

# Technical specifications

## Ethernet VPN

### Ethernet Virtual Private Line | Ethernet Virtual Private LAN

Service type	E-Line (Ethernet Virtual Private Line), E-LAN (Ethernet Virtual Private LAN)	
EVC quality	Basic Plus	Premium
Available bandwidths (Mb/s)	(5, 10, 20) <sup>1</sup> , 50, 100, 200, 500, 900, 1000, 2000, 5000	
Throughput guarantee <sup>2</sup>	20%	99,9%
Demarcation at customer location	CPE or ODF	
VLAN transparent	Yes	
Frame Delay	Best effort	< 10 ms
Frame Delay Variation (Jitter)		< 5 ms
Frame Loss Ratio		< 0.1%
Supported protocols	All OSI layer 3 protocols	
	The most common OSI layer 2 protocols <sup>3</sup>	
Tunneled traffic	Tunneled OSI layer 2 control frames will not be accepted on the UNI	
Max. # MAC addresses	E-Line: unrestricted; E-LAN: 5000 per UNI	
MTU size (standard)	1596 bytes	
MTU size (jumbo frames, optional)	9000 bytes	
Priority (IEEE802.1p)	Customer P-bits will not be changed and will be transmitted without the value affecting the prioritization of the traffic in the Eurofiber Network.	
Ethertype	0x8100	
Maximum Broadcast / Multicast traffic	5% of the EVC bandwidth	

### Ethernet Private Line

Service type	E-Line (Ethernet Private Line)	
Available bandwidths (Mb/s)	(5, 10, 20) <sup>1</sup> , 50, 100, 200, 500, 900, 1000, 2000, 5000	
Throughput guarantee	99.9%	
Demarcation at customer location	ODF	
VLAN transparent	Yes	
Frame Delay	< 10ms	
Frame Delay Variation (Jitter)	< 5ms	
Frame Loss Ratio	< 0.1%	
Supported protocols	All OSI layer 2 and layer 3 protocols	
Max. # MAC addresses	Unrestricted	
MTU size (standard)	1596 bytes	
MTU size (jumbo frames, optional)	9000 bytes	
Ethertype	0x8100	
Maximum Broadcast / Multicast traffic	100% of the EVC bandwidth	

<sup>1</sup> Bandwidths less than 50 Mb/s only as additional EVC at the same location

<sup>2</sup> Throughput guarantee includes frame header

<sup>3</sup> CDP, STP, VTP and LACP are the protocols currently supported. The 802.1ea (mac-sec) protocol is not supported. An up-to-date list of tested OSI layer 2 protocols is available on request. An untested protocol can be tested for transparency on request.

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### Physical interfaces

Demarcation	Interface   connector   cable type	Reach	1 Gb/s	10 Gb/s	Customer location	Customer	NNI locatie
Ethernet PoP	NNI location	90 meters	Standard	n/a	√		
CPE 1G	1000Base-SX LC   Multi Mode	550 meters	Optional	n/a	√		
CPE 1G	1000Base-LX LC   Single Mode	10 km	Optional	n/a	√		
CPE 10G	110/100/1000Base-T RJ-45   UTP	90 meters	Standard	n/a	√		
CPE 10G	1000Base-SX LC   Multi Mode	550 meters	Optional	n/a	√		
CPE 10G	1000Base-LX LC   Single Mode	10 km	Optional	n/a	√		
CPE 10G	10GBASE-SR   LC Multi Mode	400 meters	n/a	√	√		
CPE 10G	10GBASE-LR   LC Single Mode	10 km	n/a	√	√		
E-POP 1G	1000Base-SX   LC Multi Mode	550 meters	Optional	n/a		√	√
E-POP 1G	1000Base-LX   LC Single Mode	10 km	Standard	n/a		√	√
E-POP 10G	10GBase-LR   LC Single Mode	10 km	n/a	√		√	√
ODF 1G	1000Base-LX/LH SC/APC   Single Mode	10 km	√	n/a	√		
ODF 1G	1000Base-EX SC/APC   Single Mode	40 km	√	n/a	√		
ODF 1G	1000BASE-ZX SC/APC   Single Mode	80 km	√	n/a	√		
ODF 10G	10GBASE-LR SC/APC   Single Mode	10 km	n/a	√	√		
ODF 10G	10GBASE-ER SC/APC   Single Mode	40 km	n/a	√	√		
ODF 10G	10GBASE-ZR SC/APC   Single Mode	80 km	n/a	√	√		

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