



Apollo 9904X

Pay as you grow Metro OTN Switch

Apollo 9904X makes it economical to extend the benefits of OTN switching to metro networks; namely, for grooming multiple layer 1 services onto fewer wavelengths, rapid software-controlled service provisioning, and dynamic restoration. Its unique integrated fabric design enables pay-as-you-grow capacity expansion in 700G increments, up to 2.8T, without having to invest in separate switching cards. Its 400G CFP2 DCO line interfaces likewise deliver capacity with economy. The 9904X also aggregates L2 traffic to reduce the number of costly router ports, and assigns bandwidth dynamically to this traffic using ODUflex.



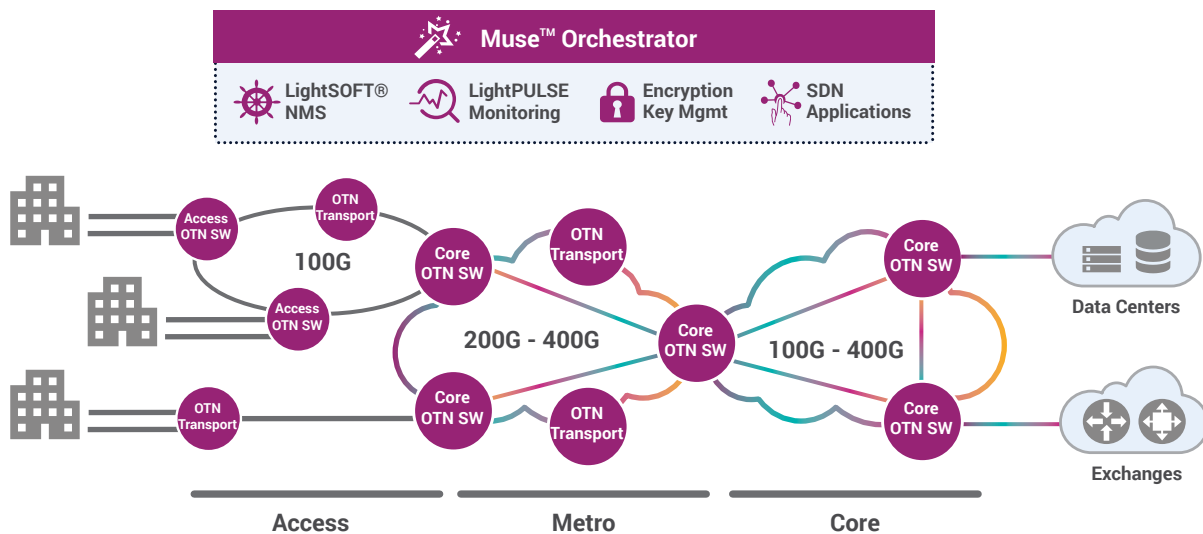
Apollo optical transport and switching platforms combine to deliver high-performance access-to-core optical networking solutions at the lowest cost per bit. Highly modular, they are tailorable into solutions that precisely meet current needs, and can evolve economically to accommodate traffic growth and new technologies. All Apollo platforms support multiservice client interfaces, as well as alien wavelengths, shared spectrum, and packet services. They are controllable through Muse Domain Orchestrator, or directly, via open industry-standard interfaces, and can stand by themselves in disaggregated networks such as for Open Optical Line Systems.

OTN Switching
optimized for metro
networks

Integrated
packet
services

Self-aware
for E2E visibility
and operability

Open
for modular
disaggregated solutions



Technical Specifications

Topologies	Mesh, hub, ring
Spectrum	<ul style="list-style-type: none"> Extended C-band Fixed grid: 50GHz/96ch, 75Ghz/64ch, 100GHz/48ch Flexible spectrum at 6.25GHz resolution Super-channel up to 128 channels
Capacity	<ul style="list-style-type: none"> Shelf: 4 slots for cards Card: 700G single slot Switching: 2.8T. Universal fabric for OTN switching (ODUk cross-connect 0, 1, 2, 2e, 3, 4, Flex) and L2 packet switching
Service and switching cards	<p>MIO700: 700G capacity with integrated switching</p> <ul style="list-style-type: none"> 2 x CFP2 supporting 100G/OTU4, 200G/OTUC2, 300G/OTUC3, 400G/OTUC4 3 x QSP28 supporting 100GbE/OTU4 6 x QSFP+ supporting 10G/OTU2, 10GbE, 40GbE, SDH/SONET (STM-64, OC192) <p>MIO200: 200G capacity with integrated switching</p> <ul style="list-style-type: none"> 1 x CFP supporting 100G/OTU4 (coherent), 10 x 10 banded OTU4, 100GbE 12 x SFP/SFP+ supporting L1 or L2 Ethernet (GbE, 10GbE), SAN (FC1/2/4/8/10/16), OTU2/2e, SDH/SONET (STM-1/4/16/64, OC3/12/48/192), OTDR SFP
Switching fabric	Switching is integrated in MIO backplane for a unique pay-as-you-grow architecture.
Coherent interoperability	OpenFEC and Staircase FEC support
Optical card support	Amplifiers, OMSP, OLP, ROADM 4FS with built-in amplifiers
Synchronization	SynchE and 1588V2 ready
Security and Encryption	AES256-GCM encryption; Diffie-Hellman key exchange with X.509 node authentication, enhanceable with PQC algorithms; CC EAL2
Restoration	<ul style="list-style-type: none"> Spectrum Switched Optical Network (SSON) – spectrum level Wavelength Switched Optical Network (WSON) – wavelength level Automatic Switched Optical Network (ASON) – service level ODU SNC-N protection
HW redundancy	<ul style="list-style-type: none"> Power supply and fan redundancy modules High availability RCP main shelf controller
Dimensions	<ul style="list-style-type: none"> ANSI 19" rack: 221 mm height x 253 mm depth, 5RU Front access to all cards
Power input	-40.5 VDC to -75 VDC
Environmental	<ul style="list-style-type: none"> Operating temperature: -5°C to +55°C Relative humidity: 5% to 90% (non-condensing)
SDN	Muse™ applications (e.g. Bandwidth on Demand, Scheduled Service)
Network management	LightSOFT® end-to-end, point-and-click network management
Performance monitoring	LightPULSE™ integrated real-time OSNR and other parameters
Control interfaces	Netconf/Yang open standard interface for native and 3rd party MNG

Specifications subject to change without notice

Contact Us

We are here to help. Contact us about our IP Wave solutions.