

# French national operator Bouygues Telecom enhances its quality of service (QoS) thanks to France-IX



Being one of the six founding members and currently one of the board members of France-IX, Bouygues Telecom has been using the service of interconnection delivered by the French Internet exchange point (IXP) since 2010. Bouygues Telecom explains the motivations that led it to join the community of the IXP and reports the benefits it enjoyed since then.

Founded in 1994, Bouygues Telecom is one of the national French operators, offering solutions of mobile and fixed communications including high-speed internet connection, Cloud storage and television. Bouygues Telecom differentiates itself from the competition by constantly innovating and launching products and services meeting its customers' demands.

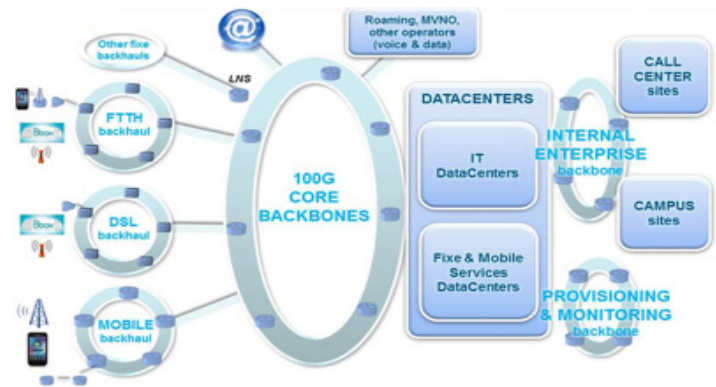
## Statistics in August 2013

- 9,400 employees
- 11.3 million mobile customers
- 1.9 million high-speed broadband customers of which 1.5 million enterprise customers
- 60% of the population covered in 3G (42Mbps)
- Opening of national 4G on the 1st of October

## NEED

The amount of traffic Bouygues Telecom sends to the Internet peaks at 260Gbps. To send out this traffic, the operator orders capacity to two providers - the IP transit providers or the internet exchange points like **France-IX** - or deal directly with the peers it wants to reach through private connection (also known as PNI).

While sending out its traffic to the Internet, Bouygues Telecom must do it in a reliable manner and ensures it will bring the best quality of service to its subscribers. This rule encompasses three constraints for the operators:



- **Reducing the latency :** namely towards content delivery network so the users barely wait to see the content uploaded on their webpages.
- **Making its network redundant :** in case of technical problem, show must go on. Therefore in the network topology, the operator should anticipate the re-routing of traffic. A service cut is not permitted.
- **Controlling the costs :** for such a level of traffic, Bouygues Telecom has to find solutions of budget optimization. Being invoiced on each and every Mbps sent is not an option for Bouygues Telecom.

## SOLUTION

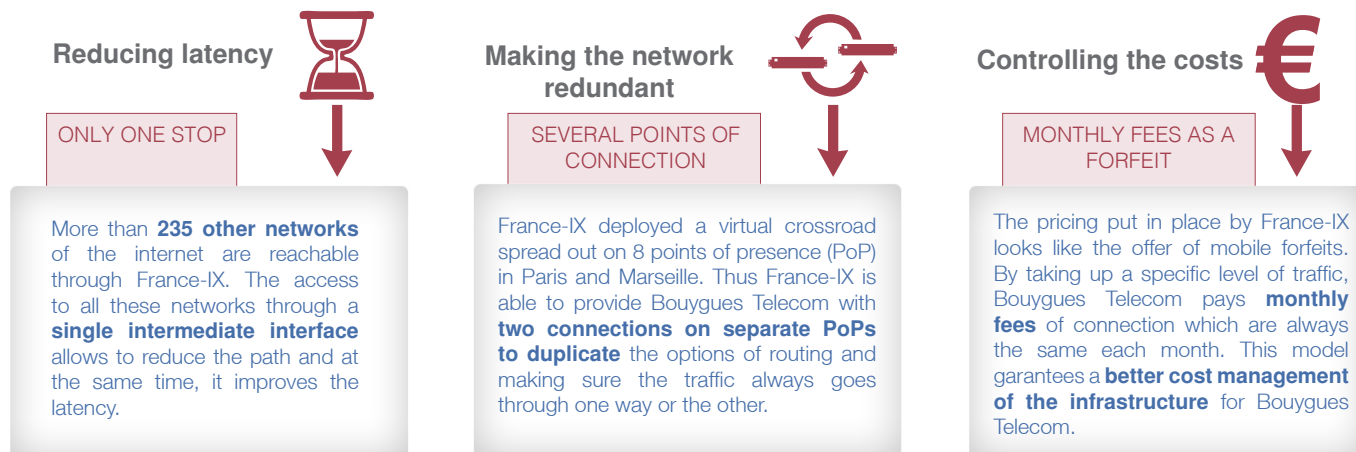
Bouygues Telecom connected 4 \* 10 Gbps ports split into two sites of France-IX: two ports are active on the Datacenter Interxion-2 and two others are on Datacenter Telehouse-2. Both sites are located in Paris area where Bouygues Telecom network core is also in place.

*France-IX is the reference in the internet exchanges industry. This motivated us to connect to it.*

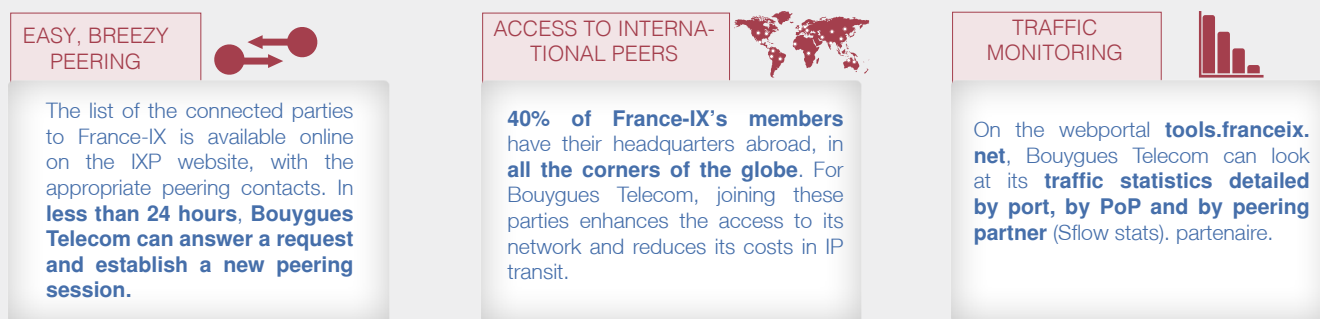


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## How does France-IX meets Bouygues Telecom's peering needs ?



Beyond the requirements expressed in the specifications of Bouygtel, France-IX brings three additional benefits to the operator.



Through its connection to **France-IX**, **Bouygues Telecom** displays an **open peering policy**: generally speaking, when other peers connected to France-IX sends a request to establish a session with the operator, the latter accepts it, including when the session implies an **asymmetrical traffic**.

For **Bouygues Telecom**, the quality of service delivered to its customers is what matters the most and interconnecting with the largest numbers of networks comes to improve this quality.

## EVOLUTION

### ● Increase of traffic

In addition to relocating part of its peering traffic in South France, Bouygues Telecom intends to increase its traffic to **6 \* 10Gbps** ports instead, that means adding two more to its current connection on France-IX in a very close future (by end of 2013 / beginning of 2014).

This upgrade follows the general growth of the internet. But the increase is also motivated by the opening of high-speed internet flows (**3G+/4G**) on mobile devices which will impact the volume of Bouygues Telecom's overall traffic.

Half of these ports connected to the infrastructure will be dedicated to the traffic rapidly expanding of **Bouygues Telecom**. The other half remains unused and will only serve in the event of a **sudden increase of traffic** or a technical problem which compels routing the traffic by another path.

### ● Peering outside Paris

In order to reduce the **latency**, which will become more and more critical with the ascent of the mobile uses and the **videos** on mobiles, **Bouygues Telecom** plans to locate part of its internet traffic in **Marseille**. There the operator will reach more quickly the content coming from **Southern Europe and Africa**.

