

French Ministry of Foreign Affairs harmonises and secures network through Verizon Business MPLS Private IP network

French Ministry of Foreign Affairs

The importance of France in global affairs

France is a long-established European nation with a rich history. It was one of the initiators of the ideals incorporated in the Universal Declaration of Human Rights, and is a permanent member of the Security Council. It has always played an influential and demanding role in global affairs.

Since its creation in 1589, the Ministry of Foreign Affairs has been the instrument of the external sovereignty of the State. It endeavours to remain at the forefront of technological innovations when communicating with its seconded staff. Examples include adopting the telegraph in the 19th century for first real-time communications, then typewriting, the telephone and automated encryption from 1950.

Today the Ministry has 150 embassies, 113 consular posts and 17 special projects within their international organisations, including organisations such as UNO, The European Commission, and UNESCO. It has a total of 12,000 staff, of which a third are based in France, and hold a budget of €4.2 billion equivalent to 1.25% of France's total budget.

A large number of networks

"Up until 2003, the Ministry of Foreign Affairs managed a number of communication networks of varying types, depending on the size of the site and local geographical constraints," explains Mr. Le Rolland, Manager of the CXI/ISC division at the Ministry of Foreign Affairs.

These included fixed speed permanent international links, leased from France Telecom, linking the main western embassies (such as Washington and Brussels) with the Ministry. The Ministry also had two Frame Relay networks. The first, operated by Verizon Business, covered missions in Europe and others were located further afield in locations such as Osaka in Japan. The second, run by Sprint, covered mainly the United States, Canada and Mexico. The routers integrated in these two networks were controlled internally.

Finally, a satellite network supplied by France Telecom-Transpac was used for communication between the Ministry and special projects located in countries such as Africa, where access could be difficult. This was established via a hub in France. However the transit times provided by this system were considerably slower and did not fit in with the demands of modern applications.

Standardisation and modernisation

In line with the regulations for public procurement, the Ministry, like with all public bodies, regularly issues invitations to tender for the renewal of its contracts for the provision of services. It thus initiates an in-depth analysis of the development of its information and telecommunications systems every three years via an invitation to tender.

At the start of 2003, an invitation to tender was issued with the following objectives:

- standardise the whole terrestrial network
- deal with a single operator in order to simplify the supplier relationship and reduce costs
- control the monitoring of the quality of service by assigning the overall management of the network right through from the routers to the operator
- replace the star topology and move towards a more regionalised structure

In August 2003, the Ministry received two proposals for terrestrial network from France Telecom, Equant and Verizon Business. "The two offers based on MPLS were compared based on geographical coverage, quality of service, and equivalent guarantees" said Mr. Le Rolland. "However the cost of the service proposed by Verizon Business was much lower (by around 20%). Moreover we already had an excellent relationship with Verizon Business through their Frame Relay network, which was performing well and we had had no major incidents. The period of difficulty experienced by the company had not affected the service. We were vigilant, yet confident in Verizon Business' ability to carry out the project".

A phased deployment

In August 2003, the Ministry of Foreign Affairs therefore decided to renew its confidence in Verizon Business, assigning

them the programme to harmonise their terrestrial networks.

This project covered around sixty sites, taking over the international links and migration of a dozen sites connected by satellite offices (including Scandinavia and South America). To start with, local loops were created between the Verizon Business points of presence and the embassy concerned. The changeover to the MPLS network took an average of one and a half months for each site, but various constraints sometimes made it necessary to create radio links between the PoPs and the embassy, which significantly lengthened these timescales.

"We had the benefit of the expertise of a dedicated project leader, with whom we defined the migration programme at the outset," explains Mr. Le Rolland. "This project required strict coordination and day-to-day monitoring of the progress of the programme. Very detailed weekly reports describing the development of the network enabled us to plan the next steps. Thanks to the responsiveness and professionalism of the Verizon Business implementation teams, this implementation went perfectly".

Reliability, security and high performance

The Ministry of Foreign Affairs MPLS network currently manages data, except within the large embassies where voice is also carried.

MPLS technology also provides increased levels of security via secure links, which are in addition to the Ministry's data encryption equipment. This dual security is reinforced by ISDN dial backup lines, to ensure immediate resumption of activity if the link fails. In addition, a dial-up line, used during the implementation for remote parameter setting, is also linked to the router for remote control and any troubleshooting that may be necessary. In terms of performance, the sites have speeds which range from 64 Kbps to 256 Kbps. The Ministry also has a fibre optic link in Paris, providing a very high capacity of 34 Mbps. The volumes exchanged can

reach 75 Gigabytes per month for the largest sites.

Conventional and specific applications

Each embassy has a LAN, providing access to a number of applications including e-mail, for which usage is constantly increasing, and the Ministry intranet (a centralised database).

The embassies and consular posts also use special purpose applications, dedicated in particular to the issuing of visas. Based mainly on forms and textual data exchanged between the embassy and the ministry, and then with other ministries (interior), these applications are destined to develop radically over the next few years to incorporate various scanned documents such as photos and fingerprints, etc. "This development will involve a considerable increase in the volumes of data exchanged, as the scanned documents will take up much more bandwidth" says Mr. Le Rolland. "We are monitoring this type of development closely and are already preparing for the future. As the Verizon Business offer is very scalable, we will have no problem increasing our speeds and bandwidth capacities. It is important to anticipate this type of change, to avoid having to redesign the whole system in a few years' time".

Tangible benefits

The Verizon Business MPLS network has met the objectives of the Ministry's invitation to tender in full. The network has been standardised, with the associated management assigned to a single operator, and providing standardised technologies. The associated costs have been dramatically reduced and performance has been significantly improved. This has been the case with regards to the satellite links and the improved reliability.

"Above and beyond the advantages already described, we now have the benefit of an 'any to any' connection mode via regional networks. For example, in certain countries like Belgium, different sites (traditional embassy, consulate general, presence in international institutions) can now communicate directly, without having to go via Paris, which saves time", adds Mr. Le Rolland. "Moreover we are now capitalising on the increased levels of security. In the past there was no global backup network, only a few applications offered this function. With the services of Verizon Business, we have the permanent reassurance of centralised security."

Several upgrades are already scheduled, including the setting up of monitoring and supervision tools. Geographical coverage is continuing to develop as the Verizon Business MPLS network is extended. New sites can easily be migrated as soon as new points of presence (PoPs) are installed. "

We are planning to generalise the implementation of Voice over IP at certain sites, the objective being to reduce our costs still further, while having sound performance guarantees", concludes Mr. Le Rolland. "As some skills are in short supply, we are endeavouring to centralise our systems and applications. The network is playing an increasingly strategic role at the very heart of our activity. It is therefore vital to take good care of its development."

Having had a successful collaboration for more than five years, the Ministry of Foreign Affairs has found Verizon Business to be the ideal partner to work with for the development of its communications solutions.