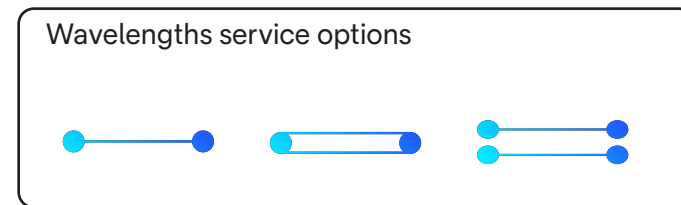
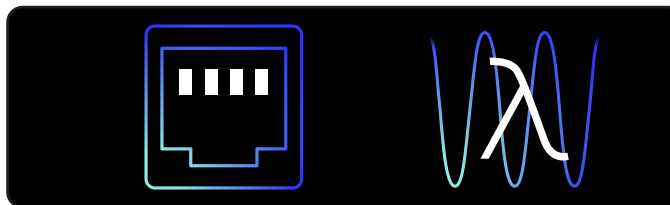
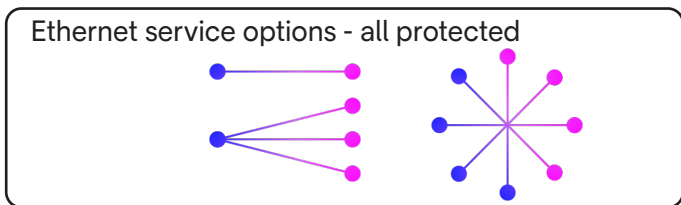


Ethernet vs Wavelengths at the glance

Two widely established Arelion products, but what are the differences?



Product characteristics	Ethernet	Wavelengths
Routing	Over switched MPLS network with committed bandwidth	Dedicated fibre
Protection	Protected as standard on-net – Layer 2 service dynamically routed to avoid any network or fibre failures	Unprotected as standard – single fibre route Protected and dual-link available
Topology	EVPL: point-to-point/hub & spoke ELAN: any-to-any	Point-to-point
Port interface / Service presentation	100/1000BaseT, 1000Base SX/LX/EX, 10GBase LR/ER, 100GBase LR4/ER4/CWDM4	1000BaseLX/LH/ZX, 10GBaseLR/ER, 100GBaseLR4, 100GBaseLR4/ ER4, 400GBaseFR4
Bandwidth speeds	10Mbps to 40Gbps (bandwidth increments available)	1Gbps, 10Gbps, 100Gbps, 400Gbps
Throughput	Based on frame size	Full
Latency	Predictable within limits – available via Portal	Predictable
Frame loss	< 0.1%	n/a
Rerouting / specific routing	150ms including link loss propagation* Fixed path on primary route / on request	n/a on unprotected Wave Sub 50ms for protected Wave / on request
Availability	99.999% backbone, 99.99% PoP-to-PoP and 99.5%** end-to-end	99.4% unprotected, 99.99% protected, 99.99% dual-link
Transparency	On-request, or with NID***	Full
Jumbo frames support	9100 MTU on-net and off-net based on supplier capabilities	9600 MTU on-net
Access tail (off-net)	450 certified local partners; 180+ supplier ENNs	Dark fiber/Wavelengths
Additional features	Fast delivery – ports available on-net Managed NID incl Service Performance via Portal, MSOP, 3 x CoS levels	Client-side monitoring
Use-cases	<ul style="list-style-type: none"> Secure business critical connectivity, DC-to-DC and corporate hubs Universal technology, easy to implement – maintain control of IP Where long fibre paths dramatically increase the likelihood of outages and performance issues – protected EVPL offers peace of mind 	<ul style="list-style-type: none"> For customers who want to build and manage their own networks, possible to mix Wavelengths from several providers to design optimal resiliency High Bandwidth requirements Fully transparent and nailed down/defined network path

*Distance dependent – customer BFD timers should be set to 300/900 or 100/300

**99.5% end to end availability SLA for customers with Advanced managed NID (Network Interface Device) including NID and Access Tail

***Advanced NID Cisco NCS520 offers capability to configure in tunnelling mode as transparent service. MAC Sec transparency is supported with the NID and on-net (on request)