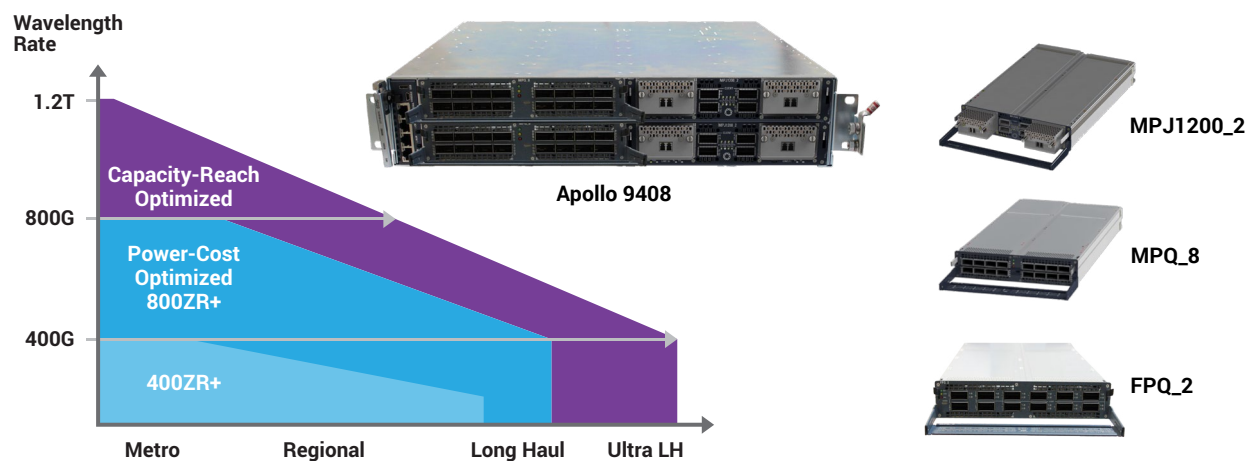# Apollo 9408

High Density Compact Modular Optical Transport

Apollo 9408 is the industry's highest-density platform for 100GbE, 400GbE, and 800GbE optical transport. Its selection of sleds provides network and data center operators with both capacity-reach optimized and power-cost optimized transport solutions that can be applied from metro to ultra-long-haul distances. Apollo 9408 also supports complementary IPoDWDM applications.

Apollo 9408 sleds feature advanced transceiver technology. For capacity-reach optimized transport, pluggable 5nm-140Gbaud transceivers utilize continuous baud rate and continuous modulation controls to maximize the line rate, from 400G to 1200G, for any distance and channel width up to the edge of the Shannon Limit. For power-cost optimized transport, both pluggable 400ZR+ and 800ZR+ transceivers are available on the same sled to accommodate different traffic needs.

Apollo 9408 not only delivers exceptional performance but also incorporates numerous features to facilitate deployment and operability. It is housed in a compact 2RU chassis with front-to-back cooling suitable for data center environments and all common modules are field replaceable. Auto-discovery and gNMI telemetry support advanced operations. Apollo 9408 can be managed alongside other Ribbon networking platforms via Muse Multilayer Automation Platform or deployed in a disaggregated manner with control via an OpenConfig API.
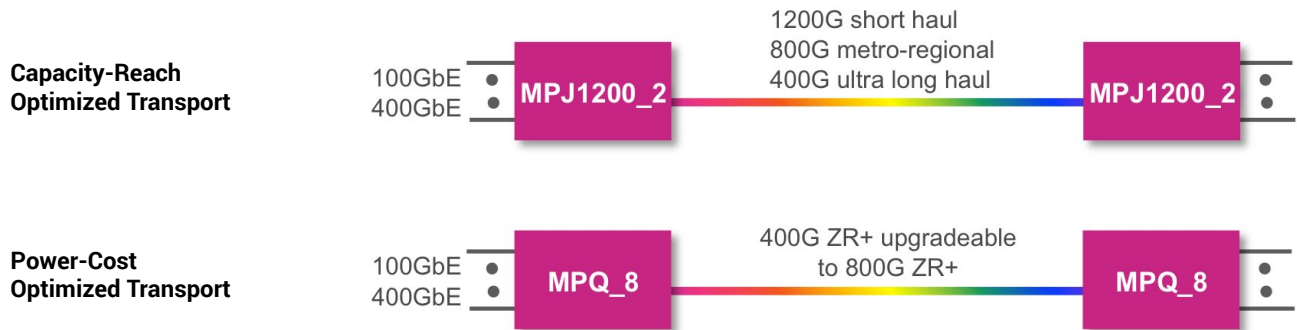
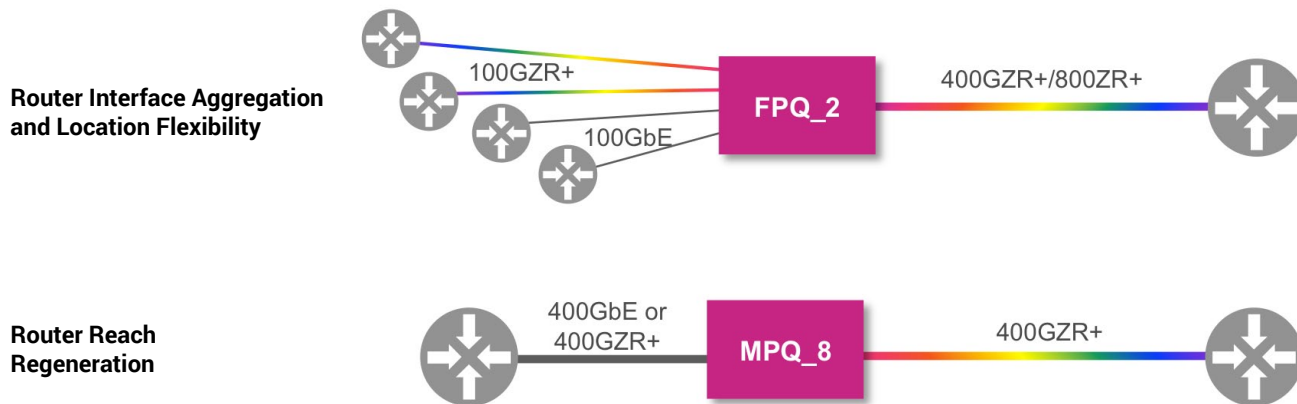| **Ultra High Density** up to 25.6T in 2RU	**Ultra Low Power** less than 0.07W/G	**Programmable** line rates up to 1.2T	**Advanced Operations** with optional disaggregated control

Typical Apollo 9408 Configurations

Traditional bookended optical transport

Capacity-Reach Optimized Transport

100GbE
400GbE — **MPJ1200_2** — 1200G short haul / 800G metro-regional / 400G ultra long haul — **MPJ1200_2**

Power-Cost Optimized Transport

100GbE
400GbE — **MPQ_8** — 400G ZR+ upgradeable to 800G ZR+ — **MPQ_8**

Complementary with IPoDWDM

Router Interface Aggregation and Location Flexibility

100GZR+ / 100GbE — **FPQ_2** — 400GZR+/800ZR+

Router Reach Regeneration

400GbE or 400GZR+ — **MPQ_8** — 400GZR+

ribbon

Technical Specifications

(For more details on the sleds, see their data sheets)

Spectrum	C-band, L-band; Flexible grid with 12.5GHz granularity, fixed grid 50GHz/100GHz
Capacity	8 single slot or 4 double slot sleds, mixing allowed
MPJ1200_2 sled: Capacity-Reach Optimized 400G to 1.2T Muxponders	Two independent muxponders, each supporting: • A 400G to 1.2T line based on 5nm-140Gbaud CIM 8 pluggable transceivers featuring continuous baud rate and modulation controls • Any mix of 100GbE, 400GbE, and 800GbE clients to the line capacity, gray or ZR+
MPQ_8 sled: Power-Cost Optimized 400G/800G ZR+ Muxponders	Eight independent muxponders, each supporting: • A 400G ZR+ or 800G ZR+ line based on QSFP-DD-DCO 0dBM+ pluggable transceivers; Open ZR+ and OpenROADM MSA compliant • Any mix of 100GbE, 400GbE, and 800GbE clients to the line capacity, gray or ZR+
FPQ_2: Power-Cost Optimized 400G/800G ZR+ Muxponders with LR4 Support	Dual 400G or single 800G muxponder, with: • Two 400G ZR+ lines, or a single 800G ZR+ line, based on QSFP-DD-DCO 0dBM+ pluggable transceivers; Open ZR+ and OpenROADM MSA compliant; Y-protection • Any mix of 100G and 400G clients to the line capacity, including all 100GbE variants (e.g. LR4, ER4F, ZR4), 100ZR, and 400GbE gray or ZR+
GPQ_2: Power-Cost Optimized 400G/800G ZR+ Muxponders with LR4 & OTU4 Support	Dual 800G muxponders supporting: • A 400G ZR+ or 800G ZR+ line, based on QSFP-DD-DCO 0dBM+ pluggable transceivers; Open ZR+ and OpenROADM MSA compliant; Y-protection mode • Any mix of 100G and 400G clients to the line capacity, including all 100GbE variants (e.g. LR4, ER4F, ZR4), 100ZR, and OTU4, and 400GbE gray or ZR+
Physical	• 600 x 440 x 88.4 mm • Front to back airflow • 0°C - 45°C • All common modules field replaceable
Power	• Max 3200W 90VAC-240VAC redundant PSU • Max 3300W 40.5VDC-72VDC redundant PSU
Operations	• SNMP, ZTP, CLI • Auto discovery • gNMI telemetry • Integrated performance monitoring
Security	• Syslog, Syslog-ng • RADIUS, TACACS+, Kerberos • TLS 1.3, SSH, SNMPv3
Controller	6 ports (1 console, 4 RJ45, 1 USB-C)
Management	• Muse Multilayer Automation Platform • OpenConfig and OpenROADM APIs

Specifications subject to change without notice

Contact Us   Contact us to find out how Apollo can build powerful and flexible optical networks

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