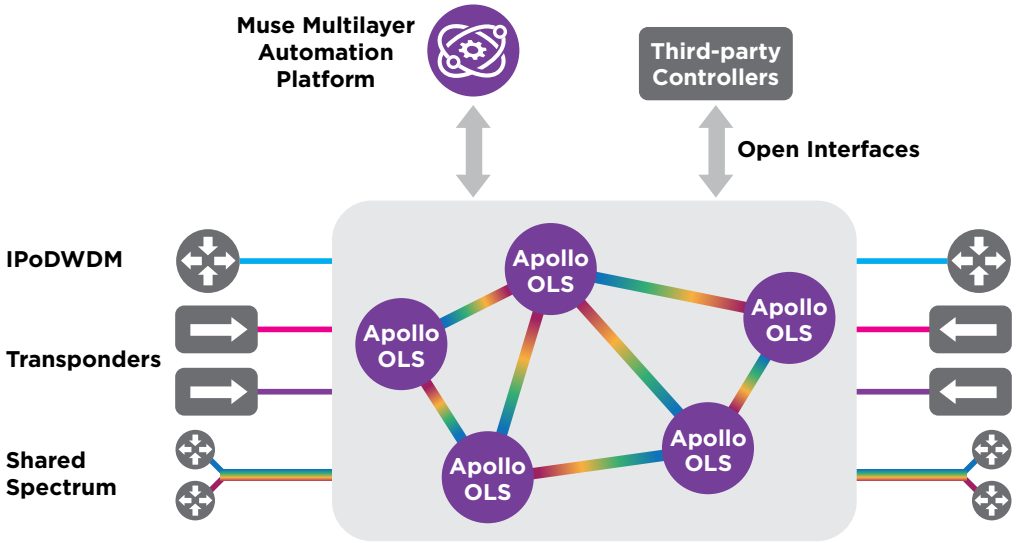
Apollo 9458

High Density Open Optical Line System

Apollo 9458 is a next-generation, high-density optical line system (OLS) platform that supports two ROADM degrees per RU. Designed to meet the needs of large network operators, it can be controlled via standard APIs, providing efficient disaggregated OLS functionality. The Apollo 9458 is exceptionally modular and can be configured with an array of photonic cards to deliver a powerful array of value-added capabilities, including:

- Transport and routing of alien wavelengths originating from routers, switches, or transponders
- Shared spectrum, including spectral pipes and virtual optical networks
- Integrated optical power monitoring
- OTDR fiber health management
- WSON restoration

Apollo 9458 High Density OLS



Apollo 9458 Initial Photonic Cards

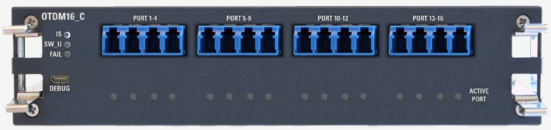
IR20_C 20 Degree ROADM

- 20 degrees C-band route-and-select ROADM module based on twin 2x21 WSS
- Single 9458 slot
- Flexible and fixed grid
- Integrated OCM that measures all add ports
- Pluggable CFP2 pre-amp
- Integrated high power 23dBm booster plus VOA
- Integrated OSC and OTDR filters
- WSS internal loopback
- Integrated connectivity verification (CV) module
- Super channel support and pluggable noise loading port for submarine applications
- Works with passive Apollo MS4H shuffler for reliable high-density multi-degree interconnections

CDC16x8_CL Add/Drop Collector

- Colorless-Directionless-Contentionless add/drop collector module for use with 9458 ROADM modules
- Single 9458 slot
- C + L band
- Supports 16 ROADM degree ports and 8 add/drop ports
- Based on an economical multicast switch (MCS) with no need for an external EDFA array

OTDM16_C OTDR



- Optical Time Domain Reflectometer (OTDR) module to test the characteristics of optical fibers
- Single 9458 slot
- Uses a 1 x 16 optical switch to rotate testing for up to sixteen fibers
- Uses a 1610nm laser (outside the C-band) for in-service testing
- Works with Muse Multilayer Automation Platform for manual, scheduled, and automatic testing, plus comparisons against historical records to identify degradation trends

Major Technical Specifications

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
Initial Line Cards	• 20 Degree C band ROADM module (IR20_C) • 16 x 8 C+L Add/Drop Collector module (CDC16x8_CL) • C-band 16-degrees OTDR module (OTDM16_C)
Roadmap Line Cards	• 32 degree C band ROADM module • 32 degree C+L band ROADM module • C+L band 16-degrees OTDR module
Physical	• Fits 19", 23", or ETSI 600mm racks, with 174.7mm height (4RU), 482.6mm width, and 510mm depth • Front to back cooling using multiple redundant fan units • 0°C - 45°C • All common modules field replaceable
Power	• Two field-replaceable AC (90 to 224 VAC) or DC (-40 to -72 VDC) power supply modules • Typical power consumption for a fully populated platform 1.3Kw • Hardware ready to support HVDC power input up to 400VDC without an external converter (future)
Operations	• SNMP, ZTP, CLI • Auto discovery • gNMI telemetry • Integrated performance monitoring
Security	• Syslog, Syslog-ng • RADIUS, TACACS+, Kerberos • TLS 1.3, SSH, SNMPv3 • Secure boot with complete chain of trust based on built-in UBOOT • RSA signature and authentication mechanisms (3072-bit minimum)
Controller	• Dual redundant controller modules; field replaceable, non-traffic affecting • Multi-shelf management • Supports both IPv4 and IPv6 DCN • 5 ports (1 console, 3 RJ45, 1 USB-C) • 36-pin SCSI for alarms
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