



VOLTHA Roadmap

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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

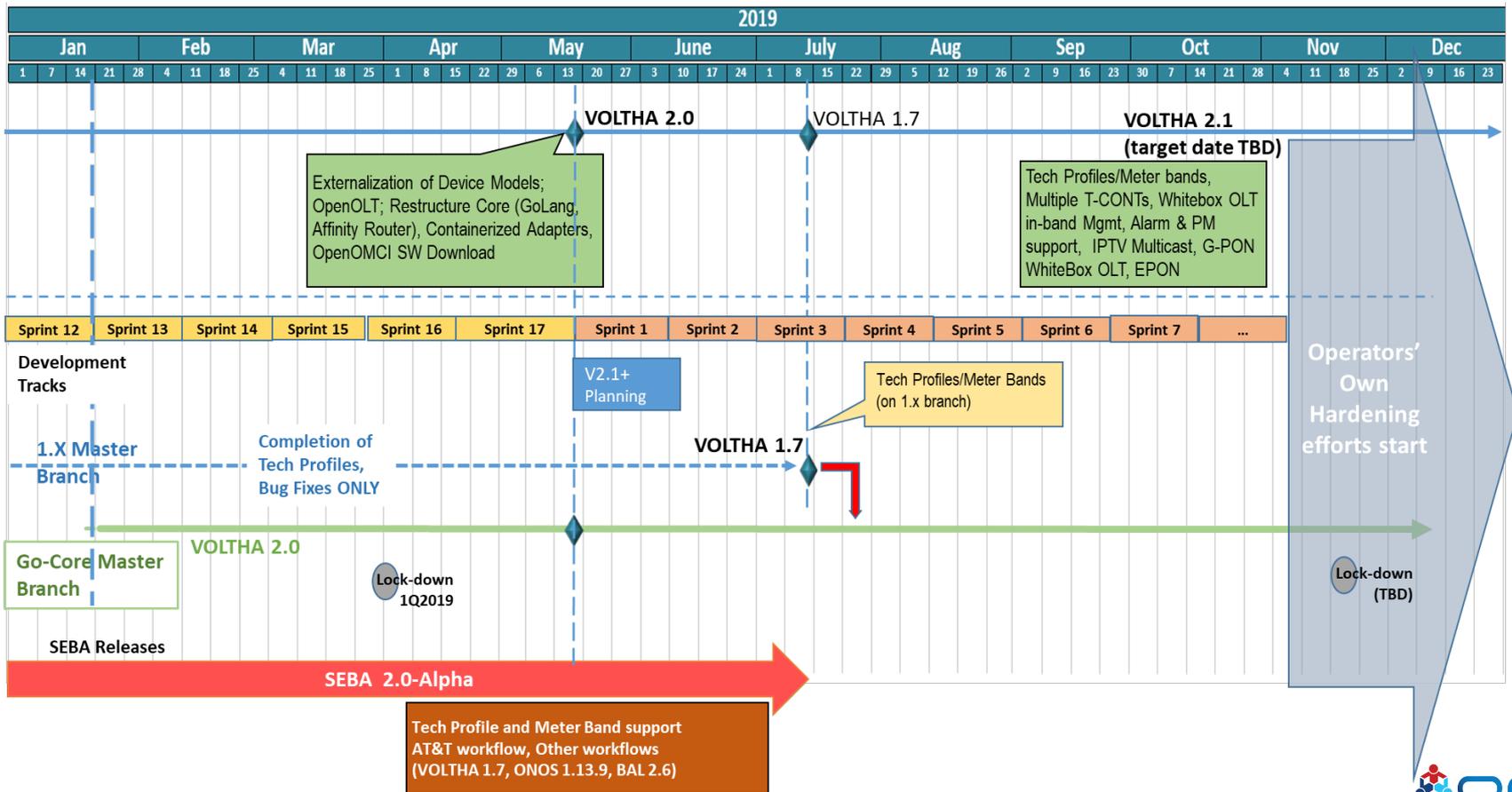
VOLTHA v2.1 scope (continued)

- 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

VOLTHA Roadmap





Thank You

Follow Up Links:

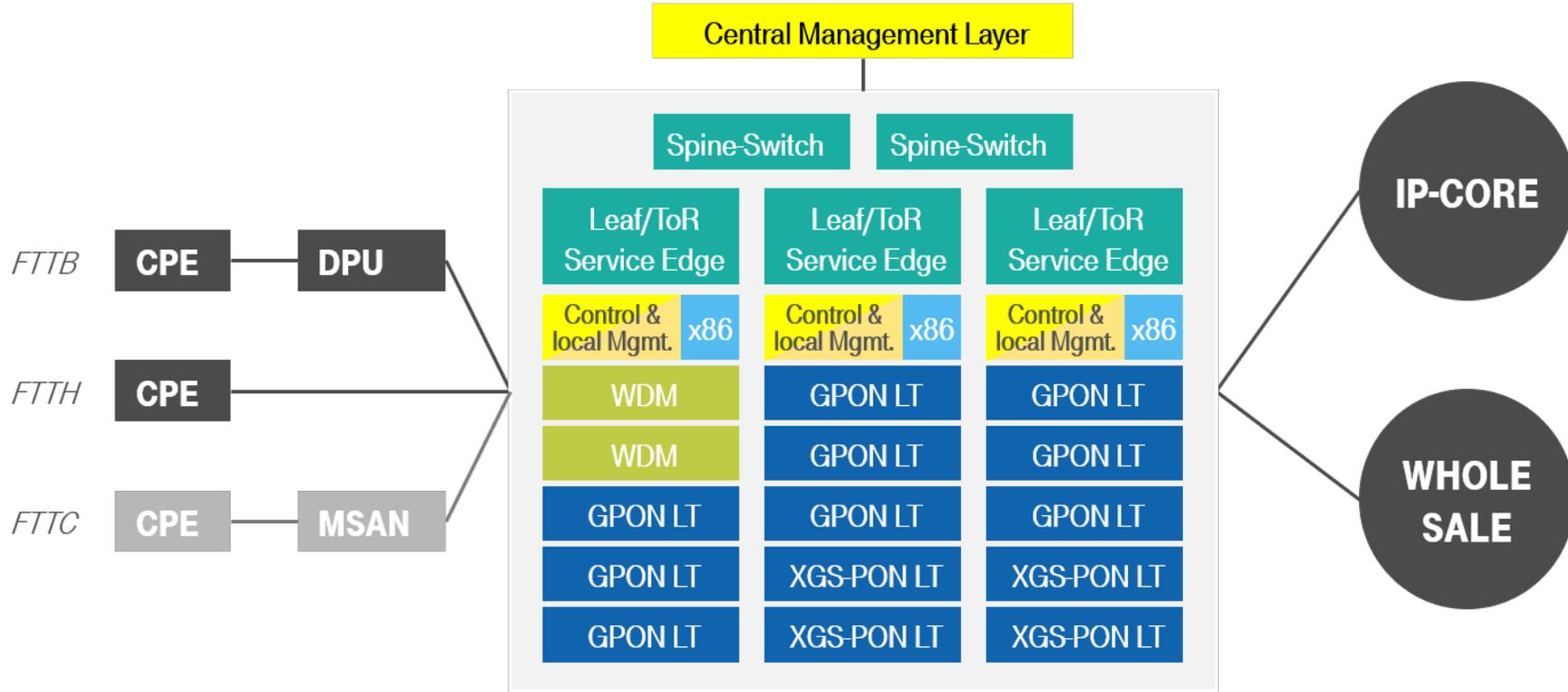
<https://wiki.opencord.org/display/CORD/VOLTHA>



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



**MERCHANT SILICON
BARE METAL**



**HW / SW SPLIT
(CUPS, ...)**

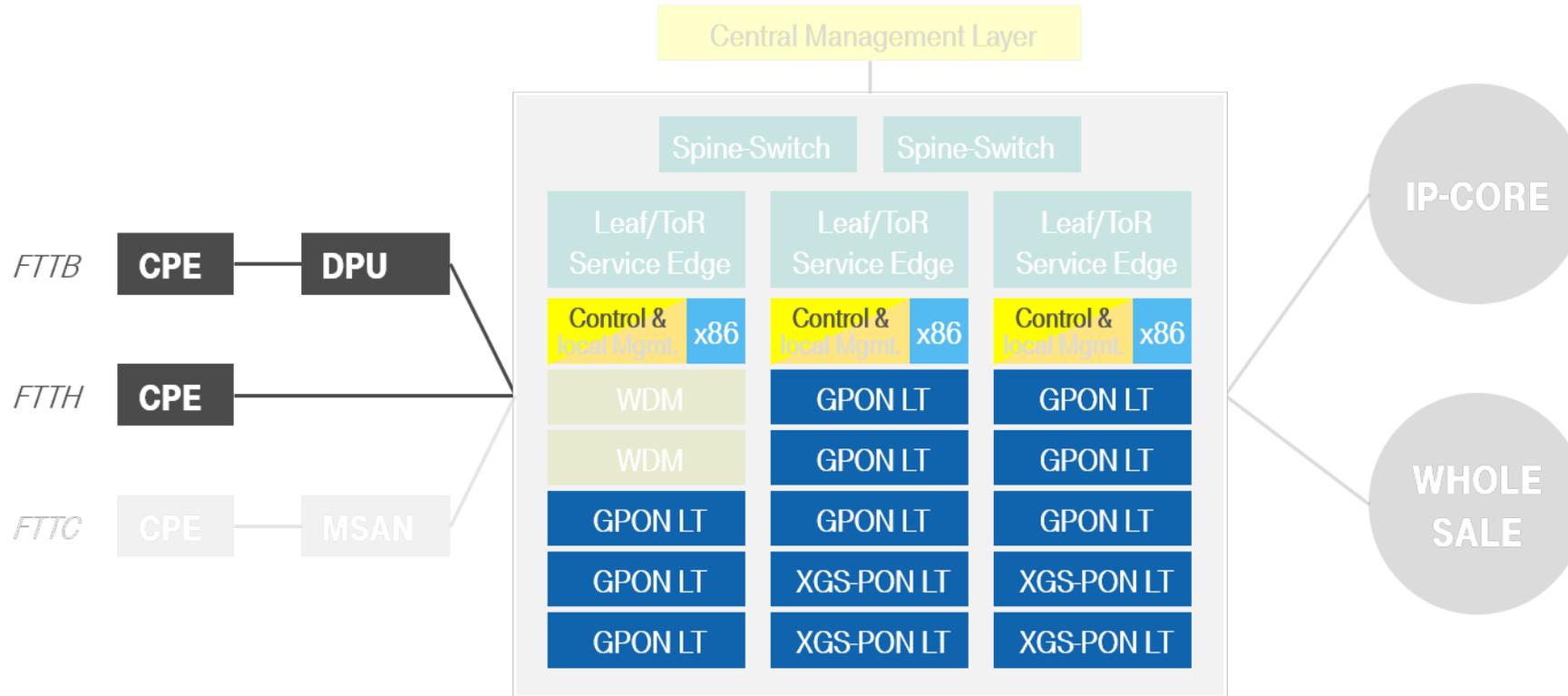


**COMMUNITY &
OPEN SOURCE**



**HORIZONTALLY &
VERTICALLY SCALABLE**

intro – dt's access 4.0 based seba (VOLTHA & OLT focused)



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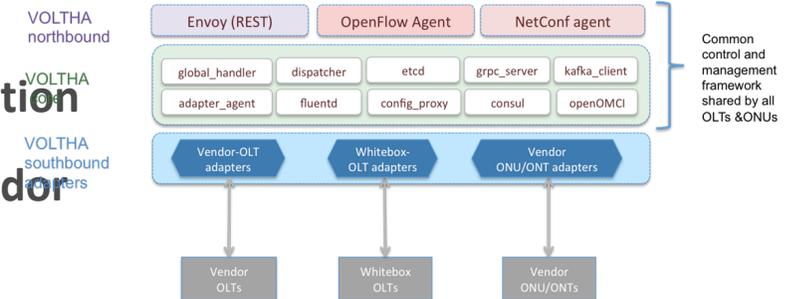
**HORIZONTALLY &
VERTICALLY SCALABLE**

VOLTHA implementation

- Abstract underlying hardware (OLTs in a first step) – allowing all northbound components to be **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.

Virtual OLT Hardware Abstraction (VOLTHA)

VOLTHA hides PON-level details (T-CONT, GEM ports, OMCI etc.) from the SDN controller, and abstracts each PON as a pseudo-Ethernet switch easily programmed by the SDN controller



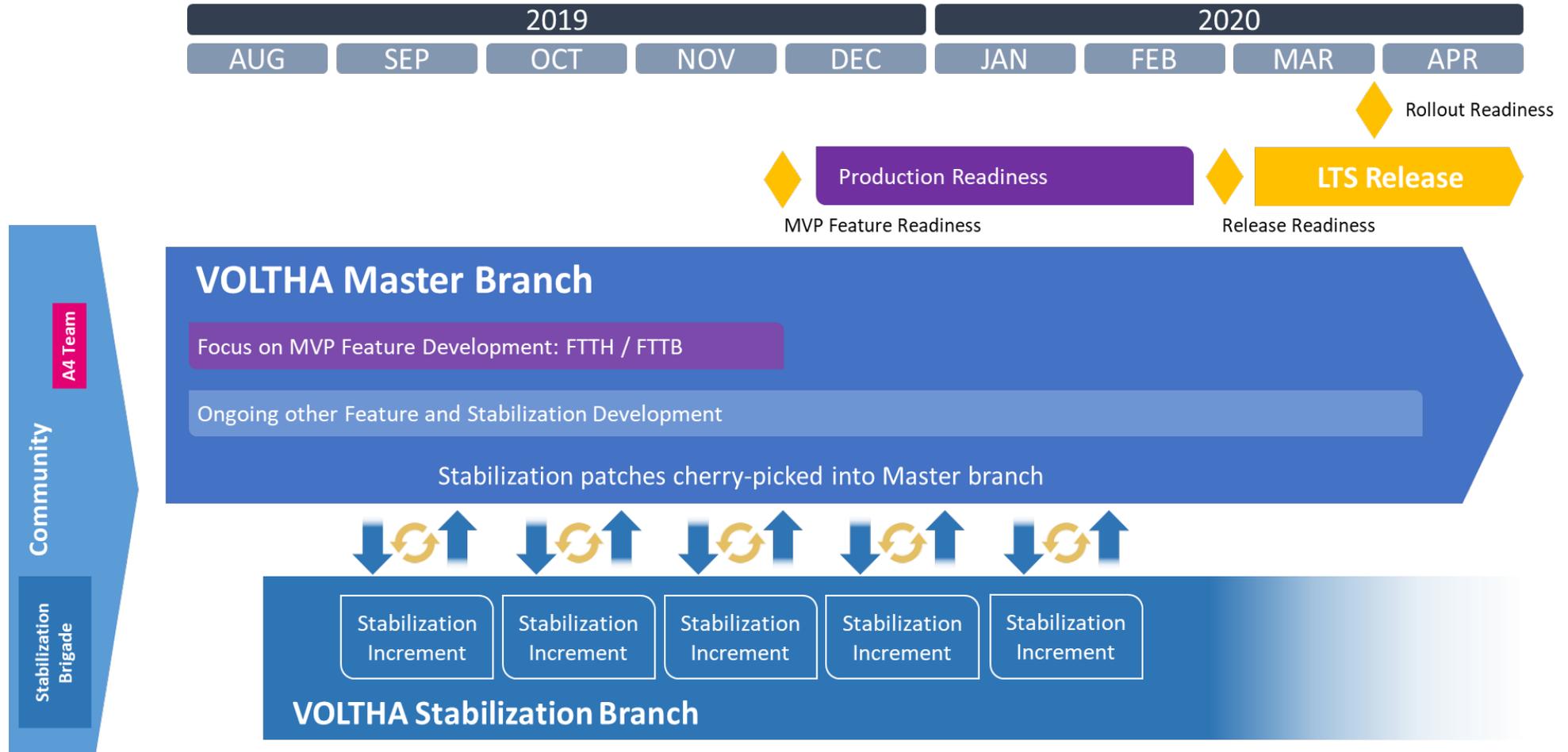
DT's community contributions / activities

- 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

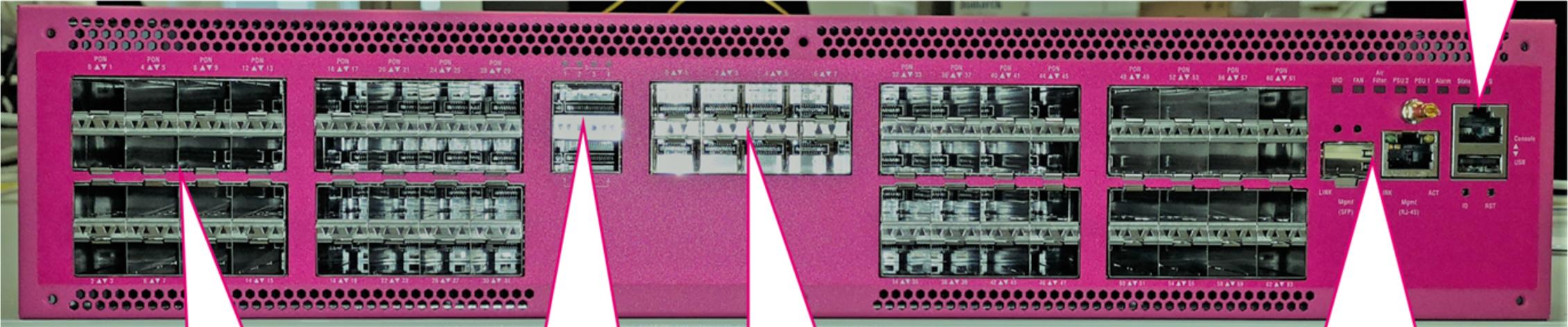
Going carrier-grade with VOLTHA



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

deep dives on Access4.0, Open Source EPC and much more

THU

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

FRI

Jochen Appel, 10:00Am
Keynote

WED

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



THU

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

WED

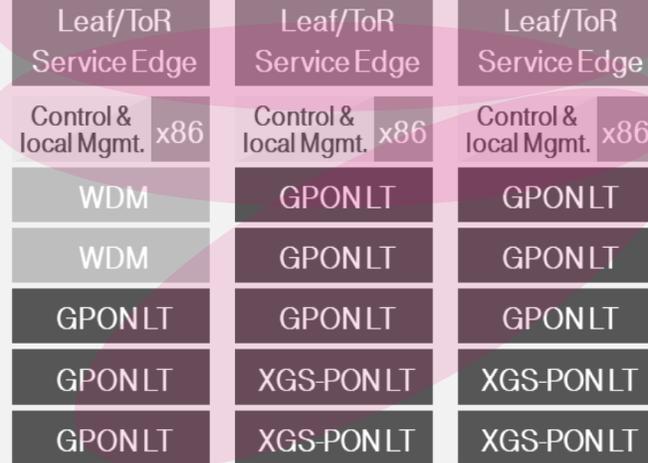
Manuel Paul, 4:30pm
COMAC and OMEC at DT

WED

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

Central Management Layer

Spine-Switch Spine-Switch



WED

Bjoern Nagel, 2:15pm
VOLTHA Roadmap

FRI

Manuel Paul, 11:55Am
Panel: Technical
Leadership Team (TLT)

THU

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



Thank You

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