A SOUTH AMERICA MUNICIPALITY REVALUATES ITS TELECOMMUNICATIONS INFRASTRUCUTRE

General overview

A major South America city government re-evaluates its telecommunications infrastructure, mapping the voice traffic and defining the telecommunications contracting policies.

The analysis had as its main objective the identification of savings opportunities and the definition of the contracting strategy for each service.

The diagnosis pointed that each government agency had autonomy to contract and manage its own voice infrastructure independently. This strategy, although generating operational flexibility, was clearly generating higher costs.

The organization itself, was composed by 34 agencies and municipal companies having 3323 sites with approximately 120.000 employees spread all over the city.

The monthly telecom budget including voice and data was USD 3.5 millions, without any voice and data integration.

The voice traffic mapping demonstrated that 65.48% of the voice costs were due calls between fixed-trunks to mobile phones and only 27.68% were due fixed-to-fixed trunks. In addition it was verified that 42% of the fixed traffic was among the organization own trunks. 30% of this total were among just sixteen sites:

Number of sites	% of the intra-org traffic	Value to be absorbed by an private voice network
16	30,00%	USD 40.444,09
34	40,00%	USD 53.925,45
136	60,00%	USD 80.888,18
407	80,00%	USD 107.850,91
3223	100,00%	USD 134.813,63

Each address was identified and physically located. That allowed the understanding that 80% of all addresses were located within of what was called city's hyper-center, where the availability of telecommunications providers was high (At least four alternatives). The mapping identified what follows:

- 3223 points of presence distributed through 34 agencies located in 3067 addresses;

The cost structure was as follows:

Type of service	Monthly cost	%
Calls to Mobile phones local (VC1)	USD 1.195.799,60	33,68%
Local calls	USD 357.522,28	10,07%
Long distance nationawide	USD 180.803,08	5,09%
Calls to Mobile phones long distance	USD 90.493,76	2,55%
International calls	USD 3.107,59	0,09%
Data circuits	USD 1.722.222,22	48,51%
Total	**USD 3.549.948,54**	100,00%

Understanding this reality becomes possible to define the telecommunications infrastructure policies and strategies. It was also possible to define the priorities among the several possible initiatives. These aspects become clear:

1) Given the pattern of the geographical location of the sites, concentrated within the core of the city, where there are several alternatives of service providers, the contracting policy should allow that parts of the network be contracted with different providers. This policy would be completely different than the actual one, where the provider must be able to provide all circuits. The actual policy eliminates all service providers but one. It was identified that competition would decrease the current circuit cost in at least 21%.

2) There is the need to contract and control the voice network in a centralized way. Through that the organization will be able to bring all its weight to the negotiation table obtaining better tariffs (including zero tariff for trunks subscription).

3) The voice and data integration was economically feasible only among the sixteen main sites and the maximum gain from integrating voice would be around USD 40,444.09 month.

4) The adoption of MPLS technology (replacing the existing frame-relay network) wouldn't be justifiable by the need for voice integration. It was an important conclusion because forced the provider to recognize that the replacement of the frame-relay network for MPLS was mostly due its own needs not a real benefit for the client (As the speech was before the study). This conclusion had immediate impact in the on going negotiations.

There was a perception that negotiating as only one large organization would increase its leverage over the service providers and would generate the possibility of achieving substantial discounts. This strategy was already adopted regards the data network.

Operating the network as only one large organization would also allow the identification of the locations where more than one city's agency occupy the same address avoiding the need for multiple voice trunks and PBXs serving the same address and therefore reducing costs.

The city already had an IT services company (completely owned by the city) centralizing the city´s data processing and the data network and this company was the natural option to assume the voice centralization process.

WANOPT identified that the savings would come form six main sources:

- Massive deployment of mobile trunks in the city's PBXs, that would transform the cost fixed - mobile to mobile – mobile what in this country tariff system means a reduction of almost 33% in the cost of the spoken minute;
- Renegotiation with actual main provider bringing the cost down between 21% and 40%;
- Merging the circuits, trunks and PBXs today installed in the same addresses reducing the number of necessary circuits in approximately 5%;
- Improvement the internal controls avoiding unnecessary expenses and allowing a better management;
- Renegotiation of the voice contracts bringing down the current costs with trunks subscription to zero;
- Integration of voice and data among the sixteen city's main sites.

All these initiatives allowed a monthly saving of 26.24% of the current expenditures as shown through the spreadsheet bellow:

Type of service	Current Monthly cost	Foresaw cost	% of savings identified	Savings
Calls to Mobile phones local (VC1)	USD 1.195.799,60	USD 797.199,73	33,33%	USD 398.599,87
Trunks monthly subscription	USD 134.324,44	USD 0,00	100,00%	USD 134.324,44
Local calls	USD 357.522,28	USD 329.744,50	7,77%	USD 27.777,78
Long distance nationawide	USD 180.803,08	USD 153.682,62	15,00%	USD 27.120,46
Calls to Mobile phones long distance	USD 90.493,76	USD 73.256,86	19,05%	USD 17.236,91
International calls	USD 3.107,59	USD 3.107,59	0,00%	USD 0,00
Data circuits	USD 1.722.222,22	USD 1.360.555,56	21,00%	USD 361.666,67
Total	**USD 3.684.272,99**	**USD 2.717.546,86**	**26,24%**	**USD 966.726,12**

The deployment of design tools was what made possible the analysis and simulations, which gave the city's management a clear view, what had to be done and why, allowing the identification of which economical benefit was associated with each initiative. All mapping and analytical work took two months.