

# Customer FAQ

Ethernet

# Arelion Ethernet

## Frequently Asked Questions

### Where can Arelion deliver the service – in other words, where are Arelion’s Points of Presence (PoPs) located?

Arelion is a global network operator with:

- 350+ PoPs globally (and growing every year)
- Over 450 certified local access network partners around the world
- 180+ NNI agreements
- Live MPLS end points in 90+ countries

For more details, see: [Our Global Fiber Network, AS1299 | Arelion](#) and [Network News | Arelion](#)

### What speed / bandwidth options are available - min, max and increments?

Arelion offers a wide range of Ethernet bandwidth options, from 10Mbps up to 40Gbps, in granular increments of 10Mbps, 100Mbps, 1Gbps, and 10Gbps. These options come standard with a selection of optical and electrical interfaces for 1GE, 10GE, and 100GE.

Note: Even 100Gbps can be provided using 100GE and 400GE ports, following technical validation.

Ethernet Virtual Circuit (EVC) bandwidth options Mbps:

EVC bandwidth (Mbps) in increments	10	20	30	40	50	60	70	80	90
	100	200	300	400	500	600	700	800	900
	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
	10,000		20,000			30,000		40,000	

Port types (standard interfaces supported):

Port types			
Electrical RJ45	100/1000Base-T		
Optical 1G LC	1000Base-SX	1000Base-LX	1000Base-EX
Optical 10G LC	10GBase-LR	10GBase-ER	
Optical 100G LC	100GBase-LR4	100GBase-ER4	100GBase-CWDM4

### Does Arelion support jumbo frames and Layer 2 control protocol transparency, even in the last mile?

Arelion’s Ethernet solution supports jumbo frames up to 9100 bytes across our MPLS backbone network. Layer 2 control protocol transparency requirements are fully supported on Arelion’s network and include last mile access with our Advanced Ethernet option, where a Network Interface Device (NID) is installed at the customer site to terminate the service. We configure the NID in tunnelling mode, which enables Layer 2 control protocol transparency.

For our Basic Ethernet option, which does not include a NID device, Layer 2 control protocol transparency can be validated on an Individual Case Basis (ICB) for both on-net and last mile requirements.

Arelion has also introduced a very strict process for onboarding last mile third-party access providers. This means that all our supplier partners need to go through a rigorous certification process, although not all of them are able to provide last mile support for jumbo frames. However, if this is a customer requirement, Arelion will endeavour to source an appropriate supplier at the time of order.

### **What SLA availability guarantees does Arelion offer, with and without the last mile and a NID?**

Arelion's MPLS backbone offers built-in resilience and 99.999% backbone availability for any services running across it. Protecting customer traffic from network faults and fibre cuts provides additional peace of mind.

In addition, for the Ethernet services, we offer two levels of service availability:

- 99.99% PoP to PoP availability for our Basic Ethernet product where customers do not require managed network interface devices (NIDs). For the purpose of SLA measurement, the demarcation point of the service is the customer-facing port on the Arelion aggregation switch or router in Arelion's MPLS PoP – excluding any cross connects or 3rd party access tails
- For our Advanced Ethernet product with a network interface device, we offer 99.5% end-to-end availability. NIDs are usually located at a customer's premises and the service levels typically apply between these devices. For the purpose of SLA measurement, the service demarcation point is the LAN-side port on the NID, including any cross connects, 3rd party access tails and the device itself

### **What is the latency SLA on both primary and/or the protected paths?**

We have designed our core MPLS backbone network for low latency applications, and we offer latency SLA commitments for EVPL and ELAN Ethernet services in accordance with figures published on our portal. Arelion implemented Segment Routing and Flex-Algo based on low latency – check our blog [here](#) – meaning all Ethernet customers are configured in our network on low latency plane and will dynamically be routed on the lowest latency path available.

### **Is Arelion's Ethernet MEF certified?**

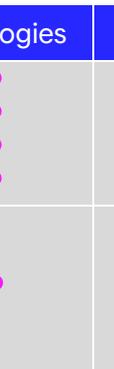
Arelion Ethernet services are MEF 3.0 certified: [MEF Services Certification Registry](#). We follow industry standards to make it easy for our customers to implement and deploy our suite of Ethernet products. Additionally, we offer design flexibility for different topologies.

Our EVPL service provides point-to-point or hub-and-spoke configuration options in line with MEF E-Line EPL and E-Line EVPL definitions in Port-Mode or VLAN-Mode configurations. The Arelion EVPL service with Port-Mode UNIs provides a compliant EPL service with partial L2CP transparency on certain routes. L2CP transparency may be requested as an option and can be configured when the Advanced Ethernet service, including a NID, has been ordered by a customer.

Our ELAN service provides any-to-any configuration in line with MEF ELAN EP-LAN and ELAN EVP-LAN definitions in Port-Mode or VLAN-Mode configurations.

For Wholesale customers who have an ENNI with Arelion, we offer E-Access services with handover on the ENNI UNI.

Table below summarizes the options available:

Ethernet topologies	Arelion products	MEF-defined services	Also known as
	EVPL	E-LINE – EPL E-LINE – EVPL	Point-to-point Hub-to-spoke
	ELAN	ELAN – EP-LAN ELAN – EVP-LAN	Any-to-any VPLS

### What is the difference between Ethernet over SDH and Ethernet over MPLS?

Ethernet services can be provided over circuit switched technologies such as SDH, or packet switched technologies like MPLS.

Circuit switched networks such as SDH require dedicated physical point-to-point connections – supporting EPL (Ethernet Private Line) point-to-point topology. These are more susceptible to fibre cuts and other network related failures.

MPLS is a protocol for efficient network traffic flow between multiple locations – it uses label switching for fast data forwarding and routing within a network. The main benefit of MPLS networks is reliability and the primary benefit of Ethernet is affordability and simplicity.

Ethernet over MPLS facilitates transparent Layer 2 Ethernet frame transport across an MPLS network, with services benefiting from the inherent reliability and resilience of the network underlay. Additional benefits include multiple topologies support, such as point-to-point, point-to-multipoint and any-to-any. In a point-to-point set-up, we can support EPL\* (Ethernet Private Line) when configured in Port-Mode as well as EVPL (Ethernet Virtual Private Line) when configured in VLAN-Mode. Arelion’s collective name for these service configurations is EVPL.

*\*EPL service with partial L2CP transparency on certain routes. When Advanced Ethernet is ordered, L2CP transparency can be achieved by configuring the NID device in tunnelling mode.*

### How fast can Arelion provide the solution?

Our on-net Ethernet EVPL and ELAN services can be delivered in as little as **three weeks**, including the physical connections (such as port or cross connects\*) required to deploy the initial service.

Once physical connections are in place, further logical services (including additional VLANs or Cloud Connect) can be provisioned in **seven calendar days**.

Where third party access has been requested together with the order, the lead time will vary in accordance with supplier lead times. This is generally in the range of **sixty to ninety calendar days**. Where delivery is impacted by way leaves or civils, it may take longer time.

*\*Cross Connect delivery lead time is dependent on access arrangements and LOA*

**Is Ethernet a protected service?**

Ethernet services delivered over Arelion's MPLS backbone network are inherently resilient by the very nature of the underlay network and as such are protected against network failures or fibre cuts. With multiple diverse physical routes between each Arelion PoP, we are committed to providing the best performance for our customers – a number of diverse routes between Singapore and Europe and across Atlantic demonstrate the robustness of our network.

**From a pricing perspective, is Arelion's Ethernet a competitive solution?**

Ethernet is one of the most affordable network technologies available – it is simple to operate, administer and maintain. Arelion serves customers in over 125 countries and with more than 180 third party ENNI agreements, so we are well positioned to offer competitive pricing almost anywhere.

Additionally, our MSOP (Multiple Services on One Port) proposition allows customers to configure multiple Arelion services on a single interconnected port. This maximizes the customer value of existing interconnection points and multiple products such as EVPL, Cloud Connect or IP can then be added without the need for new interconnects.

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