



Wholesale Market

IP LINK

The symmetrical connection to the Internet



Symmetrical SHDSL service with copper access allowing IP transit and visibility of the TIM Customer Base.

Service features

Speed

- Minimum 2 Mbps
- Maximum 8 Mbps

IP addressing modes

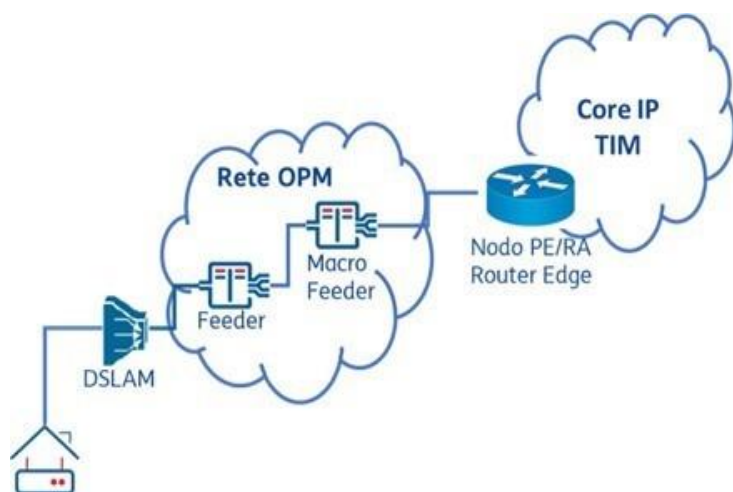
- IPv4
- IPv4 + IPv6

Who is it for?

Operators wishing to offer their end-customers (consumers or businesses) an Internet connection.

Description of the service

IP Link is a SHDSL service that can be logically divided into two components:



- symmetrical copper access from the customer premises to the first TIM exchange and Ethernet platform;
- provision of IP bandwidth for Internet access through the TIM national IP backbone.
- The SHDSL service can be implemented on the exchanges covered by the symmetrical Ethernet service - Symmetrical ETHERNET 2Mbit/s, 4 Mbit/s, 6 Mbit/s, 8 Mbit/s, 10 Mbit/s (active and planned file) - published on the Wholesale portal.

The technical solution used to implement the Ethernet symmetrical access service is based on the EFM (Ethernet in the First Mile) standard, which describes how to map Ethernet frames onto the SHDSL physical layer. The process of encapsulating the frames results in a modest loss of the modem's transmission bandwidth. In particular, the net transmission capacity is about 87% of the gross capacity made available by the modem.

The speeds shown in the table below are available:

| Trade name | Physical speed (gross)[kbps] | Net speed [kbps] |
|------------|------------------------------|------------------|
| 2 Mbps | 2048 | 1781 |
| 4 Mbps | 4096 | 3563 |
| 8 Mbps | 8192 | 7127 |

In the above table, 'Physical (gross) Speed' means the transmission capacity made available by the modem, while 'Net Speed' means the transmission capacity net of the Ethernet frame encapsulation protocol overhead.

Configuration of IP addresses for non-AS customers

Customer assigned a set of public IP addresses: announcement via TIM's AS;

Customers who are not assigned public IP addresses may request:

four free IPv4 public IP addresses;

eight non-contiguous IPv4 public IP addresses with monthly fee;

additional public IPv4 addresses for a monthly fee subject to a Feasibility Study.

In all cases, both IPv4 and IPv6 are supported in dual-stack mode

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 70.





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Entry in the Register of Producers of Electrical and Electronic
Equipment (AEE) IT080200000799
Share Capital €11,677,002,855.10 fully paid-up