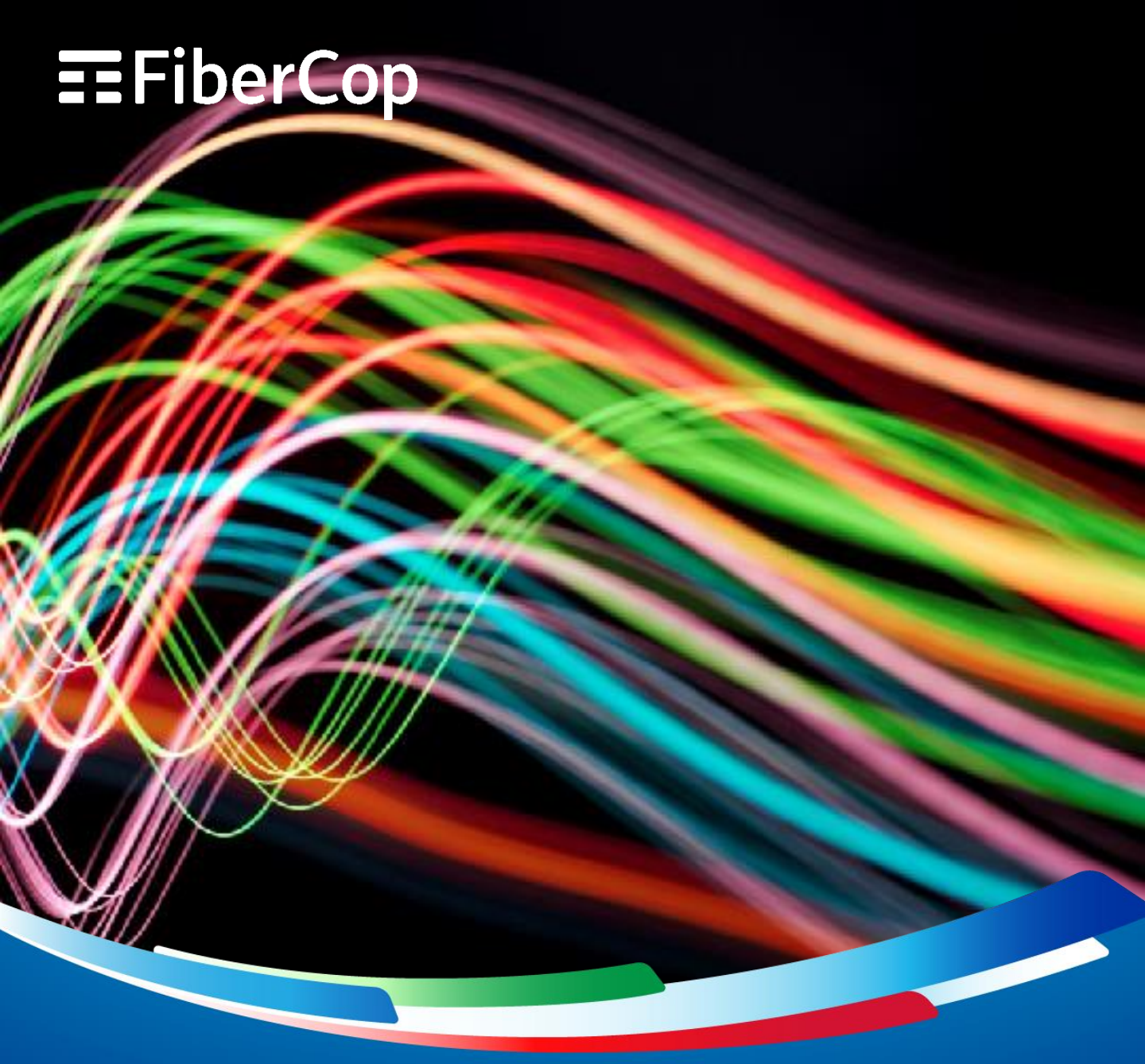
FiberCop



GIGAWAVE

High-speed and flexibility for your end customer

Gigawave

It is a dedicated optical fibre connectivity solution with up to 10Gbit/sec speeds based on DWDM technology. Available throughout the country. In addition to the guaranteed bandwidth, which can be managed independently from a specific, feature-rich web console, various profiles with different degrees of redundancy are available to meet all requirements. It is possible to have management with delivery kits to collect up to 10 connections at 1 GBE.

Service features

Available interfaces	Fault recovery times	Coverage
• 1 GBE (1 gbit/sec) • 10 GBE (speeds from 1 Gbit/sec up to 10 Gbit/sec, in 1 Giga steps) *nominal bit rate, a function of packet size.*	For protected connections **5 h** For unprotected connections **8 h**	Possible to provide the service wherever the two endpoints of the connection are located within the country

Who is it for?

The service is for authorised operators of fixed, mobile or wireless networks wishing to set up very high-capacity connections for their end customers (to provide IP or other services).

GigaWave service description

GigaWave is a **dedicated optical fibre connectivity** solution with speeds from **1Gbit/s** up to **10Gbit/sec**, based on DWDM and Ethernet technology.
Operators typically use the service to connect their PoPs to their Business Customers' premises or make connections between their Customer's premises.
It is possible to have management with delivery kits to collect up to 10 connections at 1 GBE.

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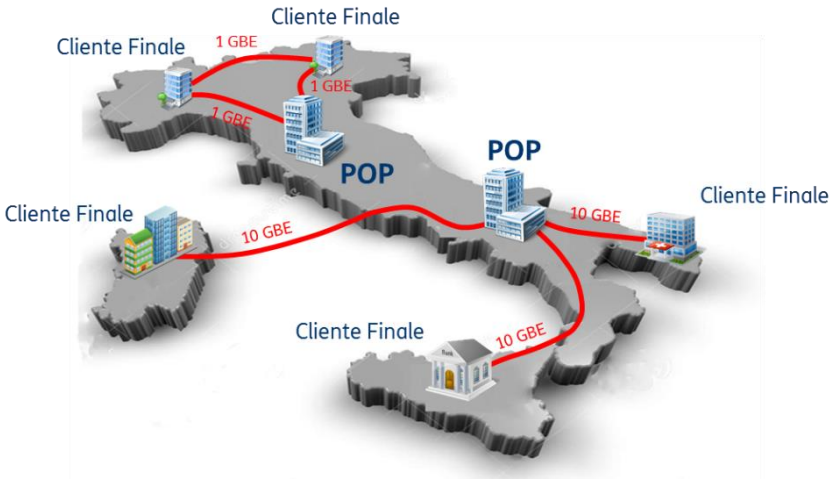

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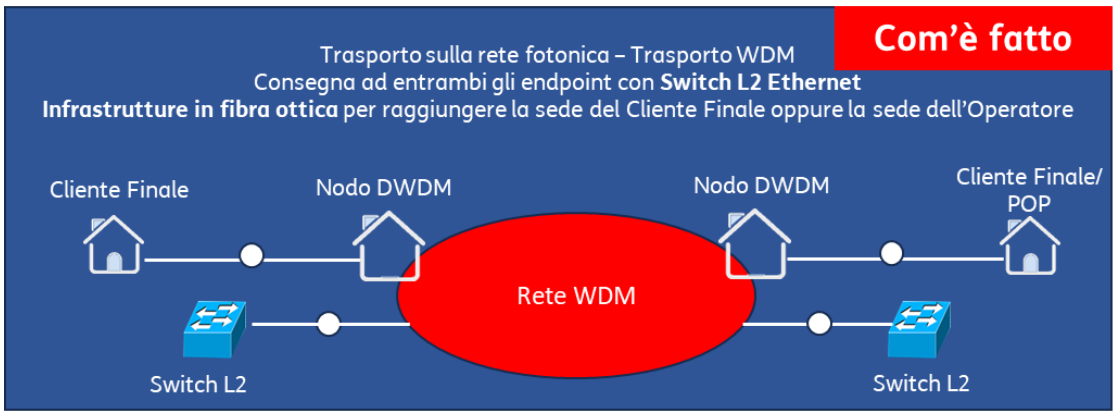
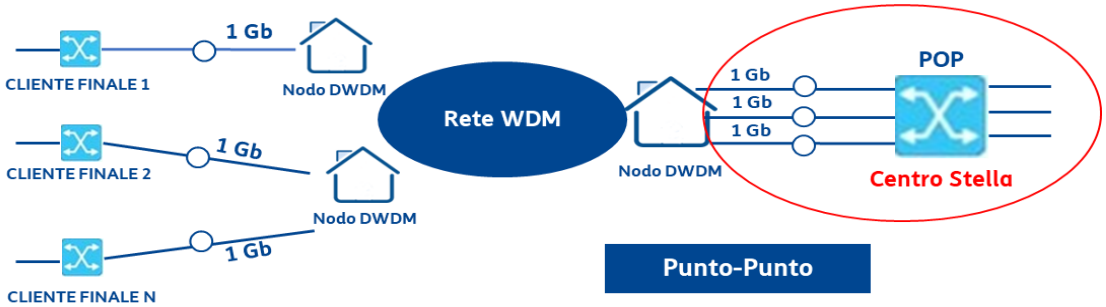
The endpoints of the connections may be located within a FiberCop exchange or outside, without any particular constraints, provided that the location of the endpoints is available to the operators and complies with particular technical requirements (specified in the contract).
Connections can be metropolitan or long distance. A dedicated optical fibre infrastructure makes it possible to reach the Operator's premises (if not colocated in the FiberCop exchange) and the premises of its end customers, and the presence of L2 Ethernet switches at the edge of the connection enables many functions.



Connection architectures can be:

1) **Point-to-Point** (One dedicated l2 delivery device at both endpoints or hub-and-spoke architecture);



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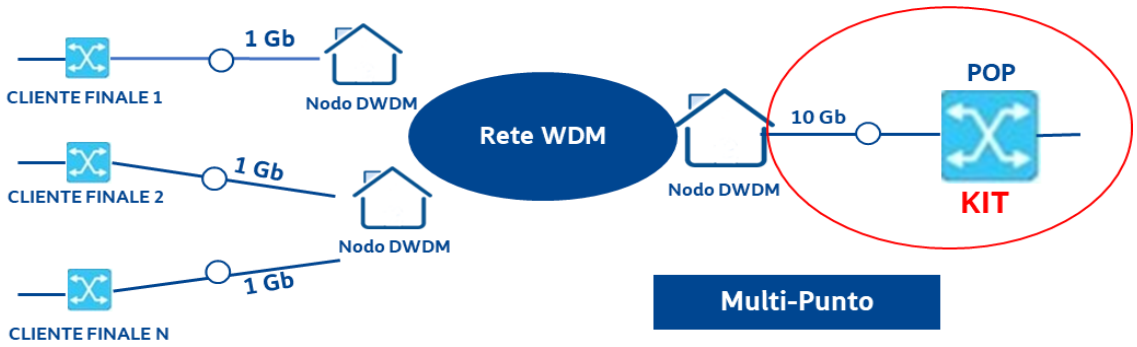
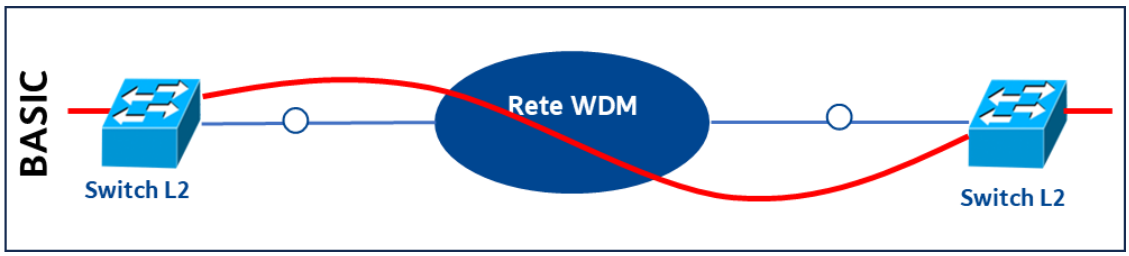
Point-Multipoint (Single device at the Operator's headquarters, connected with a single pair of fiber to the transport network, which collects up to 10 connections at 1 GBE, with UNI or NNI delivery; in this case it is necessary to first create a collection that exists in the basic version and in the Plus version, redundant in terms of fiber path):

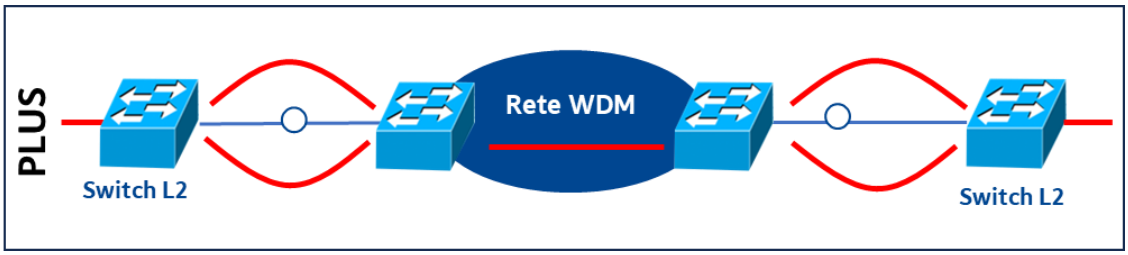


Three service profiles are available:

- **Basic** single connection with a single interface that is exposed to the customer (there is a variant with restoration or protection in the National Transmission Network component only):



- **Plus** single connection where access-only protection is implemented:



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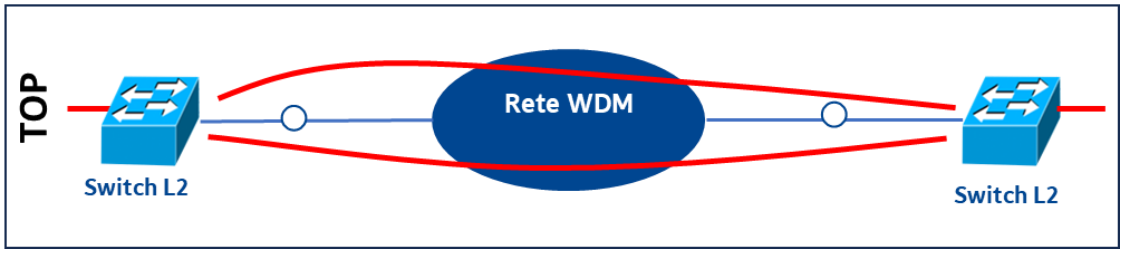
- **Top** Single connection where E2E protection is realised, with two separate ways along the entire path of the connection:



The interfaces and speeds available for connections are as follows:

Interfacce	Velocità
1 GBE	1 Gbit/s
10 GBE	1 Gbit/s
10 GBE	2 Gbit/s
10 GBE	3 Gbit/s
10 GBE	4 Gbit/s
10 GBE	5 Gbit/s

Interfacce	Velocità
10 GBE	6 Gbit/s
10 GBE	7 Gbit/s
10 GBE	8 Gbit/s
10 GBE	9 Gbit/s
10 GBE	10 Gbit/s

Thanks to the L2 switches and a web console **WNAM**, with the 10GBE interface it is possible to make temporary changes (1 week, one month, three months) to the speed profiles independently. However, permanent bandwidth changes are also possible, realised by acting via SW on the L2 switches.

The WNAM web console also offers other features regarding the E2E connection:

- Monitoring of quality parameters
- Inventory
- Connectivity test

	National/Hybrid	Regional	Tail
Max latenza media (msec)	18	8	5
Max Jitter (msec)	3	3	3
Max Frame Loss Ratio	0,005%	0,005%	0,005%

GEA MEF-like

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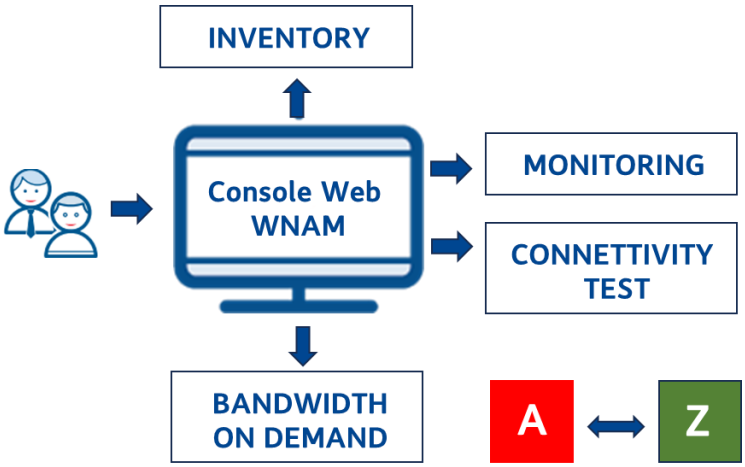

Normally, a prior feasibility study (FS) is required to formulate an offer, except in the case of 1 GBE and 10 GBE single way connections, unless, as both endpoints are on net, an offer can be made without a prior FS (direct sale).
The typical duration of connections is **three years**, but shorter (one or two years) or longer (five years) durations are also possible.
The price structure includes a **one-off contribution (UT)** and a **monthly fee for** each connection.
The timing of implementation varies depending on the particular systemic chain.
The recovery SLAs are differentiated according to the type of connection.

Prices

Prices vary on a case-by-case basis depending on the distance of the connections, the location of the endpoints, and the complexity of the network architectures traversed.
For each connection, the price is represented by a contribution and a monthly fee

Regulatory Conditions

The services described above are aimed exclusively at:

- Operators with an individual license or a general authorisation for telephone networks and services for public use which existed before the entry into force of Italian Legislative Decree no. 259 of 1 August 2003, containing the 'Electronic Communications Code' (referred to in Article 38 of the Code), as last amended by Italian Legislative Decree no. 70 of 28 May 2012.
- Companies with a general authorisation for electronic communications networks and services pursuant to Art. 25 of the above-mentioned Italian Legislative Decree no. 259/2003, as last amended by Italian Legislative Decree no. 70 of 28 May 2012.

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