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Practical Solutions for Communications Policy

**The Electronic Apple Pie:
Deploying Advanced Telecommunications
Capabilities to All Americans**

Executive Summary

July 21, 1998
*Presentation at the July 1998 NARUC Meeting
Seattle, WA*

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Objective

This paper provides policy makers with a primer on technologies for traditional telephone networks (circuit-switched technology) and data networks (packet-switched technology), and explains how voice, data, and video networks are converging. To provide background for policy decisions, the paper explains and illustrates how customers use different types of networks (telephone, computer, wireless, cable TV, and satellite) to get their services.

Consequence of Network Convergence

A natural consequence of network convergence is that the traditional, technology-specific approach to regulatory policy will tend to become outdated in favor of a more integrated approach.

Section 706 of the *Telecommunications Act of 1996*

While a change of regulatory focus would tend to occur naturally over time, Section 706 of the *Telecommunications Act of 1996*[1] requires viewing various voice, data, and video networks as a whole to determine the most effective policies for encouraging deployment of advanced telecommunications capabilities.

What actions does Section 706 require?

Section 706 of the *Act of 1996* requires that the Federal Communications Commission (FCC) initiate and complete an inquiry of deployment of advanced telecommunications capability by February 8, 1999.[2] In this inquiry, the FCC must look at the fundamental relationships among regulation, deregulation, competition, and investment for these advanced capabilities. Then, the FCC must determine the following:

- Are advanced telecommunications capabilities being deployed to all Americans?
- Are advanced telecommunications capabilities being deployed in a reasonable and timely basis?

If the FCC determination is negative, it must take immediate action to:

- Consider if any regulations or policies are a deterrent to the rapid deployment of advanced services
- Remove any regulations that are found to be a deterrent
- Promote competition

The FCC is required to determine if the current pace of deployment of an advanced infrastructure meets both the timeliness and ubiquitous deployment required in the *Act of 1996*. Answering these questions requires an understanding of current networks and the capability of current networks to provide high-quality voice, data, graphics, and video services.

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[1] Telecommunications Act of 1996, Pub. L. No. 104-104, Stat.56, codified at 47 U.S. C. §§ 151 et seq., Section 706.

[2] *Ibid.*, Section 706(b). The *Act of 1996* requires the FCC to initiate an inquiry "within 30 months after the date of enactment of this Act" and to complete this inquiry 180 days later.

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What policy questions need to be answered?
The focus of Section 706 is assuring the deployment of advanced capabilities and promoting competition. While most parties will agree with these goals, there are diametrically opposing views as to what policies will accomplish both goals.

Controversy exists over whether any action must be taken to encourage investment in infrastructure or whether Section 706 is a mandate for the FCC to take action and to develop policies to provide incentives for investment and competition.

List of Policy Questions
While this paper does not discuss policy issues, it raises some of the many questions that may be addressed in the FCC's inquiry. The paper provides a technical foundation for discussing the Section 706 issues:

- *How do you define the mandates of Section 706, and are current policies accomplishing these mandates?*

- *What incentives would provide a company with a viable business case for deploying advanced technologies to all Americans?*

- *Is there a role for subsidies?*

- *Is regulation a barrier to deployment of advanced capabilities?*

- *Does regulatory forbearance in Section 706 apply to other sections of the Act of 1996?*

- *What are some of the issues related to access to the local exchange network?*

- *If network components are not considered essential, should they be subject to regulation?*

- *What issues are related to the Internet network?*

- *What issues are related to other industries (i.e., cable TV, wireless, and satellite) that are subject to regulation?*

Network Convergence — Different Viewpoints
Not all customers reach the Internet in the same manner with the same technologies. Companies have different customer prices and connection points. The result is that there are different views on whether or not there is a technical issue associated with the ability of a customer to reach the Internet through any given service. Network congestion includes factors such as network design, network reliability, bandwidth limitations, and customer equipment and software — all of which affect a customer's ability to access the Internet.

Project Information

List of Participants in the Telecommunications Industries Analysis Project

July 1998

State Regulators

NARUC Representatives from:
California Public Utilities Commission
Florida Public Service Commission
Illinois Commerce Commission
Iowa Utilities Board

Companies and Governments

AT&T
Bell Atlantic
BellSouth
Corning
GTE Business Development
  and Integration
Kalona Cooperative Telephone
MCI Telecommunications Corp.
NTT America
SBC Communications Inc.
Sprint
U S WEST

Sponsors:

Corporation for Public Broadcasting

Assisting with *public* data:

Bellcore
Federal Communications Commission
National Exchange Carrier Association
National Telecommunications and Information Administration

Background on the Telecommunications Industries Analysis Project

The Telecommunications Industries Analysis Project (TIAP), a seven-year-old research consortium, conducts and reports impartial research in the areas where network planning, business financials, and public policy (regulation and legislation) intersect. The participants actively work together to develop new options for telecommunications policies to meet the needs of consumers, governments, and companies in a changing, competitive environment. Participants include regulators, domestic and foreign telecommunications companies, materials and equipment manufacturers, and other communications-based organizations.

The purpose of the Project is to produce research and analysis that will assist policy makers in making informed decisions.

TIAP incorporates the following features:

- **Neutral setting**
  The Project provides a neutral setting, free of partiality, thereby ensuring objective and independent research.

- **Multiple viewpoints**
  Participants play an active role in the research and analysis, represent their own interests, and understand and assist in developing others' perspectives.

- **Analysis and results of alternatives**
  The Project provides research data, tools, and models for critical decision making.

- **Public distribution of research**
  Data used by this Project are publicly available. Research products become public domain information.