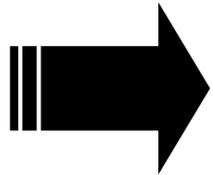


Organizational Implications of Voice/Data Convergence

July 2004

Voice and Data Convergence: Through 2006, voice will be increasingly virtualized over the data network, allowing for more cost-effective centralization of services. Discrete application infrastructure components (e.g., call servers, bridges, gateways) will be distributed throughout the IP backbone, supporting telephony and collaboration services (e.g., conferencing, messaging). **All network staff, whether focused on data or voice, will need expertise in IP networking.** Managed services (e.g., IP Centrex) will continue to suffer low adoption through 2007. By 2005, 50% of large enterprises will rely on IP as transport for videoconferencing due to improved quality and lower cost for campus and regional networks.



Voice and data convergence must be approached not just as a new technology venture but also a **human resources priority.**

It could be necessary to replace 30-60% of the Engineering and Operations staff of most telcos.

- ❑ Change studies from client-server migrations show:
 - 15% will not want to make the transition;
 - 15% will fail to make the transition;
 - 40% will succeed;
 - 30% should be migrated to allied functions such as project management.
- ❑ Training resources are increasingly focused on fewer headcount:
 - 5% Leaders with talent -> train
 - 10% Undeveloped talent -> train
 - 50% Some level of education/training -> outsource (fixed becomes variable)
 - 35% Unskilled -> replace

It could be necessary to reduce SG&A by 1%* per year to compensate for revenue losses associated with VoIP.

- ❑ Global VoIP minutes will grow from 261M in 2001 to 11B in 2006 and are growing at more than 2B minutes or 20-30% per year.
 - The vast majority of VoIP traffic is concentrated in LD and LDI, services with the largest absolute margins.
 - On average wholesale VoIP minutes cost 30% less than traditional circuit switched minutes.
 - The above estimate does not take into account pricing pressure in traditional circuit switched minutes resulting from growth in VoIP.
- ❑ Companies may save between 40-60 percent on installation and operation of a converged network over the total cost of ownership of separate networks.

* A 1% annual reduction in SG&A corresponds to an annual headcount reduction of approx. 150 employees in a company the size of BrasilTelecom or approx. 240 employees in a company the size of Embratel.

Only disruptive phenomena, e.g. Napster, can compensate for the decreased revenues resulting from voice and data convergence.

- ❑ By their nature disruptive phenomena are difficult to identify and capitalize on.
- ❑ In human resource terms telcos are poorly prepared to identify and capitalize on disruptive phenomena.
- ❑ Regardless of whether telcos adopt an acquisition or a partnership approach, these competencies will have to be developed and equally importantly be given room to work.

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