC blades

Compute blades

OLT

Traditional Chassis based Vendor OLT for PONs (Passive Optical Networks)

VOLTHA: Virtual OLT Hardware Abstraction

ONOS: SDN Controller

OpenFlow
NetConf

OpenFlow Agent
NetConf

OLT API
OMCI Stack

VLANs
AAA
Mcast
...

Open. Together.
SEBA
SDN Enabled Broadband Access

ONAP
Op X OSS/BSS
Abstract OLT

Network Edge Mediator (NEM)

SDN Controller - ONOS

VOLTHA

OLT
SWITCH
SERVER

ONU

SEBA POD

Docker
K8s
Helm

QuantaGrid D51B-1U
EdgeCore 7712
External BNG

EdgeCore ASFvOLT16

Open. Together.
White-Box XGS-PON OLT

VOLTHA core
OpenOLT Adaptor

White-Box = Open-Hardware Specs (OCP) + Open-Source Software (ONF & OCP)

OpenOLT

ONL Chip Driver
ONIE SDK(s)
Whitebox OLT

Edgecore
ASFvOLT16
Whitebox OLT

OpenOL T
White-Box ToR Switching

Fabric Control
SDN Controller

White-Box =
Open-Hardware Specs (OCP)
+ Open-Source Software (ONF & OCP)

Indigo OF Agent
BRCM OF-DPA
ONL
SDK
ONIE
BRCM ASIC
OCP Bare Metal Switch

Edgecore
5712, 6712, 7712
OF-DPA

Abstracts underlying switching ASIC
OLT+ToR Operation

- ONOS
- OLT
- ONU
- NNI
- UNI
- VLANs
- dhcp
- mcast
- Logical switch
- VOLTHA
- OF-DPA
- ToR Switch
- Bridging/Routing

Open. Together.
SEBA

SDN Enabled Broadband Access

SDN Controller - ONOS

Network Edge Mediator (NEM)

AAA vlans dhcp mcast bridging routing ACLs

VOLTHA

OLT

ONAP Op X OSS/BSS

Abstract OLT

SEBA POD

Docker K8s Helm

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SDN Enabled Broadband Access

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Docker K8s Helm
Trellis
Open-Source Leaf-Spine Fabric

IPv4/v6 unicast/multicast, vlans, MPLS SR, vRouter ...

ONOS

Field Office
Leaf
Leaves
Spine
Spine

Central Office
Leaf
Leaves
Spine
Spine

Base station
R-PHY
R-OLT

Metro/Core Routers
Internet
How to get involved

**SEBA**
- Community: [https://wiki.opencord.org/display/cord/seba](https://wiki.opencord.org/display/cord/seba)
- Release: [https://guide.opencord.org/cord-6.1/](https://guide.opencord.org/cord-6.1/)
- BOM: [https://guide.opencord.org/cord-6.1/prereqs/hardware.html](https://guide.opencord.org/cord-6.1/prereqs/hardware.html)

**VOLTHA**
- Community: [https://wiki.opencord.org/display/cord/voltha](https://wiki.opencord.org/display/cord/voltha)

**Trellis**
- Community: [https://wiki.opencord.org/display/CORD/Trellis%3A+CORD+Network+Infrastructure](https://wiki.opencord.org/display/CORD/Trellis%3A+CORD+Network+Infrastructure)

**OCP Telco/OpenEdge**
- Wiki: [https://www.opencompute.org/wiki/Telcos/openEDGE](https://www.opencompute.org/wiki/Telcos/openEDGE)
- Mailing list: [https://ocp-all.groups.io/g/OCP-Open-Edge](https://ocp-all.groups.io/g/OCP-Open-Edge)