

Casa Systems OLT-A: XGS-PON and NG-PON2



Winning and keeping broadband customers has never been tougher. Service providers face a range of competition in a business that requires rapid response but is still capital intensive. They need partners who are fast enough to get them ahead of their competition and committed to keeping them there, which is why more and more, leading providers depend on Casa Systems.

In the face of rising broadband demand and competition, service providers are evolving their Passive Optical Networks towards higher capacity, next generation solutions such as XGS-PON or NG-PON2. This evolution enables a range of residential, business and backhaul services.

Casa is providing a pre-integrated, programmable, white-box physical OLT that runs Casa's software for control of L2 forwarding, the MAC layer, management, configuration and monitoring.

Casa's PON OLT-A provides an adaptable solution as service providers evolve Passive Optical Networks. This single RU OLT supports XGS-PON or NG-PON 2 in a highly scalable platform. Routing and QoS are enabled directly in the OLT-A, reducing latency and jitter. Service providers can deploy Casa's OLT-A in the CO, or at the edge, including on premise at MDUs and enterprises.

The OLT-A is managed by Casa's Axyom vOLT-M, which provides common management across multiple OLT-As, and enables service velocity through OpenFlow programmability of the OLT-As. Service providers enjoy the maximum in hardware reduction, simplified management, low latency and high scalability with Casa's Axyom vBNG, vOLT-M, and OLT-A. As shown on the next page, this combination of Casa solutions delivers packet flow efficiency that reduces latency.

The PON OLT-A can also be added as a stand-alone Casa solution in an existing GPON network to support adaptable evolution to next generation PON.

Highlights

Highly Scalable 1RU OLT for XGS-PON and NG-PON2

16 x 10G ports, 4 x 100G/40G QSFP28 ports per RU

300Gbps Forwarding

Layer 2 or Layer 3 forwarding at 300 Gbps (full duplex)

Software Defined Access

Increase service agility and performance with OpenFlow, NETCONF, and OLT OMCI agents

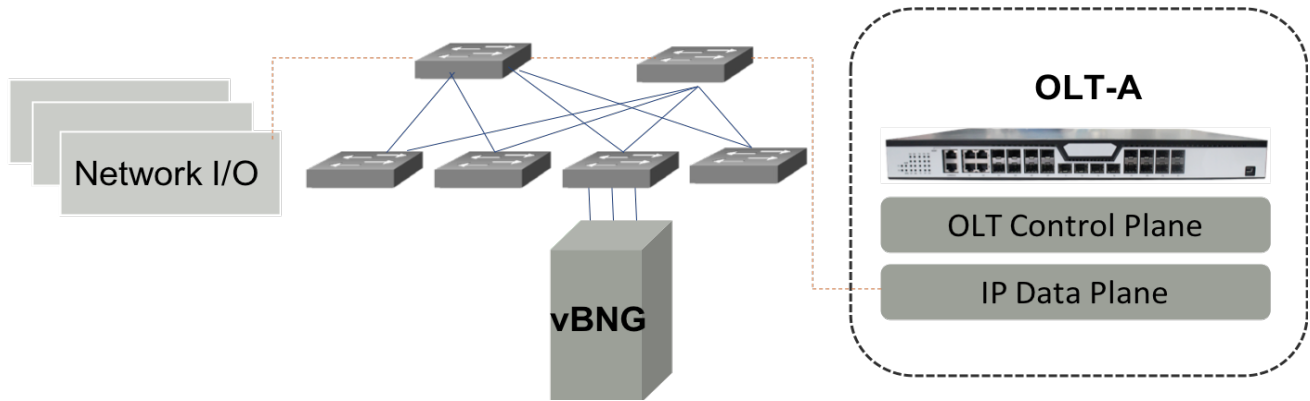
Local Routing and QoS

Routing and QoS directly from the PON OLT-A, reducing latency and jitter and reducing amount of hardware required at central location

Pre-integrated, programmable white-box solution - The OLT-A is an open white-box solution running Casa's control plane software. However, Casa can also work with a service provider's choice of programmable OLT.

Latency Reduction with Casa's vBNG and OLT-A

When Casa's vBNG and OLT-A solutions are used together, they uniquely provide the ability to reduce hops and latency. The initial subscriber authentication traverses the vBNG data plane, but subsequent data packet flows go directly between the OLT-A and spine switch (as shown in the figure below). This reduces the number of hops for the packets thus reducing latency. The OLT-A can reside in the same Central Office or can be distributed to a location closer to the subscribers.

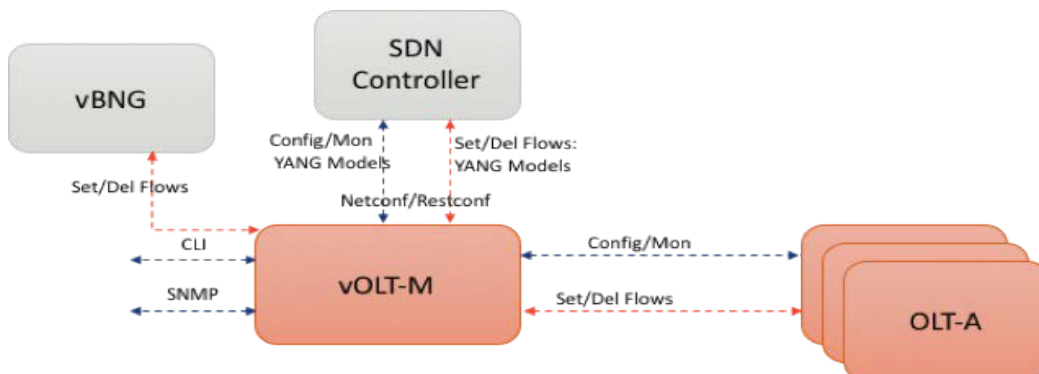


The Virtualized OLT Manager (vOLT-M)

OLT-As are managed by Casa's Axyom vOLT-M which runs on a x86 based NFVI server platform in the datacenter. The vOLT-M provides Software Defined Access for the Casa XGS-PON or NG-PON2 solutions. The vOLT-M does not participate in the data path but provides control and routing functions. It also provides API based access to northbound SDN Controllers for easy operations and management.

The vOLT-M functions include:

- OLT management - registration and configuration
- OLT management - bootup and software upgrades, port configurations
- Alarm management - store and forward alarms to northbound controllers
- Aggregation layer - configure aggregation layer to add and remove OLTs
- CLI and SNMP - provide interfaces for each OLT=A



Features

<p>Ports</p>	<p>Switch Ports:</p> <ul style="list-style-type: none"> • 16 x XGS-PON ports • 4 x QSFP28 100 GbE <p>Management ports on port side:</p> <ul style="list-style-type: none"> • 1 x RJ-45 serial console • 1 x RJ-45 100/1000BASE-T management 1 x USB Type A storage
<p>Performance</p>	<ul style="list-style-type: none"> • Switching Capability: 300 Gbps • Jumbo frames support up to 9 Kbytes
<p>Physical and Environmental</p>	<ul style="list-style-type: none"> • Dimensions (WxDxH): 43.8 x 60.9 x 4.35 cm (17.3 x 23.9 x 1.7 in) • Weight: 10 kg (23 lb) • Fans: Hot-swappable 5 + 1 redundant fans • Operating Temperature: 5°C to 40°C (41°F to 104°F) • Storage Temperature: -40°C to 40°C (-40°F to 104°F) • Operating Humidity: 5% to 85% non-condensing • LEDs: <ul style="list-style-type: none"> – QSFP28 Port LEDs: Link Status, Activity, Rate – Ethernet Management Port LED: Link Status, Activity – Console Port LED: Link Status – System LEDs: Diagnostic, Locator, PSU and Fan Status
<p>Power</p>	<p>PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC Input Voltage: 90 to 240 VAC at 50-60 Hz or -36 to -72 VDC</p>
<p>Regulatory</p>	<ul style="list-style-type: none"> • EMI <ul style="list-style-type: none"> – CE Mark – EN55022 Class A – EN55024 – EN61000-3-2 – EN61000-3-3 • FCC Part 15 Subpart B Class A • VCCI Class A • CCC • Safety <ul style="list-style-type: none"> – CB – UL/CU/NRTL – CCC • Environmental: <ul style="list-style-type: none"> – Vibration: GR-63-CORE – Shock: GR-63-CORE, GR-1089-CORE Acoustic Level: 78 dB sound power at 26°C