

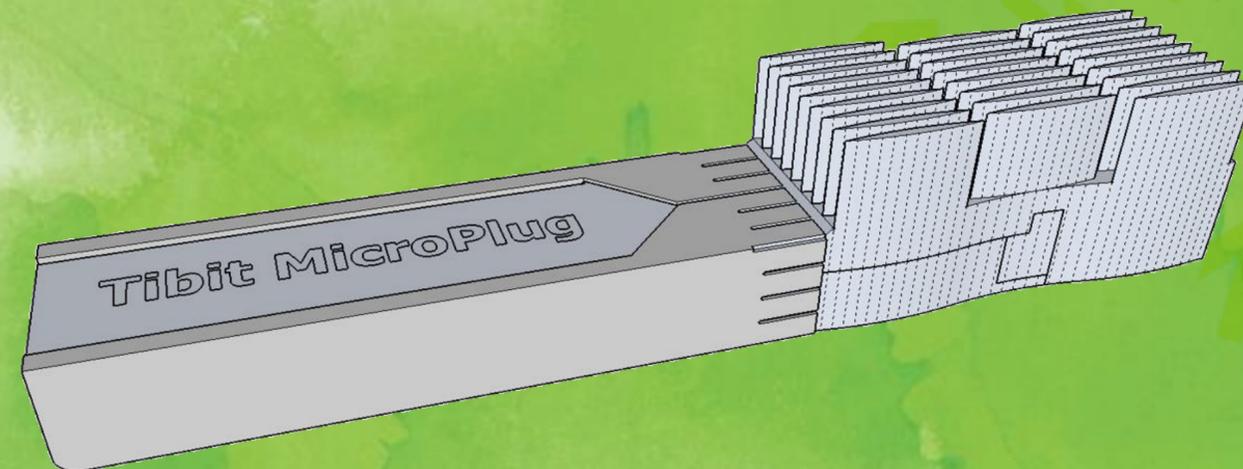
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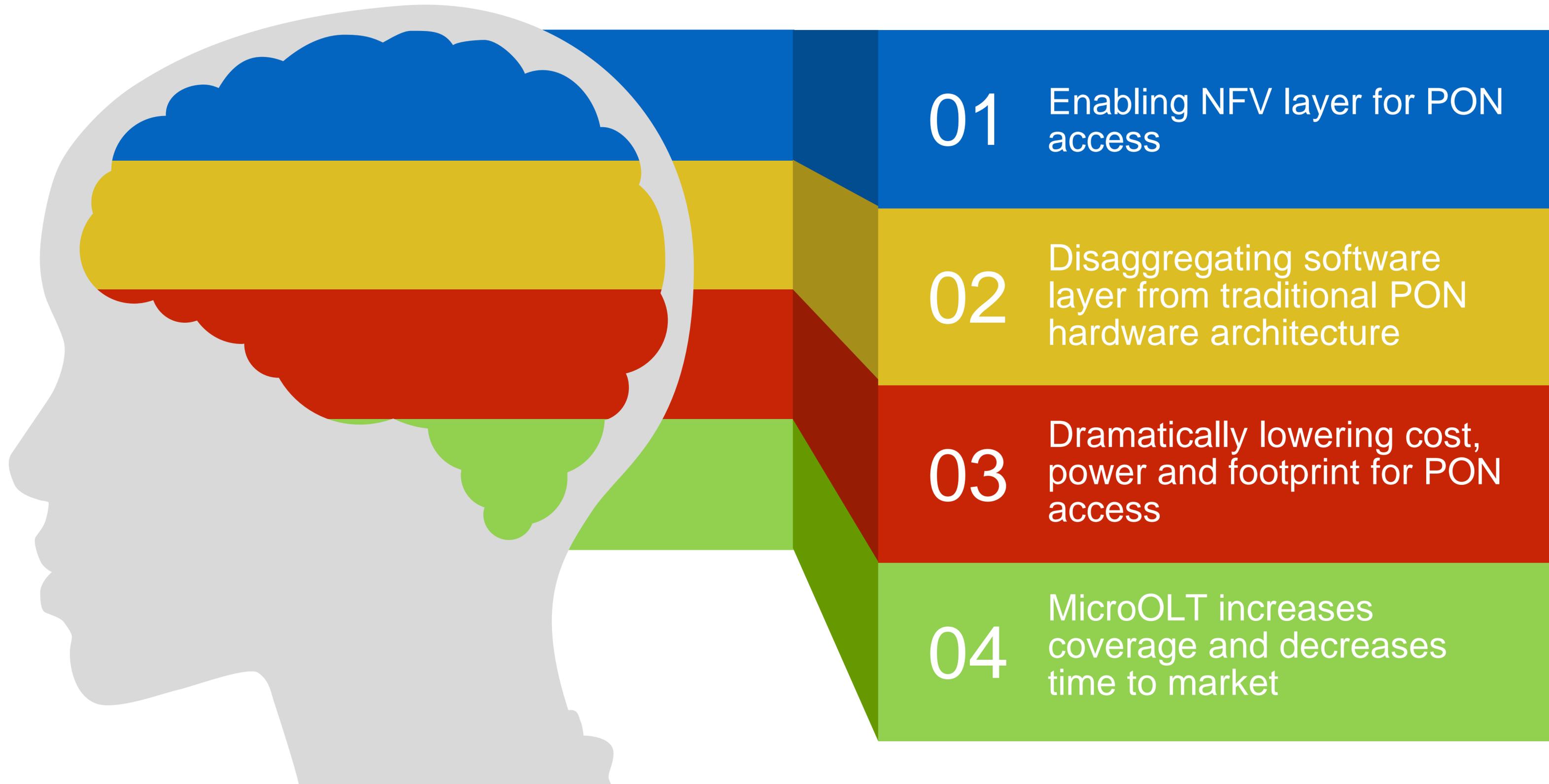
XGS MicroOLT Solution

An innovative approach to virtualizing access

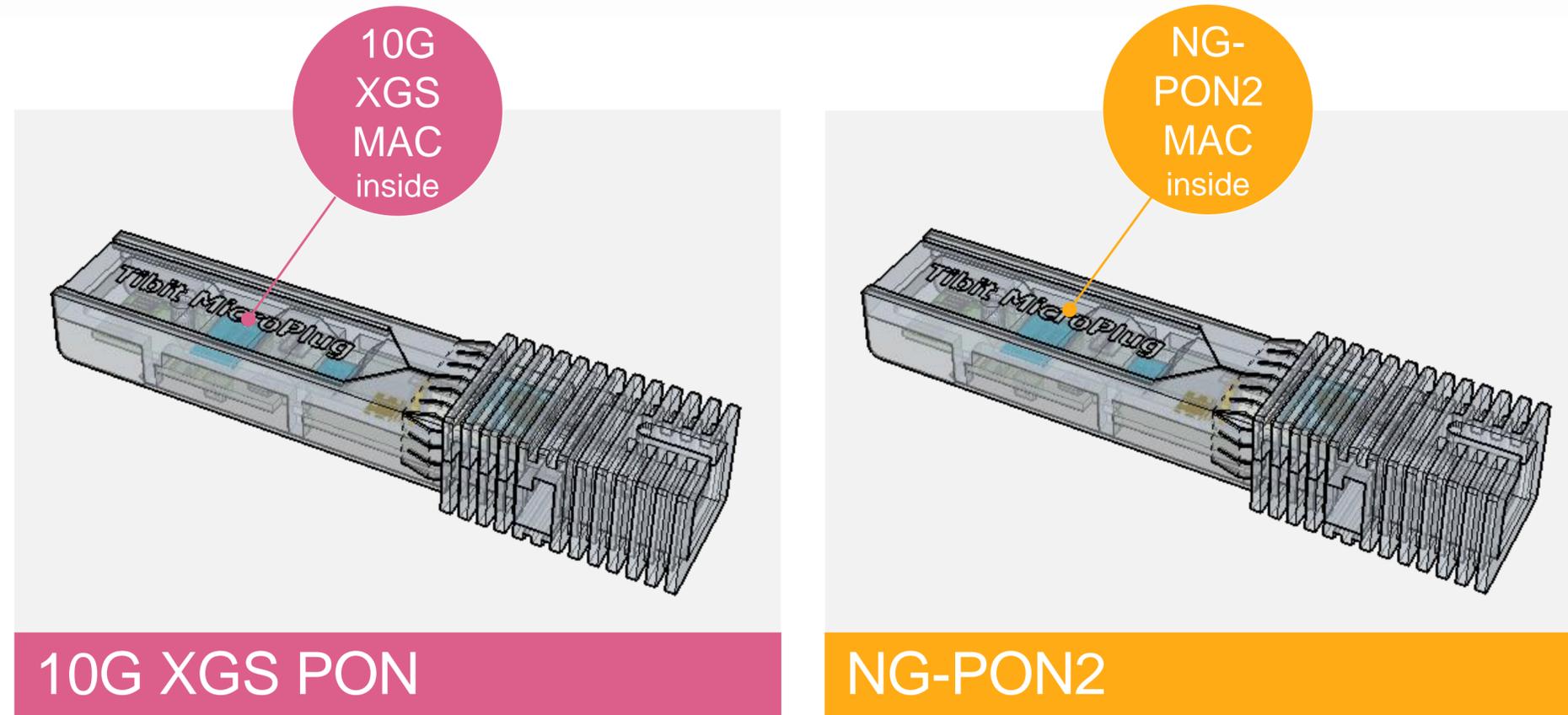
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Senior Member Technical Staff



Innovative Hardware Access Solution for the industry



MicroOLT SFP+



SFP+ OLT optics modules provide PON connectivity for Ethernet Switch or Router ports

In-band management allows for local or remote administration and virtualization

Low power and high density solution with support for outside plant deployment

MAC integration into SFP+ allows for significantly better optical performance

Based on ITU G.9807.1 and G.989

Innovative approach for the new network - MicroOLT

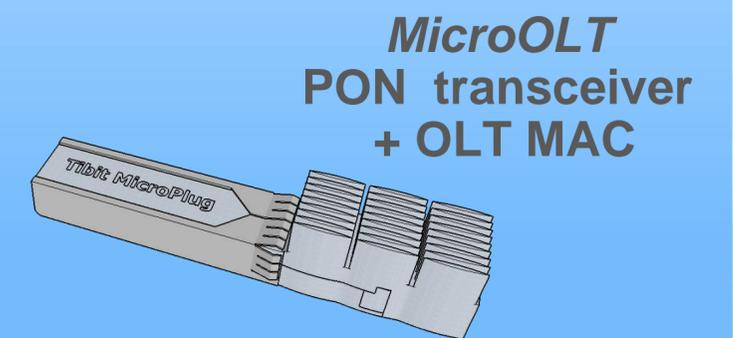
Service Provider Virtual OLT (vOLT)

- MicroOLT enables Service Providers to deploy high capacity 10G PON directly from existing Ethernet switches
- Elimination of PON application-specific hardware and making use of stranded Ethernet hardware lowers the cost of deployment
- Central Office power and footprint savings
- It allows for higher density PON access systems and integration with other SDN/NFV solutions
- MicroOLT dramatically lowers the cost of deployment

Old network



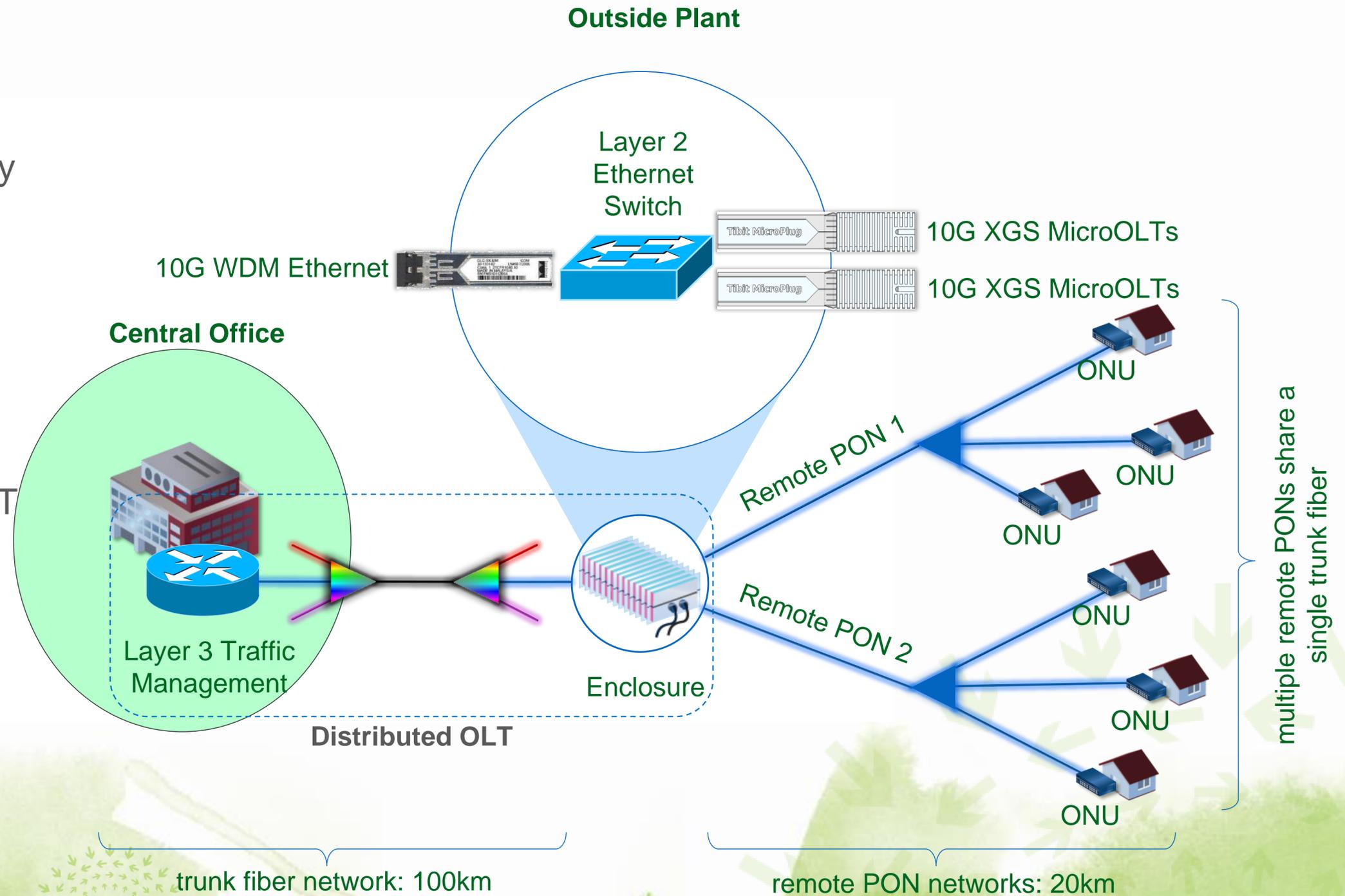
SDN/NFV



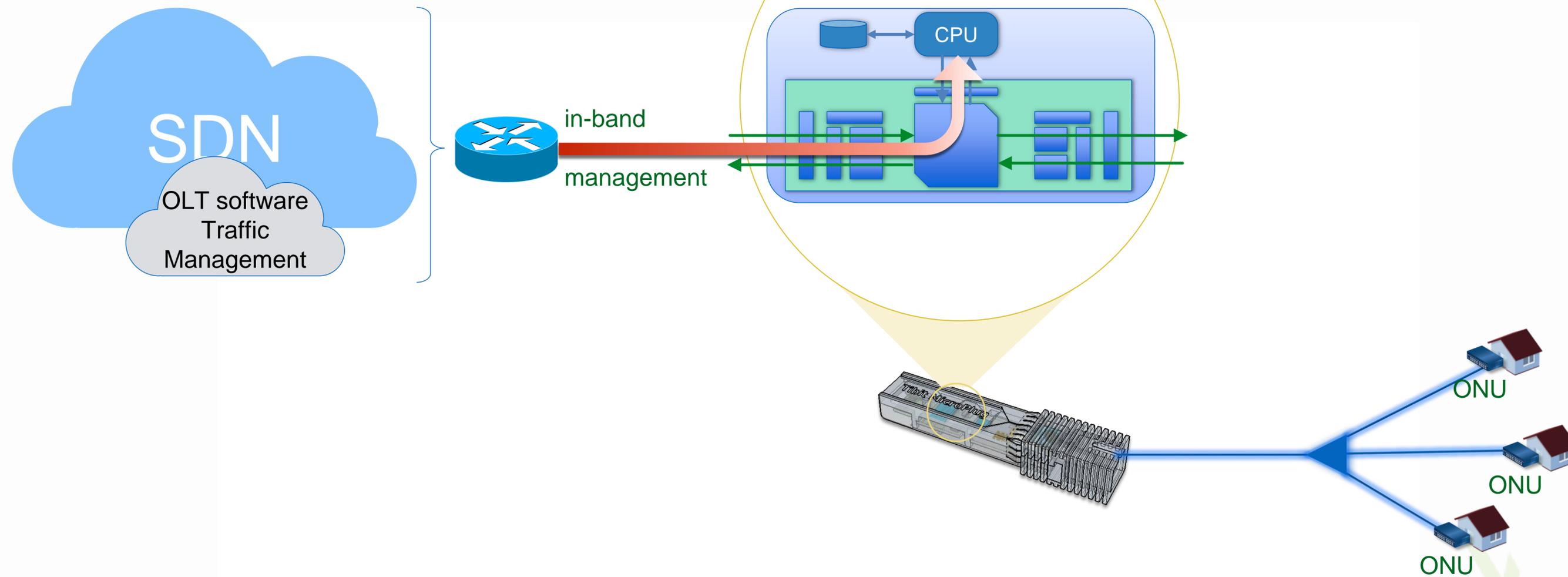
New network

Use case: distributed OLT

- Splitting the PON MAC and optics from the rest of the OLT functions allows for remotely located PON terminations (remote PONs)
- Remote PONs are required when the customers are beyond the reach or fiber capacity of an OLT in the Head-end
- An SFP+ transceiver with an integrated OLT MAC allows for small, modular, and low power Node solutions

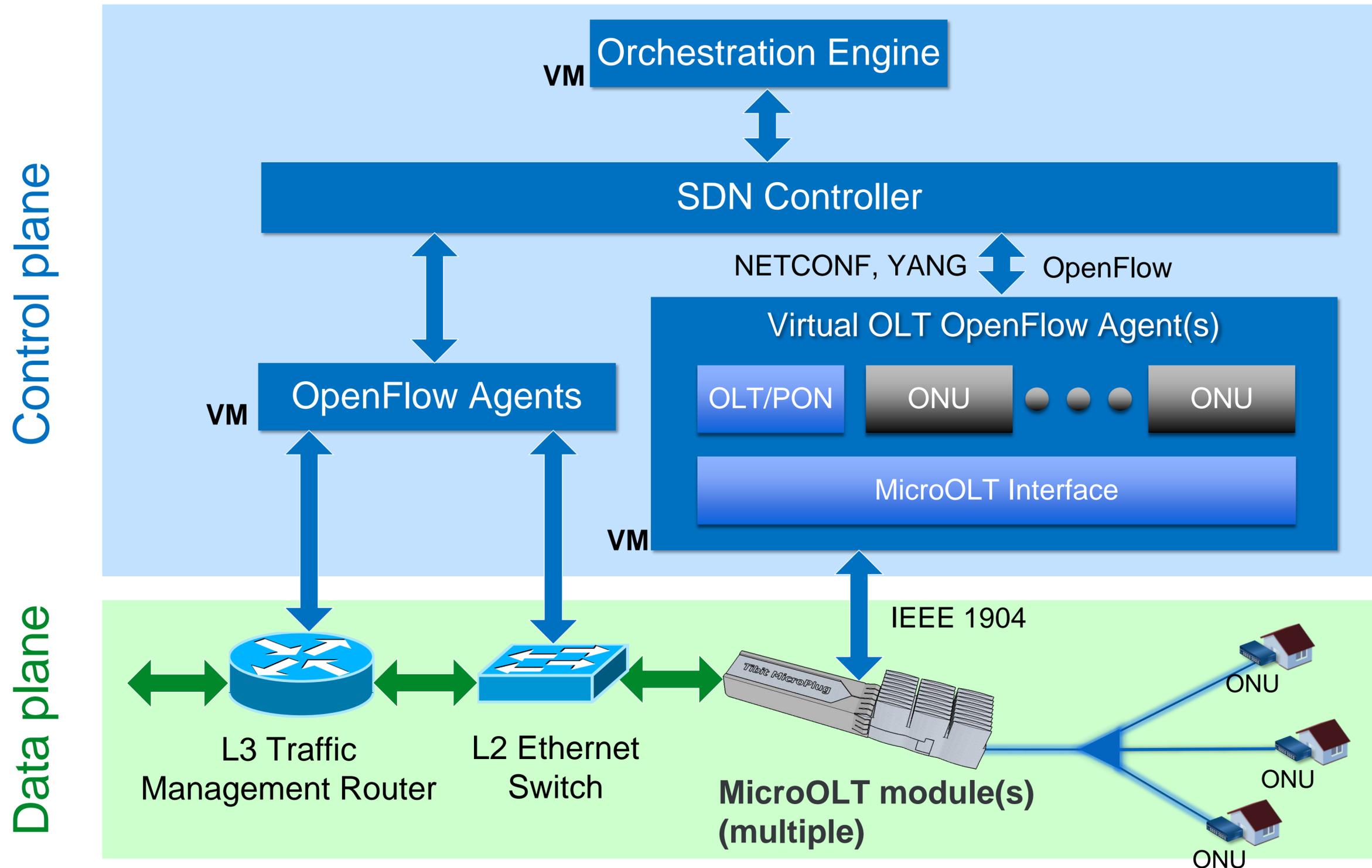


SDN Managed OLT module

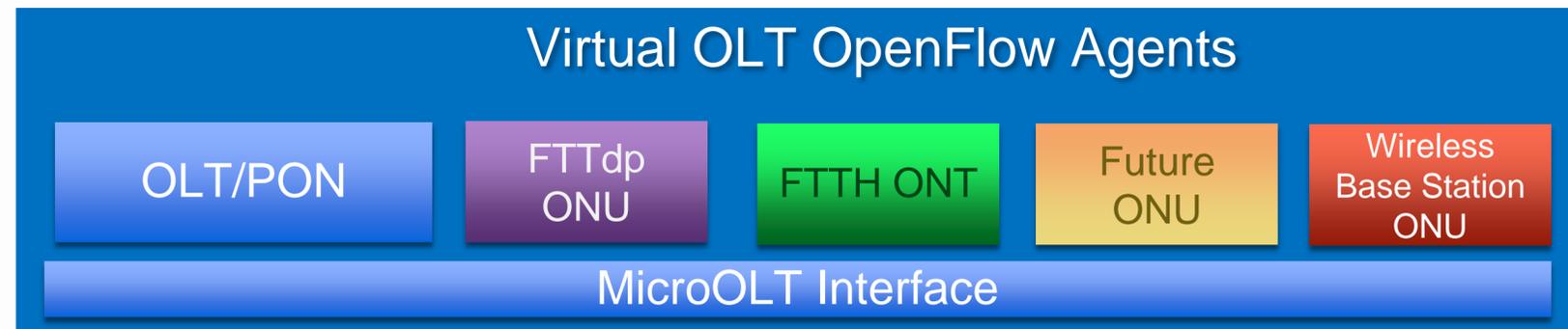


- CPU is embedded inside MicroOLT SFP+ Module.
- Embedded CPU is configured and controlled by communicating with Cloud servers
- SFP+ module can be deployed anywhere in the network
- Provides OLT deployment flexibility and reduces TCO

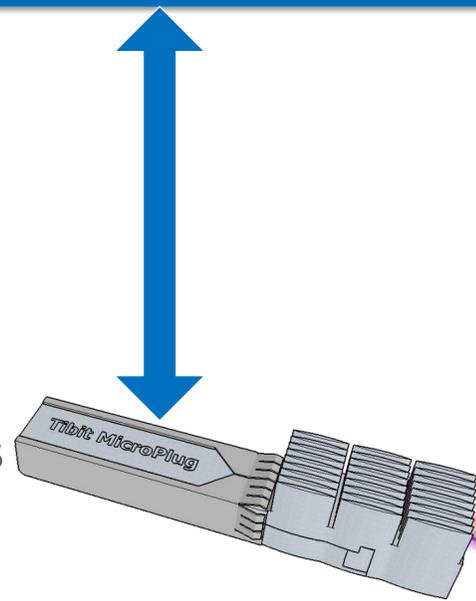
SDN OLT management orchestration



Open and Interoperable Architecture



- MicroOLT transparently passes OMCI and OAM from Virtual OLT software to any type of ONU or ONT
- Virtual OLT software is a modular architecture containing configuration for the OLT and ONUs
- ONUs suppliers provides the software for both ends to manage and control
- MicroOLT does not restrict or require upgrade to support ONU/ONT types or different vendors

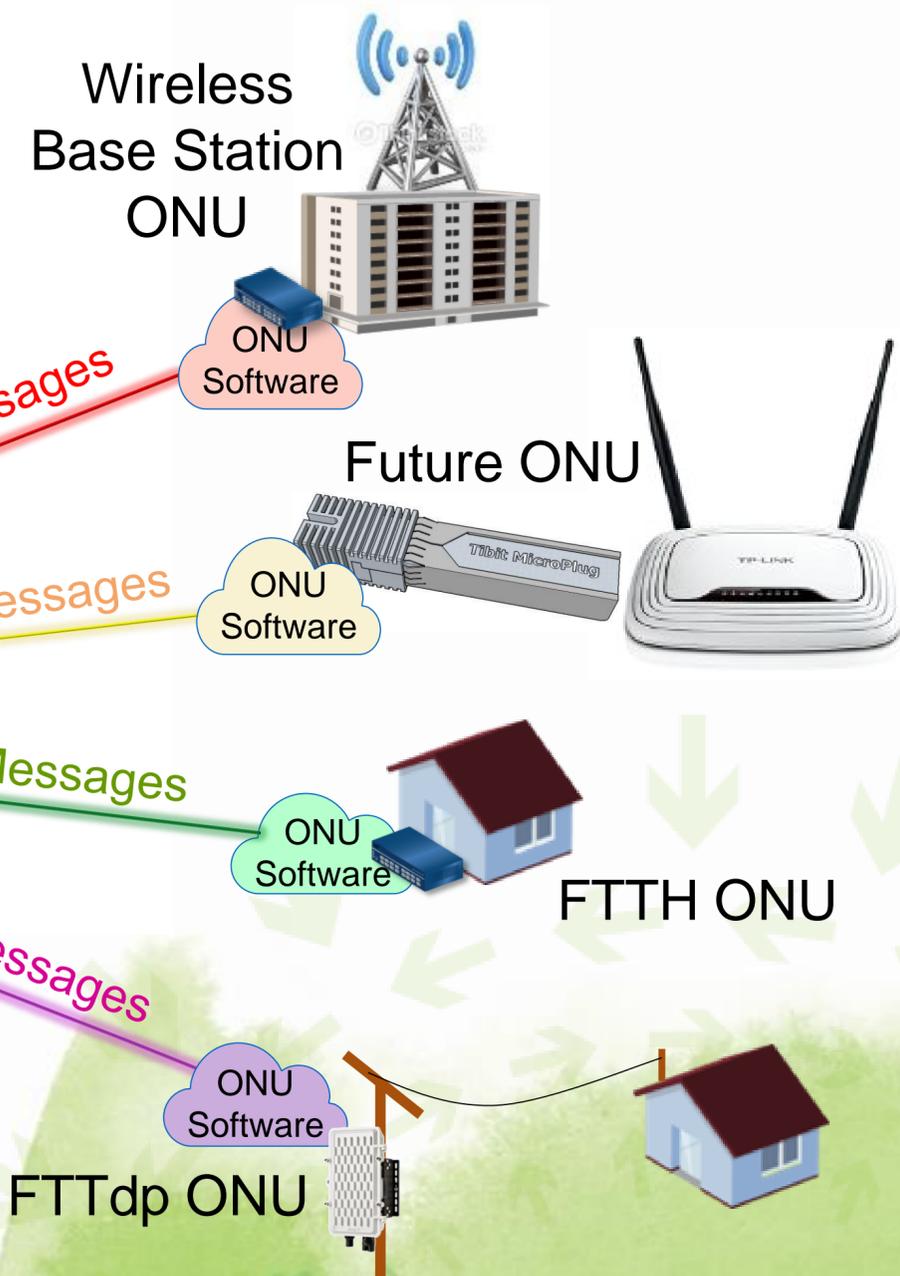


OAM and OMCI Messages

OAM and OMCI Messages

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OAM and OMCI Messages



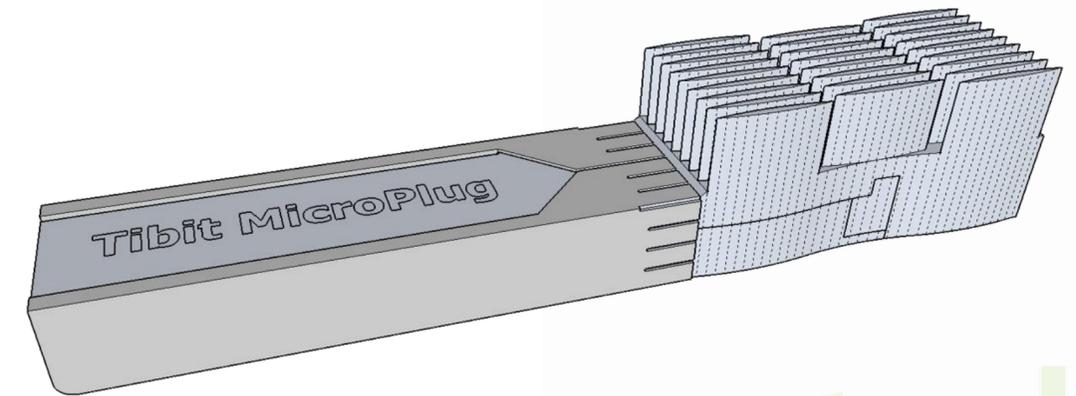
PON connectivity without boundaries....

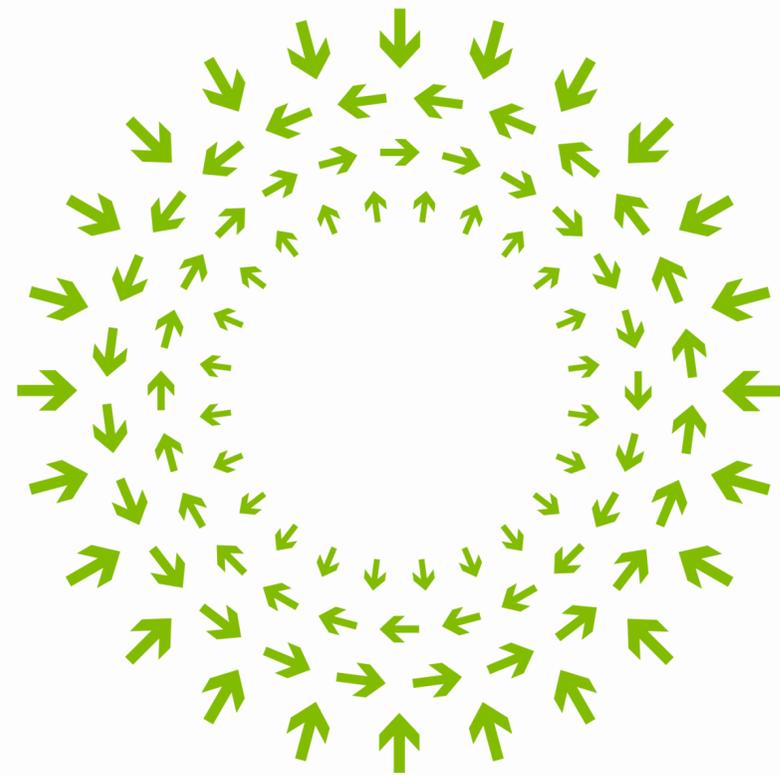
- Operators can use PON from the “best fit” platform
- PON interfaces can originate from a variety of Ethernet interface platform
 - Large Data Center Switches
 - Central Office Hardened Switches
 - Remote Hardened Switches
 - Sample list of OCP compatible switches included in white paper and OCP Web site
- PON can start far away from the data center or central office
 - Minimize the outside plant
 - Consolidated network switching and control
- PON can terminate in a variety of platforms
 - Home Gateways
 - Business Gateways
 - Wireless Base Stations



Summary

- MicroOLTs allow operators to reduce costs by changing from application specific hardware to general purpose hardware (including many Open Compute Platforms)
- MicroOLTs allow for flexible architectures to reduce cost, centralize equipment, reach more subscribers, and easily upgrade to the latest technologies
- MicroOLTs allows for modular interoperability to easily support many vendors and many termination options





OPEN

Compute Project

