VOLTHA Roadmap

Julie Lorentzen
VOLTHA scrum master
VOLTHA v2.1

- v2.0 introduced new Golang-based Core and Containerized Adapters
- v2.1 builds on foundation set in v2.0
  - Parity with v1.7 functionality
  - Stabilization of code
  - End-to-end testing
  - Scope-driven release
VOLTHA v2.1 scope

• Golang-based OpenOLT Adapter (continued from v2.0)
• Technology Profiles/Meter Bands
• Migrate from BAL 2.6 to BAL 3.1
• Multiple T-CONT support
• Whitebox OLT Device Manager with Redfish
• Alarms and Performance Monitoring
• IPTV Multicast
• VOLTHA Software Component Upgrade
VOLTHA v2.1 scope (continued)

- VOLTHA Security
- OpenOMCI enhancements
- BBSim enhancements
- G-PON support
- EPON support
- Testing
- Documentation
What’s next?

• Planning for next release expected to occur during face-to-face meeting
  • Target date TBD – under discussion
• Preliminary scope candidates:
  • HA for Open OLT Adapter and ONU Adapters
  • Multiple active NNI ports
  • G.fast
Thank You

Follow Up Links:
https://wiki.opencord.org/display/CORD/VOLTHA
VOLTHA Implementation
(Operator Aspects)

Bjoern Nagel (Co-PO ONF VOLTHA project & Teammember DT Access4.0)
Maik Rueder (Software Engineer / Code maintainer @ DT Access4.0 Team)
intro – dt’s access 4.0 based seba

Central Management Layer

Spine-Switch

Leaf/ToR Service Edge

Control &
local Mgmt. x86

WDM

GPON LT

GPON LT

XGS-PON LT

IP-CORE

WHOLE
SALE

MERCHAND SILICON BARE METAL

HW / SW SPLIT (CUPS, …)

COMMUNITY & OPEN SOURCE

HORIZONTALLY & VERTICALLY SCALABLE
intro – dt’s access 4.0 based seba (VOLTHA & OLT focused)
VOLTHA implementation

- Abstract underlying hardware (OLTs in a first step) – allowing all northbound components to being **vendor and technology agnostic**
- Using technology and speed profiles to support the **technology abstraction**
- Hardware abstraction and disaggregation supports **broadening the vendor landscape** and the usability of **white boxes**
- Supports the virtualization of network functions together with ONOS → **easier to manage and operate** the network
- Disaggregation and user plane / control plane separation **opens the market** for new player
- Future extensions to control all Access Nodes, incl. DPUs, MSANs etc.
DT’s community contributions / activities

- Active participation in the community by taking administrative roles (e.g. leadership & steering team, product owner)
- Contributing operator requirements (e.g. workflows)
- Founding partner work (e.g. code development from Radisys)
  - 4-6 developers working on the VOLTHA community codebase on behalf of DT
  - 47 Gerrit commits since April 2019 till today and more to come
- Most of the contributions are based on DT workflow requirements but also of community interest
  - Porting of openolt adapter features from 1.x to 2.x
  - Transparent Flows in VOLTHA 1.x
  - TechProfiles in VOLTHA 1.x
  - LLDP Message handling in 1.x and 2.x
  - BAL 3.x migration
  - Reboot/Enable/Disable OLT device in 2.x
  - Event Framework in 2.x instead of the Alarm Framework in 1.x
  - Basic device alarms support in 2.x
Going carrier-grade with VOLTHA

• Needs a shift from Demo / trial version towards mass-rollout readiness and carrier-grade controller for access nodes
• Annual LTS version is strongly desired
  • This is already addressed in VOLTHA stabilization brigade
  • Establishment of improved Code Commit Standards
  • Development of reference Automated Testing Framework
• Only feature-rich LTS version helps
  • Contains all relevant operator MVP workflows
  • Stable core version with poor feature set doesn’t help
• Solid code basis is more important than infinite scalability
Going carrier-grade with VOLTHA

VOLTHA Master Branch

Focus on MVP Feature Development: FTTH / FTTB

Ongoing other Feature and Stabilization Development

Stabilization patches cherry-picked into Master branch

VOLTHA Stabilization Branch

- Rollout Readiness
- Production Readiness
- MVP Feature Readiness
- LTS Release
- Release Readiness
OCP effort became reality

BIG version: 19“ wide, 2 height units, 64 GPON Ports, 400Gbps uplink „capacity“

Serial console & USB to control board

Optical transceiver cages – GPON SFPs

QSFP28 transceiver cages – switch uplink 40/100G DAC or dark fiber

SFP+/SFP28 transceiver cages – switch uplink 10/25G „WDM-capable“

Shared dual personality GigE-Phy for BMC and x86-control board
Deutsche Telekom @ ONF Connect 2019
depth dives on Access4.0, Open Source EPC and much more

**Dr. Hans-Joerg Kolbe, 11:00Am**
Inside View Into Operator Business Cases

**Dr. Hans-Joerg Kolbe, 2:30pm**
Implementing the Programmable Service Edge

**Bjoern Nagel, 2:15pm**
VOLTHA Roadmap

**Manuel Paul, 10:00Am**
Panel: Technical Leadership Team (TLT)

**Manuel Paul, 4:30pm**
COMAC and OMEC at DT

**Michal Sewera, 5:30pm**
Open Source EPC: Operators’ Journey Towards the Cloud-Native ONF-Based Telco Core

**Dr. Fabian Schneider, 5:30pm**
SEBA Reality Check! How to Take the Design to the Next Level?

**Robert Soukup, 4:30pm**
Access4.0 Program update
Thank You

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