FiberCop

Terminating Circuits
with fibre-optic access

An exclusive connection with your customer

Terminating Circuits with fibre-optic access

Terminating Circuits are the best means of offering your business customers dedicated capacity connections, with multiple speeds, profiles/configurations and high-quality performance, thanks to the **elevated reliability of the network**.

Service features

Maximum 'BASIC' activation time for Ethernet Terminating Circuits over fibre	Maximum 'BASIC' recovery time for Ethernet Terminating Circuits over fibre (on the basis of configuration)
- 60 calendar days (in 100% of cases) - 40 calendar days (in 95% of cases)	- from 5 solar hours up to 8 solar hours

Who is it for?

The service is intended for Operators whose internal communications needs are characterised by **high volumes of traffic** exchanged between their POPs (Point of Presence) and their customers' offices (typically Companies, Public Administrations, Banks and Financial Institutions), whose commercial importance requires a **high 'overall' quality of service**.

Preliminary services

If you need to install your devices at a FiberCop location, you must first request the Colocation service. If you intend to collect Terminating circuits on a Kit outside a FiberCop office, you can request the supply of the geographical connection between the FiberCop Delivery Point and your PoP by subscribing in advance to the offer under which this connection is made (e.g. Interconnection Flows or GIGANET). If you intend to collect Terminating Ethernet circuits on fibre optics on a Bitstream Multiservice Kit, the Bitstream Ethernet contract must be signed in advance:

Colocation, Giganet, Interconnection flows, Bitstream.

Description

The service is the best means of offering your business customers **dedicated capacity** connections, with multiple speeds, profiles/configurations and high-quality performance, thanks to the **elevated reliability of the network**.
The service is intended for Operators whose internal communications needs are characterised by high volumes of traffic exchanged between their PoPs (Point of Presence) and their customers' offices (typically Companies, Public Administrations, Banks and Financial Institutions), whose commercial importance requires a **high 'overall' quality of service**.

Terminating Circuits with fibre-optic access

Two different types of Terminating Circuits with fibre-optic access are available, with different technical characteristics in terms of service delivery mode and corresponding technical performance, geographical coverage, points of delivery to Operators and delivery solutions:

1. Fibre optic *Terminating* circuits with transport over SDH network
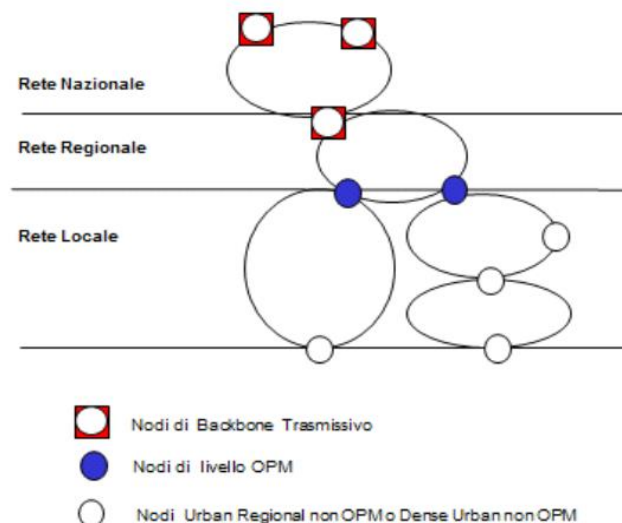2. Ethernet *Terminating* circuits over fibre optics:

   1. **Fibre optic Terminating circuits with transport over SDH network:** dedicated capacity circuits between a Network Terminal Point at an end customer's premises and a Service Delivery Point at a Regional Transmission Node (RTN) of the network, limited to cases where the customer's premises and the Transmission Node are both located in the same Regional Territorial Basin (RTB).

      FiberCop 's transmission network is organised on three hierarchical levels:
      • National Network: which provides full connectivity between nodes throughout the country;
      • Regional Network: which achieves full connectivity between nodes at the regional level without affecting the upper level of the network;
      • Local Network: which is the collection level of the flows travelling from the peripheral nodes to the Regional Network nodes.
      The architecture of FiberCop 's transmission network is shown below:

Figure representing an Ethernet Macro Area:

Terminating Circuits with fibre-optic access

The system chain for fibre optic *terminating* circuits with transport over the SDH network consists of:
•terminal equipment at the user's premises;
• fibre-optic access line to the first exchange of the FiberCop transmission network;
•transport service on FiberCop's transmission network to the RTN node;
•delivery on physical or electronic distributor

The offer of fibre-optic *terminating* circuits with transport over the SDH network includes connections with speeds between 10 Mbit/s and 2.5 Gbit/s.
The collection of circuits in the node of the FiberCop Delivery Point takes place on an Interconnection Flow or on an Internal Switchboard Junction (in case the Operator is collocated in such node).

2. Ethernet Terminating Circuits over Fibre Optics: connections between a Network Termination Point at the premises of an end customer and a Delivery Point of the OPM network (authorised to collect this type of circuits) to which the Network Termination Point's reference Line Stage is connected.

The reference network architecture is articulated as follows:

Access Level: consisting of the exchanges (**Line Stages**), which are in turn connected to the reference Delivery Points;

Aggregation Level: made up of the **Delivery Points** (DP) Ethernet-enabled to collect this type of circuit;

Macro Area: Delivery Points are grouped into **30 Macro Areas at national level**. Each Macro Area constitutes a separate Ethernet network; for the coverage of the whole of Italy at least one Kit is needed for each Macro Area.

A figure representing an Ethernet Macro Area follows below:
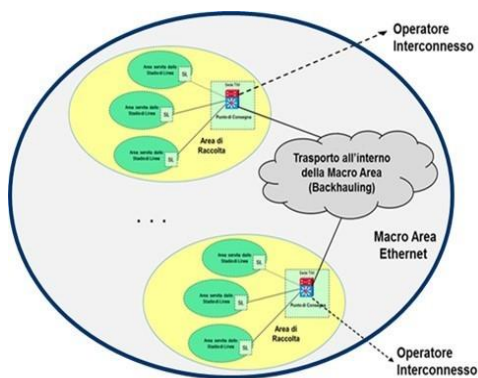
An **sVLAN** (VLAN service) with a speed of up to 1 Gbit/s is configured for each Ethernet *Terminating* Circuit over fibre optic cable, within which the customer's multiple cVLANs (customer VLANs) are transported. The sVLAN is available in the **'MonoCos' and 'MultiCoS'** profiles. For the purpose of traffic processing, the service provides three Class of Service (CoS) levels, identified by assigning the values **2, 3 and 5** to the **CoS** parameter.

Terminating Circuits with fibre-optic access

The elements of the **supply chain** for the **'single way'** configuration of an Ethernet *Terminating* Circuit over fibre are listed below:

- termination equipment at the end customer's premises;
- dedicated fibre-optic access route between the end customer's premises and the relevant stage of the certification line;
- Line stage: local exchange to which fibre optics connects the end customer's premises
- transport section in the junction network (created through the use of the new generation transmission network and/or fibre optics) between the line stage and the Ethernet DP, present if the location of the DP does not coincide with the location of the line stage;
- Delivery Point (DP) Ethernet: OPM node of the Ethernet network to which the end customer's line stage belongs;
- Collection Kit (located in the DP or at the Operator's PoP).

The service also includes '**Two-way**' and **'Two-way with dual equipment'** configurations.

The circuit can be delivered on a Kit 'dedicated' to the service (with collection within the Collection Area pertaining to the attestation DP of the Kit) or, alternatively, on a Multiservice Kit already used for the collection of Bitstream Ethernet services; in this case the circuits are delivered via a separate port from that used for Bitstream services, on which the overall bandwidth required for all the sVLANs delivered on a specific bandwidth aggregate **(CAR)** can be sized.

The traffic generated by the end customers in a macro collection area can be collected on the Multiservice Kit by means of the Backhauling service, which extends the circuit's sVLAN to a DP that is different from the Ethernet DP responsible for the line stage of the customer's premises but still belongs to the same Ethernet Macro Area.

What else should you know

If the collection of circuits takes place on a device installed in an Operator PoP outside a FiberCop site, the offer under which the geographical connection between the FiberCop Delivery Point and the PoP is made (e.g. **Interconnection Flows or GIGANET**) must be subscribed in advance.

If the circuits are collected on a device installed at a FiberCop site, the **Colocation** service must be requested in advance.

In the case of Ethernet *Terminating* Circuits on fibre optics collected on a Bitstream Multiservice Kit, the **Bitstream Ethernet** contract must be signed in advance.

Terminating Circuits with fibre-optic access

With reference to the AGCom provisions contained in resolution 333/20/CONS (see art. 6, paragraph 2), with effect from July 1, 2021 FiberCop has implemented the 'End of Sale' for certain types of connections, including Ethernet Terminating circuits with transport on SDH network. Activation orders for such connections are therefore no longer accepted (neither by filling in the forms nor in 'self ordering' mode).
 The Terminating circuits offer also includes connections with copper access. A description can be found in the relevant data sheet, available under **Access Services > Copper Access**.

Supply and maintenance

Thanks to the extensive coverage, the service is available throughout the country.
The delivery of the *Terminating* circuits with transport on SDH network takes place at the RTN nodes open to the service – the list of nodes is published as part of the Reference Offer in the Reference Offers section of this service – and is only permitted within the same Regional Territorial Basin (RTB).

The delivery of the Ethernet *Terminating* circuits on fibre takes place at the nodes of FiberCop OPM network.
Updated geographic coverage information is available in this service's '**Coverage**' section.
With regard to *Terminating* Ethernet circuits over fibre optics, a **class of saleability** is associated with each NGA-capable exchange, based on the availability of NGA infrastructure and the presence or absence of an OPM node in the exchange.

Specifically:
* exchanges coinciding with the OPM node are classified **A, B** and **C**
* exchanges that are NOT an OPM node are classified **A1, B1** and **C1**
* exchanges with little infrastructure, which therefore require a prior feasibility study, are classified **F.**

Provision of the service is, in any case, subject to technical verification of the availability of all the network resources necessary for the creation of the circuit. For specific types of connections, e.g. in cases of **diversification of the network path** and for Ethernet *Terminating* circuits on fibre optics connected to **class F** exchanges, this verification is carried out during the **feasibility study** (to be requested before issuing the activation order).

The maximum activation and reset times for Terminating circuits with transport on SDH network are differentiated on the basis of transmission capacity; the service includes both the 'Basic' and 'Premium' options.

Terminating Circuits with fibre-optic access

The maximum **'Basic'** activation time for Ethernet *Terminating* Circuits over fibre is as follows:
- **60 calendar days** (in 100% of cases)
- **40 calendar days** (in 95% of cases)

The maximum **'Basic'** recovery time for Ethernet *Terminating* Circuits over fibre is as follows:
- **8 solar hours** (single way configurations)
- **5 solar hours** (dual way and dual way/dual apparatus configurations).
- The service also includes **'Premium'** activation and reset times.

Maintenance work can be requested by accessing, from the private area of this portal, a self-ticketing system for reporting faults; information on the resolution of inefficiencies is provided in the same channel of communication.
Further details on the service can be found in the published Regulated Offer in the Offers section of this service.

Prices

The pricing of *Terminating* Circuits with transport on SDH network is as follows:
monthly access fee (varying according to speed);
monthly kilometric fee for the transport route (differentiated by distance and speed classes).
The pricing of Ethernet *Terminating* Circuits over fibre includes:
an activation fee;
a monthly fee depending both on the speed and on the saleability class of the Line Stage (SL) to which the End Customer's premises are connected.

Further details on the service's economic conditions can be found in the published Regulated Offer in the Offerings section of this service.

Regulatory conditions

The service is exclusively for:
- 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.

The Offer of Ethernet *Terminating* Circuits over fibre is 'regulated'; that is, it is subject to approval in all its aspects by the Italian Communications Regulator (AGCom) and is updated every year and published on this website in the Reference Offers section of this service.

Learn more at www.wholesale.telecomitalia.com