Redundancy

- **When opting for redundancy, the full capacity of the connection is backed up**
- **Diverse routing along geographically distant routes**
- **Choice between Fibre, Wireless or Copper as access medium**
- **Optional double data capacity during normal operation**
- **Optional sub 50 ms failover switching**

Redundancy in the network is often a necessity when business critical IT applications or similar is distributed over geographically distant locations. Values far beyond the costs of network may be at stake. GlobalConnect offers redundancy solutions which provides maximum contingency against network break downs.

The full capacity is preserved

At GlobalConnect's, we do not distinguish between primary- and backup connections. A redundant solution from GlobalConnect ensures that the full capacity is always available at the same high traffic quality, including when traffic is re-routed due to a network breach.

Route Diversity

When GlobalConnect establish redundancy, we ensure that the two connections do not share a single point along the network routes. Thereby you achieve maximum contingency against network break downs. It is important that GlobalConnect provides both connections, as this is the only way we can ensure that the two routes are fully separated.

Combined fibre- and wireless access

As an alternative to diversely routed fibre connections all the way into your buildings, you may opt for one fibre connection and one wireless connection. The wireless connection is of the point-to-point type, and delivers the same high quality as a fibre based connection (Wireless Pro Ethernet).

Solution for redundant IT centres

You may establish two redundant IT centres connected via redundant high-capacity connections, optionally by using housing facility pairs from GlobalConnect. We may add a network solution that automatically reroutes traffic from all of your other locations, in case one IT centre becomes unavailable. See also EPL Service Access – Dual-Headend.

Partial Diversity

As an alternative to two completely separate fibre trenches, it is also an option to let part of the access stretch be shared in one fibre duct. You may consider this if you believe that the risk of digging work along this stretch is not great. It is also possible to use copper or 3.part fiber as an alternative circuit; these solutions are called Partial Diversity, as Global Connect on an agreed stretch cannot guarantee full separation.

GlobalConnect offers four different standard types of redundancy, as shown in Figure 1 to 4:
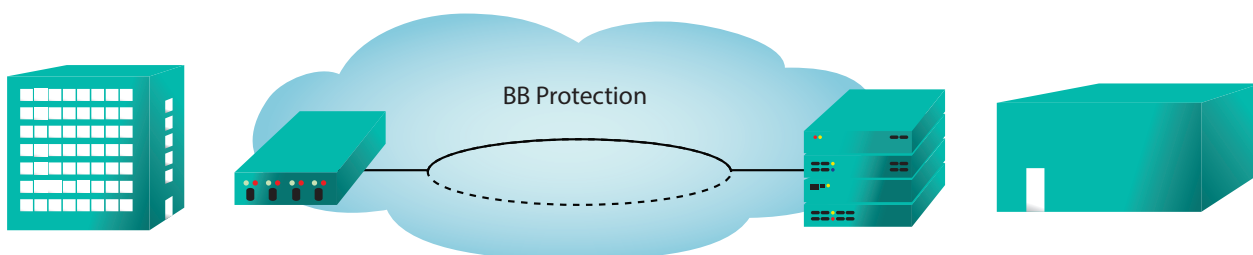

Figure 1: Backbone Protection: Redundancy on the backbone part of a stretch. The network automatically re-routes the connection in case of a network breach on the stretch covered by Backbone Protection.
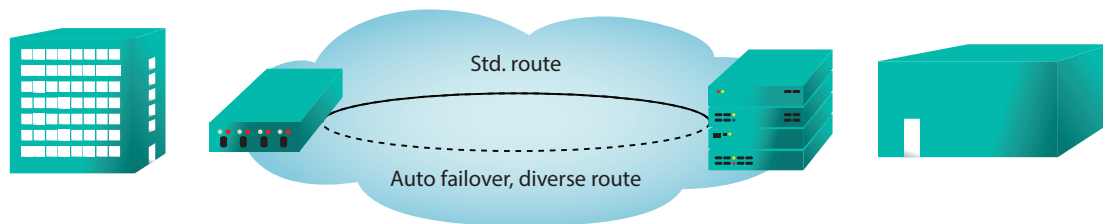
Figure 2: Auto failover: Diverse routing end-to-end, with single equipment at each end. The equipment automatically re-routes the connection in case of a network breach. This is also available in a sub 50 ms failover switching variant, named High Speed Auto-failover.
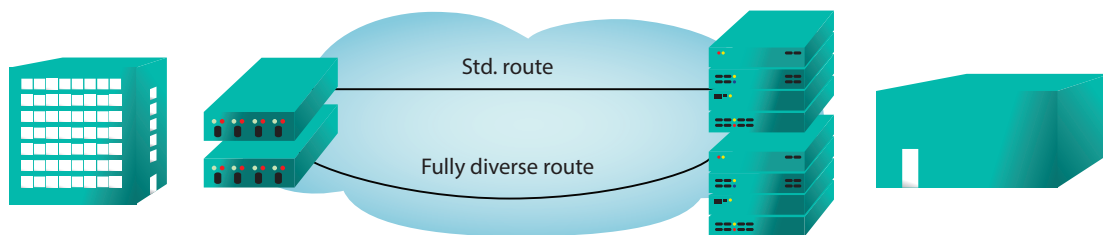
Figure 3: Full Diversity: Diverse routing end-to-end, with double equipment at each end. During normal operation, two times the nominal speed is available.
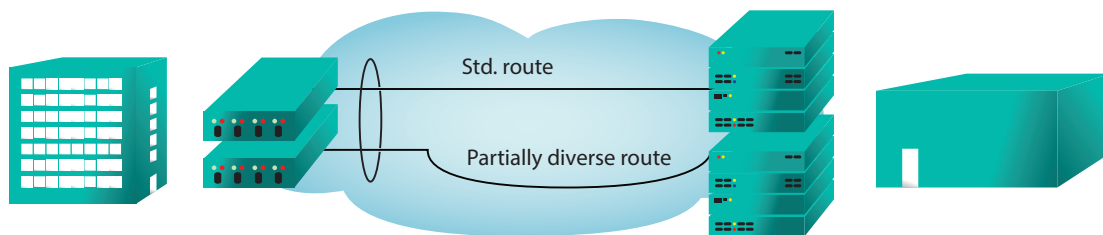
Figure 4: Partial Diversity: As Full Diversity where parts of the circuit is not routed with full geographic separation. During normal operation, two times the ordered speed is available.

	Types of redundancy			
	Backbone Diversity	**Auto-failover And High Speed Auto-failover**	**Full Diversity**	**Partial Diversity**
Availability according to Service Level Agreement	99.9%	99.99%	99.99%	99.9%
Full Route Diversity *)	No	Yes	Yes	No
Effective speed during normal operations	100%	100%	200% (2 circuits of 100%)	200% (2 circuits of 100%)
Effective speed when re-routing due to network breaches	100%	100%	100%	100%
Redundant equipment at termination points	No	No	Yes	Yes
Number of ports at each termination	One	One	Two	Two
Automatic re-routing in case of breaches	Yes	Yes	No, your equipment must distribute load between the two connections	No, your equipment must distribute load between the two connections
Network services covered	Carrier Ethernet	Carrier Ethernet SDH	Carrier Ethernet Fibre Channel SDH Fiber	Carrier Ethernet Fibre Channel SDH Fiber

*) Geographically diverse routing end-to-end.

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