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**THE WHITE HOUSE
OFFICE OF THE VICE PRESIDENT**

January 11, 1994
FOR IMMEDIATE RELEASE

Contact: 202-456-7035

VICE PRESIDENT PROPOSES NATIONAL TELECOMMUNICATIONS REFORM

*Bring the Information Revolution to Every School, Hospital, and
Library in the Nation By the End of the Century*

Los Angeles, CA--Citing the need to bring the economic, health, and educational benefits of the information revolution to all Americans, Vice President Al Gore, in a speech to the Academy of Television Arts and Sciences, today outlined the Clinton Administration's proposals to reform the communications marketplace.

Gore challenged his audience to provide free links from the information superhighways to every classroom, library, hospital, and clinic in the country. "You here today represent the companies that can do it," said the Vice President. Following The Vice President's pledge during the 30 minute speech, he stated the Administration's support for removing the legal and regulatory barriers that prevent telephone, cable and long distance companies from entering each others business.

The Vice President recalled the dream of the interstate highway system of his youth. "Today," he explained, "we have a dream for a different kind of superhighway -- an information superhighway that can save lives, create jobs and give every American young and old, the chance for the best education available to anyone, anywhere."

The Vice President said the Clinton Administration's position grew out of the following five principles, which he outlined in a December speech at the National Press Club in Washington, D.C.:

- ✓ Encourage private investment
- ✓ Provide and protect competition
- ✓ Provide open access to the network
- ✓ Avoid creating information "haves and have nots"
- ✓ Encourage flexible and responsive government action

In a much anticipated announcement, Gore presented a series of policy decisions that will "clear from the road the wreckage of outdated regulations and allow a free-flowing traffic of ideas and commerce for the benefit of all Americans."

Specifically, Gore's proposal would allow telephone companies to get into the cable business, and let cable and other companies into the telephone business.

To make such new ventures possible, the Administration will prevent states from imposing barriers to new companies entering the local phone business and will require local phone companies to make their facilities available to all comers without discrimination and to allow competitors to provide all kinds of telephone services the phone company provides now.

On the issue of the court decree governing the breakup of AT&T, Gore said he supported the effort by key Congressional chairmen to take the courts out of the phone business and provide a pathway by which the local phone companies can enter other lines of business -- like long distance service -- but including also electronic publishing and manufacturing. Gore praised the work of Congressman John Dingell (D-MI) and Jack Brooks (D-TX) and pledged his support to work with them to enact a bill this year.

Gore also recognized the work of his colleagues in the U.S. Senate; Senators Ernest Hollings (D-SC), Daniel Inouye (D-HI), and John Danforth (R-MO) and in the U.S. House of Representatives; Ed Markey (D-MA), and Jack Fields (D-TX). "In many ways our legislative goals complement (their) work, said Gore. "We expect to introduce our legislative package shortly, and to work with Congress to ensure its speedy passage."

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telecom.

TELECOMMUNICATIONS POLICY REFORM

The Administration's Legislative Initiative



January, 1993

BACKGROUND ON THE ADMINISTRATION'S TELECOMMUNICATIONS POLICY REFORM INITIATIVE

On September 15, 1993, the Administration issued "The National Information Infrastructure: Agenda for Action," which unveiled our National Information Infrastructure (NII) initiative. There is a national consensus that construction of an advanced NII will "help unleash an information revolution that will change forever the way people live, work, and interact with each other." The "Agenda for Action" recognized that realizing the full potential of the NII will require aggressive, far-sighted government action on a number of fronts. The legislative proposals that Vice President Al Gore has outlined today are the culmination of extensive Administration efforts in one critical area -- telecommunications regulatory reform. Similar work is being done in other important areas, including support for innovative applications that will use the NII, improving access to government information, and protecting individual privacy and intellectual property rights.

In a December 21 speech at the National Press Club in Washington, DC, the Vice President announced the Administration's plans to present a package of legislative and administrative proposals concerning telecommunications and information policy. He stated that the Administration's policy would be based on the following fundamental principles:

- ✓ Encouraging private investment in the NII;
- ✓ Promoting and protecting competition;
- ✓ Providing open access to the NII by consumers and service providers;
- ✓ Preserving and advancing universal service to avoid creating a society of information "haves" and "have nots";
- ✓ Ensuring flexibility so that the newly-adopted regulatory framework can keep pace with the rapid technological and market changes that pervade the telecommunications and information industries.

The major elements of the Administration's legislative initiative are identified below, along with a brief discussion of how each proposal advances the principles set forth above. In doing so, the Administration has studied carefully the legislative initiatives of Senators

Hollings, Inouye, and Danforth and Representatives Brooks, Dingell, Markey, and Fields. Its proposals reflect the strengths of, and build on, those bills. The Administration is building upon the dramatic steps taken by the states, including substantial and innovative regulatory reforms. The Administration intends to work closely with the states, some of which are moving aggressively to encourage competition, infrastructure modernization, and NII applications in health care, education, and government services.

In addition to the legislative package, it is a goal of this Administration that by the year 2000 all of the classrooms, libraries, hospitals, and clinics in the United States will be connected to the NII.

ENCOURAGING PRIVATE INVESTMENT AND PROMOTING COMPETITION

To fully realize the benefits of private investment and more competition in the information infrastructure, regulatory change is needed. For many years, government regulation assumed clear, stable boundaries between industries and markets. This assumption sometimes prompted regulators to view (and to regulate) firms in various industries differently, even when they offered similar services. It also caused regulators to address the threat of anticompetitive conduct on the part of some firms by barring them from certain industries and markets.

The time has come for another approach. Even if the lines between industries and markets were clear in the past, technological and market changes are now blurring them beyond recognition, if not erasing them entirely. Regulatory policies predicated on such perceived distinctions can harm consumers by impeding competition and discouraging private investment in networks and services. The Administration is therefore committed to removing unnecessary and artificial barriers to participation by private firms in all communications markets, while making sure that consumers remain protected and interconnected.

CABLE-TELCO CROSS-OWNERSHIP

The Administration proposes to remove the current cross-ownership restriction of the 1984 Cable Act, and allow telephone companies to provide video services in their local exchange areas in order to promote investments that expand consumer choices and services. To ensure that telephone company entry does not harm consumers or competition, such entry will be subject to certain safeguards, most notably a requirement that the telephone company make channel capacity available to unaffiliated video program providers on a nondiscriminatory basis. This requirement should create market opportunities for competing providers of video services, thereby reducing prices and expanding the diversity of services available to television viewers.

Further, to deter premature and potentially anticompetitive mergers between telephone companies and their most likely competitors -- existing cable companies -- the Administration proposes to prohibit telephone companies from acquiring cable systems located in the companies' local exchange areas. There would be an exception for those telephone companies operating in rural areas, which may be unable to support more than one carrier. However, to ensure that this measure does not outlive its usefulness, the Administration proposes to authorize the Federal Communications Commission (FCC) to begin proceedings that could allow such acquisitions five years after the date of legislative enactment, if certain conditions are met (e.g., the presence of sufficient competition in the telco's service area). Any telephone company/cable system acquisition would also be subject to the antitrust laws in the same manner as an acquisition in any other industry.

LOCAL COMPETITION

Competition has generated substantial benefits for consumers in a host of communications and information service markets, including customer premises equipment and long distance service. The varieties of customer premises equipment have expanded dramatically since deregulation. In addition, the price of interstate long distance telephone service for the average residential user has declined more than fifty percent in real dollars since 1984, due to competition and regulatory reform. Consumers will realize similar benefits by the expansion of competition in the local telephone service market. Competition in that market will reduce the ability of any telephone company to harm competition and consumers through monopoly control and will encourage investment and innovation in the "on and off ramps" of the NII.

Accordingly, the Administration proposes to ensure that competing providers have the opportunity to interconnect their networks on reasonable, nondiscriminatory terms, with the facilities of all local telephone companies. Such companies should also be required to unbundle their service offerings so that alternative providers can offer similar services using a combination of, for example, telephone company-provided switching and their own transmission facilities. Finally, the Administration's plan will preempt state entry barriers, as well as rate regulation of carriers that the FCC finds or has found to lack market power.

The Administration understands that the growth of competition for local telephone services may require repricing of some local services. Such repricing must not be allowed to cause "rate shock" for consumers. Therefore, in implementing network interconnection and unbundling, the FCC and state regulators will be directed to prevent undue rate increases for any class or group of ratepayers.

MODIFIED FINAL JUDGEMENT (MFJ) RESTRICTIONS

The Administration is grateful for and appreciative of the excellent job done by the courts in connection with the MFJ. The break-up of AT&T has helped spur the competition and innovation that have kept America at the vanguard of the telecommunications industry. Now, the time has come to move beyond a decree remedying only specific violations of law administered by the courts and to enact a far-reaching and comprehensive plan reflecting a vision of the telecommunications world of the future. A key element of that plan must be to promote and protect competition, the engine of progress and jobs.

LONG DISTANCE SERVICE

The Administration supports the Brooks-Dingell bill provision that requires Department of Justice (DOJ) and FCC approval before the Regional Bell Operating Companies (RBOCs) may provide interexchange services -- most notably long distance service. In determining whether to lift the restriction, the Department of Justice will apply the test contained in Section VIII(C) of the MFJ. The FCC will apply a public interest test like that set forth in the legislative proposal offered by Chairmen Brooks and Dingell. These entry tests are designed in part to ensure competition and to protect consumers and local telephone ratepayers against cross-subsidization and other potential abuses of monopoly power. In working with the Congress, the Administration will explore the creation of incentives for RBOCs to increase the transparency of their facility-based local services, because of concerns associated with cross-subsidization and abuses of monopoly power. The Administration's plan will also include an immediate and limited exception to the prohibition of the provision of long distance services incidental to RBOC provision of wireless, cable television, and certain other services.

INFORMATION SERVICES

As current law provides, the RBOCs are permitted to offer information services. The Administration supports the approach taken in the Brooks-Dingell legislation that requires a separate affiliate for electronic publishing.

MANUFACTURING

In keeping with the principle of removing barriers to participation by all firms in all markets except where necessary, the Administration proposes to remove the current ban on RBOC research, development, and manufacturing subject to safeguards to prevent cross-subsidization and discriminatory practices. The safeguards to be applied before entry would include a

notification-and-waiting-period procedure, as contained in the legislation proposed by Chairmen Brooks and Dingell, under which an RBOC would submit relevant information about its proposal to the Department of Justice, which could investigate and sue to enjoin the proposed entry. The Administration also supports substantive post-entry safeguards, as contained in legislation introduced by Chairman Hollings and passed by the Senate in the last Congress. Those safeguards include, among other things, requirements that manufacturing be kept separate from the monopoly portion of the telephone company's business, that the RBOC not discriminate in either procurement or sales, and that needed network information be timely disclosed to competing manufacturers.

OPEN ACCESS/PROGRAMMING DIVERSITY

There is a long-standing national policy, embodied in the First Amendment, of protecting diversity and competition in the flow of ideas. This fundamental interest is critical not only with respect to the provision of entertainment, but also with respect to educational material, health information, information necessary to an informed citizenry, and other programming matter. To further this goal, the Administration plans to require the FCC, one year after enactment, to impose nondiscriminatory access obligations on cable television systems, except when technology, costs, and market conditions make it inappropriate.

ENSURING REGULATORY FLEXIBILITY AND FAIRNESS

The new regulatory framework that the Administration seeks to create is designed to adjust to the technological and market changes that have undermined the regulatory regime created by the Communications Act. Legislation in this area must stand the test of time, by addressing tomorrow's challenges as well as today's. The Administration's lodestars in this efforts are flexibility, adaptability, and fairness. The regulatory instruments we choose must be supple enough to accommodate the continual change that will typify communications industries in the future. At the same time, those instruments must be equitable; similarly situated services should be subject to the same regulatory requirements.

Beyond tackling the problems that have arisen as a result of current technological and market changes, the Administration recognizes that a new kind of communications service provider will emerge, one that offers switched, broadband digital transmission services to home and office. Such firms face the potential of being regulated under two different parts of the Communications Act -- Titles II (common carriers) and VI (cable communications). These firms will also be regulated

at the state level for the intrastate component of their Title II services and at the local level for their Title VI services, creating a needlessly overlapping and complex regulatory environment.

The nation needs a flexible, adaptable regulatory regime that encourages the competitive provision of the broadband, switched digital transmission services that can truly knit homes and businesses together. The Administration will propose a future-oriented regulatory regime, to be enacted as a new Title VII to the Communications Act, that will encourage firms to provide these services.

The keys to regulatory reform:

- Flexibility
- Adaptability
- Fairness

The Administration's proposal would provide the FCC with broad forbearance authority while maintaining key public policy goals, including open access and interoperability requirements, along with obligations to support universal service. In addition, consistent with the approach taken in the 1992 Cable Act, the proposal will provide for rate regulation until competition is established in these service markets, with a presumption of forbearance for new entrants that are not dominant in related services. State and local regulation of services not subject to competition could take place subject to FCC guidelines. Under the Administration's plan, the FCC would adopt transition rules to move to this new regime. Firms would elect to be regulated under the new framework, provided that they meet threshold criteria established by the FCC.

In addition, the Administration proposes to allow the FCC to reduce regulation for telecommunications carriers that lack market power. This provision will ensure that unnecessary government regulation -- however well-intentioned -- does not harm users of the infrastructure, or impede competitive entry, investment, and the introduction of new services.

UNIVERSAL SERVICE

The United States has long been dedicated to "universal service" -- widespread availability of basic telephone service at affordable rates. As stated in the "Agenda for Action," the Administration is committed to developing a new concept of universal service that will serve the information needs of the American people in the 21st century. Indeed, the full potential of the NII will not be realized unless all Americans who desire it have easy, affordable access to advanced communications and information services, regardless of income, disability, or location.

It is a goal of this Administration that by the year 2000, all of the classrooms, libraries, hospitals, and clinics in the United States will be connected to the NII.

The Administration recognizes, however, that crafting a new, meaningful, and practical definition of universal service will require flexibility, foresight, and the balancing of diverse interests. Given these circumstances, the proposed legislation will establish several overarching guidelines and charge the expert agencies -- the FCC and the state regulatory commissions -- with establishing the details.

The Administration therefore proposes to:

- ✓ Make the preservation and advancement of "universal service" an explicit objective of the Communications Act, in order to establish the goal that advanced services be available to rural and urban lower income users, to users in areas where the costs of service are high, and to social institutions, especially schools and health care facilities.
- ✓ Charge the FCC and the states with continuing responsibility to review the definition of universal service to meet changing technological, economic, and societal circumstances.
- ✓ Establish a Federal/State Joint Board to make recommendations concerning FCC and state action on the fundamental elements of universal service. In its deliberations, the Joint Board must gather input from non-governmental organizations.
- ✓ Oblige those who provide telecommunications services to contribute to the preservation and advancement of universal service. However, the FCC, in consultation with the states, would be authorized to permit "sliding scale" contributions (e.g., to avoid burdening small providers and new entrants), or "in-kind" contributions in lieu of cash payments (e.g., to reduce the monetary payments owed by providers that offer to connect with schools, hospitals, etc.).

Draft April 19, 1999

The case for putting Internet applications on the policy agenda

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I. If it bleeds, it leads

Arguably, there is more time and energy being devoted in Washington to exploring the problems that the Internet creates than to promoting the benefits of the Internet and of information technology (IT) more broadly. There are plenty of hearings, bills and press accounts related to Internet smut, erosion of personal privacy, cyber-terrorism, spamming, Internet gambling, Internet fraud, cyber-stalking, Internet sales of guns and liquor, Internet addiction, etc. There is relatively less attention devoted to community networks, the potential of the Internet to provide “anytime, anywhere” instruction for adult learners, digital government, tele-health, digital libraries, the use of geospatial information systems, and other benefits and applications of IT.

Obviously, it’s important for policy makers and the IT industry to confront the problems associated with the Internet. But it is also critical for the United States (and other nations) to pursue policies that will maximize the benefits of the Internet -- to “put people first” in the Information Age. In several areas, the Clinton-Gore Administration has been successful in getting a particular application of IT on the national agenda. For example, the “four pillars” of the Administration’s educational technology initiative (Internet connectivity by 2000, technology teacher training, multimedia computers, and educational content) have widespread support, and funding for educational technology has increased at the federal level from \$23 million in FY93 to \$2 billion in FY2000. Administration leadership and federal funds have leveraged significant additional resources from states, volunteer organizations, local communities, and companies. However, the United States has just begun to scratch the surface when it comes to harnessing the power of the Internet. More can and should be done.

II. The case for a greater emphasis on Internet benefits and applications

There are a number of compelling reasons to increase the prominence of Internet applications on the national agenda.

1. **More Americans have access to it:** 79 million Americans now have Internet access, and 50 percent of households now have a personal computer. With the emergence of the sub-\$500 PC and other low-cost information appliances, price is becoming less of a barrier.

2. **The kinds of applications that can be supported is becoming increasingly sophisticated:** Not too long ago, Internet users were limited to ftp, telnet, e-mail, and Usenet. Today, Internet application developers can use streaming audio and video, digital signatures, secure transactions, shared virtual environments for collaboration, intelligent agents, tools for discovering and retrieving information, and speech recognition. Web browsers have become a universal client for deploying virtually any distributed application.
3. **The Internet may allow us to scale “services to the citizen” in a way that was impossible before:** To give one example, the government is not likely to be able to have resources to provide classroom-based adult literacy courses for the tens of millions of Americans that could use it. The Internet may allow the government to take advantage of the same economies of scale that allow a company to sell software with millions of lines of code for under \$100.
4. **Changes in public policy may be required to realize the benefits of IT:** Current laws and regulations may be a barrier to the application in question. For example, the requirement for state-by-state licensure of doctors may be slowing down the use of telemedicine. In some applications, the government may be the only or the most important user and funder of the application (e.g. public health information systems, crisis management, delivery of government services).
5. **The public’s image of the Internet will be influenced by the public discourse:** If the public debate is dominated by Internet smut and cyber-stalkers -- this will clearly impact the overall impression that members of Congress and the public have of the Internet in a negative way.
6. **New applications of IT will grow the market:** Although e-commerce will, to a large extent, drive the IT market, there is more to life than buying and selling. The Internet is about citizenship as well as commerce. New applications will help grow the market for IT products and services, and enrich our lives in the process.
7. **In the future -- we will be limited more by our imagination and creativity than technology:** As the price of transmitting, storing and processing information continues to plummet, the relevant question will shift from what **can** we design to what **should** we design.

III. Examples of applications

Below are some examples of important IT applications:

1. **Health care:** Consumer health information, computer-based patient records, shared patient-doctor decision-making, clinical decision support systems, computer-aided

medicine, unified electronic claims, VR for medical education, public health information systems.

2. **Digital Government:** 24x7 self-service, much more open and transparent government, information and services organized around constituencies as opposed to agencies, greater opportunities for informed participation.
3. **Life-long learning:** Participation in “communities of learners,” access to multimedia digital libraries, modeling and simulation that allows students to “do” science as opposed to read about it, intelligent tutoring systems that adapt to different learning styles.
4. **Crisis management:** “Judgment support” tools that assist crisis managers in making decisions based on incomplete information from sources with varying levels of quality and reliability; modeling and simulation of manmade and natural disasters; virtual “anchor desks” that allow crisis officials to call on resources of computational power, information, and both human and machine expertise.
5. **Environmental monitoring:** Networks of low-cost wireless sensors for real-time monitoring of air and water quality.
6. **Law enforcement and public safety:** Secure interoperable wireless networks to enable seamless cooperation between federal, state and local law enforcement officials.
7. **Arts, culture, and the humanities:** Archives, museums and performances online.
8. **Intelligent transportation systems:** Reduced congestion, accidents and fatalities, and increased energy efficiency.
9. **Improving the quality of life for persons with disabilities:** Multi-modal human computer interaction, including speech and gesture recognition, text-to-speech, automatic captioning, and the electronic equivalent of a guide dog.
10. **Distributed work:** Telecommuting, collaboration by geographically distributed teams).
11. **Geospatial information systems:** Crime mapping, improved decision-making for sustainable development at community level.
12. **Third World economic development:** tele-centers in developing countries, micro-enterprises online, “global knowledge networks” of development practitioners.
13. **Science and engineering:** Computational science, “collaboratories” that connect researchers, scientific instruments, supercomputers, and very large databases.

14. **Applications of IT that are focused on the needs of a particular constituency:** such as small business, older Americans, low-income/disadvantaged communities, rural communities, and non-profits.

IV. Promoting applications

In the area of electronic commerce, the Administration has emphasized industry leadership and industry self-regulation. For the most part, the role of government is to create a predictable legal and regulatory environment that will enable e-commerce to flourish. In other application domains, other policy instruments may be appropriate, including:

1. **Eliminating legal and regulatory barriers:** e.g. the lack of national medical records privacy legislation.
2. **Making the government a better user of the technology:** e.g. government use of Web-based training for training of federal employees.
3. **Establishing national goals:** e.g. connecting every classroom to the Internet by the year 2000.
4. **Supporting pilot projects to encourage experimentation,** e.g. the Telecommunications and Information Infrastructure Assistance Program.
5. **Providing education and training for users and professionals:** e.g. NIH graduate training grants for medical informatics.
6. **Investing in applications-oriented R&D:** e.g. NSF-sponsored research in digital libraries.
7. **Government support for industry-led open standards:** e.g. government support for testbeds of Open GIS Consortium and Instructional Management System.
8. **Government support for deployment:** e.g. Technology Literacy Challenge Fund for educational technology.
9. **Creating fora for discussion of issues between government, industry, academia, and non-profit organizations.**
10. **Sponsoring evaluation research to examine the costs and benefits of using IT for particular applications, and to identify best practices.**

V. Illustrative Administration initiatives

1. **Educational Technology:** Roughly \$2 billion/year (including “e-rate) to achieve four pillars: Internet access, multimedia computers, teacher training, and educational content.
2. **Information Technology for the 21st Century:** \$366 million increase in long-term IT research, consistent with the recommendations of President’s Information Technology Advisory Committee. Developing applications such as earlier prediction of tornadoes, more rapid development of drugs, and more accurate modeling of climate change.
3. **Next Generation Internet:** \$110 million to conduct networking research, connect (with Internet2) more than 150 universities and national labs to high-speed networks 1,000 times faster than today’s Internet, and develop new applications such as tele-echocardiography, image spreadsheets, tele-immersion.
4. **Community Technology Centers:** \$65 million to establish CTCs in low-income urban and rural neighborhoods.
5. **Digital Library for Education:** \$33 million to digitize archives, cultural artifacts in Smithsonian and National Park Service, and create digital library for math and science.
6. **Curbcuts on the Information Highway:** \$35 to make the federal government a better user of assistive technology, and to encourage industry to incorporate “universal design” concepts into IT products and services.
7. **Technology for adult education:** \$23 million to sponsor pilots of use of technology for adult literacy, adult basic education, and English as a Second Language.

VI. Could more to be done?

Clearly, more can and should be done. Although promoting benefits and applications of IT has been an Administration priority, industry can do more to define and advance the applications agenda, including:

1. **Developing white papers** that describe the potential of IT to make a difference in particular application domains, and concrete suggestions for policy-makers for moving the application forward.
2. **Fostering interaction of executives responsible for vertical markets with policy-makers:** Currently, policy-makers in the Executive Branch and the Congress interact with government relations and (occasionally) CEOs. Policy-makers rarely hear from company executives responsible for developing a vertical market (e.g. health care solutions).
3. **Creating policy networks that cut across industry lines:** Computing and communications industry associations are organized along (increasingly overlapping) industry lines - e.g. SIA, CSPP, BSA, SIIA, ITAA, EIA, TIA, AEA, SEMI, EMA, USTA, CIX, ALTS, etc. These structures are not designed to address issues related to applications, which will obviously cut across market segments and will involve other stakeholders in addition to companies.



THE VICE PRESIDENT
WASHINGTON

October 26, 1993

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

As we discussed last Thursday, the Administration strongly supports full funding of \$238 million for the ARPA High Performance Computing and Communications (HPCC) Program. The HPCC program provides the technology base for the National Information Infrastructure, one of the Administration's most important technology initiatives.

I appreciate your willingness to discuss this issue with the Administration. Because of its importance to the Administration and to me personally, I would like to work closely with the Committee during conference to fully fund this initiative.

If your staff requires any additional information, please contact Thomas Kalil with the National Economic Council (456-2808) or Mike Nelson with the Office of Science and Technology Policy (395-6175).

Thanks again for your attention to this issue.

Sincerely,


Al Gore

AG/tak

Thanks to us in the conference. This is critical

THE WHITE HOUSE
WASHINGTON
MEMORANDUM

To: IITF

From: Tom Kalil

Re: Agency NII priorities for 1996

Date: December 14, 1995

The NII Progress Report illustrates that many agencies are promoting the NII and its applications by:

- Establishing WWW servers to increase the dissemination of government information;
- Using information and communications technology to deliver government services and to make government more efficient and responsive;
- Resolving some of the policy issues that are barriers to the NII and its applications;
- Investing in research and development;
- Sponsoring pilot projects and test-beds with universities, companies, state and local governments, non-profits, etc;
- Creating fora in which the different "stakeholders" (both public and private) can come together to discuss a particular issue related to the NII.

Although I think that remarkable progress has been made, I think that there would be some value to each of the agencies picking a couple of NII related issues/projects to emphasize in the coming year.

Ideally, agencies would be able to communicate:

- What their NII priorities are;
- What they hope to accomplish by the end of 1996; and
- Who within the agency is responsible for a given project/issue.

Below are some potential examples. They are not intended to be definitive or exhaustive, but I hope they will spark discussion.

Agriculture:

- * The Administration's guidance on the 1995 Farm Bill outlines a number of steps that USDA should take to promote the benefits of information infrastructure for rural Americans, including making the NII a priority of the Cooperative Extension Service, designating a limited number of "information grant" universities as analogs to land grant universities, and expanding access to the Internet
- * USDA could also take the lead on exploring potential of "precision farming."

Commerce

- * Resolution of some of the technical and legal issues surrounding authentication and digital signatures (NIST).
- * Implementation of the telecom bill, if passed (NTIA).
- * Expanded access to real-time weather data (NOAA)..

Defense:

- * Advance the NII as "leading-edge" user of technologies and applications such as high-performance networking, distributed simulation, modeling and simulation, computer-based training, geographical information systems, information security, etc.

Education

- * Play a lead role in promoting the President's educational technology initiative, which involves expanding access to personal computers, networking classrooms, developing educational content and applications, and training teachers.

Energy:

- * Vice President Gore has asked the Department to support "virtual labs" in which researchers, data sets and scientific instruments
- * The Department of Energy is also the natural agency to lead the Administration's efforts in demand-side management and in considering the role that electric utilities may play as builder or user of the NII.

Health and Human Services

- * Vice President Gore has asked Secretary Shalala to take the lead (working with other agencies and the HIAWG) to develop Administration policies on
 - Data standards;
 - Privacy;
 - Consumer health information;
 - Telemedicine.

Interior

- * Lead the development of the National Spatial Data Infrastructure and the National Biological Information Infrastructure.

Justice

- * Address short-comings of existing legal framework for computer crimes.
- * Law enforcement applications (with Treasury).

Labor

- * Increase the availability of labor market information through "one stop shops."
- * Promote "life-long learning" applications of NII.

State

- * Encourage international organizations to make use of the GII to carry out their mission, subject to budget constraints.

Transportation

- * Determine areas of synergy and commonality between Intelligent Transportation Systems and NII.
- * Help resolve policy issues surrounding ownership of telecommunications infrastructure used for ITS by state transportation departments.
- * Encourage state transportation officials to make appropriate use of "rights of way" to build out the NII.

Treasury

- * Develop Administration policy on digital cash.
- * Continue to play a leadership role in the implementation of the NPR IT recommendations.
- * Encourage MDBs to promote linkage between economic development and the GII.

Veterans Affairs

- * Health care applications.

Independent Agencies

Agency for International Development

- * Promote linkages between GII and economic and social development through projects such as the Leland Initiative.

Environmental Protection Agency

- * Expand the availability of information on environmental regulations, pollution prevention, etc.

NASA

- * Expand public access to earth and space data for broader range of end-user communities (K-12, state and local uses of GIS, etc.)

NSF

- * Continue to advance the state-of-the-art in academic networking (e.g. connections program for OC-3 and above).
- * Help establish and fund a social science research agenda for the NII.

Small Business Administration

- * Implementation of Business Advisor.

DRAFT

Comments are welcome. Please send them to:

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THE WHITE HOUSE
WASHINGTON

May 24, 1993

MEMORANDUM FOR DISTRIBUTION

FROM: JOHN H. GIBBONS, DIRECTOR, OSTP 
ROBERT RUBIN, ASSISTANT TO THE PRESIDENT, NEC 
RE: PROPOSED STRUCTURE OF THE INFORMATION INFRASTRUCTURE
TASK FORCE

During the campaign, the President and the Vice President stressed the need to create the Infrastructure for the 21st Century. In particular, they called for the rapid development of a National Information Infrastructure (NII), a system of high-speed telecommunications links, databases, and advanced computer systems that will provide Americans the information they need, whether in the form of text, images, video, or sound. This infrastructure will consist of a "network of networks" run by many different companies and using different technologies (fiber-optics, cable, wireless) but all connected and inter-operable. Such a network would be as ubiquitous as the phone system, but capable of carrying at least 1,000 times more information, providing two-way video, access to massive data libraries, and hundreds of channels of HDTV programming.

The Administration's February 22 technology policy paper announced the President's plan to create a White House Information Infrastructure Task Force (IITF) which would, "work with Congress and the private sector to find consensus on and implement policy changes needed to accelerate deployment of a national information infrastructure." This memo is intended to provide more details about the IITF, raise several questions that need to be resolved, and outline the next steps for this group.

The Administration's vision of the NII

Development of the NII has the potential to dramatically improve American competitiveness, health care, education, and government services. For instance, by providing faster and less expensive access to information, the NII can accelerate the design, manufacture, sale, and servicing of new products, giving American companies an edge in world markets.

While the private sector will build almost all of the "information highway" system, the President and the Vice President have stated clearly that the Federal government has a key leadership role in the development of the NII. They have called for:

- (1) Increased Federal investment in the development of the networking and computing technology needed for the NII.
- (2) Federal funding for pilot projects to demonstrate this technology.
- (3) Federal programs to ensure that schools, libraries, hospitals, and other non-profit institutions can afford to be connected to the NII.
- (4) Forward-looking telecommunications policies that will encourage private-sector investment in a ubiquitous, telecommunications system and ensure that all Americans enjoy the benefits of such a system. Such policies will:
 - provide a stable regulatory environment,
 - promote competition,
 - promote interoperability of networks,
 - fairly allocate the electromagnetic spectrum,
 - encourage development of standards,
 - enable investment in the development and deployment of new technologies,
 - ensure access to users in poor and rural areas that otherwise might not enjoy the full benefits of the NII.
- (5) Federal information policies that promote creation of new information services by:
 - using information technology to provide more Federal information on-line,
 - working with the private sector to disseminate Federal information,
 - creating new ways to protect intellectual property rights in a networked environment,
 - ensuring the privacy and security of users of the NII.

What will be the role of the IITF?

The IITF will be responsible for articulating and implementing the Administration's vision for the National Information Infrastructure. Working together, the participating agencies will develop comprehensive telecommunications and information policies that best meet the needs of both the agencies and the country. The IITF will address a variety of issues including regulatory policy, government information policy, standards issues, intellectual property rights, private sector input on the National Information Infrastructure, and transition of the National Research and Education Network.

The IITF will focus primarily on those issues that cannot be resolved without interagency cooperation and will have a key role in resolving interagency disputes. By helping build consensus on thorny policy issues, it will help agencies make and implement policy in areas where gridlock has been the norm in the past. The IITF is **not** designed to impose policies on the agencies. Specifically, it will not try to second-guess policy decisions which fall solely within the jurisdiction of a single agency.

Many and perhaps most of the issues the IITF will deal with will be handled in working groups (which may be quasi-permanent or ad hoc) created to address a single issue. Issues that could not be resolved by a single agency would go to one of these working groups. Only if the working group could not resolve the issue would it come before the full IITF. In general, the goal will be to make policy decisions at the lowest possible level. It is conceivable that the full IITF would meet only 3-6 times a year.

What will be the relationship between the IITF and the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET)?

Many of the issues related to the NII will be dealt with by the High Performance Computing, Communications, and Information Technology (HPCCIT) Subcommittee of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET), which is chaired by the White House Office of Science and Technology Policy and which is responsible for coordinating Federal R&D activities. FCCSET, and particularly HPCCIT, will play a complementary role to the IITF. It will (1) provide technical advice to the IITF and its working groups and (2) coordinate the Federal research activities that support development of the National Information Infrastructure.

For the last three years, HPCCIT has coordinated the High-Performance Computing and Communications (HPCC) Initiative, a \$1.1 billion-a-year R&D program which is developing the more powerful supercomputers, faster networks, and more sophisticated software needed to build an advanced NII. By working with the IITF, the scientists and engineers on the HPCCIT can help ensure that new technology developed by this initiative is fully utilized in the NII. An HPCC advisory committee, required by Vice President Gore's legislation authorizing the HPCC Initiative, will be established to provide private sector advice on many of the research-related issues that the HPCCIT faces.

Who will be on the IITF?

Presumably, all the key agencies involved in telecommunications and information policy will be represented on the task force, including:

Council of Economic Advisers
National Economic Council
National Security Council
Office of Management and Budget
Office of Science and Technology Policy
Department of Commerce (includes the National Telecommunications and Information Administration, the National Institute of Standards and Technology, and the National Technical Information Service)
Department of Defense
Department of Justice (Antitrust Division)
Department of State (Directorate for International Communications and Information Policy)

In addition, several other agencies will either be members of the IITF or else be involved in working groups of the IITF which may be formed to address specific issues. These include:

Research agencies
 National Science Foundation
 Advanced Research Projects Agency (Defense Department)
Intelligence Community
U.S. Trade Representative

Clearly, there would also need to be close links to the Federal Communications Commission. When the members of the IITF are in place, they will help determine the membership and structure of the task force.

Because of the key role of the Department of Commerce, a high-level official of the Department, most likely the Deputy Secretary, will chair the IITF.

What will be on the IITF's agenda?

From discussions with agency personnel, industry, academia, and public interest groups, we have compiled a list of issues that might be on the task force's agenda. The list includes:

Increasing competition in the local loop
Cable-telco cross-ownership restrictions
Modified Final Judgment (which regulates the Regional Bell Operating Companies)
Spectrum Allocation
The Commercialization of the Internet computer network
Telecommunications standards (both domestic and international)

Computer security
Privacy
Encryption Technology
Intellectual Property Rights in a Networked Environment
Dissemination of Federal Information
Roles and structure of Federal telecommunications agencies

Clearly, the members of the IITF will add or delete items, as well as to prioritize them.

How will the IITF get input from industry?

To provide input from the private sector, it is likely that the IITF will establish one or more advisory committees. These committees will not only provide suggestions and new approaches to policy questions, they will also act as a sounding board for proposals from the IITF and help build public support for those proposals. A single large advisory committee might advise the IITF on high-level issues, while subcommittees of the advisory committee, perhaps joined by outside experts, could advise issue-specific working groups of the IITF.

What's next?

In response to our April 5 memo, agencies have provided names of agency liaisons to the IITF. A list of those names is attached. In addition, it would be useful if your agency determined whether it needs to devote additional staff or resources to the HPCCIT, given the additional, new roles that HPCCIT will be playing.

In the coming weeks, the IITF and the White House plan to draft a telecommunication policy paper (10-15 pages) laying out, in broad terms, the principles that the Administration intends to follow on telecommunications and information policy. It would be similar in form and function to the February 22 technology policy paper. Ideally, this paper would be released when the creation of the IITF is officially announced.

One of the first tasks for the IITF will be to define its agenda. There are a host of difficult telecommunications and information issues that need to be resolved and the IITF members will have to decide which ones are most pressing and most important. The IITF's agenda will be determined by many factors, including Congressional action and Administration priorities. We welcome your input on which items should be at the top of the agenda. The key White House staffers working with the IITF are Mike Nelson (at OSTP, 395-6175) and Tom Kalil (at the NEC, 456-2801).

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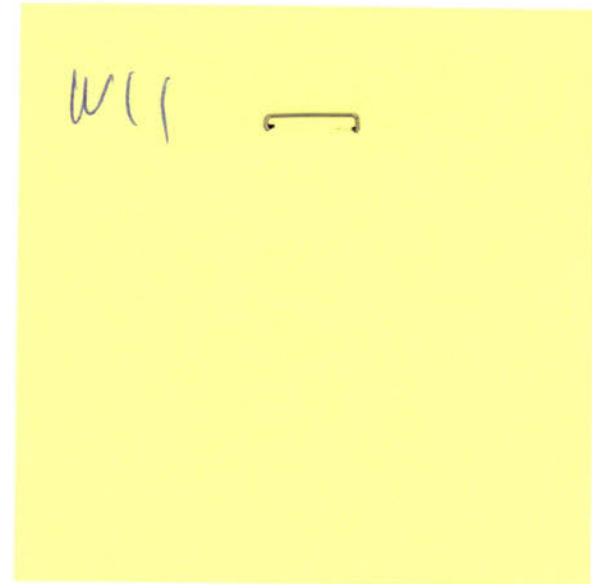
Information Infrastructure Technology and Applications (IITA)

Information Infrastructure Services

Systems Development and Support Environment

- Intelligent User Interface

National Challenges



ARPA

Advanced Internet-based Services

Mobile and Wireless Technologies

Distributed Data and Object Bases

Access Tools and Interfaces
Development

DOE

Prototype Applications in Energy-Related Areas:

Management of Energy Supply and Demand
Telecommuting

Information Technology Training

Public Information

Energy Efficient Manufacturing and
Materials Processing

EPA

- With NOAA, Expand Public Access to Environmental Databases, including:
 - Ecological Measurements
 - Air and Water Quality Model Predictions
 - Population Exposure to Pollutants
- Develop Intelligent User Interfaces for:
 - Interactive Browsing
 - Retrieval
 - Analysis
 - Online Multimedia Tutorials

EPA

- Curriculum Development for Environmental Education for K-12 and University Undergraduate and Graduate Programs

NASA

- Digital Libraries
- Database Software Capable of Quickly Searching
- Standards Development and Adoption
- Visualization Technology
- Databases of Remote-Sensing Images and Software

NLM IITA ACTIVITIES

Expand HPCC Programs

- Gateways and Intelligent Agents
- Unified Medical Language System Extension
- Connections Program with NSF

Invitation to other NIH institutes and other HPCC agencies to:

co-sponsor; co-evaluate proposals; and co-fund projects deemed appropriate

NLM IITA ACTIVITIES

Broad Agency Announcement by NLM

- Testbed networks to link hospitals, doctor's offices, libraries, and universities to share medical data and imagery
- Software and visualization technology
- Virtual reality technology to simulate operations and other medical procedures

Broad Agency Announcement by NLM

- Collaborative technology for remote treatment
- Databases for medical information and literature
- Computer-based patient records

NOAA

- Environmental Monitoring, Prediction and Assessment Applications
- With EPA, Expand Access to Environmental Data

NSF

Intelligent User Interfaces

Development of Distributed Software Systems
and Support Environments

Standardized Data Management and
Communications Processes

Enhanced Information Infrastructure Services

NSF

Tools and Mechanisms To Enhance
Communication and Collaboration
Across Network

Development of Multimedia Software and
Educational Materials

Basic and Strategic Research on Advanced Data
Capture, Storage, Representation and Retrieval
Technologies for Digital Libraries

NSF

Training in Digital Libraries

Lifelong Learning

Development of New Network-based Training
Modalities

NIST

- Advanced Manufacturing Systems Integration Technologies
- Prototype Components and Interface Specifications for Manufacturing Systems
- HPCC to Integrate Design and Production
- Testbeds for Advanced Manufacturing Systems and Networks

W(1)



ARTIFICIAL
INTELLIGENCE
LABORATORY

May 17, 1993

Jonathan P. Gill
Director of Electronic Publishing and Public Access Email
Office of Media Affairs, Room 161
Old Executive Office Building
Washington, DC 20500

Dear Jonathan:

As you know, we at the MIT Artificial Intelligence Laboratory are extremely excited about the emerging opportunity to combine electronic mail and electronic publishing—elements of the information infrastructure—together with artificial intelligence technology, to produce an intelligent information highway. We believe this will produce a revolution in the way the government and the public operate, and the way they cooperate. We see the opportunity to move from paper-based communication toward electronically mediated interaction, enabling new and powerful ways to work and to learn.

Accordingly, we—along with Howie Shrobe, John Mallery, Eric Loeb, and others—are in the process of reducing our thoughts to paper in preparation for an aggressive research program. The rest of this letter outlines the high-level spirit of our proposed research; we are sending it to you in consequence of your ongoing interest in the research, its impact, and its utility.

Three fundamental observations underlie our excitement.

First: While there is widespread acclaim for the idea that electronic networks make vast amounts of information accessible, there seems to be considerably less attention given to the observation that an enormous amount of information is not nearly as important as having access to enormously useful information.

Hence the power of computer networks is a doubled-edged sword. The good news is that we now have a new and powerful way to deliver vast amounts of information to large numbers of people. The bad news is that we have a new and powerful way to deliver vast amounts of information to large numbers of people. But we're already deluged with information: How many papers, reports, journals, newspapers and letters are sitting on your desk, unread? The coming flood of digital information could make the problem orders of magnitude worse. High speed networks, alone, will only drown people and machines in a flood of bits, burying the useful information in the ensuing onslaught.

Thus we suggest that the information infrastructure must have intelligence embedded

into it, enabling it to deliver information where it is needed, when it is needed, with high precision, and at an appropriate level of detail.

Second: the information infrastructure can be an interactive, functioning entity capable of behaving as a nervous system of sorts, that enables new forms of coordination of individuals, machines, and organizations. It can thus be considerably more than a message transport medium, passively sending letter-like or even multimedia messages.

Third: the information infrastructure can provide the foundation for new ways to gather, organize, and transmit knowledge, as well as new ways for organizations to operate. It can thus be considerably more interesting than the global-scale filing cabinet metaphor suggested by the collection of on-line information resources now available.

We propose to do all this by melding intelligence and communication, producing an intelligent communications infrastructure. The network will act to bring information seekers (either people or programs) into contact with the information resources they seek.

Our work will have a considerable impact on the communication needs of any large organization, whether public or private. We believe that a number of very important capabilities will result.

- *Communication and Coordination:* The technology can enhance collective learning in organizations by providing communications tools that improve coordination, collaboration, and team problem solving.
- *Policy Formation:* The informal experience in the research world, where routine access to email has existed for two decades, is that the medium provides far better and faster sharing of documents, ideas, and reactions. We predict a far more substantial effect when the technology is used widely in large organizations.
- *Organizational Effectiveness Enhancement:* The technology can support organizations by tracking workflow, detecting bottlenecks, and balancing workloads.
- *Reflective Design:* The technology will be a basis for creating tools that model and analyze organizations, in turn supporting continuous refinement of the organization's design.
- *Information Focus:* At the moment the only real control we have over the information that comes to us in the traditional way is to select specific sources; the selection is of course all-or-nothing: we can't get just the headlines about economic policy from the *Wall Street Journal*, just a summary of foreign affairs stories from *The MacNeil/Lehrer Hour*, and the complete stories about Boston-area business development from *The Boston Globe*. Intelligent electronic distribution of information will enable a fundamental change in this process: For the first time information

can be delivered in a way that conforms to the recipient's definitions of relevance, timeliness, packaging, and desired level of detail. Electronic agents can sift through the sources that we specify, at intervals we choose, selecting information relevant to our needs.

- *Knowledge-based information interconnection:* Melding intelligence and communication will enable such capabilities as intelligent routing of electronic mail, i.e., sending it to the most appropriate individual in an organization, even though it arrived addressed only to the organization (e.g., WH, HHS, OMB, etc.). That routing will be based on an understanding of the content of the message and the structure of responsibilities in the organization. The system will also make possible "focused broadcast" email, i.e., sending announcements to all those who ought to know (determined from job responsibilities) and to all of those who would like to know (determined from their stated interests). The message author will send the message to a broadcast address; the intelligence in the system will take care of focusing the broadcast. The system will also make possible electronic monitors, programs that scan incoming information and alert individuals and organizations of changes in conditions that affect their goals and interests.

We believe that with the innovative use of results from artificial intelligence, sociology, and the study of organizational structure, we can develop a communication infrastructure that will enormously increase the productivity and effectiveness of individuals and organizations. That communication infrastructure can also enhance our communication efficacy and interactive participation.

Issues of availability will arise: We are well aware that access to computers and electronic communication is far from evenly distributed across the population. We have begun to investigate ways in which existing widely distributed public facilities (e.g., local libraries, post offices) can provide outreach centers that will make the intelligent infrastructure available to all individuals and communities.

Issues of scale will also arise, driven by both the changing nature of the economy (e.g., information-intensive service industries) and advances in networking (e.g., the current exponential growth in number of machines on the Internet). We will address this with parallelism in two forms: (i) we will distribute the knowledge-based interconnection workload around the network, with local servers handling part of the process for their individual organizations, and (ii) we will use multiprocessor machines that divide information retrieval requests into dozens of subcomponents and works on all components in parallel. Both of these will permit scaling up the performance of our systems by orders of magnitude.

In summary, high speed information networks are on the way; their widespread use can produce for us two very different worlds. In one world we have people and organizations that are better informed, more productive, and more competitive, because the infrastructure vastly extends the reach and power of their ability to find, process, and understand information. But, if all we put in place is high speed networks, we will surely produce a very different world, one in which the technology overwhelms us with information, drowning us in bits, decreasing productivity and competitiveness.

The downside alternative is not far-fetched: careful studies of productivity have raised the remarkable possibility that the decade-long multi-billion dollar investment in personal computers has not produced a measurable improvement in productivity. If we are to avoid this possibility with high speed networks, we must begin now to build the intelligence that will turn the networks into a powerful, intelligent information infrastructure. The computer systems we intend to build are the model T Fords of their era, but like those cars, we believe they are the beginning of a revolution in the way we live, work, and govern.

Sincerely



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DRAFT

**POLICY OPTIONS FOR
THE NATIONAL INFORMATION INFRASTRUCTURE**



**National Telecommunications
and Information Administration
May 27, 1993**

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POLICY OPTIONS FOR THE NATIONAL INFORMATION INFRASTRUCTURE

OVERVIEW

Introduction:

The Administration's National Information Infrastructure (NII) Initiative has emphasized the role of the private sector in operating and developing the nation's communications networks and the applications that can use those networks. Because many of the major players in the U.S. communications industry, including local and long-distance telephone companies, cable television operators, and cellular telephone providers, are subject to varying degrees of regulation at the Federal, state, and local levels, governmental policies directly affect the course of infrastructure development by these firms. In this regard, an important concern is the degree to which Federal regulations preempt state or local authority.

Many of the relevant government policies were adopted when there were relatively clear technical distinctions between, for example, the voice messages carried from point to point by telephone companies and the television signals carried by cable operators, and when data communications among computers and data bases represented a small and very limited telecommunications activity typically conducted over separate, specialized networks.

A Recommendation: Reassess Telecommunications Policies

It is appropriate for the Administration to undertake a thorough review of existing government regulations and policies that affect the information infrastructure -- particularly those discussed in this paper. The growth of modern digital communications technologies is eliminating, as a technical matter, distinctions between voice, data, and video communications, and making it less expensive for communications firms to compete with, and in some cases combine with, established providers in offering a variety of services. For example, US West, a local telephone company, recently agreed to invest \$2.5 billion for a 25 percent interest in the cable television and programming operations of Time Warner. AT&T, a long-distance provider and equipment manufacturer, agreed to purchase a one-third interest in McCaw Cellular, a major mobile service provider, for \$3.8 billion. And cable television firms, TCI and Cox Cable, own specialized communications firms that compete with local telephone companies. These changing conditions may necessitate significant regulatory and legislative reform. We recommend that the Administration move expeditiously to consider developing a comprehensive set of policies to recognize these technological and market trends and harness them to benefit the users of the communications infrastructure.

Policies Considered:

Cable/Telco Restrictions --

- o The statutory and Federal Communications Commission (FCC) prohibition on crossownership of telephone companies and cable operators;

Local Exchange Competition --

- o The FCC and state rules for promoting competition in the provision of local telephone service through requiring greater interconnection by competitors to the local telephone companies;

Universal Service Policies --

- o The FCC and state rules for promoting the provision of "Universal Service" -- affordable and ubiquitous voice communications service -- to residences;

MFJ Restrictions --

- o The restrictions contained in the AT&T Consent Decree (Modified Final Judgment or "MFJ"), which formerly prohibited the Bell telephone companies from providing information services (e.g., information retrieval from data bases), and still prohibit them from manufacturing, including conducting research and development on, telecommunications equipment and from providing much long-distance service; and

Long-Distance Service Regulations --

- o FCC regulation of the U.S. long-distance telephone industry, and particularly the treatment of AT&T, the "dominant" long-distance provider, compared to its competitors.

Although this paper discusses these policies separately, they are strongly interrelated. Because a change in any one of these policies could have effects on industries or users subject to other policies, any recommended changes should proceed based on a comprehensive understanding of these effects.

Options Discussed:

This paper summarizes each of the regulatory policies listed above and, for each one, discusses the pros and cons of options that include, where applicable, tightening the regulatory policy, retaining the status quo, liberalizing the policy, or repealing it. The pros and cons are those that reflect the general policy debates on these issues.

Among the issues addressed are the effects of these policies on promoting efficient investment in, and operation of, advanced telecommunications networks; ensuring the nationwide availability and affordability of modern telecommunications services; protecting customers of regulated firms from improper cross-subsidization (the shifting by firms of the costs of unregulated, competitive activities to regulated monopoly operations); and preventing anticompetitive conduct by firms with market power in certain segments of the telecommunications industry.

There are also implementation concerns regarding how to structure regulatory relief. For example, restrictions on a firm's entry into new markets could be removed as soon as regulatory safeguards are in place to prevent anticonsumer or anticompetitive activity. Alternatively, "benchmarking" could be employed to permit a firm to enter a new market only after a certain level of competition exists in its primary service market.

CABLE-TELEPHONE COMPANY CROSSOWNERSHIP

Description:

In 1970, the FCC adopted cable-telephone company crossownership rules, which generally prohibit local telephone companies or "telcos" (such as the Bell Operating Companies or GTE) from offering video programming in their telephone service areas. The 1984 Cable Act essentially codified those restrictions.

As a practical matter, telcos can provide capacity and facilities in their service areas for cable programming owned by others, and can own cable systems outside their local telephone service areas. In August 1992, the FCC authorized telephone companies to offer, within their local service areas, distribution facilities and ancillary services to unaffiliated programmers on a regulated, common carrier basis. The FCC interpreted this "video dialtone" policy to be permitted under the Communications Act, but various facets of the FCC's 1992 decision are the subject of court appeals.

A bill is pending in the House ((H.R. 1504) by Reps. Boucher and Oxley) that would repeal the statutory cable-telco crossownership restriction, subject to certain conditions and safeguards. Similar legislation will likely be introduced in the Senate. In 1991, Senators Gore and Burns introduced a bill (S. 1200) that would have eliminated the crossownership restriction in return for telephone company commitments to develop and implement plans to deploy a broadband, switched telecommunications infrastructure by 2015. Sen. Burns has announced that he will reintroduce that bill in this Congress. The staff of the Communications Subcommittee of the Senate Commerce Committee is working on developing a bi-partisan telecommunications "infrastructure" bill, and the cable-telco restriction is one of the issues "on the table". In a February 1993 speech, Rep. Markey called for a reexamination of the cable/telephone company crossownership restriction.

In March 1992, Tele-Communications, Inc. (TCI) and Cox Communications, the largest and fifth largest cable companies, respectively, completed their acquisition of Teleport Communications, which provides competitive telecommunications services in New York City, Chicago, and other major metropolitan areas. The Federal Communications Commission ("FCC") had interpreted the Communications Act to permit such ownership. In February 1993, Southwestern Bell paid \$650 million to acquire cable systems in Arlington, Virginia, and Montgomery County, Maryland, thereby becoming the first Bell Operating Company to enter the cable television business (albeit outside of its local telephone service area). In May 1993, US West purchased a \$2.5 billion equity interest in the cable and programming operations of Time Warner.

In April 1993, the Bell Operating Companies stated, in connection with a meeting they had with Vice President Gore, that if the cross-ownership restriction and other restrictions were lifted, they would be prepared to spend \$450 billion by the year 2015 to upgrade their networks, but that without such changes, they would spend \$100 billion less than that total.

The four options discussed below include potential actions by the FCC as well as potential legislative actions.

Option 1. Impose Greater Crossownership Restrictions on Cable Television Operators and Local Telephone Companies.

Option 2. Retain Existing Crossownership Regime, Including Video Dialtone Policy.

Option 3. Loosen Moderately the Existing Crossownership Rule.

Option 4. Repeal the Crossownership Rule, Subject to Regulatory Safeguards.

Option 5. Simply Repeal the Crossownership Rule.

Option 1. Impose Greater Crossownership Restriction on Cable Television Operators and Local Telephone Companies.

The cable-telco crossownership rule currently provides some opportunities for local telephone companies and cable operators to participate in each other's markets. Under the FCC's video dialtone policy, telcos can provide the "conduit" in their local service areas for television service by unaffiliated programmers, and, unlike conventional cable operators, neither the telcos nor the unaffiliated programmers they carry need a local franchise to do so. Conversely, the FCC has permitted cable operators to acquire ownership interests in competitors of the telcos providing specialized services (e.g., Teleport). However, the FCC's rules for determining permitted activities of both telcos and cable operators in each other's markets are rather unclear and are being challenged in court.

Under this option, the FCC would repeal its policies that permit video dialtone for telcos and ownership by cable operators of some competitors to telcos, imposing greater separation of the two industries.

Pros:

- o Would further limit the ability of telcos to cross-subsidize -- that is, to shift costs of their cable ventures onto ratepayers.
- o Would further limit ability of either telco or cable operator to control both telephone and cable service in its service area, eliminating concerns about one provider controlling all communications to the home.
- o Could force telcos and cable operators to focus on providing their current services most efficiently.

Cons:

- o Would limit technical innovations and efficiencies possible by offering video and telephony through integrated operations and facilities.
- o Would disrupt ongoing activities and investments by telcos and cable operators under existing rules.
- o Could divert investment by telcos and cable operators from U.S. opportunities to less restrictive foreign opportunities.
- o Would limit competition in both telephone and cable TV markets.

Political Feasibility:

This option seems politically infeasible. A consensus is emerging that integrated ownership and provision of voice, data, and video services makes sense in many circumstances; disputes center on preventing anticompetitive conduct, protecting against harm to existing customers, and preserving diverse programming when such integration occurs. Moreover, this option would involve reversing significant investments that at least some telephone companies and cable companies have made in those areas in which competition between them is currently permitted, and there seems little political interest in such a result.

Option 2. Retain Existing Crossownership Regime, Including Video Dialtone Policy.

Pros:

- o The current regime permits telco and cable operators to provide some degree of integrated service without a large potential for new harms to customers, e.g., through cross-subsidization or anticompetitive conduct.
- o The FCC's video dialtone policy is still quite new and should be given a chance to work before it is changed. This is especially true since the Cable Act requirement that cable operators make their programming available to competing distributors may increase the possibility that non-telco competitors to existing cable systems will enter the market.

Cons:

- o The present rules still restrict integrated operations, and limit the ability of telcos and cable firms to compete fully and actively with each other. In so doing they may be retarding investment in telecommunications infrastructure and the delivery of advanced services to the public.
- o If, due to other regulatory changes, cable operators are to be allowed into the telcos' businesses without restrictions, there could be a perceived competitive inequity if the existing regime remains.

Political Feasibility:

Retaining the status quo is probably politically feasible, at least in the short term. Although bills to relax the crossownership restriction have been introduced and others are being considered, as of yet there is no fundamental Congressional dissatisfaction with the

current regime and a sense, at least among some members, that having passed the Cable Act last year, Congress should not revisit cable policy issues for a while. On the other hand, there are indications that some members of Congress with an interest in communications issues may seek to develop comprehensive "infrastructure" legislation. This interest is becoming stronger in light of recent developments in the marketplace (e.g., the US West-Time Warner alliance).

Option 3. Loosen Moderately the Existing Crossownership Rule.

This option would require legislation. To permit greater integrated operation by telcos, the FCC's video dialtone policy could be modified so that telco could have a significant, but not controlling, ownership interest in the programs they carry on their facilities, or could serve as "packagers" of programs that they carry, while still carrying other programs on a common carrier basis.

Pros:

- o Could provide greater incentives to telcos and cable operators to build integrated voice/data/video facilities.
- o Could permit more efficient operations by telcos and cable operators, which ultimately could help all customers.
- o Could provide greater competition between telcos and cable operators.

Cons:

- o FCC safeguards may not adequately protect consumers and competition.
- o Greater telco control of programming could limit diversity of programming.
- o Some "asymmetric" regulation would remain, because telcos would be subject to video dialtone rules while cable operators would not.

Political Feasibility:

This option would face strong opposition from cable operators concerned about competition and some consumer groups concerned about the potential for cross-subsidy. Broadcasters would also likely oppose this change. Telcos would support it, as would some public interest groups. There is some interest in Congress in moving

"infrastructure" legislation in which the current cable/telco restriction could be an issue (most likely, coupled with increased competition in local exchange services). If the issue acquired some momentum, this option might have some political appeal as a compromise between "do nothing" (Option 2) and simple repeal (Option 5).

Option 4. Repeal the Crossownership Rule, Subject to Regulatory Safeguards.

In this option, legislation would permit telcos to deliver, package, and own programming, but would require them to make capacity on their systems available to others on a common carrier basis. (By doing so, this would retain the "common carrier" obligations of the FCC's existing video dialtone rules, but eliminate the current restrictions on telco ownership of programming.) Moreover, under this option, telcos would not be permitted to purchase cable systems within their operating areas. This safeguard would be designed to prevent telcos from simply becoming the monopoly provider of both telephone and cable services in their current operating areas.

Pros: Similar to those of Option 3, but the potential for greater ownership interests by telcos in programming could provide greater incentives for integration. Moreover, the two safeguards are designed to permit telco entry in a manner that maximizes competitive opportunities in the delivery of video services.

Cons: Similar to those of Option 3, plus:

- o By restricting telco purchase of existing cable systems, some incentives for, and efficiencies of, integrated operation could be lost.
- o Some telcos and cable operators are already combining ownership. Under this option, existing combinations would probably remain in effect.

Political Feasibility: Similar to Option 3, only with stronger opposition from the cable industry and stronger support from telcos.

Option 5. Simply Repeal the Crossownership Rule.

This option would not retain video dialtone as a requirement for telcos. There would also be no restrictions on combinations among existing telcos and cable firms.

Pros:

- o Telcos and cable operators would face significantly fewer regulatory obstacles in providing integrated services.
- o Entry by telcos and cable operators in each other's business could increase competition resulting in lower prices and better quality.
- o Cable operators and telcos would be subject to similar regulatory treatment.

Cons:

- o Existing monopoly service providers -- telcos and cable systems -- could and, in many cases, undoubtedly would combine in delivering video services, limiting competition.
- o FCC or statutory safeguards may not be sufficient to prevent possible harm to consumers through cross-subsidization and anticompetitive conduct.

Political Feasibility:

This would likely be viewed as infeasible, because of concerns about domination of information and information networks by large firms like most telcos and cable operators. There is political concern that an approach that simply "replaces one monopolist with another" is not worth the legislative effort.

LOCAL NETWORK COMPETITION

Description:

While the situation is gradually changing, the vast majority of point-to-point, two-way telecommunications services today are still provided through the networks of the local telephone companies. Although specialized "local area networks" are increasingly important for data communications, most businesses and ordinary consumers depend on telephone networks not only for purely local voice and data needs, but also for access to long-distance networks and information services. Even those firms that have extensive private telecommunications systems presently rely substantially on facilities, such as private digital lines, provided by local telephone companies for essential parts of their networks. Moreover, most local telephone companies still operate under state franchises that restrict or prohibit competition in their service areas. A major issue in this regard is the degree to which federal policies in this area can or should preempt state policies.

However, technological developments are providing substantial new opportunities for increased competition to the local telephone networks, which for many years were thought to be natural monopolies. As a result of these developments, local network competition is developing from a number of sources. In the late 1980s and early 1990s, competitors to local telephone companies (often called competitive access providers -- CAPs) began to build competing local networks in major metropolitan areas where state public utility commissions have been receptive to competition. A number of states have led the FCC in experimenting with local competition. CAPs generally offer private line telephone services (*i.e.*, transport of calls from point to point without going through a local telephone company's network switches) to large business users seeking lower-cost, better-service alternatives for local routing of data and voice communications, and direct connections to long-distance providers. A recent study identifies 34 CAPs that offer or are planning to offer alternative local telecommunications services in 38 cities in 26 states.

Moreover, use of digital transmission techniques by cellular radio providers and future deployment of radio-based personal communications services will increase the ability of wireless companies to compete with local telephone companies. As discussed above, cable operators are increasingly venturing into local telephone markets, and local telephone companies are seeking to be legally permitted to provide, on an unfettered basis, video offerings in competition with the cable operators.

In September 1992, the FCC ordered the nation's largest local telephone companies to allow CAPs and others to interconnect with local telephone networks for the provision of interstate private line services (mostly used by businesses). In particular, the FCC ordered the local telephone companies to provide CAPs with physical, fiber-based

connections to these services. The FCC also has proposed to mandate such interconnection for services of greater use to residential customers. These interconnection requirements, among other things, would allow CAPs to greatly expand their base of subscribers without having to replicate local telephone company networks.

In September 1992, the FCC also established an interim local transport pricing structure to govern the rates that local telephone companies could charge to transport long-distance calls within local telephone networks. Local transport pricing is a crucial issue for local telephone companies, which seek pricing flexibility so that they can respond to competition, and for CAPs, which make investment and pricing decisions in response to local telephone companies' price structures.

Ameritech, one of the Bell companies, proposed in March 1993 to the FCC to provide expanded interconnection opportunities to its network in exchange for increased pricing flexibility and relief from the MFJ's restriction on its provision of long-distance telephone service. In February 1993, Rochester Telephone Company proposed to the New York Public Service Commission to restructure its business to permit local interconnection and competition in exchange for rate stabilization for increased pricing flexibility.

Many aspects of these activities are currently under regulatory or court review. Moreover, local competition also raises "Universal Service" issues, which are addressed as a separate topic.

The three options discussed below include potential actions by the FCC and the states, and potentially legislative actions.

Option 1. Roll Back Expanded Interconnection Policies.

Option 2. Pursue Current Policies at a Measured Pace.

Option 3. Continue to Expand Interconnection Arrangements.

Option 1. Roll Back Expanded Interconnection Policies.

Under this option, current policy initiatives at the FCC and a number of states that are designed to expand interconnection arrangements would be reversed. FCC activities could be changed through legislation or by a new Chairperson, when appointed. State initiatives could best be changed by legislation, although the FCC could attempt to "preempt" state activities under existing Federal law.

Pros:

- o The reversal could lessen pressure caused by impending competition on LEC revenues and the subsidy system used to support Universal Service.
- o Such a policy might indirectly improve network reliability by decreasing the number and variety of systems interconnected to the local public network.

Cons:

- o This "rollback" would cut against the continuing rapid rate of technological change that has fostered competition in local telephone services.
- o The reversal could stifle innovation, generate significant losses in the infrastructure investments already made by CAPs, and precipitate substantial litigation.
- o Federal changes to state policies regarding the rollback, either through FCC preemption or legislation, would be difficult.
- o Monopoly is not a pre-requisite for Universal Service. Experience since the 1984 AT&T breakup is that providing universal telephone service and having increased competition are not mutually exclusive, provided universal service goals are factored into the rules for the new competitive market.

Political Feasibility:

No concerted effort to prohibit competition totally in communications markets has been put forth at the national level since AT&T lobbied for a "moratorium on competition" during 1975-1977. That attempt failed, and the success of any such blanket ban, or attempted "roll back," with respect to local network interconnection appears highly unlikely.

Option 2. Pursue Current Policies at a Measured Pace.

Selecting this approach would essentially permit cautious development of interconnection policies as currently implemented.

Pros:

- o Compared to a more aggressive approach, this option would potentially lessen or control the competitive pressure on local telephone companies, retaining the benefits of the status quo.
- o Pressures caused by competition on the system of subsidies now used to support Universal Service would not increase or would increase at a slower rate than that anticipated under continued liberalization of interconnection policies.
- o This approach could be structured to allow states that are interested in moving faster toward competition to do so.

Cons:

- o Stronger procompetitive action could benefit at least some consumers in the form of lower rates, greater reliability, and better quality. The salient benefits of a measured introduction of competition into the local exchange would be slowed, especially among those States that thus far have not adopted expanded interconnection policies.
- o Universal Service concerns can be addressed in ways that do not deprive the nation of the benefits of increased competition in local exchange markets.
- o Recent industry efforts to establish procedures and mechanisms to improve network reliability in a world of numerous and diverse interconnected networks appear promising.
- o To the extent the Administration wanted to modify the cable/telco or "MFJ" restrictions in any significant way, "cautious" action in opening up the telcos' markets to competition would probably be counterproductive on both policy and political grounds.

Political Feasibility:

This is basically the approach being taken now. As such, it may be the most feasible politically, at least in the short run, since it involves no major change from

current policy and no need for legislative action. However, as noted earlier, there is increasing interest among certain Congressional leaders in developing telecommunications "infrastructure" legislation, in which local exchange competition would almost certainly be an issue.

Option 3. Aggressively Expand Interconnection Arrangements.

This option would seek to liberalize interconnection policies at the Federal and state level by, for example, speeding up timetables for action and seeking more ways to permit entry by CAPs and others. An important issue here is the degree to which Federal policies would preempt the states.

Pros:

- o Regulatory change at the Federal and state level could promote competition, which in turn might yield substantial economic benefits -- reduced prices, improved and expanded services, and more efficient and responsive investment in new technology. In this way, local network competition could play a key role in modernizing the Nation's telecommunications infrastructure.
- o Targeted subsidies could be used to help ensure Universal Service, which could be closely monitored by policymakers.
- o Recent industry efforts to establish procedures and mechanisms to improve network reliability in a world of numerous and diverse interconnected networks appear promising.
- o Establishing a national commitment to opening local telephone services to competition could provide the industry and Federal and state regulators with the policy leadership they need to proceed with this issue.
- o Aggressive action in opening the local exchange market to competition would provide a policy and political framework for resolving other major issues affecting the industry, such as cable/telco and MFJ restrictions on BOCs.

Cons:

- o Because competition would probably not immediately occur for residential customers, more aggressive actions could disrupt existing pricing and subsidy systems, possibly causing upward pressures on some residential rates.

- o Greater state-Federal coordination of policy changes would be both necessary and difficult.
- o These issues are complex and better addressed in expert regulatory fora rather than by the Administration or Congress.
- o Network reliability issues could increase in importance, and a more rapid introduction of competition could be disruptive.

Political Feasibility:

Local telephone companies would oppose this approach if no other government restrictions on their activities are removed. States would probably oppose it as usurping their authority, to the degree it is Federally mandated. Consumer groups could oppose it if they viewed it as potentially jeopardizing low rates for residential subscribers. Interexchange carriers (e.g., AT&T), cable operators, CAPS, information providers (including the newspaper industry), and major users of local telecommunications services would likely support this approach. Indeed, many of these supporters insist that some form of "benchmarking" -- that is, opening up the local exchange to competition -- should be a pre-requisite to any consideration of modifying current restrictions on telcos.

UNIVERSAL SERVICE

Description:

The basic goal of "Universal Service" -- widespread availability of telephone service at affordable rates -- traces its beginnings to the early years of the Twentieth Century and was formalized with the passage of the Communications Act of 1934. The original goal has been achieved to a substantial degree in the United States (93.8% of U.S. homes had telephone service in November 1992).

Many believe that Universal Service should be redefined so that all Americans have the opportunity to receive advanced communications services at reasonable rates. By redefining and expanding the goals of Universal Service, Americans would have increasing access to advanced communications services. This goal would embrace a more forward-looking policy that would accommodate local network competition and would bring residential users the option of using advanced data and voice communications services, while adopting more targeted subsidy programs for the poor and underserved areas.

Goals for Universal Service and infrastructure development have traditionally been intertwined. As Section 1 of the Communications Act states, an integral part of the public policy promoting Universal Service is the development of a "rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."

The FCC and the states have already established some targeted programs that provide assistance to low-income users for their monthly telephone charges ("lifeline" plans) or installation charges ("Link-up America"). States participate in these programs by selecting means tests and determining the benefits for their respective programs. Federal support is provided on a matching basis (up to certain limits) and is funded through modest surcharges assessed long-distance carriers on their use of local networks for interstate calling.

The three options discussed below include potential actions by the FCC and the States, as well as potential legislative actions.

Option 1. Reject the Existing Universal Service Policy Goal.

Option 2. Retain the Existing Universal Service Goal.

Option 3. Expand the Existing Universal Service Goal.

Option 1. Reject the Existing Universal Service Policy Goal.

This option would specifically remove the goal of Universal Service from Federal Government policies. This would include, e.g., rescission of the enabling language from Section 1 of the 1934 Communications Act, and ending FCC involvement in present support programs.

Pros:

- o Universal Service for traditional voice telephone has already been achieved on a national level, so it is no longer necessary to pursue a Federal goal of ubiquitous telephone service at affordable levels.
- o Universal Service is most properly a state and local concern. State policies should be designed to meet the specific needs of their residents. Individual states should decide whether or not the goal should be rejected or replaced.

Cons:

- o Universal Service is a concept that evolves with the services that are available because of advancing technology. Because telecommunications technology is evolving rapidly, it makes no sense to "walk away" from the Universal Service goal.
- o A broad, modern concept of the Universal Service goal -- one that would emphasize bringing the average American easy access to advanced data and voice communications services -- has clearly not been achieved and should be an important Federal policy initiative.
- o Universal Service should be a Federal goal because, as a practical matter, data and voice communications routinely cross state and national borders, and the Federal government should provide leadership.
- o Even if it is assumed that Universal Service has been achieved in the United States, there is no assurance that it would be attained or retained in the future without a conscious Federal policy supportive of the goal.
- o Some observers believe that Universal Service, in fact, has not been achieved in important population segments and geographic areas of the United States. (6.2% of U.S. homes do not have telephone service, and that figure is higher among low-income families and in certain states.)

Political Feasibility:

A movement to reject the Universal Service policy goal would be overwhelmingly defeated. Among the States, Congress, the FCC, the Executive Branch, and the average citizen, there would be virtually no support for such an action. Politically any such espousal would be akin to disparaging apple pie as an American staple.

Option 2. Retain the Existing Universal Service Goal.

This approach would essentially keep the status quo.

Pros:

- o The Universal Service goal has generally served the country well and should not be changed.
- o Expanding the goal would divert attention from the fact that some Americans do not currently enjoy the benefits of voice telephone service.
- o This option is reasonable because concepts of a broader Universal Service goal are currently ill-defined.

Cons:

- o An expanded version of Universal Service could encompass the traditional goals of the current policy.
- o The goal as currently construed and measured (e.g., levels of "plain old telephone service," or POTS, penetration rates) does not go far enough in ensuring Universal Service for present and future users of advanced data and voice service.

Political Feasibility:

For the same reasons set forth in our assessment of the political infeasibility of rejecting universal service as an explicit policy goal, retention of at least the current construct of the goal would be virtually assured. As noted, however, many believe that the current policy needs to be supplemented and updated.

Option 3. Expand the Existing Universal Service Goal.

Selection of this approach would embrace a more forward-looking policy that would accommodate local network competition and would bring residential users the option of using advanced data and voice communications services. It would include use of greater local competition to rationalize prices for communications services, while adopting more targeted subsidy programs for the poor and underserved areas.

Pros:

- o Absent some form of government intervention, market forces alone will likely not ensure that advanced telecommunications services are available to certain parts of the country (e.g., rural areas) and certain populations (those in low-income neighborhoods). An evolving Universal Service policy is necessary to ensure that the benefits of a national information infrastructure reach all Americans.
- o Adoption of such an expanded Universal Service would marshall formal Federal Governmental support for widespread public access to advanced data and voice services and facilities.
- o Well-crafted legislation could direct the FCC and the states to promote the development of a modern infrastructure and, concomitantly, residential user access to it. Many of the specific details would, as now, be left to the FCC and the states.

Cons:

- o This could be costly, and those costs are largely unknown.
- o The implementation of a more advanced Universal Service policy would be complex and would be interrelated with the other policy issues discussed in this paper
- o Expanding the existing definition of Universal Service might distract from the basic mission of assuring ubiquitous access to voice telephone service.
- o Such an initiative -- especially if codified -- could interfere with a state's right to choose its own course of action.

Political Feasibility:

Because it is almost a "motherhood" issue in telecommunications, the prospects for adoption of an expanded universal service goal may be good, particularly if Congress were to move on an overall infrastructure bill. No such bill is currently moving, although there are some indications of continuing Congressional interest in Universal Service. For example, S. 570 would direct the FCC to "preserve and enhance universal service at reasonable rates [and]...achieve universal availability of advanced network capabilities and information services" (Amendment to Section 1). No hearings have been scheduled on this bill or its House counterpart, however.

THE AT&T CONSENT DECREE: INFORMATION SERVICES RESTRICTION

Description:

The 1984 AT&T Consent Decree divested AT&T of the Bell Operating Companies (BOCs), which provide most of the nation's local telephone service, and also imposed certain line-of-business restrictions on them. The order settled antitrust claims against AT&T and is referred to as the "AT&T Consent Decree" or "Modified Final Judgment" (MFJ).

The MFJ originally prohibited the BOCs from providing most information services over their networks. In July 1991, the District Court, or Decree Court, terminated the restriction. While an appeal of this decision is still pending before the U.S. Court of Appeals, reversal is not anticipated in view of strong language from that court directing the Decree Court to take such action.

After the Decree Court lifted the information services restriction, legislative efforts to reinstate that restriction commenced. Many information service providers, which rely on connection to BOC networks to offer services, contend that the BOCs will engage in cross-subsidy, which will harm their customers for telephone service, and other forms of anticompetitive conduct, which will harm the information services industry. These parties argue that the FCC cannot or will not develop sufficient safeguards to protect against this potential harm. The newspaper industry historically opposed removal of this restriction, but has not been as active on this issue since the beginning of the Administration. The BOCs claim that permitting them to provide information services will foster competition, lower prices to consumers, and wide availability of user-friendly services. They claim that FCC safeguards are sufficient. This issue is highly contentious and involves concerns about BOC control over the "local bottleneck" in the absence of local competition.

A jurisdictional battle developed in the House last session between Chairman Brooks of the Judiciary Committee and Dingell of the Energy and Commerce Committee. Chairman Brooks had introduced a bill that would, among other things, have reinstated a variation of the information services restriction. This bill was approved by the Judiciary Committee but not enacted. Chairman Dingell worked to prevent a House floor vote on the bill. New bills may be introduced in both committees again this session.

The following options include legislative and FCC actions.

Option 1. Support Legislation Reimposing the Information Services Restriction.

Option 2. Retain the Status Quo, and Await the Outcome of the Court of Appeals Review.

Option 3. Do Not Reimpose the Restriction, but Establish Stronger Safeguards..

Option 1. Support Legislation Reimposing the Information Services Restriction.**Pros:**

- o If statutory or FCC safeguards cannot prevent anticonsumer or anticompetitive behavior by the BOCs, then the further development of information services will best be fostered by restricting BOC participation in this market.
- o Reimposition of the restriction, coupled with an entry test based on ending the BOC "local bottleneck," could help motivate government and industry action to increase local competition; such competition could promote infrastructure development, as well as lower prices for local telephone services and provide greater options for consumers.
- o There are a large number of information service providers in the marketplace at present; it can be argued that additional competitors are not needed to spur further growth and innovation in this area.

Cons:

- o It has been almost two years since the restriction has been lifted, and there has been no evidence of any harm to consumers or competitors from BOC participation in this industry.
- o Reimposing this restriction could retard network development, by decreasing incentives for the BOCs to upgrade their networks in ways necessary to deliver advanced information services.
- o Consumers may be denied a source of user-friendly services.
- o The BOCs may be able to realize economies of scope and scale that would permit them to provide services to consumers at lower prices than other information service providers.

Political Feasibility:

This option is not very likely on political grounds. While it would have support from newspaper publishers and information service providers, it would be opposed strenuously by the BOCs. Neither Chairman Markey nor Chairman Dingell has expressed any interest in reimposing a restriction that was terminated judicially almost two years ago. It is unclear whether Chairman Brooks will reintroduce his bill of last year, or would be successful in passing that bill if it is introduced.

Option 2. Retain the Status Quo, and Await the Outcome of the Court of Appeals Review.

Pros:

- o As the BOCs can presently provide information services, the status quo presents an opportunity to study the impact of their involvement on infrastructure development before deciding whether any legislation is needed.
- o The status quo could provide time to evaluate the efficacy of the FCC's safeguards to protect consumers and competition, which have not yet been tested for a substantial period of time.

Cons:

- o A GAO report has questioned the effectiveness of some of the FCC's safeguards to prevent cross-subsidy. Maintaining the status quo could put consumers and competitors at risk.

Political Feasibility:

This option is politically feasible in light of the contentiousness of the issue among industry participants, the jurisdictional conflicts in the House, and the lack of any real interest in the issue from ordinary consumers.

Option 3. Do Not Reimpose the Restriction, but Establish Stronger Safeguards.

This option would mean opposing legislation seeking to reinstate the restriction (or in the unlikely event the Court of Appeals overturns the Decree Court, introducing legislation to terminate the restriction). In either case, a significant issue will be the institution of appropriate safeguards. Existing safeguards include FCC rules and the antitrust laws to control harm to BOC customers through cross-subsidy and anticompetitive conduct. Because these safeguards have been criticized, this option would focus on the imposition of additional, potentially stronger statutory or FCC safeguards to address these concerns.

Pros:

- o Since most of the opposition to BOC provision of information services is based on concerns regarding anticonsumer or anticompetitive behavior by the BOCs, the best course may be to permit BOC participation, but enact stronger safeguards. The ensuing competition in information services may promote greater growth of services and lower prices for consumers.
- o A GAO report has questioned whether the FCC's safeguards to prevent cross-subsidy can be adequately enforced at current FCC staff levels.
- o Even with stronger safeguards, BOC provision of information services should foster the development of the network and new features, to the benefit of all those who use BOC local telephone services.
- o Stronger safeguards will provide added assurance that BOC provision of information services does not harm consumers or competition.

Cons:

- o It is difficult to determine whether the costs of additional safeguards, in terms of restraining BOC deployment of information services and in additional enforcement, outweigh their benefits in protecting consumers and competition.
- o More stringent safeguards will probably require greater agency resources at the FCC or DOJ in order to be effective.
- o There has been no evidence of abuse by the BOCs thus far with the relief granted them in 1991; without an empirical basis for more stringent "safeguards," such restrictions may simply limit competition without providing any substantial benefits to consumers.
- o The mass market for information services has not developed yet; making it more difficult for BOCs to participate in this area may not be consistent with a policy goal of trying to encourage the development of such a mass market.

Political Feasibility:

This option is feasible, particularly if the FCC, rather than Congress, decides to strengthen its existing safeguards.

THE AT&T CONSENT DECREE: MANUFACTURING RESTRICTION

Description:

The AT&T Consent Decree prohibits the BOCs from manufacturing telecommunications equipment: they may do research on, and design and development of, their local networks (which we call R&D) and provide generic functional specifications for equipment, but they may not design, develop, or fabricate equipment. In a recent judicial review of this restriction, the BOCs and DOJ argued for its termination, and AT&T argued for its continuation. Using the fairly strict standard applicable to a contested modification of the decree, the District Court held in favor of the AT&T position and was upheld by the Court of Appeals.

A number of bills were introduced in previous sessions of Congress addressing the manufacturing provision. One such bill introduced by Senator Hollings passed the Senate in 1992 seeking elimination or modification of this restriction and would have permitted the BOCs into the full range of manufacturing, subject to regulatory safeguards, as well as requirements that the BOCs conduct manufacturing within the United States and that the annual cost to each BOC of components in its products made outside the United States not exceed 40% of the BOC's annual manufacturing revenue. Vice President, then Senator, Gore co-sponsored the Hollings bill. A bill introduced in the House by Congressman Brooks (Chairman of the Judiciary Committee) sought to codify the restriction. None of those bills was enacted, and no bills have yet been introduced in the current session of the Congress to deal with the manufacturing restriction.

Those favoring elimination of the restriction argue that the BOCs can boost U.S. productivity through their manufacturing efforts, potentially increasing U.S. jobs and helping the United States to remain competitive globally. Some argue that BOC expertise in telecommunications makes it particularly appropriate for them to extend their activities into manufacturing. There is also concern that the way the restriction has been applied to R&D arbitrarily and inefficiently hampers the BOCs' ability to do research on telecommunication technology.

Those favoring retention of the restriction are concerned about potential BOC discrimination against competitors, due to the BOCs' special knowledge of and control over their local networks. There are concerns that the BOCs would have advanced knowledge of network changes, to the detriment of competitors. Some also argue that the BOCs would simply enter joint ventures with foreign manufacturers, again harming other U.S. companies and U.S. workers.

FCC safeguards and other restrictions on manufacturing remain an issue in attempting to determine whether BOC entry into manufacturing will be in the public interest. While the FCC currently has some applicable safeguards in place, arguments persist that such safeguards are not and cannot be effective.

The following options include legislative and FCC actions.

Option 1. Leave the Restriction Intact.

Option 2. Modify the Restriction to Permit More Research, Design, and Development.

Option 3. Terminate the Restriction.

Option 1. Leave the Restriction Intact.

Pros:

- o BOC entry into manufacturing may harm existing U.S. manufacturers.
- o BOC participation would require some safeguards and enforcement, which can be difficult and costly. Those costs could possibly be better spent on promoting infrastructure development by other means.
- o Telecommunications equipment manufacturing is very competitive. The BOCs do not have any experience in manufacturing, and it is not clear what they would add to this marketplace.
- o BOC joint ventures with foreign companies could possibly impair rather than promote U.S. competitiveness.

Cons:

- o Application of the BOCs' expertise in telecommunications, as well as their resources, could lead to advances in the design of telecommunications equipment, promoting more rapid innovation in telephone networks.
- o The restriction currently hinders the ability of the BOCs to upgrade their networks by working closely with manufacturers.
- o Numerous small U.S. manufacturers have indicated they would like the opportunity to enter joint ventures with the BOCs, so they could better join in the effort to manufacture telecommunications equipment.

Political Feasibility:

This option is quite feasible. There appears to be decreasing interest in this issue in Congress. In particular, Senator Hollings has not stated that a manufacturing bill is one of his priorities, and such a bill could face jurisdictional hurdles in the House, between the Commerce and Judiciary Committees.

Option 2. Modify the Restriction to Permit More Research, Design, and Development.

It may be desirable to modify the restriction to permit the BOCs more ability to conduct R&D, particularly in conjunction with entities designing equipment for use in the BOC's local networks. Providing greater certainty as to the precise scope of permissible activities could also facilitate manufacturing advances and ultimately infrastructure development.

Pros:

- o The current restriction artificially distinguishes between R&D for internal network operations, such as for the operation of new billing systems (permitted) and design and development for other purposes, such as manufacture of equipment used in, or that would interface with, the network (generally prohibited). Eliminating this distinction would let the BOCs apply their network expertise to the manufacture of network and associated equipment.
- o By permitting broader R&D, this approach could help to promote infrastructure development, without necessarily supporting total elimination of the restriction.
- o Facilitating the ability of other manufacturers to work with the BOCs on network equipment design may be more beneficial than permitting the BOCs to manufacture such equipment themselves.
- o This restriction may be inconsistent with Administration policies seeking ways to provide additional incentives for private sector R&D in high-tech areas. No other country places this type of restriction on the R&D activities of its telecommunications network operators (although in many countries the network operator is not engaged in actual equipment manufacturing).

Cons:

- o Benefits from BOC entry into actual manufacturing, should they be possible, would not be realized.
- o Even permitting only increased R&D raises some cross-subsidy and discrimination concerns that would need to be addressed.
- o The line between equipment design and actual manufacturing could itself prove difficult to define and enforce.

Political Feasibility:

This moderate approach may be feasible, although it might be attacked by AT&T, particularly if they see it as the first step down the slippery slope to total manufacturing relief. However, last year the Telecommunications Industry Association, the major manufacturers' trade association (of which AT&T is a principal member), endorsed this type of approach in response to the Hollings bill. Senator Hollings himself, however, may well find this compromise unappealing because he wants the BOCs to be able to engage in actual manufacturing, not just R&D. The Communications Workers of America, which supported the Hollings bill last year, is likely to take the same view.

Option 3. Terminate the Restriction.

An issue in this option is whether immediate BOC entry should be permitted, or whether some form of "benchmarking" should be required -- that is, whether BOC entry into manufacturing should be contingent on the availability of competition for BOC local services. Similarly, a position must be developed on whether manufacturing or domestic content restrictions should be in place.

Pros:

- o The BOCs could bring their expertise in network operations to manufacturing, potentially creating new jobs, realizing efficiencies from vertical integration, and promoting U.S. competitiveness.
- o The BOCs could work more easily with other manufacturers, which could facilitate equipment innovation and network improvements with less delay.
- o Given that many foreign entities are active in telecommunications manufacturing, it may be undesirable to continue prohibiting additional U.S. companies from entering that field.

Cons:

- o BOC joint ventures with foreign entities could possibly harm U.S. competitiveness.
- o The risk of cross-subsidy or anticompetitive conduct by the BOCs, if realized, could outweigh the potential benefits of their manufacturing activities.

- o Termination of the restriction would bring into play questions of the appropriate safeguards and restrictions. This issue is quite contentious in itself and will involve trade policy issues about domestic content and domestic manufacturing requirements that Congress may wish to establish.

Political Feasibility:

Although interest in changing the restriction has decreased in Congress, action here may be politically feasible, given concerns over the extensive participation by foreign entities in telecommunications manufacturing. Large U.S. manufacturers such as AT&T will continue to oppose eliminating the restriction. Congress would seriously consider "benchmarking." It would also consider domestic content and manufacturing requirements, which bring into play serious trade policy concerns that greatly complicate the task of legislating in this area.

THE AT&T CONSENT DECREE: LONG-DISTANCE RESTRICTION

Description:

The AT&T Consent Decree prohibits the BOCs from providing most long-distance services (generally interstate, but also some intrastate). The theory of the Decree was to prevent the BOCs from leveraging their "local bottlenecks" to harm long distance competition. Technically, the BOCs are prohibited from providing so-called "interLATA" services, with some very limited exceptions. The Decree Court created 194 "Local Access and Transport Areas" (LATAs) in the United States, and the Consent Decree prohibits BOC transmission across LATA boundaries. Long-distance providers like AT&T, MCI, and Sprint provide interLATA service. There has been little movement to alter this restriction, in part because long-distance services are deemed by many to be at the "core of the decree." (Anticompetitive conduct by the pre-divestiture AT&T in the long distance market was probably the principal reason the anti-trust case was brought.)

No bill introduced in previous sessions of Congress sought termination of this restriction, and one bill sought to codify the restriction. The restriction has been addressed in staff drafts of legislation on a more limited basis -- generally to promote the BOCs' ability to provide other services more efficiently. For example, although some BOCs are planning to conduct cable television trials and have agreed to purchase cable systems outside their service areas, the long-distance restriction prevents them from transmitting or receiving cable programming across LATA boundaries. It also prohibits BOCs from transmitting signals across LATA boundaries, even if the purpose is to facilitate the provision of centralized gateways for information services, rather than to provide long-distance services to customers. As a result, the BOCs may need to duplicate equipment in different geographic areas to provide information services, potentially adding unnecessary costs to consumer prices or rendering the services uneconomic. In the prior session of Congress, therefore, some consideration was given to loosening the restriction, but only to facilitate the provision of other types of services.

Changes in the long-distance restriction, even for such limited purposes, have been vigorously opposed by AT&T and other long-distance providers, claiming that such changes would defeat the very purpose of the AT&T break-up and would essentially put back together the prior Bell System. These parties have contended that even limited change will ultimately lead to the elimination of the restriction. However, Ameritech, one of the BOCs, proposed in March 1993 that this restriction be removed in exchange for it providing expanded interconnection opportunities to local network competitors. There has been guarded interest in, but not support for, such a proposal by AT&T and other traditional opponents of changing this proposal.

The following options include legislative and FCC actions.

Option 1. Retain the Restriction.

Option 2. Make Very Limited Modifications.

Option 3. Terminate the Restriction.

Option 1. Retain the Restriction.

Pros:

- o The BOCs control most of the U.S. local telephone networks necessary for long-distance providers to access their customers; if permitted into long-distance services, the BOCs would have incentives to discriminate against their competitors in providing access to their local networks.
- o BOC entry is not needed to foster competition or network development in the already highly competitive long-distance market.
- o Because the long-distance market is competitive, the BOCs would have incentives to cross-subsidize their competitive operations, harming local customers and long-distance competitors.
- o Full BOC participation in the provision of long-distance services may not be warranted unless there is also full competition in local telephone markets.

Cons:

- o Equal access is a well established, well understood, and very successful interconnection safeguard for long distance services. This is not a market for which a lot of new safeguards would need to be established.
- o The BOCs may be able to realize economies that would permit them to provide services at more reasonable rates.
- o The restriction is so broad that it keeps the BOCs from realizing efficiencies in providing other services.
- o Some consumers have not been pleased at the forced requirement to deal with a number of different providers of communications services; many prefer what is sometimes referred to as "one-stop-shopping."

Political Feasibility:

Retaining the restriction is the most feasible of all options. There has been little active interest in changing the restriction, even among the BOCs, although this situation is changing. (The BOCs, until recently, have focused their attention almost exclusively on the information services and manufacturing restrictions.)

Option 2. Make Very Limited Modifications.

This option would prohibit the BOCs from offering most long-distance services, while, for example, permitting their cable operations to deliver programming across LATA boundaries, or permitting them to avoid unnecessarily duplicating network equipment in numerous LATAs.

Pros:

- o This could help the BOCs avoid duplicating costly facilities in providing, for example, information services.
- o If legislation is properly drafted, the risk of anticompetitive harm to long-distance providers would likely be limited.
- o By enabling the BOCs to deploy certain advanced features in their networks on a more centralized basis where it is efficient to do so, this option could be beneficial to infrastructure development.

Cons:

- o Change to the restriction, however limited, may make it difficult to draw a firm line in keeping the BOCs out of other long-distance activities.
- o Those opposing change to the restriction will argue that any modification to the restriction could lead to cross-subsidy and discrimination, which could upset the present competitive balance in the long-distance industry.

Political Feasibility:

There seems very little interest in limited modification to the long-distance restriction as a stand-alone item. It is quite possible, however, that such a provision could be included in a more comprehensive "infrastructure" or telecommunications policy bill.

Option 3. Terminate the Restriction.

As with the manufacturing restriction, an issue in this option is whether to lift the restriction immediately, subject to regulatory controls, or whether to lift it when some "benchmark" of adequate competition for BOC local services has been satisfied.

Pros:

- o Some consumers might be pleased to see an end to the confusion over dealing with more than one service provider.
- o The BOCs' entry could further promote competition and innovation in the already competitive long-distance industry.
- o Antitrust and FCC safeguards can protect against potential harm to competition and consumers.

Cons:

- o It is questionable whether BOC provision of long-distance services will promote competition.
- o The BOCs' control of local telephone networks creates too much danger of anticompetitive and anticonsumer conduct that might harm existing long-distance providers.
- o Antitrust and FCC safeguards in this area may not work.

Political Feasibility:

As a stand-alone matter, there is little support for this option in Congress, and much opposition by AT&T, other long-distance service providers, and consumer groups. The BOCs have not vigorously pushed this option in the past, although one, Ameritech, is advocating it as a trade-off for permitting competition in its local service markets.

REGULATION OF LONG-DISTANCE TELEPHONE SERVICE

Description:

In 1980, the FCC authorized the competitive provision of interstate switched telephone service. The breakup of the Bell System in 1984 expanded opportunities for many firms, particularly MCI and US Sprint, to compete with AT&T in the long-distance services market.

By the mid-1980s, the FCC had adopted a regulatory "forbearance" policy under which it declined to regulate long-distance service providers other than AT&T, which continued to be regulated as a "dominant" carrier. In 1989, the FCC replaced rate-of-return regulation of AT&T with "price cap" regulation, thereby giving the firm some pricing flexibility for its long-distance services, including residential services. In 1991, the FCC reduced its regulation of AT&T's services for large business users.

AT&T challenged the FCC's forbearance policy on the ground that it was not authorized by the Communications Act of 1934. In November 1992, a Federal appeals court ruled that regardless of the policy merits of regulatory forbearance, the FCC could not exempt competing long-distance companies from filing public tariffs for their interstate services.

In February 1993, the FCC instituted a rulemaking to consider what tariff filing requirements should apply to nondominant common carriers that formerly were subject to forbearance. The FCC proposes to streamline its requirements to the maximum extent possible, consistent with the Communications Act. AT&T is using that proceeding as a vehicle to call for complete deregulation of its long-distance operations, arguing that competition in domestic long-distance services is fully established. Further deregulation of AT&T is a matter of major concern to the Congress and AT&T's competitors, which include not only major companies like MCI and U.S. Sprint, but also many smaller interexchange carriers.

Meanwhile, as noted in the discussion of Local Network Competition, the FCC is considering whether to adopt a revised cost-based rate structure for local access facilities used to originate and terminate long-distance calls. AT&T has argued that pricing by local telephone companies of services that give long-distance carriers access to their local networks should be reformed to more closely reflect the costs of providing the service. The rate structure proposed by AT&T as cost-based would result in higher costs for many of its long-distance competitors.

In the years since the AT&T breakup, expanded competition among long-distance carriers has dramatically spurred infrastructure development. Today, there are at least

four nationwide, fiber-based interexchange carrier networks serving the United States, as well as numerous regional networks. Long-distance carriers have deployed advanced signalling technology in their networks, and actively compete on the basis of quality, reliability, and price.

The options discussed below represent potential actions to be taken by the FCC or in legislation in this area:

Option 1. Increase Regulatory Oversight in the Long-Distance Marketplace.

Option 2. Retain the Present Regulatory Dichotomy Between Dominant and Nondominant Long-Distance Carriers.

Option 3. Give the FCC Statutory Authority to Forbear From Regulating Nondominant Long-Distance Carriers.

Option 4. Reduce Regulatory Oversight over All Carriers in the Long-Distance Marketplace.

Option 1. Increase Regulatory Oversight in the Long-Distance Marketplace.

Under this option, the FCC would impose tariffing requirements, analogous to those currently imposed on AT&T (*i.e.*, regulatory review of rates, terms, and conditions), on companies formerly subject to forbearance, like MCI, Sprint, and numerous smaller long-distance companies.

Pros:

- o Would provide more consistent regulatory treatment of AT&T and its numerous long-distance competitors.

Cons:

- o Would unnecessarily impose burdensome regulatory requirements on smaller long-distance carriers without any market power, thereby impeding their ability to provide service quickly and efficiently to the public.
- o Unnecessary regulatory burdens could diminish those carriers' incentives to offer innovative new services over advanced infrastructure.

Political Feasibility:

This option seems politically infeasible. Although AT&T has supported a version of this option, virtually all other interested parties support the policy objectives of the FCC's former permissive forbearance policy -- that is, to reduce unnecessary regulatory burdens and thereby allow carriers to bring services to market in a more efficient and expeditious fashion.

Option 2. Retain the Existing Regulatory Dichotomy Between Dominant and Nondominant Long-Distance Carriers.

Acting under its current legal authority, the FCC would continue to impose relatively more rigorous tariff requirements on AT&T, while subjecting nondominant interexchange carriers to a less stringent, although moderate, level of regulatory scrutiny. Nondominant carriers would be required to file tariffs on no less than fourteen days notice, and would be required to comply with the technical form requirements of the current FCC rules.

Pros:

- o Maintaining a regulatory dichotomy between the dominant carrier -- AT&T -- and nondominant carriers may make some sense in light of marketplace realities: AT&T still has about 65 % of the interstate market, with higher shares in certain market segments.
- o This option is probably consistent with the Court decision and hence would not require any legislative action.
- o The current level of regulation of AT&T provides it with considerable (although not unrestricted) flexibility.

Cons:

- o The current regulatory dichotomy places AT&T at a competitive disadvantage relative to its competitors.
- o The current approach requires non-dominant carriers to file tariffs and comply with other regulatory requirements that even AT&T agrees are unnecessary to prevent anticompetitive conduct.
- o To the extent both AT&T and its competitors are prevented from bringing new services to market quickly by unnecessary regulatory requirements, consumers are harmed.

Political Feasibility:

This option would not be the first choice of either AT&T or its competitors. However, it may be the most feasible approach for the FCC if it does not obtain legislative authority to forbear from regulation of the smaller long-distance carriers.

Option 3. Give the FCC Statutory Authority to Forbear From Regulating Nondominant Long-Distance Carriers.

Under this option, legislation would be needed to give the FCC the authority to forbear from regulating long-distance firms without market power, as it did until 1992.

Pros:

- o Would permit the FCC to reestablish a regulatory regime that many believe was operating well.
- o Recognizes that different degrees of regulation may be necessary for different long distance carriers.
- o Even minimal regulation of nondominant firms could decrease their efficiency and use valuable private and regulatory resources.

Cons:

- o AT&T strongly opposes different regulatory treatment for its long-distance competitors.
- o Legislation is essential to implement this option, and passage could be difficult.
- o Under its present authority, the FCC can craft a relatively unobtrusive regulatory scheme.

Political Feasibility:

This option would face heavy opposition from AT&T. Although competing long-distance firms would support it, it is unclear whether the formal regulation the FCC will adopt under its current authority (in the pending rulemaking) will truly be burdensome.

Option 4. Reduce the FCC's Regulatory Oversight over All Carriers in the Long-Distance Marketplace.

Under this option, the FCC would apply maximum streamlined regulation to all long-distance carriers in competitive markets, and thereby eliminate its regulatory distinction between dominant and nondominant carriers.

Pros:

- o Would put AT&T on a level playing field with its competitors.
- o Carriers may have greater incentives to invest in advanced infrastructure if they expect to be able to bring innovative new services to market with a minimum of regulatory scrutiny.

- o In some market segments, competition appears intense and regulation unnecessary or possibly counterproductive.

Cons:

- o Three firms control over 90% of the long-distance market, and effectively deregulating all carriers might result in cartel-like or at least coordinated behavior, rather than enhanced competition.
- o There is no readily accepted definition of when a market should be deemed "competitive," so that it may be problematic to implement this proposal.

Political Feasibility:

In 1991, members of Congress voiced significant concerns about the potential marketplace effects of FCC proposals to lessen its regulatory scrutiny of AT&T. While AT&T continues to call for further lessening of regulatory burdens, such congressional concerns are likely to remain. Furthermore, while many may support maximum streamlined regulation for nondominant carriers as a policy matter, there remain significant legal questions over the extent to which the FCC can modify its tariffing requirements absent legislative action.

EXECUTIVE ORDER

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UNITED STATES ADVISORY COUNCIL ON THE NATIONAL INFORMATION INFRASTRUCTURE

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Federal Advisory Committee Act, as amended (5 U.S.C. App.) ("Act"), and section 301 of title 3, United States Code, it is hereby ordered as follows:

Section 1. Establishment. (a) There is established in the Commerce Department the "United States Advisory Council on the National Information Infrastructure" ("Council"). The Council shall consist of not more than 25 members to be appointed by the Secretary of Commerce ("Secretary").

(b) The Secretary shall appoint from among the members of the Council officials to serve as chairperson(s) or vice-chairperson(s) to the Council as he shall deem appropriate.

Sec. 2. Functions. (a) The Council shall advise the Secretary on matters related to the development of the National Information Infrastructure. The National Information Infrastructure shall be the integration of hardware, software, and skills that will make it easy and affordable to connect people with each other, with computers, and with a vast array of services and information resources.

(b) The Council shall advise the Secretary on a national strategy for promoting the development of a National Information Infrastructure. Issues that the Council may address, include, but are not limited to:

- (1) the appropriate roles of the private and public sectors in developing the National Information Infrastructure;
- (2) a vision for the evolution of the National Information Infrastructure and its public and commercial applications;
- (3) the impact of current and proposed regulatory regimes on the evolution of the National Information Infrastructure;

- (4) national strategies for maximizing the benefits of the National Information Infrastructure, as measured by job creation, economic growth, increased productivity, and enhanced quality of life;
- (5) national strategies for developing and demonstrating applications in areas such as electronic commerce, agile manufacturing, life-long learning, health care, government services, and civic networking;
- (6) national security, emergency preparedness, system security, and network protection implications;
- (7) national strategies for maximizing interconnection and interoperability of communications networks;
- (8) international issues associated with the information infrastructure;
- (9) universal access; and
- (10) privacy, security, and copyright issues.

(c) The chairperson may, from time to time, invite experts to submit information to the Council and may form subcommittees of the Council to review specific issues.

Sec. 3. Administration. (a) The heads of executive agencies, shall, to the extent permitted by law, provide the Council such information as it may require for the purpose of carrying out its functions.

(b) Members of the Council shall serve without compensation, but shall be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law for persons serving intermittently in government service (5 U.S.C. 5701-5707 and section 7(d) of the Act.)

(c) The Department of Commerce shall provide the Council with administrative services, facilities, staff, and other support services necessary for the performance of its functions.

Sec. 4. General. (a) Notwithstanding any other Executive order, the functions of the President under the Federal Advisory Committee Act, as amended, that are applicable to the Council, except that of reporting to Congress, shall be performed by the

Secretary of Commerce in accordance with guidelines issued by the Administrator of General Services.

(b) The Council shall exist for period of two years from the date of this order, unless the Council's charter is subsequently extended prior to the aforementioned date.

(c) Members of the Council and its subcommittee shall not be considered special government employees for any purpose or for purposes of 18 U.S.C. 201-203, 205, 207-209, and 218-219.

THE WHITE HOUSE,