Case

WANOPT
The Wide Area Network Optimizers

A SOUTH AMERICAN BANK IMPLEMENTING ITS EUROPEAN VOICE AND DATA NETWORK.

This document describes the implementation that took place in the European site of a major Brazilian bank. The bank had ten branches across Europe, with a total of 600 employees. Each one of these branches operated almost as a separate organization, with its own applications and data-centers. There was little operational integration.

The total of their monthly telecommunications expenditures, including voice and data, was US$220,000.00. The branches had data connections with their Brazilian headquarters but little integration among themselves.

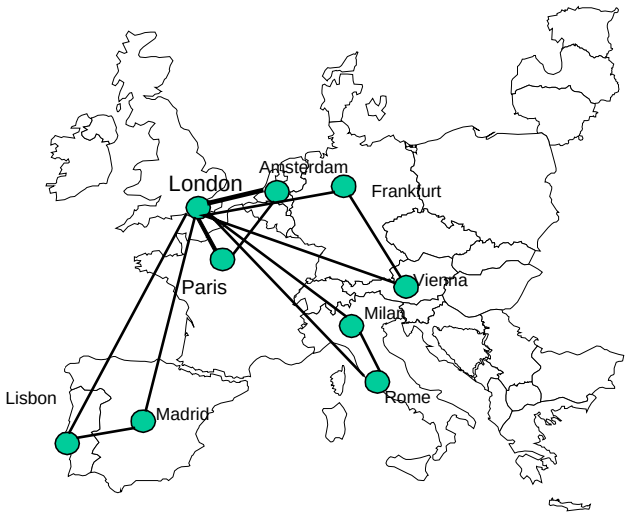
In 1998 The European Union defined unified standards for banking operations. The bank management saw this as an ideal opportunity to improve the operational standards of their European site.

The bank management decided that all data processing would be centralized at a data-center in London and a completely new network would be built.

This decision generated the need for a new telecommunications network. The new structure had to be extremely reliable because if the connection between a branch and London failed, the branch would be virtually paralyzed.

The results

Through our design tool (Ariete®) we identified the most cost effective topology:



The analysis itself was executed quickly, because we had just one data-center node in London (though Brasilia was also a server node, it was pre-defined that it would be connected only through London). Therefore, in logical terms all flows went through/from London and we had a relatively small number of applications (flows).

The savings were remarkable. We were able to build a new network connecting all branches to London, with each site having complete redundancy (including hardware and circuits), quadrupled the bandwidth availability and reduced monthly expenditures from US$220,000 to US$ 100,000. It was achieved including services such as maintenance and network management and paying a monthly rent of 4% over the value of the new hardware, which was US$ 800,000.

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Facts sheet

European old network

- No resilience;
- No backup;
- Bandwidth limitations;
- Incompatible PBX architecture;
- Old equipment;
- Small percentage of the voice traffic within the network with low quality;
- Only dial-in access to other Branches;
- High volume of calls to Brazil using the public network
- Star topology
- 64K bandwidth connecting the sites to London

European new network

- Backup using actively used circuits;
- Resilience;
- Hot swap backup;
- Two different carriers using two different technologies per site (Terrestrial and satellite);
- Alternative routes;
- 3rd Backup with dial up connection;
- Digital connection to PBXs increasing quality (100% of long distance voice traffic within the network);
- Triangle topology;
- Two links of 128K bandwidth per site;
- Standardized equipment, integrating the European network to the main one in Brazil.

A general view of the significance of the project in economical terms:

Item	Old Network	New Network
Data circuits	USD 105,000.00	USD 69,162.00
Voice	USD 106,832.00	USD 10,650.00
Equipment maintenance	USD 6,000.00	USD 15,000.00
Network management	USD 5,000.00	USD 5,000.00
TOTAL	**USD 222,832.00**	**USD 99,812.00**

This project demonstrated that through the proper design we can achieve better quality of services paying much less. That means in the world of Wide Area Network design more bandwidth and more reliability doesn't mean necessarily bigger costs.

As can be seen, this kind of analysis not only generated substantial savings but also made possible to have a much reliable and user-friendly structure.