



DigitalPlatforms
SELTA

SAMBHA16 vOLT

SEBA / VOLTHA-based whitebox vOLT
with multi-PON capability for SD networks

Broadband Meetup 2023 – Istanbul

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Virtual OLT for SD networks

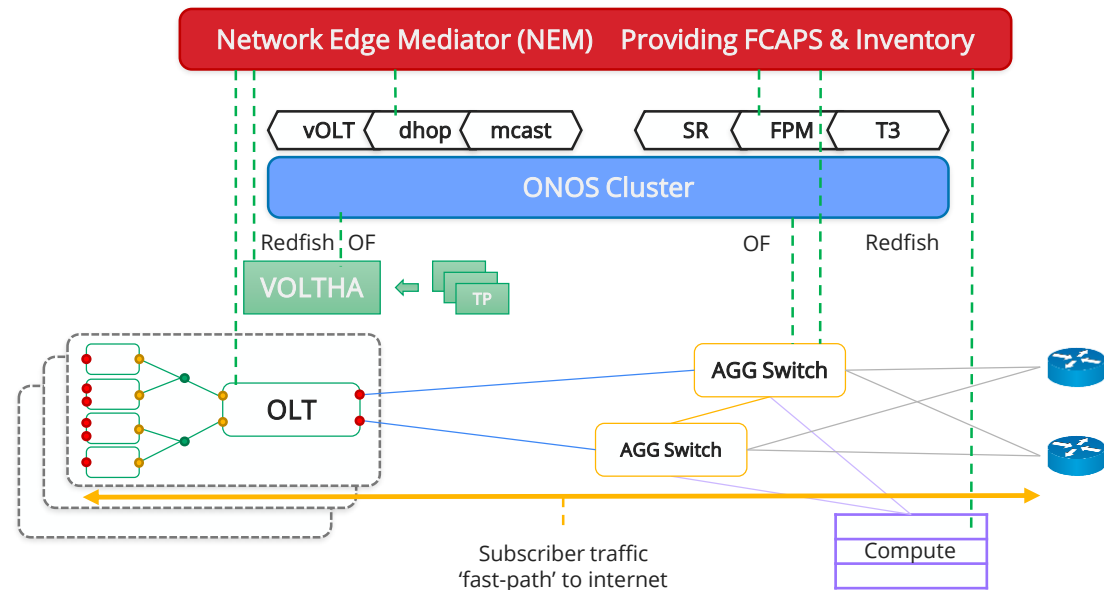
For carriers choosing an SD approach for the Access Networks, the introduction of a multi-PON whitebox vOLT in the ONF framework can provide the maximum deployment and operational flexibility, enabling a transition from traditional GPON connections towards the most powerful XGS-PON connections ready for NG-PON2 and 5G.

The main benefits of this approach are:

Disaggregation of the software from the access node hardware (platform agnostic software)

Software deployment in virtualized environments, convergence with 5G mobile networks and edge computing applications (General-purpose Cloud Central Office architecture)

Interoperability in multi-vendor environments



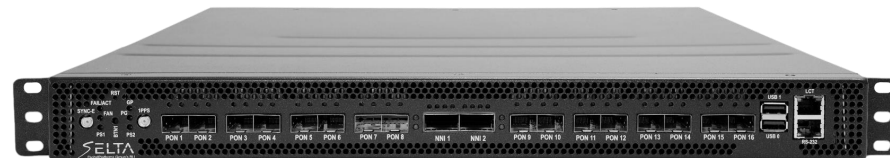
SAMBHA16 vOLT

Multi-PON capable whitebox vOLT with Combo-PON optics

SAMBHA16 vOLT is a 16-port multi-PON whitebox virtual Optical Line Terminal supporting Combo-PON, GPON, and XGS-PON with software based on the ONF's SEBA/VOLTHA reference architecture to build flexible, high-performance, and real-time responsive networks in a cost-effective and sustainable manner.

SAMBHA 16 vOLT can be used within a multi-vendor environment and supports both centralized and distributed SD-PON software deployment models suitable for locations with high-density (big cities, telco data centers/public cloud) and low-density (rural areas, street cabinets) respectively.

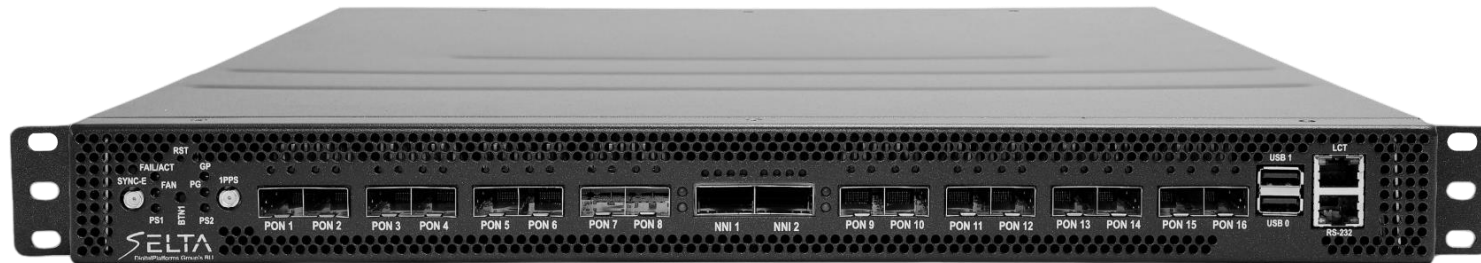
SAMBHA 16 vOLT may evolve toward NG-PON2 and is fully compatible with extended temperature range applications.



SAMBHA16 vOLT

SAMBHA16 vOLT is based on the 2 x NG-PON2 ready Broadcom BCM68658 Aspen silicons and comes with a 300Gb full-duplex switching capacity, including 2 x 100Gb/40Gb QSFP28 ports, and 16 x 12.5Gb SFP+ ports in a 1RU height (pizza box). The QSFP28 ports can be configured as 4 x 50Gb or 8 x 10/25 Gb using DAC breakout cables.

SAMBHA16 vOLT has 2 redundant, hot-swappable, and load-sharing PSUs, offers carrier-class features such as VLAN tag manipulation and QoS, and is pre-loaded with Open Network Install Environment (ONIE).



SAMBHA16 vOLT

Front Panel: PON, Network, and Management ports, LEDs and Interfaces

16 x 12.5Gb SFP+ supporting multi-PON

2 x 100Gb/40Gb QSFP28
configurable as 4 x 50Gb or 8 x 10/25 Gb SFP28
via DAC breakout cables

LEDs
System/Fan/PSU status, Link/Activity

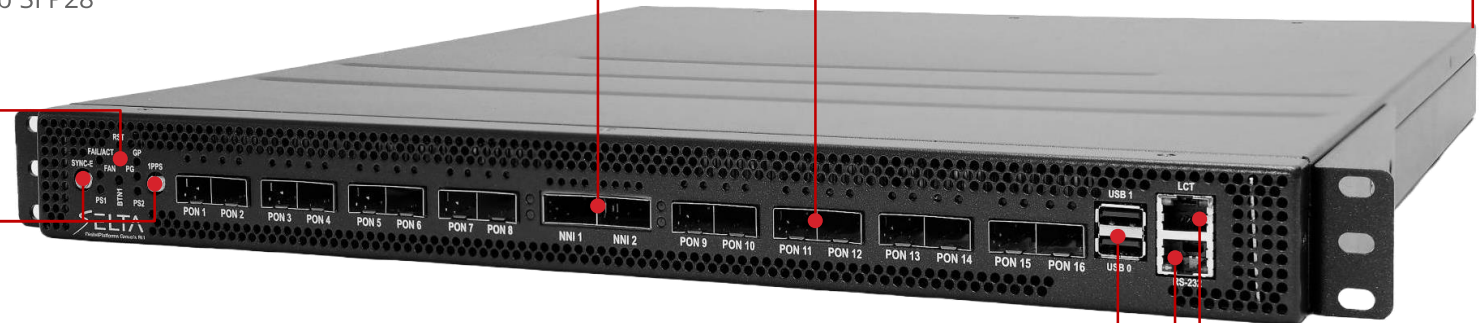
Time and clock synchronization*
SyncE, 1PPS

2 x USB Type A

1 x RJ-45 100/1000BASE-T

1 x RJ-45 serial console

Dimensions:
W: 482mm (19")
H: 44,2mm (1U)
D: 500mm



* Future release

SAMBHA16 vOLT

Capacity

Switch Qumran BCM88470 processing up to 300 Gbps traffic

Supports up to 128 ONTs per GPON

up to 256 ONTs per XGS-PON

Carrier-class features

VLAN tag manipulation

QoS

Software Installer

Open Network Install Environment (ONIE)

PON Technology

GPON, compliant as specified in ITU-T G.948/G.984.2

XGS-PON, compliant as specified in ITU-T G.9807/G.9807.1

Combo-PON (C-PON)

Optics

Class B+, C+, C++ for GPON

Class N1, N2 for XGS-PON

Class D1, D2 for Combo-PON

 ONL OS  x86  OpenOLT SW agent

SAMBHA16 vOLT



PSUs

2 redundant, hot-swappable, removable and load-sharing AC or -48V DC accessible from the rear

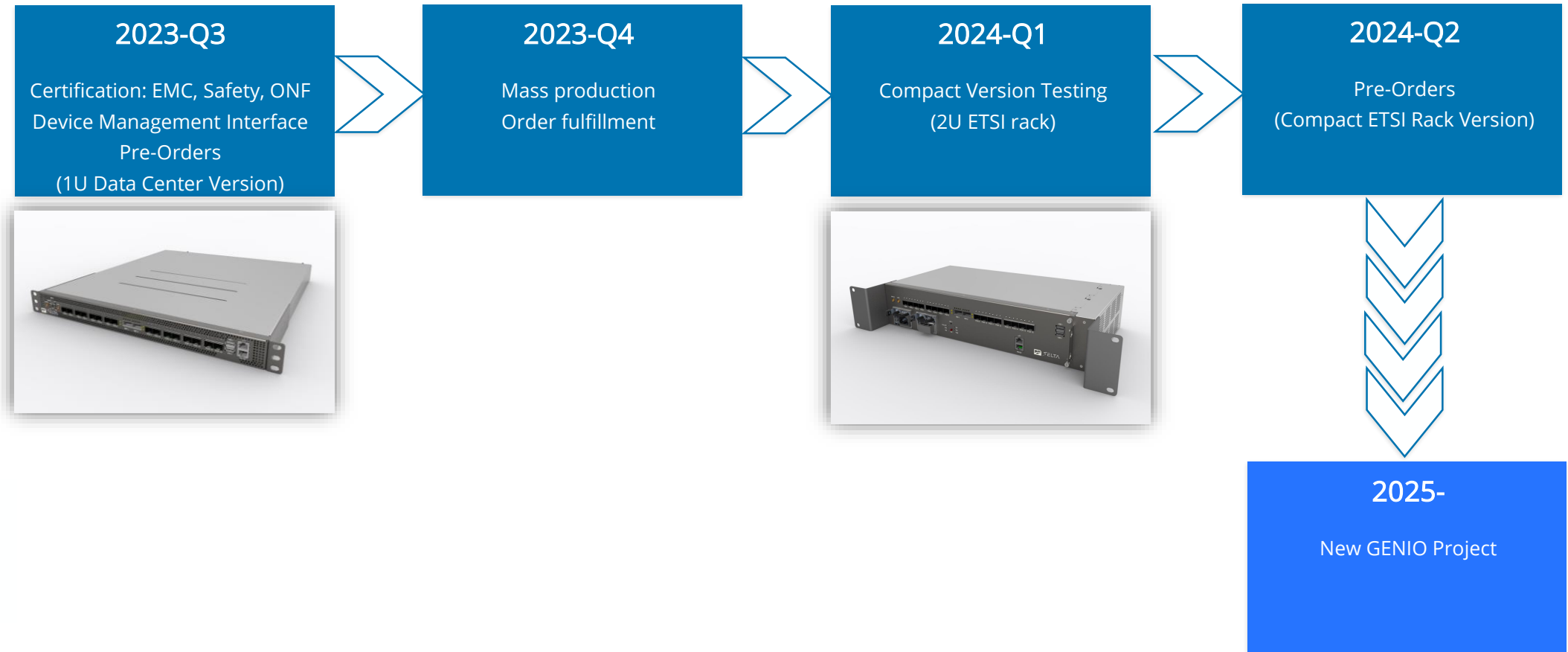
Input Voltage: 180 to 264 VAC or -36 to -72 VDC

⚡ Powering: less than 200W

Fans

5+1 redundant, hot-swappable and removable fan modules with F2B airflow accessible from the rear

SAMBHA16 vOLT Roadmap



SAMBHA16 vOLT Compact Version

Front Panel: PON, Network, and Management ports, LEDs and Interfaces, PSU and Fans

16 x 12.5Gb SFP+ supporting multi-PON

2 x 100Gb/40Gb QSFP28
configurable as 4 x 50Gb or 8 x 10/25 Gb SFP28
via DAC breakout cables

LEDs
System/Fan/PSU status, Link/Activity

Time and clock synchronization*
SyncE, 1PPS

2 x USB Type A

1 x RJ-45 100/1000BASE-T

1 x RJ-45 serial console

■ **Dimensions:**
W: 482mm (19")
H: 88,5mm (2U)
D: 230mm



* Future release

SAMBHA16 vOLT Compact Version

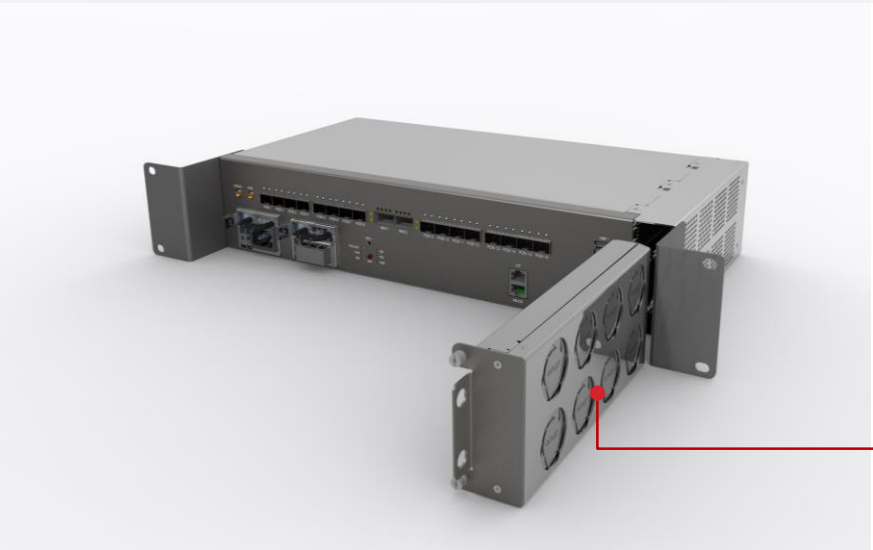


PSUs

2 redundant, hot-swappable, removable and load-sharing AC or -48V DC accessible from the rear

Input Voltage: 180 to 264 VAC or -36 to -72 VDC

⚡ Powering: less than 200W



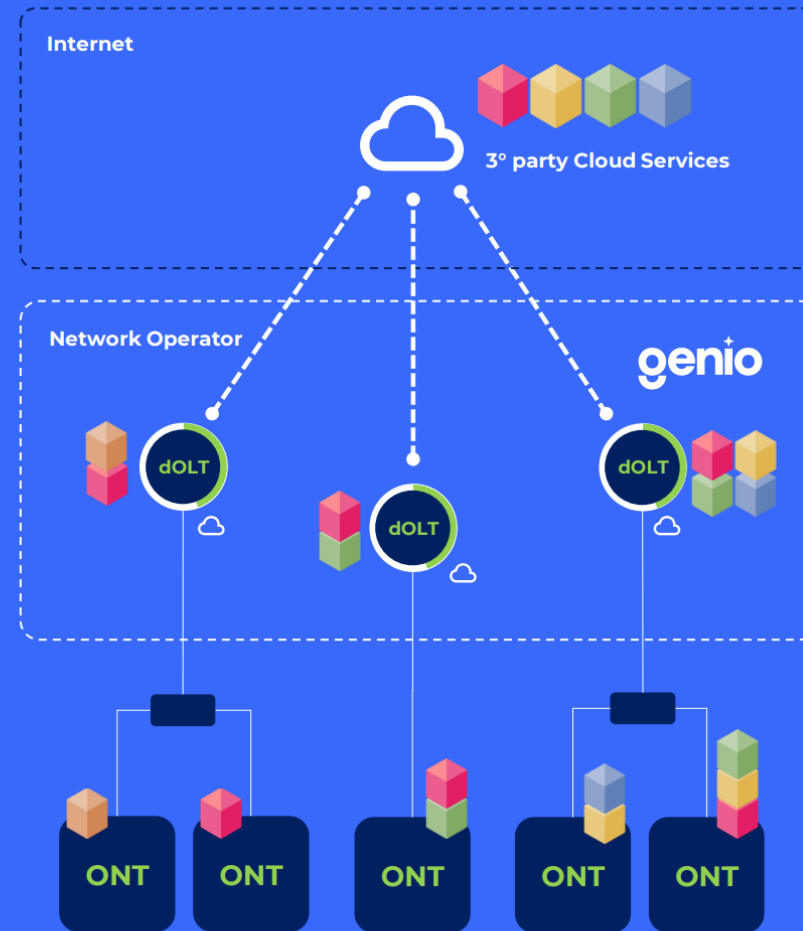
Fans

hot-swappable and removable fan modules with L2R airflow accessible from the side

The GENIO project: a preview 1/2

genio

Nex-Gen
XGS-PON/NG-PON2
Edge Computing
model



The GENIO project: a preview 2/2



Thank You.

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