WIDE AREA NETWORKS STRUCTURAL ANALYSIS
APPLICABILITY IN A CASE OF OUTSOURCE

A company trying to decide between purchasing equipment vs. relying on a service provider must consider a combination of factors. The obvious comparison is between upfront capital and ongoing maintenance costs associated with purchasing equipment vs. leasing similar functions from a service provider. Then, there are more intangible issues related to things like control (for example, does the person who needs to fix the problem actually work for me, or am I dealing with a contractor over whom I have less leverage), level of responsiveness, and bundling.

Generally, there are three interrelated factors: Size of the company, rate of growth, and size and expertise of staff, which interacts defining the feasibility of outsourcing a telecommunications structure. Generally speaking for large corporations, it almost always makes sense to buy equipment and hire staff to maintain it. If a company is growing quickly, there is a danger of outgrowing the infrastructure before it's time to replace it. In terms of staff some companies have a large telecommunications/IT department and like to do things in-house. Others prefer to stick to their core business and leave the care and feeding of their telecommunications networks to others.

As can be seen there are some grey areas when deciding whether or not outsource a telecommunication network. In addition of the grey areas the decision is further hampered by the fact that most outsource evaluations are based on the actual company's expenditures compared with the foreseen outsource price. The problem with this practice is the fact that in most cases the company could be doing a much better job in house than it is actually doing and therefore the comparison between actual expenditures and outsource isn't fair in disadvantage of the company's best interests. Therefore, in order to rationalize as most as possible the decision of whether or not outsource a network, it is absolutely crucial the identification of the in house cost-optimized structure and then use this value to evaluate outsource alternatives.

Following this strategy you can guarantee a fair comparison between an in and out sourced solution and make a fair comparison between the intangible factors and the right quantitative figure. **WANOPT** provides the services to address this kind of situation. Through its exclusive analytical tool (Ariete®) empowers its clients allowing them to achieve the utmost in wide are networks optimizations and analysis.

Solutions for analyzing wide are networks (Ariete®)

Ariete® is an advanced tool for analyzing wide area networks; designed to help organizations analyze their telecommunications needs and identify their cost-optimized network. This is achieved through establishing the optimal correlation between the organizations geographical dispersion, its traffic volumes/flows and the tariff system. The tool itself (Ariete®) is the core of a methodology for identifying the ideal WAN structure. The process follows the following three stages:

- Data gathering/files preparation
- Ariete® deployment
- Results refining

Data gathering/Files preparation – phase 1

The first phase consists of identifying and formatting the data necessary to perform the analysis. The required information is grouped into seven categories:

- Applications
- Sources of traffic
- Destinations of traffic

- Interconnections
- Interconnection costs
- Hardware modularity and costs
- Potential clustering nodes.

Ariete® deployment –phase 2

The second phase consists of deploying the tool. Based on the data identified in the previous phase, the tool generates all possible clustering scenarios (topologies), from a totally distributed wide area network to a totally centralized one, and calculates all possible combinations of access, backbone and hardware for each scenario and set aside the more cost effective ones.

Refining the results – phase 3

The third and last phase of the analysis refines the results, allows verification and client specific considerations. In this phase changes are implemented and the models adjusted, setting several scenarios taking in consideration several levels of services (adjusting parameters such as utilization rate, tolerable latency, loss rate etc).

With the resulting optimum structure, outputs produce project details of: topology, equipment, access circuits, backbone circuits, paths, maintenance and management.

Having the target infrastructure makes it possible to compare the results with the actual network. Consequently, it makes it possible to identify what needs to be implemented and/or changed and set the whole project plan, including phases and schedules. Knowing the effort necessary to adjust/implement the network, allows the company decide how, when or if the project will be implemented.

At this point, it becomes clear which cost factors in the actual structure could be reduced and possible to produce a very straightforward, high-level management report comparing the actual expenditures with the proposed ones. The necessary investments and potential savings can be clearly identified and the return over investment of the project calculated.

In addition, it becomes possible to properly analyze alternatives such as outsourcing or external management. It happens because knowing how much would be the cost to build an optimized structure, in house, becomes possible to fairly evaluate the cost benefits of various outsourced solutions.

Although the identification of an ideal structure to support a given traffic volume is in itself a huge benefit, more can be done. Having the ability to calculate these structures quickly allows the organization to perform many calculations using several traffic volumes and establish the correlation between volume and cost.

The possibility of setting many volume scenarios is extremely useful since it allows for a clear verification of how the infrastructure cost changes with the volumes transported.