

"Bridging Capability Gaps"SM



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Comments on Issues Related to the Workshop on

BROADBAND CONNECTIVITY COMPETITION POLICY*

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TO WHOM IT MAY CONCERN:

The emergence of "Net Neutrality" as a legislative subject¹ is a side effect of failure of the marketplace and financial-market decision systems that were supposed to rationally sort out technology choices. Contributing factors for the failure include the following:

1. Loss of institutional knowledge

The Consent Decree and the AT&T divestiture² resulted in dissipation of knowledge of large-scale network systems within the Bell Labs^{3, 4}. The result is an institutionalized knowledge deficit⁵ about non-packet network infrastructure and related technologies. The Baby Bells and their derivatives not only failed to fill this knowledge gap, but exacerbated the problems by focusing on improving operational efficiency, downsizing and outsourcing at the expense of R&D⁶.

2. Collapse of market-based decision systems

The "irrational exuberance" in the stock market for the Internet resulted in the "Internet Bubble" and its inevitable collapse⁷ created marketplace distortions that are yet to be corrected. One of the negative results is collapse of seed and early stage capital⁸ for new technology commercialization, inhibiting development of new generation solutions for current problems.

¹ George Mattathil, "**Technology Perspectives on the Regulatory Changes in the Pipeline**", *IEEE San Francisco Communications Society*, May 16, 2006.

http://www.ewh.ieee.org/r6/san_francisco/comsoc/pdf/2006_05_16_Mattathil.pdf

² AT&T, "**A Brief History: The Bell System**". <http://www.corp.att.com/history/history3.html>

³ Jeff Hecht, "**Bell Labs: Over and out**", *New Scientist*, 03 February 2007.

<http://www.newscientist.com/channel/opinion/mg19325895.500-bell-labs-over-and-out.html>

⁴ Gary Stix, "**The Relentless Storm**", *Scientific American*, March 2003.

<http://www.sciam.com/article.cfm?articleID=000E6185-09E0-1E40-89E0809EC588EEDF&pageNumber=1&catID=2>

⁵ George Mattathil, "**Conceptual Barriers for Effective Network Design**", the *International Engineering Consortium*, the Annual Review of Communications, Volume 59, 2006.

<http://www.iec.org/pubs/pub.asp?pid=80&bsi=5>

⁶ George Mattathil, "**SBC can do 'what is good for California,' but it will require investment**", *San Francisco Business Times*, October 24, 2003.

<http://www.bizjournals.com/sanfrancisco/stories/2003/10/27/editorial5.html>

⁷ George Mattathil, "**The Internet Not Like Any Other Technology**", *Silicon Valley Business Ink*, June 14, 2002. http://strategygroup.net/svbiz_trend.shtml

⁸ "**Working group on venture capital - Final Report**", *US Dept. of Commerce and European Commission Directorate-General for Enterprise and Industry*, October 2005.

http://ec.europa.eu/enterprise/entrepreneurship/financing/docs/working_group_on_venture_capital_final_report.pdf

3. Ineffective valuation methodologies

Financial metrics that are used to capture the worth of an enterprise do not always adequately value technology infrastructure and its capabilities. The balance sheets of the carriers do not adequately represent the true worth and capability of the network infrastructure in their possession. But their decisions are based on their balance sheets, driven by Wall Street earnings expectations, achieved through consolidation and retrenchment, at the expense of new network services, capabilities and technology innovation.

These factors have collectively created a state of “reflexivity” in the network sector similar to the phenomenon generated by herd behavior in financial markets, discovered by George Soros — Theory of Reflexivity⁹.

One result of this reflexivity is the misdirection of resources by the carriers to offer video services, “triple play”, with questionable results — instead of building on their strengths. Based on deployed systems, telco strength is offering:

- high grade voice,
- medium/high grade Internet, and
- limited video services.

In contrast, cable operators have

- mature systems for high grade video services,
- medium grade Internet, and
- low grade voice services.

However, the carriers are striving to offer video services, while the cable operators are fighting to take away phone customers from telcos using VoIP (Voice over IP). Achieving the “triple play” marketshare goals by the carriers can occur only after wholesale evolution of the current infrastructure, which may take 50 or more years, if at all, at the current rate of progress. The net result is isolated new network infrastructure deployments, promoting network fragmentation and premature obsolescence of systems in use.

These misallocation of resources have resulted in an unbalanced buildup of network infrastructure capabilities, creating bottlenecks and underdeveloped network segments. The situation is similar to building lots of freeways without sufficient on-ramps, connecting roads and traffic lights. The result is the current power struggle between network infrastructure providers and providers who use infrastructure to offer network applications to consumers. A free market to mediate between consumer needs and interests of different categories of network suppliers has failed to develop thus far.

Yours truly,

CEO, Strategic Advisory Group

⁹ George Soros, “**The Theory of Reflexivity**”, the MIT Department of Economics World Economy Laboratory Conference, Washington, D.C., April 26, 1994. <http://www.geocities.com/ecocorner/intelarea/gsl.html>