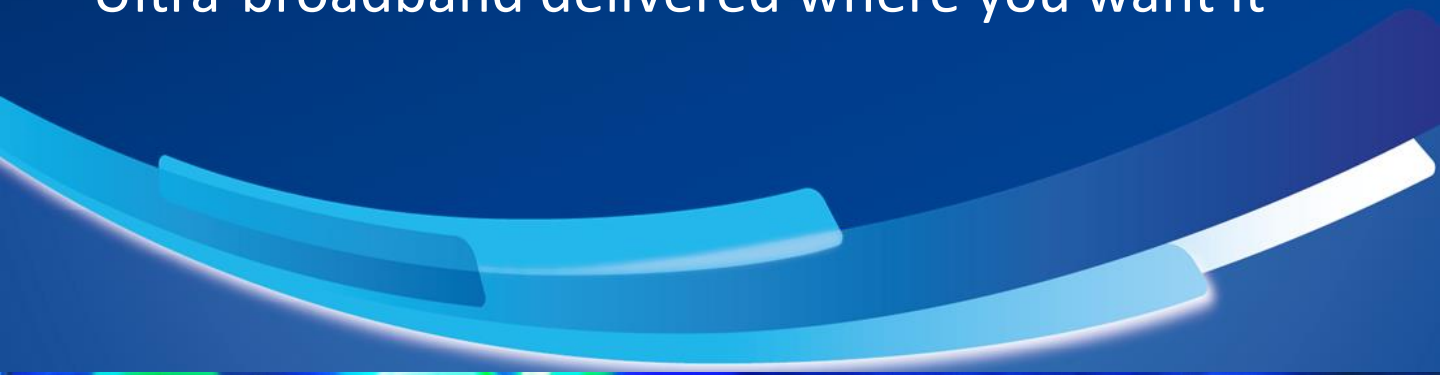




Wholesale Market

Bitstream NGA

Ultra-broadband delivered where you want it



Bitstream NGA

With the Bitstream NGA service, you can collect the ultra-broadband accesses of all your customers on your network from more than 500 points in Italy: TIM handles the transport!

FTTCab/FTTE accesses	FTTH accesses	National coverage
Downstream up to: 200 Mbit/s	Downstream up to: 1 Gbit/s – 2.5 Gbit/s – 10 Gbit/s	89,4%
Upstream to: 20 Mbit/s	Upstream to: 100 Mbit/s – 300 Mbit/s – 500 Mbit/s – 1 Gbit/s – 2 Gbit/s	

Who are they for?

Bitstream NGA is the ideal solution if:

- you want to make limited investments in your network
- you want to customise your ultra-broadband offer
- your customers are 'scattered' throughout the country

You can use VULA, Bitstream NGA and Easy IP NGA services together to offer ultra-broadband to your customers with maximum flexibility

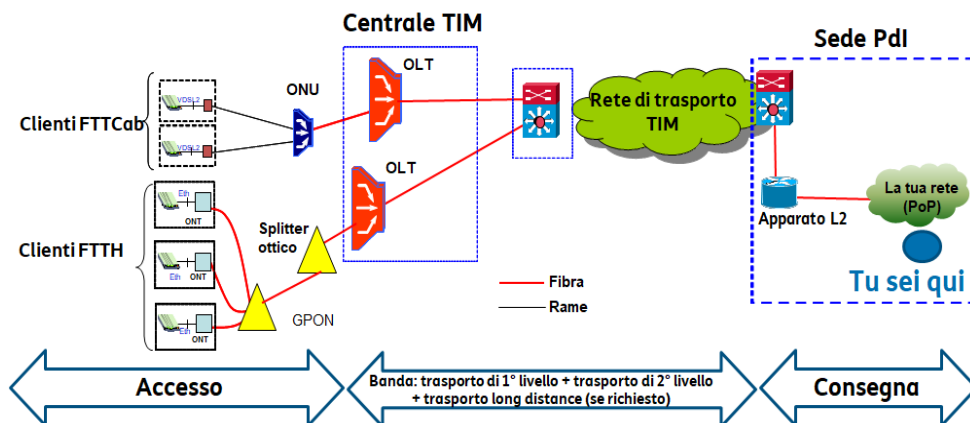
Preliminary services

COLOCATION

Description of the service

With the regulated Bitstream NGA service, we collect your Customers' broadband traffic, transport it with our network and deliver it to your network at 'layer 2' (Ethernet).

The service has three components: delivery, bandwidth, access.



Bitstream NGA

DELIVERY

Traffic delivery to your network can take place at various levels of interconnection. However, in any case, it requires that your network connects to one of the more than 500 Telecom Italia network points enabled to deliver the Bitstream service ('Points of Interconnection' or 'Pol').

The connection between the Pol and your network is made through special devices ('L2 devices'). These devices act as a 'border' between the Telecom Italia network and your network: the L2 device and the ports that connect it to the Pol constitute the 'Delivery Kit'.

To connect your network to the TIM network, you can choose:

- **Macro Area interconnection:** if you are interconnected at this network level you can collect the traffic of all the exchanges (OLT locations) from all of Italy's Macro Areas. The Macro Area is one of the 30 zones into which Italy is divided in the TIM network. Transporting traffic to your network will have to start at the exchange and go through: the network section between the exchange and the Parent node ('1st level transport bandwidth') and the section between the Parent node and the Delivery Kit in the same Macro Area ('2nd level transport bandwidth').
- **Long-distance interconnection:** if you are interconnected at this network level, you can collect the traffic of all the exchanges (OLT locations) from all of Italy's Macro Areas. The transport of traffic from the exchange to the Pol consists of: the network section between the exchange and the Parent node ('1st level transport bandwidth'), the section between nodes of the same Macro Area ('2nd level transport bandwidth') and the section between Macro Areas to the Delivery Kit ('long-distance transport bandwidth').

Band

You can choose the type of transport and the relative transmission capacity (bandwidth) to be used on the section between the exchange (OLT headquarters) and the Pol: in the NGA Bitstream service, in fact, multiple classes of transport service (CoS: Class Of Service) to offer differentiated quality services (web browsing, VoIP, video streaming, gaming, ...), and the two bandwidth aggregation models:

- **Shared bandwidth:** in this case, choose the total transmission capacity to be allocated to multiple access lines; capacity is managed according to a contention model, which allocates it between these lines according to the traffic generated by each of them.
- **Dedicated bandwidth:** in this case, each line can be assigned its transmission capacity.

You can vary the bandwidth sizing over time according to your technical and commercial needs without service interruption.

Access

This is the connection between your Customer's premises and the Telecom Italia exchange, in FTTCab or FTTH technology.

Bitstream NGA

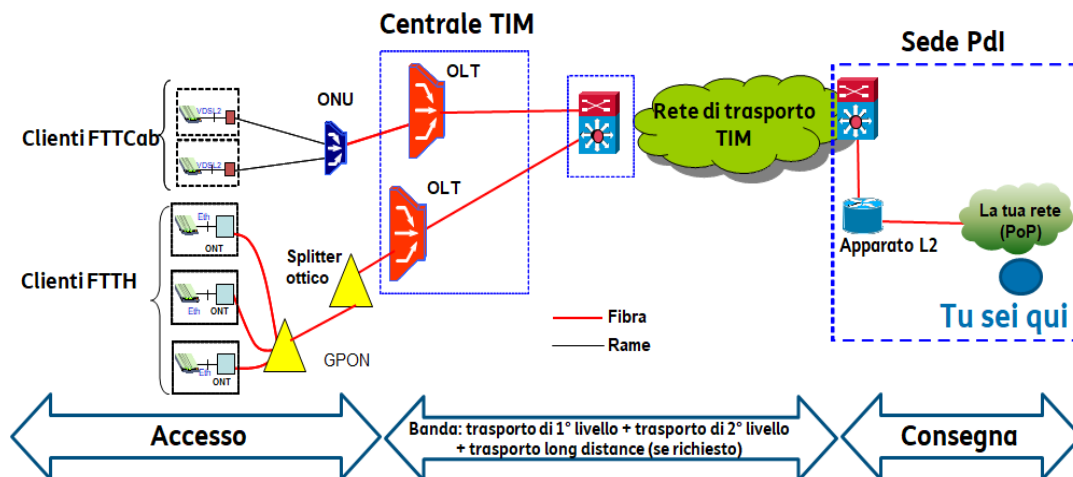
Getting Started

After signing the contract, you must:

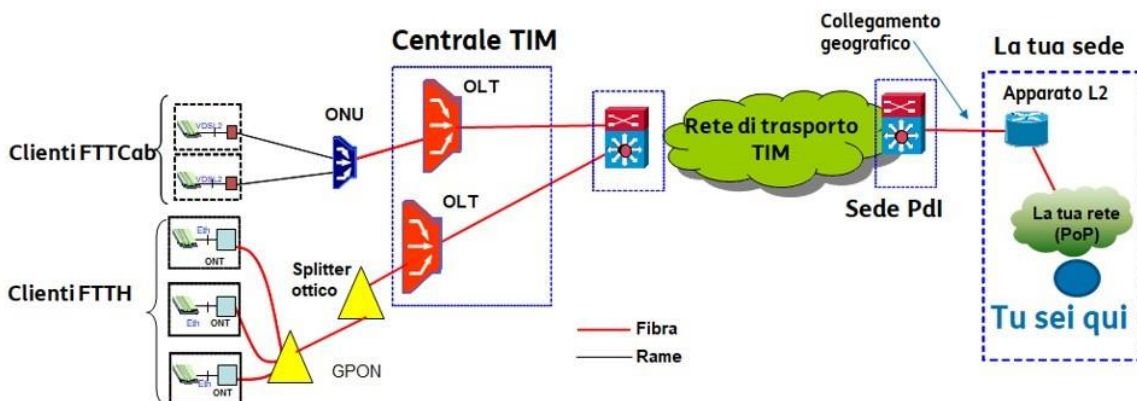
1. Ask us for one or more Delivery Kits in the Pols of interest. You can choose the model of L2 device among those available with 1 Gbit/s or 10 Gbit/s ports.

If you are collocated in the Pol -> To make the Kit you need:

- one or two ports on the Pol
- L2 apparatus
- an internal exchange connection that connects it to your network



- If you are not collocated in the Pol -> You can ask us if you can 'take home' the L2 device on a project basis



Bitstream NGA

2. Ask us for one or more *collection* VLANs and CoSs with which you want to transport your Customers' traffic on our network. The VLANs are 'virtual channels' between the Telecom Italia exchange (OLT location) and the L2 device and are used to separate your Customers' traffic from the traffic of other Operators' Customers.
3. Ask us to provide access to ultra-broadband, FTTCab or FTTH, from your Customers' premises to the Telecom Italia exchange (OLT location). You can ask us either to create a new line or create a 'migration', a passage of the Customer from another Operator (OAO).

If you already have the NGA Bitstream service, you can also use the same delivery kits for Bitstream broadband access collection.

If you want to know more, read the [FAQ](#)

What else should you know

You can collect your customers' ultra-broadband accesses from eligible TIM exchanges: there are more than 500.

- **If you want to do it directly from the exchange of your choice** -> You need Colocation
- **If you want to do it from one of your locations** --> TIM can deliver Bitstream NGA service 'at home' with fibre optics

Pricing

The service is regulated and has three elements:

- Delivery kit
- VLAN and bandwidth
- Access.

Each element includes one-off contributions and monthly fees.

For more information, please contact your Account Manager or see the Reference Offer. However, if you are not yet one of our Customers, you can access the section [Become a Customer](#) of the Wholesale portal and fill in the form. One of our Sales Representatives will contact you as soon as possible!

Regulatory Conditions

The service is for:

- Operators with an individual license or a general authorisation for telecommunications 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 Italian Legislative Decree no. 259 of 1 August 2003, as last amended by Italian Legislative Decree no. 70 of 28 May 2012.

The Offer relating to the **NGA Bitstream** service is 'regulated', i.e. 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



Wholesale Market

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