



Ethernet Private Line

- Built on a Carrier-Class Ethernet backbone
- Dedicated and guaranteed bandwidth
- Transparent Ethernet technology
- Guaranteed Quality of Service
- Highest Service Level Agreement on the market
- A future proof investment in bandwidths provided on fibre



Ethernet Private Line is a professional network connection delivered on fibre with active Gbit equipment, a simple replacement of fixed APL circuits, Frame Relay and similar older technologies as well as IP/MPLS based services.

Point-to-point links

Ethernet Private Line (EPL) is a pure Layer2 Ethernet link, operating simply as an 'extension cord' between separate LANs. An optional number of parallel, independent links can be established.

Speeds

Speeds from 2 Mbit/s to 1 Gbit/s over electrical or optical interfaces are available. When networks have been set up, it is quick and easy to upgrade should more bandwidth be required.

Typical uses

- Linking-up networks, i.e. when a head office or a head-end needs to be connected to one or several remote premises via point-to-point links
- Server consolidation – move servers to locations with optimal conditions for O&M
- Simplification of networks – for example, it is possible to keep to one router with several ports instead of one router placed locally in each location (See figure 2).
- Duplication of IT-centres – Ethernet Private Line can be used in network solutions with duplicated IT-centres.

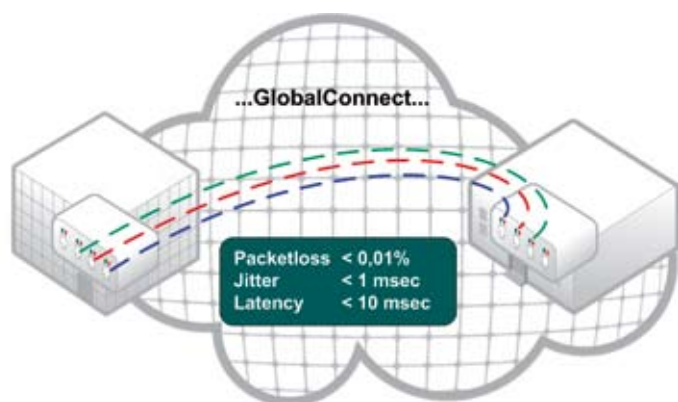


Figure 1: Ethernet Private Line (EPL) has as a standard a QoS level amongst the best in the market.

100 % transparency

The link is transparent for all types of Ethernet frames and it is possible to use multilevel VLAN stacking as well as supplier specific protocols over an Ethernet Private Line. In this way the whole network can be operated exactly as if remote locations were just offices in the same building.

Quality of Service

GlobalConnect guarantees full bandwidth between the locations since the network is never overbooked. This ensures that an EPL as a standard conforms to the highest attainable quality on the market as regards delay, jitter and packet loss. All forms of traffic may be sent through one Ethernet Private Line, or separate EPLs may be set-up for various applications, e.g. IP telephony and data traffic.

No need for external IP co-ordination

As Ethernet Private Line is completely transparent for IP there is no need to coordinate IP addresses or other related parameters. This simplifies procedures, saves time and makes it possible to simplify the total IP configuration in the network. If Internet access is required, GlobalConnect is happy to offer Internet access through the products IP Access or IP Transit.

Redundancy and Service Level Agreement

If connections need to be protected against cable breakage or equipment breakdown, they are available with redundant links. Two separate paths are excavated to the location and one or two switches are installed at the location, according to requirements. The connections are then supplied with 100% backbone redundancy – from the beginning to the end. The accompanying Service Level Agreement ensures that the solution has the market's best uptime guarantee of 99.7 % for unprotected links and 99.99% for protected links.

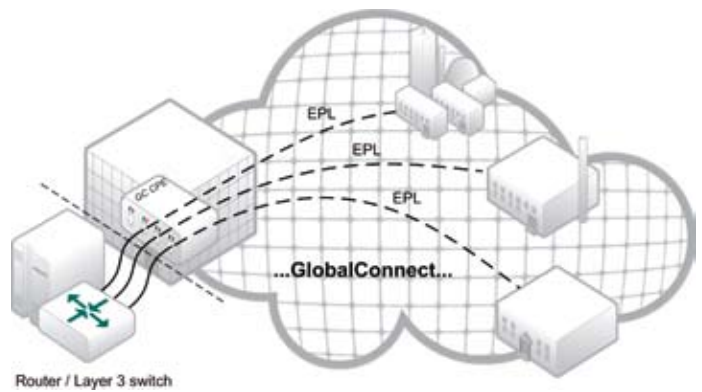


Figure 2: By using EPLs it is possible to centralise routers and simplify the network design. As the link is completely transparent for IP and other protocols it is optional whether the routers should be placed centrally or locally. Routers connected to EPLs do not need optical interfaces, only ordinary RJ-45 sockets.

Technical data:

Product variant	Ethernet on fibre	Ethernet on copper
Customer interface	10/100/1000BaseT 1000BaseLX	10/100BaseT
Connector	RJ 45 or LC/PC	RJ45
Bandwidths	10 - 100Mbit/s in steps of 10 Mbit/s 100Mbit/s - 1Gbit/s in steps of 100 Mbit/s	2.3 , 4.6, 6.9 or 9.2 Mbit/s
Latency	< 10 ms	6 ms
Jitter	< 1ms	< 1 ms
Packet Loss	< 0,01 %	< 0,01 %
Max. number of MAC-addresses	10,000	10,000
Protection available	Yes	No
Fail-over time when protected	200 ms	N/A
Uptime per year	99.99% / 99.7%	99.7 %
Max. packet size	up to 2000 Bytes	1526 Bytes
802.1Q VLAN transparency	Yes	Yes
Stacked VLAN transparency	Yes	No
BPDU transparenens	Yes	Yes
802.1p transparency	Yes	Yes

