



Wholesale Market



BITSTREAM

Broadband delivered where you
want it



TIM

Bitstream

With the Bitstream service you can collect your customers' ADSL and symmetrical (SHDSL) accesses from more than 500 points in Italy: TIM handles the transport!

ADSL accesses	Symmetrical accesses (SHDSL)
Downstream up to: 20 Mbit/s	Downstream up to: 10 Mbit/s
Upstream to: 1 Mbit/s	Upstream to: 10 Mbit/s

Who is it for?

Bitstream 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

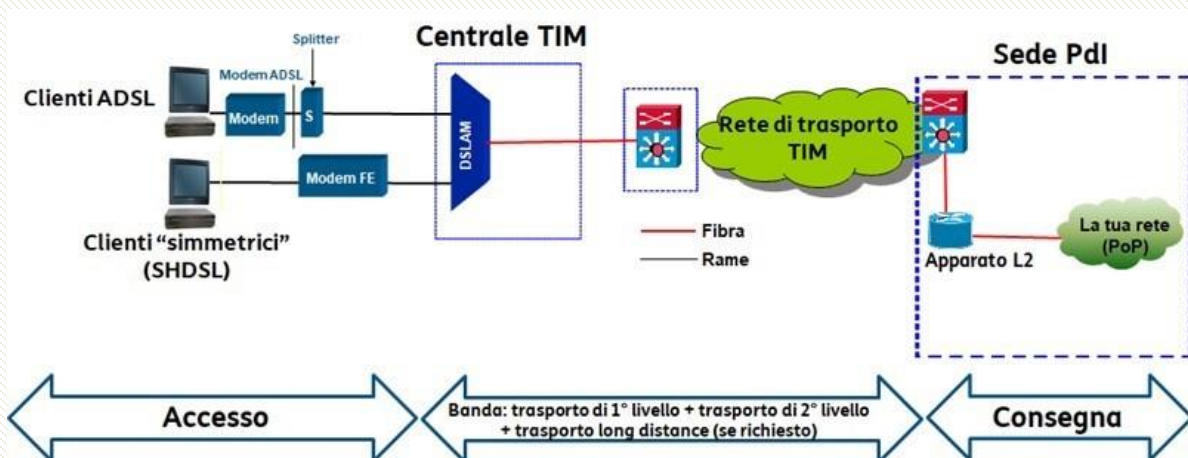
Preliminary services

Colocation

Description of the service

With the regulated Bitstream 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**.



Learn more at www.wholesale.telecomitalia.com

Delivery

Traffic delivery to your network can take place at various levels of interconnection. However, in any case, it requires your network to connect to one of the more than 500 TIM 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 TIM 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 locations with Ethernet DSLAMs in a Macro-area. 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 DSLAM location and go through: the network section between the DSLAM location 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 locations with Ethernet DSLAMs from all of Italy's Macro Areas. The transport of traffic from the DSLAM connection to the Pol consists of: the network section between the DSLAM connection 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').

Bandwidth

You can choose the type of transport and the relative transmission capacity (bandwidth) to be used on the section between the DSLAM and the Pol: The Bitstream service makes available 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 location and the TIM exchange, using 'asymmetrical' ADSL or 'symmetrical' SHDSL technology.

What else should you know

There are more than 500 eligible TIM exchanges where you can collect ADSL and symmetrical (SHDSL) accesses from your customers

- **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 fibre to your doorstep.

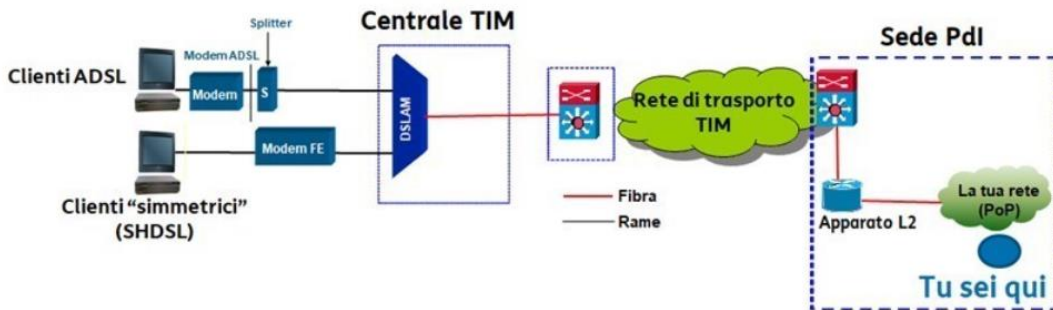


Bitstream

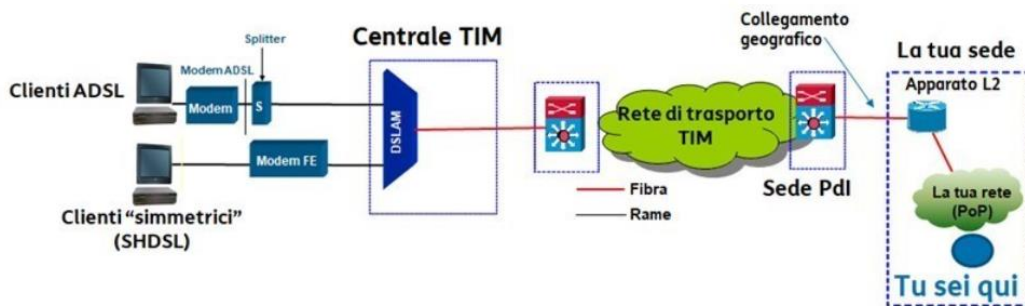
Getting Started

After signing the contract, you must:

1. Ask us for one or more *Delivery Kits* in the Poles of interest. You can choose the model of L2 device among those available with 1 Gbit/s or 10 Gbit/s ports.
 - o If you are collocated in the Pole -> To make the Kit you need:
 - one or two ports on the Pole
 - L2 apparatus



- an internal exchange connection that connects it to your network



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

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 TIM DSLAM 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 broadband access, ADSL (asymmetrical) or SHDSL (symmetrical), from your customers' premises to the TIM DSLAM site. You can ask us either to create a new line or create a migration, a passage of the customer from another Operator (OAO).

You can also use the same delivery kits for Bitstream NGA ultra-broadband access collection if you already have the NGA Bitstream service.



Prices

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 get in touch with your Account Manager or consult 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. 259 of 28 May, 2012. 70.
- 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 **Bitstream** service 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





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TIM SPA

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Tax Code/VAT no. and Milan Company Register no.: 00488410010 Registration with the A.E.E. Registry IT0802000000799 Share Capital € 11,677,002,855.10 fully paid-in