The Worlds First White Box OLT

November 2017
Accton and Edgecore

- Leading Network ODM
- > 3,300 employees worldwide, > 700 network engineers
- High volume manufacturing facilities in China and Taiwan

- Go-to-market subsidiary of Accton
- Full portfolio of traditional and open network products
- Leading contributor of network designs to OCP
The Worlds First White Box OLT

A better description could be “The Worlds First Open Disaggregated OLT”
ASFvOLT16: 10G OLT

- Disaggregated 10G PON OLT for R-CORD infrastructure
- XGS-PON: Conforms with AT&T XGS-PON Spec in OCP Telco Working Group
- 16 x XFP 10G PON
- 4 x QSFP28 100Gb
- Broadcom DNX Qumran switch silicon, Broadcom Maple PON silicon
- Agent for interface to vOLT-HA virtual OLT control software on servers in R-CORD
- Samples Q2 2017: Production Q4 2017
Open Disaggregated OLT

“Open”

Open Indicates Open Source software components AND Open Source hardware design
Open Hardware Design

Product definition and design completely done in the open
Open Source Design Contributions to OCP

OCP-ACCEPTED™ DC and Telecom Products

- 1G Rack Mngmt Switch
- 10G TOR Switch
- 40G Spine Switch
- 100G TOR & Spine Switch
- 100G TOR & Spine Switch
- 10G/100G Edge Switch
- Open Rack Switch Adapter
- Helix4
- Trident II
- Trident II
- Tomahawk
- XPliant
- Qumran

Partner Designs, Edgecore Product

- Wedge40-16X Facebook
- Wedge100-32X Facebook
- Wedge100BF-32X Barefoot
- Wedge100BF-65X Barefoot

Design Contributions

- 100G OMP800 Chassis
- 100G OMP1600 Chassis
- 25G TOR Switch
- 64 x 100G Spine Switch
- Tomahawk
- Tomahawk
- Tomahawk
- Tomahawk II

AT&T Spec, Edgecore Design Contribution

- ASFvOLT16 10G OLT  BCM Qumran & Maple

OCP-ACCEPTED™ Access Products

- 1G PoE Switch Helix4
- 802.11ac Wave1 Wi-Fi APs BCM
- Design Contributions
- 802.11ac Wave2 Wi-Fi APs QCA
ASXvOLT16 Hardware Overview
“The Worlds First Open Disaggregated OLT”

• “Disaggregated”

• Disaggregated indicates the software has been somehow separated from the hardware
  – Does not necessarily indicate “Open Source”
  – Does not indicate where this separation has taken place
# Disaggregated Software

## 1. Commercial Disaggregated Software Partners

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Packet Broker</th>
<th>Data Center Fabric</th>
<th>Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pluribus Networks</td>
<td>ixia</td>
<td>BROADCOM</td>
<td>DRIVENETS</td>
</tr>
<tr>
<td>PICAV - White Box SON</td>
<td>NETSCOUT</td>
<td>CUMULUS</td>
<td>ipinfusion</td>
</tr>
<tr>
<td>ADARA</td>
<td>snaproute</td>
<td></td>
<td>rbrick</td>
</tr>
<tr>
<td>Brain4Net</td>
<td>big switch networks</td>
<td></td>
<td>exaware</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VOLTA Networks</td>
</tr>
</tbody>
</table>

## 2. Open Source Software

- SAI
- SONiC
- OpenSwitch
- CORD
- ATARIUM

---

**Enabling Deliverables**

- Diagnostics
  - Open BMC
  - Vendor BMC
  - Open Network Linux
  - RedFish
  - HW Mgr API

**sFlow Agent**

**Edge-core NETWORKS**
Edgecore vOLT Software for CORD

CORD Controllers

VOLTHA

- VOLTHA Agent
- OOM Open Optical Monitor
- Redfish HW Mgr API
- sFLOW

BAL API

- Broadcom QAX SDK
- Broadcom Maple SDK

Open Network Linux

ONIE

DIAGS

BIOS

Software for Switch Hardware

Key:
- OCP
- Open Source
- Edgecore Open Source
- Broadcom

Agents & APIs

OS & Abstractions

HW BSP
Open Disaggregated OLT

Community Developed!

ASXvOLT16 OLT

- Open Control Software
- Open Imbedded Software
- Open Hardware
Thank You