

THE CONTINUED EVOLUTION OF TELECOMMUNICATIONS NETWORKS

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ABSTRACT

An earlier paper described the ways in which recent advances in technology have impacted the way that telecommunications services can be offered. This was shown to radically alter how the defense and intelligence communities must deal with telecommunications systems, as both a target and as an enabling force. This paper revisits those observations in light of financial meltdown which occurred in the capital marketplace in 2000 and 2001, examining which players remain and how they are likely to act. Their approach will define the telecommunications "playing field" for the next ten years.

The divestiture of the Bell System in 1984 was the result of the belief within the US government that even though telephone service was very good in the US, customers were paying more than they needed to and that technology was not being advanced as fast as it could be. The divestiture was considered successful within political circles since it led to lower prices for long distance service and the emergence of many new competitors in the field. This encouraged the government to take the next step, permitting competition with the remaining portions of the monopoly, the Bell operating companies. The method by which this change was to be brought about was the Telecommunications Act of 1996. The passage of this act brought forth an avalanche of financial investment in companies meant to compete with the Bell companies and the technology believed to be necessary to do it. This investment was a key part of the stock market boom in 1998 and 1999. Conversely, the successful resistance of the Bell companies to this onslaught of new competition was a principal cause of the market's precipitous decline in 2000.

In this paper we examine the implications of these events to the expected design and implementation of telecommunications networks over the next ten years. We begin by reviewing the technological situation as seen in 1999 and then we examine the first-order effects of the failure of the Telecom Act of 1996 [1]. From this we can identify the key issues going forward into the next decade and, from them, the implications to our defense and intelligence communities.

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[1] John Treichler, "The Future of Telephone Networks," Proceedings of the 2nd Biannual Conference of Defense and Science Applications, 23-25 August, 1999, Starved Rock, Illinois, USA