S. HRG. 103-1035

THE COMMUNICATIONS ACT OF 1994

HEARING

BEFORE THE

SUBCOMMITTEE ON ANTITRUST, MONOPOLIES AND BUSINESS RIGHTS

OF THE

COMMITTEE ON THE JUDICIARY

UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

ON

S. 1822

A BILL FOCUSING ON CONSUMER CHOICE AND PURCHASING OPTIONS FOR TELECOMMUNICATIONS EQUIPMENT AND THE PROTECTION OF INTELLECTUAL PROPERTY RIGHTS

SEPTEMBER 20, 1994

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CONTENTS

STATEMENTS OF COMMITTEE MEMBERS

CHRONOLOGICAL LIST OF WITNESSES

ALPHABETICAL LIST AND MATERIAL SUBMITTED

Page

APPENDIX

ADDITIONAL SUBMISSIONS FOR THE RECORD

THE COMMUNICATIONS ACT OF 1994

TUESDAY, SEPTEMBER 20, 1994

U.S. SENATE,
COMMITTEE ON THE JUDICIARY,
SUBCOMMITTEE ON ANTITRUST, MONOPOLIES AND BUSINESS RIGHTS,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:37 a.m., in room SH–216, Hart Senate Office Building, Hon. Howard Metzenbaum, chairman of the subcommittee, presiding.

Also present: Senators Simon, Specter, Hatch, Leahy [ex officio], Brown [ex officio], and Pressler [ex officio].

OPENING STATEMENT OF HON. HOWARD M. METZENBAUM, A U.S. SENATOR FROM THE STATE OF OHIO

Senator METZENBAUM. Good morning. We are here today to review legislation designed to update our national communications policy. Senators Hollings and members of the Commerce Committee deserve considerable credit for reporting a bill that contains numerous provisions which could promote competition in communications markets, while protecting telephone ratepayers.

However, this legislation also contains numerous special interest provisions that, contrary to the bill's stated goals, will expand monopolistic control of communications networks and leave consumers at financial risk. I will attempt to work with Fritz Hollings with respect to a number of amendments to S. 1822 that could and should return the bill to its original procompetitive, consumer protection course.

Over the last decade, this subcommittee's periodic review of competitive problems in the communications industry has led me to conclude that Congress must do everything it can to break the Bell Telephone Companies' monopoly on local phone service. One might ask why. The answer is quite simple. So long as consumers and businesses have only one choice of companies that can meet their local communications needs, the potential benefits of long-distance, cable, computer, and wireless communications competition cannot be achieved.

It only takes one monopoly bottleneck in a nationwide communications network to undermine competition throughout the entire market. A local telephone monopoly that controls access to all consumers will also have an incentive to overprice its services and expand its monopoly in order to maximize its profits.

So the local telephone monopoly should go. Cable and other potential competitors to the local Bell telephone companies must be

given the green light to compete for local phone business. In the same manner that the Federal Government created the environment for fair, open competition in the purchase of telephones and long-distance service a decade ago, we must now do the same for the local telephone market.

Senator Hollings' original bill had this policy priority just right. That bill would have prevented the Bell Telephone Companies from entering the long-distance market until the Bells faced "actual and demonstrable competition" in their local phone markets. Unfortunately, the Commerce Committee amended S. 1822, replacing the actual competition test with a set of regulatory requirements designed to achieve competition.

If there is one thing I have learned in my many years in business and public service, it is this: When it comes to competition, nothing is as good as the real thing. Why is regulation not good enough? Because the history of communications regulation demonstrates an inability to prevent monopolistic practices that harm competitors and consumers. That is why the old Bell System was broken up in the first place. Regulation could not protect competition.

As Senator Hollings pointed out in a letter to me last month, the only significant price increases telephone ratepayers have experienced in the last decade did not come from competitive services, but instead when regulators allowed local rate hikes. Senator Hollings stated that rates for local monopoly services have risen 30 percent. In addition, large and small business users and consumer groups published a report this year showing that, despite regulation, the local Bell monopolies have overcharged ratepayers by about $35 billion since the breakup of AT&T. Obviously, if there is any chance of developing local telephone competition, that is far more desirable than hoping regulators will suddenly improve their track record.

I say if the first thing we want is real local telephone competition, we should demand just that and not a bunch of complicated regulations theoretically designed to achieve competition. My position on the importance of local telephone competition is shared by one of the key antitrust figures from the Reagan administration. Although I often disagreed with Bill Baxter when he was head of the Antitrust Division under President Reagan, his written submission to this subcommittee echoes my concerns.

Mr. Baxter, now professor of law at Stanford University, says:

> We should not fall into the trap of thinking that just because local competition is imaginable it is already here. It is not here. It is not close. And until it is, letting the Bell companies into long-distance business would be a setback to dynamic competition in the rest of America's telecommunications markets.

The Bell companies' successful campaign to water down S. 1822 reminds me of how the cable industry pulled the wool over our eyes in 1984. Then the cable companies said, free us of governmental constraints because competition is right around the corner. Just as with this bill, the House passed the 1984 Cable Deregulation Act overwhelmingly, and the Senate Commerce Committee did the same.

Despite significant misgivings, I let the bill pass the Senate on the last day of the 98th Congress and have regretted it ever since. Cable rates skyrocketed and the promised competition was crushed

when large cable monopolies flexed their muscles. It took Congress 8 years to undo this mistake, and despite the benefits that are beginning to flow from the 1992 Cable Act, we will never fully compensate consumers and competitors for the harm caused by cable deregulation. I want to make sure that we do not make the same mistake with the phone industry that we made with the cable industry.

Speaking of the cable industry, another Commerce Committee amendment to the Hollings bill runs directly counter to my belief that Congress should promote maximum competition between the cable industry and the phone industry. S. 1822 would allow tomorrow's most likely competitors—local phone companies that are beginning to offer cable service and local cable companies that can now provide phone service—to merge rather than compete in every community with less than 50,000 inhabitants. This is simply absurd.

The telephone wire that already reaches into every home can now be used to offer television programming in competition with cable, and the cable wire that reaches more than 90 percent of homes can now be used to provide phone service in competition with the local telephone company. Why in the world shouldn't we promote head-to-head competition between cable and telephone companies?

If we pass a law that allows these mergers, the 25 percent of Americans who live in rural America—and I point this out to my colleagues who have substantial rural constituents—and millions more in small towns are likely to get all their communications services from one big, fat monopoly. Goodbye to the dream of two wires competing head to head in rural and small-town America. Goodbye to competition for more than 60 percent of our Nation.

In her written testimony, Sharon Nelson, chairman of the Washington Utility Commission, indicates that more than 200 communities in the State of Washington alone would end up with one monopoly providing cable and telephone service if this provision becomes law. I would be surprised if rural States like South Carolina and Utah and Vermont and Colorado and Illinois fare any better. This merger provision is so reprehensible that it undermines the entire procompetitive potential of S. 1822. It must be deleted from the bill.

Other significant flaws in the legislation must also be corrected before we complete action on this bill. For example, regulations that separate monopoly and competitive businesses must be applied uniformly so that consumers are not unwittingly overcharged for essential telephone services. The States must be allowed to go beyond Federal law to preserve reasonable telephone rates and otherwise protect consumers and promote competition. Last but not least, we must guarantee that the least fortunate members of our society, the poorest of the poor, have affordable access to essential communications services.

While S. 1822 lays out a framework for moving toward the so-called information age, it does nothing to fill in the existing shortcomings of the telephone age. According to Census Bureau data, from the end of 1993, while more than 90 percent of families that make at least $40,000 a year have a telephone, only between 70

and 80 percent of households below the poverty line have a telephone. That is right. We are not talking about a computer or a car phone. More than 20 percent of low-income families do not even have a simple dial tone coming into their homes. This is shameful.

What if an emergency illness requires a call to the doctor? What if it is necessary to call 911 and there is no telephone available to make the call? I believe we should amend S. 1822 to assure that everyone, regardless of income, who simply wants basic local phone service and nothing fancy should be able to get it at an affordable price. This lifeline amendment and the others I just described would go a long way to help S. 1822 truly promote an era of maximum competition in the communications markets.

I look forward to working with Senator Hollings and his Commerce Committee colleagues, as well as the members of this committee, who want to pass a procompetitive consumer protection bill before the end of this congressional session. I think it is a must that certain amendments be added. I hope we can work together to achieve this goal.

I am extremely pleased that my colleague and good friend, Senator Simon, is here with us this morning. Senator Simon, do you have an opening statement?

OPENING STATEMENT OF HON. PAUL SIMON, A U.S. SENATOR FROM THE STATE OF ILLINOIS

Senator SIMON. I have no formal opening statement, Mr. Chairman. I just appreciate your leadership on this.

The statement you just heard from Howard Metzenbaum is a good illustration of why Howard Metzenbaum is going to be missed next year and in the coming years in the U.S. Senate. He has been courageous in standing up for the average citizen in this country.

I have some concerns. I am not that knowledgeable at this point, probably like a great many of my colleagues in the Senate. I am concerned about the smaller communities and the problems they will face. I am also concerned about cost allocation. What is going to happen on cross-subsidization where you have a monopoly—a regulated monopoly—that gets into another field? How are we going to determine that we are not doing harm to the American consumers in the long term as we work this out?

So I am here with a lot more questions than I have answers, but I really appreciate your leadership on this, Mr. Chairman, and I look forward to hearing our witnesses.

Senator METZENBAUM. Thank you very much, Senator Simon. We appreciate your willingness and ability to move forward and step into every situation in the Senate. I not only will miss the Senate, but I will miss seeing you more often and our continued good friendship.

Senator Thurmond had intended to be with us this morning, but he is at Walter Reed undergoing some routine tests after feeling a bit light-headed late yesterday. He has a statement which will be inserted in the record, as well as written questions for the witnesses.

[The prepared statement of Senator Thurmond follows:]

PREPARED STATEMENT OF SENATOR STROM THURMOND

Mr. Chairman: The hearing this morning will seek to address the complex competition issues involved in S. 1822, the Telecommunications Act of 1994. This is an important time in the telecommunications industry because traditional telephone, cable television, and wireless technologies are rapidly developing and converging. This should bring new products and strong competition into areas that have not experienced the invigorating effects of competition in the past.

The role of the Congress should be to encourage competition in these converging technologies, so that consumers benefit from better services and lower prices. We should make sure that laws and regulations keep up with technological advances and seek to encourage competition in each area where it could flourish in the marketplace. We should ensure that regulation is used only where competition cannot be relied upon to yield the best services and prices. The Congress should attempt to balance all of the competing interests in this dynamic industry in a way which is reasonable, even-handed and fair to all.

If the Congress does its job well, the U.S. telecommunications industry will be poised to lead in global competition for the foreseeable future. Leadership in telecommunications is vital because it has a ripple effect throughout all other industries. Good telecommunications benefits other businesses and consumers not only through more reasonable prices, but through innovative products which permit business activities to be conducted more efficiently and through enhanced means.

On the other hand, if the Congress does its job poorly, it could make the existing situation far worse than it is today. Excessive regulation may choke the industry and the absence of competition may stifle innovation and the deployment of new products and technologies. In particular, the Congress could do substantial harm by excessive preemption of existing State supervision and through uniform Federal regulations which do not adequately address local variations and concerns. As I stated in hearings in this Subcommittee late last year, I am concerned that excessive government regulation will unnecessarily impede private initiative and competition in this critical sector of our economy.

Certainly, attempting to re-write the ground rules for such a technical and complex industry is no easy task. Often when one group gains another group loses, making consensus impossible to achieve. Each adjustment made in legislation often disrupts existing arrangements and relationships in the industry. Despite these understandable difficulties, however, we have a responsibility to ensure that proposed legislation will work in the real world. Our telecommunications industry is not faced with a crisis. The Congress should act only if we have some degree of confidence that the new legislation will make the competitive situation better and not worse.

The final panel of the hearing today will focus on an amendment that Senator Leahy and I intend to offer to S. 1822. Our amendment is intended to enhance competition in one aspect of telecommunications industry by developing interface standards which will permit services and the consumer equipment necessary for the services to be obtained separately in certain circumstances. This amendment would bring greater competition, for example, in the provision of set top converter boxes and interactive video devices which are likely to be developed in the future.

The Leahy-Thurmond amendment relies on competition and private industry to the extent possible to set the necessary standard interfaces. The amendment is based conceptually on the experience with telephone equipment, in which the market became much more vibrant when monopoly control over the provision of telephone service was separated from the manufacture and offering of the telephones themselves. It was not so long ago that telephones could not be bought by consumers, but were rented indefinitely.

Today, cable boxes almost always must be rented, and there is little or no competition over features or price. The Leahy-Thurmond amendment is intended to expose this type of situation to the benefits of invigorating competition. Further, the amendment is intended to avoid this type of monopoly situation in the future by providing that the equipment needed for new interactive services generally will be opened to competition. Some have raised issues about the precise scope of the amendment, and I look forward to a constructive dialog on these issues as this effort proceeds.

Mr. Chairman, I believe we agree that the goal should be to achieve more competition in the telecommunications industry, for the benefit of consumers. I have questions about whether S. 1822 achieves this goal in its current form, for numerous legitimate concerns have been raised about the competitive aspects of the legislation. I thank each of the witnesses for their time and effort in appearing before the Subcommittee this morning, and expect that they will be very informative.

Senator METZENBAUM. Senator Leahy is at defense appropriations conference and will be joining us as soon as possible.

The subcommittee has received numerous letters from interested parties on this legislation, like the statement I just read from former Assistant Attorney General Baxter. All of these submissions will be included in the record.

We are very, very pleased to welcome this morning two of the outstanding stars of the Clinton administration. We are delighted to see Anne Bingaman, the Assistant Attorney General of the Antitrust Division, who has been getting probably a little more publicity than even the President these days in New York Times articles, Washington Post articles, all very good ones, and we are very proud of the job she has been doing as the Assistant Attorney General.

We are also pleased that Mr. Larry Irving is with us, who we have known over a period of years for his outstanding work in the House and the outstanding work he is now doing with the administration.

Ms. Bingaman, please proceed.

PANEL CONSISTING OF ANNE K. BINGAMAN, ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION, U.S. DEPARTMENT OF JUSTICE, WASHINGTON, DC; AND LARRY IRVING, ASSISTANT SECRETARY FOR COMMUNICATIONS AND INFORMATION, U.S. DEPARTMENT OF COMMERCE, WASHINGTON, DC

STATEMENT OF ANNE K. BINGAMAN

Ms. BINGAMAN. Thank you, Mr. Chairman. Let me say first that all of us in the administration, and I certainly, personally, and the Attorney General, join with Senator Simon in stating you will be terribly missed. You have been a great, great friend of the Antitrust Division. You have been a friend of Justice and a friend of the administration, and we are grateful for your leadership and we will miss you personally and institutionally. There will be a big difference when you are gone.

Senator METZENBAUM. Thank you very much.

Ms. BINGAMAN. It is very true.

Second, let me state the administration's gratitude for the leadership of Senator Hollings on this bill, and Senators Danforth and Inouye. They have taken great strides making this legislation possible, along with the leadership of Chairmen Brooks and Dingell in the House and Congressmen Markey and Fields. We are grateful to them for getting this legislation where it is today.

Mr. Chairman, where this legislation is today is on the verge of passage if the concerns you have can be addressed and if the Senate will act and the bill goes to conference and both Houses move. The administration believes, and I personally believe, that this legislation is critical to competition in this basic and vital industry. It should pass this year. The time is now. We will never be closer.

Mr. Chairman, this legislation is vital for the future of this country. It is vital for American consumers and it is vital to promote competition in these basic and crucial industries. Why do I say that? I say that because the Justice Department 20 years ago, in 1974, started this Nation, along with the FCC, on the path toward

competition in telephone service. It was an unheard of concept almost at that point. Other nations in the world are still barely beginning to follow our lead.

Mr. Chairman, it was the antitrust suit brought by the Justice Department, the consent decree negotiated by Bill Baxter, who I am proud to say was my professor at law school, and Mr. Irving's professor, also, and the entry of that decree and the modified final judgment and the brilliant supervision of that decree by Judge Harold Greene, who has performed distinguished service to the country in this matter, that has brought us to this point today.

Let's review briefly what competition today has done for us. We have long-distance prices that are 50 percent lower than they were 10 years ago. We have fiber-optic network, four bands of it, across the country. We have tremendous capacity for transmission of digital signals over this fiber-optic network. We have an explosion of products in computers, in telephone equipment, in faxes, in voice mail, in all of the products that just 10 years ago we as consumers couldn't even imagine.

It is competition in breaking apart the local network from the long-distance network and allowing competition in the equipment side of the business which has caused this tremendous forward movement for consumers, lower prices, and bringing the United States to the forefront of the telecommunications revolution.

Mr. Chairman, it is a fact that competition has made this country the preeminent leader in the world in telecommunications. Japan is behind us, Europe is behind us. We are exporting products, we are creating jobs, but more than that we have tremendous productivity and we have products and lower prices better than anywhere in the world. It is competition that has gotten us to this stage, and it is the antitrust decree and the modified final judgment which is responsible for that.

Mr. Chairman, the time has come to take the next step. The time has come to move this important industry from the courts to legislation. The time is here, the time is now, and by taking the next step and opening the local loop, still monopolized by the Regional Bell Operating Companies, to competition, which only this bill can do fully and effectively and immediately, we can move into the next phase of the telecommunications revolution in this country. If we do that, if we do it wisely, if it we do it promptly, if we do it smart and with courage, we can continue to lead the world in this basic and vital industry which is now 10 percent of our gross domestic product.

There is no question that this is critical and important legislation in this Congress. There is no question that it affects the life of every American. It affects the economy of this country and it affects our competitiveness and productivity. That is why the administration supports this bill. That is why we support passage, and we urge the Senate to move this legislation, to go to conference with the House and to pass the legislation in this Congress.

[Ms. Bingaman submitted the following:]

PREPARED STATEMENT OF ANNE K. BINGAMAN [1] ON BEHALF OF THE ANTITRUST DIVISION

Mr. Chairman and Members of the Subcommittee: I am pleased to be here today to testify on behalf of the Administration on critical legislation that will help accelerate the telecommunications revolution and the advancement of the National Information Infrastructure (NII).

An essential and comprehensive legislative initiative in this area is now advancing in the Senate, S. 1822, introduced by Senator Hollings. We are grateful for the leadership of Senator Hollings, and to those Senators of both parties who are cosponsors and have worked to move it forward, particularly, Senators Danforth and Inouye, and Senators Stevens, Exon, Pressler, Rockefeller, Burns, Robb, Gorton, Dorgan, Kerrey, Kerry, Bond, Moseley-Braun and Akaka. I also commend the House of Representatives, particularly Chairmen Brooks and Dingell, Chairman Markey, and Congressmen Moorhead, Fish, and Fields, for their exceptional and bi-partisan leadership in passing what is now H.R. 3626.

I also want to say how proud I am to appear before this subcommittee and you, Senator Metzenbaum, since this may be the last time I testify before you close a long and distinguished career in the Senate reflecting great dedication to the antitrust laws.

Given my role in enforcing the nation's antitrust laws, I will focus my remarks on the portion of the proposed legislation that relates to competition in the telecommunications business, especially issues arising in connection with the Modification of Final Judgment (MFJ) that governs the actions of AT&T and the Regional Bell Operating Companies (RBOCs).

The job of building the NII—or more specifically, infrastructure that will permit broadband, interactive communication between all members of our society—has been aptly compared to the building of the nation's interstate highway system. Like the construction of the highway system, the construction of the NII will create hundreds of thousands of jobs. And just as roads have enhanced this nation's productivity and living standards, the completion of the NII will make firms and individuals more productive. The NII will also enhance the quality of our lives by creating new ways to educate adults and their children, improve our health care, give us better and cheaper ways of buying products and services, and entertain us at home.

There is a key difference, however, between the nation's roads and its information infrastructure. Our roads have been built by government. Our NII is being built by private enterprise.

But that does not mean that government has no role in promoting the development of the NII. To the contrary, just as in any other sector of the economy, government is needed to set and enforce rules of fair play.

In a word, government is needed to ensure *competition*, where technologically and economically feasible. For it is only through vigorous competition in all phases of the telecommunications business—in the construction of the various information highways and their access roads, wired or wireless; in the operation of those highways; and in the provision of content over the highways—that the nation can be assured of having the highest quality telecommunications service at the lowest cost.

S. 1822 assigns a central role to competition. S. 1822 and the legislation passed by the House aim to pave the way for more competition in both local telephone and cable service by stripping away regulations that impede the development of at least "two wires" to the home and opening the telephone companies' "local loop" to full and fair competition. Meanwhile, the bills seek to enhance competition in long-distance telephone services and in the development and manufacture of telecommunications equipment. The Administration, as outlined by Vice President Gore and others, seeks the same objectives.

All of this activity gives us hope that a consensus has emerged in favor of moving telecommunications policy out of the courts and into the statute books so that Congress, representing the public, can establish the far-reaching and comprehensive framework for governing the telecommunications world of the future that the nation deserves. The Administration remains eager to work with the Senate and with the entire Congress to bring about this result.

In the balance of my testimony, I would like to do the following:

To put the discussion we are having today in a useful framework, by explaining how we got here and, in particular, how the nation has benefited from the competition in telephone markets that has occurred thus far;

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[1] Assistant Attorney General, Antitrust Division, Department of Justice.

To suggest why providing even greater competition in both local and long-distance telephone markets is critically important for American consumers and industry;

To identify the fundamental challenges policymakers face in bringing about this result; and

To discuss the valuable foundation constructed by S. 1822 (and H.R. 3626) to address these challenges.

THE ORIGINS OF THE CURRENT TELECOMMUNICATIONS REVOLUTION

The telecommunications revolution—the merging of voice, video and other data transmission and the proliferation of new telecommunications products and services—has been one of America's leading technological and economic success stories. At bottom, the key reason is that our scientists, engineers and businesses have developed and introduced telecommunications technologies at a faster pace than anywhere else in the world.

Public policies that have promoted competition have been critical to this result. Perhaps nowhere is this more evident than in the case of telephone services, where through the efforts over two decades of the Justice Department and Judge Harold Greene, and the work of the FCC, competition has become the central organizing principle of the industry.

Until the Department sued and eventually broke up AT&T, that company had a monopoly over this nation's telephone market. It was a regulated monopoly, to be sure. But it was also one that thwarted competition and innovation. New companies like MCI that wanted to provide long-distance service could not do so because AT&T's local operating companies refused to provide interconnections to their local loops. Similarly, other manufacturers of telephone equipment wanted to sell equally, if not more, innovative products but were frustrated by AT&T from doing so because of the telephone company's incentives and ability, through its monopoly control of the local loop, to buy such equipment only from its wholly owned subsidiary, Western Electric.

These practices were ended when the Department of Justice, led by my antitrust law professor in law school, William Baxter, obtained a consent decree in 1982. A Modification of Final Judgment (MFJ) has since been administered with remarkable energy and wisdom by Judge Greene, to whom this nation owes enormous gratitude.

By unleashing competition in various segments of the telephone industry, the MFJ has delivered the benefits that competition in other markets routinely guarantees: innovation, better products and services, greater efficiency, and lower prices. Consider that since the MFJ:

Interstate long-distance prices for the average residential customer in real terms (adjusted for inflation) have fallen by more than 50 percent without compromising universal service;

there has been a virtual explosion in the types of telephones and services that consumers can choose from;

competition has stimulated the development of hundreds of innovative voice and data services (such as call waiting and voice mail);

spurred by smaller carriers and MCI and Sprint, the three largest long-distance providers (including AT&T) now have laid fiber optic cable throughout much of the country and thus have already built significant portions of the backbone for the NII; and

competition in the telephone equipment market has opened whole new markets and spawned the development and sale of new products.

In short, the MFJ has enabled the United States to maintain its technological leadership in telecommunications. Nations that have stuck to the old monopoly model of telephone services have fallen behind. That is why many are now trying to emulate us, rather than the other way around.

Competition has been less well advanced in video services. To be sure, consumers now have an unprecedented degree of choice in video programming, due to the widespread introduction of cable technology. But, with a few exceptions, cable television operators have monopoly franchises.

Yet here too technology is proving that the current video monopolies are far from "natural." A number of Regional Bell Operating Companies (RBOCs) have announced plans for upgrading their telephone networks to deliver video programming. And continuing advances in satellite television promise the delivery of even more television channels to consumers than are now available over cable.

Finally, there is hope that technological innovation ultimately will erode the monopoly that the MFJ, by itself, could not end: the lock that the local monopolies of the Bell System, the Bell Operating Companies (BOCS), still have on local telephone service (carrying more than 99 percent of local traffic in their service areas). Just as telephone networks can be upgraded to provide video service, cable television systems are expected relatively soon to carry telephone traffic. In addition, while expensive, cellular and specialized mobile radio services—which can transmit calls through the air rather than by wire—are growing rapidly throughout the country. Shortly, the FCC will auction off additional spectrum for personal Communications Services (PCS), yet another form of wireless communication. Still, it is important to keep in mind that these alternatives are largely prospective, they are not yet widely available and affordable today, and it is not yet clear when they will be.

THE NEED FOR AND BENEFITS OF EVEN GREATER COMPETITION

Hopefully, technological advances already here or on the horizon will bring even greater competition to telecommunications markets. In particular, technology could soon make possible interactive, digital communications over broadband fiber or coaxial networks (and through the air as well), which should unleash the full promise of the NII.

But there is still a need for policymakers to encourage greater competition in existing telecommunications markets, which both S. 1822 and the House legislation well recognize.

Cable television and local telephone service are the most obvious markets where more competition is necessary. Both are currently monopolized by existing providers, prompting government regulation to protect consumers from excessive rates. Yet even though the technological advances I have just mentioned may make it possible for competition to erode these monopolies and thus end or relax current regulation, government regulations still inhibit this competition. In particular, existing law, at varying levels of government, frustrates providers of cable and local telephone services from offering both services, in full competition with each other, in the same service territories.

Second, while several competitors certainly have made significant inroads in long-distance telephone markets, there is room for more competition. AT&T still has about 60 percent of long-distance traffic.

Third, while telephone equipment is now probably the most competitive of the markets affected by the MFJ, even this market could use additional competition. Here, too, AT&T continues to have a leading share of the market, although it faces stiff competition from numerous other providers, domestic and foreign. Given their expertise in the industry, some or all of the RBOCs may be natural entrants into developing and manufacturing telecommunications equipment, especially for network switching, but are precluded from entry by the MFJ. Under the right terms and conditions, entry by the RBOCs into these activities could help spur innovation and bring down prices for telecommunications equipment. In the process, the RBOCs could help make American firms even more competitive in the international telecommunications equipment market.

POLICY CHALLENGES AHEAD

The key challenge now for all telecommunications policymakers—in Congress, in the Executive branch, and the states—therefore could not be more clear: To encourage greater competition in all facets of the telecommunications industry in a way that does not distort the marketplace or pose dangers to consumers. In particular, as long as the RBOCs have a monopoly over phone service, they—as did AT&T—will continue to have incentives, and the ability, to cross-subsidize and discriminate.

Ultimately, effective competition in local telephone markets will provide the best protection against cross-subsidization and discrimination by the RBOCs, since without market power RBOCs will be unable to leverage their local telephone monopolies into other markets. However, until local telephone markets are competitive, entry tests and structural safeguards, such as separate subsidiaries that allow for objective analyses by regulators of pricing, cross-subsidization, and discrimination are important means available to ensure that local telephone customers are not charged with the costs of long-distance service and manufacturing, and that markets are not distorted by unfair and cross-subsidized pricing.

In addition, policymakers should encourage competition to cable television from other firms and technologies, which will reduce the market power that existing cable operators maintain in their markets throughout the country. Statutory and regulatory restrictions that prevent such competition should be removed—but in conjunction with appropriate safeguards and removal of all actual and effective legal

barriers to cable company competition for local telephone service (and promulgation by the FCC of interconnection requirements). S. 1822 provides for removal of local telephone entry barriers and promulgation of interconnection requirements one year after enactment as presently drafted and we would support LEC provision of video programming in their local service area at that time.

To the extent that the local telephone companies have challenged the prohibition on providing video programming in their local service areas in court (while enjoying, in most instances, continued protection of their local telephone monopolies from competition by cable operators), it is likely that no court higher than a district court will have ruled on these challenges before Congress adjourns. In any event, comprehensive and balanced legislative reform with appropriate safeguards—not piecemeal litigation—is the most fair, sensible, and orderly way to move forward. Entry on fair and appropriate terms ought not be affected by whether a BOC may have received injunctive relief from a trial court on a challenge to a provision of law that S. 1822 will change.

THE IMPORTANT CONTRIBUTIONS OF THE PROPOSED LEGISLATION

S. 1822 is a major step forward toward meeting an important challenge outlined above: enhancing competition in markets monopolized by existing firms. Among other things, this legislation would eventually clear the way for cable and telephone companies to compete vigorously against each other in the same markets. We think this can occur even more quickly than provided in S. 1822, consistent with the principles I have outlined. In addition, the legislation aims to open up local telephone markets by preempting existing local and state restrictions against entry while requiring the RBOCs to "unbundle" their services. In the process, RBOCs would be compelled to provide interconnection to other firms that want to use the "local loop" to provide local telephone services.

The Administration strongly supports those provisions of S. 1822 that seek to open the local loop, and we believe that the RBOCs should be required to unbundle and fairly price each element of their local monopoly service at technologically and economically feasible points. Such disaggregated unbundling, coupled with fair pricing, is a critical precondition for establishing truly effective competition in the local telephone market. By requiring before the BOCs may originate interLATA telephone calls in region that they must fully implement unbundling and interconnection, that intraLATA toll dialing parity must be provided, that actual and effective legal entry barriers must be removed, among other requirements, S. 1822 creates important and appropriate incentives for the RBOCs to cooperate with these efforts to facilitate local competition. Structural safeguards for the local loop, such as a separate subsidiary, may also be appropriate at this time.

The Administration also strongly endorses reform that would permit existing cable and telephone companies to offer both video and telephonic services in the same geographic areas. The Administration endorses inclusion of provisions in the legislation that would prohibit telephone and cable television companies from acquiring each other within the same service territory. It is crucial that public policy promote competition between methods for delivering telecommunications services.

For this reason, the Administration believes that for five years there should be a general prohibition on mergers in the same service territory with an exception narrowly limited to acquisitions within rural areas where two wires may be economically infeasible. (There should be a limited exception to any prohibition on joint activity for shared use of the cable "drop wire," because this could facilitate the delivery of broadband services to the home with little threat of anticompetitive effects.) In addition, in order to provide flexibility to deal with technological and market changes that may occur, the legislation should permit the FCC to relax the general prohibition after five years to the extent such action would not harm competition. The Department of Justice would retain the authority both during and after the five-year period to challenge under the antitrust laws any cable-telco merger or joint activity within the telcos' service region (and elsewhere) regardless of any regulatory approval.

Another reason that we believe it is important that the Congress adopt a flat ban on "within region" cable-telco mergers, for at least five years (subject to the rural exception) is that there should be absolutely no uncertainty in the private sector about the policy of promoting the construction of the second wire. While under S. 1822, an antitrust savings clause would permit antitrust review of all proposed buyouts, including those pursuant to exceptions or waivers, these transactions will rarely be acceptable now under the antitrust laws, unless in rural areas, and there is great value in avoiding costly uncertainty and delay, and burdensome antitrust review and litigation.

The legislation also addresses a second key policy objective I have mentioned: specifying the conditions under which the RBOCs, which now have monopoly power in local telephone service, can provide added competition in long-distance telephone service without using their monopoly leverage to distort competition in either or both the local and long-distance markets. S. 1822, and the House bill, represent a major step forward in constructing an appropriately competitive environment in the telecommunications industry.

In particular, S. 1822 retains entry tests, administered by DOJ and the FCC, for RBOCs to enter long-distance (should they pass the tests). The legislation also would permit the RBOCs to develop and manufacture equipment, although it does not provide, like H.R. 3626 and supported by the Administration, up to one year after enactment for DOJ to object to entry and seek court intervention.

The Administration supports the thrust of S. 1822 and H.R. 3626:

While the nation owes deep gratitude to Judge Greene for enormous efforts in administering the MFJ, the rapid pace of technological change suggests that the time has come to do what S. 1822 would accomplish: move telecommunications policy out of the courtroom and into the hands of the two expert agencies charged with protecting the broad public interest in telecommunications (FCC) and competition in particular (DOJ, which helped launch the telecommunications revolution with its suit against AT&T);

The Administration endorses competition-based entry tests that require approval of the DOJ and FCC before the RBOCs may provide long-distance as a key safeguard. The Administration supports an approach permitting RBOC entry into the interLATA services market that includes both unbundling and separate affiliate provisions. The Administration also agrees that the RBOCs should be permitted in comprehensive legislation to offer "incidental" long-distance service to facilitate the provision of wireless, cable and certain other services that were not subjects of the AT&T lawsuit. S. 1822 contains provisions generally along all of these lines.

The Administration supports RBOC entry into manufacturing, with appropriate safeguards as provided in S. 1822, including a separate subsidiary. The Administration also supports a provision contained only in the House bill, that would provide a notification-and-waiting-period procedure under which a BOC would submit relevant information about its proposal to the Department of Justice, which could investigate and sue to enjoin the proposed entry.

CONCLUSION

The Administration shares the belief reflected in much of S. 1822 and the House bill that the legal framework governing the telecommunications industry can and should promote as broad a degree of competition in all phases of the business as possible, with many viable competitors providing products and services, on a level playing field for all. While removing existing legal barriers to entry in various markets is essential and may appear to promote competition, truly effective competition requires a truly level playing field, where no competitor is able to use its monopoly or market power in one market, such as local telephone services, to disadvantage competition in other markets. Ultimately, it is competition, not regulation, that will provide the best guarantee of promoting new products, lower prices, employment, expanded export opportunities, and innovation in the telecommunications industry.

The Administration looks forward to continuing to work with the Congress in a bi-partisan fashion on an expeditious basis to provide the fair and competitive environment for the telecommunications industry that its participants and consumers deserve. The time to pass this legislation is now, to promote the competition that will provide better and cheaper products and services, that will speed private investment and job creation, and will enable America to compete and win in a global economy.

ANNE BINGAMAN'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Ms. Bingaman, as you point out in your written testimony, much of the difficulty in opening many telecommunications markets to all potential competitors results from the fact that there is still little competition in local exchange markets. What is your working assumption or best guess about when competition will actually arrive in local exchange markets?

Answer. I wish that I could say with certainty when competition will be prevalent in local exchange markets. The answer depends greatly on public policy and legislation, since many of the barriers to competition are legal. Not only is it necessary to remove those barriers, but there are reforms that could be undertaken to promote competition. For example:

- In many states, facilities-based competition and even resale of local exchange service are against state law. One of the most important aspects of S. 1822 was that it would preempt state entry barriers to competition. I was gratified to see that NARUG did not oppose this aspect of S. 1822, reflecting the movement in many states toward greater competition.
- Only a few states require unbundling, which would facilitate local competition. S. 1822 would require unbundling and other pro-competitive activities.

There is some hope as well that advances in technology will eventually lead to competition. For example, wireless technologies may help promote competition, and cable television systems may soon have the capability to carry telephone traffic. At the moment, however, such competition is largely speculative, since the wireless services and nascent technology now available are substantially more expensive than local exchange service.

Question 3. Ms. Bingaman and Mr. Irving, there are a large number of competitors in long distance markets. Yet some experts assert that the market largely functions as an oligopoly without as much true price competition as could exist. What are your perspectives on the competitive aspects of the long distance market?

Answer. The progress in bringing competition to the long distance market has been remarkable since the MFJ. There are now several large competitors and hundreds of smaller competitors. There are several fiber optic networks covering our nation. Consumers are able to obtain prices well below, in real terms, the price of residential long distance service before the MFJ. These achievements, however, take nothing away from the axiom that, as in most markets, more entry and more competition should be beneficial and could foster innovation, as well as better services and prices. We will continue to encourage competition in the long distance market. In particular, we will support RBOC entry into these markets upon satisfaction of the VIII(C) test of the MFJ, which protects the long distance market from anti-competitive distortions.

Question 4. Ms. Bingaman and Mr. Irving, what is your response to the analysis by the National Association of Regulatory Utility Commissioners and others that S. 1822 would increase the rates paid by consumers for basic local telephone service?

Answer. I will speak only to the competition aspects of the question and leave other aspects to Mr. Irving. Competition in local service, an area which to this point has been largely free from competition, is likely to spur innovation, lower prices and better services. That is exactly what happened when the long distance monopoly was opened to real competition. The cost of service ought to decline, not increase. In addition, these advances should reduce the expense of providing the universal service in which we all believe. We support competitively neutral means of providing universal service.

Question 5. Ms. Bingaman and Mr. Irving, in your written testimony you both suggest many changes that you would like to see in S. 1822 to improve competition in the telecommunications industry. Do you have legislative language available for these suggested amendments?

Answer. Early in the legislative process in the Senate, we provided to the Senate Commerce Committee staff, on a bipartisan basis, language regarding several matters which are addressed in S. 1822.

Question 6. Ms. Bingaman, you indicate in your written testimony that the regional Bell companies are likely to enter into manufacturing if legislation permits them to do so. Do you believe that beyond requiring separate manufacturing subsidiaries, any other safeguards would be necessary to ensure that the Bells do not unfairly favor their own manufactured products over those from other vendors? For example, would you favor requiring the Bell companies to have an open and non-discriminatory procurement process and base their purchasing decisions on objective commercial criteria?

Answer. S. 1822 provided numerous safeguards in addition to a generally well constructed separate subsidiary requirement. It provides, for example, that a BOC can only purchase equipment from its manufacturing affiliate at open market prices. It also provides protection in prohibiting a BOC or its non-manufacturing subsidiaries from providing sales, maintenance, installation, or production for its own manufacturing affiliate. The bill also directs that a manufacturing affiliate may not discontinue or restrict sales of equipment for which there is "reasonable demand", in-

cluding "software integral to telecommunications equipment, including upgrades". The only safeguard not included in the bill that we have specifically supported thus far is a notification and objection procedure as set forth in H.R. 3626. Such a procedure would require an RBOC to notify the Department of Justice as to which manufacturing markets it proposes to enter; the BOC would then wait to enter for a limited period of time, during which the DOJ could object to any such entry that might impede competition in a particular manufacturing market. If no objection were made in the allotted time or if the DOJ notified the RBOC before expiration of the period that no objection would be made, entry could proceed. This, coupled with post-entry safeguards included in S. 1822, adds substantial protection above and beyond the separate subsidiary requirement.

ANNE BINGAMAN'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR HEFLIN

Question 1. The House and Senate bills contained language providing the opportunity for small independent cable companies to merge with or be acquired by their local exchange company. Many of us believe that this language is critical to ensuring the future health and viability of small cable companies, especially in rural areas of our states. Do you see any antitrust concerns in providing this vital option to small independent cable companies?

If so, how can the viability of these companies which are critical to rural areas throughout the nation be protected?

Answer. The Administration has supported a five year prohibition on mergers in the same service area of cable and telephone companies, subject to a rural exception (and an exception for joint LEC/cable operator use of the cable "drop wire"). This rural exception would be for communities with a population of less than 10 thousand and this exception would allow such transactions to proceed if they comply with antitrust and other applicable laws. After the five years, the Administration supports giving the FCC the discretion to vary the prohibition as may become appropriate if certain conditions are met (e.g., the presence of sufficient competition in the service area) in order to ensure that such a restriction does not outlive its usefulness. Subject to the exception I have discussed, these mergers have competitive problems now since they generally bring together two wires which otherwise might compete. The Administration's approach offers helpful certainty in the short term and flexibility in the long run. I would note in this regard that one of the fundamental principles of the legislation is ultimately to foster competition between cable and telephone providers.

ANNE BINGAMAN'S RESPONSES TO QUESTION SUBMITTED BY SENATOR SIMON

Question 1. Should the RBOCs be required regularly to change auditing firms under this legislation?

Answer. The issue of whether auditing firms for RBOCs ought to be changed periodically is an important and interesting one. I am aware of arguments that doing so promotes a fresh look and approach, and diminishes any appearance of tailoring audit results to please a major present and future client, etc. I am also aware of arguments that doing so may reduce the expertise and familiarity of the auditor with an RBOCs business, thereby reducing overall quality, may diminish consistency, and may require that RBOCs choose a firm other than the one they consider best qualified for the assignment. I will continue to review the views of all of those interested in this question with great interest.

ANNE BINGAMAN'S RESPONSES TO QUESTION SUBMITTED BY SENATOR PRESSLER

Question 1. Some believe the fiercest competition for communications services in small towns and rural areas will not be between local telephone and cable companies. Rather, it will be between wireless services, such as direct broadcast satellite, on the one hand, and wire-based services, such as telephone and cable, on the other.

If this is true, isn't it possible that even if a local telephone company merges with a cable company, the resultant company would still face stiff competition from a wireless service, and does the administration favor an exception to the anti-buyout provisions of S. 1822 for mergers or joint ventures in rural areas between a wireless service and a telephone company or a cable company? If not, why should we preclude mergers between wire-based services, but not between a wireless service and a telephone or cable company?

Answer. The premise of your question, that certain wireless services may compete vigorously with wire services in rural areas, is important and may well prove cor-

rect. Let me add a few points to what I said in responding to this question at the hearing.

The Administration has supported an exception for rural areas to the proposed ban on mergers between cable companies and telephone companies. Such rural transactions are excepted from the ban but must clear the ordinary tests, such as antitrust and any other necessary review. The role of satellite or other wireless providers would likely be among the many factors considered under the antitrust laws in gauging the competitive effects of a proposed transaction.

Also, in order to provide greater certainty in this area but at the same time ensure that the Administration's approach does not fail to reflect possible changes in competitive circumstances, including developments along the lines that you have identified, the FCC would be able to modify the prohibition after five years. Thus, to the extent that competition evolves as you have sketched, adjustments to the prohibition might be permitted.

Finally, we carefully evaluate competition and markets relevant to proposed mergers today, including those where issues relating to wire and wireless markets are presented, such as the recent AT&T and McCaw matter, and we will continue to do so. The interaction between wire and wireless markets is important, and we welcome multiple competitors of each type.

Senator METZENBAUM. Thank you very much, Ms. Bingaman. I do have some questions, but I think first we will hear from Larry Irving, Assistant Secretary for Communications and Information, National Telecommunications and Information Administration.

STATEMENT OF LARRY IRVING

Mr. IRVING. Good morning, and thank you, Mr. Chairman. I appreciate this opportunity to testify before you on S. 1822, legislation that will promote the advancement of the national telecommunications and information infrastructure. I am particularly pleased to join my colleague, Assistant Attorney General Bingaman, to represent the administration this morning.

The administration appreciates your efforts, Mr. Chairman, and the efforts of other members of this subcommittee to closely examine S. 1822, and we are pleased by the bipartisan support the legislation has engendered and we intend to continue to work closely with Congress to arrive at a final legislative product this year.

Under the leadership of Vice President Gore and Secretary of Commerce Brown, the administration has been working diligently over the past year to advance the National Information Infrastructure initiative which we announced 1 year ago this month. The build-out of the NII, as we call it, will spur economic growth and will help create jobs for Americans.

The telecommunications and information industries account for almost $1 out of every $10 spent in the United States. Telecommunications and information businesses support jobs for more than 4.6 million Americans. The Council of Economic Advisors has concluded that legislative and regulatory reforms in telecommunications could add more than $100 billion to our gross domestic product over the next decade, and add 500,000 jobs by the end of 1996.

But the NII will not fulfill its potential to benefit all Americans if it continues to develop under a legal regime established in the 1930's. The Communications Act of 1934 served us well for many years, but it is ready for comprehensive revision, and Congress should and must act this year to change it. This is true for three key reasons.

First, U.S. telecommunications capabilities must remain the best in the world in order for our Nation to succeed in an increasingly competitive market. Second, the existing regulatory structure has been altered on an ad hoc basis through legislative, regulatory, and judicial means over six decades to meet perceived problems of the moment, creating a situation artificially favoring some competitors over others and in some instances unnecessarily discouraging investment and risk-taking.

Third, we need to be sure that our communications policies are fully responsive to the needs of every American and, in particular, poor and disadvantaged Americans. Mr. Chairman, it seems absurd, the word you used, that while some Americans order home-delivered pizza for dinner by computer, 5 million homes in the United States do not even have a telephone, according to the U.S. Census Bureau. Less than 3 percent of our public libraries offer access to the Internet. We can and we must do better.

The administration has set forth five goals under which we believe the advanced information infrastructure should operate. First, we want to encourage private investment. Second, we want to promote and protect competition. Third, we want to provide open access to the NII by consumers and service providers. Fourth, we want to preserve and advance universal service. Fifth, we want to ensure flexibility so that the regulatory framework keeps pace with rapid technological changes.

In part, S. 1822 meets the administration's goals, but we do have some concerns, Mr. Chairman, which I will address at this time.

S. 1822 generally would bar acquisitions by telephone companies of cable systems, and vice versa, and joint ventures between them. It would, Mr. Chairman, however, permit such arrangements in communities with as many as 50,000 people. The bill would also permit waivers by the FCC in certain failing-firm-type circumstances.

The 50,000 population exemption, as defined in S. 1822, could encompass anywhere from 90 to 160 million Americans, based on the 1990 census. Without the protection of antibuyout provisions, millions of Americans will not receive the benefits of competitive telecommunications services.

The administration believes an antibuyout restriction is necessary to establish competition, and exceptions to this restrictions should be limited only to rural areas with less than 10,000 people. Direct competition between telephone companies and cable companies has the potential to deliver substantial benefits to American consumers and to provide a powerful incentive for private-sector investment in advanced local infrastructure.

But permitting widespread mergers between telephone companies and cable companies in the same operating areas would kill off any likelihood of such competition and place those substantial benefits in jeopardy. It makes no sense to the administration, Mr. Chairman, to promote competition in Cleveland, but to deprive the citizens of Findlay, OH, the benefits of competition.

If competition is needed in Portland, OR, why isn't it equally valuable in Corvallis? This pattern would be repeated in State after State, city after city, with residents of large cities and major suburbs offered a choice of telecommunications providers, while small-

er cities, the heartland of our Nation, would be at the mercy of a single larger monopoly provider.

On the other hand, we do recognize that inflexible restrictions could prove counterproductive over time, especially in a rapidly changing industry such as telecommunications. For that reason, we would support authorizing the FCC to modify or eliminate a restriction after 5 years, only if such action would serve the public interest.

In general, S. 1822 would allow local exchange companies, or LEC's, to provide video programming in their local service areas only after a number of requirements related to competition, interconnection, universal service, and other areas have been met, possibly causing delays of 3 to 7 years.

However, an amendment adopted at the committee markup of S. 1822 would provide immediate relief for two and, by the time of enactment, possibly more Bell Operating Companies. In a related area, S. 1822 removes entry barriers into a local telephone market 1 year after enactment. The administration supports immediate removal of entry barriers for both telephone and cable companies as critical and complementary components of a procompetitive policy that will promote investment.

The administration also believes that LEC provision of video programming should be subject to compliance with structural separation and the establishment of a common-carrier video platform. Under a video platform, telephone companies would be required to make channel capacity available to unaffiliated video program providers on a nondiscriminatory basis, while providing video programming through separate affiliates.

The administration is also aware, Mr. Chairman, that a coalition of State and local officials is considering proposing specific amendments to 1822 that would, among other things, preserve a State role in such areas as universal service and the regulation of telecommunications service providers, as well as ensuring State and local involvement in public rights-of-way issues.

State and local governments have been instrumental leaders in developing the Nation's telecommunications infrastructure. The administration shares many of the concerns expressed by State and local officials, and will continue to work with those groups, industry and Congress to resolve problems with the legislation.

In conclusion, the administration stands ready to continue working with the Congress to address these and other concerns in telecommunications reform legislation. The need to iron out details does not diminish our enthusiasm for this legislation. The administration looks forward to continued collaboration with the Congress to enact legislation this year.

Mr. Chairman, if I might inject one personal note, I would like to end where my colleague began and thank you for your commitment and your dedication to public service. During the 10 years I spent in the House with Congressman Leland, and then subsequently with Congressman Markey, whenever there was a communications bill of significance that needed improvement in the Senate, we turned to you, Mr. Chairman.

Whether it was the 1984 Cable Act, where you ensured equal opportunity for all Americans in terms of employment, or the 1990

Children's TV Act, where you substantially improved that act on the Senate floor, or the 1992 Cable Act, where we returned to you again to ensure a procompetitive policy, you substantially improved competition and the public interest. I wanted to, on behalf of all of my colleagues from the House and my former bosses, thank you for that commitment.

[Mr. Irving submitted the following:]

PREPARED STATEMENT OF LARRY IRVING ON BEHALF OF THE COMMUNICATIONS AND INFORMATION, U.S. DEPARTMENT OF COMMERCE

Mr. Chairman and Members of the Subcommittee: Good morning. Thank you for this opportunity to testify before you today on S. 1822, legislation that will promote the advancement of the national telecommunications and information infrastructure. I am pleased to join Assistant Attorney General Bingaman, who will focus on the Administration's views on aspects of S. 1822 bearing on the AT&T consent decree. I will discuss more generally the need to pass telecommunications reform legislation this year and highlight other key elements of the Administration's views on the bill.

The Administration appreciates the efforts of the Chairman and other members of the Senate Judiciary Committee to closely examine S. 1822. This bill, along with the House telecommunications reform bill, H.R. 3626, will help lay the groundwork for making better communications services available at lower prices to all Americans and will help ensure a leadership role for the United States in a worldwide information revolution. The Administration is pleased by the bi-partisan nature of the legislation and will continue to work closely with Congress to arrive at a a final legislative product this year.

THE NEED FOR LEGISLATION

One year ago this month, Vice President Gore and Secretary Brown unveiled the Administration's National Information Infrastructure (NII) initiative, setting forth an agenda for a public-private partnership to help bring the benefits of an advanced information infrastructure to all Americans. Last week, the Administration released a report fully highlighting the progress made on the NII initiative. For example, the Commerce Department, with the National Telecommunications and Information Administration (NTIA) in a leadership role, teemed up with other government agencies to conduct hearings across the country this year to address universal telecommunications service issues. NTIA issued a Notice of Inquiry on these issues last week to obtain further public input. In addition, NTIA plans to award $26 million in matching grants in October for information infrastructure projects that will help institutions such as schools, hospitals, and libraries better use telecommunications and information technologies to deliver their critical services to the American public.

Efforts such as these will promote the advancement of the NII, which will in turn spur economic growth and create jobs for Americans. The telecommunications and information industries account for almost $1 out of every $10 spent in the United States. Telecommunications and information businesses support jobs for more than 4.6 million Americans. The Council of Economic Advisors has concluded that legislative and regulatory reforms that will increase competition in telecommunications markets, as recommended by the Administration, could add more than $100 billion to our Gross Domestic Product over the next decade, and add 500,000 new jobs by the end of 1996.

The NII will not fulfill its potential to benefit all Americans, however, if it continues to develop under a legal regime that was developed in the 1930's. Sixty years ago, even the wisest of experts could not have accurately predicted what our communications needs would be today. The Communications Act of 1934 served us well for many years, but it is ready for comprehensive revision, and Congress should act this year to change it. The Administration believes it is time to act decisively to lift the artificial regulatory boundaries that separate telecommunications and information industries and markets. This is true for three key reasons.

First, U.S. telecommunications capabilities must remain the best in the world in order for our nation to succeed in an increasingly competitive world trade environment, which will become even more open with the implementation of NAFTA and the GATT Uruguay Round. The Los Angeles Times reported in July that telecommunications is now the world's largest economic sector, with strategic importance surpassing oil or steel. We cannot afford to settle for anything less than being number one. Archaic rules that inappropriately retard innovation by telecommuni-

cations firms have a negative impact on the international competitiveness of the private Sector in general by inhibiting industrial productivity and job creation. Legislation is necessary to reform regulatory structures that impede development of our telecommunications capabilities.

Second, the existing regulatory structure has been altered on an ad hoc basis over six decades to meet perceived problems of the moment. This has created an uneven playing field that artificially favors some competitors over others and in some instances unnecessarily discourages investment and risk-taking. These effects, in turn, inappropriately skew the growth of industry sectors and retard the development of the NII itself. The judicial process is already addressing some of these problems in a piecemeal fashion, but legislation is needed to resolve these issues in a comprehensive way.

Third, we need to be sure that our telecommunications policies are fully responsive to the needs of the American people as a whole, and, in particular, poor and disadvantaged Americans. We cannot afford to become a nation divided between the information rich and the information poor. There is much to accomplish. While some Americans order home-delivered pizza for dinner by modem, five million homes in the United States do not even have a telephone, according to the U.S. Census Bureau. Less than three percent of public libraries offer access to the Internet. We must do better. The existing regulatory structure may not be sufficient to ensure that all Americans have the opportunity to benefit from the broad range of services that will become available under the NII. We must address these shortcomings through legislative action.

THE ADMINISTRATION'S PRINCIPLES

Only through passage of telecommunications reform legislation can we enhance the development of the competition that is necessary for the NII to achieve its full potential. Earlier this year, the Administration prepared a set of legislative proposals setting forth the principles under which we believe the advanced infrastructure should operate. These proposals, furthered the visions set forth in House and Senate legislative initiatives. We are continuing to advocate the principles underlying these proposals as the legislative process unfolds. These principles are:

- 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; and
- 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.

In large part, S. 1822 addresses the legislative principles set forth by the Administration. The bill proposes to reform the telecommunications industry in a way that will encourage competition, infrastructure modernization, and advanced NII applications in health care, education, and government services. The Administration has some concerns about the legislation, however, which I will address at this time.

AREAS OF CONCERN

Anti-buyout provisions

S. 1822 would generally bar acquisitions by telephone companies of cable, systems, and vice versa, and joint ventures between them. It would, however, permit such arrangements in communities with as many as 30,000 people. The bill would also permit waivers by the FCC in certain "failing firm"-type circumstances.

The Administration believes an anti-buyout restriction is necessary to establish competition, and exceptions to this restriction should be limited to rural areas (that is, areas with less than 10,000 people). We believe that direct competition between telephone companies and cable companies has the potential to deliver substantial benefits to the American consumer and provide a powerful incentive for private sector investment in advanced local infrastructure. Permitting widespread mergers between telephone companies and cable companies in the same operating areas would kill off any likelihood of such competition and place these substantial benefits in jeopardy. On the other hand, we recognize that inflexible restrictions could prove counterproductive over time, especially in an industry changing as rapidly as telecommunications. So the Administration also supports authorizing the Federal Communications Commission (FCC) to modify or eliminate the restriction alter five years, if such action would serve the public interest.

The exceptions to the anti-buyout restriction in S. 1822 are both over- and under-inclusive compared to the Administration's approach. They are over-inclusive because they would exempt too many communities from the restriction. It appears that the 50,000 population exemption, as defined in S. 1822, could encompass 90 million Americans, based on the 1990 Census. Without the protection of anti-buyout provisions, these people may not receive the benefits of competitive telecommunications services.

The exceptions are also under-inclusive because they would limit FCC waivers to "failing firm"-type situations, rather than give the FCC authority, as the Administration proposes, to modify or eliminate the anti-buyout restriction alter five years based on public interest grounds, including the effects of such action on competition, consumer welfare, and infrastructure investment.

Of course, any telephone company/cable system acquisition will be subject to antitrust laws in the same manner as acquisitions in any industry.

LEC entry into video programming

In general, S. 1822 would allow local exchange companies, or LECs, to provide video programming in their local service areas only after a number of requirements related to competition, interconnection, universal service, and other areas have been met, possibly causing delays of approximately three to seven years. However, an amendment adopted at the committee mark-up of S. 1822 would provide immediate relief for two and, by the time of enactment, possibly more Bell Operating Companies. In a related area, S. 1822 removes entry barriers into the local telephone market one year alter enactment.

The Administration supports immediate removal of entry barriers to both the telephone and cable markets as critical and complementary components of a pro-competitive policy that will promote investment in advanced local infrastructure. The Administration also believes that LECs' provision of video programming should be subject to compliance with structural separation and establishment of a common carrier "video platform." Under a video platform, telephone companies would be required to make channel capacity available to unaffiliated video program providers on a nondiscriminatory basis, while providing video programming through separate affiliates.

The Senate bill's amendment permitting immediate LEC entry into video programming for only some Bell Companies, however, is troubling. There is little policy basis for permitting some telephone companies into the cable business immediately, while leaving the rest of the industry to wait for three, five, or perhaps more years before they cane offer the very same services in their areas. This is not just a matter of competitive equity. The cable television market, like the local telephone market, is today largely monopolized, and we want to promote these two providers of local infrastructure to compete with one another. This language seems to invite extensive and time-consuming litigation, followed in all likelihood by a series of piecemeal judicial rulings and disparate treatment of similar situations across the country. The better approach would be to allow all telephone companies to enter the cable market immediately, and vice versa, or one year alter enactment, when barriers to local telephone competition are lifted under S. 1822 as currently drafted, subject to the Administration's proposed safeguards.

State and local issues

The Administration is aware that a coalition of state and local officials are considering proposing specific amendments to S. 1822 that would, among other things, preserve a state role in such areas as universal service and the regulation of telecommunications service providers, as well as ensure state and local involvement in public rights-of-way issues. State and local governments have been instrumental leaders in developing the nation's telecommunications infrastructure. In many cases, they have paved the way for the information superhighway. The nation will benefit from the regulatory expertise state public utility commissions and local governments will provide in the pursuit of telecommunications reform legislation. The Administration shares many of the concerns expressed by state and local officials and will continue to work with these groups, industry and Congress to help resolve them.

CONCLUSION

In conclusion, the Administration stands ready to continue working with the Congress to address these and other concerns in the telecommunications reform legislation. The need to iron out details does not diminish our enthusiasm for this legislation, because the benefits for the American public are so immense. We are committed to passage of this legislation, because only through telecommunications legislative reform will our vision for the future of the NII reach its full potential. A new

regulatory regime will promote the development of the NII in a flexible, procompetitive fashion that creates incentives for desirable investment, economic growth, and the wide-scale availability to all Americans of new, highly valued information services. The Administration looks forward to continued collaboration with Congress to enact legislation that achieve's these desired ends. This concludes my testimony. I would be pleased to respond to any questions you may have.

U.S. DEPARTMENT OF COMMERCE,
COMMUNICATIONS AND INFORMATION,
Washington, DC, October 31, 1994.

Hon. HOWARD M. METZENBAUM,
Committee on the Judiciary,
U.S. Senate, Washington, DC.

DEAR SENATOR METZENBAUM: Thank you for the opportunity to testify at your Subcommittee's September 20 hearing on S. 1822, "The Communications Act of 1994." Enclosed are my answers to the additional questions posed by Senator Thurmond. I respectfully request that those responses be included in the record of the hearing.

Please let me know if I can be of any further assistance.

Sincerely,

LARRY IRVING,
Assistant Secretary.

* * *

LARRY IRVING'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

[Note: Senator Thurmond's first question was directed solely to Assistant Attorney General Anne Bingaman.]

Question 2. Mr. Irving, what is your best estimate of when competition will exist in local exchange markets?

Answer. There is no simple answer to that question. In some metropolitan areas, there is significant competition for some services even today. In other areas, competitive entry may not occur for many years. However, for a number of reasons, I am optimistic that competition will be common in many places in the not too distant future. Competitive access providers are constructing alternative local access facilities in a growing number of communities, and their share of the local telecommunications service market is increasing. Cable companies are upgrading their distribution systems with advanced transmission facilities, which should position them to offer telecommunications services when opportunities present themselves. Finally, the FCC is moving expeditiously to license the next generation mobile radio services—so-called personal communication services—which may become a wireless alternative to traditional wireline telephone service.

Thus, the future of local exchange competition is promising. Legislation is critical, however, to realize that promise fully. Government must act to eliminate or reduce the legal and economic barriers to expanded local competition. As importantly, government must provide certainty in the regulatory environment to encourage private firms to take advantage of available market opportunities. That is why the Administration will continue to push for telecommunications reform legislation.

Question 3. Ms. Bingaman and Mr. Irving, there are a large number of competitors in long distance markets. Yet some experts assert that the market largely functions as an oligopoly without as much true price competition as could exist. What are your perspectives on the competitive aspects of the long distance market?

Answer. Over the past decade, long distance rates have declined some 40–60 percent in real terms, due in significant part to the rivalry among the three major facilities-based long distance companies—AT&T, MCI, and Sprint. Moreover, these rate reductions do not take into account the rapidly-proliferating optional calling plans offered by those firms (*e.g.*, MCI's "Friends and Families," Sprint's "The Most," AT&T's "Reach Out America"). Additionally, AT&T, MCI, and Sprint have undertaken ambitious investment since 1984 that have brought their networks up to the state-of-the-art. AT&T, for example, has spent more than $6 billion to upgrade its network so that it now is virtually all digital. Finally, many consumers receive a steady flow of calls and letters from the major long distance companies, each pleading (and sometimes paying) for the opportunity to be the consumers' interexchange carrier. None of these phenomena is characteristic of a non-competitive market.

Nevertheless, a market dominated by three firms is hardly a textbook example of perfect competition. Additional competition for long distance services would surely benefit consumers. The Administration thus supports allowing the Bell Operating Companies to offer interLATA services, subject to conditions and safeguards that will ensure that BOC entry will not harm consumers or market competition.

Question 4. Ms. Bingaman and Mr. Irving, what is your response to the analysis by the National Association of Regulatory Utility Commissioners and others that S. 1822 would increase the rates paid by consumers for basic local telephone service?

Answer. Well-crafted legislation can preserve reasonable basic telephone rates in the future, just as the Communications Act of 1934 has over the past six decades. Most importantly, by promoting and protecting competition in all telecommunications markets, legislative reform can create powerful incentives for firms to restrain both prices and costs, with resulting benefits for consumers.

One of the fundamental goals of the Administration's National Information Infrastructure initiative is the preservation and advancement of universal service—the idea that every American should have access to telephone service at reasonable rates. The Administration opposes any precipitous increases in the rates for basic telephone service. We are, of course, aware that competition will increase pressures on existing subsidy mechanisms designed to ensure universal telephone service. New funding mechanisms must be developed that are compatible with a competitive market environment. To gather information on funding and other universal service issues, the National Telecommunications and Information Administration recently issued a Notice of Inquiry on universal service/universal access. The Administration is committed to working with Congress and all interested parties to craft a legislative framework that will give the FCC and the States flexibility to craft a new universal service policy for the 21st Century, including the means for funding it.

Question 5. Ms. Bingaman and Mr. Irving, in your written testimony you both suggest many changes that you would like to see in S. 1822 to improve competition in the telecommunications industry. Do you have legislative language available for these suggested amendments?

Answer. In both the Senate and the House, the Administration has worked extensively with committee staff to craft a comprehensive, workable telecommunications reform package. At several stages of the legislative process, the Administration has offered specific amending language to the relevant committees. We stand ready to provide appropriate legislative language in an effort to get telecommunications legislation that will serve the needs of the American people for the next sixty years.

Senator METZENBAUM. Thank you very much.

Ms. Bingaman, there is no secret about it. Anybody that knows anything about antitrust agrees that you have done a superb job and probably have been the best protector of the consumer interest in our Nation's competition laws since I don't know which of those who had preceded you in the position. You have been courageous, you have been concerned. You know the law; you were an expert in the law before you came to the Antitrust Division. The Nation owes you a great debt of gratitude. I am sure you could be making a lot more money out in the private sector than the Government pays, but your commitment and concern is very, very gratifying.

Let me talk a little bit about this bill. It was only a decade ago that the old Bell Telephone monopoly was broken up, leading to an era of increased long distance competition and an explosion in the availability of new telecommunications equipment at ever-falling prices.

However, since the local Bell companies were separated from AT&T, they themselves have grown to be every bit as much of a monopolistic menace as was their former parent. I believe the time has come to break the RBOCs' stranglehold on local telephone service in order to promote maximum competition in the local arena.

In your opinion, what needs to be done to eliminate the last vestiges of monopoly in our Nation's telephone network?

Ms. BINGAMAN. Mr. Chairman, this bill makes and takes the steps that need to be taken to do exactly what you are stating, and

I agree with you wholeheartedly, and the administration agrees with you, that the monopoly at the local loop level that the RBOC's continue to maintain—99-plus percent of the local loop—needs to be broken. They do have a stranglehold. This bill does that, and it does it in several ways.

Number one, it preempts State laws which now prohibit entry into the local loop by competitors. It is a fact that in most jurisdictions in the United States today, not all, but most, competitors cannot legally enter the local loop. Cable companies cannot legally provide telephone service in many jurisdictions. Other competitors can't provide telephone service, and that is a barrier right there. So the bill, number one, preempts local laws that prohibit the kind of competition at the local loop that is critical and the essential first step in breaking the monopoly.

Number two, the bill sets forth outstanding unbundling requirements; that is, it requires the FCC, through a rulemaking, to separate the constituent elements of the local loop into parts, and to require the RBOC's to allow competitors to hook in and use parts of the local loop that they need to in order to provide true competition for local telephone service. That is a second critical element which, without this legislation, will simply not happen. So unbundling is a second crucial step that this legislation provides.

Third, it provides for interconnection with the local loop by competitors, which is another critical step on the path to competition. Fourth, it provides for number portability, which is critical. You can see the problem. Businesses and consumers alike won't switch to a competing telephone service provider if they have to give up their telephone number, and so number portability is a crucial element to providing competition which this bill also sets forth.

It provides for dialing parity, which is also critical to competition; that is, if a competitor has to have a 5-digit access code before a consumer can dial a friend who is a customer of a competing telephone service, no one is going to do it. They won't dial 12 numbers instead of 7, and so dialing parity is another crucial point which this bill provides.

It provides for presubscription balloting for competing telephone companies through regulations by the FCC. All of these things are critical to competition, and it does not allow—it requires, I should say, telephone companies to comply with these FCC regulations, and it requires FCC approval and a determination that these requirements have been met before entry into an adjacent business.

So, that is number one. These steps are set forth. FCC is approval. Third, DOJ approval under an 8(c) test is required, so that there is a finding required in this bill by DOJ that there is no substantial possibility that competition will be impaired in the adjacent markets by the RBOCs' entry.

Finally, there are post-entry safeguards in the form of structural separation, separate subsidiaries, or possibly one separate subsidiary, depending on the Bell companies at issue, for long-distance manufacturing and electronic publishing.

All of these things, Mr. Chairman, are critical to competition and they will never occur without this legislation in their entirety. It is simply too vast, too important. It is a major, major step forward in telecommunications history in this country. It needs the active

participation of the FCC and the Justice Department, which this bill provides, and many steps have to be taken. But it is my belief and the administration's belief that this bill sets the framework for the competition we all want to occur.

Senator METZENBAUM. I notice that Mr. Irving addressed himself to the question of the 50,000—as he suggested, 10,000—limit with respect to competition in permissible mergers. I notice you did not. He addressed himself to a lifeline issue as well.

Does the Justice Department take the same position as Mr. Irving had indicated?

Ms. BINGAMAN. We absolutely do. We support fully Mr. Irving's statement. I knew he was going to cover it because I had seen it and so I did not, but we agree wholeheartedly. The administration position is exactly as he stated it, and our position, of course.

Senator METZENBAUM. Good. The original Hollings bill prohibited the local telephone and cable company in a community from merging together into one large communications monopoly. The amended bill allows these mergers in communities of up to 50,000 people. I myself believe that that provision will undermine the development of competition and should be stripped from the bill.

Apparently, the administration wants to reduce the number to 10,000, but not to strip the provision entirely from the bill?

Ms. BINGAMAN. Mr. Chairman, the concern is this. There is an antitrust savings clause in the bill which is critically important, so the Antitrust Division or the FTC could challenge a cable-telco merger into one wire which was believed to be anticompetitive.

It seems to us that in small rural communities where there is no real economic possibility of competition occurring with a second wire simply because the income stream will not be great enough to induce a competitor to go in and lay a second wire that in cases such as that where you have small isolated rural communities, truly rural—this 10,000 figure from the Census Bureau seems to us acceptable—it is unlikely that an antitrust challenge would be mounted or that antitrust would be implicated because competition could not reasonably be expected in these outlying areas. So, for that reason, we believe the rural exception is feasible, workable.

We have the same concerns, and very serious concerns, that Mr. Irving raised if the rural exception is expanded to such a state that it becomes no longer rural but, in fact, swallows up the idea, and the entirety of the burden of challenging these mergers is left to the Antitrust Division. That seems to us a problem. It seems to us to create business uncertainty, not wise as a matter of policy, and we therefore agree with the position as stated by Mr. Irving.

Senator METZENBAUM. Last year, Bell Atlantic and TCI and a number of other huge cable and phone companies proposed mergers and joint ventures. They were really tremendous mergers. Don't you agree that the existing antitrust laws can and should be used to prevent mergers that would block emerging competition between local telephone and cable monopolies?

Ms. BINGAMAN. Mr. Chairman, I, of course, couldn't comment on any particular merger or the facts of any particular merger which might have occurred or may occur in the future. But I would state, in general terms, mergers between cable and telephone companies

in the same service territory present antitrust problems, for the reasons we just discussed.

You potentially end up with only one wire serving consumers that destroys the benefits of competition which this bill is intended to give American consumers. It would return to a monopoly state not just telephone, but cable as well, and therefore we agree that antitrust has an important role to play in cable-telco mergers potentially, depending on the particular facts and circumstances of any individual case.

Senator METZENBAUM. As you heard in my opening statement, I am very skeptical that new regulations designed to promote local telephone competition will really work. I think the regulatory process has its limitations. So long as there is a danger that the local Bell companies could bolster or expand or their monopolies, I believe it is better to eliminate that danger through actual competition before letting the Bells into new markets.

In his submission to this subcommittee, one of your predecessors, and your former professor, said that legislation

> should continue to prohibit Bell entry into long distance for the time being, or at least provide that effective competition at the local level must precede Bell entry into long distance, and thus maintain the kinds of incentives that divestiture and the line of business restrictions were initially intended to provide.

Do you agree with your former professor?

Ms. BINGAMAN. Let me state first I have the greatest admiration and respect for Bill Baxter, and I agree with him on many, many things. Let me quote from his prepared testimony which you were kind enough to send to me late yesterday and which I have therefore read.

I think Bill Baxter's service to this Nation in negotiating and enforcing the consent decree has never been fully appreciated, and I am glad to hear the chairman recognize it. I personally recognize it, and I think the Nation should express its gratitude to him because it is because of his courage and that of Judge Greene that we are where we are today, which is leading the world in this situation.

Professor Baxter said that the approach of S. 1822, he believes, is less than optimal, citing exactly what you said, but that he believes it can work and he supports its enactment. I think Professor Baxter came to that conclusion—I am quoting at page 6 of his statement—because after analyzing the bill in depth, he concluded that, if properly applied and if aggressively enforced—and his statement abjures both the FCC and the Department of Justice to aggressively enforce, and he uses that word repeatedly and I think it is exactly the right approach, "aggressively enforce the provisions of this bill."

If the FCC aggressively regulates the unbundling conditions, does not approve if full compliance is not made with those unbundling conditions that the FCC sets up, if the DOJ aggressively enforces the 8(c) test, aggressively ensures that competition will not be impeded in the markets that a Bell company seeks to enter after this unbundling has been accomplished, after presubscription balloting, then, Mr. Chairman, I believe this bill can work.

There is no question that there is risk attendant here. I would not question that, and I think Professor Baxter's strong warning to both agencies to aggressively enforce the provisions of this bill is critical. I don't question that for a moment, but I think if it is done, it can work. I think the time is now to take this next step, and I pledge to you if I am in this job we will aggressively enforce the provisions of this bill.

Senator METZENBAUM. Thank you, Ms. Bingaman. Normally, I would proceed to questions of you, Mr. Irving, but I understand that Ms. Bingaman has to catch a plane and has to leave at 10:45. In order not to preclude my colleagues from having an opportunity to inquire of her, I will first call upon Senator Simon, who was first here, and then Senator Specter.

Senator SIMON. Thank you very much. Either one of you can answer this, but, Ms. Bingaman, if you would, since you are going to be leaving shortly—and let me concur with my colleague in terms of the job you are doing.

Ms. BINGAMAN. Thank you, Senator.

Senator SIMON. The only critic I have heard is the junior Senator from New Mexico in terms of the job that you are doing.

Ms. BINGAMAN. Well, he has got other things to be critical of, too. [Laughter.]

Senator SIMON. The original bill when it was introduced, but not as reported out of committee, said the independent auditors performing such audits on the regional Bells are rotated to ensure their independence. That was eliminated. Do you think that original provision for rotating auditors is a good provision and should be in the bill before we pass it?

Ms. BINGAMAN. Senator, I have not considered this in depth. I think generally a requirement like that is a reasonable one. I think it provides safeguards for the independence of the auditing process, and I cannot see any reason not to include such a provision, but I would state again I have not studied this in depth. I am not an expert on auditing, but it is——

Senator SIMON. I concur. I am not an expert on auditing either, but it does seem to me that is a provision that gives a little added insurance and I would be interested if you could give me a formal reaction to that.

Ms. BINGAMAN. I would be very glad to.

Senator SIMON. Then let me talk about one other area that is of concern. You mentioned you can't let a telephone company and a cable company in an area merge. That is clearly not in the public interest. There is another way, however, to achieve the same results, and that is through cost allocation so that a regional Bell can shift their cost allocation to the phone service that is regulated and put that cable company out of business.

Here, let me read from a February 1993 report of the GAO.

In 1987, we reported that the Federal Communications Commission had not assigned enough staff to monitor carriers' cost allocations to protect ratepayers from cross-subsidization.

Then I am skipping some sentences, but I don't think I am taking anything out of context here.

In fact, on-site audit staff have declined since 1987, while the staff's workload has increased by 35 percent since the implementation of FCC's accounting safeguards.

As of September 1992, the FCC staff of 14 auditors could, on average, cover the highest priority audit areas once every 11 years and all audit areas once every 18 years. This level of coverage is inadequate because FCC cannot impose any fines or penalties more than 5 years after a cost misallocation has occurred. Consequently, this staffing level cannot provide positive assurance that ratepayers are protecting from cross-subsidization.

I am concerned that we erect something that, in theory, is good—and I am for that competition that you are talking about—but that if we don't put some muscle on the skeleton, we are not going to get the results that we should get. I would be interested both in your reaction and Mr. Irving's reaction.

Ms. BINGAMAN. Senator, I agree with you fully that things change over time and that a delegation to the FCC is a reasonable thing. My understanding generally, and I am not an expert in auditing, as I stated, is that the requirements for separate subsidiaries that are contained in the manufacturing separate subsidiary portion of this bill, which was originally passed, as you know, by the Senate, which Senator Hollings introduced, I believe, in 1991, but did not pass in the House—the manufacturing separate-sub requirements, I have been told by those who understand this area better than I do, have been thought through in great detail, have been the subject of extensive work and negotiation, and I am told that they provide as good a model as currently exists for separate sub requirements.

I believe if something like that were used as a model by the FCC—and, of course, that is up to the expert agency, but my understanding is that the protections there are adequate, have been thought through with great detail over several legislative sessions and, in fact, provide the kind of protection I think you are exactly right to be concerned about. I don't disagree with your concerns at all. I think they are very well-founded and I think attention should be paid to that.

Senator SIMON. Mr. Irving?

Mr. IRVING. Senator, we concur at the Commerce Department. We have advocated that the FCC specify the detail of separation. Specifically, we would require separate books, records, and accounts, and we would require that the transactions between the carrier and the subsidiary must be without cost to the carrier's telephone ratepayers. We want all of those transactions to be traceable.

I think the key to your question, though, Senator Simon, is that we have to make sure that the FCC and the State commissioners have adequate tools and resources at their beck and call. Certainly, we have talked to Chairman Hundt and his staff and the other four commissioners at the FCC. We believe they are up to the task.

We certainly know, however, that this new bill would require new responsibilities and new resources. I believe the administration would support providing those additional resources to make sure that as we go through the transition between a regulated monopoly to a truly competitive marketplace, the FCC is able to protect both consumers and competitors, something we focus very, very closely on.

Senator SIMON. Does Chairman Hundt favor this, also?

Mr. IRVING. I know that Chairman Hundt favors being given the tools and resources. With regard to separate subs, I wouldn't want to say.

Senator SIMON. Then, finally, Mr. Irving, and Ms. Bingaman, if you wish to comment on it too, I was pleased when you talked about lowering that 50,000 to 10,000. How is this going to affect, however, a community of 9,000 people?

Mr. IRVING. There is right now a rural exemption, and that rural exemption is at 2,500, I believe, now, and the commission has talked historically about raising it to 10,000. That community of 9,000 would be in a position where it potentially could have one single monopoly provider. It would be up to a business to determine whether or not it wanted to go in and go up against a large monopoly.

Candidly, I don't think that most businesses facing a monopoly that was both telephone and cable would go into that community. But we think that is a much better decision and will have an effect on a much lower number of American citizens than the 50,000 exception right now.

Senator SIMON. Clearly.

Mr. IRVING. And there would still be the opportunity for antitrust review even for that community of 9,000. But one of the things about that 50,000 that is so incredibly awful is that there are States—I believe North Dakota is one, I believe Vermont is another, I believe States like Idaho and Montana—where in other than one or two cities in that State, there would be absolutely no protection against one monopoly owning the rest of that State.

So you could literally have a situation where a large telephone company could buy out every small cable operation in its State, have a cable operation in the main city where it might face competition from the incumbent cable, and own an entire State, both telephony and video. That, to us, would be the worst possible solution.

A 10,000-person cap would not run the risk of that type of increased monopoly power, and that is why we think it is so important that that 50,000 number moved down so that we don't run the risk of either having to have a lot more regulation and no competition. That, we think, is the worst possible outcome, and we are talking about a number of States in our country and up to 160 million American people without the protection. That doesn't make any sense.

Senator SIMON. I might just add, if you don't lower that 50,000 number, in the State of Illinois—we are 12 million in our State, but the whole lower half of the State of Illinois south of Springfield, IL, would be exempt. I think it is crucial to lower that.

I thank you both.

Senator METZENBAUM. Thank you very much, Senator Simon.

Senator Specter, we are very pleased you are here this morning. Do you have an opening statement you want to insert in the record? If you want to do it subsequently, we will make such arrangements.

Senator SPECTER. Well, in view of the time constraints with Assistant Attorney General Bingaman, I will put a statement in the record and proceed directly to questions, Mr. Chairman.

Senator METZENBAUM. Very good.

Senator SPECTER. I have a concern about the speed of the legislation and the limited amount of analysis which the Judiciary Committee will bring to bear on the subject. There had been an issue as to whether the legislation would be referred to the Commerce Committee or to the Judiciary Committee, and the Commerce Committee on a narrow call has the legislation. They have passed it by a decisive majority, 18 to 2, and there is no cross-referral to Judiciary.

These are extraordinarily complicated subjects. I recall that Friday afternoon in 1982 when there was a consent decree in the *AT&T* case, and also the *IBM* case was dismissed on the same afternoon. There is always a question which arises when major matters are handled on a Friday afternoon somehow out of the glare of public attention.

When Assistant Attorney General Baxter came in to testify before the committee, and I believe that was a full committee hearing, I was the only Senator able to be present on that day—quite a heady experience, shortly after being elected, to ask that broad range of questions.

Today, the Senate is overwhelmingly busy. I just came from a conference committee and I am missing another conference. I came from a Labor-HHS conference, missing the Department of Defense appropriations conference. There is an important issue on the floor and Haiti is in the wings, and I just worry about the sufficiency of our review.

In your statement, General Bingaman, you say at page 3 that you like the idea of

> telecommunications policy moving out of the courts and into the statute books, so that Congress, representing the public, can establish the far-reaching and comprehensive framework for governing the telecommunications world of the future that the Nation deserves.

The question on my mind is whether we have given sufficient thought to it. The Sherman Act illustratively is a very general statute, leaving the administration to the courts, and the antitrust field is so complicated that this is one where we deviate from the usual rule that Congress likes to be sufficiently specific so that the courts don't legislate.

To what extent, Ms. Bingaman, does S. 1822 differ, say, from what Judge Greene has done, if it differs at all?

Ms. BINGAMAN. Senator, it deals fundamentally with legislation which is not before Judge Greene and which he cannot deal with because he is an antitrust court administering an antitrust consent decree that goes to the Sherman Act, as the Senator——

Senator SPECTER. Ms. Bingaman, I understand that in the substantive provisions about breaking down all the State barriers and preemptive actions by the Congress that there is certainly a scope of activity which we need to undertake. But taking a look at the antitrust aspects, does the legislation, S. 1822, differ significantly in that respect with what Judge Greene has done?

Ms. BINGAMAN. It differs significantly with what Judge Greene has done to date. It has this entire panoply of provisions about unbundling, the preemption of State laws that we mentioned. That has not happened to date before Judge Greene, and I frankly think

it would be difficult. It is perhaps conceivable in the future that such a thing could happen, but the full range of actions that this bill would put in place now, not 5 or 10 years from now, and would do in a comprehensive fashion that allows the FCC and the DOJ to cooperatively, each playing an important role—I don't believe that kind of comprehensive action is possible across the board in the fashion that we need to have it immediately, and that is why we support the legislation, Senator.

Senator SPECTER. Well, I know that we do need legislation in the field, and I have had many, many comments on this legislation, and many, many calls, and the general view seems to be that the bill is a good bill, on balance, and that it will work out. But there are also a great many specific questions raised about it which this committee has not taken the time to consider and where I have some doubts, with the Senate schedule, whether we will be able to get through all of it in the short time which we have left.

Let me ask a couple of specific questions, Ms. Bingaman, since you have to leave very shortly. Senate bill 1822 requires the Regional Bell Operating Companies to set up separate subsidiaries for manufacturing, research, cable, and long distance. I have always had a concern about the independence of the subsidiaries, even though they are separate in terms of capital and cross-capitalization.

Do you believe that that is really adequate to have the kind of a wall to stop anticompetitive practices simply because you have a separate subsidiary?

Ms. BINGAMAN. Senator, I think the critical point—Senator Simon addressed this briefly on the auditing provisions and the need for strict requirements as to the separate sub, but the really critical, overriding point is that if competition works and if the FCC aggressively enforces its regulations and if the Department of Justice aggressively enforces the 8(c) test, then competition will strip away the local monopoly and it will mean that the separate sub requirements down the road essentially are not necessary.

They may still be in place. At some point, they will be removed, but the point about competition is that if the local monopoly is eroded, the opportunity for cross-subsidy will no longer be there because if prices are too high, competition will come in and undercut them. That is why the competitive opening of the local loop—that is why this opening of the local loop, the unbundling, the interconnection to allow competitors to come in and cut away and compete for that local monopoly, are so critical.

Senator SPECTER. Well, then, you are saying that it is not the separate subsidiaries, but it is, in fact, the other factors of competition which really do the job.

Ms. BINGAMAN. They will eventually. I think what we have got here is a framework for a transition to full competition, and you have the preemption of State laws, unbundling, FCC approval, DOJ approval that there is no substantial possibility of harm to competition, and the final thing is these post-entry safeguards of the separate subs.

But after competition has taken effect, there will be no need for separate subs, so they are a transition on the road to full competition. I think that is how you have to view them because I think

that is the fact. The only reason you need a separate sub is because there is a local monopoly, you see. If competition works and the local monopoly is gone, you don't need a separate sub. I mean, most businesses don't conduct themselves with separate subsidiaries unless they choose to for their own purposes, but it is not required by law.

The only reason it is in this law is because right now there is still a monopoly, but if the legislation works and the monopoly is gone and there is full competition, there won't be the need for the separate subs.

Senator SPECTER. Well, I think that is a good reason why the problem may be solved outside of the scope of the separate subsidiaries, but that still does not say very much for that structural kind of an approach.

One final question, Ms. Bingaman. Senate bill 1822 requires owners of telecommunications networks to reserve up to 5 percent of capacity on those networks for use by schools, public telecommunications entities, libraries, and nonprofit institutions. There is a concern by industry representatives about that requirement, and the question on my mind is whether that is sufficient.

We find that C–SPAN has been enormously effective in public education on the House and Senate. Some people may disagree with that and they can turn off C–SPAN I and II if they want to. But C–SPAN II goes off in Philadelphia, for example, at 6 in the evening, and we do most of our good work—or maybe if we do any good work, it is after 6 in the evening. [Laughter.]

I don't know quite what to do about that, or if we should do anything since we have so much self-interest in C–SPAN II going on. So my question is, is 5 percent enough? And at the risk of asking two questions at once, but this is my last——

Senator METZENBAUM. I am trying to make it possible, Senator, for Senators Pressler and Hatch to ask at least one question of Ms. Bingaman before she has to leave, so if you could conclude.

Senator SPECTER. Is that enough, and what might be done to see to it that C–SPAN II goes on after 6 o'clock in Philadelphia and perhaps other places?

Ms. BINGAMAN. Senator, if you wouldn't mind me deferring to Mr. Irving on this, my problem is it is really a public policy and a technical question. It is not an antitrust issue, and Mr. Irving has worked extensively with this 5-percent issue and I really have not, so if he could answer that, I would appreciate it.

Senator SPECTER. Thank you.

Mr. IRVING. I will try to be brief. The administration strongly supports the concept of a public right-of-way. What that percentage should be is something we are trying to work with, and we know that the Congress is working with it as well.

With regard to what can be done to ensure that C–SPAN is carried in as many markets for the full day, we hope that things such as compression technologies and as cable companies and telephone companies have more capacity, which they will over the next year and several years—that the kinds of problems we have right now—what you see right now is just a shortage of space. By this time next year, a lot of the cable companies around this country—and I believe Comcast serves a large part of Philadelphia, but a lot of

the cable companies will be able to do 4-to-1 compression and they will then be able to increase by 400 percent the amount of capacity they have for carrying various programming products.

We hope that that will alleviate the concerns a lot of people around the country have that some of their favorite programming services aren't able to get carried, but we also hope it will mean that there will be more public access types of programs because there will be the space on these systems for that type of programming.

Senator SPECTER. Thank you very much.

Senator METZENBAUM. Thank you very much, Senator Specter.

Senator Pressler and Senator Hatch, Ms. Bingaman has advised us much earlier that she had to leave at quarter to, and if either of you have opening statements we certainly will include them in the record. If you have one question for Ms. Bingaman, we certainly——

Senator PRESSLER. I have one quick one.

Senator METZENBAUM. Please, go ahead. Please proceed, Senator Pressler. We are happy to have you with us.

Senator PRESSLER. I will file my statement for the record.

Senator METZENBAUM. Your statement and those of any other members of the committee will be included in the record.

[The prepared statements of Senators Leahy and Pressler follow:]

PREPARED STATEMENT OF SENATOR PATRICK J. LEAHY

I thank Senator Metzenbaum, the Chairman of the Subcommittee on Antitrust, Monopolies and Business Rights, for convening these hearings and for including a panel of witnesses focussing on an amendment to S. 1822 on which I have been working with Senator Thurmond and others to increase consumer choice and competitiveness in their purchase of telecommunications equipment and to protect intellectual property rights.

I commend Congressman Markey and Senator Hollings for their work on the National Communications Competition and Information Infrastructure Act and the Communications Act of 1994, respectively. Theirs has been a mammoth task to which they have each responded admirably. I draw special attention to their abiding interest in universal service and the special concerns that we share for rural customers and those in small towns. I commend them for their attention to promoting access to networks and services by individuals with physical disabilities, as well. When we talk and legislate about universal service, increasing accessibility and universal design, we all must be careful that we not draw plans for an information superhighway that will bypass those of our population who can most benefit from it.

Finally, I join them in their commitment to open platform services, public access using public rights of way and incremental rates for nonprofit organizations and uses. These are essential components of an effective national information policy. Like the Freedom of Information Act and public access channels, these concepts will help make increasing citizen participation a reality.

Another aspect of universal access that may require more attention, however, in the possibility of "redlining". We must ensure that race is not a factor in the design or deployment of the National Information Infrastructure and that the benefits of national telecommunications networks are fairly available to all without regard to race.

I think that we need to pay close attention to the bill's provisions on personal privacy and the balance to be made by the FCC under title VI of the bill. I think that we can do better than putting off for a year FCC rulemaking regarding the use and disclosure of information concerning customers' uses of telecommunications services. As we continue to employ telecommunications networks for more and more transactions—from entertainment to shopping to financial transactions to health care to interactive uses—we need to assure consumers of transactional and personal privacy. That is what they have every right to expect and what will be required if consumers are to be willing to take full advantage of the promise represented by advanced telecommunications services.

The areas in which we focus today are those of increasing consumer choice and purchasing options when it comes to telecommunications equipment and the protection of intellectual property rights. The amendment on which I am working with Senator Thurmond calls for the FCC promptly to prohibit the bundling of public telecommunications network services with converter boxes and other customer premises equipment unless such network services are being offered in a workably competitive environment.

The FCC is called upon to ensure that converter boxes and other consumer electronics are available from diverse sources, including retail outlets unaffiliated with the telecommunications network service provider.

We should not be moving toward advanced telecommunications networks by moving back to the days when we all were required to lease our rotary telephones from the phone monopoly. We should be past the point where we have to lease set top boxes from local cable companies.

Competition in the provision of consumer telecommunications equipment is a good thing. Competition has served to lower prices for consumer electronics and to make it generally available. We should not start down a road where a network service provider can unfairly bundle or tie equipment to services. Consumer choice and competition are the purpose of this important addition we are proposing to S. 1822.

Our amendment is also intended to provide express recognition for intellectual property rights. This is the engine that propels innovation in hardware, software and programming for the information superhighway.

The Preliminary Draft of the Report of the Working Group on Intellectual Property of the Administration's Information Infrastructure Task Force correctly notes, the following:

> [T]he potential of the NII will not be realized if the information and entertainment products protectible by intellectual property laws are not protected effectively when disseminated via the NII. Owners of intellectual property rights will not be willing to put their interests at risk if appropriate systems—both in the U.S. and internationally—are not in place to permit them to set and enforce the terms and conditions under which their works are made available in the NII environment. Likewise, the public will not use the services available on the NII and generate the market necessary for its success unless access to a wide variety of works is provided under equitable and reasonable terms and conditions, and the integrity of those works is assured. All the computers, telephones, fax machines, scanners, cameras, keyboards, televisions, monitors, printers, switches, routers, wires, cables, networks and satellites in the world will not create a successful NII, if there is not content. What will drive the NII is the content moving through it.

This "green paper" concludes on a similar note in connection with the intellectual property rights necessary to the development of the hardware and software needed to construct the NII, itself:

> "If a standard [for interconnectivity, interoperability, copyright management, or encryption] is established, however, protection of intellectual property rights used in that standard is of concern to this Working Group.
>
> The intellectual property rights implications of the standards-setting process are not new with the development of the NII. The Federal Communications Commission, for instance, has established standards in related areas without interfering with the legitimate rights of intellectual property rights owners.
>
> The working Group finds that in the case of standards to be established, by the government or the private sector, the owner of any intellectual property rights involved must be able to decline to have its property used in the standard, if such use would result in the unauthorized exercise of those rights.
>
> If the rights holder wishes to have its intellectual property as part of the standard, an agreement to license the necessary rights on a nondiscriminatory basis and on reasonable terms may be required.
>
> In the case of de facto standards, arising out of market domination by an intellectual property rights holder, unfair licensing practices can be dealt with through the antitrust laws."

That is the approach that we adopt in these amendments. It is appropriate that we proceed here with Senator Metzenbaum because we believe that enforcement of intellectual property rights and the antitrust laws must go hand in hand for each to fulfill its respective role. The intellectual property rights we seek to protect do

not include the imposition of competitive barriers to local exchange competition. Rather, they are recognized in order to provide the financial incentives that make our computer and telecommunications equipment manufacturers and computer software companies the world's leaders.

That technological edge is not merely to be given away by the government. For example, it would be tragic if, having won the battle against efforts to force decompilation of computer programs, our leading computer firms were to lose the war for the global marketplace by having our government surrender their rights if they seek to contribute to the NII. Instead, our amendment is careful to identify those critical network interfaces needed to establish open public telecommunications networks and to allow the marketplace and private sector standard-setting bodies to develop the necessary standards for interoperability.

This is in keeping with the declared policy underlying S. 1822. The government should not be controlling or preventing innovation and competition but encouraging it, so long as the critical network interfaces necessary to establish the open public telecommunications network are accessible.

Finally, we recognize that respect for intellectual property rights includes fair licensing agreements and fair compensation to those whose innovations are being used. This is not a place or a time where government should intervene on the basis of telecommunications policy to give an advantage to certain business competitors in the name of leveling a playing field. The NII will succeed only if we allow competitive forces to energize it and financial incentives to encourage innovation.

I look forward to hearing from our distinguished panels of witnesses today regarding how we can improve S. 1822.

PREPARED STATEMENT OF SENATOR LARRY PRESSLER

Mr. Chairman, I appreciate the opportunity to participate in today's hearing. I am an original cosponsor of S. 1822 and remain hopeful that Congress can pass this comprehensive and important legislation this year.

As a member of the Commerce Committee, I have been heavily involved in this issue for many months. This bill is the most comprehensive revision of the Communications Act of 1934 in sixty years. Since March of this year, the Commerce Committee held 11 days of hearings. We heard from 86 witnesses. Last month, as a result of intense bipartisan effort, the bill passed out of the Commerce Committee overwhelmingly by a vote of 18 to 2.

Like many major pieces of legislation, S. 1822 represents a balance of competing interests. The Commerce Committee continues to work on proposals to improve the bill. I expect the Committee to offer one or more amendments when the bill reaches the floor.

At its core, S. 1822 is designed to stimulate investment in telecommunications networks by encouraging competition. Like you, Senator Metzenbaum, I certainly favor competition where it can work. But competition may not be sufficient to bring advanced services to users in all parts of the country. Vigorous competition is most likely to occur first in large metropolitan markets.

My concern is that strong competition will not develop sufficiently in small towns and rural areas to provide the latest, most advanced services. Citizens in those areas also deserve access to the information superhighway and the advantages it will bring. In fact, it is in the rural and remote areas of our country where a national information infrastructure is likely to have it greatest impact.

I have been working as a member of a bipartisan group of six Senators, known as the "Farm Team" to address these concerns. We are trying to ensure the bill would encourage advanced telecommunications networks in rural and other high cost areas. There must be adequate flexibility in smaller markets so citizens in small cities, towns and sparsely populated areas can share the benefits of new technologies.

As originally introduced, S. 1822 prohibited mergers and joint ventures between telephone companies local exchange carriers and cable operators serving in the same geographic area from acquiring more than 5 percent interest in each other. An exception was made for rural areas, originally defined in the bill as areas with fewer than 2,500 inhabitants.

As a result of the Farm Team's efforts, the bill now provides more flexibility for mergers and joint ventures in smaller cities and towns. The definition of rural areas was expanded to include areas with fewer than 10,000 inhabitants. The exception from the merger provisions now permits joint ventures and partnerships between local exchange carriers and cable operators in areas of up to 50,000 inhabitants. Also, the FCC may provide waivers in areas of up to 100,000 inhabitants.

Other Farm Team amendments address universal service and provide regulatory flexibility for the states to assess competitive conditions in rural markets. The Farm Team amendments are designed to ensure that all Americans will share in the benefits of advanced telecommunications services.

I look forward to the testimony of the witnesses and I thank the chair.

Senator PRESSLER. Ms. Bingaman, some believe the fiercest competition for communications services in small towns and rural areas will not be between local telephone and cable companies. Rather, it will be between wireless services, such as direct broadcast satellite, on the one hand, and wire-based services, such as telephone and cable, on the other.

If this is true, isn't it possible that even if a local telephone company merges with a cable company, the resultant company would still face still competition from a wireless service, and does the administration favor an exception to the antibuyout provisions of S. 1822 for mergers or joint ventures in rural areas between a wireless service and a telephone company or a cable company? If not, why should we preclude mergers between wire-based services, but not between a wireless service and telephone or cable company?

If you can't answer it completely here before you have to leave, you can submit a written answer, but I am very interested in that subject.

Ms. BINGAMAN. OK, Senator. Let me say briefly we will submit a longer written answer.

But my reaction is the antitrust laws have served us well for a century because they have been general, and I think an antibuyout provision also should be general because technology will continue to emerge. We are where we are today because technology has changed so drastically in the 10 years since the consent decree was put in place.

Technology undoubtedly will continue to explode at a rate even faster than it has in the past 10 years. Therefore, to predict in legislation, in stone, what technology would or would not compete with another technology, I think, would set us on a course that we would live to regret.

It is the flexibility of a general statute and a general antibuyout provision that would allow assessment of technology as it exists at the time and on the particular facts of a particular buyout. So I don't disagree with you that, in principle, what you are predicting may, in fact, come to pass. I am not sure if it is here technically at this point, but I would not for a moment say it is impossible. Simply, I would say as a matter of policy for the Congress, it seems to us better to leave the statute general and allow the facts to be assessed as they develop in particularity.

Senator METZENBAUM. Senator Hatch?

STATEMENT OF ORRIN G. HATCH, A U.S. SENATOR FROM THE STATE OF UTAH

Senator HATCH. Welcome to the committee, Ms. Bingaman. We appreciate your and Mr. Irving's testimony. Just a couple of thoughts here. In your written testimony, you state that the national information highway or infrastructure will be built by private enterprise. Yet, although that may be largely true, I would like to get your views on the initial estimate by the Congressional

Budget Office that S. 1822 would result in a tax of some $20 billion.

As I understand it, CBO quickly reduced its estimate based simply on a wording change in the bill, although the payments and transfer of funds will still occur in the same manner as before. In addition, if the legislation does not pass this year, does the Department of Justice have the authority to manage the AT&T consent decree so that the decree does not become a barrier to local competition in the development of the information highway?

I guess my question is, does the issue concern you about the $20 billion and whether the word change really will alleviate the necessity to increase taxes. Second, do you have the authority to manage the AT&T consent decree so that it isn't a barrier to local competition in the development of the information highway?

Ms. BINGAMAN. Senator, as to your first question on the CBO estimate and the $20 billion, I apologize. I am simply not knowledgeable about that aspect of the legislation or the CBO estimate, so I can't comment on that.

Senator HATCH. Sure.

Ms. BINGAMAN. As to our ability to manage the consent decree in the absence of this legislation, I would state that the legislation is a vital step forward for the country. I believe that with all my heart. We can consider——

Senator HATCH. Well, let's assume it doesn't pass this year. Do you have the capacity to manage it?

Ms. BINGAMAN. Not in the same fashion and not——

Senator HATCH. So you need the legislation?

Ms. BINGAMAN. We need the legislation. I think the country needs the legislation. I think technology has moved to a stage in the last 10 years since the decree was entered that things are possible now that simply were not foreseen 10 years ago, and that the antitrust court cannot fully deal with because it doesn't have the full range of statutes before it. It doesn't have authority over the Cable Act, it can't preempt State laws, and so forth. So I think the legislation will take the country further than the antitrust court could go on its own simply because of jurisdictional issues.

Senator HATCH. Well, I am concerned about that because I have some questions whether this is going to pass in this short time frame with all the other problems that are here. So I am concerned about the ability to manage these things, and I think that is a good argument for trying to pass it.

Ms. BINGAMAN. We believe that.

Senator HATCH. As usual, we appreciate your and Mr. Irving's help to the committee. I think you are doing a good job down there.

Ms. BINGAMAN. Thank you, Senator.

Senator HATCH. I just appreciate the professionalism you have brought.

Ms. BINGAMAN. We appreciate that very much.

Senator HATCH. You have continued the professionalism of that Department very well and we appreciate you.

Ms. BINGAMAN. That means a lot to me. Thank you.

Senator METZENBAUM. Thank you, Ms. Bingaman. If you have to leave, we understand that.

Ms. BINGAMAN. I apologize. I tell you, we have had for about 8 months on the calendar bilateral negotiations with the country of Canada, and everyone who is relevant to this is in Ottawa today, the FTC, and I am going just for the last 3 hours because, with the Mexicans and Canadians involved, it could not be moved. It had been on the calendar for a long, long time and 20 other people are involved.

Senator HATCH. We understand.

Senator METZENBAUM. Have a safe trip.

Ms. BINGAMAN. I apologize, but that is my problem.

Senator METZENBAUM. Thank you.

Ms. BINGAMAN. Thank you very much.

Mr. IRVING. Can I leave with her? [Laughter.]

Senator METZENBAUM. Mr. Irving, I remember you to be a bright communications experts. For many years, you worked in the House for Mickey Leland and Ed Markey. I don't really think I ever appreciated how brilliant you really are until you hired Ellen Bloom from my staff, one of the best staff members I ever had. Your gain was my loss.

Mr. IRVING. The country's gain, Mr. Chairman.

Senator HATCH. Well, watch this next question. I tell you that. [Laughter.]

[Prepared statement of Senator Hatch follows:]

PREPARED STATEMENT OF SENATOR ORRIN G. HATCH

Mr. Chairman, I welcome this opportunity to discuss issues relating to communications competition, and especially provisions that are contained in the Communications Act of 1994.

This legislation has the potential to directly affect every citizen in the nation. As in the health care debate where we all agree on the need for improvements to our health care system but disagree over what changes need to be made and the scope of those changes, the telecommunications debate has a familiar look about it. Indeed, no one refutes that the wave of technological advancement necessitates the need to change the regulatory structure of communications markets. However, there is disagreement over what those changes should be and how we should go about making them.

For the most part, the Modified Final Judgment (MFJ) has served its purpose well for the past ten years. However, as we enter a new era of communications technology and capability, we must devise appropriate measures that allow consumers and the economy to take advantage of the benefits these new technologies offer without stifling the dynamics and growth potential of the industry. We must not forget that an unfettered marketplace operating in an environment of fair rules is much more desirable than government overregulation which imposes excessive burdens on business and ultimately limits choices to customers. Rather, I believe our focus should be on allowing the market to dictate the direction of technology rather than trying to choose which players in the market should be allowed to prosper. There is a very fine line between appropriate oversight and burdensome regulation.

I would like to commend Senator Hollings for his leadership on this issue. He and his Commerce Committee colleagues have worked long and hard on bringing the Communications Act to this point. And as with all legislation of this magnitude, it has been a tedious process that has resulted in some give and take from each of the major industry and interest groups. However, I am convinced that there is still some room for improvements to be made on the bill as it now stands.

Therefore, I am optimistic that this hearing today will shed more light on the provisions of the Commerce Committee bill and provide an opportunity to explore further some of the more contentious areas wherein consensus has yet to be reached. It may not be possible to complete action on this issue, considering the short time Congress has to work with before the end of this session. Nevertheless, I hope that we can continue to build on the foundation that the Commerce Committee has established and move closer to consensus among the opposing industry players and state and local municipalities on the outstanding provisions.

Thank you, Mr. Chairman, and I look forward to the testimonies of the witness panel.

Senator METZENBAUM. No. As a matter of fact, the next question—the need for it is somewhat eliminated because you have somewhat addressed yourself to the question of the need to provide telephone service to the poor. I wonder if you would elaborate on that again, or repeat what the position of the Department is and the Government is with respect to the need to provide telephone service for those who can't afford it.

Mr. IRVING. Yes, Mr. Chairman. The Commerce Department, along with Commissioner Andy Barrett of the FCC, has done five hearings around the country. We have gone to South Central LA, we went to Indianapolis, we went to North Carolina, and we looked at the issues involving universal service and who is being left out. We went to New Mexico.

Mr. Chairman, there are some really troubling problems out there. For example, we have found that fully 20 percent of people in some communities don't have telephone service. I was born in Brooklyn, NY. In Bushwick, Brooklyn, 28 percent of the people living in Bushwick don't have telephone service. Ten communities in New York City alone have one-fifth of their people without telephone service.

Senator METZENBAUM. That is incredible. I think nobody would think that that was happening in Brooklyn. They would think it was happening in some——

Mr. IRVING. I will give you a worse statistic. In New Mexico, on Navajo reservations, we found communities in New Mexico where almost two-thirds, 65 percent of the residents of a Navajo reservation in New Mexico, don't have telephone service. Notwithstanding the efforts of Senator Bingaman and others, we have a very, very serious problem.

If you are poor in this country, you are less likely to have telephone service. If you are poor and a minority, you are even less likely, and if you are poor, minority, and a single woman, you have got a 43-percent chance of having telephone service in this Nation. So as we are talking about superhighways, we have people without a foot path and we have to do something about that.

Senator METZENBAUM. You bring down the requirement to provide telephone service to all who are below the poverty level?

Mr. IRVING. We would like to try to find ways, working with FCC and the States, to maximize telephone penetration. If we had a silver bullet, we would certainly try to do that. Going back to 1983, as you will recall, Mr. Chairman, working with Congressman Leland and also with Senator Heinz and with you, we tried to develop a telecommunications policy that would ensure that every American would have a telephone.

We have done a better job, surprisingly, since the divestiture in 1984. We have actually seen an uptick in terms of about a 2-percent increase of telephone penetration in this Nation. But our neighbors to the north in Canada have a 98-percent telephone penetration rate. We have about a 94-percent telephone penetration rate. There is clearly room for improvement.

Senator SIMON. Mr. Chairman, if you would just yield for one observation?

Senator METZENBAUM. Of course.

Senator SIMON. When I was in the House, I introduced a bill that, among other things, I thought would provide telephone service and create jobs, by requiring that telephones had to be made in the United States. I discovered that there aren't telephones made in the United States today, unfortunately.

One of the things I did learn in introducing that legislation——

Senator METZENBAUM. Repeat that statement, Senator Simon, because I am not sure the impact of it was felt.

Senator SIMON. I introduced this bill in the House thinking we would both provide needed service for poor people who didn't get it and create jobs through manufacture of telephones. But I discovered after I introduced the legislation that in this country where we invented the telephone, there are no telephones manufactured here anymore.

Senator METZENBAUM. I heard it, but I just wanted you to repeat it because I think it so significant. My guess is that if you asked 10,000 people in the United States, they would assume that AT&T or Western Electric is producing all the telephones we use. That just isn't the case anymore.

Senator SIMON. It just is not the case, but one of the things I did discover—you know, we have just gone through passing an anticrime bill. You look on a map where we have high crime and you look on a map where we have a lack of telephones and there is an amazing correlation between the two.

So I hope you can provide leadership to do something in this area. I think it is just as basic than an American—frequently, there are Americans who are in poor health. You know, you may have a very bad heart and you may have the danger of a heart attack, but you can't afford a telephone because you have to use the money to buy food.

Senator METZENBAUM. Thank you. I think the point is extremely significant.

Let me ask you, Mr. Irving, what do you think are the most important things that Congress must do in order to promote communications competition?

Mr. IRVING. I think that the things we can do Ms. Bingaman alluded to. I think we certainly have to do what we can to not permit States to prohibit competition within their State boundaries. I think we certainly have to promote unbundling and interconnection. I think we certainly have to give the FCC the public interest tools and the Justice Department the tools under 8(c) and other definitions to ensure that existing monopolists can't use their monopoly powers to distort the marketplace.

I think 1822 does an admirable job of balancing all of those needs, and I think if we pass 1822 we will get that competitive marketplace. Again, as fast as this market is moving, as Secretary Bingaman stated, we have to get legislation this year. If we wait a year or two, a lot of the things we are attempting to do won't be capable of being done because businesses will have reorganized themselves.

Senator METZENBAUM. I think if we are to get a bill this year, we are going to have to have some significant negotiations among

those who want the bill and those of us who have concerns as to what kind of bill it is.

Let me ask you, do you see any way in which mergers between local telephone and cable monopolies will lead to more competition?

Mr. IRVING. I see no way that you are going to get more competition if you have mergers between cable companies and telephone companies in the local market. I am sorry Senator Pressler left because there were a couple of things he raised in his question to Secretary Bingaman that I would like to just briefly touch on.

We have no objection with a local cable company and a local telephone company, subject to the antitrust laws, merging with any other entity. We just don't want the two largest monopolists, the two largest viable competitors in the marketplace, to merge with each other.

If a telephone company outside of region wants to assist a local cable company to provide broadband services in a town of 30,000, we would be perfectly willing to see them do that. We think that might be good because you will get some synergies there. We just don't want the incumbent telephone company to merge with the incumbent cable company.

If we are going to get two broadband ubiquitous networks competing with everyone—cable passes 95 percent of American households, telephone companies pass about 99-something of American households. Let them compete with each other, and if a cable company wants to merge with some other entity or a telephone company wants to merge out of region, as long as the Antitrust Division is OK with it, we don't have a problem with it in the administration. We just don't want the cable monopoly and the telephone monopoly in a local market to combine with each other. I think that is the worst possible outcome. It is going to harm competition, it is going to harm technological innovation.

If I could have your sufferance with one other point, Alabama is not known as a large, urban State. Yet, when Alabama decided it wanted to build a public network, last week they gave the bid to the cable companies within that State rather than the telephone company, and they gave it because they are going to get better service at a lower price.

If there was only one monopoly in the State of Alabama, if one company had every cable operation and every telephone operation, Alabama would not be saving about 75 percent of its costs and getting 24-hour service versus 16-hour service. The telephone company would have given 16-hour service at about $5,000 per public entity, I believe was the price. The cable companies are going to give 24-hour service at about $1,200 to $1,600. There is a huge, huge benefit to the consumer and to the public of competition. Unfortunately, 1822, as presently drafted, won't give consumers that benefit.

Senator METZENBAUM. I have a number of other questions, but I am a little concerned that time is going to run out, and I see two of our colleagues have arrived. We are very happy to welcome both of them, Senator Leahy and Senator Brown.

I would just say that if either of you have opening statements, they will be included in the record at the appropriate place. I think, Senator Brown, you arrived before Senator Leahy, following the

procedure of who arrived first. If you have one or two questions, please proceed.

Senator BROWN. Mr. Chairman, I will be very brief. I want to commend you for calling this hearing. I think it is very helpful, and I think it quite appropriate that this committee take a look at the issues before us.

I wanted to follow up on your observation, Mr. Irving, about the public policy problems with a merger between phone companies and cable companies. I take it you are not suggesting necessarily that there be two fiber-optic connections to a household?

Mr. IRVING. No.

Senator BROWN. You are suggesting that the ideal arrangement is one where you keep telephone and cable services separate, but use the same fiber-optic cable?

Mr. IRVING. No. I think the bill does allow for a shared drop wire so that you don't have to go to each home with a fiber-optic cable. Senate bill 1822 does take care of that. What we would object to as an administration is allowing the two largest ubiquitous networks, the telephone company and the cable company, which are both monopolists presently, to combine into one large monopoly in towns of under 50,000.

Part of this bill is to promote competition, and virtually everybody who has looked at this legislation says the most likely near-term competition in terms of ubiquitous broadband capacity is going to be between cable companies and telephone companies. We encourage that, and the bill would encourage that in Cleveland; it would encourage that in Burlington, it would encourage that in Denver.

We would like to see the same things happen in Golden, we would like to see the same things happen in Montpelier, we would like to see the same things happen in Findlay. The way the bill is presently drafted, you would get competition in Findlay between the cable company and the telephone company, but you certainly wouldn't get competition in smaller communities.

Why should only some Americans benefit from this competition that we say in the legislation will benefit all of them? We have no objection to sharing a drop wire. We don't want to see redundancies, but we also don't want to see—if you had one company providing voice, video and data to every home in a community of 50,000, why is that good for that community when we are saying in communities of 51,000 we should have two companies providing voice, video and data? There are no greater efficiencies, no economies of scale.

In smaller towns, there may be some efficiencies, and that is why we would cut it off at 10,000. We also recognize that we may get a competitive marketplace where wireless is truly competing. We may get a marketplace where satellite is truly competing. We may get a marketplace that emerges, and for that reason we would give the FCC the residual authority to look back at this issue in 5 years.

But, today, as we are looking at trying to create competition, let's drive that competition in cable. TCI, Time Warner, Comcast are strong, viable, vibrant companies that say they want to be ubiquitous telecommunications providers. Let them have that oppor-

tunity. If Bell Atlantic and PacTel and U.S. Western want to provide competition to cable and video, let them have that opportunity. Certainly, let's not let those companies merge in a local area and deprive consumers of the benefits of competition.

Senator BROWN. You are difficult to coach an answer out of. [Laughter.]

Mr. IRVING. I don't feel strongly about this at all, Senator. [Laughter.]

Senator BROWN. Let me follow up because your reference to preventing mergers was couched in terms of large monopolistic corporations merging. You are simply not saying that the only companies you are going to prevent from merging are large ones, I take it.

Mr. IRVING. No. In a lot of States, a lot of small cities have large cable operators providing them service or large telephone companies providing them service. There is no objection within the Department of Commerce—I can't speak for the Justice Department—to an instance in which a Southwestern Bell may go to Atlanta and purchase a cable company.

Senator BROWN. I understand that. What I was trying to get to is your thoughts with regard to prohibiting mergers, at what size of company, if that is what you are going to trigger it off of.

Mr. IRVING. We are looking at the size of the community served, not at the size of the company.

Senator BROWN. OK, so you are looking at the size of the community served. So your reference earlier to large monopolistic corporations wasn't the guideline.

Mr. IRVING. No, no.

Senator BROWN. The guideline is the size of the community.

Mr. IRVING. The size of the town, yes, sir.

Senator BROWN. And you are saying 10,000 is the break point?

Mr. IRVING. Yes, sir.

Senator BROWN. So in towns of 10,000 or less, you would allow large monopolistic corporations, to use your phraseology?

Mr. IRVING. Principally because of efficiencies and because it is less likely in towns of that size that there are going to be two wires going down every street that are broadband. However, if somebody wants to compete, nothing we are doing would prohibit that.

We are saying that if it makes sense for the cable company and the telephone company in smaller towns to contract, that is the largest size, we think, for public policy reasons, it makes sense to permit. If somebody else wants to come into that town, nothing this bill does, and certainly nothing the administration would promote, would prohibit that type of competition.

Senator BROWN. Thank you. I appreciate that.

Mr. IRVING. And it would still be subject, as I was just reminded, to antitrust review in any instance.

Senator BROWN. Thank you.

Senator METZENBAUM. Thank you very much, Senator Brown.

Senator Simon, it seems to me I overlooked asking you if you had any questions.

Senator SIMON. No. I have——

Senator METZENBAUM. Oh, you did. Of course, you did.

Senator SIMON. I did ask questions. However, since you gave me the mike, I do want to enter into the record a letter from the American Library Association, which has some concerns about the public access sections. There are these very small public service television stations that ought to be encouraged and not discouraged, and I would like to just enter that in the record.

Senator METZENBAUM. The letter will be included in the record.

Mr. Irving, thank you very much for being with us. We look forward to working with you in the next couple of weeks. I think there are some major challenges facing all of us as to whether or not there will or will not be a bill. Thank you very much.

Mr. IRVING. We look forward to working with you, Mr. Chairman. Thank you, sir.

Senator METZENBAUM. Thank you.

Our next witnesses are Ms. Sharon Nelson, from Olympia, WA, a long ways away. She is chairman of the Washington Utilities and Transportation Commission. Mr. Ron Binz is coming from Senator Brown's State, Denver, CO, who is director of the Office of Consumer Counsel. We are happy to have both of you with us.

I think you know that we get you to come all the way across country and then after you get here we indicate to you that there are limitations on time, so I would hope that you would make remarks within no more than 5 to 10 minutes.

PANEL CONSISTING OF SHARON L. NELSON, CHAIRMAN, WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, OLYMPIA, WA, ON BEHALF OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS; AND RONALD J. BINZ, DIRECTOR, COLORADO OFFICE OF CONSUMER COUNSEL, DENVER, CO, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES

STATEMENT OF SHARON L. NELSON

Ms. NELSON. Thank you so much, Senator Metzenbaum. We are very pleased for this opportunity to testify before you today on S. 1822. I am testifying today on behalf of the Utilities Commission of the State of Washington, as well as on behalf of the National Association of Regulatory Utility Commissioners.

With me today, also from the regulatory community, are Commissioner Joe Miller from Idaho, Commissioner Charles Martin from Alabama, Nan Norling from Delaware, and Lynn Butler from your own home State of Ohio.

Senator METZENBAUM. Are they here?

Ms. NELSON. They are here, right behind me.

Senator METZENBAUM. Please stand. Will those persons please stand?

[The aforementioned persons stood.]

Senator METZENBAUM. We are very happy to welcome you and very pleased that you saw fit to take the time and trouble to join with us today. I particularly welcome—was it the lady or gentleman from Ohio?

Ms. NELSON. Lynn Butler from Ohio.

Senator METZENBAUM. We are very happy that you are here.

Ms. NELSON. Thank you. They are here to show our concerns about S. 1822 as it emerged from the Commerce Committee. I would like to emphasize at the outset that the regulatory community was very supportive of Senator Hollings' bill, as introduced, including we were supportive of his preemptive entry provisions. We think it is time to induce competition into the local exchange.

However, Senator, as the bill came out of the markup, we feel that the bill is now so completely changed it is almost unrecognizable. In our opinion, it is anticonsumer, it is anticompetitive. It is internally inconsistent and, in our view, will only spawn more competition in the hearing rooms and not in the marketplace.

Senator, I used to work on the staff of the Commerce Committee when Senator Magnuson was chair, and in those days when we were trying to reform the regulation of the transportation industries Senator Magnuson, along with the Judiciary Committee, I might add—Justice Breyer was a staff member on the Judiciary Committee. Senator Magnuson liked to observe that all anybody sought from Congress was a fair, competitive advantage, and I am afraid that is what happened in the markup of the Commerce Committee that the supply side interests found competitive advantages, but very much to the detriment of the American consumer.

My written testimony has three themes. The first is we believe this bill is very likely to lead to massive local rate increases for residential ratepayers. Second, we believe the bill will lead to further regulatory gridlock, not to regulatory efficiency, not to Government reinvention, like we hear everyone talking about these days.

Over the last 60 years, the FCC and the States have shared jurisdiction over most of the telecommunications industry, and this bill would amount to a rapid and very real removal of power from the States to a centralized Federal agency.

Third, and most important to this subcommittee, we believe this bill is anticompetitive. As opposed to the administration witnesses, who I am sure are very sincere in their commitment to vigorous enforcement, we think the bill has many traps for the unwary and many complications in its text.

We think if this is worth doing, and it definitely is—we are for congressional legislation which will bring clarity to this sector of our economy. It is like health care; it is a very important sector of our economy. But if it is worth doing, it should be done well.

By way of background, in my written testimony I indicate that in Washington State we have benefited for almost 10 years now from a legislative framework which is called the Regulatory Flexibility Act. This has given us at the Washington State Commission the ability to manage competition and new competitors as they enter our marketplace.

We have what the bill calls for in Washington State. We have incipient competition in the local exchange-switched marketplace. Over the last several months, we have registered within 30 days four new competitors who are going to be competing head to head with US West in Spokane, in the Seattle metropolitan area, and in the larger area around Portland, OR, including Vancouver, WA.

We have registered these carriers, as I say, and one of them has actually succeeded in negotiating an agreement with US West for interconnection and compensation arrangements. We are doing

what the bill wants to see happen. In my opinion, passage of the bill will only delay the progress we have made. It will create uncertainty in the marketplace and will forestall any further investment by the new competitive firms in our Washington State telecommunications marketplace.

I just use Washington as an illustration. This is also going on in Illinois. Illinois is a leader in the State regulatory community in promoting local exchange competition. It is going on in Pennsylvania—Senator Specter was here—and it is going on in Ohio.

Our lesson from this experience is that even removal of regulatory or legislative barriers does not magically result in effective competition. Effective regulatory oversight, and I would say effective State regulatory oversight, is necessary to continue to make sure that actual, factual competition emerges.

We like to say in Washington that we are promarket, but we are definitely not laissez-faire. Regulatory oversight continues to be necessary to assure that competition becomes actual and effective in order to discipline prices and to provide consumers real, not merely theoretical, choices.

Another lesson we have learned is it is very dangerous for regulators or policymakers to pick technological winners. We are very emphatic that we are not going to pick one form of technology over another to provide service in any part of our State. We want the marketplace to determine the technological winners and losers. We are not going to try to preordain how the market should develop, nor are we looking for ways to underwrite the incumbent carriers' forays into new competitive markets or highly risky ventures.

The second theme I wish to address is gridlock. The bill calls for 37 rulemakings on the part of the FCC, 26 within the first year. I sit as a State regulator, one of four, with three FCC commissioners, on a current joint board that oversees the current universal service fund, and I am just very discouraged that the FCC can act within the time allotted for it in this bill.

It seems to me that we are just asking for trouble. The bill is impractical in the scope and the demands it puts on the FCC. The CBO, as you know, has estimated the first year alone this would require a $40 million addition to the FCC's budget to manage. In many respects, the rulemakings called for just to be designed to undo or redo what is already happening in the States.

For example, it asks the FCC to define on a national basis universal service. In our view, the original bill as introduced got it right. It allowed the FCC and the States, working together, to determine the appropriate level of universal service appropriate to local conditions.

In many respects, it is simply impractical to expect five FCC regulators, no matter how smart, no matter how well-intentioned, to be able to determine, as the bill requires, carrier of last resort for every rural community in the United States. I give to you in my written testimony the example of Libby Creek in my State, a small hamlet far up in the Cascade Mountains on the east side of the State where 12 households have electricity service, but they do not yet have telecommunications service.

Our staff has been working with the two nearest wire line telephone companies and one wireless company to see who can bring,

most efficiently, most least costly, telephone service to that community. I submit to you if that problem is shoved to Washington, it will never be resolved, or not within those people's lifetimes.

Last, and important to this committee, we believe the bill is anticompetitive. It started out being very procompetitive, but during the course of the markup it seemed to acquire a schizophrenic character. It calls for a market-driven definition of universal service, but then has imported into it incentives for the market, if it doesn't succeed, to deliver what appears to be a broadband network capable of delivering voice/image data and video.

This inconsistency in basic, underlying, fundamental approach is very troubling to us because if we do deploy this broadband network in a way that is not responsive to consumer demand, we could be wasting lots and lots of money, and in America, in 1994, we just can't afford to be wasting a lot of basic ratepayer dollars.

I will just give you a "for instance." The bill's cost allocation mandate allocates a local exchange carrier's cost of deploying broadband facilities between local exchange and competitive services. It seems that the policy of the bill is that we want consumers to decide what it is that they want to have, but in practice we are going to make them pay for this advanced network through their telephone rates, regardless of whether they want it or not.

In our opinion, that is not a competitive outcome. That is a tax, and it is anticompetitive because it allows the incumbent local companies to tap their captive ratepayers to pay for facilities that other competitors would have to pay for with their own venture capital.

So, in summary, Mr. Chairman, we feel that the committee bill is seriously flawed because it attempts to achieve regulatory consistency by dumping all the responsibility on a Federal agency that does not have the resources, nor the proximity to the consumers necessary to do this job effectively.

It is our belief that the bill could result in a quagmire that will delay progressive actions by States like mine, and about 80 percent of us are on this road already, and will likely result in steep local telephone rate increases. We believe the bill is internally inconsistent in calling for competitive conditions, but creating unnecessary subsidies and cost allocations that attempt to pick technological and marketplace winners and deter competitors.

Thank you for your attention. I look forward to the Q's and A's.

[Ms. Nelson submitted the following:]

PREPARED STATEMENT OF SHARON L. NELSON ON BEHALF OF THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Thank you Mr. Chairman and Members of the Committee for this opportunity to testify on S. 1822. My name is Sharon L. Nelson. I am the Chairman of the Washington Utilities and Transportation Commission and a member of the National Association of Regulatory Utility Commissioners (NARUC) Committee on Communications. As you may know, the NARUC is a quasi-governmental, non-profit organization founded in 1889. Within our membership are the governmental agencies of the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands which are engaged in the regulation of utilities and motor carriers.

As a nation, we are at a pivotal time in the history of the regulation of communications. S. 1822, as introduced, attempted the very necessary and complicated task of bringing order to the regulation of converging industries. Senators Hollings, Danforth and Inouye deserve considerable credit for working through the various supplier interests involved in and affected by this convergence. While state regulators have many serious concerns about the Committee version of the bill, we want

to be clear in our support for Congressional legislation that brings order and clarity to this sector and protects the public interest.

There are positive elements of the bill. For example, I applaud the bill's establishment of some key conditions for competition, most notably the mandates for network unbundling, collocation of switching equipment, number portability and dialing parity. If the FCC is able to deal efficiently and thoroughly with these issues, and that is a big "if" then we will have made great progress toward fostering effective competition in local exchange markets. Fostering the conditions necessary for efficient interconnection is essential since, unlike most other economic activities, the business of networking requires cooperation among competitors to ensure a seamless, open system that minimizes consumer confusion. Most of my fellow regulators in the state commissions recognize that our role is evolving from one of traditional rate regulation to one of refereeing the players and ensuring fair competition and interconnection policies to protect the consumer.

Unfortunately, the version of S. 1822 that was adopted by the Senate Commerce Committee on August 11, 1994, would put an abrupt halt to that evolution. The bill's sections on universal service, network modernization and regulatory reform would commit the country to a nationalized program run by an already overworked federal agency. The result, at best, will be an industry driven from the top down producing homogenized services. At worst, we will witness a regulatory quagmire with high local telephone rates, few consumer choices and an unpredictable regulatory regime for consumers and businesses.

To understand my concerns better, I need to give you an idea of my perspective. I am a post-divestiture state regulator who has watched rapid technological innovation blow away any remaining conceptions that the telephone industry is a natural monopoly. Since 1985, I have served as the chair of Washington State's public utility commission, overseeing the painstaking task of moving a monopoly telecommunications industry into a more open and effectively competitive environment, while still ensuring that public interest and universal service goals are met.

In Washington, we have benefited from a state legislative and regulatory framework that has encouraged entry of competing telecommunications providers. For the last two years, Washington state has operated under a court decision, recently affirmed by our state supreme court, declaring invalid the existence of the local exchange franchise. Since 1985, this environment has resulted in our Commission approving the regulatory entry of 200 new telecommunications firms.

Since March of this year, our Commission has granted four companies the authority to provide *switched* local exchange service. Our guidelines for entry are technical competency, financial integrity and a stipulation to participate in funding the state's 911 system and the low-income and hearing-impaired assistance programs. These applications took an average of less than 30 days from the day of filing to the day of approval. While economic and structural barriers to effective competition in the local loop still remain, regulatory entry requirements in Washington state are not among them.

Unfortunately, it has taken these four new companies quite a bit longer to work out interconnection, right-of-way and number portability agreements with the incumbent local carriers. However, I understand that at least one of these companies has worked out an interim agreement with the incumbent telephone company and will be assigning numbers in October.

Recently, a task force convened by Governor Mike Lowry analyzed the economic data and found that Washington has a very healthy telecommunications sector. For example, the number of jobs directly involved in telecommunications grew 6.5 percent in Washington State between 1988 and 1992, in spite of a downsizing trend that has lead to a decline in telecommunications jobs nationwide. The number of new telecommunications firms doing business in the state doubled during the same time period. Average wages in this sector are 50 percent above those for all other Washington industries. And this remarkable growth does not include our state's vibrant software industry. Given this information, I do not think my state's economy has been hurt by our strategy of using market forces to drive innovation and investment. Quite the contrary, we hear from many out-of-state communications companies that our pro-competitive policy was a major contributing factor in their decision to invest in Washington.

Our staff also has recommended a second generation of alternative regulation for our regional Bell operating company (US West Communications, Inc.). Our current alternative form of regulation has served us well over the last five years, but is now expiring. The new proposal would eliminate regulation of the company's earnings in favor of regulating prices. Pricing flexibility would be granted in exchange for the company providing open access to its network and other conditions necessary for competitors to interconnect efficiently. To avoid stranded investment and to assure

efficient market operation, cross subsidies would be eliminated and rates would reflect the actual cost of service. We expect to have this regulatory framework in place before the end of 1995.

It may appear paradoxical, but our experience teaches us that effective competition does not magically appear once legal barriers are removed. We like to say "we are pro-market, but we are not laissez-faire." Regulatory oversight continues to be necessary to assure that competition becomes actual and effective to discipline prices and provide consumers real, not theoretical, choice.

Our commission also continues to promote universal service goals. However, we believe that the existing universal service funding system, which subsidizes incumbent companies as the carriers of last resort, is a vestige of the monopoly paradigm and must be revamped to be consistent with a competitive market. Until that overhaul can be done, we have ensured that our initial steps into competition have not threatened the affordability and availability of basic telephone service. For example, in 1987 the commission directed our local exchange carriers to provide all Washington residents, regardless of geography, access to touch tone single party lines, free of suburban mileage charges, so that all households could have access to state of the art information services. Most of our companies met that goal by 1990 and today virtually all the state's subscribers receive that level of service. Over 90 percent of our state's telephone exchanges are served by digital switching offices. Of those exchanges not served by digital switches, most of those customers are in urban areas which will be the first to benefit from competition. We were able to do this cooperatively with our carriers and without the need for explicit intercompany subsidies. Also, in the last five years, we have gradually, but persistently, provided extended area services in suburban and rural areas so that flat rated local calling capability is roughly equivalent to that in metropolitan areas.

In short, my Commission and many others are busy working on setting up the market conditions necessary to foster a dynamic, robustly competitive telecommunications industry while also ensuing that the basic level of service available to consumers is modern and affordable. We are not, however, trying to preordain how the market should develop, nor are we looking for ways to underwrite the incumbent carrier's forays into new competitive markets or highly risky ventures. Our approach may be pioneering, but it is hardly the exception to the rule. NARUC estimates that 80 percent of Americans live in states that are pursuing similar competitive policies. See Exhibit 1, attached.

If what I have just explained is consistent with your vision of how the transition to an effective marketplace should be handled, then you need to know that our efforts will be for naught if the current Committee version of S. 1822 is adopted.

REGULATOR GRIDLOCK WILL STALL THE DEVELOPMENT OF COMPETITION

From a sheer work load perspective, S. 1822 mandates so many rulemakings that it is unrealistic to expect the FCC to meet the stated deadlines in the bill or to do a quality job on those rulemakings that are genuinely needed. Given the difficulties the agency experienced implementing the 1992 Cable Act, this bill can be likened to promoting an embolism in a quadruple bypass patient. It's not fair to the FCC and it's not fair to those states which have expended considerable energy developing competitive policies that would be rendered moot by this bill. Most of all, it's not fair to the consumer.

What are the states supposed to do while we wait for the FCC to crank out 37 separate rulemaking proceedings? The competitive momentum we have built up in Washington and elsewhere will be stifled as we all cool our heels and wait for the FCC to complete the excessive number of rulemakings that this bill would require. If our goal is a competitive telecommunications market, then the industry will need to respond to consumer demand at a speed far greater than that required to complete three dozen FCC rulemakings.

Furthermore, I question the need for most of the rulemakings—many of which seem designed to undo or redo activities and roles currently being performed by the States. Most particularly, I cannot see how federal regulators are going to be able to determine a definition of universal service that will meet the unique needs of Alma, New Mexico, Warren, Arkansas or Waterville, Maine.

Nor can I fathom how this central federal agency will be able to determine carriers of last resort for every remote area in the country. For illustration, I would like to tell you about Barbara Campbell of Libby Creek, Washington—a little spot way up on the eastern side of the Cascade Mountains. Barbara and her 12 neighbors do not have telephone service, although they do have electricity. Over the last 12 months, my staff has been working with the two nearest local exchange companies and a cellular company in trying to determine who can best serve this commu-

nity at the best price. We have not yet come to a resolution, in spite of about a half dozen hours of persistence by one of our managers in getting the phone companies to provide construction estimates. It will probably cost about $100,000 to get service to these customers.

Section 306 moves this headache to the FCC, which will have the responsibility of determining the carrier of last resort and establishing nondiscriminatory rates for that service. Will the FCC be able to devote the same level of attention to this $100,000 carrier of last resort issue when faced with the crushing volume of rulemakings mandated by this legislation? I suspect that everyone of you have your own Libby Creeks and that when they come to your attention, your state's PUC devotes the same time we have to ensuring that these small but deserving populations receive service in the fairest and most efficient way possible. This responsibility, multiplied by the hundreds of other remote communities around the country, will belong to the FCC if the committee bill is adopted.

LOSING STATE OVERSIGHT WILL INCREASE LOCAL TELEPHONE RATES

The preemptive approach taken by this bill goes way beyond what is necessary. By severely limiting the role of State Commissions, we lose the vigilance and expertise that has contributed to steady improvements in basic telephone service at declining rates. This state oversight will be even more necessary as competition serves to eliminate cross subsidies and threatens to motivate incumbent local companies to shift costs to the captive residential and business customers' rates. State commissions have an in-depth knowledge of their markets and experience with the local exchange companies and their costs. Retaining this knowledge base is essential if we are to establish creative policies that avoid rate shock and maintain rate stability.

In the last two years alone, State Commissions, including my own, have ordered local rate reductions and service improvements to customers in the context of regulatory reform. Moreover, a number of states, including Pennsylvania, Idaho, New Jersey, Wisconsin, Missouri, Texas, Oregon and New York have ordered long-term freezes of local rates. In contrast, had the FCC set local rate levels under the formula that this bill requires, local rates would have increased as much as 30 percent according to a NARUC estimate.

For example, if Washington State were forced to follow the FCC depreciation methodology, as this bill would require in Section 230(c)(2), U.S. West customers in our state would have to pay an additional $97 annually, based on 1993 plant. Spread over the company's 2 million telephone lines in the state, this one adjustment alone would translate into a $4.19 per month rate increase or a 40 percent increase when added to Seattle's basic residential telephone service rate. The Idaho Commission estimates that some of its customers would have to pay as much as $106 more per year if they went to FCC depreciation rates. See Exhibit 2, attached, which provides further detail on how S. 1822 will lead to local rate increases. Consumers would pay this much more in spite of the absence of any evidence showing that there is a positive correlation between prospective capital investment and regulatory depreciation policies. To the contrary, in some jurisdictions where depreciation has been deregulated, the telephone companies are disinvesting in the infrastructure. For example, when Michigan's legislature enacted a bill that prompted the Michigan Public Service Commission to deregulate depreciation in 1992, Ameritech severely cutback on infrastructure investment. See Exhibit 3, attached.

Apparently the motivation for most of the rulemaking mandates and preemptive language in S. 1822 is the Committee's preference for consistency and national uniformity in regulating local telecommunications services. Yet, this notion ignores the valuable contribution that State Commissions have made and can continue to make. I think we can achieve adequate consistency without wresting control from the very commissions that have, since the adoption of the 1934 Communications Act, performed an excellent service in ensuring universal local telephone service at affordable rates.

Yes, we vary in our regulatory regimes, especially in regard to entry standards. However, the patchwork quilt of entry barriers in this country is more a result of the void in federal policy than it is a failing of individual state commissions. It certainly is not an excuse to overreact by rendering this vast collective experience useless and moving all the authority and key decisions to D.C. It must be emphasized that NARUC supported the entry provisions of S. 1822, as introduced.

The bill, as originally drafted, struck a better balance between ensuring uniformity among states and allowing state regulatory commissions the flexibility needed to protect captive telephone customers and preserve universal service. The original bill recognized the benefit of having state regulators retain the authority to define

and implement universal service, as well as establish terms and conditions under which local exchange services are provided. Furthermore, the original S. 1822 allowed states to implement intrastate equal access and interconnection requirements, as long as they are not inconsistent with federal regulations. The original bill did not threaten my state's market-oriented strategy nor would it have hindered our ability to ensure affordable rates.

THE BILL IS ANTICOMPETITIVE

I suppose the most frustrating aspect of the committee bill is that while it espouses a goal that I support, the development of a competitive marketplace, it seems to go out of its way to make sure it does not happen.

When I envision a competitive marketplace, I see consumers with a wide range of services provided by a diverse set of suppliers. Consumers should be able to select a package of services that best meets their needs and budget. Simply put, a competitive environment allows consumers to get what they want and pay for what they receive. I do not believe a competitive marketplace results in the consumer being forced to pay for an interactive broadband network capable of carrying of voice, data, image and video. Yet, that is what this bill seems to say. Competitive markets and legislatively or administratively predetermined outcomes are inconsistent. Until you are prepared to deal with that inconsistency, any product of this debate will simply create a mess.

For instance, this legislation calls for a market driven universal service definition but then calls for incentives if the market doesn't deliver the goods. Why bother with the trouble of establishing a competitive market, something that will take considerable vigilance to accomplish, if we are not prepared to accept market outcomes?

This inconsistency is carried forward in the bill's cost allocation mandate that would allocate a local exchange carrier's cost of deploying broadband facilities between local exchange and competitive services. In policy we are saying that consumers should decide what they want. In practice, we are going to make them pay for this advanced network through their local telephone rates, regardless of whether they want it. That's not a competitive outcome; that's a tax. And it is anticompetitive because it allows the incumbent telephone company to tap its captive ratepayers to pay for facilities that other competitors would have to pay for with venture capital.

If we are to have a broadband network, shouldn't it develop because people want to use it and are willing to pay for it? If my parents in Red Wing, Minnesota want to use their telephone for talking to friends, why should their phone bill cover some of the cost of my younger brother's video on demand service or my nephews' interactive video games?

If networks are to be upgraded to provide new enhanced services, they should be upgraded through old fashioned entrepreneurship, with investors risking their capital on the bet that they have the "killer application" to recover their investment. Does it make sense to further hinder those investors by requiring that they provide five percent of their bandwidth at incremental cost (however that is measured) so that nonprofit groups, such as Planned Parenthood, Right to Life, the Seattle Aquarium and the Ford Foundation, can have access to services regardless of whether they have a use for them? We do not require our electric utilities and their residential customers to subsidize usage by non-profits, and lighting and heat are certainly as important to them as broadband video.

Before you accuse me of being a Luddite, I am not against the building of the "information superhighway." But I do believe that drawing the analogy of a public works project such as a highway is absolutely wrong if our simultaneous goal is to foster a competitive market. A highway is a monopoly that is built by central planning and paid for by taxes. These characteristics are inconsistent with a competitive marketplace and they have no place in this bill.

In Washington State, where we are genuinely trying to move to a competitive marketplace, we are committed to purging our rate structures of subsidies and hidden taxes so that companies can send correct price signals and the market can operate efficiently. As I've mentioned before, we have four competing telephone companies preparing to do business in our state—all of these companies are installing fiber optic cable. This does not count the cable companies which can reach over roughly 90 percent of our homes with broadband capabilities right now. In five years, we might have 40 such companies statewide or we might have none. If consumers want these services, then we will have the market structure to ensure they receive the best quality at the best price to meet their needs. If they don't want these services, then we will not have burdened our local telephone rates with unnecessary costs and we will have preserved universal access.

Another quick example of the bill's anticompetitiveness is the provision that allows for cable-telco ownership in municipalities of less than 50,000 population. In Washington, that would mean that 261 out of 272 incorporated cities, including our state capital Olympia, would be at risk of becoming one wire communities. Such an outcome might perhaps be economically efficient in some areas, but in all probability would be irrational in urban and suburban America.

RECOMMENDATION

In summary, the committee bill is seriously flawed because it attempts to achieve regulatory consistency by dumping all the responsibility on a federal agency that does not have the resources nor the proximity to consumers necessary to do the job effectively. The result will be a quagmire that will delay progressive actions by States like mine and will likely result in steep local telephone rate increases. Also, the bill is internally inconsistent in calling for competitive conditions but creating unnecessary universal service subsidies and cost allocations that attempt to pick a technological and marketplace winner and deter competitors.

Last year, when I spoke before the NTIA planning summit, I argued for a clearly articulated plan for fostering effective competition and ensuring widely available services. In making that speech, I identified five key elements which have guided our state's initiatives in this field. I offer them to you:

1) The removal of all unnecessary legal and regulatory barriers to entry;
2) Strict adherence to antitrust principles;
3) The establishment of effective and efficient network interconnection and interoperability standards;
4) The continuation of widely available and affordable service; and
5) The protection of freedom of speech and personal privacy.

I submit these goals to you in the hope that this Committee can help the Senate return to the goals and structure of the original S. 1822 and prepare legislation that builds on the work of the states in fostering competition and protecting captive ratepayers from unnecessary rate increases.

I have no doubt that our economy, if freed to do what it does best, will produce a responsive and technologically advanced communications network. I believe firmly that by keeping the above goals in mind, we can encourage the broadest possible participation of industry and consumers. In a global information economy, a nation with networks built by a competitive market and based on open systems which uphold users' rights to privacy and free cultural and political expression will be the economic power to beat.

Thank you for this opportunity to provide an analysis from the state regulator's perspective.

SHARON L. NELSON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Ms. Nelson, from your testimony it sounds like your State of Washington is very progressive in bringing competition into telecommunication markets. How many other States do you think are as progressive as Washington State?

Answer. Many states have facilitated competition in certain segments of the telecommunications marketplace and have developed incentive rate-making approaches to spur efficiency and improve service. States have used primarily three methods to achieve the goals of improving the infrastructure: alternative regulation (which relaxes pricing restrictions on new services and encourages competition); setting specific time lines for the deployment of advanced technologies; or a hybrid policy.

According to the draft of *NARUC Report on the Status of Competition in Intrastate Telecommunications (1993 Update),* all multiple LATA states allow intrastate interLATA competition, 5 states allow for full local exchange competition, 45 states allow at least partial competition in the intraLATA toll market, and 22 states allow at least partial competition in local exchange service.

Furthermore, 39 state commissions have enacted alternatives to rate-of-return regulation, 19 state commissions have acted to allow some form of collocation, and 36 states have ONA (requirement to unbundle network functions) tariffs approved or pending.

The simple removal of regulatory barriers does not guarantee meaningful competition. Therefore, the states have been managing the transition to competition with care, because of the potential impacts on universal service and service quality issues. One trend among states is to reduce regulation on services as they become in-

creasingly competitive. Another is to delay competition mandates in rural areas. Rural areas, in most state plans, are expected to achieve the same level of technology as urban areas but are given an extended time period. This type of consideration allows regulators to learn from urban markets and make modifications for rural areas. States have found their actions make the transition to competition more effective while giving consumers better protection.

Question 2. Ms. Nelson and Mr. Binz, those who favor preemption of the States in telecommunication matters often assert that State regulators are frequently manipulated or controlled by the local Bell company. What is you reaction or response to this assertion?

Answer. I think my local Bell operating company would disagree with that assertion for good reason. Furthermore, this assertion ignores the fact that the state regulatory process is by far more inclusive than the federal regulatory process. State commissions hold public hearings, open meetings and rulemakings which are open and accessible to the public. State consumer advocates represent the public and offers a much needed counter balance to the regulated company perspective. On the other hand, Washington, D.C. and the FCC are far more accessible to the industry than an unorganized group commonly known as the "basic ratepayers."

Furthermore, since 1987 state commissions have ordered rate reductions totaling $4.11 billion. In 1993 alone rate reductions totalled approximately $450 million.[1] In addition, as illustrated by the attached graph, the prices of intrastate long distance services, as regulated by state commissions have been stable or declining. In contrast, the tariffed rates for residential interstate long distance service, as regulated by the FCC have increased dramatically in the last two years.[2]

Question 3. Ms. Nelson, you have many criticisms of S. 1822, including the way it shifts important local functions from the States to the FCC. In your view, do you think that S. 1822 could be fixed in the next few days so that State regulators such as yourself would support its passage this year, or do you think it would be better to reconsider these important issues again next year?

Answer. No, we have substantive concerns with the legislation and given that there is only a couple weeks left in the 103rd congress it is unlikely that the necessary changes could be made in this time frame. We believe that this issue should be taken up again in the 104th Congress. In the next session I hope to see focused legislation which brings order and clarity to the communications industry and protects the public interest. Federal legislation must continue to acknowledge the critical role state regulators must play in order to ensure a smooth transition to a competitive market, while also ensuring that the basic level of service available to consumers is modern and affordable.

I have attached a copy of the NARUC Federal telecommunications legislative policy principles. Legislation which encompasses these principles would establish the key conditions necessary to foster effective competition, and protect captive ratepayers from unnecessary rate increases.

SHARON L. NELSON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR HEFLIN

*Question 1.*If you don't like the current version of the bill, what would you like in its place?

Answer. I support focused legislation which brings order and clarity to the communications industry and protects the public interest. Federal legislation must continue to acknowledge the critical role state regulators must play in order to ensure a smooth transition to a competitive market, while also ensuring that the basic level of service available to consumers is modern and affordable.

I have attached a copy of the NARUC Federal telecommunications legislative policy principles. Legislation which encompasses these principles would establish the key conditions necessary to foster effective competition, and protect captive ratepayers from unnecessary rate increases.

Question 2. Doen't the bill give states a role in developing policy by providing for the establishment of Joint Boards—for instance, for universal service? What has been your experience with Joint Boards?

Answer. Yes. The bill does allow the states a very limited role in policy setting through the Joint Board mechanism. However, it must be emphasized that the role given to states in the Joint Board process is only advisory. The joint board is no substitute for the retention of full authority in the states over rates, terms and conditions of telecommunications service.

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[1] *Trends in Telephone Service,* FCC industry Analysis Division, May 1994, p. 15.
[2] FCC Monitoring Report, CC Docket No. 87–339, May 1994.

In the past (but not recently) the Joint Board and Joint Conference mechanisms have been used to discuss or resolve contentious issues on cost allocations, open network architecture issues, and interexchange carrier competition in Alaska. However, my experience has been the joint board process breaks down if the FCC Chairman chooses not to utilize this mechanism on a meaningful interactive basis. Since I became a member of the Federal-State Joint Board in January of 1992, the FCC Chairman has convened only one substantive meeting.

Nevertheless, I believe that on policy questions of mutual state and federal concern, Joint Boards have provided an efficient and productive alternative to the appeal process for the states. Accordingly, Federal/State Joint Boards conserve valuable, yet scarce federal and state resources through strengthening federal-state cooperation.

To that end, to assure that the Joint Board process continues to provide a meaningful opportunity for the states to participate in the development of national communications policies, the Joint Board process needs to be recast along the following lines:

1) The Chair of the Joint Board, the FCC Chairman or the FCC's designee, should be required to convene a joint board open meeting whenever a majority (not less than four) of the Joint Board Commissioners make such a request.

2) A majority of the Joint Board should be able to initiate proceedings through the issuance of notices of proposed rulemakings, notices of inquiry and data requests. This means the four state members would be capable of proposing recommended decisions and issue development.

3) The FCC should be required to vote to accept, reject or modify Joint Board Recommended Decisions within sixty days of the issuance of a Joint Board Recommended Decision, or otherwise the Recommended Decision should become final by operation of law.

4) If an issue regarding the jurisdictional separations of common carrier property and expenses between interstate and intrastate operations, or any other matter relating to common carrier communications joint Federal-State concern is not referred to the Joint Board, a decision should be issued in writing.

Question 3. Doesn't the addition of the language, "where technically feasible and economically reasonable" in the section that requires telecommunications carriers to open up their networks (pg. 50) give the companies an excuse to impede competition for local exchange services? What has been your experience when the telephone companies have had the option of demonstrating that unbundling and interconnection is not technically feasible and economically reasonable? And wouldn't you expect cable companies and other network providers to have the incentive to behave in the same manner?

Answer. Yes, "technically feasible" and "economically reasonable" does give the carriers the opportunity to impede competition for local exchange services. Local telephone companies have several means at their disposal to prevent or delay competition. Among these tools are denying access to essential bottleneck facilities, overcharging for the use of these facilities, and cross-subsidizing competitive local services from monopoly revenues. Their control over local telephone customers and competitively sensitive account information provides additional opportunity for competitive harm. Policymakers must balance the various stakeholder interests and address these problems if local competition is to become a reality.

In the Computer III proceedings, the FCC directed the RBOCs to open their networks to make features and functions available on a modular basis. The FCC's plan, Open Network Architecture (ONA), was supposed to allow information service competitions to buy network functions they needed without having to pay for the ones they did not need.

In exchange for opening their networks, the RBOCs were to be given freedom from the requirement that they provide information services through fully separate subsidiaries. The FCC did ultimately eliminate separate subsidiary requirements. However, the RBOCs never opened their networks in the way that was originally contemplated. ONA remains an unfulfilled promise to this day.

Question 4. If basic service is included in the definition of universal service, and the FCC designates the carrier of last resort, and only carriers of last resort can get universal service funding, what is going to create local competition in high cost areas? (In other words, if one assumes at least for the short term that the incumbent local exchange carrier will be the designated COLR, and it can provide local telephone service—i.e. universal service—at subsidized rates, won't that be a dis-

incentive for another carrier to come in and compete with the COLR, even though the competitor might be able to provide the service at less that the unsubsidized cost of the incumbent?)

Answer. Yes. I agree with the analysis provided in your question. My experience teaches that rural consumers want as much competition as their city cousins. The conventional wisdom teaches that rural areas are high cost areas and must remain subsidized. The attached article demonstrates that the conventional wisdom should be examined rigorously.

Question 5. Section 201C dealing with public access provides for carriers of last resort to provide universal service to various public or non-profit institutions, and to promote the availability of advanced services to such institutions at preferential rates. Won't these provisions put upward pressure on local rates? Aren't these provisions anticompetitive by designating a particular carrier to provide basic services to these institutions? Couldn't real competition bring the same results—i.e. different carriers could offer packages of service to the various institutions at various prices and the institutions would pick what best fits their needs—that way, captive ratepayers are not subsidizing services that don't fit the unique needs or these various institutions.

Answer. Yes, I agree. The 5 percent set aside for non profits will put increased pressure on local rates. In my view, preferential rates could tie schools and other non profits to the incumbent provider, precluding competition and depriving these new markets of the benefits of competition (lower prices, newer and higher quality services). Even if the services to non profits are offered at incremental cost, this means that remaining monopoly customers will be picking up the ticket for administrative and overhead costs not covered by prices set at incremental cost. The increased cost to the basic ratepayer is difficult to quantify but nonetheless is predictable.

NARUC Federal Telecommunications Legislative Policy Principles

TRANSITION TO COMPETITION

- During the transition to competition, states must not be prevented from imposing requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, safeguard the rights of consumers and ensure that rates are just and reasonable.
- States support removal of statutory and legal barriers to competition, but must retain the flexibility to establish the terms and conditions under which services are provided, as long as those policies are not inconsistent with federal statutes.
- A Bell Operating Company's (BOC's) provision of intrastate, interLATA services should be subject to state approval.
- States must have the authority to enact safeguards that prevent subsidization of a local exchange carrier's (LEC's) entry into competitive markets, including, but not limited to (i) separate-subsidiaries for the provision of non-basic telephone services; (2) full authority to limit and audit affiliate transactions and audit cost allocation procedures, including access to books and records; and (3) insulation of the LEC from creditors of non-regulated affiliates.
- Intrastate pricing flexibility for local exchange carriers should not be federally mandated absent a finding that a particular market is sufficiently competitive to ensure that consumers in that market have the ability to choose among similar services and no firm or combination of firms has the ability to control the prices of those services.
- States must retain the authority to reimpose regulation should unregulated monopolies or other anti-competitive situations develop.

UNIVERSAL SERVICE

- As technology enhances telecommunications capabilities, the package of basic services that are universally available must continue to meet expanding customer needs.
- States and the FCC should work cooperatively to develop universal service criteria and standards.
- States must be permitted to continue developing and redefining universal service policies that best meet the needs of telecommunications subscribers within a particular state or region, as long as those policies are not inconsistent with federal statutes.

- All service providers should equitably share in the responsibility for maintaining universal service.
- States must have the ability to ensure that high quality service is provided in markets that are less competitive or attractive for investment.
- Federal agencies other than the FCC should not be allowed to set "de facto" policy on universal service by virtue of their control over providers.

NETWORK MODERNIZATION, FUNCTIONALITY AND QUALITY

- The Federal Government should ensure that technical standards are developed which allow all telecommunications providers to interconnect with each other as the "network of networks" develops. However, federal legislation should not mandate the use of a particular technology, or a specific network configuration.
- Each State should examine its infrastructure requirements to assure consumers have access to voice, data and video through one or more networks.
- The National Information Infrastructure should be developed primarily with private investment.

CABLE-TELCO

- Cable and telephone companies providing common carrier services should operate under the same rules and bear the same responsibilities.
- Cable and telephone companies should provide, to the extent technically feasible, nonaffiliated entities with access to their respective networks on a tariffed, nondiscriminatory and unbundled basis.
- Cable and telephone companies must continue to be regulated to the extent they maintain monopoly power and should be prohibited from exercising that power to inhibit customer access to nonaffiliated video providers.
- A telephone company should not acquire a significant interest in a cable system within its telephone service territory unless it continues to be regulated by a State (and the FCC) or until consumers have sufficient choices for both their telephone and cable services.
- States and the FCC should have the authority to conduct or cause to be conducted an audit of transactions between telephone companies and their affiliates providing video services and equipment in order to ensure that cross-subsidization does not occur.

CONSUMER PROTECTIONS

- In the transition to competition, consumers must be informed of their service options, the functional standards for those services and the process for resolving service problems.
- Basic consumer protections must be maintained and adequate forums must be available for resolution of consumer complaints.
- The impact of competition and the introduction of new technologies and services on consumer privacy rights must be evaluated. Protections necessary to preserve such privacy rights should be incorporated in the design of new telecommunications services and in rules regulating such services.

SHOULD THE U.S. SUBSIDIZE RURAL TELEPHONE COMPANIES?

Joseph P. Fuhr, Jr.

Introduction

The 1934 Communication Act states that regulation should "make available, so far as possible, to all people of the United States, a rapid, efficient, nation-wide and worldwide wire and radio communications service with adequate facilities at reasonable charges" [47 USC 214]. This so-called "universal service" mandate has led to the government policy of subsidizing rural telephone companies.

Conventional wisdom holds that small rural telephone companies have considerably higher average costs than the industry as a whole. A major factor affecting the cost of providing telephone service is the density of subscribers.[1] Other things being equal, the fixed costs (non-traffic-sensitive costs) are greater the lower the density of subscribers.[2] Thus rural areas, where density is generally low, probably have higher fixed costs per subscriber than urban areas. However, other costs such as taxes and operating expenses may be lower in rural areas. In this study I attempt to compare and contrast the various cost and revenue segments of the diverse telephone industry to determine the actual cost of providing telephone service. This research provides insight into whether rural telephone companies are actually high-cost firms and whether a subsidy is justified.

Cost and Revenue Analysis

Table 1 provides descriptive statistics for four different categories of telephone companies. In general, moving across the categories from left to right, the companies become smaller and more rural. Data relating to the Bell Operating Companies (BOCs) are displayed in the first column; the BOCs serve the most densely populated parts of the country. Although they serve only about half the land area of the United States, they provide service to around 75 percent of the nation's telephones. The 22 operating companies service more than 102 million access lines, and their system exchanges are far larger than the exchanges of other carriers, having on average more than 11,000 lines.

The telephone companies that are not part of the Bell system are collectively referred to as the "independents" (column 2 of Table 1). There are more than 1300 independent operating companies, and nearly 30 million lines provided

[1] For detailed information concerning the impact of density on non-traffic-sensitive costs, see Armstrong and Fuhr 1993.

[2] This cost situation has led to the Universal Service Fund which provides subsidies to telephone companies with high non-traffic-sensitive cost per access line. However, this fund does not take into account the overall cost levels of these firms.

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Table 1. Descriptive statistics by category of company, for 1989.

	Bell operating companies	Reporting independent companies[b]	REA commercial companies	REA cooperatives
Number of companies	22	601	659	244
Access lines	102,834,000	29,849,000	4,312,724	1,173,198
Access lines per company	4,674,273	49,666	6544	4808
Access lines per exchange	11,386	3199	1157	622
Access lines per route mile	[a]	[a]	7.5	3.5

Sources: Federal Communications Commission, *Statistics of Communications Common Carriers, Year Ended December 31, 1989*; United States Telephone Association, *1990 Statistics of the Local Exchange Carriers*; United States Department of Agriculture, Rural Electrification Administration, *1989 Statistical Report, Rural Telephone Borrowers*.

[a] Not available.

[b] Only 60 of 1332 independent telephone companies report to United States Telephone Association. These companies and the BOCs account for 98.28 percent of access lines in the United States and 98.69 percent of gross revenues.

Note: The categories are not mutually exclusive. Some REA borrowers are also included among the statistics for independents. Since the categories are not mutually exclusive, the differences among them will tend to be slightly understated.

by the independents. The six largest independent companies—GTE, United, Centel, Alltel, Cincinnati, and Southern New England Telephone (SNET)—account for more than 24 million lines. The independents serve some major cities (Tampa, Florida; Cincinnati, Ohio; and part of Los Angeles), but tend to be concentrated in the less densely populated areas of the United States.

The third column of Table 1 contains statistics relating to commercial companies that have borrowed funds from the Rural Electrification Administration (REA). REA provides low-interest loans (currently 5 percent) to companies that qualify as rural telephone companies. These companies are smaller than the typical independent and average only about 6500 lines per company. Their exchanges are only a tenth the size of the average Bell exchange, and in the aggregate they serve only 4.3 million lines. The traditional measure of service density is the number of subscribers per route mile. As indicated in column 3, the commercial companies associated with REA have fewer than eight subscribers per route mile of line.

Even smaller, as shown in column 4 of Table 1, are the cooperatives funded by REA. In the aggregate, the cooperatives provide service to a little over a million subscribers, and their exchanges are roughly half the size of the REA commercial companies. The average population density is only 3.5 subscribers per mile.

Table 2 examines the revenue sources of the same four types of companies. REA companies have considerably lower local service revenue per line than the BOCs and independents. On average, 20 percent of the REA cooperatives' revenue is generated by local service, compared to 25 percent for REA com-

Table 2. Operating revenues for 1989, per access line, by source of revenue and type of company (in dollars).

	Bell operating companies	Reporting independent companies	REA commercial companies	REA cooperatives
Local network service	291	226	186	146
Network access and long distance	298	402	461	465
Miscellaneous	60	106	74	63
Uncollectible	−6	−6	−3	−1
Operating	644	728	719	672
Other revenue	6	9	23	62
Total revenue	650	737	742	734

Sources: Federal Communications Commission, *Statistics of Communications Common Carriers, Year Ended December 31, 1989*; United States Telephone Association, *1990 Statistics of the Local Exchange Carriers*; United States Department of Agriculture, Rural Electrification Administration, *1989 Statistical Report, Rural Telephone Borrowers*.

mercials, 31 percent for independents, and 45 percent for BOCs. The opposite pattern holds for network access and long distance. REA companies receive on average over 62 percent of their revenue from network access and long distance, whereas independents receive 55 percent and BOCs less than 46 percent. This revenue mix results in rural telephone companies having lower local rates than the nationwide average.

The subsidies that REA companies receive account in part for the lower rates. In 1992, the Universal Service Fund, which bases the subsidy on only non-traffic-sensitive costs will distribute approximately $588 million to firms with high non-traffic-sensitive costs per access line [FCC, 1992, p. 111]. Also, in calendar year 1989, REA companies had new loans of nearly $210 million (cumulative REA loans outstanding were approximately $5.7 billion). In addition, long distance usage subsidizes access to the telephone network. Non-traffic-sensitive costs are fixed costs and are not a function of usage. However, part of non-traffic-sensitive costs are allocated to long distance usage. This subsidy results in REA companies receiving a large portion of their revenue from long distance.

Tables 3 and 4 contain information on the costs of service and on revenues per line for the same four-way classification of telephone companies shown in Table 1. Given the conventional wisdom that telephone service is most expensive in rural areas, we would expect that the smaller the company and the more sparsely populated the area served, the higher the costs involved. This does not appear to be the case. Operating expenses per line are the lowest for REA cooperatives ($453), and there is little difference between the BOCs ($474) and the REA commercials ($483). The independents have the highest operating expenses ($512). However operating expenses, in the form reported, exclude taxes and fixed charges. When we look at fixed charges (shown in Table 4), we observe that smaller companies have higher interest payments than the larger companies on a per line basis. But the higher fixed charges for REA cooperatives are completely offset by the very low taxes

Table 3. Expenses for 1989, per access line, by type of company (in dollars).

	Bell operating companies	Reporting independent companies	REA commercial companies	REA cooperatives
Plant-specific operations	123	150	120	107
Plant-nonspecific operations	60	200[a]	49	37
Depreciation and amortization	135		139	167
Customer operations	80	82	71	54
Corporate operations	76	80	104	88
Total operating expenses	474	512	483	453
Taxes	64	74	79	23
Total interest and related items	34	40	52	64
Total expenses	572	626	614	540

Sources: Federal Communications Commission, *Statistics of Communications Common Carriers, Year Ended December 31, 1989*; United States Telephone Association, *1990 Statistics of the Local Exchange Carriers*; United States Department of Agriculture, Rural Electrification Administration, *1989 Statistical Report, Rural Telephone Borrowers*.

[a] Available data provide this information combined for independent companies.

Table 4. Revenues and expenses for 1989, per access line, by type of company (in dollars).

	Bell operating companies	Reporting independent companies	REA commercial companies	REA cooperatives
Operating revenues	644	728	719	672
Operating expenses	474	512	483	453
Net operating income	170	216	236	219
Other revenue	6	9	23	62
Taxes	64	74	79	23
Fixed charges	34	40	52	64
Net income	79	111	130	195

Sources: Federal Communications Commission, *Statistics of Communications Common Carriers, Year Ended December 31, 1989*; United States Telephone Association, *1990 Statistics of the Local Exchange Carriers*; United States Department of Agriculture, Rural Electrification Administration, *1989 Statistical Report, Rural Telephone Borrowers*.

Table 5. Composition of telephone plant in service, per access line served, for 1989 (in dollars).

Investment category	Bell operating companies	Percent	Reporting independent companies	Percent	REA borrowers	Percent
Land and buildings	271	15.2	261	13.1	282	12.6
Central office equipment	658	36.8	714	35.7	693	31.0
Customer stations[a]	126	7.0	139	7.0	75	3.4
Outside plant[b]	717	40.1	874	43.7	1183	52.9
Miscellaneous[c]	15	0.8	11	0.6	4	0.1
Total plant in service	1788	100	1999	100	2236	100

Sources: Federal Communications Commission, *Statistics of Communications Common Carriers, Year Ended December 31, 1989;* United States Telephone Association, *1990 Statistics of Local Exchange Carriers;* United States Department of Agriculture, Rural Electrification Administration, *1989 Statistical Report, Rural Telephone Borrowers.*

Note: Numbers may not add to totals because of rounding.

[a] Station apparatus, station connections, and large private branch exchanges.

[b] Pole lines, aerial cable, underground cable, buried cable, submarine cable, aerial, wire, and underground conduit.

[c] Organization, franchises, patent rights, furniture and equipment, and vehicles and other work equipment.

paid by these companies. Thus, total expenses per access line are lowest for REA cooperatives ($540). The next lowest expenses are for BOCs ($572), followed by REA commercials ($614), with the highest again being for independents ($626). Using the benchmark of total cost per access line, REA cooperatives, which are the smallest telephone companies, have the lowest cost.

Investment in telephone plant is shown in Table 5 for each type of company. Rural companies have higher telephone plant costs per subscriber, especially in providing a loop between the customer and the central office (what is known as "outside plant"). Outside plant is a major component of non-traffic-sensitive costs, and the fact that rural companies have higher outside plant costs is consistent with conventional wisdom.[3] Although independent companies and REA companies have somewhat more investment per access line than the BOCs, the difference in net plant investment is smaller if depreciation and amortization are taken into account.

Labor costs are thought to be important in contributing to cost differentials among companies. Salaries for employees of the BOCs are significantly higher than those reported by the independents. While there is no information on salaries for smaller companies, it is commonly thought that the salaries are much lower among small companies in rural areas. However, smaller companies have more employees per line served, or alternatively, fewer lines served per employee. The BOCs average 222 access lines per employee, and

[3] The National Exchange Carrier Association, which administers the Universal Service Fund, has data which show that smaller companies have higher non-traffic-sensitive costs per access line.

the independents average 183. The number rises to 203 for REA commercial companies and falls to 182 lines per employee at the REA cooperatives. These two factors—lower salaries and fewer lines served per employee in smaller companies—tend to offset each other.

Thus, it is hard to find any evidence that, on average, telephone service is more expensive to provide in rural areas. Rural companies do have lower density, which results in higher non-traffic-sensitive costs and fewer access lines. They have less opportunity to take advantage of certain economies of scale. However, they have offsetting advantages, including lower salaries, and in some cases lower taxes and lower interest expenses. It appears that the cost of telephone service in rural areas is somewhat like retail distribution of other rural services—that is, a thinner network is not necessarily more expensive.[4]

If smaller companies demonstrate higher costs, it should be reflected within the universe of REA borrowers. For example, the median operating expenses per subscriber is highest ($576) for firms with 500 to 999 subscribers and lowest ($470) for firms with 4999 to 9999 subscribers. However, for telephone companies with over 9999 subscribers, the cost is $520; it is $566 for firms with under 500 subscribers. No clear pattern emerges, and there is no evidence that smaller companies have higher costs. Moreover, even companies of relatively the same size have a wide range of annual operating expenses per subscriber.[5]

Conclusion

Some major differences do exist, of course, between rural and urban companies. The smaller rural companies tend to have a greater proportion of residential customers and a greater dependence on toll revenues. The absence of a systematic relationship between company size and costs complicates the problem of dealing with any adverse consequences of reducing toll subsidies. Thus, attempts to assist customers of small or rural companies would aid customers of both high-cost and low-cost companies, and it is not clear that an effort restricted to rural areas would benefit the majority of persons most adversely affected. Also, the data show that not all rural companies are high-cost companies. Rural cooperatives have the lowest operating cost per access line, the highest net income per access line, and receive subsidies in the form of low-interest (REA) loans, long-distance settlements, and the universal fund payments. Ironically, the net income per line for REA cooperatives ($195) is greater than the local service revenue of these firms ($146).

Thus, the public policy of subsidizing rural telephone companies has been based erroneously on the assumption that the cost of providing telephone service is higher in rural areas. As this analysis shows, there is no evidence that small rural companies have higher cost per access line than larger,

[4] It should be noted, however, that there may be quality differences between urban and rural telephone services that are provided for the same costs. One measure of quality is the number of residential customers with one-party service. In 1989, the percentage of residential customers with one-party service was 97.6 percent. The BOCs had 98.3 percent, the independent companies had 95.7%, the REA commercials had 93.3 percent, and the REA cooperatives had 99.4 percent. Thus, the cooperatives had the highest percentage of residential customers with one-party service.

[5] Additional information concerning these operating expenses can be obtained from the author.

nonrural companies. However, low-interest loans, long-distance subsidies, and monies from the universal service fund are made available to rural companies on the basis of only a portion of their cost. Thus, if the public policy goal is universal service, then a new subsidy system targeted at people who need a subsidy to obtain telephone service should be implemented. A subsidy system that takes into account both the consumers' income and the cost of service would be more equitable and more efficient.

The author would like to thank Peyton Wynns of the Federal Communications Commission whose earlier work at the Congressional Budget Office, "The Changing Telephone Industry: Access Charges, Universal Service, and Local Rates," June 1984, formed the basis for this article. Mr. Wynns was also most helpful in providing assistance.

JOSEPH P. FUHR, Jr., is Professor of Economics, Widener University.

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NARUC INCORPORATED,
NARUC NUCLEAR WASTE PROGRAM,
Washington, DC, September 13, 1994.

Hon. HOWARD M. METZENBAUM,
Russell Senate Office Building,
U.S. Senate, Washington, DC.

DEAR SENATOR: Recently, we wrote to you expressing our concerns about the Telecommunications Act of 1994, S. 1822. There, we pointed out that this measure will create upward pressure on the local rates paid by your constituents for telephone service. In this letter I would like to provide more detailed information on this important issue.

First, though, let me reiterate that NARUC [1] has been supportive of reform efforts and testified in favor of S. 1822 in its original version. The bill adopted by the Commerce Committee was, however, so radically different from the earlier version that we have been compelled to change our position with respect to the bill.

I. STATE COMMISSIONS HAVE REGULATED THE RATES FOR LOCAL TELEPHONE SERVICE FAIRLY AND EFFECTIVELY

Since 1987 state commissions have ordered rate reductions totalling $4.11 billion. In 1993 alone rate reductions totalled approximately $450 million.[2] In addition, as illustrated by the attached graph, the prices of intrastate long distance services, as regulated by state commissions have been stable or declining. In contrast, the tariffed rates for residential interstate long distance service, as regulated by the FCC have increased dramatically in the last two years.[3]

Many states, including Pennsylvania, Idaho, New Jersey, Wisconsin, Missouri, Texas, Oregon and New York have ordered long-term freezes of local rates.

[1] The National Association of Regulatory Utility Commissioners (NARUC) is a quasi-governmental, non-profit corporation whose objective is to promote the consumer interest.

[2] *Trends in Telephone Service,* FCC Industry Analysis Division, May 1994, p. 15.

[3] FCC Monitoring Report, CC Docket No. 87–339, May 1994.

II. S. 1822 CRIPPLES THE ABILITY OF STATES TO CONTROL LOCAL RATES AND WILL CREATE UPWARD PRESSURE ON THOSE RATES

Several provisions of the bill, listed below along with suggested amendments, have the cumulative effect of stripping away state control of local rates with consequent upward pressure on local rates.

A. Section 201A(g): Rate Adjustments. Under this provision, the FCC promulgates guidelines to be followed by the states to adjust rates of existing local exchange companies, with a provision for transition plans of up to two years for the largest operating companies serving the majority of all local ratepayers. The FCC thus becomes directly involved in the setting of local rates, and the reference to "transition plans" can mean only one thing: rates will go up under federal directive.

Suggested Amendment: Eliminate sec. 201A(g) in its entirety

B. Section 230(c)(2): Restriction on State Authority. The United States Supreme Court in *Louisiana* v. *FCC*[1] recognized a "bright line" between interstate and intrastate telecommunications service and rejected an FCC attempt to mandate depreciation practices for intrastate services. Section 230(c)(2) obliterates the bright line by providing, "A state may not, with respect to the provision of any intrastate telecommunications service, impose upon any telecommunications carrier any regulatory requirement * * * inconsistent with the requirements imposed by the Commission on such carrier with respect to the provision of interstate service."

If, as appears to be contemplated by this section, states may not have depreciation practices different from those of the FCC, local revenue requirements will increase. Although the exact effect may vary from state to state, the general trend will be upward. In Idaho, alone, for example, it is estimated that local revenue requirements will increase by $7.5 million annually. This translates into local rate increases of over $100 per year per customer for some companies.

Suggested Amendment: See attached proposed revision

C. Section 229(f): Broadband Cost Allocation Regulations. S. 1822 envisions the ubiquitous deployment of a national broadband network. The cost of such an endeavor is likely to be enormous.[2] This section permits the FCC to allocate these costs between "local exchange service and competitive services." The FCC thus becomes directly involved in determining the cost of local service. And, it is predictable, if historic patterns prevail, that costs would will be shifted toward noncompetitive local service and away from competitive services. The states, we believe, should continue to have authority to determine when broadband deployment for local services will be economically feasible.

Suggested Amendment: Require that the costs of broadband deployment be assigned to interstate and Competitive services unless a state has specifically authorized use of broadband to provide basic local services.

D. Section 201A(a-d): Expanded Universal Service and Funding. These sections combined centralize universal service policy and give the FCC authority to assess intrastate and interstate carriers for contributions to contribute to a new universal service fund. New assessments to intrastate carriers will increase their cost of operations with attendant pressure to recover those costs in local rates.

Suggested Amendment: Return to the original version of S. 1822 which gave states the primary responsibility for defining universal service policy.

E. Section 201B: Public Rights of Way; Section 201C: Public Access. The costs not recovered through free access and preferential rates to non-profit entities will, of course, have to be recovered from all other customers, under regulations to be prescribed by the FCC. NARUC believes it is bad policy to raise rates to residential customers who pay their phone bills with after-tax dollars, to subsidize the activities of non-profit entities, who do not pay any tax, and whose objectives may or may not be supported by ratepayers generally. And, the size of this subsidy may be substantial. The largest phone company in the western United States, US West, projects these provisions will increase its capital spending requirements by $1.5 billion.

Suggested Amendment: Eliminate sections 201B and 201C in their entirety.

III. CONCLUSION

The dual jurisdiction regulatory scheme established by the 1934 Communications Act has produced, without dispute, the finest telecommunications system in the

[1] 476 U.S. 355 (1985)

[2] Recent press reports indicate that the Congressional Budget Office believes the cost of nationwide broadband deployment may exceed $500 billion. *Washington Telcom Week*, September 2, 1994.

world. State regulation of intrastate rates has been a success. While NARUC has supported sensible reform that would provide national guidance where appropriate, there is currently no crisis in telecommunications that requires the wholesale dismantling of that system when the most immediate and obvious results will be increased costs for local customers.

Sincerely,

DEAN J. (JOE) MILLER, CHAIR,
Commissioner,
NARUC Committee on Communications, Idaho Public Utilities Commission.

SUGGESTED AMENDMENT FOR SECTION 230(C)(2): RESTRICTION ON STATE AUTHORITY

1. Amend Section 230(c)(2) to read as follows:

2) A State may not, with respect to the provision of any intrastate telecommunications service, impose upon any telecommunications carrier any regulatory requirement concerning the provision of intrastate services that renders impossible the carrier's ability to comply with the Commission's regulations implementing paragraphs (A) through (G) with respect to the provision of interstate services.

2. Add in Section 3 Effect on Other Law (from S. 1822 as introduced)

b) FEDERAL, STATE AND LOCAL LAW.—Except as provided in paragraph (2), this Act shall not be construed to modify, impair, or supersede Federal, State, or local saw unless expressly so provided in the Act.

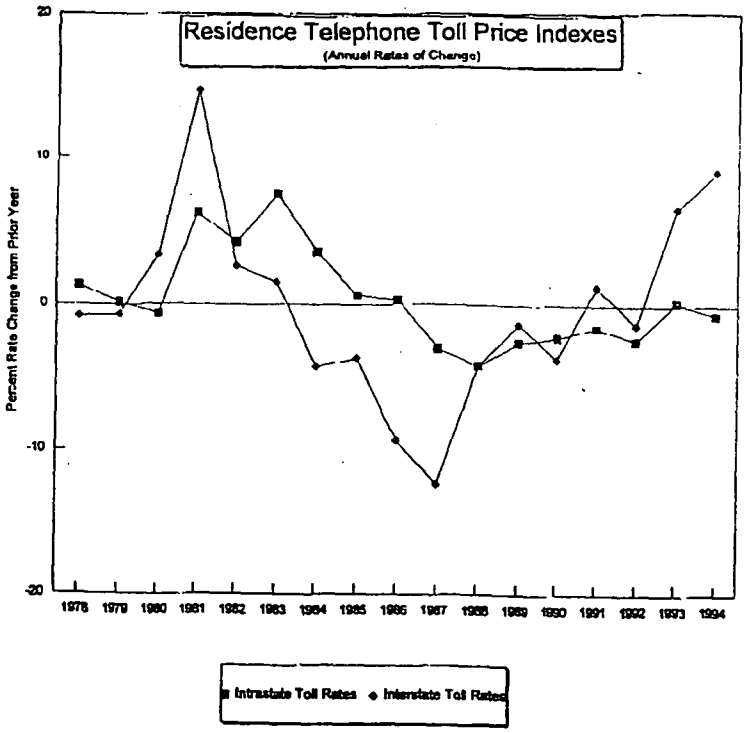
2) This Act shall supersede State and local law to the extent that such law would impair or prevent the operation of this Act.

Exhibit 1

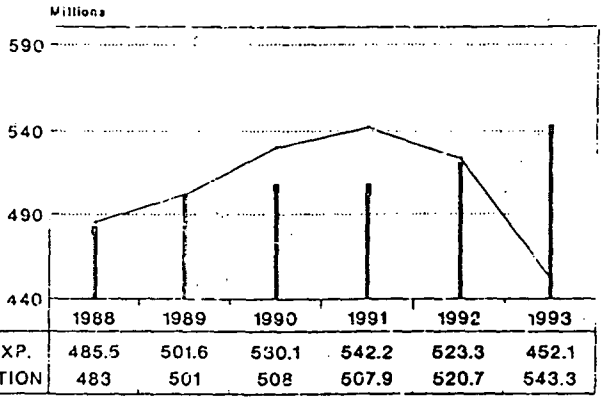
National Association of Regulatory Utility Commissioners

SUMMARY OF COMPETITIVE STATUS BY POPULATION

Competition Allowed	Population (millions)		Partial allowed	Population (millions)		Entry Barriers Exist	Population (millions)	
CT	3.29		CA	29.76		AL	2.35	
IL	11.43		CO	3.29		AK	0.55	
IA	2.78		DE	0.67		AR	2.35	
MD	4.78		DC	0.61		AZ	3.67	
MI	9.3		FL	12.94		GA	6.49	
MT	0.779		MA	6.02		KS	2.48	
NE	1.58		MO	5.12		KY	3.69	
NY	17.99		NJ	7.73		LA	4.22	
NV	1.2		ND	0.64		ME	1.23	
OR	2.84		OH	10.85		MS	2.57	
PA	11.88		HI	1.11		NH	1.11	
WA	4.87		ID	1.01		NM	1.52	
			IN	5.54		NC	6.63	
			MN	4.38		OK	3.15	
			TX	16.99		SC	3.49	
			UT	1.72		SD	0.696	
			VA	6.19		TN	4.88	
			WV	1.79		RI	1.003	
			WI	4.89		VT	0.563	
			WY	0.454				
Totals	72.719			121.704			52.642	
Percent, Total Population	29%			49.%			21%	100%



AMERITECH - MICHIGAN
CONSTRUCTION & DEPRECIATION EXPENSE



	1988	1989	1990	1991	1992	1993
CAPITAL EXP.	485.5	501.6	530.1	542.2	523.3	452.1
DEPRECIATION	483	501	508	507.9	520.7	543.3

SOURCE - FORM 10-K(ANNUAL REPORT), 1993 & 1991, MBT CO.

EXHIBIT #3

Senator METZENBAUM. Thank you, Ms. Nelson. I do have some questions, but I think we will first hear from Mr. Binz.

Mr. Binz, you might cover the point that was made by Ms. Bingaman that—no; I guess maybe it falls more within your department, Ms. Nelson, and that is a concern on the part of the Antitrust Division that the provisions having to do with the local public utility commissions at the present time protect the monopoly status, and that somehow this bill is going to change that. This Senator doesn't agree with that, but I think I would like to have your views on that subject. I think it is just the reverse of what I see will develop as a result of this bill and I would like your thoughts on it.

STATEMENT OF RONALD J. BINZ

Mr. BINZ. Senator Metzenbaum and members of the subcommittee, my name is Ron Binz, and I am the director of the Colorado Office of Consumer Counsel, and chairman of the Telecommunications Committee of NASUCA. That is the National Association of State Utility Consumer Advocates. We are an association of 41 consumer advocates in 37 States and the District of Columbia. Our members are designated by State law to represent utility consumers before State and Federal regulators and in the courts.

Senator Metzenbaum, if I might, before beginning the substantive part of my testimony, I would like to say that I am especially privileged to appear and testify today for what will be one of your last hearings as a U.S. Senator. On behalf of consumers across the country, we want to thank you for the years of leadership on consumer protection in the U.S. Senate, and it is fitting that with only 2 weeks left in this session you are still on the job pursuing the issues that are important to consumers in the United States.

Senator METZENBAUM. Thank you.

Mr. BINZ. In our national office, there is a picture of you taken at the meeting in Columbus, OH, of the 10th anniversary of our association. In the picture, your clenched fist is in the air and you are exhorting consumer advocates to stay on the job and keep up strong consumer advocacy. That is how we will remember your contribution, and we thank you for your leadership and inspiration.

Senator METZENBAUM. Thank you very much, Mr. Binz, and to all of your associates as well.

Mr. BINZ. That is the good news. [Laughter.]

The bad news is that there is a lot more to be done in 2 weeks and we need your help on this bill. Our message is clear. NASUCA supports the goals of the legislation and generally supported the bill that was introduced.

This is the committee print of the bill. The first 104 pages are stricken out. The amendment is the next 199 pages in the bill, which is a strike-below-the-enacting-clause amendment which appeared 2 days before committee action. This bill has not had the sort of examination that is needed.

We are convinced that it is not too late to fix this bill, but unless substantial changes are made to the legislation, it is unacceptable to consumers. As consumer advocates, we think the bill does not provide adequate protections and will expose consumers to higher

rates for basic telecommunications services. Rather than relying on competitive forces and consumer demand to build the advanced information infrastructure, this bill relies instead on a combination of Federal mandates and a centralized Federal regulatory structure. We hope the Senate acts to restore the balance that was struck by the proconsumer and procompetitive provisions of the original bill.

While we have serious concerns about this legislation in its present state, we congratulate Senators Hollings, Danforth, Inouye, and others who had the vision to craft legislation worthy of the title "The Communications Act of 1994," evocative of the 1934 act passed 60 years ago. We stand ready to assist the members of this subcommittee to restore the balance found in the original legislation.

I would like to make five major points which are set out in some detail in my written testimony. The first is the bill transfers much of the authority in telecommunications regulation from the States to the Federal Communications Commission. In broad swipes, States are relieved of traditional responsibilities and prohibited from acting in ways that may be deemed "inconsistent" with Federal regulation. That is a key word in the bill.

This preemption will deny consumers the ability to influence telecommunications issues which are essentially local in nature. We predict the end result will be unfairly higher local telephone rates. That is a serious charge, and I would like to explain why, in two quick examples, that is likely to be an outcome.

The first reason is what you might call mechanical. The bill has mechanisms in it for allocating costs of the broadband-switched network to local rates in ways that we think, when that is followed through, are going to raise local telephone rates.

The second is what you might call political. If you sever the connection between consumers and States and their accountable local regulators, you are making local telephone rates a big unavoidable target for rate increases. Consumers still remember the last time the FCC got involved in making local rates. The result was a $3.50 increase in local rates, known as the Federal Access Charge. It took literally an act of Congress to prevent that charge from going to $6.00.

Our consumers are concerned that that experience with Federal ratemaking for local rates will be a walk in the park compared to what is to come if we don't involve local regulators, with their local accountability, in the setting of local telephone rates.

My second point is, compared to Senate bill 1822 as introduced, the committee version contains much weaker conditions for RBOC entry into interLATA markets, both intrastate and interstate. The original bill required actual and demonstrable competition before an RBOC could enter the interLATA markets. The amended bill does not.

Because of this change, it is much more likely that the RBOC's will enter the interLATA markets before they face competition. Combined with video-programming entry and manufacturing entry, this means that the consumer protections in the bill must be strengthened.

My third point is, we have had a lot of discussion this morning already about the fact that the legislation permits local exchange companies to acquire in-region cable companies in areas with fewer than 50,000 residents. The existing law sets the threshold at 2,500 residents. This means that for millions of Americans, their largest monopoly will be able to buy their second largest monopoly. If competition between cable companies and local exchange companies is feasible in these small towns, this provision will certainly thwart the possibility for competition.

In our testimony, we set out in further detail our opposition to changing the threshold and suggest an alternative approach in places where the economics do not permit two competing broadband networks to be built.

My fourth point is, in Senate bill 1822 the task of defining and funding universal service is given to the FCC. While a Federal-State joint board will make recommendations, the Federal agency makes the decision. Further, the FCC is authorized to establish guidelines which must be implemented by the States to increase local telephone rates to recover the costs of universal service support.

Combined with other authority over cost allocation, this essentially puts the FCC in the role of setting local phone rates. We strongly object to this intrusion into local rate-setting and call for a return to the language in the original bill.

We are concerned that the goal of universal service in this legislation has become confused with the drive toward a broadband national network. Lost in the confusion are such important issues as consumer demand and the ability to pay. In part, the threat to universal service exists because some believe that the United States should make telecommunications expenditures to provide services for which there is insufficient demand. This threat to universal service derives from loading the costs of this service for which there is insufficient demand on to the price of monopoly basic consumer services. In that sense, the problem of universal service is a relatively smaller problem if network costs are correctly assigned and if there is a correct component of consumer demand in infrastructure planning.

My fifth and final point is NASUCA has for a number of years advocated the creation of a Federal consumer advocate within the FCC, but independent of the Federal Communications Commission. We think that always made sense, but given the proposal in this legislation to concrete ratemaking authority, decisionmaking and policy at the FCC, we believe that arguments for the creation of a Federal consumer advocate are now more cogent than ever.

Senator Metzenbaum, again, we thank you for the opportunity to testify today. I think it is especially appropriate that this committee take up the matters raised in this legislation, since the reason for being, the actual logic for even having legislation like this grew out of changes in the industry which were themselves spawned by a history of antitrust abuse in the industry.

Thank you for the opportunity to testify, and I look forward to your questions.

[Mr. Binz submitted the following:]

PREPARED STATEMENT OF RONALD J. BINZ, COLORADO OFFICE OF CONSUMER COUNSEL, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES

Senator Metzenbaum and members of the Subcommittee, my name is Ron Binz. I am the Director of the Colorado Office of Consumer Counsel and the Chairman of the Telecommunications Committee of NASUCA, the National Association of State Utility Consumer Advocates. NASUCA is an association of 41 consumer advocate offices in 37 states and the District of Columbia. Our members are designated by state law to represent the interests of utility consumers before state and federal regulators and in the courts.

Thank you for the opportunity to appear in this hearing today to discuss S. 1822, The Communications Act of 1994. NASUCA members have closely followed the progress of this legislation and its counterparts in the House of Representative, testifying in hearings before the Senate Commerce Committee and the House Telecommunications and Finance Subcommittee. We thank this committee for holding additional hearings on S. 1822. The impact of this legislation on consumers will be substantial and we welcome the chance to explain how it affects the consumers we represent. Finally, it is most appropriate that this Subcommittee consider the connection between this bill and the continued development of competition in the telecommunications industry: the changes in the industry and the occasion for this legislation arose from the history of antitrust abuse in the telecommunications industry.

Senator Metzenbaum, our message is this: NASUCA supports the goals of the legislation and generally supported the bill that was introduced. But recent changes in S. 1822 make this legislation unacceptable to consumers. As consumer advocates, we think this bill does not provide adequate consumer protections and will expose consumers to higher rates for basic telecommunications services. Rather than relying on competitive forces and consumer demand to build the advanced information Infrastructure, the bill relies on a combination of federal mandates and a centralized federal regulatory structure. The Senate should act to restore the balance that was struck by the pro-consumer and pro-competitive provisions of the original bill.

While NASUCA has serious concerns about this legislation in its present state, we congratulate Senators Hollings, Danforth, Inouye and others for the vision to craft legislation worthy of the title "The Communications Act of 1994." We stand ready to assist the members of this Subcommittee to restore the balance found in the original bill.

Here are the main points of the testimony which follows:

- The bill transfers much of the authority in telecommunications regulation from the states to the FCC. In broad swipes, states are relieved of traditional responsibilities and prohibited from acting in ways that may be deemed "inconsistent" with federal regulation. This preemption will deny consumers the ability to influence telecommunications issues which are essentially local in nature. We predict the end result will be unfairly higher local telephone rates. In this testimony we suggest an alternate approach which does not require such sweeping preemption.
- Compared to S. 1822 as introduced, the committee version contains weaker conditions for an RBOC to enter the interLATA markets (interstate and intrastate). The original bill required "actual and demonstrable competition" before an RBOC could enter interLATA markets. The amended bill does not. Because of this change, it is much more likely that the RBOCs will enter interLATA markets. Combined with video programming entry and manufacturing entry, this means that the consumer protections in the bill must be strengthened.
- The legislation permits local exchange telephone companies to acquire in-region cable companies serving places in rural areas with fewer than 50,000 residents. Existing law sets the threshold at 2,500 residents. This means that, for millions of Americans, their telephone monopoly will be allowed to buy their cable monopoly. United States telecommunications policy should encourage competition where it is viable. If competition between cable companies and LECs is feasible in these small towns, this provision will thwart it. NASUCA opposes increasing this threshold and suggests an alternative approach.
- In S. 1822 the task of defining and funding universal service is given to the FCC. A federal-state joint board will make recommendations, but the federal agency makes the decision. The FCC will establish guidelines, to be implemented by the states, to increase local rates to recover the cost of universal service support. Combined with other authority over cost allocations, this essentially puts the FCC in the role of setting local phone rates. We strongly object

to this intrusion into local rate setting and call for a return to the language in the original bill.

- The legislation amends the Public Utility Holding Company Act and permits registered electric holding companies to enter telecommunications markets. NASUCA believes that the current barriers to diversification for these holding companies should be maintained and opposes the diversification of registered holding companies into telecommunications. However, if these companies are permitted to enter telecommunications, we recommend strong consumer protections to prevent cross-subsidization.
- There is much at stake for consumers in the legislation now pending before Congress. S. 1822 should be amended to create an independent federal consumer advocate for telecommunications consumers. NASUCA has supported this idea for many years; the proposal is especially relevant now given this bill's transfer of most authority in telecommunications regulation to Washington.

PREEMPTION OF STATE AUTHORITY

NASUCA does not oppose all preemption of state regulatory authority. Where necessary to carry out clearly defined federal goals, preemption may be an appropriate policy choice by the federal government Preemption, however, should not be the first choice simply because it can be implemented more easily than other alternatives. Telecommunications legislation should strive to retain the legitimate role of the states in telecommunications regulation within the framework of the federal policies established.

Our position is not a naive call for states' rights. There are two strong reasons to restore the role of state regulation in this legislation. First, it is a mistake to assume that the FCC can tailor regulations and the transition to competition to meet the needs of consumers in each state. It will be impossible for the FCC to accommodate the differences in consumer demand, state income, regulatory history, geography, politics, and state government goals in telecommunications. The result of centralizing the decision-making about these local issues will be homogeneous policies that will be ill-fits for many states and their consumers.

Second, state regulators are making progress in bringing competitive choices to consumers. States are "laboratories" for regulation in the best sense: places where real regulation treating real consumer problems is occurring. To be sure, consumer advocates don't always agree with decisions of their state regulators, but state regulators should not be criticized as unwilling or unable to grapple with tough issues. As is often noted, some states are far ahead of federal regulators in innovative ways to balance consumer protection, infrastructure development and emerging competition in telecommunications.

There are examples of appropriate preemption in S. 1822. Unfortunately, there are also examples in the bill of overreaching and overbroad usurpation of the legitimate policy authority of the states. Some of the language is inexact and subject to wide interpretations As consumer advocates who practice before state regulators, we predict that the breadth and vagueness of the preemption language will render most attempts at state regulation extremely difficult at best, and probably impossible. The confusion and legal controversy triggered by some of the preemption language will essentially give the regulated carriers the choice of where and how to be regulated.

To make our point clearly, I would like to contrast appropriate and inappropriate preemption of state ratemaking contained in the bill.

A primary goal of S. 1822 is to promote the universal deployment of advanced telecommunications technology. Reaching this goal will require interconnections between different companies and networks on a national level. Some measure of national technical uniformity must be achieved for these interconnections to be possible. NASUCA does not oppose the preemption of state authority to the extent required to achieve this necessary uniformity. Section 201 appropriately reserves to the FCC the authority to set technical standards for interconnection and interoperability.

Similarly, federal legislation promoting local exchange competition obviously limits the freedom of the states. It is appropriate, in our view, to preempt blanket state barriers to entry into local exchange service as long as states have the authority to protect consumers and ensure just and reasonable rates. Section 302 accomplishes this by prohibiting state barriers to entry while allowing state regulators the ability to attach conditions on carriers to ensure protections for consumers. This is a good example of how federal policy (local competition) can be achieved without abridging a legitimate interest of state regulators (universal service and consumer protection).

Other sections of S. 1822 stand in sharp contrast to this careful approach to preemption. Elsewhere in Section 302, in the broadest possible terms, states are barred from adopting any regulatory conditions which are "inconsistent" with federal requirements:

> (2) A State may not, with respect to the provision of any intrastate telecommunications service, impose upon any telecommunications carrier any regulatory requirement concerning the provision of intrastate services inconsistent with the requirements imposed by the Commission on such carrier with respect to the provision of interstate services.

The implications of this language for state regulation are devastating. Virtually any regulation, *except those identical to federal regulations,* could be argued to be inconsistent. Here are three examples from everyday state regulatory practice:

- Suppose a state regulatory agency denies certification or operating authority to an Alternate Operator Service (AOS) provider because the firm did not comply with state customer service regulations or because of its financial unsoundness. The state commission, obviously exercising its legitimate role to-protect consumers, might be challenged for regulatory conditions which are "inconsistent" with federal regulatory conditions on this same AOS carrier who would also be providing interstate services.
- States will arguably lose their authority over customer privacy issues such as Caller ID blocking policies to the extent their policies are not identical to the FCC's policy. States have arrived at different solutions and approaches to Caller ID and consumer privacy. While these different approaches create no network technical problems and while they evidently serve each state's needs, any differences between state policies and federal policies could be challenged as "inconsistent"
- Suppose a state regulatory agency uses a method to allocate common costs to various communications services. The method is reasonable and is applied uniformly and without discrimination. This cost allocation method could be argued to be inconsistent with federal cost allocation rules *even for different services,* thus running afoul of the statute. In this case, preemption could negate the state's ability to implement admittedly reasonable and nondiscriminatory cost allocation procedures.

A third example of unnecessary preemption concerns allocating costs of the broadband network investment mandated in Section 201 of the bill. Proposed Section 229(f) of the Communications Act gives the FCC the authority to allocate the costs of broadband telecommunications facilities between local exchange service prices and "competitive" services. Stated simply, this puts the FCC in the business of setting local phone rates. There can be no argument that there is a state role left when the FCC dictates cost allocations for these investments. State regulators will have only the unpleasant task of approving increased rates which have been forced up by federal regulators.

A final example of a preemption provision which goes far beyond what is necessary to advance federal policy concerns information services. Proposed Section 234(b) preempts state authority over all information services by denying states the ability to regulate "the entry of information service providers or the rates charged for any information service." This broad preemption is compounded by the definition of "information service" found in Section 301(mm) which includes services which "involve subscriber interaction with stored information." Together, these provisions will unnecessarily eliminate state jurisdiction over certain telecommunications services which are essentially local in nature.

There are several ways to achieve federal policy goals without unnecessarily preempting the authority of states to pursue their legitimate interests. One possibility is found in the Public Utilities Regulatory Policies Act of 1978, which enacted federal goals and standards for pricing electricity and then required states to consider adopting standards to implement the federal goals. A second possibility arises out of the case of market entry cited above. States could be preempted from enforcing blanket prohibitions on entry, while being left with the authority to deny entry to specific carriers for such legitimate reasons as consumer protection, quality of service or financial suitability of the carrier. The approach could be extended to other areas as well.

NASUCA generally supported the approach taken in the previous version of S. 1822 to delineate federal and state authority. Taken as a whole, the bill preserved for the states their important role in protecting captive consumers of monopoly service providers, and allowed states to help shape important policies that will influence the deployment of advanced telecommunications networks. After such a laudable be-

ginning, it is most unfortunate for consumers that the bill was changed to its current version.

MFJ RELIEF, INTERLATA ENTRY AND CONSUMER PROTECTIONS

Historically, NASUCA has supported the MFJ and Cable Act restrictions on the RBOCs. We think that the MFJ restrictions increased competition and eliminated an opportunity to use monopoly telephone services to cross-subsidize competitive services. S. 1822 opens telecommunications equipment manufacturing and video programming to the RBOCs and sets standards for their entry into long-distance services.

The RBOCs are still local exchange monopolies. While legislation can open local markets to competition, no bill can *make* these markets competitive. The entry standards in this bill for cable, manufacturing and long-distance means that monopoly local telephone companies will be full participants in competitive telecommunications markets before they face competition in their own biggest market This fact elevates the importance of consumer and competitive protections in the legislation.

A primary concern of NASUCA members is that captive monopoly ratepayers should not become guarantors of investment in the video ventures of Local Exchange Carriers. One by one, the large Local Exchange Carriers are announcing plans for broadband networks. US West, Bell Atlantic and other RBOCs have proposed to replace existing copper cable with fiber optic cable to provide video entertainment and other high bandwidth services.

As these companies extend their reach into new services, we expect them to price their competitive services at the lowest possible rates. This is desirable, of course, unless these low prices are made possible due to the subsidization by other monopoly customers. Customers who wish to purchase only basic telephone service today should have that option without being burdened with the cost of the fiber optic network built to provide broadband services to other consumers at a later date. This can be detected and prevented only through proper cost allocation.

It is critical for consumers that S. 1822 address this issue. Instead of merely giving the FCC the authority to decide the allocation of these costs, the legislation should address the matter straight on. We suggest that additional safeguards be applied in this area to prohibit cost shifting to monopoly customers.

Finally, we again emphasize the importance of maintaining correct cost allocations between state and federal jurisdictions regulating telecommunications services. Today the states set rates for basic local service. The FCC has indicated that it will set rates for "video dial tone" service. It seems likely that many of video services will be FCC-regulated so that the federal jurisdiction will be assigned all of the video dial tone revenues as well.

In S. 1822, authority for the RBOCs to enter various telecommunications activities is accompanied by a variety of "post-entry" safeguards. These safeguards vary in scope, effectiveness and duration. In some cases the FCC may waive a protection; in other cases, not. Reporting requirements and audit enforcement varies. NASUCA supports the proposal to make these safeguards uniform and apply across the board to all new telecommunications activities into which the RBOCs are permitted entry.

RURAL EXEMPTION

U.S. telecommunications policy contains a strong antitrust component, especially since the Modification of Final Judgment restructured the industry to ensure the survival of competition in the long-distance markets. There is today a general reliance on fair competition to provide high quality telecommunications services to consumers at the lowest price. As technologies converge, one manifestation of that reliance on competition has been barriers to in-region joint ventures and acquisitions between local exchange carriers and cable companies. Existing statutes contain a "rural exemption" at 2,500 residents, allowing LECs to acquire in-region cable companies in such small towns. The proposed legislation raises the threshold from 2,500 to 50,000. NASUCA is very concerned that this exemption may deprive millions Americans of the realistic chance for competition between their cable carrier and their telephone company.

NASUCA has historically supported the MFJ restriction on entry of the RBOCs into information services, including video programming. We were concerned that the entry of these largely monopoly local exchange carriers would harm consumers (through cross-subsidization) and come at the expense of a competitive information services market (through unfair competitive practices). We endorse the entry of LECs into video programming as permitted in S. 1822 while retaining these concerns.

Three considerations lead NASUCA to support the provision which permits the entry of the RBOCs into video programming in-region, with certain safeguards. First, Judge Greene removed the MFJ barrier to entry in information services, including video programming. The remaining prohibition, in the Cable Act, may no longer serve consumers by guarding the monopoly of cable television operators. Second, the new alignments of industry players and the convergence of technologies increase the likelihood that competition for these services might actually occur. Third, there is a "demand-pull" for video services combined with a national push for an information infrastructure. With regulators enforcing proper safeguards, the entry of RBOCs into video programming may lessen the risk that an inappropriate share of the substantial cost of a broadband network will be loaded onto basic telephone consumers.

But video entry in-region by the RBOCs should not be accomplished by acquiring or controlling existing cable providers. If competition for local services is going to develop, it will be thwarted by the formation of a super-monopoly combination of a local telephone company and a local cable company. Therefore, we support a prohibition on purchase of existing cable systems by the RBOCs entering video services in-region. In that regard, NASUCA opposes the exception in S. 1822 which allows an LEC to obtain a controlling interest in an existing cable system serving places with fewer than 50,000 residents.

NASUCA members think that a competitive telecommunications industry should be employed to deliver on the promise of a high-capacity telecommunications infrastructure. But it is very difficult to predict what shape the broadband services market may take. Given the very high cost of a broadband network, it is not clear how susceptible these services are to effective competition—the market (or its infrastructure) may well have elements of natural monopoly. Given these uncertainties, we think that policy makers should prepare for any of several possible futures in the industry, ranging from full competition everywhere to limited competition with residual market power.

The likely enormous cost of a broadband network, especially in rural areas, means that consumer demand may not support a competitive marketplace. This suggests an exception to the rule concerning joint ventures between LECs and in-region cable companies. Joint ventures between existing cable providers and RBOCs in-region should be permitted for the *construction and operation* of the infrastructure needed for a switched broadband network. But joint ownership of programming and content should not be permitted. Consumers may receive broadband services sooner and at lower cost if the current owners of the two wires (copper and coax) are allowed to build jointly a switched broadband network. If such a joint venture is undertaken in lieu of two-wire competition, the terms and prices of access to the network must remain regulated and the single network must remain a common carrier.

NASUCA emphasizes that merely encouraging competition among video providers does not make it so. It remains quite possible, given the investment required to create a switched broadband video network, that only one provider in an area will continue to provide the service in the long term. There is no guarantee that multiple video carriers will continue in each area and provide competitive video access. Without a common carrier requirement, it is quite possible that the predominant video carrier in an area will apply price discrimination or deny access to disfavored video programmers.

UNIVERSAL SERVICE

NASUCA fully supported the provisions on universal service in the bill as introduced. We agree that the duty to ensure universal service should fall on all telecommunications carriers. Further, the price paid by consumers for basic service should be "just" as well as "reasonable." In that regard, the bill contained important language that the price of local service should contain no more than a reasonable share of joint and common network costs. NASUCA strongly supports this provision. In fact, it is exactly this equitable cost assignment which can keep basic telecommunications services just and reasonable. We suggested that the bill should also make clear that joint and common network costs include loop costs.

The committee version of S. 1822 is changed in three important ways. First, the definition of "universal service" has been made broader and less distinct Second, primary responsibility for determining the extent of universal service has been moved from the states to the federal regulators. Third, the legislation has included the cost of public uses and access by non-profit organizations to the responsibilities for universal service support.

NASUCA is concerned that the goal of universal service has been confused with the drive toward a broadband national network. Lost in the confusion are such im-

portant issues as consumer demand and ability to pay. In part, the threat to universal service exists because some believe the U.S. should make telecommunications expenditures to provide services for which there is insufficient demand. This threat to universal service derives from loading costs for services for which there is insufficient demand onto the price of basic consumer services. "Universal service" is a relatively smaller problem if network costs are correctly assigned and if there is a correct component of consumer demand in infrastructure planning.

Our recommendation is to return to the much more modest, but still extremely challenging, approach found in the original legislation. As introduced, S. 1822 also accorded an appropriate role to the states in the area of universal service.

ELECTRIC UTILITIES

S. 1822 amends the Public Utility Holding Company Act and permits registered electric holding companies to enter telecommunications markets. NASUCA believes that the current barriers to diversification of these holding companies should be maintained and opposes the diversification of registered holding companies into telecommunications.

Despite our serious reservations about this type of diversification at all, we recognize the strong sentiment among some to open telecommunications to these electric companies. For that reason, NASUCA recommends that the legislation be amended to ensure a certain level of consumer protection. Our detailed recommendations are contained in a letter to Congressmen Sharp and Markey which is attached to this testimony.

FEDERAL CONSUMER ADVOCATE

In 1986 NASUCA adopted a resolution supporting the creation of an independent consumer advocate at the FCC for telecommunications consumers. We reassert our support for such an office and note that the need is now greater than ever. Our experience in the states shows that consumer advocates can bring balance to the regulatory process. Given the significant shift in telecommunications regulatory policy toward Washington, we think that the argument in favor of a federal advocate is more cogent than ever.

CONCLUSION

NASUCA members generally supported the approach taken in the major re-write of the Telecommunications Act of 1934 which was introduced as S. 1822. We think that bill balanced a huge number of competing interests, including the interests of consumers, new competitors and the incumbents in the telecommunications industry. We urge policymakers to return to the balance struck in that bill and stand ready to assist in that effort.

ENVIRONMENTAL ACTION,
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS,
NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES,
OHIO OFFICE OF THE CONSUMERS' COUNSEL,
CONSUMER FEDERATION OF AMERICA,
CITIZEN ACTION,
PUBLIC CITIZEN,
GREENPEACE,
September 6, 1994.

Hon. EDWARD J. MARKEY,
Chairman, Subcommittee on Telecommunications and Finance,
House Energy and Commerce Committee,
Washington, DC.

Hon. PHILIP R. SHARP,
Chairman, Subcommittee on Energy and Power Energy,
Commerce Committee, Washington, DC.

DEAR CHAIRMEN: We are writing to inform you of our concern over a Senate bill (S. 1822) to permit electric and gas registered holding companies under the Public Utility Holding Company (PUHCA) to enter the telecommunications business. The proposal places millions of electric and gas customers at risk from a Pandora's box of consumer abuses by companies that possess tremendous market power. Since the

proposal is likely to be negotiated in the House Senate conference on the telecommunications bill, S. 1822 and H.R. 3626, we are asking that you champion much stronger consumer protection measures than those contained in the Senate bill, as you have in the past.

The historic record reveals no benefit to customers from utility attempts at diversification. The industry's experience with diversification has been "horrendous in the aggregate and * * * satisfactory to disastrous for individual utilities." (Charles Studness, Earnings From Utility Diversification Ventures, *Public Utilities Fortnightly,* Sept. 1, 1992) Since shareholders are always free to diversify by buying stock in independent companies, we see no need for exposing ratepayers to new risks by allowing expansion into telecommunications.

Despite our reservations about any diversification at all, Congress appears prepared to remove restrictions on holding company entry into telecommunications. If Congress does move to permit such diversification into new businesses, it must also adopt provisions to ensure the full protection of ratepayers from the risks associated with the greater concentration and abuse of market power and cross-subsidization.

While our primary concerns relate to the risks such diversification will pose to electric and gas ratepayers, we also believe that the alleged environmental benefits of unrestricted energy utility entry into telecommunications have been overstated by utility representatives. The telecommunications infrastructure will likely only be used by utilities for load management. While of some benefit, we are concerned that an emphasis on load management will diminish the opportunity for appropriate investments in energy conservation. Regardless, utilities only need *access* to a minute portion of the infrastructure (not ownership) in order to obtain possible benefits for ratepayers. Diversification into non-utility businesses will also diminish the utility's primary mission of providing least-cost energy service.

Using captive electric and gas ratepayers to subsidize the construction of the information highway infrastructure is exactly what utility executives have in mind. In recent congressional testimony, representatives of registered holding companies unabashedly advocated that utility ratepayers serve as the "anchor tenant" for the construction of the information highway. Paul DeNicola of The Southern Company said that few companies will build fiber optics at the local level "unless they have a predictable source of revenue that supports most, if not all, of the capital cost." Since only one or two percent of the fiber optic network would be used for the benefit of electric and gas customers, using ratepayers as the "anchor tenant" would be like requiring a small coffee shop to fund the capital costs of building a huge shopping mall where high-end retailers will receive most of the profits. Higher rates for captive electric and gas ratepayers will undermine fair competition in telecommunications, serving the utilities' ultimate goal of increasing profits.

If Congress does take the route of allowing registered holding companies to enter the competitive telecommunications business, then appropriate regulatory standards and authority must be adopted to assure full and vigilant protection of captive ratepayers. Any proposed removal of diversification restrictions on registered holding companies must, as a prerequisite, affirm the authority of the Federal Energy Regulatory Commission and state commissions over affiliate transactions, closing the regulatory loophole left by the federal appeal's court decision in *Ohio Power,* S. 1822 mitigates the loophole left by *Ohio Power,* but it fails to fully protect ratepayers from all the risks of diversification.

Specifically, we recommend that the following provisions be added to the Senate language:

- Condition diversification into telecommunications on advance review by the Securities and Exchange Commission and a finding that it will result in a positive net benefit for ratepayers;
- Preserve the role of state regulators to determine for themselves whether individual utilities should enter the telecommunications business (require the State Commission to make an affirmative finding that it has the authority and resources to protect consumers);
- Maintain FERC and state regulatory oversight of cross-subsidization when energy utilities diversify into telecommunications businesses;
- Amend the Senate language [§ 34(d)] to maintain the Securities and Exchange Commission's traditional jurisdiction over "the entering into service, sales or construction contracts * * *";
- Ensure state and federal regulators have access to books and records of the utility, any affiliates and any third party in a joint venture to the extent that access is relevant to protect ratepayers;
- Require an advanced, affirmative finding concerning the effects of the investment on the cost of capital, capital structure, cost of debt and debt ratings;

- Require an affirmative finding by the SEC granting status as an exempt communications affiliate, coupled with an appeal process for those denied exempt status and for those adversely affected by an exemption;
- Explicitly state that consumers of the electric or gas utility affiliated with a communications entity and customers in markets that the communications entity wishes to serve have standing in court to appeal an exemption.

In addition, the interaffiliate pricing standards proposed in the Senate bill fail to ensure fair compensation to utility ratepayers. For example, when the utility is selling assets or services to an affiliate, regulators should ensure that ratepayers receive maximum benefit; the utility should sell the goods or services at the maximum price determined by the market. On the other hand, when the utility is the buyer of an asset owned by an affiliate, the proper formula is the lower of the prudent cost or going market rate.

In conclusion, PUHCA was passed to protect captive ratepayers from abuse by powerful monopolies. Allowing electric and gas utility holding companies entry into the telecommunications business opens a host of new risks to the nation's electric and gas ratepayers. Any modification of PUHCA to remove diversification restrictions on registered holding companies must be offset by strong regulatory standards and increased regulatory vigilance.

We look forward to working with you on this important issue.

Sincerely,

DAVID LAPP,
ENVIRONMENTAL ACTION.

ROBERT TONGREN,
Ohio Consumers' Counsel,
OHIO OFFICE OF THE CONSUMERS' COUNSEL.

DR. MARK COOPER,
CONSUMER FEDERATION OF AMERICA.

ED ROTHSCHILD,
CITIZEN ACTION.

BILL MAGAVERN,
PUBLIC CITIZEN.

JENNIFER BLOMSTROM,
GREENPEACE.

MARTHA S. HOGERTY,
President,
NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES,
MISSOURI PUBLIC COUNSEL.

RONALD E. RUSSELL,
Chair,
ELECTRICITY COMMITTEE,
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS,
Commissioner,
MICHIGAN PUBLIC SERVICE COMMISSION.

RONALD BINZ'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question. Mr. Binz, those who favor preemption of the States in telecommunications matters often assert that State regulators are frequently manipulated or controlled by the local Bell company. What is your reaction or response to this assertion?

Answer. Senator Thurmond, the local Bell companies are very influential with regulators at all levels. Members of my association have certainly had our differences with state and federal regulators, who have, in our view, too often sided with the industry and against consumers.

However, a couple of facts indicate that things may be changing. First, many state regulators are now very supportive of competition, including competition for local service. In this hearing you heard testimony from Commissioner Sharon Nelson, Chair of the Washington Utilities and Transportation Commission. She is exemplary

of a growing number of state regulators who are committed to providing an atmosphere in state regulation which will allow competition to develop.

Second, many of the other players in the telecommunications industry are gaining strength in state regulation and in state legislatures. Alliances of cable companies, long-distance carriers and others are forcing regulators and legislators to consider their interests as actual and potential competitors to the Bell companies. While their positions are not equivalent to the public interest either, their influence is changing the way state regulation is conducted and state law is made.

NASUCA opposes the broad preemption in S. 1822, not because state regulation is perfect, but because it is still the best way that consumer voices will be beard in the telecommunications debate. The concentration of authority at the FCC will not be able to respond to local and state issues which vary from jurisdiction to jurisdiction. We agree that a certain amount of federal preemption is desirable: for example, we support the preemption of state laws which prohibit local competition. However, we think S. 1822 has gone far beyond desirable levels of preemption.

Question. Mr. Binz, in your written testimony you express concern about the current universal service provisions in S. 1822 which now include the cost of public uses and access by non-profit organizations. Could you please explain your position in more detail?

I am concerned that, as the definition of "universal service" in S. 1822 is expanded, the problem of paying for universal service is also growing. NASUCA supports an organic definition of universal service which will grow as consumers have access to more and more services and incorporate them in the notion of what constitutes a level of basic service which all consumers should have. We support the language in the legislation which requires that definition to evolve. But we are urging caution at setting up an impossible goal to meet. Until consumer demand shows itself willing to support the infrastructure investment needed to provide some advanced services, we think it unwise to define universal service too broadly.

In a similar vein, we should recognize that, at some point, we leave the arena of telecommunications policy and regulation and enter the realm of other social policy. Requiring consumers to fund certain other network uses may be desirable social policy. But it is not, fundamentally, a telecommunications issue; it is more akin to taxation. As advocates for ratepayers of telecommunications services, we want to be sure that public policy focuses on this difference and makes explicit decisions to fund such uses of the network, not bury the cost of such programs in basic phone rates.

Question. Mr. Binz, there appears to be general consensus that one of the biggest areas that is in need of competition is the local exchange market. One of the possibilities for additional competition may be electric utilities which are wiring customers for other purposes and have excess capacity which could be used to compete with the local exchange monopoly. Can you explain why you are opposed to utilities using excess capacity to engage in competition?

Answer. NASUCA supports policies to increase competition in the telecommunications industry in ways that benefit consumers. As I said in my testimony, consumer advocates are coming increasingly to the view that competition, better than regulation, will deliver fair prices to consumers.

But we also have a long-standing concern about the ability of certain monopolies, such as electric holding companies, to abuse their status as they diversify their activities. The Public Utility Holding Company Act prohibits registered electric holding companies from diversifying beyond their core business. We think this consumer protection still makes sense.

However, we also acknowledge the strong support for giving these companies an exception to PUHCA for telecommunications investment. If Congress determines to permit such entry, we recommend a strong set of consumer safeguards to ensure that monopoly electric consumers are shielded from the risks of diversification.

Senator METZENBAUM. Thank you very much, Mr. Binz, and, of course, I am very grateful to you for your extremely kind remarks at the opening of your statement. I just want to say everything you said is true. I am only kidding.

Mr. BINZ. I was under oath, Senator.

Senator METZENBAUM. I think we are going to take 10-minute rounds. Senator Leahy will be coming soon. He will be chairing the Subcommittee on Technology and the Law. We have combined the hearing, so we will try to wind this up within a reasonable period of time, hopefully by 12 o'clock.

Ms. Nelson, in your written statement you describe an impressive set of procompetitive accomplishments for which you and other policymakers in the State of Washington deserve considerable praise. Moving an industry from monopoly to competition is no easy task, as we learned with both airline and cable deregulation. That is why I want to make sure legislation designed to promote competition in the telephone industry isn't just a figment of our imagination, but it really gets the job done.

I was impressed by a phrase in your statement. You say you are "promarket, but not laissez faire." What does it mean to be promarket, but not laissez faire?

Ms. NELSON. It means a lot of hard work, a lot of rulemakings, a lot of contested cases. It seems that as the pace of change accelerates in the communications industry, there simply—and it is paradoxical, I know—there simply is more for regulators to do. But the focus of our regulation changes from being the utility regulators of yore, where we set rate of return cases and the companies went out and earned, and we handled some consumer complaints.

Now, we find ourselves refereeing the terms of interconnection, trying to look at prices to make sure that they are aligned by cost; as Mr. Binz indicated, trying to find the right cost allocation and rate design formulas so that appropriate price signals are sent to marketplace actors.

Instead of employing a lot of accountants, we now employ many more economists and policy analysts that help us do our job so that we get those price signals right and we can make the competitive market function as it is intended to. I would say, in a shorthand way, our jobs look more and more like a Federal Trade commissioner's job than what used to be thought of as economic regulation, pure and simple, in the States.

Senator METZENBAUM. Ms. Nelson, I have a concern and maybe you can allay my concern. I have thought of the public utility commissions, or whatever they call them, the regulatory bodies around the country, as in too many instances being too close to the utility companies and having a modicum of concern for the public.

That may be a misperception on my part, but I wonder if both you and Mr. Binz, when we get to his inquiry, will give me some evaluation that you might have as to whether 50 percent of the utility commissions are sort of oriented proutility, 40 percent, 90 percent. It is only a guess, I know, but what is your opinion?

Ms. NELSON. Well, thank you, Mr. Chairman, for giving me that question, kind of a high, soft ball, and I am glad to throw it back. I wanted, too, to associate myself with all the previous speakers' remarks about our high opinion of you, and I would hope that some day you might have a high opinion of the State regulatory community.

Senator METZENBAUM. I am not saying I don't. I would like you to assuage my concerns.

Ms. NELSON. I attached to my written testimony exhibits showing the—and it is really rough, but what is going on in the various States. As I say in the testimony, we assess that 80 percent of the States are really on the track that has been set in New York and Illinois and Florida and California and Washington of trying to manage this transition.

I have served as president of our national association and I would really say that, yes, when I was a member of the Commerce Committee staff, State regulators had a reputation of being really proutility they regulated. George Stigler won a Nobel Prize in Economics for discerning the sort of the iron triangle of regulation where the regulators become captive of the industries they regulate, rather than the other way around. That, I think, was true for a time in the history of regulation in the country, or could have been a good accusation.

But, certainly, my own experience in the last 9 years on the Washington Commission is that I find State regulators are really up to the job. They are dedicated and committed to the public interest that they serve and they have the consumers' interests at heart. Surely, they are far more accountable to people like Ron Binz at the local level than we find our Federal counterparts are here in Washington.

We do have consumer advocates that appear before us. We do have staff represented by the attorneys general of the various States who keep us with our eye on the ball, I think, and I think you could rest assured that if we returned to the bill as introduced, the States could do the job of opening their markets to local competition.

Obviously, Senator Hollings had a little bit of your concern because he put a hammer in there. If we didn't do so in a time certain, then we would be preempted, and that was the position we endorsed as this bill was introduced and as hearings were had in the Commerce Committee.

Senator METZENBAUM. Mr. Binz, how would you evaluate the position of the utility commissions throughout the country? They are not all the same. They are all appointed, most of them, politically. Some, I guess, are elected. But would you say that they are pretty balanced as far as being proconsumer, proutility? What would you say?

Mr. BINZ. Senator, I would say that there is a lot of variability in State commissions. A given commission may be good for a period of time, with strong leadership, and that may lapse at other times only to be replaced by someone else. So there are a lot of stories out there.

The thing I would observe about State utility commissions that is important and really relevant for this legislation is they were once described—the States were once described, I believe, by Justice Brandeis as laboratories, places where new ideas are tried out, experiments are done. Unfortunately, some people have taken that and turned into sort of a negative, that they are just laboratories and they don't have touch with reality. Well, that is the exact opposite of our experience.

Public utility commissions are very much in touch with the consumers in their States, with the lawmakers in their States, with the consumer advocates in their States. Although, to be sure, we don't always agree with the results that we get from them, at least we have an opportunity for hearing. We get to make our case before the State regulators.

Maybe one example I can give you that you are probably all familiar with, because I know some of this bubbled up to Congress,

was this whole issue of privacy and Caller ID. How do you handle conflicting industry and consumer issues like that? Fifty States and the District of Columbia worked out solutions in their States which are different across the States. This bill would wipe out all those differences by saying you can't have solutions like that which are inconsistent with Federal regulations for these carriers. So it is that sort of uniformity which is going to eliminate much of the very creative work done by State regulators.

Let me just conclude. I know, Senator, you are also interested in this issue of State regulators and whether they favor competition. There has been a very strong shift, and I would say in the last couple of years, especially, both among regulators and among consumer advocates to understand that no amount of regulation of the price of phone service is going to be superior to head-to-head competition between carriers. We all endorse that, and barriers to that kind of entry are falling right and left in the States.

Senator METZENBAUM. Let me ask you one last question, Mr. Binz. There has been a lot of hype about the so-called information age surrounding this legislation. Frankly, I am not sure the average consumer or anyone else, for that matter, except some specialists, knows what the information age will bring.

Given your background representing consumers' interests, what do you think consumers really want from communications policy, and how does the Hollings bill need to be changed to meet consumers' needs?

Mr. BINZ. Senator, I talk to consumers a lot about this. I serve on planning committees in the State of Colorado where answers to that exact question are being sought. My experience with consumers is, first, they have a visceral and a strong opposition to monopoly. Probably even when it suits their interests, they have an opposition to monopoly.

My first observation is that consumers want choice. They want competitive suppliers providing alternatives to them. The second is, and this comes along with the territory, they want fair prices for service, and in service to that they will either rely on regulators to provide it or they will rely on competition to provide it.

Your question suggests my third point. I think consumers have a fairly fuzzy vision of what the future holds. They are, in my view, quite put off by the hype that attended what has now become known as the information superhypeway.

Consumers want real services that treat their needs today, and I think that we don't want to overrun our headlights with Federal policymaking. We want to stay on a course which allows us to plan for a realistic future, driven in large part by consumer demand, not on the plans of large telephone companies or, for that matter, Federal or State bureaucrats, in terms of what actually gets built.

Senator METZENBAUM. Mr. Binz, are there significant dangers to consumers if the local Bell telephone companies are allowed into the long-distance business before they face real competition in their local phone markets?

Mr. BINZ. Yes. I think I said that in my opening statement. NASUCA's official position on this is we concur with the status quo in Judge Greene's court with respect to entry. We think that local

competition ought to precede entry into these competitive marketplaces.

We are also realistic. We understand that there is a move to open these markets to the Bell companies. Our response is, if you are going to open these markets before competition does your work for you, you have got to have clear, unequivocal and enforceable consumer protections. We think there is a long way to go before S. 1822 fills that bill.

Senator METZENBAUM. Ms. Nelson, the Hollings bill included a broad universal service program to subsidize all kinds of services for a wide variety of people and institutions. I was frankly surprised the bill did not focus on the most obvious group of people who need help to receive essential, basic phone service, the poor.

Would you agree with Mr. Irving, as well as the Chair, that the Federal Government should take care of necessities like basic phone service for low-income families before it considers broader subsidy programs for less needy individuals and institutions?

Ms. NELSON. Yes, Senator. As I indicated in my written testimony, we have just been puzzled by the set-aside of new and available, some-5-percent band width, which we are not even sure how one measures, for certain nonprofits. I think your priorities are absolutely right. The FCC has tried to deal with its linkup and its other lifeline programs, but they certainly could be looked at and we certainly haven't achieved the universal service goals in many segments of our society that we regularly hear about; that is, that 93 percent for the national average. I certainly think it is something we should be taking a look at and working with the States and the FCC on trying to upgrade.

Senator METZENBAUM. Thank you very much, Ms. Nelson, and thank you, Mr. Binz.

Senator Leahy has indicated that he is not in a position, due to some situation that has just developed—he has an important meeting now, but he will announce as soon as possible when he will reconvene the committee to hear the final panel in this hearing.

I want to thank all of the witnesses who participated today, and I do hope that the lobbyists did very well in my requiring them to show up at this hearing today. I am always interested in stimulating the economy. I think we did a lot for it today.

With that, we will conclude this hearing. Thank you very much.

[Whereupon, at 11:40 a.m., the subcommittee was adjourned.]

APPENDIX

ADDITIONAL SUBMISSIONS FOR THE RECORD

U.S. TELEPHONE ASSOCIATION,
Washington, DC, August 26, 1994.

Mr. GENE KIMMELMAN,
Hon. HOWARD M. METZENBAUM,
U.S. Senate, Washington, DC.

DEAR GENE: On August 11th the Senate Commerce Committee approved S. 1822, The Communications Act of 1994. We continue to support the effort to pass comprehensive telecommunications legislation this year. However, S. 1822 in its current form is still seriously flawed.

USTA, which represents over 1,000 local phone companies, cannot support the bill as currently written. It is clear to us that many substantial problems outlined in the detailed USTA response issued to the Commerce Committee in March have not been resolved. Moreover, a number of new burdensome requirements have been added to the bill—including many requirements that have not been discussed at any of the nine hearings the Committee held on the proposed legislation.

UNIVERSAL SERVICE JEOPARDIZED

The maintenance of our tradition of universal telephone service is perhaps the most important aspect of this bill. We at USTA believe that this tradition must not be undermined in the transformation from a utility-based model of providing phone service to a competitive model. However, our judgment is that the bill approved by the Commerce Committee seriously jeopardizes the economic basis for the maintenance of traditional universal service. In this regard the bill seems to take significant steps backward from the bill as introduced.

Specifically, telephone service is currently priced on the assumption that the local telephone company will raise enough money from business users to subsidize residential and rural consumers. Studies indicate that this internal contribution is worth $20 billion a year.

Although the bill specifically has a section entitled "All Telecommunications Providers Contribute," that section says that telecommunications *carriers* shall have the obligation to contribute. "Telecommunications carrier" is defined in the bill as the provider of a service that is "offered to the general public." Competitive Access Providers (CAPs) such as MFS, Teleport, etc. make their money specifically by *not* making their service generally available to the "general public," but rather by offering a specialized service to the most profitable business customers and not providing service to residential customers.

Hence these CAPS, when they serve only their business customers—and not the "general public"—are *not telecommunications carriers* as defined in the S. 1822, and therefore are not required to contribute to universal service. It is *precisely* these highly profitable companies that are most critical to the success of a universal service fund. Under S. 1822, these opportunistic companies, and others which choose to target only specific, highly profitable sectors of a community, and not the general public, will grow rapidly but may never be required to contribute. Without truly universal contribution the fund is doomed to fail, and the economic basis of universal service as we know it will also fail.

In addition, if we are not able to maintain adequate economic support for traditional universal service, any hope of expanding that concept to new information age services will also perish.

"CARRIERS OF LAST RESORT" DEFINITION FLAWED

A similar problem is raised by the way the bill has configured the potential recipients of universal service funds. S. 1822 makes a substantial improvement in that it clearly indicates that *only* "carriers of last resort" should be eligible for universal service funding and infrastructure sharing. However, the provision is dangerously undermined by allowing "resellers" of local service to receive a subsidy.

The carrier of last resort has traditionally been understood as the carrier that actually has *facilities* with which to serve their customers. USTA member companies have historically shouldered the burden of agreeing to wire virtually any home in the country so that there would always be a facility for phone service. In return, we were granted franchise rights and lived under heavy regulation intended to keep phone service affordable for all.

We have all agreed that with the advent of new technology, these "natural monopolies" must be reconsidered. USTA accepts the notion that other carriers, including cable companies, electric utilities or wireless providers, could, under proper circumstances, become practical alternatives to local exchange companies as "carriers of last resort."

We have accepted this notion with the understanding that should another carrier wish to take on the burden of "wiring the last mile" and providing service under appropriate regulation they would get the benefits of universal service (such as support from universal service). At the same time the local telephone company would be relieved of its burden of providing the facilities for universal service, and would no longer be regulated as such.

However, S. 1822 expands the notion of carrier of last resort to include resellers of service provided over our network. This creates the scenario that a carrier could come into our service area and compete without building facilities at all. This reseller would, under S. 1822, be eligible for funding from the universal service pool and infrastructure sharing. The notion of multiple carriers of last resort is contradictory, but to allow a company to receive a competitive subsidy without providing end-user facilities is clearly not appropriate public policy.

This notion could necessitate a vast expansion of the fund, well beyond the $20 billion contribution telephone carriers currently make to maintain universal telephone service as we know it. Allowing resellers to be "carriers of last resort" would also create an unfair competitive situation for all local telephone companies.

Finally, we should remember that one of the prime purposes of this legislation is to build the "information superhighway," that is, to build a modern telecommunications infrastructure. Allowing resellers of service, who by the very nature of their business, do not build facilities to the customer, to receive subsidies will do nothing to encourage the building of new infrastructure. This is particularly troubling in rural areas.

CABLE

During the past year several courts have found that the 1984 Cable Act, which prohibits telephone companies from providing video services, violates the First Amendment. We expect the Supreme Court to rule definitively on this issue in the near future and are confident that the Court will find that this outmoded act should be struck down.

Nevertheless, USTA would prefer to reach a legislative resolution to this issue. Unfortunately the cable provisions of S. 1822 would, as a practical matter, delay the ability of local telephone companies to enter the cable business well into the next century. *The problem with this delay is compounded by the fact that cable companies would be able to enter the local phone business one year after enactment of the bill.*

In addition, the regulatory burdens for cable companies providing telephone service, and telephone companies providing video service are different, with significant advantages being given to the cable monopolies. For example, while telephone companies must "ballot" their telephone service (i.e. take a vote among their customers as to whether they would prefer their phone service to come from their cable company or their phone company) there is no similar requirement for the cable companies to "ballot" their customers regarding cable service. Also, while both cable and telephone companies must erect separate subsidiaries to provide new services, the telephone companies have more stringent requirements for their separate subsidiary than their cable competitors. And, while local telephone companies are restricted in their use of valuable Customer Proprietary Network Information (CPNI), cable companies have no similar restrictions. Thus, cable companies have a further competitive advantage.

PUBLIC ACCESS REQUIREMENTS

S. 1822 has two separate sections on public access requirements. USTA, in its testimony on this issue before the Commerce Committee, agreed that some competitively neutral public access requirements may be in order. Some of the requirements in the bill are not only bad public policy, they are probably unconstitutional.

Specifically, there is a requirement that owners and operators of telecommunications networks such as local telephone companies turn over 5 percent of their network to a wide variety of entities for their use at incremental, or virtually no cost. Interestingly, *cable companies are excused from this obligation.*

USTA believes that a more reasonable approach is to rely on the public access requirements modeled on the "Farm Team" amendments championed by Sens. Dorgan, Exon, Pressler, Kerry (NB), Stevens, and Rockefeller. We also believe the public access requirements should be the same for all providers of like services.

BALLOTING, PRESUBSCRIPTION AND DIALING PARITY

Among the new issues added to S. 1822 at Committee mark-up are requirements for all local telephone companies to comply with requirements for balloting, presubscription, and dialing parity—in effect, applying the same procedures used in the middle 80's to select a long distance company. These mandates are highly controversial and poorly understood. Because there were no hearings on these proposals, there is no way to know how these new requirements will affect their local phone companies and their customers and employees. For example, it is estimated that balloting alone could cost local telephone companies millions of dollars.

While the Bell Operating Companies agreed to accept these requirements as a condition precedent to their offering long distance service, USTA opposes the placing of these requirements on the 1,300 other local telephone companies.

OTHER PROBLEMS

There are a number of other issues that USTA believes must be addressed. These include the following:

- USTA's proposed safeguards necessary to allow the Bell Companies into long distance service have been omitted from the bill.
- There is substantial regulatory disparity between USTA members and our competitors with regard to issues such as cable, CPNI, cost allocations and number portability.
- As a practical matter, the bill reverses the current trend toward incentive regulation by reinforcing cost allocation policies designed to regulate telephone companies in the pre-competitive era.

EXCESSIVELY REGULATORY

As a result, the bill is excessively regulatory. There are about 50 new regulatory proceedings required under this bill. In addition, significant authority, currently the responsibility of the states, will be transferred to the federal government. We find this particularly curious since the advent of a competitive market in telecommunications should reduce, not increase, the regulatory burdens our companies would have to endure, whether at the federal or state level.

USTA believes the problems outlined above will seriously jeopardize the ability of our 1,059 member companies to make a contribution to the development of the information superhighway. Worse, if these issues are not resolved, the legislation represents a step backward for local companies and the universal telephone service they have worked so hard to ensure over the past 60 years.

However, we also believe that there are practical alterations that can be made to the bill that would resolve our difficulties in time for enactment this year. The "Farm Team" Senators I referred to above were able to make significant improvements to the bill prior to Committee consideration. However, given the breadth of problems remaining in S. 1822, your help is greatly needed to improve this critical legislation this year.

USTA has sponsored several briefings on this legislation in order to keep your staff apprised of the issues and we will continue to work with you, and your staff as we move forward. All USTA companies—small, mid-size, and large—remain committed to a constructive partnership to make comprehensive legislation a reality this year. Thank you for all your help in the past—we are looking forward to working with you as this legislation progresses.

If you or your staff have any questions regarding our position on S. 1822, please call me, Ward White, or Larry Clinton at (202) 326–7300.

Sincerely,

ROY M. NEEL,
President and CEO.

AMERICAN LIBRARY ASSOCIATION,
Washington, DC, September 1, 1994.

Hon. ERNEST HOLLINGS,
Commerce, Science and Transportation Committee,
U.S. Senate, Washington, DC.

DEAR SENATOR HOLLINGS: We are pleased to see that S. 1822, the Communications Act of 1994, as approved by the Commerce, Science, and Transportation Committee on August 11, takes significant steps toward protecting public access to advanced telecommunications services through libraries and educational institutions. The bill achieves this in sections 103 and 104 by combining provisions originally in S. 1822 as introduced by Senator Hollings with concepts from S. 2195, the National Public Telecommunications Infrastructure Act of 1994, as introduced by Senator Inouye.

We would oppose an attempts to remove these public access sections from the bill. Nevertheless, some anomalies remain and could prevent section 103, Public envisioned. These shortcomings could be corrected through report language, technical amendments on the floor, or in conference with the House-passed H.R. 3626. Our recommendations and comments are geared to these two sections of S. 1822.

SECTION 103, PUBLIC RIGHTS-OF-WAY

CAPACITY LIMITATION. S. 2195 provided for reservation of up to 20 percent of capacity at no charge to the eligible entities using this capacity for public purposes. Such users would pay incremental costs under the Committee substitute for S. 1822. Incremental cost is a very meaningful form of preferential rates, but given the change from free to incremental costs, a limitation of 5 percent of capacity seems inappropriate. Retaining the flexibility to make capacity reservation decisions on a technology by technology basis may be a more sound approach.

RECOMMENDATION: Delete the 5 percent of capacity limitation.

PUBLIC USE LIMITATION. Under section 103, reserved capacity at incremental rates must be used by eligible entities for provision of educational, informational, cultural, civic, or charitable services directly to the *general* public. For the most part, educational institutions do not serve the general public, but serve a student body, teachers, and faculty. Educational institutions are one of the major eligible entities, but this language makes it more difficult for them to benefit from it.

RECOMMENDATION: Amend the bill to substitute "* * * must be used by eligible entities for educational, informational, cultural, civic, or charitable services provided to the publics served by the eligible entities, and may not be sold, resold * * *." REPORT LANGUAGE RECOMMENDED IF BILL NOT AMENDED: "The Committee intends that such reserved capacity will meet these requirements if the services are provided to the publics served by the eligible entities."

SECTION 104, PUBLIC ACCESS

HIGHER EDUCATION OMISSION. This section requires that within a year of enactment certain public institutional telecommunications users must be provided with universal service, and separate definitions of universal service may apply to them. These entities include public or nonprofit libraries, and accredited elementary or secondary schools open to the public, but not higher education institutions.

RECOMMENDATION: Amend the bill to include in section 104 educational institutions at all levels as eligible entities. Use the same definitions as in section 103 (elementary and secondary schools as defined in section 1471 of the Elementary and Secondary Education Act, and institutions of higher education as defined in section 1201 of the Higher Education Act).

REPORT LANGUAGE RECOMMENDED IF BILL NOT AMENDED: "The Committee intends that schools open to the public be defined to include elementary and secondary schools as defined in section 1471 of the Elementary and Secondary Education Act, and institutions of higher education as defined in section 1201 of the Higher Education Act."

PREFERENTIAL RATE DEFINITION. Without clarification, the definition of "preferential" rates is open to subjective interpretation. To clarity its intent, and for

consistency, the definition of preferential rates in section 104 should be the same as that in section 103—incremental cost based rates (no more than the directly attributable cost of the service) available to all eligible entities (not "some or all").

RECOMMENDATION: Revise new subsection 201C(c) to read: "Notwithstanding sections 202 and 230, the guidelines promulgated under subsection (b) shall require telecommunications carriers to offer specific telecommunications and information services, including advanced services, at incremental cost based rates set at no more than the directly attributable cost of the service to all of the public institutional telecommunications users to which this section applies."

REPORT LANGUAGE RECOMMENDED IF BILL NOT AMENDED: "The Committee intends that when the Commission establishes rules to require preferential rates, it defines such rates as incremental cost based rates set at no more than the directly attributable cost of the service."

AGGREGATION RESTRICTION. Eligible public institutional telecommunications users would be prohibited from aggregating telecommunications services under new section 201C(d). We are concerned that this restriction could apply to consortia of educational institutions and/or libraries. Such a constraint on aggregation could affect management structures and cooperative activities developed to provide important management, resource sharing, training, and technical support functions for eligible institutions.

RECOMMENDATION: Add report language as follows—"The Committee does not intend the prohibition on aggregating telecommunications services to affect consortial or cooperative activities among or on behalf of educational institutions and libraries. The Committee recognizes that such consortial and cooperative activities and arrangements provide important management, resource sharing, training, and technical support functions for eligible institutions."

Sincerely,

CAROL C. HENDERSON,
Executive Director,
WASHINGTON OFFICE, AMERICAN LIBRARY ASSOCIATION.

FRED W. WEINGARTEN,
Executive Director,
COMPUTING RESEARCH ASSOCIATION.

JOHN HAMMER,
Director,
NATIONAL HUMANITIES ALLIANCE.

DUANE E. WEBSTER,
Executive Director,
ASSOCIATION OF RESEARCH LIBRARIES.

PEGGY FALKENSTEIN,
Chair,
INSTRUCTIONAL TELECOMMUNICATIONS COUNCIL.

CONSUMER FEDERATION OF AMERICA,
Washington, DC, September 19, 1994.

Hon. ERNEST F. HOLLINGS,
Senate Commerce, Science and Transportation Committee,
Washington, DC.

DEAR CHAIRMAN HOLLINGS: As strong supporters of S. 1822 since its introduction at the beginning of this year, we are alarmed by many of the changes made to the legislation as it moved out of Committee. The pro-consumer, pro-competition nature of the bill has been seriously weakened. While we remain committed to passing comprehensive, pro-consumer, pro-competition telecommunications legislation, there are a number of areas where we believe the goals of this legislation are now compromised.

I. WEAKENED ENTRY TEST HIGHLIGHTS THE NEED FOR POST ENTRY SAFEGUARDS

Actual competition in all telecommunications markets provides the best consumer protections. It is competitive pressures which will reduce prices and lead to more innovations. We cannot arrive at a competitive market until the local monopoly is broken, and there are no more "gatekeepers" to the home.

We were disappointed to see the legislation move away from the actual and demonstrable competition in the local market standard to a weaker one. The result is very little protection for consumers and competitors from monopolistic abuses prior to entry into competitive markets by the Bell companies. In light of this significant change, we have called for greater "back door" protections. That is, post entry safeguards as the next best way to protect against anti-competitive behavior. While there was significant bi-partisan support on the committee for such a change, it did not get into the version of the bill that was voted out of committee.

Post entry safeguards, based on the safeguards that were freely negotiated by the Bell companies and the publisher for the electronic publishing section of the bill should be extended to the rest of the industry if consumers are to be adequately protected and competition is to develop swiftly. The anti-competitive and anti-consumer behavior stems not so much from the nature of the competitive business, but rather from the monopolistic nature of local service. The way to protect consumers and competition is to deal with the monopoly behavior. S. 1822 fails to do so in a comprehensive manner and universal safeguards based on those currently in place for electronic publishing would represent a significant step to remedy this problem.

II. STATES MUST RETAIN ROLE AS CONSUMER PROTECTORS

Traditionally, States and their regulators have been an important partner with federal authorities in protecting telephone ratepayers from monopoly abuses. Indeed, the states are often more responsive to concerns raised by their citizens. The original version of S. 1822 recognized this fact and created a reasonable balance between the need for a universal set of basic telecommunications services across the country while permitting states to deal with their unique and specific needs. We termed the original approach "preemption with a velvet glove." That is, give the states the first opportunity to meet the requirement of the federal law and if they fail to do so after a reasonable amount of time, have the federal authorities step in. This approach is equally appropriate for universal service as well as the competition issues.

As voted out of the committee, the states have been virtually cut out of the process altogether. In essence, the state utility commissions, many of which have nearly 100 years of experience in dealing with these issues are being bypassed. Furthermore, the FCC or a joint board will not know the nature of the different local markets like the state authorities do. This will lead to an overburdened, under-equipped FCC dealing with thousands of different local markets about which they have little or no experience. The states should maintain their primary role for regulating local telecommunications services.

III. GROSSLY EXCESSIVE RATES ARE INEVITABLE IF BROADBAND REQUIREMENTS ARE RETAINED

S. 1822 has moved from a bill which created a sensible floor for basic universal service to one which gives the federal authorities the ability to require deployment of the most expensive broadband technologies regardless of cost or consumer demand. Requiring full broadband deployment across the country may carry a price tag in excess of $500 billion. S. 1822 would give the FCC or a joint board the authority to allow the telephone companies to recover virtually all of this money from its captive local customers. The result would be grossly excessive rates at a time when the cost of providing basic local telephone service is declining ever more rapidly, This is fundamentally unfair, anti-consumer and anti-competitive.

It is anti-consumer because captive ratepayers are being required to pay for a host of new services that they may not want and may never use, This is anti-competitive, because it permits the monopoly company to offer what should be a competitive service at below competitive prices. Any competitor who does not maintain a monopoly somewhere will be forced to offer the service based on actual costs.

The fact is the current telecommunications network has twice as much capacity as is currently necessary for local telephone service. Local service is not driving the investment. Rather it is so-called competitive services which are pushing the telephone companies and cable companies to upgrade their networks and therefore, those services should bear the costs of the upgrade.

S. 1822 retained some critical language regarding just, reasonable and affordable rates for basic service and reasonable cost allocation based on the demands a service puts on the network, However, the broadband incentive language, especially found in the infrastructure investment sections of the bill, and the authority granted with it puts these responsible principles of public policy at risk. Broadband technologies

should not be deployed if it will create an unfair burden on captive local telephone ratepayers.

IV. CABLE/TELCO BUY-OUTS MAY LEAD TO ONE WIRE WORLD FOR AT LEAST 60 PERCENT OF THE COUNTRY

S. 1822 now contains a provision which would permit a local telephone company to buy out an in-region cable company if the community being served contained less than 50,000 people. According to 1993 Statistical Abstract of the U.S. this would include 60 percent of the population. Furthermore, the bill would allow the FCC to increase the limit to communities of less than 100,000. If the goal is to bring competition across the country, the buy-out provision in S. 1822 must be eliminated.

Unless a company is in economic distress and a community would lose all service, there is no valid public policy reason for allowing the local monopoly telephone company to buy up the local cable operator. It is the cable operator who many believe is in the best position to offer competition to the local telcos. S. 1822 would make local competition *less* likely than it is today. While permitting buy-outs may allow cable operators to cash their investments at high prices, it will surely be at the expense of captive consumers pocketbooks. This provision should be eliminated.

V. MAKE TELEPHONE SERVICE TRULY UNIVERSAL

While we are doing well as a country for hooking up consumers, there are still far too many households without access to telephone service. The number of unserved households is much higher in minority and rural areas. In most cases, the wire passes their house, but they simply cannot afford the service. In response, programs like Lifeline and Link-up were created. Unfortunately, only about half the states have these programs in place. Of those that do, many have made eligibility requirements so great that they are not used.

While Congress re-writes the entire telecommunications law for this country and talk about bringing all types of new technologies to market, it would be a mistake not to take advantage of this opportunity to improve and expand the lifeline program. This legislation should bring lifeline programs to states currently without them and eliminate the artificial barriers that make using these programs in many states virtually impossible.

VI. CONCLUSION

This legislative effort should not be viewed simply as a battle between the RBOC's and the long distance companies or the cable industry. The fundamental goal of this legislation must be to serve the public interest. It is not good enough the cut a deal that satisfies the different sectors of the industry, or that leaves each sector equally unsatisfied. The public interest is only served when telephone rates are kept as low as possible and the transition from a monopoly market to a competitive one is not financed on the backs of captive customers.

Very truly yours,

BRADLEY STILLMAN,
Legislative Counsel.

September 16, 1994.

Hon. PATRICK J. LEAHY,
Chairman, Technology and the Law Subcommittee,
Senate Judiciary Committee, Washington, DC.

DEAR CHAIRMAN LEAHY: We understand that you are considering amendments that will affect the interoperability portions of the Communications Act of 1994 (S. 1822), and will add a new title to the bill intended to parallel Section 405, "Interactive Services and Critical Interfaces," of H.R. 3626. We wholeheartedly support the goals you have identified—protecting intellectual property rights and promoting an "unbundled" NII; however, we don't believe the language under consideration truly achieves these goals.

We have several serious concerns about the language you are considering for these amendments. First, the omission of "interoperability" and "interoperable systems" seriously changes the intent of the language. These word changes in key sections of the legislation, such as the Public Access section, are extremely troubling. We believe interoperability is a key element to the successful development of the NII. Each of the pieces of the NII must be able to communicate with the other pieces, that is, to interoperate. Interoperable systems allow everyone with access to

be both information consumers and information providers. This increase in the multitude of information sources means increased competition and choice on the NII. All the signers of this letter agree that interoperability is a word that means access and choice—we have not been able to identify another word that means quite the same thing.

We are also concerned about aspects of the proposed amendment language that would limit the scope of the FCC study called for in the House passed language. As indicated by the House language, the intent of the study would be to determine the points at which critical interfaces exist, which if any of these interfaces should be made open, and to determine the costs and benefits of open interfaces to all of the potential users of the NII. The addition of language in the Senate bill that would limit or specify the interfaces that the FCC should study would defeat the intent of the House passed language.

In addition, the definition of telecommunications used in the proposed amendment language, which covers only devices and/or services "essential" to transmission, differs from the definition currently used by the FCC, which encompasses devices and services "incidental" to transmission. This one word creates a significant distinction. In a world that has multiple information devices able to perform the same or similar functions, would any one of them be deemed "essential"? This change could greatly limit the role of the FCC to monitor the issues of access and competition as the NII develops. This does not mean that we seek government mandated standards for the NII, rather we view the government as playing a legitimate oversight role to set the guidelines which standards should meet.

Our support of interoperability is based on our desire to maximize what we can each gain from the NII. The high tech firms listed below support the House approach because they believe government oversight—not government standards setting—will help ensure an expanding, competitive market where interoperable products will flourish. The consumer and public interest groups believe that the House effort will help guarantee that all users of the NII have an opportunity to gain access to a wide variety of products and services at fair prices. The entrepreneurs and small software firms, believe that an interoperable NII based on open interfaces will help facilitate conditions under which they are able to sell their products to the largest possible market without being beholden to one, or even a few, gatekeepers that could control access to the market. This doesn't change the fact that we all support intellectual property protection for original works, and none of us wish to undermine the legitimate intellectual property rights that NII product and service providers will establish.

We applaud your goals of protecting intellectual property and promoting unbundling. At the same time, we urge you to very carefully craft any amendment language to also acknowledge the importance of interoperability. We also urge you to avoid limiting the scope of the FCC study to a few predetermined interfaces, without acknowledgement that additional critical interfaces may exist or evolve.

We would welcome the opportunity to discuss these matters with you further.

Sincerely,

ACCOLADE, INC.
BULL HN INFORMATION SYSTEMS INC.
CENTER FOR MEDIA EDUCATION.
CENTER FOR THE STUDY OF RESPONSIVE LAW.
CONSUMER FEDERATION OF AMERICA.
ORACLE CORPORATION.
SOFTWARE ENTREPRENEURS FORUM.
STELLAR ONE CORPORATION.
STORAGE TECHNOLOGY CORPORATION.
SUN MICROSYSTEMS, INC.
3COM CORPORATION.

COMPANY AND ORGANIZATION PROFILES

Accolade, Inc. (San Jose, California) is an entertainment company that creates, markets and distributes interactive entertainment software products for personal computers and video game systems. Established in 1984, Accolade products are currently available in over 40 countries around the world.

Bull HN Information Systems Inc. (Billerica, Massachusetts) provides information systems and services to customers around the world. Its offerings include systems integration, software and hardware using both open and its own GCOS operating systems, and comprehensive professional services and support. The company is a globally acknowledged leader in transaction processing systems, multi-processing, database management, artificial intelligence and multimedia technology. Groupe Bull, which includes the companies Bull HN, Bull S.A. France, Bull Europe, Bull Systems Products Division and Zenith Data Systems, has a presence in more than 100 countries with combined revenues of approximately $6 billion. Bull is one of the world's top integrators of information technologies.

The *Center for Media Education* is a 501(c)(3) nonprofit organization, founded in 1991 to promote the democratic potential of the electronic media. The Center's Future of Media Project is dedicated to fostering a public interest vision for the new media and information superhighway of the 21st century.

The *Center for Study of Responsive Law* was founded by Ralph Nader in 1968. The Center advocates consumer interests in the telecommunications policy area, as well as a range of other public interest issues.

The *Consumer Federation of America* is a non-profit association of 240 pro-consumer groups, with a combined membership of 50 million people, that was founded in 1968 to advance the consumer interest through advocacy and education.

Oracle Corporation (Redwood Shores, California) is a leading supplier of information management software and services. Oracle provides the software backbone to enable rapid access to large amounts of digitized text, image, audio and full-motion video. Oracle software runs on personal digital assistants, PCs. workstations, minicomputers, mainframes and massively parallel computers. The company's products and related consulting and training are available in 93 countries. Annual revenues exceed $2 billion.

The *Software Entrepreneurs Forum* consists of over 1,000 software entrepreneurs and developers.

Stellar One Corporation (Seattle, Washington) is heavily involved in set-top box technology. Stellar has teamed with Adaptive Micro-Ware, Inc. of Fort Wayne, Indiana for the design and delivery of set-top units.

Storage Technology Corporation (Louisville, Colorado) designs, manufacturers, markets and services information storage and retrieval subsystems for enterprisewide computer systems and networks worldwide. The company, founded in 1969, reported revenue of $1.4 billion in its fiscal year ended December 31, 1993. Its flagship product, the 4400 Automated Cartridge System (ACS) library, holds more than 80 percent market share worldwide for automated computer tape libraries. One library, using presently existing technology, can store approximately 1 terabyte of data—the equivalent of 5,000 years of *The Wall Street Journal.* Future technology advances will increase library storage capacity.

Sun Microsystems, Inc. (Mountain View, California) is comprised of an integrated portfolio of businesses that supply distributed technologies, products and services. Its innovative, open client server computing solutions include network workstations and multiprocessing servers, operating system software, silicone designs and other value added technologies. The company, founded in 1982, has grown into the world's leading supplier of workstation computers. Currently ranked 120 on Fortune's list of the 500 largest industrial companies, Sun's annual revenue is almost $5 billion, employing roughly 13,000 worldwide. A major exporter, Sun derives approximately half of its revenue from sales outside the United States.

3Com Corporation (Santa Clara, California) is a leading independent global data networking company. 3Com designs, manufactures, markets and supports a wide range of networking systems based on industry standards and open systems architecture.

COMPETITIVE LONG DISTANCE COALITION, INC.,
Washington, DC, September 19, 1994.

Hon. HOWARD METZENBAUM,
Subcommittee on Antitrust, Monopolies and Business Rights,
U.S. Senate, Washington, DC.

Hon. PATRICK LEAHY,
Subcommittee on Technology and the Law,
U.S. Senate, Washington, DC.

GENTLEMEN: Thank you for your interest in the issue of how best to enhance beneficial competition in local and long distance telephone markets, and for scheduling your upcoming hearing on S. 1822. I am writing in advance of the hearing, to sum-

marize the views of the Competitive Long Distance Coalition, an alliance representing more than 500 long distance companies that has been quite active in this debate.

The long distance industry has made clear its continuing and strong support for S. 1822, and the bill's ultimate aim—to ensure that local markets are competitive before the Bell Companies are allowed into long distance.

We start with the fact that when it comes to local telephone service, the Bells are the only game in town. FCC Chairman Reed Hundt and Assistant Attorney General Anne Bingaman testified to this same effect in hearings before Congress earlier this year. The Bells' local monopoly gives them both the incentive and the capability to compete unfairly in adjacent markets, such as long distance. Indeed, the Bells have engaged continually in anti-consumer and anti-competitive business practices since the divestiture.

S. 1822 is landmark legislation that is designed to end such practices and open all telecommunication markets to competition. Three sets of provisions in this bill are important.

First, S. 1822 seeks directly to promote local competition by:

- Preempting state and local barriers to entry into local telephone markets;
- Requiring all local exchange carriers (LECs) to provide competitors with nondiscriminatory access on an unbundled basis to all facilities, services and data bases; requiring LECs to ensure that consumers can use the same dialing techniques ("dialing parity") to reach telephones on competing local exchange networks, and on networks of competing providers of intraLATA toll ("short-haul" long distance) service;
- Requiring LECs to permit customers to keep their local telephone numbers if they choose to switch local carriers; and
- Ensuring that consumers have the opportunity to select their LEC by means of balloting and presubscription process.

Similar competitive safeguards were applied to AT&T at the time of divesture and were instrumental in encouraging the vigorous competition that has developed in long distance. Ensuring dialing parity for intraLATA toll service, is particularly important. The Bells currently dominate this $15 billion market, where they enjoy profit margins of up to 60 percent. Consumers will clearly benefit from added competition here.

Second, S. 1822 contains vital "sequencing" provisions that require the FCC to make certain findings before permitting an BOC to offer long distance service within its region. The FCC must find that there are no state or local laws that prohibit entry; that the BOC has "fully implemented" the interconnection, equal access, local dialing parity, and number portability requirements; and that the BOC is in "full compliance" with the FCC's regulations implementing the presubscription and balloting requirements.

Finally, S. 1822 contains an active across-the-board competitive entry test based on Section 8(c) of the MFJ. These "sequencing" provisions and the competitive entry test are vital not only to ensure that premature Bell entry into long distance will not destroy competition in that market, but also to ensure that the Bell have an adequate incentive to cooperate with the provisions of the bill designed to open local markets.

While the long distance industry strongly supports S. 1822, we continue to be concerned about certain provisions of the bill that undercut the goal of opening markets:

- As written, S. 1822 requires local dialing parity only for *resellers* of local service.
- While the bill requires a separate long distance subsidiary for Bell provision of *inter*LATA toll service, it does not do so for *intra*LATA toll service.
- The qualifying "economically feasible" phrase could jeopardize many of the bill's preconditions for local competition, providing a linguistic loop-hole that will lead to years of protracted litigation and delays by the Bells.

The long distance industry has worked hard with staff and lawmakers to develop bipartisan legislation that brings real competition to all telecommunication markets, lowers prices and improves service for consumers, and makes the information superhighway a reality. In the process, we have made major concessions on key issues in the interest of moving this bill forward through the process. At this juncture, however, we remain concerned about the willingness of the Bell Companies, USTA, and other allied organizations to make this same commitment, and about their continuing threats to weaken these provisions or kill any bill that contains them.

The Coalition appreciates your Committee's interest in this legislation. We will continue to work with lawmakers to ensure that the final legislation contains the strong entry test, necessary preconditions for local competition, and consumer safeguards that are at the heart of S. 1822. We strongly believe that this is the best way for Congress to ensure real competition and lower prices in future telecommunication markets. Your support can be critical in ensuring that this bill is not weakened in the Senate or in Conference and ceases to be a pro-consumer, pro-competitive reform bill.

Sincerely,

AL MCGANN,
President,
Competitive Long Distance Coalition.

September 20, 1994.

Letter to Members of the U.S. Senate.

DEAR SENATOR: While we strongly support the speedy development and deployment of the National Information Infrastructure, we are writing to communicate the concerns of state and local officials about S.1822, the Communications Act of 1994. Although theinitial version of the bill was sensitive to many of our concerns, the legislation adopted by the committee in August is radically different. A number of key proposals in this draft disrupt rather than accelerate the transition to a competitive, advanced telecommunications environment.

As a means of explaining our concerns, we are enclosing a concept paper which proposes an alternative approach to portions of three titles of the Senate bill. We intend them as a means to achieve national legislation rather than to block federal action. The coalition will support legislation that incorporates the provisions outlined in the concept paper. Neither the House-passed legislation nor S. 1822 currently meet this criteria. We pledge to work with all parties to develop an acceptable bill.

Sincerely,

NATIONAL GOVERNORS' ASSOCIATION,
RAYMOND C. SCHEPPACH,
Executive Director.

U.S. CONFERENCE OF MAYORS,
J. THOMAS COCHRAN,
Executive Director.

NATIONAL ASSOCIATION OF COUNTIES,
LARRY E. NAAKE,
Executive Director.

NATIONAL ASSOCIATION OF STATE
INFORMATION RESOURCE EXECUTIVES,
BRADLEY S. DUGGER, *President.*

NATIONAL CONFERENCE OF STATE
LEGISLATURES,
WILLIAM T. POUND,
Executive Director.

NATIONAL LEAGUE OF CITIES,
DONALD J. BORUT,
Executive Director.

NATIONAL ASSOCIATION OF
TELECOMMUNICATIONS
OFFICERS AND ADVISORS,
SUSAN LITTLEFIELD, *President.*

NATIONAL ASSOCIATION OF STATE
TELECOMMUNICATIONS DIRECTORS,
WILLIAM M. MILLER, *President.*

September 21, 1994.

Hon. HOWARD METZENBAUM,
Subcommittee on Antitrust, Monopolies and Business Rights,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Information Technology Association of America (ITAA), representing over 3000 direct and affiliated members offering computer software, services, and systems integration, submits the following comments for the record of the Subcommittee's hearing yesterday on S. 1822, The Communications Act of 1994.

ITAA continues to support telecommunications reform. We continue to seek a national policy of competition, rather than monopoly, in local telephone service, as S. 1822 seeks to achieve. Due to continuing illogical disparity of treatment of information services providers, however, and to new language in the bill as reported by the Committee on Commerce, Science, and Technology, we cannot and do not support the bill as now written. This letter summarizes our concerns.

1. S. 1822 CONTINUES TO SINGLE OUT INFORMATION CONTENT PROVIDERS FOR MORE FAVORABLE TREATMENT THAN OTHER KINDS OF INFORMATION SERVICES PROVIDERS

According to the Department of Commerce, content providers, or "electronic publishers," to use S. 1822's term, constitute only about 20 percent of the $69 billion information services business, which consists mostly of transactions and funds transfers.[1] The latter applications are at least as susceptible to anticompetitive conduct as information content. ITAA cannot accept a bill in which the companies that undergird the trillions of dollars in electronic funds transfers—evidently alone among major industry segments—are granted no form of separate subsidiary protection. Worse yet, the bill's earlier language expressly prohibiting Bell Operating Company (BOC) cross-subsidization of all information services was removed.

2. THE NEW TITLE I, UNIVERSAL SERVICE, CONTAINS NOVEL LANGUAGE REVERSING TWO DECADES OF FEDERAL POLICY TO SEPARATE COMPETITIVE INFORMATION SERVICES FROM REGULATED MONOPOLY TELECOMMUNICATIONS.

ITAA continues to support universal service as a valid social objective, as it has been since 1934. Title I as included in the marked-up bill, however, goes far beyond achieving that objective in several disturbing ways. ITAA agrees with treating universal service as an evolving concept and does not object, in principle, to state-by-state redefinitions of the concept to include circuit-switched digital service, for example. Such an extension of universal service could be achieved without overriding the fundamental choice of the FCC's Commuter II policy: to confine the scope of rate regulation as narrowly as possible, while allowing the greatest possible scope for the full play of competitive market forces. Progress in universal service policy can and must be achieved without violating the following clear existing guideposts.

a. The concept of universal service should not include "information services"

Repeatedly, Title I refers to "telecommunications *and information services.*" In so doing, Title I overrides—without the benefit of any discussion in the hearing record—the clear and durable distinction the Federal Communications Commission (FCC) established in Computer II between regulated telecommunications services and unregulated enhanced services, which includes information services. Maintenance of that distinction remains of paramount importance for the 25–30,000 competitive, independent information or enhanced services providers in the U.S.[2] Price regulation by the FCC and state public utility commissions, designed for monopoly utilities, remains totally inappropriate to, unnecessary for, and unacceptable to independent companies offering competitive information services. ITAA strongly urges deletion of the phrase "and information services" throughout the Title.

b. Information services providers and private networks should not be obligated to contribute to universal service

ITAA affirms the principle of competitive neutrality with regard to support for universal service, as federal policy moves to embrace local exchange competition. All providers of telecommunications services, as understood since Commuter II, should be burdened equitably. Nonetheless, the logic of the distinction between tele-

[1] *Industrial Outlook 1994*, ch. 25.

[2] *Profile 1992*, published by ITAA last year, counted 68,014 information technology companies in the U.S., considered as the sum of firms in telecommunications equipment and services, and computer hardware, software, and services. The report was based on primary Dun & Bradstreet and Compustat (Standard and Poor's) data, which does not map directly to the official and clear definition of "enhanced services" by the Federal Communications Commission.

communications and information services applies here as well. Inescapably, all independent competitive providers of information services and private networks purchase the underlying basic telecommunications services from common carriers. Thus, the rates that they pay as business users already (and properly) reflect the apportioned burden of any universal service fund contributions. What makes no sense, however, is to treat such business users as a special class singled out for a double burden, paid first implicitly through rates for basic service and then later as parties to be assessed independently as if they were carriers.

ITAA opposes any arbitrary set-aside of network capacity, either for carriers or for business users such as information services providers. To the extent that such a measure could be justified at all as a franchise condition for carriers, much more efficient, fair, and open ways can be found to provide benefits to favored parties. With regard to business users who simply lease capacity from carriers, no such premise as a condition of franchise even exists in the first place.

c. Universal service fund benefits should continue to be directed towards individuals only

ITAA had thought that it was well-understood that universal services policies exist to reduce the price of service to the poor and to those in high-cost rural areas, to their specific benefit and to the benefit of society in general. Now, however—and again, without any hearing record—Title I moves far beyond this concept to create certain government and other certain nonprofit customers as a new, broad class of beneficiaries. We see no warrant for this expansion and great trouble from it. If a government agency builds an office building, for example, it must buy land at a market rate, pay bricklayers at union scale, and so forth. Taxpayers bear the expense; there is no special price break, nor should there be. Neither should there be some special price break for telecommunications, other than what government entities can negotiate for themselves, as for example in FTS 2000.

Title I's "and information services" phrase makes the implications of the new class of institutional beneficiaries even more disturbing. Broadly defined thus, the language is certain to distort the crucial vertical market for information services to support health care, itself one seventh of the economy.

Local exchange carriers who receive the disbursements from the universal service fund—principally the Bell companies—will be directed to offer such services to certain government and nonprofit customers at preferential, subsidized rates.

d. Telecommunications legislation should not disturb fair competition in government and nonprofit procurements

These provisions potentially reach into major government procurement actions involving data communications—controlling the airspace by the Federal Aviation Administration, for example. We note furthermore that this provision with deep potential ramifications for federal procurement policy appears at just the time that Congress is about to send major procurement reform legislation to the President. ITAA calls for deletion of this language creating a new class of beneficiaries.

Title I as written mandates unfair competition by the Bell companies against independent competitive vendors. If such vendors are considered to be "providers" who must contribute to the fund, then the most unfair result imaginable comes into play: they must contribute twice to a fund which goes in part to pay the still-monopoly Bell companies to undercut them with cross-subsidized prices in the government and nonprofit marketplace!

Accompanying this testimony are six amendments that would transform S. 1822 into a bill that the information services industry could support enthusiastically. Specifically, these amendments would (i) prescribe competitive safeguards to govern the Bell Companies' provision of *all* information services (and not just "electronic publishing"); (ii) limituniversal service to regulated telecommunications services; (iii) preempt state public utility regulation of information services; (iv) ensure that information service providers and other public network operators are not called upon to contribute twice to the support of universal service; (v) exclude unregulated information service providers and other non-common carriers from the obligation to set aside network capacity for public uses; and (vi) eliminate the unfair advantage conferred upon regulated carriers that provide unregulated information services to public institutional telecommunications users.

With such amendments insisted on by the Judiciary Committee, a bill will emerge that we can support, rather than one so unfavorable to the world-leading U.S. information services industry that we will be obliged to oppose it.

Yours truly,

OLGA GRKAVAC,
Acting President.

PROPOSED AMENDMENTS
TO S. 1822

1. **To limit universal service to regulated telecommunications services:**

Page 116, line 9, strike "and".
line 10, strike "information".
line 13, strike "and infor-".
line 14, strike "mation".
line 18, strike "and infor-".
line 19, strike "mation".
line 24, strike "and information".

Page 117, line 12, strike "and information".
line 23, strike "and information".

Page 129, line 21, strike "and information".

Page 130, line 20, strike "and information".

In the alternative, universal service should be limited to those telecommunications and information services which the marketplace has identified as essential:

Page 117, line 22, strike "At a minimum, universal service shall include".
line 23, strike "access to any" and insert in lieu
thereof "Universal service shall only include such".

2. **To preempt state public utility regulation of information services:**

Page 241, line 3, strike "sections 201A, 201B,".
line 4, strike "201C, and 230, and in".

3. **To ensure that users that provide information services or operate private networks are not called upon to contribute twice to the support of universal service:**

Page 118, line 10, immediately after "requires." insert 'No contributions, other than those embedded in the price of regulated telecommunications services, shall be required of the users of such services, including users engaged in the provision of information services or the operation of private networks that are not made available to the public.".

4. **To exclude unregulated information service providers and other non-common carriers from the obligation to set aside network capacity for public uses:**

Page 127, line 15, immediately after "615," insert "nor networks operated by entities that are not common carriers,".

5. **To eliminate the unfair advantage conferred upon regulated carriers that provide unregulated information services to public institutional telecommunications users:**

Page 130, line 20, strike "and information".
line 23, immediately after "applies" insert "and to information service providers that use those telecommunications services to provide service to such public institutional telecommunications users".

6. **To ensure that the Bell Companies' provision of all information services, not just "electronic publishing," is subject to effective competitive safeguards:**

Page 241, after line 16, insert the following:

"(d) PREVENTION OF CROSS-SUBSIDIES.--In addition to regulations on cross-subsidization that are prescribed under other provisions of this Act, the Commission shall prescribe cost allocation regulations to prevent any Bell operating company or affiliate that offers services that have market power from using revenues from such services to subsidize information services.

"(e) INFORMATION SERVICES SAFEGUARDS.--A Bell operating company or an affiliate thereof providing information services other than those which it or any other Bell operating company was actually providing on the date of the enactment of this section shall do so through a separate affiliate as specified in this subsection.

(1) SEPARATE AFFILIATE.--The separate affiliate shall operate independently from the Bell operating company in the provision of information services, maintain its own books of account, have separate officers, directors, and employees who may not also serve as officers, directors or employees of the Bell operating company, and not jointly own or share the use of any property with the Bell operating company.

(2) DISCRIMINATION PROHIBITED.--All transactions between a Bell operating company and its separate affiliate shall be conducted on an arm's-length basis in the same manner as the Bell operating company conducts business with unaffiliated persons. A Bell operating company may not discriminate between its separate affiliate and any other person in the provision or procurement of goods, services, facilities and information or in the establishment of standards, and shall not provide any goods, services, facilities or information to its separate affiliate unless such goods, services, facilities or information are made available to other persons on reasonable, nondiscriminatory terms and conditions.

(3) REGULATIONS REQUIRED.--Within 180 days after the date of enactment of this subsection, the Commission shall adopt regulations to implement the separate affiliate requirement.".

AMERICAN ASSOCIATION OF RETIRED PERSONS,
Washington, DC, September 19, 1994.

Hon. HOWARD M. METZENBAUM,
Subcommittee on Antitrust, Monopolies, and Business Rights,
U.S. Senate, Washington, DC.

DEAR CHAIRMAN METZENBAUM: The American Association of Retired Persons (AARP) shares your concerns about the inadequacy of existing telephone lifeline programs, and supports your efforts to assure the availability of lifeline programs to low-income Americans.

While 36 states offer lifeline service to their low-income residents, 14 states do not. Existing programs vary considerably from state to state. Some contain very stringent eligibility requirements which make lifeline programs available only to a relative handful of people. Instead of the current hodgepodge of eligibility requirements, AARP believes that everyone who falls below the poverty level should be eligible for lifeline telephone programs.

Approximately 94 percent of Americans have telephone service. While this figure may seem high, it disguises circumstances under which telephone service has become so expensive that people have been forced off of the network. For example, while 94 percent of Indiana households have telephone service, 35 percent of poor families (those living below the poverty level) in Indiana are without telephone service.

The telephone is an essential communications tool for most people. For people with limited mobility, the telephone takes on increased significance. It often represents a vital life-link to the outside world. It is for these reasons that low-income Americans need to be assured access to lifeline telephone service.

AARP is also very concerned about the current pre-emption provisions in S. 1822 which take away state regulatory authority over local telephone service. Consumers in most states are well represented by consumer advocate offices. The pre-emptions

in S. 1822 go too far in limiting state authority. Should they become law, consumers may not be heard in debates on issues such as local service regulation, local competition, and universal service. AARP urges Congress to reject these provisions which diminish state authority over local telecommunications services.

If you have any questions or if AARP can be of further assistance, please contact Kent Brunette at (202) 434–3800.

Sincerely,

JOHN ROTHER,
Director,
Legislation & Public Policy.

BUILDING OWNERS AND MANAGERS ASSOCIATION INTERNATIONAL,
Washington, DC, September 19, 1994.

Hon. HOWARD M. METZENBAUM,
U.S. Senate, Washington, DC.

DEAR SENATOR METZENBAUM: As the Senate prepares to consider The Communications Act of 1994 (S. 1822), The Building Owners and Managers Association (BOMA) International—representing the office building industry—again urges deletion of the misdirected building access provisions contained in Section 230(j).

Section 230(j) would mandate that building owners allow any and all telecommunications providers to deploy equipment within their buildings with little to no regard for the physical and financial integrity of the properties. While billed by proponents as a boon to competition, the provisions of Section 230(j) actually reveal fear market rather than a willingness to embrace them.

They also reflect a vast misunderstanding of the factors at work in today's real estate environment—factors that encourage a naturally competitive telecommunications marketplace. A provider's access to office buildings is based on the *quality* of services it provides and the *demand* for those services. If tenants require particular telecommunications capabilities, owners provide them or those tenants will choose to rent elsewhere. A reputable provider with a quality service will be competitive in this environment, and Congress should encourage such competition rather than create artificial markets for providers seeking to avoid it.

Section 230(j) dismisses the importance of a telecommunications provider's knowledge, expertise or reputation. It dismisses the vital issues of building security and safety. It dismisses the absolute space limitations inherent in every existing office building. It dismisses the risks and liabilities that owners would be forced to incur. It dismisses the rights of owners to negotiate compensatory access arrangements based on the fair market value of services they provide to telecommunications carriers. In short, Section 230(j) undermines every responsibility owners have to properly serve their tenants and operate their properties.

The provisions of Section 230(j) are inappropriate for a free market grounded on competition and the respect of private property. They *will not* advance a competitive telecommunications environment, but instead *will* expose the nation's building owners and their tenants to extreme risks, costs and chaos.

BOMA International respectfully requests your support for the deletion of Section 230(j).

Sincerely,

RODNEY D. CLARK,
Director of Government and Industry Affairs.

NATIONAL NEWSPAPER ASSOCIATION,
Arlington, VA, September 19, 1994.

Hon. HOWARD M. METZENBAUM,
Subcommittee on Antitrust, Monopolies and Business Rights,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: On behalf of the National Newspaper Association, we hereby submit comments for the Record on the Subcommittee's hearings on S. 1822. We hope that the members of the Subcommittee and their staff will find these remarks useful in their consideration of this important telecommunications legislation.

The National Newspaper Association (NNA) is the oldest and largest (in terms of numbers) national newspaper trade association in the United States. It dates from 1885 and has more than 4,200 community newspapers as members, with a total circulation of more than 32 million. That membership includes most of the weekly newspapers and more than one-third of the daily newspapers in the country. The

National Newspaper Association represents newspapers before all branches of government, and its primary mission is to protect, promote and enhance America's community newspapers.

We applaud the efforts of the Subcommittee in helping to craft fair and competitive public policy that will shape this country's information superhighways. It is time for Congress to reclaim its leadership role in telecommunications.

We'd like to make four brief points that spell out why NNA supports S. 1822, and why it is important to our members—this Nation's community newspapers—that S. 1822 be passed this year.

1. S. 1322 is pro-community newspapers. Small newspapers serve a very important social role in American society, for our members are generally the focal points around which our country's communities build and maintain their identities and their sense of communal self. We clay a particularly important role in rural areas, for we are the institutions that maintain a sense of identity and social cohesion in rural towns and villages.

S. 1822 will require telecommunications carriers to recognize the unique needs of community newspapers in providing information to their communities by guaranteeing reasonable access and rates on the telecommunications network. The bill contains the "ARC Amendment"—ARC stands for Access, Rates and Competition—language backed by NNA that was included in S. 1822 to help give small electronic publishers such as community newspapers fair access to common carrier services at fair rates in a competitive environment equal to the business options of larger, national information providers.

Furthermore, the NNA-sponsored ARC language is non-controversial. The Senate Commerce Committee approved S. 1822 containing the ARC language, and all parties involved in the bill—Bell companies, long-distance companies, large newspapers—have no objections to these pro-community newspaper provisions.

2. For electronic publishers, S. 1822 offers competitive markets free from anti-competitive behavior. If a community newspaper has more than one source for its telecommunications needs, many of our concerns are significantly reduced, since competition in the marketplace I the ultimate solution to the free flow of ideas. However, we know full well that competition in the local loop is going to come to smaller communities at the end of the telecommunications revolution, if ever. Until full competition is available throughout our country, we need to assure regulatory fairness if local information is to have equal footing with national information.

S. 1822 contains safeguards against potential monopoly abuse that will help to insure that information providers of any size will be able to compete in the information marketplace.

3. Telecommunications legislation should not be limited to corporate giants—it should include providers of local news and information. When considering public policy affecting media, it is often common to conjure up an image of very large newspapers, television personalities, and magazine publishers, but it is tremendously important to consider the impact of public policy upon thousands of publications like ours. In shaping our Nation's telecommunications infrastructure, one cannot ignore, either in the marketplace of ideas or in the marketplace of advertising, the thousands of local publications that exist throughout the country—publications that reach more than 30 million people every week.

By including local electronic publishers—information providers from America's smaller and rural communities—in telecommunications law, S. 1822 recognizes that the local publisher is just as important as the large, national provider on the information infrastructure.

4. Ensuring a diverse, open and accessible communications infrastructure must be a primary focus of the Congress. The oncoming communications revolution will affect the way in which Americans communicate with each other and with their public institutions. S. 1822 allows all Americans a chance to participate in the opportunities of the information age. The time to pass comprehensive telecommunications legislation is now—waiting another year or two before considering will jeopardize important pro-competitive and pro-consumer concerns that need immediate attention.

Accordingly, we ask this Subcommittee to uphold the principles of access, rates and competition for small electronic publishers in its review of S. 1822. All that is needed is the direction of Congress in emphatic and forceful terms that the electronic information superhighway must be designed with these local areas in mind.

We urge the subcommittee to accept our support of the larger safeguard goals of this bill with the full awareness that without a recognition of the importance of local news and information, local electronic publishers will not be truly protected.

We thank you, Mr. Chairman, and the Subcommittee for hearing our concerns. We are delighted to work with you and your staff in addressing these very specific needs and to support your efforts in the passage of S. 1822.

Sincerely,

R. JACK FISHMAN,
Committee Chairman,
Treasurer and Government Relations.

TONDA F. RUSH,
President and C.E.O.

SQUIRE, SANDERS AND DEMPSEY,
COUNSELLORS AT LAW,
Washington, DC, September 21, 1994.

BY MESSENGER

Hon. HOWARD METZENBAUM,
Committee on the Judiciary,
U.S. Senate, Washington, DC.

Re: S. 1822

DEAR CHAIRMAN METZENBAUM: Enclosed are comments submitted by our client, the Independent Data Communications Manufacturers Association (IDCMA) on S. 1822.

They illustrate a serious defect in the manufacturing provisions of the bill. The data communications equipment industry is very competitive and IDCMA member companies expert 30 percent or more of their production. It would be most unfortunate if S. 1822 were to impair competition and restore the dominance of affiliated manufacturers to the local exchange market.

Any bill overturning provisions of the antitrust consent decree must assure that there are effective tools, to use the words of Assistant Attorney General Bingaman, to "aggressively enforce" restrictions on cross subsidization and discrimination.

We are available to discuss these matters with you or your staff.

Sincerely,

CHARLES A. VANIK.

IDCMA, INC.,
Washington, DC, September 21, 1994.

BY MESSENGER

Hon. HOWARD METZENBAUM,
Committee on the Judiciary
U.S. Senate, Washington, DC.

Re: *S. 1822*

DEAR CHAIRMAN METZENBAUM: At the Subcommittee's hearing on S. 1822, there was a discussion of the bill's requirement that the Bell Operating Companies (BOC) engage in manufacturing only through an affiliate separated from its telephone operations. It was recognized that it will be some significant period of time before the bill's goal of a competitive local exchange market could be achieved. Therefore, it is critical that there be a significant degree of separation of manufacturing operators if there is to be any chance to limit cross subsidy and discrimination.

In the bill's manufacturing provision (Section 402), the telephone operating company is barred from certain elements of manufacturing. These must be done only by the separated affiliate, yet the telephone operating company is apparently *not* barred from the critical research, development or design phases. These are important steps in the manufacturing process—particularly for high technology products.

While the FCC should be able to prescribe further appropriate separation, the bill itself should recognize that these phases of the manufacturing process are as critical, as say, equipment "installations," which must be done by a separate entity. This should be of concern to an Antitrust Committee. It is a flaw of the bill's manufacturing provision that suggests that this section warrants further analysis and amendment.

The bill must also assure that the FCC has the tools to aggressively enforce the provisions, as suggest by Assistant Attorney Bingaman in her testimony. This requires a restructuring of several provisions.

We are available to work with you and your staff on staff on this matter.

Sincerely,

HERBERT E. MARKS,
Counsel.

MCI COMMUNICATIONS CORPORATION,
Washington, DC, September 22, 1994.

Hon. HOWARD M. METZENBAUM,
Subcommittee on Antitrust, Monopolies and Business Rights,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: MCI Communications Corporation appreciates the opportunity to submit these comments concerning S. 1822, the "Communications Act of 1994." MCI pioneered competition in long distance and is in a unique position to share its experience both as to the benefits of competition in the marketplace as well as to the anti-competitive harm that can be done when a monopoly leverages its power. The importance of consumer antitrust protections cannot be overstated. Ultimately, the greatest protection for consumers is provided by a fair, open and competitive marketplace.

Precisely because S. 1822 has such significant implications for consumers, for telecommunications industry competition, for antitrust enforcement and for the role of the Department of Justice ("DOJ"), enactment of S. 1822 would constitute a significant event. For the first time, Congress proposes to legislatively override major portions of an antitrust consent decree approved by a Federal district court after review under the standards established by Congress in the Tunney Act and affirmed by the U.S. Supreme Court.

MCI supports efforts to bring U.S. telecommunications policy in line with changing technological and marketplace developments. S. 1822 is an historic piece of legislation that reflects the vital role of competition in telecommunications. Albeit a compromise, it is pro-consumer and will expedite the deployment of a state-of-the-art information infrastructure.

Importantly, S. 1822 would remove entry barriers that today thwart the achievement of effective local exchange competition. These barriers deny consumers of local telephone service the lower prices, innovative services and information infrastructure enhancements that competitive forces have provided to long distance telephone consumers. Local competition "preconditions" such as local number portability, dialing parity, unbundling of local service elements, interconnection requirements, nondiscriminatory access, balloting and presubscription are important features of S. 1822 that will, over time, break down the Regional Bell Operating Companies' (RBOCs) bottleneck monopoly and spur competition in the local exchange. Competition in local telephone services will directly benefit all consumers.

The bill provides for reasonable and achievable conditions for RBOC entry into competitive markets such as long distance. The issue of Bell entry into long distance has never been a question of *whether,* but *when:* either when a Bell Company divests its local monopoly or when effective competition develops in the local telephone services market. S. 1822 promotes competition in *all* telecommunications markets and protects consumers by:

- Requiring the Federal Communications Commission (FCC) to find that entry barriers to local exchange competition have been removed. Effective local competition is possible only when state and local barriers to competition are eliminated and the "preconditions" identified above are fully implemented.
- Providing for critical elements of the appropriate sequencing for RBOC entry into the long distance marketplace. Only after the FCC funds that the "preconditions" for competition in the local exchange have been implemented, could the RBOCs be permitted to seek entry into the long distance market.
- Requiring the RBOCs to satisfy a "no impeding competition" test, essentially identical to the existing test under the antitrust consent decree, before the DOJ can approve entry into the long distance market. The RBOCs have told Congress that they support this test, as well they should. Amazingly, however, they contend that they can pass this test with their local monopolies intact.

While MCI supports bringing U.S. telecommunications policy in line with changing technological and marketplace' developments, any legislation must retain as its foundation the legal and factual precedents of the antitrust consent decree.

RATIONALE OF THE ANTITRUST CONSENT DECREE

The prohibition on the provision of long distance telephone services by the RBOCs is an integral part of an antitrust judgment carefully structured to prevent the recurrence of anticompetitive conduct engaged in by the pre-divestiture Bell System. During almost a year of trial in 1981, DOJ offered substantial evidence showing:

- Long distance companies could not compete effectively against a Bell-affiliated long distance company due to the Bells' incentives and ability to discriminate and allocate costs so as to favor their affiliates;
- The Bell Companies' local exchange bottlenecks had in fact been used by AT&T to thwart the development of long distance competition by, among other things, denying competitors interconnection equal in type, quality and price to that provided by the Bell Companies to AT&T; and
- Regulation could not prevent or remedy this course of anticompetitive conduct.

The relief demanded by DOJ, accepted by the Bell Companies, and approved by the decree court and the Supreme Court, was to separate the Bells' monopoly local services from competitive services like long distance and to bar the Bell Companies from reentering these competitive markets. The rationale for this restriction derived from the same principle that justified the divestiture itself—that as long as the Bell Companies controlled local exchange bottlenecks they would act on their incentives to discriminate against competing long distance companies dependent on the Bell Companies for nondiscriminatory access. As DOJ told the decree court:

> In a very real sense, the [line of business] restrictions are simply the opposite side of the divestiture coin, they are an integral part of the divestiture and proceed on precisely the same theory that divestiture proceeds on. *(United States* v. *Western Elec. Co.,* 673 F. Supp. 525, 533 n.23 (D.D.C. 1987)).

Recognizing, however, that changes in technology could over time erode the bottleneck power of the RBOCs' local networks, the decree court added a provision, Section VIII(C), setting the standard to determine whether the restriction could in the future safely be removed: is there a substantial possibility that the RBOCs could use their monopoly power to impede competition in the market for long distance services?

SUCCESS OF LONG DISTANCE COMPETITION

In the debate surrounding S. 1822, few have questioned the legal and economic principles underlying either the divestiture or the long distance restriction. Few question retaining the restriction as long as a substantial possibility of bottleneck abuse exists. Few challenge the fact that the consent decree's structural remedies have created a robustly competitive long distance marketplace. Indeed, competition in long distance has been a huge success. The following benefits are a direct result of the consent decree and its underlying pro-competition principles:

- A vibrant long distance market with thousands of innovative services offered by hundreds of carriers has been created.
- An unprecedented surge in technological innovation has been stimulated. New features and enhanced billing options are made possible by substantial investments in new technology. Carriers such as MCI have invested billions of dollars in creating state-of-the-art digital networks. Over the last five years, MCI has invested 104 percent of its cash flow into its network infrastructure. Just recently, MCI announced it would spend billions of dollars to upgrade its transmission technology to hasten the widespread availability of broadcast quality videophones, electronic data interchange, long distance medical imaging, multimedia education and a single-number personal communications service that will use the same pocket-sized telephone anywhere in the world.
- Quality has soared as long distance companies criss-crossed the nation with fiber optic networks that today comprise the Information Highway. Digital transmission, particularly digital fiber, enhances quality. The dropped calls, echoes, and noisy lines that once plagued pre-divestiture Bell System long distance service are a thing of the past. Calls from across the country now typically sound as though they are coming from next door.
- Real long distance prices to American consumers declined by more than 60 percent, net of access charge reductions, between 1985 and 1992.

Long distance prices continued to fall in 1993 by 5.73 percent, which exceeds the price reduction of the previous year. The average five minute long distance call that cost $2.00 (in 1993 dollars) nine years ago costs less than 70 cents today.

THE LOCAL TELEPHONE MONOPOLY REMAINS

With respect to RBOC entry into long distance, the debate on telecommunications reform legislation has properly focused largely on two issues:

- Whether sufficient alternatives to the RBOCs' networks have developed to the point that they no longer are bottlenecks with respect to long distance services; and
- Even if the RBOCs' networks remain bottlenecks, whether federal and state regulation could prevent the Bell Companies from using those facilities to impede long distance competition.

There can be no serious dispute that the Bell Companies' local networks remain bottleneck facilities and continue to be essential to the provision of long distance services. Each RBOC still controls in excess of 99 percent of the revenues in its service areas, a monopoly by any measure.

Further, the local telephone companies have monopoly control over access to our customers. Today, MCI and the entire competitive long distance industry are still dependent upon monopoly providers of local access for the connections that are absolutely vital to the provision of long distance services. In short, MCI needs to interconnect with the local telephone company's network in order to complete our customers' calls.

The local telephone monopolies are "gatekeepers" between MCI and its customers. Imagine, Mr. Chairman, if Delta had to compete against American Airlines but American also *owned* the *airports,* the *roads* going to the airports and controlled all the *landing slots.*

MCI pays nearly half of every revenue dollar for access, and approximately 99.6 percent of those dollars go to the local telephone monopolies. Last year, MCI access payments to local telephone monopolies were $5 billion. Compared to the billions of dollars paid to the Bell Companies, MCI paid only $17 million—*less than four tenths of one percent*—to alternative access providers.

The Bell monopoly over local telephone and access services also extends to intraLATA, i.e., short-haul, long distance services. In the $15 billion intraLATA market, equal access was not mandated by the consent decree, in part because of the states' jurisdiction over such traffic. The decree court did, however, expect the development of competition in the intraLATA market.

> [T]he lack of competition in this [intraLATA] market would constitute an intolerable development. The opening up of competition lies at the heart of this lawsuit and of the decree entered at its conclusion, and the significant amount of the traffic that is both intrastate and intra-LATA should not be reserved to the monopoly carrier. (*United States* v. *Western Elec. Co.,* 569 F. Supp. 990, 1005 (D.D.C. 1983)).

Despite the decree's intentions, the RBOCs have continued to abuse their monopoly power and to prevent the development of full competition in the intraLATA market. Now, more than ten years since divestiture, intraLATA equal access still does not exist in any RBOC territory. Moreover, even in the absence of intraLATA equal access, the RBOCs continue to shrink the intraLATA direct dial market by expanding local calling areas, pricing services below the costs they impose on potential competitors and deploying anti-competitive and anti-consumer dialing patterns. Such abuses are clear proof of the RBOC's continuing near-monopoly power in the intraLATA direct dial market.

Clearly, sufficient alternatives to the Bell Companies' networks do not exist. They retain bottleneck monopoly control over local telephone service and long distance companies' access to our customers. As long as the Bell Companies maintain a monopoly over local telephone services, they will have the same ability and incentive to engage in anticompetitive conduct. Regulatory "safeguards" have never been adequate to prevent it; the Bell System break-up was a recognition of the failure of Federal and state regulators to prevent or police this harmful activity. Nor will they ever be. MCI learned this lesson the hard way—from experience.

LOCAL COMPETITION MUST PRECEDE BELL ENTRY INTO LONG DISTANCE

S. 1822, as reported by the Committee on Commerce, Science, and Transportation, does not condition RBOC entry into the long distance market on the prior development of effective local competition. The reported bill eliminates the requirement in S. 1822, as introduced, that "actual and demonstrable" competition to the Bell Companies' local services exist before they may enter the long distance market.

Instead, to the extent that the RBOCs wish to provide long distance service in areas where they operate local exchange networks, the reported bill requires the

RBOCs to implement "preconditions" that would make the development of competitive alternatives to their bottlenecks possible. As noted above, state and local legal barriers to local competition must be removed, the RBOCs must open and unbundle their local networks and allow resale of local services, the RBOCs must implement local number portability (the ability for a customer to keep the same local telephone number if they obtain local service from an RBOC competitor), and the RBOC must provide equal access for intraLATA toll services (eliminating the current requirement that customers dial extra digits to use competing services).

S. 1822, as introduced, had it right. As reported, the bill is less explicit but retains two critical pro-competition features: the full implementation of the local competition measures together with the appropriate sequencing. That is, these measures must be fully complied with before the Bell Companies can be authorized to enter the competitive long distance market.

While strongly preferring the original "actual and demonstrable" local competition entry test, MCI supports S. 1822 as reported. It is critical, however, that the preconditions and sequencing remain as is and, if possible, that they be strengthened. Clearly, for this legislation to have its intended pro-competition effect, aggressive action by the FCC and the states will be absolutely essential.

Equally important will be DOJ's role. While RBOC satisfaction of the preconditions and FCC/state regulations are necessary at a minimum, they are not enough. DOJ's application of the "no substantial possibility" test must ensure that local competition has, in fact, developed. Any lesser standard will enable the RBOCs to again behave in ways that are harmful to the interests of consumers and competitors.

USTA AMENDMENTS WOULD HARM ALL TELECOMMUNICATIONS MARKETS

Viewed against the requirements of S. 1822 as reported by the Commerce Committee, the Bell Company/USTA opposition to the bill's requirements for RBOC entry into the long distance business reveals their unwavering opposition to any attempts to expose their local service monopolies to competition. In effect, the RBOCs are saying they want to compete for the long distance carriers' business, but do not want anyone to compete for their business. MCI urges the Committee to reject this proposition. If the RBOCs wish to enter the interLATA long distance market, they must either agree to open up their local and intraLATA service markets to fair and equal competition or divest their local network bottlenecks. Anything less undoubtedly will lead to years of litigation and uncertainty as carriers challenge RBOC exclusionary conduct under the antitrust laws, hardly an environment conducive to the massive investment required to create the information highways of the future.

POST-ENTRY SAFEGUARDS ARE CRITICAL

In addition to requiring the RBOCs to eliminate the most substantial barriers to local competition before they may enter the long distance market, S. 1822 would require minimum regulatory safeguards be adopted to govern the Bells' long distance operations. These provisions are essential to limit anticompetitive conduct if the FCC and DOJ decide that the RBOCs should be allowed to enter the long distance market. Thus the bill requires the RBOCs to provide interLATA—but, unfortunately, not intraLATA—long distance services through a separate subsidiary, and it instructs the FCC to adopt regulations defining equal access and other fair competition rules. Clearly, in order to facilitate the efforts of regulators to prevent anticompetitive cross-subsidization, both interLATA and intraLATA toll services offered by the RBOCs should be done only through a separate subsidiary.

The RBOCs oppose the bill's requirements, even while they insist that firms like electric utilities that want to compete against them in local markets should establish separate subsidiaries. In other words, the Bell Companies advocate that their competitors should operate under restrictions that they claim should not apply to them as the entrenched local monopolist.

The Committee should also examine the scope of the provisions concerning misnamed "incidental" long distance services—long distance services allegedly incidental to the provision of RBOC services such as local cellular and information services. For example, S. 1822 would permit the RBOCs to provide long distance services to their cellular customers without several of the restrictions that DOJ concluded were essential to protect consumers and competition. DOJ reached this conclusion after a through investigation of the RBOCs' factual claims. DOJ concluded, for example, that Bell Company claims that the cellular industry which they dominate is robustly competitive is contradicted by their own internal documents, which reveal how profitable these cellular duopolies are to the Bell Companies. If the Bell Companies charge such high prices to the cellular customers for local services, what basis is

there for the assertion that they would charge low prices to the same customers for long distance service? Furthermore, if the RBOCs truly believe their claim that existing cellular and future wireless services such as Personal Communications Services are, or are about to become, substitutes for traditional local service, it would not seem fair for them to characterize cellular long distance service as a relatively minor adjunct to other services of limited competitive significance.

CONCLUSION

Policymakers are once again at a crossroads. In 1974, the Federal government chose competition over monopoly and the result has been an astonishing transformation in the way Americans work, communicate and live in this country. In long distance, that transformation brought with it significant consumer benefits—much lower prices, higher quality and numerous service choices.

Twenty years later, policymakers again must decide. Rapid advances in telecommunications technologies promise even greater changes and consumer benefits in the next ten years. Can policymakers justify the substantial risk to competition and to the extraordinary consumer benefits by unleashing, once again, today's telephone monopolists into long distance and other competitive markets? Premature Bell Company entry into long distance will benefit seven huge monopolies—to the detriment of consumers and competitors. Only when Bell bottleneck monopoly power is eroded will America's consumers benefit by their entry into the long distance market.

Again, MCI appreciates the opportunity to submit these comments. I would be pleased to provide any additional information that the Committee might find useful.

Sincerely,

GERALD J. KOVACH.

STATEMENT OF DECKER ANSTROM ON BEHALF OF THE NATIONAL CABLE TELEVISION ASSOCIATION

The National Cable Television Association, which represents cable companies serving more than 80 percent of all cable subscribers in the United States, as well as cable programming networks, hardware manufacturers and distributors, and other businesses affiliated with the cable television industry, appreciates the opportunity to comment on Senator Leahy's proposed amendment to S. 1822 regarding interactive telecommunications services and access to telecommunications networks.

INTRODUCTION

Under Senator Leahy's proposed amendment, the FCC would be required to conduct an inquiry and report to Congress its findings concerning the impact of the convergence of technologies on cable television, telephone, satellite, wireless and other telecommunications networks that are likely to offer interactive telecommunications services and on the need for open public telecommunications network interfaces and the "unbundling" of particular programming and other service offerings from converter boxes, interactive communications devices, and other customer premises equipment. The proposed amendment would further require the FCC to adopt rules prohibiting the bundling of public telecommunications network services with customer services equipment and requiring that such equipment be available from third party vendors unaffiliated with any telecommunications network service provider.

Senator Leahy's proposed amendment recognizes the importance of maintaining accessible public telecommunications networks and empowers the FCC to intervene in the standards-setting process if private sector standards-setting bodies fail to develop interoperability and interconnection standards in a reasonable time. In our experience, the private sector is actively pursuing the development of such standards, and there is no need for the threat of government intervention. NCTA is a participant in numerous standards-setting and other bodies engaged in efforts to ensure that newly emerging technologies are deployed in a consumer-friendly manner. These include the Advanced Television System Committee (ATSC), the FCC Advisory Committee on Advanced Television, the NCTA/EIA Joint Engineering Committee, the Cable Consumer Compatibility Advisory Group, the Information Infrastructure Special Panel of the American National Standards Institute, and the Computer Systems Policy Project.

While NCTA supports industry efforts to ensure and broaden access to public telecommunications networks, we are deeply troubled by the threat that will be posed to signal security if services and equipment are required to be unbundled and if

third party availability of decoders is mandated. Specifically, any erosion in signal security will have a significant impact on cable operators, who will experience revenue losses due to increased signal theft (as well as added costs from pursuing the perpetrators of cable piracy); on cable programmers, who will not fully realize the value of their services and will have diminished resources available to purchase and develop new services; on the creators of new programming, who will be reluctant to utilize cable technology to distribute their work if they cannot be assured that their inteliectual property rights are protected; and, ultimately, on consumers, who will bear the costs resulting from signal theft and the diminished availability of programming.

DISCUSSION

At the outset, we note that in seeking to justify the imposition of unbundling and retail availability requirements, the proposed amendment points to the experience of the local exchange telephone industry, finding that the availability of unbundled customer equipment through retailers and other third party vendors has broadened consumer choice, lowered prices, and spurred competition and innovation. The experience of the telephone industry, which does not provide secured services, is inapposite to the cable television industry. Telephone service involves a dedicated line between the customer premises and the telephone company office; if a telephone customer does not pay for service, the telephone company can cut off dialtone service to the customer by shutting off that dedicated line.

In the case of cable television, the better analogy is to an open spigot. If a cable customer does not pay for a particular service, that service must be disconnected at the subscriber premises; if the service was cut off at the cable headend, *all* customers would lose access to the service.

Apart from the distinctions between the cable network and the public telephone network with respect to the issue of security, we believe that requiring standardization and retail availability of descrambling and other proprietary security hardware is not necessary to allow the public to realize the benefits of competition. Under the 1992 Cable Act, customer premises equipment is subject to "actual cost" pricing restrictions, thereby neutralizing fears that cable operators can extract "monopoly profits" by providing such equipment. Furthermore, the public is protected by provisions in the 1992 Cable Act dealing with equipment compatibility, authored by Senator Leahy and currently being implemented by the FCC. Under those provisions, remote control devices already are "unbundled" from other equipment and steps are underway to develop transparent interfaces to allow multiple network connections which will facilitate the very interoperability that Senator Leahy's amendment seeks to achieve.

Most significantly, the advocates of retail availability of security hardware downplay or entirely overlook the substantial risks and costs of their proposal. For example, according to NCTA's Office of Cable Signal Theft ("OCST") over 1,300 theft of service cases were prosecuted nationwide on federal, state and local levels in 1991 alone. Seventy-five percent of the more than 250,000 devices seized by law enforcement agencies in 1991 were capable of circumventing addressable technology and allowing illegal reception of pay-per-view services. OCST has estimated that each illegal decoder sold to a consumer cost the cable industry approximately $3,108 over the decoder's useful life. The lucrative nature of signal piracy is illustrated by the fact that the president of the National Consumer Cable Association, a trade association representing the manufacturers of "competitive" signal security hardware, was recently charged with two felonies related to the distribution of unauthorized cable descramblers. In that single case, it was reported that 70,000 unauthorized devices were seized. The establishment of a national scrambling standard and the availability of security devices from third party retailers who do not share the cable industry's interest in ensuring that only authorized persons receive service will accomplish little more than providing further incentives to manufacture illegal descramblers by creating a national market for such devices.

The increased threat of signal theft that will inevitably result from third party retail availability of proprietary security devices also will impair the ability of cable programming networks to develop and obtain new programming. The lost and unrealized revenues resulting from signal theft will have a deleterious impact on investment in new programming. In addition, the creators of intellectual property will be understandably reluctant to make their work available to distributors who cannot protect such work from piracy. The result will be delayed "windows" of availability for existing programming and reduced incentives to create new programming.

The problem of maintaining signal security is greatly exacerbated in cases where cable operators lose control of security hardware, such as in a situation where

descrambling equipment may be legally purchased by subscribers either as part of their TVs or in VCRs, or as stand-alone units from retail stores. Subscribers are much less reluctant to tamper with their own hardware than with the equipment which belongs to the cable company. Prosecution for tampering becomes impossible, as a practical matter, if the cable operator does not own the descrambler. Moreover, if descramblers become available commercially, it will be extremely difficult to determine whether a particular descrambler was legally manufactured and subsequently tampered with, or whether it was originally manufactured to defeat an existing security system. Thus, it would become much more difficult to successfully prosecute the manufacturers of illegal descramblers, who up to now, have been a primary target of theft of service investigation and enforcement.

Allowing subscribers to purchase their own descramblers from a variety of commercially available sources also would take away one of the significant weapons used by cable operators and equipment manufacturers to combat signal theft. In cases where security has been compromised, it is often possible for the manufacturer and cable operator to make a few changes in the security system that will deauthorize the illegal descramblers while allowing authorized subscribers to continue to receive the programming they purchased without the necessity of changing their equipment. Such an approach would be difficult or impossible in a situation where descramblers in the field came from a variety of manufacturers. Because of the different manufacturing techniques and processes, it may not be possible to guarantee that the changes implemented to recover security would deauthorize only illegal decoders. This would create anger and frustration in cases where legitimate subscribers would no longer be able to use their purchased descrambling equipment on the cable system.

The ultimate defense against compromise of a security signal is to replace the compromised system with a better one which builds on the lessons learned from the previous defeat. Thus, when the degree of compromise becomes intolerable from a business standpoint, the cable operator replaces signal protection hardware. The subscriber's investment in customer premises equipment is not affected. If a single scrambling or encryption method were required and then later compromised, there would be no way to recover security without rendering the subscriber's equipment unusable. This would result in subscriber anger at having at least part of his or her investment rendered useless. Ironically, the focus of this anger is likely to be the cable operator and not the manufacturer who sold the now useless device.

Finally, retail availability of security hardware would require standardization of the scrambling schemes now currently utilized throughout the Unite States. Given the fact that there are approximately a dozen different scrambling approaches currently used by cable operators to secure their signals, the standardization of scrambling and descrambling functions would make obsolete a substantial portion of the customer premises and headend equipment that is currently in place. The replacement of this equipment would impose tremendous cost burdens upon the cable industry, and ultimately cable subscribers, which could delay implementation of new and promising technologies that also require significant capital expenditures, such as the deployment of fiber and digital video compression.

CONCLUSION

In conclusion, we wish to emphasize that signal security and theft of service are paramount concerns not just to cable operators and programmers, but also to legitimate subscribers, since ultimately it is the customer that pays for those who steal services through illegal descramblers and hook-ups. While proposals to unbundle services from security and to require third party availability of security devices are touted as pro-consumer, they actually will force millions of subscribers to bear the cost of a new wave of illegal signal theft.

Consequently, we urge that such proposals not be adopted.

NCTA appreciates the opportunity to comment on this important issue and looks forward to working with the subcommittee on this matter.

STATEMENT OF RICHARD S. FRIEDLAND ON BEHALF OF THE GENERAL INSTRUMENT CORPORATION

Good afternoon, ladies and gentlemen. I am Richard Friedland, President and Chief Operating Officer of General Instrument Corporation and I am pleased to join you for these important hearings—and I thank you for the opportunity to address the issue of security.

Mr. Chairman, I have a more complete statement I'd like to leave for the record. If I had to summarize my main message, it would be:

- Security in the NII is critical for the full development of the NII;
- It will be necessary to improve, or renew security over time to stay ahead of those who would work to compromise it, and;
- Standardization of security means no security;

The United States is experiencing significant breakthroughs in the technologies associated with computing and communications. And yet we are still only on the verge of realizing the vast benefits that can result from the deployment of advanced broad band networks. At General Instrument ("GI"), we are proud of our contribution to the digital revolution. But we are concerned that the full potential of the NII, and of commerce over the NII, may be thwarted if policymakers do not vigilantly protect the technological and economic forces that have brought us to this great opportunity.

Our progress to date has been driven by two strong and dynamic forces:

- A robustly competitive market for digitally-based products and services, with strong economic benefits to those that develop the intellectual property that manifests itself in such products; and
- Constant innovations in technology that facilitate this competition—innovations which are fueled by similar market forces.

These are the forces that drive a system of dynamic competition in this rapidly evolving digital world. These forces need to be encouraged and protected. This can only occur if there is 1) a recognition that security for protecting intellectual property is a critical element; and 2) a recognition that security systems must be renewed, or evolve, through continued technological innovation if they are to keep pace with those who would seek to violate property rights.

From our experience over many years, we have learned some things about security.

- First, No matter how good the security system is, it will eventually be broken if the value of the material being protected is great enough. For this reason, security must be renewable. The fact that security is renewable security is itself a disincentive to attempts at signal theft.
- Second, For security to be renewable, government policy must not hamper innovation in the development of new responses to security breaches and in the development of new forms and methods of security.
- Third, A single, national, uniform security standard, which is frequently advocated under one guise or another, is a dangerous idea. Not only does it provide attackers with a single target with enormous return, but it would stifle the innovation necessary for security to stay ahead of attackers. A single, national, uniform security standard should not be advocated, advanced or supported by the government.
- Fourth, Published ("open") standards for security systems tend to weaken rather than strengthen security. Thus, unbundling and open interface requirements, where they are employed, should be limited to functions that pose no threat to the intellectual property of programmers.
- Fifth, Security functions should be placed in the hands of those who have an incentive to protect intellectual property. Proposals either to permit or to mandate their placement elsewhere should be resisted, and
- Sixth, while software-based security may be adequate for some applications, hardware-based security may be needed for others.

These principals are based on the actual experience of General Instrument and a review of the satellite home video industry can provide some valuable lessons.

In its 1984 amendments to the Communications Act, Congress recognized the intellectual property rights of distributors of programming to cable television systems, and encouraged scrambling of those signals as a means to protect those rights. Over the next few years, virtually all programmers scrambled their signals using technology developed by General Instrument Corporation. Our scrambling system made it possible for programmers to receive compensation from home satellite television viewers, thus providing incentives for the creation of programming for these and other consumers.

The result has been the development of a home satellite television industry consisting not only of programmers but of manufacturers of satellite equipment, including receivers, and a large and active home satellite dish ("HSD") dealer network throughout the United States. However, the path to this result has been neither straightforward nor costless.

From the beginning, the HSD industry was plagued by satellite signal theft. At its height, we estimate that as much as 70 percent of descrambling equipment had

been modified by or for home satellite dish users. An underground industry of "hackers" provided the computer chips and modifications which permitted such signal theft to occur. Some styled themselves as "satellite pirates," no doubt to convey a romantic, swashbuckling image. Unfortunately, some flavor of this perspective can be found in an article in the August, 1994 issue of Wired Magazine, which treats these "hackers" as celebrities.

In fact, what was occurring was theft. It was theft of service and theft of property and it was and still is illegal. In the end, some went to jail. This theft injured programmers, who were deprived of compensation for the use of their intellectual property. It injured the creative community that provided programming. It injured legitimate satellite dealers who found themselves unable to compete with other dealers who offered "free" programming through modifications of descramblers. It injured honest consumers, those who paid for programming while others were stealing it. And it even injured those viewing unauthorized programming when they found themselves defrauded by those dealers who had promised no-fee access, a promise that was undercut as the industry took increasingly effective countermeasures. Among those injured was GI, which had to invest tens of millions of dollars and valuable research and development resources in those countermeasures.

I recount this experience because I think it important that you understand some of the dynamics behind the need for security of video programming and other information as it is distributed over the advanced broadband networks of the NII. Indeed, the problem is not limited either to those future systems or to the satellite industry. Today, cable television systems suffer, by reliable estimates, a known average theft rate of over 11 percent, at a cost of $4.7 billion.

The record is clear and indisputable. where there are significant profits to be obtained by illegal interception of programming or other electronic information, it will be attempted on a widespread basis by sophisticated attackers.

Our experience with satellite signal theft also suggests that security for electronic commerce will be tailored to fit the needs of users. The level of security will reflect a cost/benefit analysis based in large part on the type of data that is being secured and an analysis of the threats.

For instance, the vast majority of today's users of cellular telephones apparently feel that the degree of protection afforded by statutes that make listening to their conversations illegal is adequate even though such listening is easily accomplished. Those who need additional security, whether for wireless or wireline telephone service, obtain it.

Similarly, security for on-line services today consists primarily of centralized systems that depend on passwords. There have been recent reports of computer hackers using "sniffer" programs to intercept passwords and break into computer network services. In spite of these attacks, data on computer network services is not normally encrypted when delivered to individual users, even though there may be economic value in the data.

On the other hand, transactions in electronic commerce, such as banking, will probably require a high degree of security. Most users will insist that their privacy be maintained and that their funds be protected. There is already considerable experience with the need for security of video products, as I have said. In these instances, one widely accepted principle is that security must be placed as close as possible to the ultimate user to make signal theft more difficult.

As these various electronic services develop * * * as the NII itself begins to develop * * * it is important for us to recognize that these dynamic competitive and economic forces will be present. In fact, the history that has led us to where we are today clearly shows that we can not prevent this dynamic from occurring. It is for this very reason that we strongly believe in the fundamental points on which I began these comments:

- Security in the NII is critical for the full development of the NII;
- It will be necessary to improve, or renew security over time to stay ahead of those who would work to compromise it, and;
- Standardization of security means no security;

Finally, I would like to dispel what I believe to be a false conflict in the debate over the NII. Some fear that the NII will become nothing more than a vehicle for selling PPV movies or distributing old television sitcoms. It would, indeed, be a tragedy if that were the only use to which the new technologies will be put.

Based on our experience, however, I think these technologies will offer much more than entertainment services. The technologies that can provide 500 channel cable television systems are also the technologies that can bring users an explosive growth of communications capacity through a dramatic increase in bandwidth. These technologies are about making video an integral part of all communications

and this has exciting ramifications for education, health, and business efficiency. Among our current projects is one that can provide high-speed data access to the Internet at data rates supported by broad band networks but beyond the capability of wireline telephone carriers. It also gives new meaning to the term "access", opening up new vistas of communication and electronic entrepreneurial activity.

Nonetheless, we should not forget the crucial role that entertainment video will play in generating the investment that will put broad band capacity and digital video compression into homes and businesses all over America. Entertainment television is an engine that drive this deployment. But this can happen only if entertainment television's need for renewable security receives widespread and continuing government support.

Thank you for the opportunity to appear before you today. I would be happy to answer your questions.

STATEMENT OF MARTY KANNER ON BEHALF OF THE OHIO POWER COMPANY WHOLESALE CUSTOMER GROUP

S. 1822, as reported by the Senate Commerce Committee, includes provisions that, if enacted, would overturn a recent court decision that denies millions of electric consumers meaningful regulatory protections.[1] The OPCO Wholesale Customer Group strongly supports these provisions and urges their prompt adoption by Congress. The Group has no position on the underlying telecommunications legislation.

The OPCO Wholesale Customer Group is comprised of 15 municipal electric utilities that purchase all or nearly all of their power from the Ohio Power Company (OPCO).[2] The Group participated in the FERC and court cases reviewing OPCO's affiliate coal purchases, and will pay excessive power rates as a result of the court's ruling in this matter.[3] We urge Congress to promptly overturn this decision and restore the authority of the Federal Energy Regulatory Commission (FERC) to exercise its responsibilities and ensure that OPCO can recover only "just and reasonable" rates.

Put simply, the court's *OPCO* decision allows utilities that are part of registered holding company systems to purchase goods and services from affiliates without the controlling forces of either effective regulatory oversight or competitive pressures. Insulated from both regulation and market forces, registered holding company (RHC) affiliates have no motivation to operate economically or efficiently. As a result, electric ratepayers will be forced to pay excessive rates to cover these uneconomic transactions. Congress must act to restore the authority of FERC to review the costs of all goods and services, including those supplied by affiliates, when setting electric rates for utilities that are part of registered holding company systems.

Ratepayers of registered holding companies should receive the same regulatory protections available to all other electric consumers.

BACKGROUND

The American Electric Power Company (AEP) is a registered utility holding company that owns eight operating electric utility companies, including the Ohio Power Company (OPCO). OPCO in turn owns three coal companies, one of which, Southern Ohio Coal Company (SOCCO), owns several coal mines. SOCCO's Martinka mine (recently sold to an unaffiliated coal company) is the "captive coal mine" that was at issue in the *OPCO* case.

Because AEP is a registered holding company, the Public Utility Holding Company Act (PUHCA) requires that its investments be approved by the Securities and Exchange Commission (SEC). In 1971, the SEC granted Ohio Power's request to invest $10 million in SOCCO to develop the Martinka Mine. OPCO told the SEC that it would buy all the coal from Martinka at "cost," including a return on investment. In subsequent orders, the SEC approved additional investments by Ohio Power in SOCCO to further develop the Martinka Mine. It is worth noting that the SEC approved the investment, not the terms of the underlying contract. The SEC certainly did not compel OPCO to purchase coal from SOCCO. All of the SEC orders stated

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[1] These provisions were approved by the Senate Energy Committee on August 22, 1994, as S. 544.

[2] The OPCO Wholesale Customer Group includes the Cities of Bryan, Clyde, St. Clairsville and Wapakoneta, and the Villages of Arcadia, Bloomdale, Carey, Cygnet, Deshler, Greenwich, Ohio City, Plymouth, Republic, Shiloh, and Wharton. The largest of these communities is Wapakoneta, which serves about 5,000 customers; the smallest is Wharton, with less than 200 customers.

[3] *Ohio Power* v. *FERC*, 954 F.2d 779 (1992).

that the price at which SOCCO sells coal to OPCO will not exceed the cost to the seller (SOCCO). At issue in the subsequent court case was the question of whether the SEC's action simply set "cost" as a *ceiling* for the rates that could be charged for the captive coal supplies, or both a ceiling and a floor.

In 1982, Ohio Power filed for a wholesale rate increase at the Federal Energy Regulatory Commission (FERC). During the subsequent rate case, the OPCO Customer Group and FERC staff argued that OPCO had been paying substantially more for its affiliate captive coal than the price of comparable coal that could be competitively acquired from unaffiliated companies.

FERC found that OPCO's captive coal costs were unreasonably high—exceeding the comparable market price by 28 to 100 percent within a six year period. FERC ordered Ohio Power to refund to the OPCO wholesale Customer Group the difference between the cost of affiliate coal purchases and the comparable market price for the overcharges paid while the rate case was pending. The FERC further ordered OPCO to prospectively charge the Customer Group only the market price for coal—regardless of the actual cost of producing coal from its affiliate mines. If SOCCO could cut its costs below the market price, OPCO would receive additional profits. If it failed to beat the price of its competitors, then OPCO would only recover the market price, rather than the total "cost" billed for its affiliate coal.

During the next four and one-half years, Ohio Power fought this ruling in the courts, arguing that FERC had no authority to review the cost of OPCO's affiliate coal purchases. Ohio Power asserted that the SEC's "at cost" requirement assured the company recovery of all costs without consideration of the appropriateness of those costs. FERC and the Wholesale Customer Group argued that other requirements of PUHCA are designed to ensure that "costs" are "economic and efficient" and that, in any event, the action of the SEC did not circumscribe the authority of the FERC to review the reasonableness of all cost components—including affiliate purchases—in setting wholesale rates.

On February 4, 1992, the Court of Appeals held that a regulatory overlap between the SEC and FERC existed. To resolve this alleged overlap, the court determined that the "at cost" standard contained in PUHCA was more specific than FERC's "just and reasonable" directive, and, therefore, FERC was barred from reviewing OPCO's captive coal purchases. While the OPCO Customer Group believes the court grossly erred in its ruling, it is important to recognize what the court did not determine. It did *not* conclude that:

- The cost of OPCO's captive coal purchases was reasonable or appropriate;
- The SEC had adequately regulated these captive coal purchases; or
- The resulting regulatory regime will adequately protect consumers.

COURT RULING PUTS ELECTRIC CONSUMERS AT RISK

The court's ruling has left the OPCO Customer Group without a forum—available to almost all other electric consumers—to question the costs of its wholesale power supplier. The members of the Wholesale Customer Group have been forced to repay OPCO $5 million in excessive charges and will continue to pay wholesale electric rates that include excessive costs for captive coal. Coal costs comprise about 50 percent of the total wholesale power rate of Ohio Power. Continued uneconomic coal purchases from affiliate mines will result in the Customer Group paying $1.5 million per year in excess charges, according to our calculations.

This is not simply an issue for wholesale electric consumers. The logic of the court's determination that the SEC holds preclusive authority with respect to registered holding company inter-affiliate transactions will similarly preclude state commission review of these transactions. For that reason, legislation to overturn the OPCO decision is supported by the Public Utility Commission of Ohio, the Ohio Consumers' Counsel, the Ohio Municipal Electric Association, and the Industrial Energy Users-Ohio. All classes of ratepayers—wholesale and retail, residential and industrial—are harmed by OPCO and will benefit from corrective legislation.

CURRENT SEC REVIEW INADEQUATE

The registered holding companies argue that OPCO did not create a regulatory gap, but simply determined that inter-affiliate transactions are regulated exclusively by the SEC. The OPCO Customer Group takes little comfort from the knowledge that the SEC can regulate these transactions. Without significant changes in the SEC's regulatory responsibility, a dramatic increase in resources dedicated to reviewing these transactions, and a major shift in institutional priorities and perspectives, there is little reason to believe that these transactions will be adequately re-

viewed and that consumers will be adequately protected. This determination is based on the SEC having:

- Approved OPCO's initial investment in SOCCO without any review of the underlying contracts (and consequently the economics of the investment);
- Approved subsequent investments in OPCO's affiliate mines without any review of the efficiency of then existing operations;
- Ignored, since 1989, complaints filed by the OPCO Wholesale Customer Group alleging excessive captive coal costs; and
- Failed to review the terms of sale—in what we believe to be apparent violation of PUHCA—when OPCO sold one of its affiliate mines.

This is not to say that the SEC should have no role in reviewing inter-affiliate transactions. But it must be recognized that the SEC has little experience or expertise in cost-of-service regulation. Moreover, PUHCA does not explicitly provide the SEC with the necessary regulatory tools to adequately protect consumers, and the agency does not currently have the staff or resources to fully and effectively oversee these transactions. If the SEC is to continue to exclusively regulate inter-affiliate transactions, the agency needs legislation to provide clearer guidance, necessary regulatory tools, and additional resources.

A better approach is to overturn the *OPCO* decision and restore FERC's traditional ratemaking authority.

AFFILIATE PURCHASES SHOULD BE EXPOSED TO MARKET FORCES

Registered holding companies object to efforts to allow utility rate regulators to apply a market test to affiliate purchases, asserting that anything less than full cost recovery of its affiliate operations would contravene reasonably held expectations and be financially devastating. A review of the facts shows that full cost recovery was never a reasonably held expectation:

- The SEC rules implementing PUHCA call for affiliate suppliers to charge rates that mirror those of unaffiliated suppliers;
- Prior to the court's ruling, holding companies had no reason to believe that the FERC or relevant state commissions could not review affiliate purchases and disallow costs above market. In fact, the Public Utility Commission of Ohio had previously regulated these purchases;
- Year after year, OPCO told state regulators, in justifying its affiliate coal supply arrangements, that the affiliate mines eventually would meet or beat the prevailing market cost of coal. Thus, by OPCO's own admission, a market test is an appropriate regulatory standard[4]; and
- OPCO recently agreed, as part of a state settlement with respect to its acid rain compliance plan, to charge retail ratepayers no more than a specific price for its affiliate coal—even if that price were below the actual cost of production.

Thus, holding companies had no reason to suspect that the recovery of imprudent or excessive costs from affiliate operations were guaranteed.

The suitability of a market test for affiliate purchases is further evidenced by the recent sale of one of the OPCO-owned mines—the Martinka mine that was the subject of the court case—to an unaffiliated coal company. Within five months of purchase, the new owner reduced the cost of coal from the mine from $47 per ton to $29 per ton. The new owner also plans to shut down the mine within two years unless costs decrease further. In contrast, when OPCO owned the mine and enjoyed automatic cost recovery, it steadily increased investment in and expanded output from the mine.

The SEC has asserted that "Ohio Power, by requesting orders, effectively sought a variance from Rule 92, which prescribes a lower-of-cost-or-market standard for transfers of seller-produced goods."[5] Despite this assertion, nowhere in (1) OPCO's applications for the four orders, (2) the SEC's notice of those applications, or (3) the orders themselves, is any variance from Rule 92 specifically requested or specifically granted. Rule 92 is not mentioned, cited, or discussed in any of the documents. There is no basis for assuming that Rule 92—and the pricing standard contained therein—did not apply to these affiliate contracts. Unlike other SEC rules, Rule 92 is self-executing and has no provision for exemption. According to the SEC's own

[4] Despite these pledges, the cost of coal from the Martinka mine never fell below the cost of comparable coal from unaffiliated suppliers.

[5] SEC Statement to the Senate Energy Committee, May 25, 1993, page 6.

rules (Rule 100), an exemption from the SEC's rules must be specifically requested and granted.

FERC OVERSIGHT MUST BE RESTORED

The Federal Power Act vested in FERC the responsibility for reviewing and approving wholesale electric rates. To effectively exercise that responsibility, FERC must be able to review the appropriateness of each cost component that goes into providing electric service. FERC's ability to adequately administer its responsibilities is undermined if certain cost components are placed outside its regulatory reach. This is precisely the result of the court's *OPCO* ruling. Since *OPCO,* the FERC has the ability to review all cost components for all electric utilities *except* those that are part of a registered holding company system. Utilities that are part of registered holding company systems should be treated in this context like all other utilities.

FERC has the resources, authorities, and expertise to conduct cost-of-service studies and review the appropriateness of these costs. Unlike current SEC rules, wholesale customers and other consumer representatives can call for a FERC investigation of utility purchase practices and can receive refunds if excessive charges are discovered.

Absent strong regulatory oversight, nothing prevents OPCO from continuing to purchase overpriced coal from its affiliates and electric consumers will continue to be saddled with the resulting excessive costs.

PROVISIONS IN TELECOMMUNICATIONS BILL PROTECT ELECTRIC CONSUMERS

S. 544, as incorporated in S. 1822, protects consumers from continued abuse. The legislation overturns the *OPCO* decision and restores the authority of the FERC to fully review the appropriateness of affiliate charges for goods and services. The legislation also affirms the authority of state public utility commissions to review these charges in setting retail electric rates.

The OPCO Wholesale Customer Group is particularly pleased that S. 544 allows FERC review of certain costs incurred under existing contracts. We also note that the legislation contains a savings provisions addressing directly the existing contracts of greatest interest to the Group: two Ohio Power affiliate coal contracts. This provision affords greater protection to these two contracts than we believe is deserved. Nonetheless, we recognize that the provision will allow certain review of charges under these affiliate contracts, and we therefore urge the Senate to adopt this legislation expeditiously.

We note that S. 1822 also amends the Public Utility Holding Company Act to facilitate registered holding company entry into telecommunications services. Without the OPCO reversal contained in S. 1822, this diversification of registered holding companies into telecommunications services will permit new opportunities for abuse.

STATEMENT OF DR. ROBERT SANDERSON ON BEHALF OF THE IMAGE TELECOMMUNICATIONS CENTER, EASTMAN KODAK COMPANY, ON BEHALF OF CBEMA

INTRODUCTION

Mr. Chairman, Members of the Committee: My name is Robert Sanderson. I am manager of the Image Telecommunications Center of Eastman Kodak Company. I appear before you today on behalf of the Computer and Business Equipment Manufacturers Association ("CBEMA").

CBEMA represents the leading U.S. providers of information technology products and services. Its members had worldwide revenue of $259 billion in 1993. They employ more than 1 million people in the United States. CBEMA develops and advocates public policies beneficial to the information technology industry in the U.S., participates in all pertinent standards programs worldwide, sponsors ongoing industry councils to improve the business operations of members, and provides a forum for executives to address issues of common interest across national borders.

As manufacturers of communications equipment and information service providers and also as major users of communications service, CBEMA members have a direct stake in the transformation of telecommunications which is taking place in this country and throughout the world. We share the vision underlying S. 1822: the convergence of communications and computing, the creation of new technologies enabling interactive, multi-media applications and a competitive environment that will yield immeasurable benefits to the American public.

In its present form, however, S. 1822 fails to adequately address two vital elements of the necessary legal framework. The first is the need to assure "interoperability" of customer premise equipment with the public telecommunications networks and among and between communications networks and information providers. The second is the correlative need, through separate pricing of equipment and service—"unbundling" to assure, in markets where competition does not exist, that providers of transmission paths do not leverage their control of these facilities to deprive consumers of choice in selection of the equipment they wish to connect and the services they wish to use.

In collaboration with the Business Software Alliance, and the Electronic Retailers, we are supporting an amendment offered by Chairman Leahy to address these issues. In my testimony today, I will focus on interoperability. CBEMA endorses the provision of the amendment which mandates unbundling where workable competition does not exist in the relevant public telecommunications market. Other members of our coalition will discuss the provisions of the amendment relating to unbundling.

We very much appreciate the opportunity to explain why we believe these issues must be addressed in the pending legislation and how the Leahy amendment responds to them.

The Problem: the Need for Legislation to Assure Interoperability

Although "interoperability" can sometimes involve complex engineering and technological questions, the concept itself is not difficult. It simply means that certain interfaces—points of interconnection with and within communications networks—are accessible, through standard interfaces and protocols, to all manufacturers of equipment and to the information providers who supply the content that passes through the public telecommunications networks. Interoperability is the means by which the consumer is provided with access to the public telecommunications network, using equipment of his or her choice to obtain the service of his or her choosing.

The evolution of the fax machine may help to illustrate what we mean by interoperability. In the early days of the fax industry, manufacturers did not use standardized transmission protocols. All of the machines manufactured were "interconnective" in the sense that they could all be plugged into the public communications network and would work. However, in the early days, a consumer owning a fax machine manufactured by company a could not "talk" to a consumer owning a fax machine manufactured by company b. The industry came to realize that this was an unacceptable situation and came to accept standardized protocols that now permit all fax machines to talk to all other fax machines regardless of the manufacturer. These standardized protocols were arrived at through participation within the ccir international standards organization. Suppose, however, that a monopoly supplier of communications service had also been one of the principal manufacturers of fax machines. In that situation, the communications provider could have suppressed or withheld information about the transmission protocols of the communications network in a way which would have effectively forced the consumer to purchase fax machines from a manufacturer affiliated with the monopoly supplier of communication service.

This example illustrates two of the primary dimensions of interoperability. The first is that "interconnectivity"—the ability to plug equipment into the public telecommunication network—is a necessary, but not sufficient, condition to interoperability, interoperability involves logical, as well as physical, interfaces. The critical interfaces must be designed so that machines can be plugged into the network and also communicate in ways which are understood by one another and with the information services that the consumer wishes to use. The second dimension of interoperability is that lack of competition in particular communications markets can adversely affect interoperability even if it does not affect interconnectivity.

The identical situation and the same dangers exist with respect to the new devices—melding computing, television and telephone—that will enable the information world of the future. Interoperability, achieved through standard and open protocols at the critical points of connection, is essential to the vision of S. 1822: it fosters competition and consumer choice in each of the three sectors that comprise the communications infrastructure—consumer equipment, transmission and information services.

The issue of interoperability is not new. It was addressed by the Federal Communications Commission ("FCC") in the 1970's in connection with its efforts to create a competitive market for what is referred to as customer premise equipment—telephones and computers that can be plugged into the existing public switched network. Policymakers recognized that a competitive, cost effective equipment marketplace would be realized only if the point of connection between the telephone or com-

puter and the telecommunications network—the interface—were "open," in the sense that the technical standards governing the interface were available to all equipment manufacturers. To accomplish this, the FCC adopted rules establishing open interfaces. These regulations, referred to as the part 68 rules, mandate certain operating parameters for equipment permitted to be plugged into the network, so as to assure transmission quality and avoid harm to the network. At the same time, the rules require that the critical interfaces and protocols of the network be made available and that changes be made known on reasonable advance notice to all manufacturers so that the devices they manufacture and sell to consumers will work.

This arrangement has proved to be a great success. Regardless of manufacturer or model, regardless of whether the telephone, pc or fax machine is purchased by mail order or at retail, the American consumer is assumed that these communications devices will work with the telecommunications network anywhere in the United States simply by plugging the standard jack into the standard port that constitutes the interface. In this sense, interoperability exists today.

The challenge of interoperability is, however, still with us for two basic, interrelated reasons:

- The success of the part 68 rules was bought at a high and perilous price. We tend to forget how very difficult it was for the agency to develop and, in the early stages, to enforce those interoperability criteria. From beginning to end, the deregulation of customer premise equipment took more than half a decade. There were two appeals to the courts, both of which centered on the agency's legal power to assure interconnectivity (which, at the time was all that was required for interoperability). Throughout that period, the development of a competitive marketplace for customer premise equipment was delayed. One of the three judges who heard these cases would have exempted equipment manufactured by a telephone company affiliate from the FCC's rules. Had that view prevailed, it is doubtful that we would have a highly competitive customer premise equipment marketplace today. We cannot let these legal problems resurface. We need a system in place today to deal with the problems of tomorrow.
- What works in today's communications environment will not work tomorrow. The convergence of computing and telecommunications services, the emergence of new information services and of new technologies, and the expansion of the communications path to include distribution systems which were previously one way and closed will require new protocols and new interfaces to assure interoperability in the future. We must anticipate this need of tomorrow and believe that the Leahy amendment will provide for it today.

But, the communications world is not the same as it was in the 1970's. Changes in the marketplace must also be taken into account in fashioning legislation responsive to the need for interoperability in the future. When the FCC adopted the protocols that are now embodied in its part 68 rules, the major local exchange carriers were under common ownership with what was, essentially, the only long-distance carrier. Most of the equipment in the marketplace came from the manufacturing arm of that same company. Obviously, the world is very different today. Today, consumers can—through normal distribution channels—purchase a telephone, including highly sophisticated telephone systems, or a fax machine from one of several dozen manufacturers. They can purchase personal computers and computing systems from a large number of domestic, as well as foreign, manufacturers. They have a choice of long-distance carriers. And, as a result of legislative initiatives like S. 1822, they may soon have a choice of local exchange carriers and of video service providers.

Increasing competition in the communications field, as well as in the equipment manufacturing field, changes the policy dynamic. Competition has brought with it a realization, on the part of the companies competing or seeking to compete in these fields, that their own best interests are served by attempting to work out the technical and operational characteristics of interoperability through private national and international standards setting bodies and inter-industry negotiations. Today there are private sector standard setting bodies and inter-industry groups that simply did not exist in the 1970's. Indeed, cooperative work on interfaces and protocols that will be needed to assure interoperability in the future is already well underway in the private sector.

In CBEMA's view, there are three basic lessons to be learned from this history:

1. The need for interoperability standards for key interfaces will not diminish as we move toward the complete integration of the electronic information distribution systems that is the vision of the information superhighway.

2. Where competition in a particular communications market exists, standard setting should be left to private sector standard setting bodies. In this case, the danger that the communications path provider will attempt to manipulate the standards in ways which are anti-competitive does not exist, and there is no need for governmental intervention.
3. Where competition in a particular communications market does not exist, regulatory intervention may be necessary; and, in those circumstances, the scope of the FCC's authority should be as clearly defined as possible.

These considerations are, in very significant measure, reflected in H.R. 3636 passed by the House of Representatives earlier this year. Section 205 of that bill deals with critical interfaces and interactive services. In its findings, section 205 states that "open" interfaces may include proprietary technology so long as the protocols are available upon reasonable terms and conditions, if any. We entirely' agree with this principle. Section 205 requires the FCC to undertake certain inquiries and take steps to assure that interoperability is preserved and enhanced in the communications infrastructure of the future.

The Leahy amendment to S. 1822 does not reflect disagreement with the policy predicates that underlie section 205 of H.R. 3636. Rather, it is designed to build upon the careful and thoughtful work of the House measure, in order to assure that the pitfalls and difficulties of the past are avoided and float the transition to the new information infrastructure is—taking account of changes that have already occurred and are occurring in the marketplace—as smooth and efficient as possible.

The solution

The Leahy amendment deals with interoperability through three basic provisions. First, the amendment carefully defines the interfaces that must be open and defined if interoperability is to be achieved and what is meant by the term "open". This defines the scope—the "what"—of FCC authority. Second, the amendment establishes procedural rules that the FCC must adhere to before intruding in the private standard setting process. This defines the "when and where" of FCC authority. Third, the amendment, like the House Bill, requires the FCC to conduct an inquiry and transmit a report to Congress before it commences any proceedings looking toward the establishment of interface standards. This enables Congress to assure that the FCC stays within proper bounds and on course.

The provisions of the amendment defining the scope of the FCC's jurisdiction and the procedures it is to follow warrant further explanation:

1. Defining the critical interfaces and openness. The amendment carefully limits the FCC's jurisdiction to three interfaces that are critical to interoperability:

- The points at which communications equipment, such as telephones, computers, set top boxes, fax machines, etc., Interface with the public network.
- The points at which information service providers interface with the public networks.
- The points at which one public network (e.g., a local exchange carrier) interface with another (e.g., a competing cable system or a long distance carrier).

In defining these interfaces as critical, and therefore subject to regulation in marketplaces where competition does not exist, the Leahy amendment does not supercede or amend existing legislation with respect to compatibility. Nor does the Leahy amendment change the FCC's existing rules. In particular, the term "set top box" as we use it does not refer to the existing cable operator-supplied converter that is the subject of proceedings under the Cable Act of 1992. Rather, the amendment deals with new devices that are expected to enable the information world of the future and the interfaces that are essential to that future.

These three interfaces are, in our assessment, critical because they are essential to the flow of information from one end of the communications system to the other. In markets where competition does not exist, regulatory intervention may be necessary to assure that these paths remain open. Other interfaces—inside the computer, the set top box of the future or other customer premise equipment—need not be regulated. These interfaces do not control the flow of information from one end of the system to the other but, rather, govern the applications or uses to which the equipment is put. Thus, only the three interfaces that are critical to assure communications interoperability are, under the amendment, subject to governmental intervention where competition does not exist.

For similar reasons, the amendment limits the potential for governmental intervention, even with respect to critical interfaces, to those associated with "public telecommunications networks." There are in this country private communications net-

works maintained, for example, by large corporations to communicate among multiple locations or on a members-only basis for special interest users. There is no reason to require openness in these private networks because they serve only the private interests of the controlling entity. Moreover, many of these private networks are used as test beds for new technology. To force openness of private networks prematurely would serve to stifle technological advance. Of course, when a company has completed testing a new technology on its own network and seeks to bring that technology to market, for use with public networks, the openness standards should apply.

The meaning of the term "open" is also carefully defined in the amendment. Simply put, openness means that the technical parameters or standards are available on reasonable, non-discriminatory terms to all manufacturers and upon reasonable advance notice. Providers of communications paths are certainly permitted under the definition of openness to change the technical standards on the network side. They must, however, give advance notice of such changes to ensure that manufacturers and information providers can make the requisite changes to their equipment and protocols in order that interoperability is continuously assured and competition continuously maintained.

Open interfaces may and almost certainly will include technologies which are "proprietary" in the sense that they are subject to copyright protection or patent protection. There are numerous examples of proprietary interface technologies that are nonetheless open. The classic example is the jack referred to earlier in this testimony, that permits the consumer to purchase a telephone at retail and plug it easily and conveniently into the existing public switch network. That device is patented but is plainly open. Other examples of proprietary and open interfaces include the audio cassette and the cd player. A trip to any record or electronics store demonstrates that vigorous competition is thriving in areas of open proprietary standards.

Thus, the definition of "open interfaces" makes clear that open interfaces can include those which are proprietary. Openness is defined only by whether the interface technologies or protocols are available to all on reasonable, non-discriminatory terms and conditions, if any, and are not revised without timely notice or public process. This principle importantly serves the public interest. It enables interoperability to be accomplished without impairment of the protections that the intellectual property laws provide in order to stimulate and promote innovation and creativity. We believe it appropriate to codify this principle to remove any possibility of doubt or confusion.

The amendment explicitly denies the FCC jurisdiction over matters of intellectual property law. This does nothing more than codify existing law and policy. The Communications Act does not give the FCC power to declare that a particular interface is not patentable. Under existing law, the FCC does not have the power to invalidate a patent because of anti-competitive conduct or to establish a system of compulsory copyright license. There are sound reasons of policy for these existing limitations. The FCC's expertise is in communications policy and in the operation of communications technology; it has no expertise in copyright or patent law.

This limitation does not, however, prevent the FCC from effectively enforcing the openness requirement of the amendment in those marketplaces where competition does not exist. Under the amendment, the FCC can refuse to permit the marketing of equipment with critical interfaces that do not satisfy the openness standard and can refuse to permit communications providers to deploy critical interfaces that do not satisfy the openness test. Thus, the FCC can enforce openness of interfaces in circumstances where regulatory intervention is required, without intrusion into matters that are outside of its competence, and without impairment of other, no less important, values. The notion that denying the FCC jurisdiction over matters of intellectual property law will somehow or other prevent it from acting to enforce openness is simply false. Rather, the limitation on the FCC's jurisdiction over intellectual property matters merely codifies existing law.

There is one other element to the definitions that should be noted: the standards of openness and the protocols supporting interoperability will be uniform across all uses and all applications of the communications network of the future. We specifically reject the notion that the FCC, or industry, should establish separate and potentially different standards of interoperability for particular applications, such as the educational community or the medical community. The student doing his or her homework should have the same level and degree of access to the communications system and should be able to use the same equipment as the school principal or college administrator. Doctors should not be required to use one set of devices when they are at home or in the office and another when they are at the hospital. Through technical changes to S. 1822, the amendment makes clear that the FCC

is neither permitted nor empowered to establish separate interoperability standards for specific categories of users of the public telecommunications network.

The combined effect of these provisions is to delineate as carefully as possible the scope—the "what"—of the FCC's jurisdiction in the matter of interoperability. The amendment acknowledges that regulatory intervention may be necessary in some circumstances. By carefully defining what is subject to regulation, Congress can avoid or certainly ameliorate the problems and delays of the past.

2. Defining the timing and circumstance of regulatory intervention. The second major component of the Leahy amendment assures that interoperability standards are imposed by the government only where and when that is necessary. This is based upon the proposition that premature or promiscuous governmental intervention in standard setting will stifle attainment of an interoperable, consumer friendly, communications infrastructure. The imposition of arbitrary deadlines upon inter-industry efforts to achieve interoperability and upon the work of private sector standard setting bodies would plainly be counterproductive, both in terms of efficiency and end result. The particular danger is that, if the FCC prematurely intervenes in the standard setting process, it may choose—or be forced to choose—the protocols preferred by the dominant provider of communications service, thus enabling the dominant communications provider, through its manufacturing affiliates, to preserve and extend its monopoly. On the other hand, there may come a point where the government simply must intervene or interoperability will be frustrated.

The Leahy amendment balances these considerations. The FCC is not permitted to intercede in the private sector standard setting process unless and until it is reasonably clear—and the FCC finds—that the problem of interoperability (or the particular aspect of that problem under consideration) is unlikely to be resolved in the private sector. This timing mechanism provides private sector standard setting bodies and Inter-industry groups with a particular incentive to try to resolve the technological and related policy questions surrounding the critical interfaces as quickly as possible, in order to avoid the uncertainty—and cost—that always accompanies the initiation of proceedings by regulatory agencies. However, if and when the FCC concludes, in response to a petition or complaint, that impasse has been reached or that further private sector negotiations are unlikely to prove fruitful, it must act to set its own standards and the amendment so provides.

The amendment also assures that regulatory intervention in the standard setting process occurs only when the circumstances require it. The agency is empowered to dictate protocols for the three critical interfaces only if "workable competition" in the relevant public telecommunications market does not exist. In public communications markets where competition exists, the problem of leverage—of forcing consumers to purchase equipment or information from a provider affiliated with the operator of the communications network—does not arise. In these circumstances, the marketplace will take care of itself. By contrast, in particular public telecommunications markets in which competition does not exist or has not yet arisen, the opportunity for leveraging—for suppression of competition through the interface protocols and for the diminution of consumer choice—plainly does exist. In these circumstances, the amendment not only permits, but affirmatively requires, the FCC to intercede.

The Leahy amendment deliberately refrains from attempting a mechanical definition of the term "workable competition." We agree. It has been our experience, in other communications contexts, that the attempt to fashion a litmus test of the existence of competition does not work and results in over- or under-regulation. The concept of workable competition is, however, well understood in anti-trust law. While there may be some contention as to whether workable competition exists in a particular situation, this is a matter best left to the expert judgment of the FCC.

Under the amendment, the FCC must find that both conditions for intervention exist before it sets out, through the usual rulemaking process, to attempt to dictate interoperability standards. It must find that the private sector process has not or is not reasonably likely to solve the problem itself; it must also find that this impasse or potential for impasse has arisen in a public telecommunications market that is not subject to workable competition.

The essence of this provision is flexibility. It places the trigger for regulatory intervention in the standard setting process with flee interested and affected industries—where it properly belongs—thereby avoiding premature regulatory involvement. It allows for the possibility that private sector standard setting bodies or inter-industry committees may be able to resolve some, but not all, of these issues. But the proposal also recognizes that the marketplace does not always work perfectly and that, after the lapse of a reasonable period of time and in the appropriate circumstances, governmental intervention should not only be permitted but required.

CONCLUSION

As I hope we have been able to show through this statement the three key elements of the Leahy amendment relating to interoperability are directly tied to the three basic lessons that we believe should be derived from the experience with interoperability and the technological vision of the future. First, legislation is needed to assure that interoperability is preserved in the telecommunications world of the future. Second, the legislation should place primary reliance on private sector standard setting to the fullest extent possible, consistent with the paramount goal of a competitive, user friendly, advanced communications infrastructure. Third, the legislation must dearly define the scope and the timing of regulatory intervention in those cases—wnich we hope will be rare—when intervention is necessary.

The Leahy amendment is narrowly and carefully drawn to fit these three criteria. We look forward to working with you and the committee's staff to make it a part of S. 1822 when that very important measure is brought to the senate floor.

DR. ROBERT SANDERSON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR LEAHY

Question 1. Dr. Sanderson, your testimony agrees with the amendment's definition of three critical interfaces and explains what you mean by openness. These points are where consumer or communications equipment interconnects with the public network, where public networks interconnect with each other and where information service providers interconnect with the public network. Dr. Schmidt, on the other hand, testifies that there are a handful of critical interfaces including points between operating systems and devices, between applications and operating systems, and between input/output devices and the hardware. Can you reconcile these differing views of what critical interfaces are?

Answer. The basic difference between Dr. Schmidt's views and those expressed in my testimony does not turn on the definition of "interfaces" but, rather, upon the question of the scope of the Federal Communications Commission's jurisdiction. It is certainly true that there are interfaces at points between applications and operating systems, and between input-output devices and hardware as Dr. Schmidt notes. It appears that Dr. Schmidt believes that the FCC should have jurisdiction over all interfaces including those housed in customer premises equipment. By contrast, CBEMA believes that the FCC's jurisdiction should be limited, as it traditionally has been, to preserving access by the public to communications networks. CBEMA believes that FCC jurisdiction should be limited to interfaces residing within the communications network and at the point of interconnection between customer premises equipment and the communications network. CBEMA sees no sound reason of policy or of technology to expand the FCC's jurisdiction to encompass interfaces housed within customer premises equipment. The equipment manufacturing industries are very competitive and, therefore, questions of interoperability in relation to applications and operating systems and between input/output devices and hardware will, as they have in the past, be worked out through private sector standard setting bodies and the normal operations of the marketplace.

Question 2. Dr. Sanderson, your testimony evidences a good deal of confidence that private industry and its standard setting bodies can and will develop protocols for openness for the three critical interfaces for the NII. On what do you base such confidence?

Answer. The equipment manufacturing industry is more aware than it has ever have been of the need for open systems approaches and interoperability in order to generate needed markets of scale. It is CBEMA's view, based upon experience, that, where competition exists, standard setting for critical interfaces should be left to private sector bodies and the marketplace. The examples of the development of interoperable facsimile machines and the interoperability of compact disks and compact disk players cited in our testimony and similar illustrations support CBEMA's confidence that private industry and its standard setting bodies can and will develop protocols for openness of interfaces for the NII in markets where competition exists. In such markets, manufacturers and communication service suppliers alike have economic incentives to assure openness between equipment, information content and communications paths. The private sector standards setting process works more efficiently, to achieve better and more flexible results, than direct governmental standards setting ever could.

Question 3. Dr. Schmidt's testimony seems to approach the area assuming that the NII will be controlled by monopolists exercising monopoly power through interfaces. Do you agree with Dr. Schmidt's perspective in this regard?

Answer. If Dr. Schmidt's view regarding monopoly power is intended to encompass the equipment manufacturing and information service industries, I do not

agree. These industries are highly competitive and there is no reason to believe that either or both of them will come to be dominated by a company possessing monopoly power. There are, however, segments of the communications industry—notably cable television service and local exchange telephone service—that have monopolistic characteristics at present. In these situations, we believe that FCC intervention in the standard setting process may become necessary to prevent these companies from maintaining their monopoly position by control over the crucial interfaces. That is why we support the Leahy-Thurmond Amendment.

Question 4. Dr. Sanderson, is the language of the Senate Commerce Committee Report—that limiting its interoperability requirements to ensuring the connection of information appliances and services to the network—consistent with your view? The Report concludes that "requiring additional standards for computers, software, and other technologies would have the effect of freezing technology, slowing innovation, or limiting the development of new features and capabilities." Do you agree?

Answer. CBEMA certainly endorses the language of the Senate commerce Committee Report which concludes that "requiring additional standards for computers, software and other technologies would have the effect of freezing technology, slowing innovation, or limiting the development of new features and capabilities." We differ with the Report in two respects. First, as stated in our testimony, interconnectivity is a necessary, but not a sufficient, condition to assure interoperability. Interoperability involves logical, as well as physical interfaces which must be designed so that machines can not only be plugged into the network (interconnectivity) but also communicate in ways which are understood by one another and with the information services that the consumer wishes to use. It is not clear to us that the Senate Report language encompasses interoperability in this broader sense. Second, we, at CBEMA, believe that properly defined interoperability requirements should be codified so that the FCC and affecting private sector enterprises will have a clear understanding of the meaning of the term and the extent of permitted governmental intervention in the interoperability standard setting process. This is why we urge adoption of the Leahy-Thurmond Amendment.

DR. ROBERT SANDERSON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Could you each please briefly explain your perspective on the need for language in the Leahy-Thurmond amendment to promote "interoperability", as compared to "interconnection"?

Answer. It is CBEMA's view that interconnectivity is a necessary, but not a sufficient, condition to achieve interoperability. Interoperability involves logical, as well as physical interfaces. That is, it is not enough that customer premises equipment, such as fax machines, computers, televisions (including HDTV), the new set top boxes, and all such information appliances be able to be plugged into the communications networks ("interconnectivity"). Protocols and standards must also be established so that these appliances can understand—interoperate with—one another and with the information services that a consumer wishes to use. Issues relating to interconnectivity are already dealt with under Parts 15 and 68 of the FCC's rules. While the technical standards embodied in those rules may have to change, the basic principle of interconnectivity and the Commission's jurisdiction to mandate it when necessary, are well-established. This is why, in our testimony, we have urged the Congress to preserve the FCC's existing jurisdiction. Again, interoperability is, however, broader than interconnectivity. It is CBEMA's view that the FCC'S jurisdiction on the matter of interoperability, in this broader sense, can and should be clearly defined, as it is in the Leahy-Thurmond Amendment.

Question 2. I believe that one risk of too much government intervention in setting protocols or standards is that innovation would be stifled. Could each of you please discuss your views on whether including "interoperability" language would risk limiting innovation?

Answer. CBEMA shares your view that too much government intervention in the setting of protocols or standards could stifle innovation and slow the deployment of new technologies. This is why CBEMA believes that primary reliance should be placed upon private sector standard setting and the normal workings of the marketplace to the maximum extent possible. It is CBEMA's view that the Leahy-Thurmond Amendment appropriately reflects this principle. It permits and encourages governmental intervention by the FCC in the standard setting process only in circumstances where competition is found not to exist and, even in that situation, only after the private sector has had a reasonable opportunity to work out the issue of interoperability on its own. Thus, the Leahy-Thurmond Amendment appropriately

balances the need for interoperability with the equally important public goal of promoting and encouraging technological innovation and creativity. Interoperability assumes that information appliances and networks can operate together, but within this standard individual appliances can offer differential, proprietary options.

Question 6. Mr. Sharp, Mr. Simon, and Mr. Sanderson, as proponents of this amendment, what is your response to providers who fear that this amendment would prohibit them from offering a service together with the customer equipment necessary to use the service?

Answer. In markets in which competition exists or, as the result of legislation emerges, the Leahy-Thurmond Amendment would not prohibit communications service providers from offering (bundling) service with the customer equipment necessary to use it. The Leahy-Thurmond Amendment empowers the FCC to mandate unbundling of equipment and service only where effective competition does not exist. In markets where competition does not exist, the danger, confirmed by past experience, is that the communications provider will use its monopoly over communications transmission capabilities to manipulate interoperability standards in ways which effectively force consumers to obtain customer equipment from that provider (or its affiliate equipment supplier), thereby depriving the consumer of choice and diminishing competition in both the communications and equipment manufacturing industries. It is CBEMA's view that the Leahy-Thurmond Amendment permits the efficiencies, and therefore consumer gains, that are reflected in the bundling of service with customer equipment while assuring that the consumer gains resulting from competition are not sacrificed.

Question 7. Could each of you please provide your perspective on signal security and the necessity of protecting against theft of service? In particular, is monopoly control over consumer equipment necessary or desirable to prevent theft of cable and similar services?

Answer. CBEMA recognizes that signal security and the necessity of protecting against theft of service are important, legitimate considerations. As a general proposition, it has not been shown that monopoly control over consumer equipment is either necessary or desirable to prevent theft of cable and similar services. For example, cable equipment suppliers have made available to cable companies equipment through which they can secure access to their signals at the pole, without any control point in the consumer's set top box. These matters are being dealt with by the FCC under provisions of the Cable Act of 1992; and, as noted in our testimony, the Leahy-Thurmond Amendment would not interfere with the Commission's jurisdiction under the Cable Act of 1992, nor would it prejudge the appropriate means of maintaining signal security and protecting against theft of service.

STATEMENT OF DR. ERIC SCHMIDT ON BEHALF OF THE SUN MICROSYSTEMS, INC.

INTEROPERABILITY AND THE NATIONAL INFORMATION INFRASTRUCTURE

I would like to thank Senator Leahy and Senator Metzenbaum for inviting me to testify before their committees today. This hearing will contribute greatly to the debate on how the Government can help make sure that all Americans have an opportunity to participate in the new Information Age.

Overview

Although the National and Global Information Infrastructure (NII and GII, respectively) will evolve over the rest of this decade, a number of key architectural and regulatory decisions and international agreements made in the coming months will shape a much longer future. Among these decisions and agreements are those which will define the degree of access and interoperability allowed, and whether monopoly control of critical interfaces will be permitted to limit that access and interoperability.

The telecommunications reform bill (H.R. 3626) passed by the House of Representatives several months ago recognized the importance of this issue. The House bill simply and reasonably asked the FCC to study the issue, and make recommendations. Now, as the Senate deliberates telecommunications reform legislation and the NII, a number of companies are attempting to block that FCC study in a bold-faced attempt to be in a position to create their own monopoly bottlenecks to the network of the coming Information Age. We urge that you reject that effort.

Vision

The NII and GII will be a network of networks, connecting multiple sources of data, education, services and entertainment, with homes, schools, hospitals, libraries, businesses and governments. It will be, in essence, a distributed library of digi-

tal information, with distributed borrowers and lenders. A library with instantaneous, global access. The socioeconomic impact of this global digital superhighway is widely expected to equal or exceed the impact of previous physical superhighways, such as the world's railroads, the Suez and Panama canals, the United States' interstate highway system, or Germany's autobahn.

In the case of networks, bigger is better. Access to more information is of greater value than access to less information. Similarly, access by more individuals and companies, is of greater value than access by fewer. Interoperability is the key to making this network of networks, bigger, better, sooner.

Sun's view is simply stated: To attract the substantial private investment required, to encourage free-market competition, and to enable universal access by the greatest number of information consumers and providers in the shortest time frame, interoperability will be achieved by making the critical interface specifications barrier-free.

Access and interoperabillty

Interfaces are connection points. Access to any network is achieved through its interfaces. For example: on the interstate highway, it is through on-ramps and off-ramps; on the telephone system, access is through telephone jacks and switches. For a public information infrastructure, there are a handful of critical interface points: between information sources and networks, between networks, between networks and information hubs, between operating systems and devices, between applications and operating systems, and between remote controls or input/output devices and the hardware.

Devices attached to this network will derive a large portion of their value from their ability to tie into a vast and rapidly expanding global information network. And remember these devices will be able to send as well as receive digital data.

For the NII network to achieve its economic potential—to attract broad economic participation, investment and usage—barrier-free access must exist at each of these critical interfaces.

When we discuss interfaces, it is important to carefully note the distinction between an interface specification, and an actual product which has interfaces that conform to the specification. Interface specifications are merely the words that describe the interface which allows two components to work together [or interoperate]. They are not blueprints, nor recipes for actual products. Let me repeat that: interface specifications are not blueprints, nor recipes for making knock-offs or clones. Sun and many other firms in highly competitive industries believe in protection of products but also believe that no one individual or company should own the rights to interface specifications for a public network, such as the NII. (Or for other public infrastructure networks. Can you imagine charging auto makers a fee to let them know the load-bearing capacity of the cement in the interstate? Or charging ship builders a fee to know the width of the locks on the Panama Canal? Or charging electric appliance makers a fee to know the voltage of electric currents flowing across the national power grid? Or locomotive makers a fee to design railroad cars for a certain gauge track?)

With respect to intellectual property rights, Sun strongly believes in—and will defend—the rights of intellectual property owners to maximize their returns on product implementations. At the same time, we believe that interface specifications are not protectable under copyright. The leading federal appellate court case, *Computer Associates* v. *Altai,* and the cases which follow it, all reinforce the separation of the interface from the implementation. The interface, as an element necessary for interoperability, falls into the category of ideas which the copyright law seeks to disseminate to promote the public good. This in no way curtails the protectability of the code itself.

Other forms of intellectual property law—notably patent—may grant varying degrees of intellectual property protection to interfaces. In these cases, barrier free access to interfaces contemplates that the government will seek to encourage the market to arrive at open standards, failing which, with respect to interfaces determined to be critical to the NII, the government, in consultation with private sector interested parties, should establish conditions which result in nondiscriminatory access and ability to use such interfaces for a truly nominal consideration.

Barrier-free access provides the opportunity for new and existing businesses to develop and sell: network pieces and time, information storage and retrieval devices and services, viewing and computing devices, device operating systems and applications, set-top boxes and information hubs, TVs and telephones, and hundreds or thousands of devices and services yet to be imagined!

It is this type of broad economic participation which is vital to the growth of a commercially and socioeconomically valuable, national information infrastructure.

And it is this activity which is threatened by those who would seek to limit access to the network by erecting barriers to the network's critical interfaces.

Barriers to competition

What are these barriers? How does monopoly control of an interface specification create a choke point to access and economic participation? Companies sometimes claim to have built intellectual property into an interface specification itself—then they limit access (completely or partially) to the specification to keep out competitors, or charge fees that reduce the economic viability of potential competitors. In short, they create economic entry barriers for potential competitors.

Economic competition requires the existence of substitute products or services. And in a network like the NII, control of any of the critical interfaces could—by definition—prevent the development of competing products or services by creating barriers to the information necessary for interoperability. Lack of economic substitutes would then result in monopolies.

It is important to understand that innovation, competition, and economic investment would be stimulated by a policy requiring barrier-free interface specifications for critical access points to the NII. Proprietary rights to product implementations are a prerequisite for investment—but proprietary control of the interface specification is not! Arguments to the contrary mix up the distinction between interface specifications and product implementations, in an attempt to retain or regain monopoly control to limit competition.

The value of the NII will lie in the amount of information it makes accessible, and the number of people who have access to that information. These are the factors which will attract private investment. Monopoly control of interface specifications would have just the opposite effect, by limiting the number of competing, interoperable products and services, thereby reducing usage and artificially sustaining higher prices.

In many competitive industries today—not just those involving public infrastructure networks—vast sums of money are invested by competing companies that make products that conform to barrier-free interface specifications. For example, no one company owns the 150 specification for 35mm film that allows multiple camera and film makers to compete with each other while still making interoperable products. In the computer industry today, the single most commonly used networking specification is a protocol called TCP/IP. Owned by no one, most of the major computer makers invest large sums of R&D dollars each year to make their own TCP/IP products better, yet still remain compliant with the barrier-free specification to ensure interoperability.

When Sun and others propose that critical interfaces to the NII should be barrier-free, we mean that their specification should be available for anyone to use. Everyone should be entitled to design and build compliant products that can interoperate with the NII. Monopoly control of any critical interface specification would limit that ability, greatly impair competition, retard technical innovation, slow the growth of the NII, and limit its economic value.

Interoperability is crucial for all potential information users and providers, but none more so than for rural areas, schools and hospitals. These are among the constituents that the opponents of Section 405 of the House bill seek to disconnect from interoperable network access. No one should be shunted to a network backwater that offers access to only a limited subset of distributed information resources—especially these groups!

Sun does not stand alone in its support for interoperability and its concern about the amendments under consideration. Among the other companies and organizations that have expressed similar concerns are: Accolade, Inc., the Center for Media Education, the Center for the Study of Responsive Law, the Consumer Federation of America, the Computer and Communications Industry Association, Oracle Corporation, the Software

Entrepreneurs Forum, Stellar One Corporation, Storage Technology Corporation and 3Com Corporation.

The Consortium for Citizens with Disabilities (CCD) has also expressed concern about the impact of the proposed amendments dealing with interoperability. The CCD, in particular is concerned about the impact that these amendments could have on the development of adaptive software and hardware produced by third parties for people with disabilities.

There has also been significant support for the compromise crafted by Congressman Markey that was included in the final version of H.R. 3626. In addition to the 420 Representatives of the House that voted in favor of it, and the companies and organizations already mentioned, the House language was supported by the Elec-

tronics Industries Association, Media Access Project, People for the American Way, and numerous other organizations.

In addition to these efforts, the Computer Systems Policy Project, made up of the CEOs from the 13 largest computer manufacturing companies in the US, have explicitly stated that interoperability is a requirement for both the national and global information infrastructure. Sun agrees.

Conclusion

The Global Information Infrastructure will be the greatest information resource the world has seen since the ancient Library at Alexandria. To achieve this destiny, the United States' national information infrastructure must be accessible to all potential information users and information providers, without artificial barriers erected by would-be monopolists.

History records the Library at Alexandria as one of the seven wonders of the ancient world. Here—today—you have the opportunity to lay the groundwork for the first wonder of the 21st century.

If we allow the NII to be any less, because of the monopoly designs of the few, what will history have to say of us in 2000 years?

Thank you.

DR. ERIC SCHMIDT'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR LEAHY

Question 1. Dr. Schmidt, do you have a position on the provision of the amendment that calls for the unbundling of services and equipment when workable competition does not exist?

Answer. I certainly support the idea of FCC regulations to prohibit bundling of network services and access devices if industry is unable to agree on making the interface specifications open and available. However, I again express concern about the stipulation that the FCC only act in this regard "when workable competition does not exist." To me, that stipulation in (e)(i) says that, as long as there are multiple vendors offering network service anyone or all of them is free to bundle their service with the access devices.

I believe unbundling is a good thing. Sun believes that robust competition in the domestic market is the best way to promote innovation and long-term success in the global market. I also believe that consumer choice is important the goals of promoting new products in the market place. I do have a concern about the stipulation "when workable competition does not exist." I am not convinced that competition in the network service market necessarily will produce competition in the "set-top" box market. For example, if two competitive network service providers exist, they could compete on the price of services, and still bundle their service to equipment. They may even compete on the price of the box, but that wouldn't necessarily require them to make the interface specifications for the connection between the network and the box available to third party vendors. The network service providers could maintain a lock on the market for the box itself, and would not necessarily have any market incentive to allow the box to become a retail product. It seems to me the only way to ensure unbundling in all markets would be by requiring open interface protocols at the point of connection.

Question 2. Section (e)(i) of the proposed amendment would have FCC regulations prohibit bundling of telecommunications network services with access devices like converter boxes. Given your views on the importance of competition, do you support this provision?

Answer. I certainly support the idea of FCC regulations to prohibit bundling of network services and access devices if industry is unable to agree on making the interface specifications open and available. However, I again express concern about the stipulation that the FCC only act in this regard "when workable competition does not exist." To me, that stipulation in (e)(i) says that, as long as there are multiple vendors offering network service anyone or all of them is free to bundle their service with the access devices.

Question 3. Section (e)(ii) of the proposed amendment would require that access devices be available from diverse sources, including sellers not affiliated with network service providers. Do you have any problem with that provision?

Answer. I have absolutely no problem with this provision. Sun strongly supports section (e)(ii).

Question 4. How about section (e)(iii) of the proposed amendment, which says that network providers would have to let consumers use their own compatible devices for access to the network to receive the services for which they are authorized, do you support that provision?

Answer. Yes, although I think it would be more meaningful if the word "compatible" were changed to the word "interoperable." Many people are talking about having two-way interactive access to services. It seems that a piece of equipment that connects anywhere and provides one-way service anywhere may be deemed "compatible," but to ensure that access to the full range of services is portable, the section should promote the consumers access to interoperable devices.

Question 5. Section (f) of the proposed amendment says that to increase consumer choice and access, as provided in (e), the FCC can take steps to achieve a standard consumer interface, but that the FCC first has to give the private sector and private standard-setting bodies the opportunity to come up with these standards. The FCC can intervene if the private sector fails to produce a standard consumer interface. Do you have any objection in principle to Section (f)?

Answer. I have a number of concerns about the wording used in section (f). If the goal is to promote unbundling through regulatory action, then there are a number of limitations in the language that could render the section meaningless in practice. First, having the FCC set standards for "interconnection" may not result in the availability of retail products that would work with the other components of the network. As Dr. Sanderson accurately points out in his written testimony, "interconnectivity—the ability to plug equipment into the public telecommunication network—is a necessary, but not sufficient, condition to interoperability * * * critical interfaces must be designed so that machines can be plugged into the network and also communicate in ways which are understood by one another and with the information services that the consumer wishes to use." Dr. Sanderson goes on to point out that, "Interoperability, achieved through standard and open protocols at the critical point of connection, is essential to the vision of S. 1822." I wholeheartedly agree. Dr. Sanderson's account of the evolution of fax machines is very accurate, and highlights the risk involved in requiring "interconnection" without specifically requiring "interoperability."

Second, section (f) only deals with markets in which "workable competition" does not exist. As I pointed out in my answers to earlier questions, even if cable service is available from two different, competing service providers, what market forces exist to get either of those network providers to unbundle their equipment? Thus, bundling could exist, but the FCC would be constrained from taking action.

Third, by stating that "the Commission may only establish standards on inter-connection for the interfaces specified in (c)(ii)," the Commission is limited in its ability to act if other interfaces arise that create other bundling opportunities. For example, the anti-competitive impact of a network service provider requiring the use of bundled software is no different than the impact of requiring the use of a bundled piece of hardware like a set-top box. Bach results in no choice for consumers, monopoly pricing opportunities for the suppliers, and unbreachable barriers to would-be competitors.

In addition, these interfaces seem wire based. They do not take into account the possibility that service may be provided by wireless or other technological means. What if a situation arises where service is provided by neither a common carrier network provider, nor a cable operator? It seems this new service provider would be free to bundle services with customer premises equipment. I think that because the technology is developing very rapidly it would be a mistake to legislate which interfaces the FCC should and should not be looking at.

Question 6. Dr. Schmidt, do I take it from the statement in your testimony that Sun "respects intellectual property rights" that you also support some statement in the legislation that expressly recognizes that S. 1822 is not intended to amend or supersede provisions of copyright law and patent law?

Answer. Sun would not have a problem with language that says nothing in this Act is meant to change the laws governing intellectual property rights, a provision I am not sure is necessary, since I am not familiar with any section of the bill that would otherwise amend current intellectual property laws. Sun is concerned about the wording of the amendment since instances may arise in which the FCC has a legitimate role to play in determining how a company exercises its intellectual property rights. In other words, we agree that the law itself should not be changed, however the amendment language seems to do more than prevent legal changes to the law.

I am concerned that the language, "Nothing in this Act shall be construed to give the Commission the authority to modify, impair or supersede the applicability of rights under patent, copyright, trademarks or any other intellectual property law," could have the unintended effect of limiting the FCC's current authority. For example, in the case of the phone jack, industry was unable to reach a consensus, so the FCC stepped in to facilitate the process. The standard interface specification that was agreed to contained some patentable technology owned by Western Electric. The

FCC said it was "troubled that telephone company licensure under the patent laws could be used as a discriminatory and anti-competitive tool to thwart sales of competitors 'equipment." As a result, the Commission adopted a standard license agreement (set out in Section 68.504 of the Commission's current rules) which required Western Electric to provide a license to anyone who wanted one, at a uniform royalty. To the extent that Western Electric would not have chosen such a licensing scheme in the absence of FCC involvement, one could make the case that the FCC "modified" or "impaired" Western Electric's rights under patent law.

Although, it would be preferably to avoid government involvement in the process, there may be instances where it is the only solution to making the technology a reality to average Americans. The amendment dealing with intellectual property as it is worded in the attachment to the APS/BSA testimony could preclude such a result, or lead to increased litigation surrounding such a result, if a situation similar to the phone jack arises in the future.

Question 7. Your testimony includes a strong statement in favor of intellectual property owners having rights to maximize their returns, but you limit your support to "returns on product implementations." You call for "barrier free access" to others' patentable inventions. So long as intellectual property rights are not being employed as barriers to competition, should they not be respected?

Answer. To clarify, my testimony does not call for barrier free access to others' patentable inventions. What my testimony calls for is bier free access to the interface specifications of critical interfaces which may be covered by patents. These specifications are not the blueprints for the patentable product, they are simply the instructions that describe how one product works with another—or interoperate. For example, no one company owns the 150 specification for 35mm film. This means that camera manufacturers and film manufacturers all know the instructions to make their camera work with any 35mm roll of film, and any film manufacturer knows how to assemble the film on the sprocket so that it will work in any 35mm camera. None of these companies share their product development information. These companies, hold intellectual property in the product implementation and they all compete on the basis of this. They do not have to pay a fee to someone to tell them what size the casing for the film sprocket, or what size the film sprocket itself needs to be. As far as letting someone maintain a proprietary interest in the specification, and allowing them to charge a tax to others who want to enter the market, Sun has said that this tax should be limited to a nominal consideration if the interface specification relates to a critical point of connection in the NII and meets the criteria for a patent. We say this because there is no way to know in advance whether such a tax would be used in an anti-competitive fashion until it becomes a barrier to competition. Our position is that such barriers should be avoided at the onset, and therefore should such interface specifications which are patented (noting that many interface specifications may not meet the novelty and non-obviousness requirements of patent protection) should be available on a nondiscriminatory basis for a nominal consideration.

Question 8. I recall that over the last several years there has been a great deal of controversy over proposals for decompilation and reverse engineering of computer software. For instance, I recall earlier this year reports that an advisory committee to Japan's Agency of Cultural Affairs was considering recommending that Japan's copyright law be amended to permit such reverse engineering. The arguments made in favor of decompilation or reverse engineering are similar to those you have made that what we must focus on is product implementation rather than the underlying intellectual property rights. Do you see any similarity in approach?

Answer. I think these are two different issues. Permissibility of decompilation is a legal question which has been addressed at the Appellate Court level. We believe the current Copyright Law and the judicial process will continue to be the best authority on this issue. In contrast, the topic of the hearing is a public policy question—how important is interoperability to the success of the NII. Although I don't believe there is any direct relationship between these issues, there are a few additional points I'd like to make. First to clarify the point you make about my testimony. The focus is not on "product implementations rather than the underlying intellectual property rights." These things are not mutually exclusive. Similarly, interoperability and intellectual property rights both exist in the products offered by most open systems vendors, such as Oracle, Storage Technology, 3Com, Sun and many others.

Second, you are correct that there has been a great deal of controversy surrounding the issue of decompilation. You are also correct that the controversy has gone beyond our national borders. This issue has divided the computer industry worldwide—the dividing line is between companies, which hope to preserve their market position through proprietary rights and customer "lock-in", and open systems com-

panies, that work to expand their position through innovation in growing, competitive markets.

Third, let me point out that decompilation is a common practice and is used for many legitimate purposes, most frequently to resolve programming bugs and to achieve interoperability. It has even been used as a means to gather evidence in copyright infringement cases. Not a single country in the world has adopted laws prohibiting decompilation. In fact, the BC adopted a Directive in 1991 that expressly permits decompilation in certain circumstances. The U.S. Copyright Act is silent on the subject, but two Federal Courts of Appeals decisions handed down in 1992 held that decompilation of computer programs is a fair use and thus legal in certain circumstances. These are the only two U.S. cases to deal specifically with the issue of decompilation.

Last, decompilation is a very technical process that is widely misunderstood. There are many computer science and engineering experts who you can consult with to learn more about how decompilation works and what information you can and cannot gather through the process of decompilation. Many of these experts are academics and are not tied to any particular corporate interest.

Question 9. With respect to what you term "barrier free access" you call for "truly nominal consideration" rather than fair licensing requirements. First, am I correct that when Sun Microsystems Laboratories testified earlier this year before the House Subcommittee that irs concerns about barrier free interfaces had led it to call for interface specifications free of all intellectual property restrictions and free of any license fees? Is not the point for sound public policy that license fees not be anti-competitively set?

Answer. I completely agree with you that "the point for sound public policy (is) that license fees not be anti-competitively set". The key issue is that what may seem reasonable for one firm, say a large multinational, may not be reasonable for a small start up firm. The use of the term reasonable, as used by Emery Simon in his testimony, leaves it to the holder of the intellectual property right to determine what is reasonable. In cases where the interface becomes, in effect an essential facility, it is proper for the government, as it did in the Phones and Jacks case, to work with industry to determine what a "reasonable" fee is. I believe that the term nominal conveys the right sense of what the appropriate level of compensation should be.

For the record, my Senate testimony clarifies Sun's position on the question of proper compensation for interface specifications that fall within the scope of a patent. This is consistent with the position Sun has always taken through groups we are active in for years, such as the American Committee for Interoperable Systems—so it is not a change in our position. Our House testimony simply did not define our position with the detail and clarity that we had intended.

Question 10. You indicate that "interoperability" is the key to making the NII a network of networks. My impression from everyone's statements is that "interoperability"—like beauty is in the eyes of the beholder. How do you define interoperability?

Answer. Rather than creating a personal definition let me give you one that I think there is actually quite a bit of consensus for, at least in the computer industry. Last year the Computer Systems Policy Project (CSPP) released a report called "Ensuring Interoperability." This report, which was written by a committee including companies such as Apple, AT&T, Compaq, Digital Equipment, Hewlett-Packard, IBM, and Sun, provides this definition: "Interoperability is the ability of two or more given systems (for the purposes of the paper "systems" include devices, databases, networks or technologies) to interact in concert with one another in accordance with a prescribed method in order to achieve a predictable result. Interoperability allows diverse systems made by different vendors to communicate with each other so users do not have to make major adjustments to account for differences in products or services. Interoperability implies compatibility among systems at specified levels of interaction, including the physical. This compatibility is achieved through specifications for the interfaces between systems."

Question 11. I agree that critical interfaces on the NII must be open rather than barriers. My amendment identifies three areas of critical interfaces for the network to be established and operate. In your testimony you identify what you term a handful of critical interface points that include interfaces between applications and operating systems and operating systems and devices, among others. How do you go about identifying what you term critical interfaces? How many types of interfaces are there for the NII? Is every interface a critical interface? What interfaces are not, in your view, critical interfaces?

Answer. An interface is critical if it is essential to produce interoperability as defined in the previous answer. To say precisely how many interfaces will be critical

in the NII, or what these interfaces are is virtually impossible to do since the technology will continue to develop. The NII will be a dynamic, ever changing conglomeration of networks and services. I think it would be a mistake for Congress to attempt to define or limit the scope of where these interfaces are through legislation. This is one of the primary reasons we prefer the House approach, which does not mandate some interfaces as being critical to the exclusion of other interfaces which may also prove to be critical to interoperability. I don't think that every interface is critical to producing interoperability, for example there are interfaces within an applications program that are not essential to make that application interoperable with other programs.

Question 12. Is a standard consumer interface a part of "interoperability" as you define and apply it?

Answer. I am not entirely sure I know what you mean by a "standard consumer interface," perhaps the graphical user interface, or the point that consumer devices attach to the network. In either case, I don't think that a single standard is necessary or desirable. As long as the critical interface specifications are barrier-free, than multiple standard interfaces would be able to interoperate, allowing for portability of consumer appliances and maximum consumer choice in access to programming.

Question 13. In your testimony, you say that interfaces are neither "blueprints, nor recipes for actual products." You also describe interface technologies as including networks, information hubs, applications and operating software, remote controls, devices and hardware. Bach of these constitutes specific products. By following your advice and declaring portions or even entire products to be free for the taking, would we not eliminate much of the incentive for developing and producing them?

Answer. My testimony does not describe these products as "interface technologies." I believe the section of my testimony that you must be referring to says, "Barrier-free access provides the opportunity for new and existing businesses to develop and sell: network pieces and mtime, information storage and retrieval devices and services, viewing and computing devices, operating systems and applications, set-top boxes and information hubs, TVs and telephones, and hundreds or thousands of devices and services yet to be imagined!" This may not be clear enough as written. What I meant by this statement is that barrier free access to interface specifications would promote greater competition in all of these different market sectors. The reason is that multiple vendors, including many new vendors, would have access to the necessary protocols to develop products that work within larger interoperable systems.

I certainly do not advise declaring products free for the taking. In just twelve years Sun has grown into the world's leading manufacturer of workstation computers, with almost $5 billion in annual revenue, Sun is now ranked number 120 on the Fortune 500.

We certainly did not achieve this success by making our products free for the taking. However, we did achieve this success while making many of our interface specifications—including the key interface specifications necessary for interoperability—openly available. It is based on this model, a model which many successful high tech companies rely on to expand the market, that Sun now advocates barrier free interfaces as a public policy goal.

We do not believe this approach diminishes the incentive to develop and produce new products. In fact it has quite the opposite effect. Once many companies have access to the interface specification to make products that interoperate in a larger network, they will all try to create better products that meet the specification.

Question 14. I think that Sun Microsystems owns a number of copyrights and patents. Your company asserts intellectual property rights in computer software applications as well as operating system and hardware devices does it not? How do you distinguish between Sun proprietary technologies and those that you propose should be declared unprotected, completely open and available?

Answer. The distinction is not between Sun technology and other open technologies—the key distinction is between the interface specification and the product implementation. There is also a distinction between what copyright protects and what patents protect. Under copyright, the software product implementation is always protectable, whether it is made by Sun or any other company. It is the interface specification, the directions about how two products work together, that Sun beliefs should be openly available. This approach is consistent with developments in copyright law cases. Computer Associates. Altai, and the cases that follow it, all reinforce the separation of the interface specification from the product implementation. Every company of course should protect "the crown jewels," but this protection should not and need not extend to the interface specification—to do so would limit other companies ability to create their own innovative products.

Question 15. Would the availability of open platforms or public access through public rights of way on the NII affect your thinking and testimony about what interfaces are critical to accessibility to and on the NII?

Answer. Which interfaces are critical to achieving interoperability is a technological question, that experts in industry, academia and the public interest community will need to agree upon. Barrier-free interfaces, open platforms, public rights of way, are some of the different approaches being proposed to ensure access at these critical points. I believe that barrier-free interface specifications would best achieve this goal because it is a technology neutral approach that would stimulate broad economic participation by assuring access to the greatest number of people with minimal government involvement.

DR. ERIC SCHMIDT'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Could you each please briefly explain your perspective on the need for language in the Leahy-Thurmond amendment to promote "interoperability," as compared to interconnection?

Answer. Sun believes that the amendment should promote "interoperability" rather than merely promoting "interconnection." These two words are not synonyms and are not interchangeable. As Dr. Sanderson of Kodak accurately points out in his written testimony, "interconnectivity—the ability to plug equipment into the public telecommunication network—is a necessary, but not sufficient, condition to interoperability * * * Critical interfaces must be designed so that machines can be plugged into the network and also communicate in ways which are understood by one another and with the information services that the consumer wishes to use." Dr. Sanderson goes on to point out that, "Interoperability, achieved through standard and open protocols at the critical point of connection, is essential to the vision of S. 1822."

I wholeheartedly agree. Dr. Sanderson's account of the evolution of fax machines is very accurate, and highlights the risk involved in requiring "interconnection" without specifically requiring "interoperability." This is why Sun feels it is important for the legislative language to promote interoperability rather than interconnection.

A workable definition for "interoperability" was articulated by the Computer Systems Policy Project, a coalition of 13 computer industry CBOs—"Interoperability is the ability of two or more given systems to interact in concert with one another in accordance with a prescribed method in order to achieve a predictable result. Interoperability allows diverse systems made by different vendors to communicate with each other so users do not have to make major adjustments to account for differences in products or services. Interoperability implies compatibility among systems at specified levels of interaction, including the physical. This compatibility is achieved through specifications for the interfaces between systems." Sun believes that interoperability is a prerequisite for the national information infrastructure. Anything less, and the NII will fail to live up to its potential to stimulate American economic growth in the information age.

Question 2. I believe that one risk of too much government intervention in setting protocols or standards is that innovation would be stifled. Could each of you please discuss your views on whether including "interoperability" would risk limiting innovation?

Answer. Simply including "interoperability" would certainly not risk limiting innovation. I share your concern that too much government involvement in picking the actual protocols or standards could have a negative effect on innovation. That is way Sun favors an approach in which the role for the government is to serve as a watchdog and as a catalyst rather than as a standards setting body. The government, by endorsing the concept of barrier-free interfaces—the rules of the road which standards would have to meet, but not the standards themselves—would create an environment that would foster interoperability and competition. By emphasizing the need for access to critical interface specifications—not access to proprietary product information—the government would be promoting interoperability without interfering unnecessarily in the technological and market developments that should be left to the private sector.

Question 3. Dr. Schmidt, I understand that you would like to modify the amendment to include interoperability. Would it be fair to characterize your position as supporting the goals of the Leahy-Thurmond amendment, but wanting it to go further than the amendment currently does?

Answer. I have been told by your staff that the goals of the amendment are to ensure that intellectual property receives appropriate protection and to promote

unbundling of customer premise equipment. These are goals that Sun indeed supports. However, Sun and many others in industry, academia, and a diverse group of consumer groups believe that some of the language in the proposed amendment is at odds with the goal of enabling the development of a National Information Infrastructure. For example, Sun believes that any amendment must clearly and explicitly identify interoperability, rather than mere interconnection, as an objective.

Sun also does not believe that the amendment should seek to limit the scope of the FCC inquiry to a specific set of interfaces defined by legislation. We believe the FCC has, or can better call upon, the expertise to determine which interfaces are critical for the development of competitive, interoperable components and systems. This is what the House language sought to achieve, and is more appropriate, given that technology is likely to evolve more rapidly than legislation.

I have also provided some specific concerns about the amendment language in my written responses to several of Senator Leahy's questions (in particular numbers 1, 4, 5, 6).

Question 4. Mr. Sharp and Mr. Simon, do you view efforts to promote interoperability as unnecessarily interfering with intellectual property rights?

Answer. Directed only to Mr. Sharp and Mr. Simon.

Question 5. Dr. Schmidt, your written statement says that Sun supports intellectual property rights and also states that patent law gives some protection to interfaces. Am I correct in understanding that in the case of a conflict, Sun seeks government action to override private patent projections?

Answer. No. Sun fully supports intellectual property rights, existing law and recent court decisions. Sun, and many others, also believe that access to the specifications for the critical interfaces to crucial public infrastructure developments like the NII, should not be controlled by monopolies.

As I stated in my written testimony, in keeping with recent software copyright decisions at the Appellate Court level, Sun does not believe that interface specifications are protectable under copyright law. There may be cases in which a patent grants some degree of intellectual property protection to interfaces. In no case does Sun hope to have the government override a patent in the sense of withdrawing or taking away patent protection. In those narrowly defined cases in which an interface specification that is determined to be critical to interoperability is protected by a patent, and the private sector is unable to reach agreement on a open standard that encompasses that interface specification, then the government may have a role to play in determining how the patent holder exercises rights over the interface. This would not be a novel approach. The FCC undertook a similar procedure in establishing the conditions under which Western Electric was to license the specifications for today's phone jacks. The use of this approach in this instance did not lead to it becoming a widespread practice, it has not led to government standards setting across the board in the telecommunications industry, and it had the positive effect of spurring innovation and competition in customer premise phone equipment.

Question 6. Mr. Sharp, Mr. Simon and Mr. Sanderson, as proponents of this amendment, what is your response to providers who fear that this amendment would prohibit them from offering a service together with the customer equipment necessary to use the service?

Answer. Only directed to the other witnesses.

Question 7. Could each of you please provide your perspective on signal security and the necessity of protecting against theft of service? In particular, is monopoly control over consumer equipment necessary or desirable to prevent theft of cable and similar services?

Answer. Security from theft of service by those who are not authorized users of the service is a service issue, and one that policy makers should continue to monitor and explore. However, I don't believe that monopoly control over consumer equipment is necessary or desirable to prevent theft. I recall a time when the phone company argued that you had to get a phone from them to preserve the security of the network. Thanks to sound public policy decisions and technological advances, the phone network has maintained security while at the same time allowing consumers to purchase their phones from any one of numerous sources. I believe these objectives of secure networks and consumer choice can coexist in the cable system and in other information service systems as they develop.

STATEMENT OF RICHARD L. SHARP, CIRCUIT CITY STORES, INC., ON BEHALF OF THE CONSUMER ELECTRONICS RETAILERS COALITION

SUMMARY

The Retailers Coalition supports the Leahy/Thurmond amendment to S. 1822 because it addresses the most vital component of our emerging National Information Infrastructure (NII)—the consumer interface. This amendment would ensure the consumer's ability to choose and own the communications equipment that will provide access to the new national networks. The amendment encourages the private sector to develop the necessary technical standards and allows the Federal Communications Commission to develop regulations if the private sector fails in its efforts.

We believe that S. 1822 is incomplete without a process to establish a standard physical and electronic interface that enables consumers to receive the broadband services of the NII. In our existing narrowband telephone system, the RJ–11 jack represents both a physical and an electrical standard.

This standard allows retailers to offer to consumers a variety of innovative products. Similarly, the national standard for broadcast television helped establish a competitive market for consumer electronics hardware. To date, our newer national telecommunications networks, such as the cable television system, do not have the benefit of a standard consumer interface. A consumer who wants to receive such cable services as movie channels or special events must rent a special set-top box, known as an addressable converter. Although the services have been in existence for almost a quarter of a century, the service provider maintains a monopoly over the equipment.

The Leahy/Thurmond amendment is necessary and timely. The consequences of equipment monopolies will worsen as additional broadband networks develop. Some have expressed concern that the consumer interface may not be sufficiently open unless intellectual property rights are restricted. Others have argued that the system operators' monopoly must be maintained to protect against unauthorized network access. We strongly believe that the Leahy/Thurmond approach strikes the right balance, and we encourage the Judiciary Committee to adopt their amendment.

Mr. Chairman and Members of the Subcommittee: On behalf of Circuit City and the Consumer Electronics Retailers Coalition, thank you for inviting me to testify today. Circuit City is the nation's largest retailer of brand-name consumer electronics and major appliances. We are based in Richmond, Va., and operate approximately 300 retail stores nationwide. This year we expect sales of over $5 billion, 80 percent of which will be derived from the sale of consumer electronic products. The Consumer Electronics Retailers Coalition includes our retail competitors—Tandy, Sears, Montgomery Ward, Best Buy and Dayton Hudson—as well as the International Mass Retailers Association, the National Association of Retail Dealers of America and the National Retail Federation.

COALITION PRINCIPLES: COMPETITION AND CHOICE

I am testifying today because the Coalition is concerned that the Senate telecommunications legislation does not adequately provide for competition and consumer choice in the electronics industry as our nation develops a National Information Infrastructure (NII). The Senate will soon consider S. 1822, which provides an open and competitive structure for the "information superhighway" by giving independent entertainment/service suppliers the right to access interconnected networks. However, the legislation stops short of addressing the consumer interface with the superhighway. S. 1822 does not protect competition at the consumer level by ensuring that consumers have a choice about how they may access the superhighway network.

The Coalition urges the Judiciary Committee to support the amendment to S. 1822 developed by Senators Leahy and Thurmond. This amendment would ensure the development of a critical standard that would enable consumers to own in-home communications equipment providing access to the network, without being forced to rent or lease the equipment from network service providers. The amendment would also give consumers the right to choose where to purchase the equipment. Today, would like to discuss why we believe this amendment is essential to the development of the NII and to the protection of competition and consumer choice.

TELEPHONE AND CABLE MODELS

Historically, the limitation of electronics equipment ownership rights has resulted in reduced competition, higher consumer costs and stagnation of equipment development. The telephone and cable box are two significant examples of the difficulties resulting from ownership limitation. Two decades ago, consumers were required to rent their telephones from the telephone company in order to obtain service. Product selection and features were extremely limited and consumers paid the full cost of the phone many times over in monthly phone bills. After the courts and the Federal Communications Commission deregulated the telephone monopoly and reformed the consumer interface, development in telephone technology exploded. Industry-standards, such as electronic protocols and an RJ-11 jack, have allowed independent manufacturers to make, retailers to sell and consumers to own a great variety of fully-featured, low-cost telephonic products. Consumers may now select from products in every color, size and shape, all with differing bells and whistles—cordless phones, speaker phones, computer accessories, answering machines, fax machines, etc.

Unlike the telephone industry, the cable television industry has yet to reform the consumer interface. Most basic cable services can be received directly through consumer electronics products; however, network services that are offered for separate per-event or per-month fees must be received through a set-top box, known as an addressable converter, that is rented from the service provider. The lack of a standard consumer interface for these network services forces the consumer to pay for the privilege of using this set-top box, which the consumer does not and cannot own. In addition, the set-top box actually interferes with various features of televisions and VCRs, including picture-in-picture viewing, dual channel recording and the use of remote controls.

THE NEED FOR LEGISLATION

If subject to competition, the addressable set-top box, like the telephone, could become one of the fastest growing products in history. Yet currently no electronics retailer can sell this product and none of our suppliers can manufacture the product for us. The barrier to this product market is certainly not lack of interest. The barrier is that the newer national service networks, such as cable, have not devised a standard consumer interface. Nor is there any indication, absent appropriate legislative and regulatory action, that the cable industry is progressing in that direction. Of course, some important and necessary changes are already in prospect as a result of Senator Leahy's compatibility amendment to the Cable Act of 1992. But S. 1822 is much broader in perspective and proposes to reform our entire telecommunications system as a necessary step toward the National Information Infrastructure. In the interests of consumers, retailers and manufacturers, we cannot afford to progress with either telecommunications reform or the NII while ignoring the consumer interface.

Without a standard consumer interface, each competing service network must offer its own access device. A consumer who wants to try the various cable, fiber, satellite and wireless networks will need a stack of separately rented boxes, none offered competitively, that duplicate many functions and make switching between networks a nightmare. The development of a standard interface can come none too quickly. Each day, one reads of actual business procurements for digital, broadband, interactive networks. Typically, a cable company has purchased from its selected manufacturer various consumer devices, that if unchecked, are destined to be rented to consumers without choice or competition—becoming a black dial telephone for the year 2000.

THE SOLUTION: COMPETITIVE PROCUREMENT AMENDMENT TO S. 1822

The Leahy/Thurmond amendment to S. 1822 encourages the private sector to devise a standard consumer interface that allows the continuation of diversity, competition and choice in the consumer electronics industry. I am pleased to say that associations representing the computer hardware and software industries have joined the Retailers Coalition in supporting this amendment.

The amendment would build on the provisions of Section 405 of H.R. 3626 (previously Section 205 of H.R. 3636) as passed by the House earlier this year. A new Title of S. 1822 would require the Federal Communications Commission to study issues related to the consumer interface, report to Congress and reform its regulations as necessary to ensure a competitive consumer equipment market. The scope of the Commission's inquiry and action would be limited to "Open Public Telecommunications Interfaces"—public network services carrying information of the user's

choosing. After reporting to the Congress, the Commission would be directed to change its regulations as necessary to: (1) ensure the availability of consumer devices from diverse sources, including sources unaffiliated with network service providers; (2) enable such compatible devices to access network services for authorized uses; and (3) require timely notice of revisions to specifications for the consumer interface. Such regulations would also prohibit bundling of services with consumer devices in public network service markets that are not workably competitive.

To accomplish these goals, common mechanical and electronic interface protocols will be necessary, as in the case of the RJ–11 jack. we hope that such protocols can be derived from the private sector without the need for FCC intervention. The Commission would be allowed to intervene only when the private sector has not been able to develop standards for interconnection.

With respect to signal security, we recognize that when a service is offered on a fee basis to authorized users only, there are legitimate considerations for protecting intellectual property. But in no other industry do proprietors' intellectual property and security concerns require a physical and electronic monopoly over devices that give consumers access to their products.

We agree with our colleagues in the computer software and hardware industries that the consumer interface standard may be developed without infringing upon the intellectual property rights of any market participant, or the signal security requirements of network service providers. At present, these rights coexist in public access to telephone service and we believe they can and should be maintained.

CONCLUSION

The Consumer Electronics Retailers Coalition believes that consumers have the right of access to the information superhighway with the equipment of their choice. Consumers should be allowed to select and purchase their own equipment by comparing price, features and quality. Our point of view is not radical or even visionary—it is the same approach that has succeeded in the telephone industry and in our economy generally. Most everyone is looking forward to an NII, but no one professes to know what applications will most appeal to consumers. We believe the answer, Mr. Chairman, is competition and consumer choice. By amending S. 1822 to add a competitive consumer procurement provision, the Senate can help assure that its reform legislation will work for consumers as well as for the telecommunications industry.

Again, thank you for inviting me to testify today. I would be pleased to answer any questions.

RICHARD L. SHARP'S RESPONSE TO QUESTIONS SUBMITTED BY SENATORS LEAHY AND THURMOND

Please note that in questions one through seven, we are responding to Senator Leahy. In questions eight through twelve, we are responding to Senator Thurmond.

Question 1. I note from your testimony that you call for greater availability of consumer products and choices but that you recognize that consumer devices are intended to provide access to network services for "authorized users" of those services. I read from this recognition that there is a legitimate concern that service providers and programmers have for the security of their services and products. Is that correct? What is your answer to the concern over signal security? In terms of increasing consumer access to the greatest array of choices would you be willing to consider whether true security functionalities ought to remain under the control of the network or service provider?

Answer. Service providers and programmers have a legitimate concern for the security of their services and products. We agree that network operators should maintain control of their security functionalities However, such control does not necessitate a monopoly over the hardware devices that provide access to the network. Technology currently exists that would allow the separation of security functions from the hardware devices. With the adoption of a technical standard, security functions can be placed on a compatible card or other software carrier that is furnished and controlled by the network operator.

Please find enclosed a draft Technical Standard for Conditional Access, Version 2.1, by a standards committee of the Electronic Industries Association. The draft standard clearly states its goal and means: "This Standard describes the physical and electrical parameters of the interface for Conditional Access (CA) devices for Consumer Electronics. The purpose of this standard is to specify a CA device that performs the signal descrambling and the entitlement keeping and key generations.

This allows the entire CA system to be removable and hence replaceable. Very few constraints, if any, are placed on the conditional access system architecture."

With the implementation of this or another Conditional Access system, we can ensure a competitive national market for access devices without compromising security concerns. Achieving this goal in the digital era would require a Conditional Access system as well as national standards for digital transmission of cable television signals. We hope that the Congress will encourage the Federal Communications Commission (FCC) to ensure the implementation of such standards.

Question 2. Dr. Schmidt's testimony indicates that Sun is concerned that this amendment would, in fact, limit interoperability and, thereby encourage monopoly. Do you agree?

Answer. We support this amendment because it provides a mandate leading to increased competition. We assume that Sun, and others with concerns about preserving interoperability, would like to sell access devices on the open market. This amendment ensures commercial availability of access devices and mandates standards by which they can operate nationally. If these provisions are implemented, consumers will be allowed to select their own hardware that is made from varied manufacturers and sold competitively by varied retailers. Without implementing these steps, the consumer interface may remain subject to monopoly. We believe that true "interoperability" is more likely to exist in an open system that allows interconnection, even if subject to a standard, than in a closed system that allows the network-provided devices to interoperate but excludes other devices entirely.

Question 3. Mr. Ozburn's statement indicates that it is the availability of choice, not the presence of any particular choice, such as retail purchase, that is important for the NII. Do you agree?

Answer. We strongly disagree—consumer choice is the foundation of our system and our economy. We learned several years ago that consumers preferred the great variety of telephone choices offered by retailers in comparison to the limited choices offered by the telephone company. Similarly, we believe that consumers do not want the cable company to choose their network access device. When consumers pay for products without having particular choices, the lack of competition tends to keep prices high and innovation slow.

Question 4. General Instrument indicates a concern that the amendment might lead to different modes of regulation for different services and cause confusion in the marketplace Are you concerned about this?

Answer. We support this amendment because it envisions the development of a common consumer interface. Confusion exists in the marketplace today, as different services prepare their unique, incompatible set-top boxes. If a consumer should decide to switch to a new service, he or she would have to trade one set-top box for another. If the consumer should decide to purchase additional services, several incompatible boxes would have to be stacked upon the television set. The National Information Infrastructure (NII) is envisioned as a "Network of Networks"—such a network cannot exist if each service requires its own box.

Question 5. Your Retailers Coalition insists that there has to be a standard consumer in interface for NII services. But wouldn't retailers prosper in circumstances allowing competition between differing formats and standards—for example, *VHS* vs. *Beta* for VCRs?

Answer. Retailers sold both Beta and VHS VCR systems and allowed customers to compare and choose their preferred product. When VHS emerged as the standard for VCRs and Beta software became scarce, consumers who had chosen Beta systems were forced to purchase new VHS hardware. In the interests of the consumer, we strongly believe that a standard should be developed from the onset. Once a VCR standard was established, consumers indicated that they prefer a standard whenever feasible. Unless this amendment passes, hardware devices will be bundled with network services, which will stifle competition and deny consumers the right to compare and select the product of their choice.

Question 6. What is your definition of interoperability?

Answer. An interoperable system allows consumers to select their own products from a variety of competitors, hook it up directly to the NII and receive any authorized network service.

Question 7. The amendment includes unbundling requirements in section (e) written in mandatory language We require the unbundling of equipment and services in the absence of workable competition Some are suggesting that we are going too far and that we should revise the language to make the regulatory changes more flexible and allow the FCC more discretion. How do you react to the suggestion that we modify the terms of the amendment from "necessary" to "appropriate" and from a "must" to a "may" in order to delegate more discretion to the FCC.

Answer. The bundling of network access equipment with provider services is the greatest impediment to competition and consumer choice. Such bundling obscures the true price and value of the equipment and service. With such negative ramifications of bundling, we believe that the amendment must clearly prevent this practice. As the amendment is presently drafted, the FCC has authority to make exceptions when necessary.

Question 8. Could you each please briefly explain your perspective on the need for language in the Leahy-Thurmond amendment to promote "interoperability," as compared to "interconnection"?

Answer. As we indicated in our response to question two, interconnectivity is necessary to establish a consumer interface and to achieve "interoperability." As retailers, we favor a degree of interoperability that is sufficient to provide an array of competitive devices, available for sale at retail, that allows consumers to receive authorized services. The Leahy-Thurmond amendment will provide this level of interoperability.

Question 9. I believe that one risk of too much government intervention in setting protocols or standards is that innovation would be stifled. Could each of you please discuss your views on whether including "interoperability" language would risk limiting innovation?

Answer. Closed standards, such as those of the Bell System before it was deregulated and those unique to particular cable systems, clearly discourage and stifle innovation. Open standards, through which entrepreneurs can devise new products and uses, encourage innovation in every segment of a network. For example, because the present standard for broadcast television is open to competitive access and use, "television" has been driven by a range of new devises originating both inside and outside the broadcast industry. A national standard for broadcast television is the sole reason that independent enterprises have been able to invent consumer VCRs, camcorders, video games and other devices that plug into the television. We believe that national standards for broadband networks, such as cable television, are long overdue. The Leahy-Thurmond amendment would achieve this goal by requiring a national standard and encouraging its development by the private sector.

Question 10. Mr. Sharp and Mr. Simon, do you view efforts to promote interoperability as unnecessarily interfering with intellectual property rights?

Answer. The Leahy-Thurmond amendment clearly states that no provision in the amendment should be construed to limit the existing authority of the FCC. In our view, past efforts of the FCC to promote interoperability have not interfered with intellectual property rights.

Question 11. Mr. Sharp, Mr. Simon, and Mr. Sanderson, as proponents of this amendment, what is your response to providers who fear that this amendment would prohibit them from offering a service together with the customer equipment necessary to use the service?

Answer. Nothing in the amendment would prohibit service providers from offering customer equipment. The amendment only prohibits such providers from bundling the equipment with the service, which precludes competition for the hardware product and raises the price of the service. Please see our response to question seven.

Question 12. Could each of you please provide your perspective on signal security and the necessity of protecting against theft of service? In particular, is monopoly control over consumer equipment necessary or desirable to prevent theft of cable and similar services?

Answer. Monopoly control over consumer equipment is neither necessary nor desirable to prevent theft of cable and similar services. Industry standards would allow security control to reside exclusively in a software carrier furnished by the service provider, thus separating security functions from the consumer electronics hardware. Such a separation would result in a free and competitive market for consumer interface devices while improving signal security. This concept is not theoretical—it is demonstrated in the marketplace today in the form of the Direct Satellite receiver, which utilizes smart card-based security and will soon be manufactured by multiple competing companies. Systems as described in our response to question one will go a step further, toward both security and interoperability, by putting every transistor pertaining to signal security on the smart card, which may be issued and controlled locally by the network provider.

EMERY SIMON ON BEHALF OF THE ALLIANCE TO PROMOTE SOFTWARE INNOVATION AND THE BUSINESS SOFTWARE ALLIANCE

INTRODUCTION

Chairman: My name is Emery Simon. I am the Executive Director of the Alliance to Promote Software (APSI), and I am appearing today on behalf of APSI and the Business Software Alliance (BSA). I would like to thank you for convening this hearing on the intellectual property and telecommunications standards issues raised by the Telecommunications Act of 1994 (S. 1822). Our member companies include, Adobe Systems, Inc., Aldus Corporation, Apple Computer, Inc., Autodesk, Inc., Computer Associates, Inc., Digital Equipment Corporation, GO Corporation, Intel Corporation, International Business Machines Corporation, Lotus Development Corporation, Microsoft Corporation, Novell, Inc., and over 50 other companies.

This important piece of telecommunications legislation is of special interest to American software and computing companies because it constitutes a critical building block in the now emerging national information infrastructure. The bill has broad implications for the ways Americans will use public telecommunications networks and services to derive advantage from the increased utilization of network based information storage and retrieval systems.

We support the amendments to S. 1822 now being considered by Senator Leahy (which are attached) because they would benefit consumers of information services by significantly improving S. 1822 in three ways. First, by specifically stating the areas where interconnection considerations are most acute, the amendments would ensure that all providers of services add information appliances can connect to public telecommunications networks. Second, the incentives for continued vigorous innovation would be preserved by explicitly affirming the applicability of intellectual property laws contained in Title 17 of the U.S. Code to telecommunications policy, and stating explicitly that these rights should not be made a secondary consideration in telecommunications policy making. Finally, by unbundling information appliances and services, consumers would benefit from substantially increased competition and choice. These ideas emanate from the concepts contained in Section 205 of H.R. 3636, but provide additional specificity and clarity.

The computer and software industry is now in the midst of adjusting to a further change in needs of users. Initially, computers gained mass market acceptance by enabling the individual to create and use information while sitting at his desk. Next, through the development of local area networks, the individual became able to share information, data and files wish persons in the office next door, or within an organization. Today, by linking with public telecommunications networks, a user can share a file, or look up information across town, or across the globe.

The innumerable opportunities presented by these developments have captured our imagination. Our morning newspapers are filled with stories about the myriad possibilities open to us in this new information age. Although the promise of this age is palpably within our reach, its possibilities will go unfulfilled unless diverse users, service providers and appliance manufactures can successfully and easily connect with telecommunications networks. Nor will consumers take full advantage of this networked world unless substantially improved technologies are developed which are easy to use and affordable.

The U.S. is now leading the way from this sea of tumultuous possibilities to a concrete place of promises fulfilled. We have one undisputed advantage: we Americans do a very good job of applying our imagination and energy to developing innovative solutions through the application of technology.

The American software and computing industry is a vivid illustration. In the last five 5 every governmental, academic and industry study of technologies that are key to America's future has identified the vital role to be played by the software industry. Software is characterized by both rapid technological innovation and widespread use in downstream markets. Software innovation improves the competitiveness of other industries which utilize software products to make themselves more innovative and competitive. The benefits of continuous software innovation permeate much of the American economy.

Here are some facts about our industry:

1) Software is the fastest growing industry in the United States;
2) It is now larger than all but five manufacturing industries;
3) It contributes to the economy of virtually every state in the nation; and
4) It has achieved tremendous success in the international marketplace.

Notwithstanding this impressive record, the software industry's role in the growth of the nation's economy will become even more important as new and advanced technologies, critical for the success of the NII. Continue to evolve.

THE TELECOMMUNICATIONS ACT OF 1994 (S. 1822)

With these general comments in mind, let me state our views on the Telecommunications Act of 1994. A central goal of S. 1822 is to promote the development of a true national information network, by increasing competition among telecommunications service providers. We fully support this goal.

Achieving this end requires connectivity among networks, as well as between appliances and services with those networks. But to achieve this second goal, the proposed legislation seems to assume that a necessary element may be intervention by Federal regulatory agencies in all aspects of networking technologies, not just points of interconnection with public telecommunications networks. We are concerned that S. 1822 appears to grant broad regulatory authority to the FCC to establish standards, and it does so without sufficient regard for intellectual property rights which may subsist in the underlying technology.

We agree that achieving open access to public telecommunications networks is necessary, and we recognize that achieving these goals may require a role for regulatory authorities, but we believe that role should be limited to public telecommunications network interfaces standards and only in those instances where industry efforts fail to produce timely results.

Three basic considerations lead us to these conclusions:

- First, overly broad regulatory proceedings could undermine the incentive of companies to invest in new technologies—technologies subject to protection under our Federal intellectual property laws.
- Second, setting rigid standards too early in the development of the national information infrastructure would lock us into technologies which ultimately will retard the efficient evolution and use of these networks.
- Third, we fear that regulatory intervention could drastically change today's successful, open, voluntary, private-sector-led, consensus standards development process in the important technology area of the National Information Infrastructure (NII).

For these reasons, we support further clarification of S. 1822 in three areas:

First, *we support clarifying S. 1822 by stating explicitly that the new law shall not be construed to give the Commission the authority to modify, impair or supersede rights under patent copyright, trademarks or any other intellectual property law.* Such a provision merely states that the Constitutionally grounded laws contained in Title 17 of the U.S. Code must be fully respected in the context of telecommunications. This provision would parallel language now in S. 1822 on antitrust law. Our industry thrives on developing innovative solutions through the application of technology. Our companies devote a huge amount of time and resources to developing these new technologies. Their success in the marketplace is directly related to their ability to provide superior products which gain broad consumer acceptance. A critical element of this mix, is being able to distinguish these products from those of competitors, based on performance, features and quality. Effective intellectual property protection for these innovative technologies is a critical element. We believe the bill should state explicitly that public telecommunication network specifications may include standards that involve both nonproprietary and proprietary technologies, and this objective is fully compatible with sound protection of intellectual property rights.

A July report by the Commerce Department's Information Infrastructure Task Force's Working Group on Intellectual Property Rights, draws similar conclusions. It states in part, that "* * * the intellectual property rights implications of the standards-setting process are not new with the development of the NII. The Federal Communications Commission, for instance, has established standards in related areas without interfering with the legitimate rights of intellectual property rights owners."

Second, we have identified three critical points of connection—public telecommunications network interfaces—which should be explicitly spelled out in the legislation as the appropriate areas for FCC activity. Such specificity would more effectively advance our common objective of ensuring that everyone—user, service provider or appliance maker—has access to public telecommunications networks. These areas are:

- The interfaces between common carrier network providers or cable operators and converter boxes, interactive communications devices and other customer premises equipment;
- The interfaces between common carrier 'network providers or cable operators and information service providers; and
- The interfaces between common carried network providers and cable operators.

Third, *as we work our way toward a fully competitive environment, the role of regulators should be limited to those instances where the marketplace or voluntary efforts fail to produce timely results.* It is our experience that the marketplace and private standard setting organizations are the best means to establish timely and effective standards for ensuring that anyone can connect with public telecommunications networks.

None of these proposed clarifications weaken or contradict the provisions now contained in S. 1822 on the issue of standards. The principal provision now in the bill, Section 229, speaks only about ensuring that schools, libraries, hospitals and other similar institutions should be able to connect with, and have access to, public telecommunications networks. Our position on these matters is clear and unequivocal. We staunchly favor ensuring access for every individual or entity, whether public or private, including schools, hospitals and libraries. We believe there should be interconnectivity standards that apply to *all* users of the NII, including these institutions. We believe that ensuring access to all those who would use networks is necessary to achieve equity among users, as well as diversity among providers of information services and information appliances. Our reservations are not about the worthiness of these goals, but rather about the best means to attain them.

SOFTWARE INDUSTRY'S ROLE IN THE DEVELOPMENT OF THE NII

The digital information revolution is underway. Because of the ease, speed, versatility and reliability of creating and transmitting digital information, we believe it will be the preferred pathway for business and commerce and the desired highway for personal and cultural communications.

It is not surprising, then, that the private sector is already well underway in developing and deploying the infrastructure that will be necessary to support the digital revolution. We have been witnessing the birth of a broad array of new enterprises, joint ventures and business alliances as companies get ready for the digital future. We expect this trend is likely to accelerate in the months and years ahead.

The United States will need an advanced NII that will be able to accommodate and facilitate the expanding use of digital information. The NII must include high capacity interlinked networks capable of moving tremendous amounts of information almost instantaneously.

The NII offers us many new opportunities. First, the NII will generate demand for a wide array of new products and services which will rely on advanced computers and sophisticated software. This will create new opportunities for expanding America's technology manufacturing base, thus creating new high paying, high skill jobs.

Second, new applications of digitized information will offer all Americans, regardless of their location or economic position, access to the latest information in such areas as health care, education, and manufacturing, and improved access to government information and libraries. The NII will therefore be able to serve as an enhanced and efficient provider of social services. To quote the Administration's recent report, *The National Information Infrastructure: Agenda for Action* (September 15, 1993): "The NII can transform the constraints of geography, disability, and economic status * * * giving all Americans a fair opportunity to go as far as their talents and ambitions will take them."

While much of the talk about the NII revolves around hardware, it is essential to understand that what makes the whole system work is software. Fiber optic networks and digital information hardware without software are incapable of responding to even the simplest command or forwarding the simplest message. The hardware may serve as the "muscle" but it is software that will operate as the "brains" of the NII.

Software does this in two ways. First, it helps the user navigate oceans of digital information to locate or create that which is useful or desired. Second, once a decision is made to send or receive information, it is the software that actually "pulls" the information through the computer switches and wires that are the physical network. As communications and computer technologies become more powerful and less expensive, we will expect them to do more for us and software will be the key to

making it happen. For example, new and creative software solutions are required to handle network scalability, that is, the problems which result from the exponential rate of attachment of new users and networks to backbones, such as the Internet.

THE VITAL ROLE OF COPYRIGHT PROTECTION

The protection of intellectual property through copyright is an essential element of the successful development and deployment of the NII. Clear and appropriate legal protection of proprietary rights is needed to provide the necessary incentive for the development of the software, hardware and elements of content which will make the NII attractive to users. Such protection is also necessary to instill confidence in the owners of software and ether works that their products will not be subject to piracy and unauthorized use on the NII.

The digital information revolution presents unique challenges to protecting the rights of copyright owners. First, digitization offers an easy and inexpensive method to create an unlimited number of perfect copies. Second, digitized information can be instantaneously uploaded and downloaded by an unlimited number of users. Third, information in disparate media can be converted into a single digital stream and can easily be manipulated to create a variety of new works. while many of these challenges are not new to software publishers, they are revolutionary for many other copyright owners whose works have not historically been available in digital form.

Although some interests claim that standards setting in this area is so important that it overwhelms any and all intellectual property considerations, the evidence does not bear out the assertion. Never before have we taken such steps. Moreover following this prescription is a formula for certain failure. Without protection for intellectual property, entrepreneurs and companies would have no incentive to take the risk of investing in research and development, because they would be forced to share the fruits of their efforts without fair compensation. Abolishing the incentive of intellectual property rights in the area of critical NII technologies will not reduce barriers to the formation of new companies and industries; it will have just the opposite effect, discouraging entrepreneurs who would not be able to benefit from their own inventions. The computer industry has a history of intense competition, amazingly fast technological advancement, and widespread entrepreneurship. The ability of an individual to start with one good idea and build a successful company is based on protection for intellectual property. To remove intellectual property rights as an incentive to investment in the NII, a critical technology in which U.S. companies have an international competitive advantage, is to throw away that advantage and allow the appropriation of these inventions by foreign competitors.

THE ROLE OF STANDARDS IN THE DEVELOPMENT OF THE NII

We believe that S. 1822's goal of ensuring that all users can have access to networks can be best achieved through marketplace dynamics and industry led voluntary standards setting activities. The role of government should be limited to those instances where these private efforts fail, and to the three areas we enumerated above.

We reach these conclusions based on experience. The technology in the computer and software industries is changing at an unprecedented rate. From a business perspective, the precise contours of the future of the NII are still uncertain. No one individual, company or even industry can be sure how the many technological and economic choices are going to take shape. The challenge for the government and private sector in the succcssful development and deployment of the NII is that nothing be done, particularly in the context of the requirement or establishment of standards, that might accidentally "fossilize" technology at yesterday's levels or prejudice the rights of intellectual property owners.

There is vast experience and evidence to show that standards for critical interfaces have been and can be established successfully without trampling intellectual property rights. Today's prevailing marketplace driven voluntary, private-sector-led standards development process provides for nondiscriminatory access to standard interface specifications. In the marketplace, business considerations dictate that for products to succeed they must be implemented by a diverse and wide array of applications and users. Moreover, in the voluntary standards setting process, for a standard which incorporates technologies protected by intellectual property rights to be adopted, the owner of the rights involved must voluntarily agree to license the intellectual property on reasonable and nondiscriminatory terms. These processes produce agreed and sustainable results through consensus building. This policy is followed by all the principal national and international standard setting bodies.

The existing standards process produces fair results and allows competition to flourish, while providing inventors and innovators the incentive they need to invest money, take risks, and devote time and effort to create new technology. These important benefits are realized without the need for government intervention. The intellectual property policy common to all major standards setting organizations appropriately balances the needs of users and the rights of technology creators. There is no need to change this policy.

Simply put, eliminating intellectual property rights is *not* necessary to achieve interoperability. Standards have been, and are being created for the computer and communications industries without government control, mandates, or deadlines. The marketplace and voluntary consensus standards setting have produced timely results. There is no evidence to suggest that the private sector will somehow stop creating timely standards for the NII where the market demands it. Our proposed clarifications of S. 1822, would preserve private sector led standards setting as the primary means to ensure access by all to networks. As a fallback, and only in those instances where timely results are not produced, regulatory authorities such as the FCC, should have the authority to establish standards for public telecommunications interfaces.

CONCLUSION

We appreciate the opportunity to appear before your Subcommittee to present our views on key elements of the now pending Communications Act of 1994 (S. 1822). Competition in local telephone services, and increased competition in long distance services, will provide substantial benefits to all Americans. Our member companies, the leading American software and computer makers, strongly support these principal objectives of that bill.

A tremendous number of successful standards have been established in the marketplace and through the open, voluntary, private sector led standards development process. Imposing government control on the private sector standards development process will not speed this process and may create barriers to standards development.

The full recognition of intellectual property rights plays a vital role in the development of critical standards, providing an incentive for innovation and invention. The existing intellectual property policies of standards organizations have been successful at ensuring the wide availability and acceptance of standards, and these policies will continue to ensure that these standards are available on reasonable and nondiscriminatory terms. Intellectual property rights must not be made a second class consideration in the critical technology area of NII interfaces.

ATTACHMENT.

August 25, 1994 10:00 a.m.

PROPOSED AMENDMENTS TO S.1822

1. In Section 3, on page 11, beginning on line 19, insert the following new subparagraph "(b)" and re-designate the existing subparagraphs as "(c)":

(b) Intellectual Property Rights. – Nothing in this Act shall be construed to give the Commission the authority to modify, impair, or supersede the applicability of rights under patent, copyright, trademarks or any other intellectual property law.

2. In Title I, Section 201C. Public Access
(A) On page 27, line 14, insert "and" after the ";".
(B) On page 27, strike subparagraph "(3)" starting on line 15, and subparagraph "(5)" starting on page 28, line 3, and renumber subparagraph "(4)" as "(3)".

3. In Title II, Section 229. Infrastructure Investment
(A) On page 29, line 8, strike "interoperable" and substitute "advanced", and strike "network facilities and capabilities" and substitute "services".
(B) On page 30, line 1 strike the words "and interoperability", and on line 4, strike the word "interoperability".
(C) On page 30, line 3, insert "telecommunications" before the word "standards".
(D) Starting on page 30, line 6, strike subsections 229(c)(1)(B) and (C).

4. TITLE V, Section 501, new Section 613(b), page 156, line 6, insert a new paragraph (B), and renumber the subsequent paragraphs:
"(B) A cable operator that provides telecommunications or video program services directly to subscribers in its cable area is subject to Title X of the Act."

5. Insert a new title

TITLE [X] COMPETITIVE CONSUMER PROCUREMENT

Section [9]01 - INTERACTIVE TELECOMMUNICATIONS SERVICES AND ACCESS TO TELECOMMUNICATIONS NETWORKS

(a) FINDINGS.- The Congress finds that--

(i) development in telecommunications, computing, and video technologies is facilitating the introduction of a variety of interactive telecommunications services;

(ii) in the public switched telecommunication network, open protocols and technical requirements for connection between the network and the consumer, and the availability of unbundled customer equipment through retailers and other third party vendors have served to broaden consumer choice, lower prices, and spur competition and innovation in the consumer equipment industry;

(iii) American consumers have benefited from the ability to own or rent customer premises equipment obtained from retailers and other vendors and the ability to access the network with portable, compatible equipment;

(iv) in order to promote diversity, competition, and technological innovation among suppliers of equipment and services, it may be necessary to make certain critical network telecommunications interfaces open and accessible to a broad range of equipment manufacturers and information providers;

(v) the assessment of critical open network telecommunications interfaces must be accomplished with due recognition that open and accessible public telecommunications network systems may include marketplace or voluntary consensus standards that involve both nonproprietary and proprietary technologies;

(vi) such assessment must also be accomplished with due recognition of the need of owners and distributors of video programming and information services to ensure system and signal security and to prevent theft of service;

(vii) whenever possible, standards, especially in dynamic industries such as interactive telecommunications services, are best set by the marketplace or by private sector voluntary consensus standard-setting bodies; and

(viii) in public telecommunications network markets that are not workably competitive, the role of the Commission is to ensure, in consultation with industry groups, consumer interests, and independent experts, that end users can reasonably connect information devices to such networks and to reasonably promote the openness and accessibility of these networks to a broad range of equipment manufacturers, information providers, and program suppliers.

(b) DEFINITIONS.- For the purposes of this title--

(i) the term 'Open Public Telecommunications Network Interfaces' means network interfaces, that may involve both proprietary and nonproprietary technologies, having specifications that are readily available to all vendors, service providers and users on reasonable licensing terms and conditions, if any.

(ii) "telecommunications" means the transmission, between or among points specified by the user of information of the user's choosing, without change in the form or content of the information as sent and received, by means of electromagnetic transmission, with or without benefit of any closed transmission medium, including all instrumentalities, facilities, apparatus and services, (including the receipt, switching, and delivery of such information) essential to such transmission.

(c) INQUIRY REQUIRED.- Within 6 months after the date of the enactment of this Act, the Commission shall commence an inquiry to examine the impact of the convergence of technologies on cable, telephone, satellite, wireless and other telecommunications networks likely to offer interactive telecommunications services, on the need for open public telecommunications network interfaces and on the need for the unbundling of converter boxes, interactive communications devices and other customer premises equipment, including examining:

(i) the importance of maintaining accessible public telecommunications networks;

(ii) means to establish open public telecommunications network interfaces:

(A) between common carrier network providers or cable operators and converter boxes, interactive communications devices and other customer premises equipment;

(B) between common carrier network providers or cable operators and information service providers; and

(C) between common carrier network providers and cable operators;

(iii) the current regulation of telephone, cable, satellite, and other public telecommunications delivery systems to ascertain how best to ensure interconnection between those systems;

(iv) the security of cable, satellite, and other interactive systems or services with respect to devices distributed by retailers and other third party vendors, with due recognition of the need of owners and distributors of video programming and information services to ensure system and signal security and to prevent theft of service;

(v) the adequacy of current regulation of telephone, cable, satellite, wireless and other public telecommunications delivery systems with respect to unbundling of equipment and to identify any changes in unbundling regulations necessary to assure effective competition and encourage technological innovation, consistent with the findings of subsection (a)(v), in the market for converter boxes or interactive telecommunications devices and for other customer premises equipment; and

(vi) the impact of the deployment of digital technologies on individuals with disabilities, with particular emphasis on any regulatory, policy or design barriers which would limit functionality equivalent to access by such individuals.

(d) REPORT TO CONGRESS.- Within 12 months after the enactment of this Act, the Commission shall submit to Congress the results of the inquiry required in subsection (c).

(e) SCOPE OF REGULATION--UNBUNDLING AND RELATED MATTERS.- Within six months after the date of submission of the Report required by subsection (d), the Commission shall make such changes in its regulations as are necessary to--

(i) prohibit the bundling of public telecommunications network services with converter boxes, interactive communications devices, and other customer premises equipment unless a workably competitive market is found to exist in the relevant public telecommunications network service marketplace;

(ii) insure the availability of converter boxes, interactive communications devices, and other customer

premises equipment from diverse sources, including from retailers and other third party vendors unaffiliated with any telecommunications network service provider;

(iii) enable telecommunications network service subscribers to use compatible converter boxes, interactive communications devices, and other customer premises equipment independently procured from unaffiliated retail or other third party vendors for authorized access to the services of telecommunications network service providers and to require such network service providers to so notify subscribers; and

(iv) require public telecommunications network service providers to give timely advance notice of any revisions of the specifications of the network interfaces identified at subsection (c)(ii).

(f) SCOPE OF REGULATION--OPEN PUBLIC TELECOMMUNICATIONS NETWORK INTERFACES.- The Commission may only establish standards on interconnection for the interfaces specified in c(ii), consistent with Section 3(b) of the Telecommunications Act of 1994, and only with respect to public telecommunications network markets in which workable competition does not exist. The Commission may institute rulemaking proceedings to establish such standards only upon:

(i) determining that the marketplace or private sector standard-setting bodies have had a reasonable time to develop standards relating to one or more of such interfaces;

(ii) publishing in the Federal Register a Notice stating its intention to intervene in the standards-setting process with respect to a specific standard and providing opportunity for comment on that Notice; and

(iii) after receipt of such public comments, issuing a finding that Commission intervention in the standards-setting process is necessary.

(g) PRESERVATION OF EXISTING AUTHORITY.- Nothing in this Title shall be construed as limiting or superseding the existing authority and responsibilities of the Commission or National Institute of Standards and Technology.

MR. EMERY SIMON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR LEAHY

Question 1. I understand Mr. Simon, that you have had experience working at the Office of the United States Trade Representative. One of my biggest concerns is that focusing on the NII we not lose sight of the global information infrastructure or the opportunities that exist for international trade. From an international trade perspective, what is the value or importance of the amendment we are discussing here today?

Answer. I spent almost ten years at USTR negotiating trade agreements, including a number of science and technology agreements with countries as diverse as Japan, Hungary, Jamaica, Mongolia and Spain. The basic motivation for each of these countries to conclude such agreements with us was to gain access to our laboratories and universities to learn how to be better at developing innovative technology.

Economic analyses of the United States economy, such as the work done by Professor Raymond Vernon at Harvard in the 1960's, have consistently shown that our competitive strength is in developing new products. Once products become standardized commodities, production and jobs tend to shift off shore to lower wage countries. This has certainly been the trend in the electronics industry. Radios, televisions, telephones and fax machines are but a few examples where the US developed the basic technology, but today we make virtually none of these products in our country. The lesson from these experiences is that we must continue to provide strong incentives for innovation, thus enhancing our comparative advantage.

The United States is clearly the world leader in all of the component technologies which make up the information infrastructures including, software, computing, networking, switching and other telecommunications technologies. As we proceed with the policies and legislation establishing the foundation for the new information age, we must avoid inadvertently, creating policy which will end-up exporting jobs. The Leahy-Thurmond amendments would create an environment where both competition and innovation can thrive.

Question 2. Dr. Schmidt's call for open interfaces and barrier free access sounds alluring. What do you perceive to be the risks in that approach?

Answer. The innovative American software and computing companies that APSI represents certainly support these objectives. We believe that users should be able to connect with, and exchange information across architectures without degeneration in content. In today's marketplace, business considerations dictate that for products to succeed they must be implemented by a diverse and wide array of applications and users. A company cannot succeed unless its products can work in tandem with products of its competitors.

We part company with Mr. Schmidt's vision when he argues that copyright protection should never be available with respect to interfaces, which he defines as including software. And we disagree with his comment that "* * * government * * * should establish conditions which result in nondiscriminatory access and ability to use such interfaces * * *." Standards have been, and are being created for the computer and communications industries without government control, mandates, or deadlines. There is no evidence to suggest that the private sector will somehow stop creating timely standards for the NII where the market demands it. The software and computer industries have thrived without the need for dictated standards through law or regulation. Our current technological advances, and our lead in global market, are founded on the ability of companies to develop and market ever better products and services. Today, standards continue to be established effectively through voluntary industry led efforts, and in response to marketplace demands. We fear that if the government were to dictate the parameters of technology, innovation would slow, and our lead in the marketplace would erode.

The Leahy-Thurmond proposal recognizes these realities, and that is why we strongly endorse it.

Question 3. I look at this effort as building upon the work done by Chairman Markey in the House bill and Chairman Hollings here on the Senate. Indeed, I find much to agree with in the Commerce Committee's recently released report on S. 1822. For example, the Report clarifies that the interoperability standards about which the bill is concerned are "intended to apply, in general, to communications networks, not telephone equipment or other customer premises equipment" and " these provisions are not intended to encourage the FCC to develop standards for computer equipment, computer software or [customer premises equipment]." Moreover with regard to the points of connection with telecommunications networks, the Committee Report notes: "The Committee does not intend standards to be established for information appliances or services beyond those necessary to ensure their connection to telecommunications networks. Requiring additional standards for com-

puters, software and other technologies would have the effect of freezing technology, slowing innovation, or limiting the development of new features and capabilities." I agree. Mr. Simon, were you encouraged when you saw the general provisions of S. 1822 described in these more limited terms?

Answer. I was enormously encouraged, Senator, by the Commerce Committee Report. As stated in our written comments, these are the very clarifications which we seek and support. We applaud the language of the Report. *We believe, however, these issues are of such importance that they should be spelled out in the law.* For these reasons, we support the amendments now being considered by you and Senator Thurmond. These clarifications are fully consistent with the goals of both H.R. 3636 and S. 1822.

Question 4. In particular, Mr. Simon, let me point out that the recently released Commerce Committee Report on S. 1822 provides: "For services that are not fully competitive, the FCC should, in consultation with industry groups, consumer interests, and independent experts, attempt to ensure that end users can reasonably connect information devices to such networks and to reasonably promote the openness and accessibility of these services to a broad range of equipment manufacturers, information providers, and program suppliers." Would you be more comfortable if this statement of policy were incorporated in the legislative language as it would be by the Leahy-Thurmond amendment?

Answer. Absolutely! As I stated in response to your previous question, we believe these provisions should be made clear in the law to avoid unintended results and misdirection of effort and resources.

MR. EMERY SIMON'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Could you each please briefly explain your perspective on the need for language in the Leahy-Thurmond amendment to promote "interoperability", as compared to "interconnection".

Answer. We believe that the direction the bill provides would be clearer if it referred to interconnection rather than interoperability. Interconnection is an understood term of art in the telecommunications field. It refers to the ability of different systems and devices to connect together to ensure the smooth flow of information. The FCC has a history with the application of interconnection policy goals. On the other hand, introducing the concept of interoperability has the potential for creating confusion and unnecessary intervention. Some companies are even trying to pervert this term and its goals into an excuse for free-riding on others hard won technological advances. These persons would define interoperability as including not only the ability to connect to networks, but also ensuring that all the devices and services which are so connected behave and function in exactly the same way. This is unnecessary. Defined in this way, interoperability becomes a stalking-horse for depriving innovators from the fruit of creative efforts and investment.

We support the Leahy-Thurmond amendment because it specifically states three areas where interconnection considerations justify action to establish standards. We believe that the experience we have had thus far with networking does not support broader action.

Question 2. I believe that one risk of too much government intervention in setting protocols or standards is that innovation would be stifled. Could you each please discuss your views on whether including "interoperability" language would risk limiting innovation?

Answer. Experience amply demonstrates that the marketplace and voluntary industry led efforts have successfully and efficiently produced the needed standards. The role of regulators should be limited those instances where these efforts fail. Three basic considerations lead us to these conclusions: First, overly broad regulatory proceedings could undermine the incentive of companies to invest in new technologies—technologies subject to protection under our Federal intellectual property laws. Second, setting rigid standards too early in the development of the national information infrastructure would lock us into technologies which ultimately will retard the efficient evolution and use of these networks. Third, we fear that regulatory intervention could drastically change today's successful, open, voluntary, private-sector-led, consensus standards development process in the important technology area of the National Information Infrastructure (NII).

For these reasons, we support further clarification of S. 1822 as proposed in the Leahy-Thurmond amendment.

Question 4. Mr. Sharp and Mr. Simon, do you view efforts to promote interoperability as unnecessarily interfering with intellectual property rights?

Answer. As I responded to similar question by Senator Leahy, some would have you believe that the only necessary element for the development of networked delivered information is interoperability—the ability of systems and networks to work together. I disagree. The key is innovation. While interoperability is important it is ingenuity, and technological advances which give us the necessary tools to make networks a part of every day life.

That is why we support clarifying S. 1822 by stating explicitly that the new law shall not be construed to give the Commission the authority to modify, impair, or supersede rights under patent, copyright, trademarks or any other intellectual property law. Such a provision merely states that the Constitutionally grounded laws contained in Title 17 of the U.S. Code must be fully respected in the context of telecommunications. Our industry thrives on developing innovative solutions through the application of technology. Our companies devote a huge amount of time and resources to developing these new technologies. Their success in the marketplace is directly related to their ability to provide superior products which gain broad consumer acceptance. A critical element of this mix, is being able to distinguish these products from those of competitors, based on performance, features and quality. Effective intellectual property protection for these innovative technologies is a critical element. We believe the bill should state explicitly that public telecommunication network specifications may include standards that involve both nonproprietary and proprietary technologies, and this objective is fully compatible with sound protection of intellectual property rights.

Question 6. Mr. Sharp and Mr. Simon and Mr. Sanderson, as proponents of this amendment, what is your response to providers who fear that this amendment would prohibit them from offering service together with customer equipment necessary to use the service?

Answer. Senator our goal is to increase competition, not stifle it. We believe that the Leahy-Thurmond proposals advance this goals. The fears you mention in your question, I believe are rooted in a fear of the more competitive environment which your amendments will promote.

Question 7. Could each of you please provide your perspective on signal security and the necessity of protecting against theft of service? In particular, is monopoly control over customer premises equipment necessary or desirable to prevent theft of cable and similar service?

Answer. Signal security and theft of service considerations are legitimate and appropriate factors to be weighed in making any decision in this area. Your amendment specifically highlights this issues, as does the language in the House bill. We believe that the goals of your amendment can be attained without impairing signal security. We stand ready to work with other interested groups to attain this goal.

STATEMENT OF MIKE OZBURN ON BEHALF OF THE GENERAL INSTRUMENT COMMUNICATIONS

Good morning, Mr. Chairman and members of the Subcommittee. I want to thank you for the privilege of appearing before you today. I am here specifically to speak to only a small portion of the many issues you may be addressing in the context of S. 1822. Specifically I am here to address the interactive services amendment. The purpose of my testimony is two-fold.

First, I want to urge you to look to the evolving markets to best find and meet consumer needs, rather than taking steps that would have the government, namely the FCC, define those choices. It is the availability of this variety of choice—as opposed to the specification of any particular choices—that in the end best serves consumers.

Second, I want to urge you to refrain from moving too early to limit choices or to define specific choices and market structures by mandating the kinds of conclusions set forth in subsection (e) of this amendment. These kinds of mandated conclusions, while seemingly innocuous at the level of a policy statement, have the effect of creating major distortions in these emerging markets as the FCC applies them to the complexities of the technology and intertwined markets. We have seen this before and are seeing it again today, as I'll address later in my testimony.

The concern we have about this amendment is not with its general purpose. The issues raised are very important and we support efforts to understand them. Our concern is with subsection (e) and the way it specifies and potentially limits the overall technical and policy options going forward. For this reason, I urge you to remove the limits in subsection (e) and, instead, use this amendment to focus the FCC's consideration of these issues:

1) Encourage the FCC to better understand the markets, and the cross-pressures and interrelationships of the markets before enacting any new rules;
2) Emphasize to the FCC that Congress favors allowing the competitive market, not regulation, to determine how best to meet the needs of consumers;
3) Emphasize and reaffirm the importance of the availability of choice, not the definition of a prescribed set of choices, as the ultimate goal for regulation in this area, and
4) Emphasize and reaffirm the importance of the availability of interfaces, not the definition of a prescribed interface or the standardization of a particular technology as the best method for imposing a regulatory structure that ensures choice.

BACKGROUND

In urging you to look to the markets to drive choices for consumers and to refrain from trying to define those choices or market structures, it is important to emphasize *why* markets are better at meeting consumer demand and resolving complex issues of technology and product packaging. Markets are better because they are more finely focused and more intensely dependent on understanding the customer's needs, faster to meet those needs, and far more demanding in terms of how they drive innovation to take things to the next level of development.

In asking you to look to the markets, and not to regulation, I am relying heavily on the lessons we at General Instrument are learning and on lessons I learned in over ten years of experience in the long distance industry. I think it would be helpful to give you some idea of this perspective.

Some of you may know of General Instrument from its role in the development of cable equipment and systems. what you may not fully appreciate, however, is GI's unique position as a supplier to the various markets about which I will talk in a moment. GI is the premier builder of Broadband Networks in the world today. GI technology has given rise to digital compression which is enabling the kind of multimedia services being envisioned and developed across many of these developing marks. GI systems have been the ones that have "pushed the envelope" in video transmission, whether you look at digital television or High Definition Television.

But more importantly, GI is involved across the breadth of these highly competitive markets as the competing players race to build the integrated broadband systems that must be put in place to bring about the kinds of products and services that we all want to see. These integrated broadband systems are only today being developed and built. Today's telephone networks are not sufficient to provide these integrated broadband services, nor are today's cable systems, nor today's wireless cable systems, nor are the various satellite systems. We at GI understand this, and we are working within each of these markets to develop and build the components and systems necessary to implement the broadband networks of tomorrow.

And, as the premier provider of security, access control, and encryption in the video world, GI has a unique understanding of the importance of security, and the underlying economics of intellectual property, which must be maintained if innovators are going to be able to produce the goods and services that consumers desire.

At a personal level, I have seen both the power of the market to bring more choice to consumers and I have seen the way that the artificial structure of regulation can limit, distort, and restrict the market's ability to meet the needs of consumers. I spent over ten years in the long distance industry with MCI, with experience in regulatory policy, investor relations, sales and marketing. Among my current assignments, I am GI's project director for the recently announced Bell Atlantic, full service network. So my remarks today pertain to all interactive networks, not just those which will be provided by cable television operators.

So as I appear before you today, hopefully you will better understand why we are so concerned about the negative impacts that can come (1) if the markets are not fully understood before any attempt is made to impose regulation and (2) if you move too early to reach conclusions, mandate action, or prescribe a certain answer before you fully understand the impact and cross-impacts that regulation can have when applied at the detail level in a market with evolving technology, products, and structure. With the remainder of my testimony I would like to address the state of the "markets" today and give you some examples of why conclusions you reach in subsection (e), and the rulemaking actions that would be required, will be so damaging if this amendment is adopted at this time.

THE "MARKETS"

In an industry that is a strange mix of technology, regulation and consumer mass marketing, I have come to have a full appreciation for the old adage that "the devil is in the details." what seems reasonable at the 100,000 foot level, becomes a nightmarish morass when applied at the grassroots level. Nowhere is that more true than in this industry. And herein lies our concern with subsection (e). In a nutshell, the concern is that this section mandates 100,000 foot solutions when the ground is still very uncertain and not well understood.

Because the issues in this industry are so complex, and because the component pieces themselves are so complex, there is a constant effort to "simplify the model" so that we can understand and discuss certain issues. At a policy level this is helpful, because it lets us make bold moves and set direction. In this case for instance, I think there is general agreement, at a 100,000 foot level, that:

- We all support the information superhighway—or broadband networks—and want to see it come about quickly;
- The information superhighway will require the convergence of today's technology; computers, telephony, video transmission, digital data;
- We want to increase consumer services and consumer choice;
- We recognize the importance of interoperability between and among systems and within systems;
- A competitive market is best at incenting the kind of innovation and creativity that will bring about these consumer choices; and
- "Open" architectures, systems, or interfaces, would facilitate interaction between different parts of these systems.

Unfortunately, the devil is in the details, and herein lies the problem with the conclusionary effect of subsection (e). Let me explain by looking at this from a market perspective—from the consumer's perspective.

First of all, the consumer today is rapidly being presented with a variety of choices for information services, including entertainment and the evolving interactive services. A very simple representation of this is shown in Figure 1.

While not ubiquitous, consumers can choose from traditional cable services, or traditional satellite services. In many areas, wireless cable services (MMDS) are springing up, including in many rural areas. Direct Broadcast (DBS) is also rapidly expanding with the PrimeStar and DirecTV offerings. In fact, DBS is the fastest growing segment of the market, with providers struggling to keep up with demand.

Into this mix, the telephone companies are moving as fast as possible to be able to offer new choices as well. Of course the telephone companies are greatly constrained by the existing regulatory situation, and this is a point I want to return to in a moment.

At this "system level" it is already a very competitive market. From the consumer's perspective there are, or will soon be, multiple systems from which to choose. The power of competition means that as one system begins to succeed with the way it packages its product, the other competitors will have to find ways to incorporate those benefits and move beyond them in order to keep the customer happy. And, the lessons from competition are driving all these competitors to move as fast as they possible can to enter these markets and to begin to serve these customers. This "systems level" competition represents just the first of these evolving competitive markets.

There is another market that is fast developing and that is being driven by the desire to add features and functions to the basic package of information services. This is represented in figure 2 by a variety of the types of feature packages that we are beginning to see. Competitors are moving quickly to find ways to integrate interactivity into their basic offerings. Whether it is cable companies, telephone companies or computer suppliers seeking to provide services and equipment for interactive games, telephony products, home shopping, or video services, we are beginning to see a whole new level of competition.

And, these markets are intertwined to a very large degree. Those companies that make the feature packages, such as the electronic program guides or the interactive game modules are working with multiple systems providers. Each group is working at a variety of levels, in a variety of alliances, joint marketing arrangements, and individual efforts to find the best mix of features and service to please the consumer.

On top of these markets, we are beginning to see significant competition in the consumer electronics industry aimed at integrating some of these same kinds of features and functions into consumer electronic products. This is quite easy to see as you look across these markets as represented in figure 3. In order to beet a consum-

er's desire for integrated products or service, you could build packages in a variety of ways. You could build the features in the network (often referred to as putting the "intelligence" in the network and using "dumb" terminals). Likewise, you might succeed better with the consumer by packaging the "intelligence" into a unit more similar to a piece of consumer electronics.

This type of "mix-and-match" competition gives the consumer a great deal of choice. More importantly, it provides for a robust environment within which a variety of competitors can look at packaging products and services in a variety of ways. This picture is one that exists today at a variety of levels. To see it you need only go to the national cable show or the consumer electronics conventions where there are literally hundreds of new products and services that are today coming to the market.

In addition, to these consumer markets, there is one more level of competition that is present in this picture. It is, however, often overlooked. This is the market associated with security systems, intellectual property protection and access control and encryption. This market is represented in figure 4.

As the Congress has repeatedly recognized, and as is recognized in the proposed amendment, it is vitally important that intellectual property rights be protected if we are to see the products and services that we all desire. This is an area of great concern to GI, because we have learned many lessons and seen the damage that can be done when security is compromised. In understanding this part of the overall picture, I think that there are five things that must be understood and considered:

1) Security is essential and without it we cannot have the economic structure that will support the kind of investment necessary to bring these networks and services into being;

2) Security is a network function and must be controlled by the party that is at risk should the security be compromised. This has always been the case in virtually every network model we have ever seen, from telephone services to broadcast services;

3) Security must be allowed to evolve and be renewed. As long as the value of the intellectual property exceeds the cost of avoiding the security system, there will be continued attacks on the security system itself. The attacks will be ever more sophisticated and the security systems themselves must be able to evolve to incorporate new technology;

4) A single, national security standard undermines security, as noted by the Creative Incentive Coalition (an organization dedicated to protecting intellectual property) in its recent comments on the Office of Patent & Trademarks "Green Paper" on the NII: "It is not advisable at this time for the government to set [security] standards or, certainly, to adopt a single standard in this area."; and

5) The provision of security systems is a very competitive marketplace, although not one that is necessarily understood or specifically relevant to the consumer. There are a variety of ways to provide security, access control, or encryption. In fact, GI has historically utilized and offered a variety of these systems. GI currently is aggressively licensing its systems to qualified competitors and is itself licensing rights to competitive systems from these competitors. The reality is that different systems are better in different situations and all will continue to be in a state of evolution as the underlying services continue to change and grow. The ultimate selection of how best to implement security, however, is and should be subject to a competitive choice by system operators, as it is today.

I hope that this overview provides a framework that begins to show the richness of today's "markets." There is not a singular market environment. We are already seeing a convergence of the technology, the products, the services, and the markets. We are already seeing products aimed at bringing television service to computers and seeing computer-like products aimed at the home via television. The choices for consumers are many and they are expanding every day.

This availability of choices is the most relevant point. The benefit of the market is that it provides choice. The power of the market is that the availability of this choice empowers consumers to exercise a level of control which, in turn, drives those providers in the market to be more responsive. Thus, all things being equal, we believe that it is this rich environment of multiple, and overlapping, markets that will be best able to provide the kinds of consumer benefits that we all desire.

I want to emphasize, however, that it is the *availability of choice* that provides the power in this system—it is not the presence of any particular choice. This is

the key. In this regard, consumers are threatened just as much by government action that eliminates, restricts, or pre-defines choice, as they could ever be should a single competitor be able to limit choice in some way.

THE CONCERN WITH SUBSECTION (E)

General Instrument's concern with subsection (e) as currently proposed is that it mandates conclusions, and threatens to limit consumer choices. This section goes beyond what is needed to provide for a variety of choices and it mandates action that presumes answers to questions that are not yet either fully understood, nor ripe for decision. In pre-judging issues and requiring a change in rules, subsection (e) will have the effect of limiting choice for the consumer. It limits the consumer's choice because the FCC is compelled to pre-define the way in which the market is to work. When compelled to do so in this fashion, the FCC frequently puts restrictions on technology, limits the ability of the market to operate by predetermining who will be able to provide what products' or services (again sometimes doing this by restricting the technology), and limits the ability of one part of the market to compete with another based on the way regulatory burdens affect investment, rates, and cost recovery.

We have seen this time and again in industries when regulation is imposed where competition is still evolving. There are many instances where the markets have been significantly damaged, often in unforeseen ways, when regulatory conclusions are reached before the market has had an opportunity to fully refine, if not resolve, the issues.

The risk of this kind of damage is particularly acute in this situation where you have a convergence of market situations that have historically been treated separately. In fact, today's environment really represents a patchwork of regulation and non-regulation that is already showing the effects of artificial distortions. This risk is further exacerbated as there is a temptation to apply "labels" to pieces of these markets without a thorough understanding as to how applicable the underlying labels may be. This type of "regulation by labeling," while simplifying the rhetoric, threatens to produce disastrous results in industries that will have to make billions of dollars of investments—and could potentially be forced to fit these needed investments into the artificial framework of regulation. This kind of risk is particularly apparent with this amendment. One need only look at the language and labels contained in the amendment to see this threat.

This amendment affects a regulatory environment that is as detailed and arcane as the tax code, where the definition or label, the allocation of cost to a category makes a huge difference. And, it attempts to do so when it is not clear how DBS will be treated vs. cable, or how cable is to be treated vs. telephony. Moreover, it prescribes certain conclusions when the technology itself is blurring the lines between products and services, networks and equipment. Yet, it is unclear to me how the amendment would affect the various products and markets that I discussed in the first half of my testimony. For instance, is the definition of "telecommunications" in subsection (b)(ii) intended to sweep in the transmission of information by a DBS provider or a cable provider? And if so, would the definition of a "telecommunications network service subscriber" in subsection (e)(iii) apply to a cable customer, or only a customer of a telco. Moreover, in a world where services are divided one way in the cable environment (basic tiers, enhanced tiers) and in a different fashion in the telco environment, is there a significant difference between "interactive telecommunications services," as defined in subsection (c), and either a telecommunications network service or a cable service. Finally, in an system where there is one specific meaning to "customer premises equipment" when applied to the telephone network and a different set of rules that deal with "converter boxes," how do these categories differ from "interactive communications devices" and is that difference significant.

I raise these questions not to quibble, but to highlight the uncertainty and risk in this environment. We are working in a world where the technology is not stagnant. We are working in a world where the products are evolving and where we must make decisions based on how to package technology in ways to most effectively bring success in the marketplace. In this type of environment, the way the FCC makes decisions, the way issues are framed, the way labels are applied, can have a huge and detrimental impact on customer choice.

These are not hypothetical or academic risks. In fact, you need only to look at the brief history coming out of the Cable Act to see the kinds of problems to which I am referring. I'd like to cite you to three examples to give you an idea of the problems posed by mandating the kind of conclusions found in subsection (e). These examples show how mandates like those ire subsection (e):

1) Lead to technology restrictions that limit choice and innovation,
2) Lead to technology specifications that limit the ability of one segment of the overall market or favor another, and
3) Lead to an uneven competitive environment that could limit a consumer's choice and limit a competitor's ability to compete or invest in ways necessary to bring benefits to consumers on an overall basis.

TECHNOLOGY RESTRICTIONS LIMIT CONSUMER CHOICES

The first of these examples shows the kind of damage to consumer choice, new products and innovation that can result when the FCC feels compelled to give effect, at the detailed technology level, to a broad policy goal. The example arises from the FCC's recent Order on Cable Compatibility.

In response to the provisions of the Cable Act that required the FCC to enact rules and regulations affecting the greater availability of consumer choice in remote controls and converters, the Commission also felt it necessary to regulate the way in which cable companies can change the types of remote controls that they use. And, although there was no statutory requirement to do so, the Commission determined that the best way to prevent any problems that could come from the change of a remote control system would be to prohibit certain ways in which a cable operator could make such a change. The Commission then went one step further and determined that the best way that this requirement could be enforced was to limit any changes at the technological level. The result was a new rule that prohibited an operator from changing the Infrared (IR) codes that are used in the remote control.

This may seem insignificant at first blush, but it is important to understand what happened in this process—to fully understand what led the Commission to ban changes in one of the most innocuous, but important, technologies being utilized today. By prohibiting changes at the technology level, the Commission limited the ability of cable systems to consider changing from one competitive provider of equipment to another. It also, in effect, began to "regulate" manufacturers of remote controls used in cable system and limited their ability to upgrade their systems and designs by limiting the cable operators ability to utilize these new designs. The Commission did all this, even though there was no evidence of any problem due to changes in IR codes and even though any perceived problem due to rental of remote controls was effectively a "rate regulation" issue, not a technical issue.

There are other examples of this type of "technology" restriction that are being handled in a similar fashion, including efforts to define the technology that can be used for security or access control and efforts to define the technology that can be used for digital transmission. The problem with this kind of technology "red-lining" is that—while it simplifies the technology choices—it severely limits innovation, and the ability of technology to drive this engine of growth that competition represents.

The kind of mandates set forth in subsection (e) often lead to arguments that technology should be restricted so as to make things "simpler." The argument is that technology should be standardized so that it is easier to understand and that there are fewer confusing choices. To some extent this is true. But, it is also true that the simplest world is one in which there is no choice, in which there is no change.

It was clearly simpler when there was only one telephone company and when the choice of telephones consisted of whether the single available model provided by the phone company came in black or white. Yet no one would argue that this "simple" system resulted in the same level of choice, service, or benefit as that seen in the last ten years. Prices for telephone service are down, services are far broader, the technology is far more diffused and available to consumers, and the consumer is in far greater control than at any other time.

The changes in telephone service over the last ten years did not arise because technology was mandated or standardized. In fact, whether you look at the network design in telephone central offices, or whether you look at the internal signaling systems used between switches, there is no mandated standard. What has been established—although again not mandated or standardized—are the interfaces between the component parts of the overall networks. This is all that is necessary to allow competitors to provide services on as seamless a basis as possible. Like any competitive market, the key is the availability of an interface—it is not the requirement of a particular interface or standard—that allows the system to work effectively. The problem with mandates like those in subsection (e) would arise if the FCC went beyond ensuring the availability of an interface. In doing this, it would effectively limit choice and negatively affect competition in the overall market.

Finally, simplification through standardization can exact a terrible price in innovation and development. For that reason, we applaud the emphasis in the amendment on interface standards. Interface standards limit the "zone" of standardization and enhance the arena in which innovation can occur. Since that innovation is the foundation of the current U.S. leadership position in the new technologies of the information superhighway, I urge the Congress to take the highest care in authorizing regulation which could undermine that innovation.

DEFINING THE TECHNOLOGY LIMITS CHOICE AND COMPETITION

The second example from the recent Cable Act shows how requiring the FCC to define the interaction of the pieces in the market can lead to the limitation of customer choice and distort the marketplace to the ultimate detriment of consumers.

In this case the Commission was required by the Cable Act to "specify the technical requirements with which a television receiver or video cassette recorder must comply in order to be sold as "cable compatible" or "cable ready."" The manner by which the Commission chose to implement this, and other provisions of the act, was to prescribe the use of a "decoder interface" by which the security features could be separated from other television features. GI is working with the Commission and the industry in an attempt to define this interface and generally supports this approach as a way to *make consumer choices available* without necessary pre-selecting a particular choice on how to package these features.

The potential problem in this case is more subtle than the one in the case of the limitation on IR technology. The potential problem in the case of the decoder interface arises because the FCC could limit the technical manner in which the various products would be allowed to work with each other. The issues are very technical—and far too arcane for most non-engineers to fully understand. They have to do with the "command set" that would be able to be utilized by one box in talking with the other. But the bottom line is that if the FCC defines the technical interface inadequately, it would result in a technical pre-selection for features to become resident in television sets as opposed to stand-alone units.

Such a structure would clearly be a boon to television set makers, as it would require the purchase of new television sets as technology and services evolve, but the reality is that in doing so it severely limits the consumer's choice—as a matter of technology. General Instrument favors a technical solution that would allow signals and commands to pass fully and freely in both directions, thus enabling any competitor to package features in any variety of fashions. This would also allow the consumer to make the ultimate decision as to whether they preferred a set of features in a single package as opposed to stand-alone packages. The consumer would have these choices *available* much as he or she does today when choosing stereo components.

I raise this problem to show the market impact of what would be argued to be a "non-consumer impacting" technical issue. The problem I cited gets even worse when the effect of the technical definition crosses markets—for instance when it applies to a piece of "customer premises equipment," or "cable box," but does not apply to an "interactive communications device" such as a computer or other electronic device.

CROSS-MARKET DAMAGE FROM UNEQUAL REGULATION

This brings me to my last example of the problems that can be expected to result from the mandates in subsection (e). The last problem comes from predetermining how one market is to be regulated, without understanding how this will impact the other markets that are also relevant to the consumer.

A good example of potential, unequal regulation arises out of the recent court determinations that local franchise fees will not be required for telephone companies that provide video services. These fees, however, must continue to be paid by cable operators and represent one of the major costs for cable operators.

The point here is not whether it is necessary to require the same fees of both. The point is to highlight the distortion that can be imposed on the market when a certain aspect of regulation is required of one set of potential broadband competitors, but not necessarily required of the other.

It appears to me that this is exactly the kind of situation that could arise should subsection (e)(i) go into effect.

CONCLUSION

This listing of problems arising out of the Cable Act is not meant as abject criticism of the FCC. On the contrary, General Instrument supports the investigations

underway by the FCC to better understand these evolving markets. The Commission recognizes the importance of equal regulation and has formed a working group to consider these issues and try and develop, over time, a common regulatory approach. And, I think it important for you to understand that many of the issues that you have defined in subsection (c) are already underway at the Commission in dockets announced or under consideration. Moreover, I believe that the Commission shares a support for the principles and findings set forth in subsection (a).

My purpose in giving you these examples is to highlight the complexity of the situation and the great damage that can result from mandating conclusions to issues that are not ripe for determination. My purpose was to highlight the difference between *ensuring the availability of a choice* and limiting a consumer's choice by defining a particular set of choices. My purpose was to highlight the difference between expanding consumer choice by *ensuring the availability of an interface* and in limiting consumer choice by requiring a particular, pre-selected, standardized technology or interface.

The great benefits that have given rise to the current broadband opportunities have come about as the result of robust competition in computers, technology, and the emerging competition in communications. This dynamic environment has given the U.S. the lead in these areas that it enjoys today. As we stand on the edge of beginning to invest in and build these networks of the future, I urge you not to enact provisions like those in this amendment that pose the risk of limiting competition or competitive options going forward. Instead, I urge you to reject this amendment and to instead:

1) Encourage the FCC to better understand the markets, and the cross- pressures and interrelationships of the markets before enacting any new rules;
2) Emphasize to the FCC that Congress favors allowing the competitive market, not regulation, to determine how best to meet the needs of consumers;
3) Emphasize and reaffirm the importance of the availability of choice, not the definition of a prescribed set of choices, as the ultimate goal for regulation in this area, and
4) Emphasize and reaffirm the importance of the availability of interfaces, not the definition of a prescribed interface or the standardization of a particular technology as the best method for imposing a regulatory structure that ensures choice.

I thank you for the opportunity to appear before the Subcommittee and for your consideration of this testimony.

Figure 1

THE " MARKETS "

Figure 2

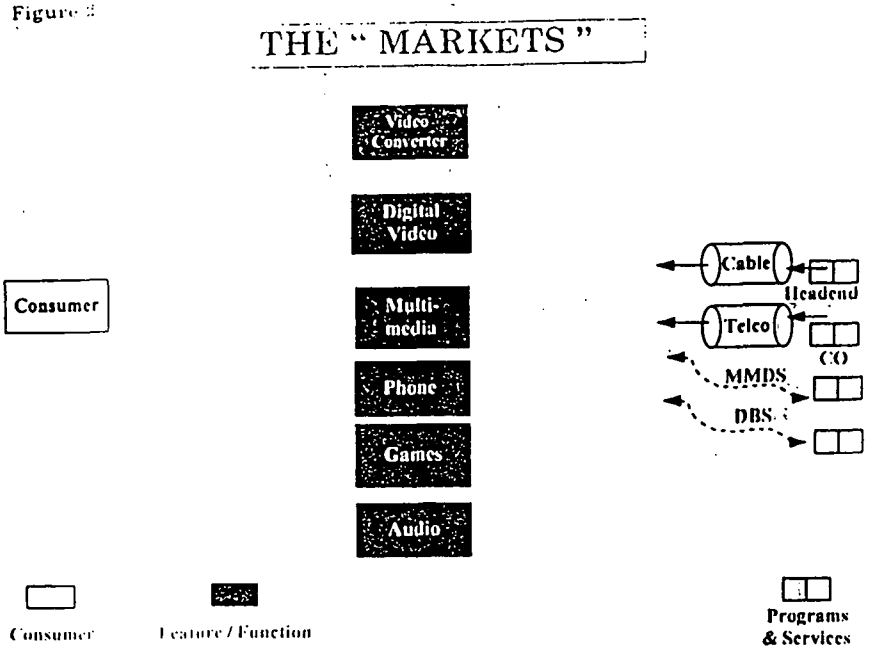


Figure 3

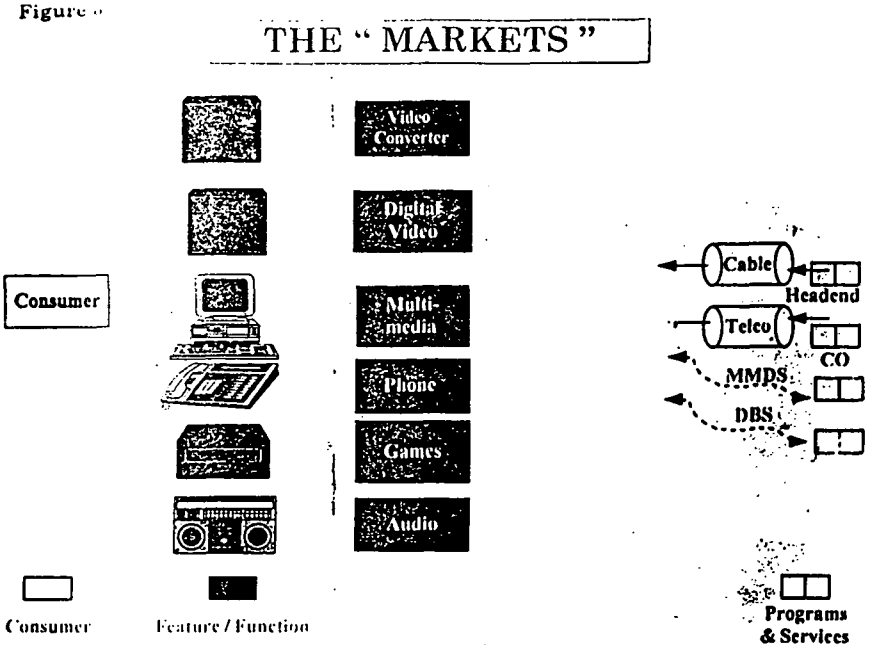
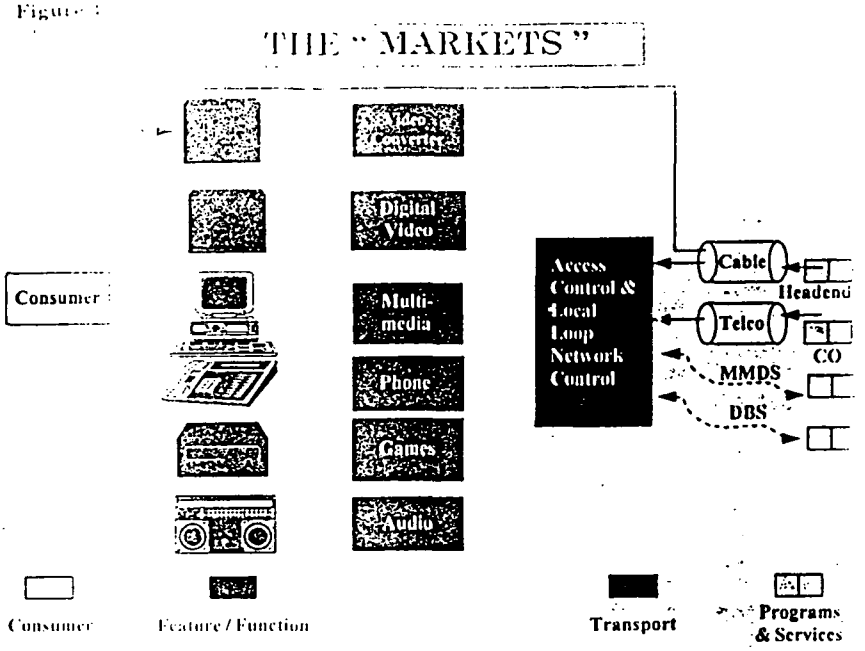


Figure 1



MIKE OZBURN'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR LEAHY

Question 1. Mr. Ozburn, do you agree that government intervention in standard setting for critical interfaces on the NII should be authority exercised only sparingly, and if the private sector is unable to resolve the matter?

Answer. I do agree that government intervention in standard setting should be exercised only sparingly, and only if the private sector is unable to achieve resolution. The fact that subsection (e) of the proposed amendment is an exception to this generate principle is one of the reasons why I believe it should be removed.

Question 2. In terms of interoperability and critical interfaces, what interfaces would you consider to be critical to ensuring the workability of the NII and how do you identify them?

Answer. I believe that the interfaces outlined in subsection (c)(ii) represent an appropriate list of interfaces about which we should be asking questions. However, I think it is too early in the developmental process to be able to determine with any certainty which, if any, such interfaces are indeed critical and in need of attention.

Moreover, it is far from settled that these interfaces present actual as opposed to theoretical, problems. For instance, the interface addressed in subsection (c)(ii)(B) is an important one if broadband networks are to facilitate electronic commerce. However, I believe that in an environment where the capacity of networks will become virtually unlimited, which will be the case with future broadband networks, the incentives of the marketplace will insure that information providers and information service providers have access to the networks on reasonable terms and conditions.

Question 3. You say that you support interoperability. How do you define interoperability? Do you disagree with Dr. Schmidt about what is necessary to achieve it?

Answer. I do support interoperability. I would define it as the ability of different components of a system to work together. In the context of broadband networks, interoperability between and among networks and with equipment used on that network is important, so that people will have incentives to use the network. Importantly, there is an economic and ease of use element to any analysis of whether

interoperability exists. for example, networks can be interoperable even though they do not have the same characteristics, provided that conversion can be accomplished with reasonable ease and at reasonable cost As a general proposition, I would agree with Doctor Schmidt that there should not be a monopoly of certain critical interfaces. I do not agree that the use of proprietary technology for those interfaces necessarily creates monopoly. And, I do not agree that government establishment of those interface standards is the preferred solution or has even been shown to be necessary.

Question 4. Mr. Ozburn, do you agree that intellectual property rights should be protected as we proceed to develop the NII?

Answer. Protection of intellectual property is crucial to the development of the NII. Without adequate security to insure the privacy of personal information and the protection of information with economic value, users will reject the new broadband networks, investment will be wasted, jobs will not develop, and the current U.S. leadership in these technologies could be lost.

Question 5. Indeed, much of your testimony is predicated on the need for security on the NII, is it not? Why is security so important? Do you have to do a better job of increasing public awareness and acceptance of security features?

Answer. Just as a leaky roof is most noticed during a rain storm, security systems get the greatest attention when they have been compromised. That was certainly the case in the late 1980's, when satellite signal theft was rampant and very high on the Congressional agenda, resulting in numerous hearings and needed changes in the law. Understandably, when the security breach was corrected, the level of awareness of the issue decreased markedly.

There is a need, and a continuous need, for keeping the public aware of the value of security. Owners of intellectual property, including publishers and those in the entertainment industry, have recently formed a Creative Incentive Coalition for just this purpose. The Administration is also to be commended its attention to this topic, including holding an NII Security Issues Forum, at which the President of General Instrument testified (copy attached).

Importantly, that awareness should include recognition of the stake which every consumer has in the maintenance of security. The richness and variety of the U.S. "information sector" is due in no small part to the incentives provided to authors, motion picture producers, and others too numerous to mention, incentives which insure that they will receive fair compensation for their work or investment. Theft of these products harms not only the owner of the intellectual property but also harms every legitimate consumer, who not only pays his way but must also pay for the thief or forego the development of new products and services.

Question 6. Mr. Sharp makes the point that other industries have intellectual property and security concerns, but do not get to monopolize retail markets on account of them. I seem to recall that the Supreme Court in the Sony Betamax opinion in 1984 said that just because movie studios have copyright concerns about the uses of VCR's, that did not give them the exclusive right to sell them. Do you disagree?

Answer. Where there is a causal nexus between the widespread availability of security, such as through retail sale, and the theft of the underlying service, then those liable for insuring security should not be required to incur that additional risk. To conclude otherwise is to threaten security. The experience of the cable television industry has been a confirmation of the problems which occur when security equipment is widely available. Such problems are relevant for all broadband systems carrying valuable economic data.

Question 7. You argue that competition exists in the many product markets that make up the NII, including security. The unbundling called for between the providing of equipment and services on the NII is intended to apply when workable competition does not exist. When the services and product markets are competitive, as you suggest they will be, the amendment does not foreclose consumer options. But when competition is lacking, the amendment is intended to foster such competition and increase consumer choice and consumer options by making equipment available for purchase through a variety of sources, including retail outlets. What is wrong with that from a consumer prospective?

Answer. The problem from a consumer perspective, and from an industry perspective, is that this system is inherently designed to limit choices for the consumer. And, although this limitation of choice will be argued to "assist" the consumer, the effect of this amendment will be to constrain innovation and stifle the competitive forces that ultimately drive the expansion of consumer choice.

The problem stems from the assumption that there is no competition today and, therefore, that market forces are not now pushing the technology and services to grow and expand. Starting with this assumption, the amendment then sets out to effectively "create" a market by prescribing how products are to be developed and

which types of product or service providers should do certain things. But, the amendment would not apply equally or completely, so a whole set of distortions would be introduced as "computer" makers try to avoid being labelled "set-top" makers and as consumer electronics companies try to argue that security is not a "network" function, and so-on and so-on.

I recognize that the approach suggested in this amendment might be thought similar to the approach used in deregulating the telephone business. But I also think that this type of "incremental" reasoning is the type that I think must be avoided if we are to avoid the problems caused when we substitute "labels" for analysis. The approach suggested by this amendment worked arguably well in the telephone situation because we had a baseline of (1) known technology, (2) deployed technology on a stable base, (3) a monopoly environment defined by decades of experience and structure that made it such. But, we are already seeing that this approach has problems as telephone companies move outside of this traditional monopoly telephony world into a world where the technology is changing faster than the labels.

That is why I favor an approach that recognizes that a robust competitive environment exists and, therefore, allows the market to push consumer choices. I would certainly support a structure that provides for remedies should the market be found insufficient.

Question 8. Do you favor a consumer being able to choose among different brands of set-top boxes for use on the same cable system?

Answer. The short answer is "yes" and we are convinced that this will be the case. However, we must raise an important *caveat* by noting that we are not sure what is meant by a "set-top box." The term is essentially meaningless, even in the concept of current equipment The important issues will revolve around different functionalities. Some functionality will be located in the home, and some will be outside of it Some will be located in television sets or monitors and some will be located in other units. Some of those units on top of the television by consumers and subscribers. Some units will be placed behind the television. Some may be placed at some distance from the television, but within the home, and some may be placed outside the home. But we would expect that consumers will be able to select most, if not all, of that functionality from among different suppliers. How that functionality will eventually be packaged remains unclear and should be permitted to respond to market choices.

Question 9. How soon will consumers be able to choose a new digital set-top box like they do a telephone, by selecting on at a local, retail store, without needed any hardware or hardware module that only a cable company can provide?

Answer. Again, the question presumes that a "digital set-top" box can be precisely defined, when what we have to do is forego that kind of labeling and look at functionality. Today, a consumer can purchase digital computer and communications capability, and many have already done so, in the form of personal computers and modems. In a number of experimental systems, modems are being used which can connect the functionality contained in the computer with cable systems, thus availing users of the greater bandwidth which such systems provide. I would expect that such modems will be available at retail in a few short years. In addition, if the Advanced Television Standard, which is in its seventh year of consideration at the FCC, is finalized, digital functionality will begin to be available at retail in the form of digital television sets within an additional one or two years. On the other hand, certain functions, including security for certain types of products, should always remain in the hands of the network provider, whether a cable operator or a telephone company. As a general principle, security should always be under the control of the party with the greatest incentive to preserve it.

Question 10. Mr. Ozburn, in your testimony you note that you are beginning to see significant competition at the "top" of markets for network services. Do you think it is equally important that we seek competition at the "bottom" of the market, where the consumers are?

Answer. Yes, and I think it exists as well. If, by the "bottom" of the market, you mean competition for consumer equipment, this is already robustly competitive. Some of this competition at the "bottom" of the market is associated with competition at the "top," and some is not.

For instance, consumers can today choose between at least two widely available forms of direct broadcast video services (PrimeStar and DirecTV), from a variety of traditional satellite TV services, from a variety of "wireless" cable services (MMDS) and from traditional "wireline" cable services. Each of these services is today associated with different types of security, access control and encryption. Moreover, the programmers that provide service over these delivery systems package those services with different approaches to security (scrambling, in the clear, subscription,

pay-per-view). All of these different approaches are then functionally translated down to the consumer and manifest themselves in different "set-top" arrangements. For instance, with the passage of the Cable Act and rulings by the FCC, some of these consumers need no "set-top" equipment at all for these services. Some require set-top equipment that is today not subject to regulation by the FCC (DBS, satellite).

In addition, there is a great deal of competition evolving at the "bottom" based on technology that is still quite nascent. For instance, many computer companies offer "video cards" that will allow "video" services to be viewed on a PC—again a piece of equipment not subject to the same regulatory scrutiny as a "set-top" box. Moreover, at least two major computer manufacturers are aggressively marketing an "integrated" PC that offers telephony, video, and computing applications from the same computer platform. These implementations are aimed specifically at the computer market.

Additionally, in this global market, there are a variety of companies offering other types of security to programmers and service providers that would change the way security could be implemented "at the set-top." Various companies tout "in the clear" technology, "interdiction," or "smart-card" based systems. My belief is that these systems have not become widely available in the U.S. because they are not presently sufficient for the more sophisticated environment of the U.S. market.

The point of my testimony was not only that competition exists at the "top" of the market, it also exists at the "bottom" and at a variety of levels and between levels. To impose a structure, as this amendment will do, will negatively constrain the development of this competition and will do so at a particularly important time in the development of technology, and thus will damage consumers.

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The issues which you have raised are and will continue to be important ones. I look forward to the opportunity to discuss them further with you and your staff.

MIKE OZBURN'S RESPONSES TO QUESTIONS SUBMITTED BY SENATOR THURMOND

Question 1. Could you each please briefly explain your perspective on the need for language in the Leahy-Thurmond amendment to promote "interoperability", as compared to "interconnection."?

Answer. I do not believe such language is needed at this time. While I support interoperability and interconnection, I do not think it clear that regulatory intervention is needed. I believe that, because of new technologies, we are moving from an era of bandwidth scarcity into an era of bandwidth plenty. In the latter instance, the incentives for private industry to provide interoperability are sufficient to insure that the market will provide interoperability. Regulation at this time is premature, particularly when, as is the case in subsection (e) of the amendment, such regulation is placed on a specific timetable.

Question 2. I believe that one risk of too much government intervention in setting protocols and standards is that innovation would be stifled. Could each of you please discuss your views on whether including "interoperability" language would risk limiting innovation?

Answer. One price of standardization is that it can stifle innovation. The cost of loss of innovation to the American economy is very high, particularly in a competitive global environment The Leahy-Thurmond amendment, absent subsection (e), does focus on limiting standardization to certain critical interfaces, and in that way does minimize the damage that could be done by broader standardization. Rather than try and craft legislation at this early stage in the development of crucial technologies for the NII, I would prefer to see Congress develop other methods for signalling its policy preference for a limited approach to standardization.

Question. Could each of you please provide your perspective on signal security and the necessity of protecting against theft of service? In particular, is monopoly control over consumer equipment necessary or desirable to prevent theft of cable and similar services?

A. Signal security is essential to the success of the new broadband networks. Without signal security, owners of intellectual property will not make their property available on the networks and individual citizens will not use them for fear of invasion of their personal privacy. Should this happen, the investment in these networks would fail, causing great loss to the economy.

Successful security does not require "monopoly control". It does, however, require adherence to certain principles, some of which are contained in my attachment to the answers to Senator Leahy's questions from this planned hearing. These prin-

ciples include maintenance of security in the hands of the party with the greatest incentives to protect it.

The FCC is currently considering new rules which could make it possible for consumer equipment to be more widely available at retail, while simultaneously protecting security. The success of the Commission approach will depend upon whether it can result in an interface standard which will maintain consumer choice. But the Congress should satisfy itself that this effort can be successfully concluded before asking the Commission to embark on a new set of proceedings and standards, particularly those with a fixed timetable.

* * * * *

I am attaching to these answers a copy of the answers which I provided to Senator Leahy's questions on the same subject.

I hope that these answers will be helpful. I appreciate your interest in the development of meaningful dialogue that can hopefully lead to wise and sound public policy in this area.

STATEMENT OF THE NATIONAL GOVERNORS' ASSOCIATION, NATIONAL CONFERENCE OF STATE LEGISLATURES, NATIONAL LEAGUE OF CITIES, U.S. CONFERENCE OF MAYORS, NATIONAL ASSOCIATION OF COUNTIES, NATIONAL ASSOCIATION OF STATE INFORMATION RESOURCE EXECUTIVES, NATIONAL ASSOCIATION OF STATE TELECOMMUNICATIONS DIRECTORS, AND NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS

The findings outlined in the opening section of S. 1822, contain many policy objectives that are supported by state and local governments. However, the section omits any finding that acknowledges that the regulatory and policy framework established in 1934 had resulted in a telecommunications system that is second to none. Second, it ignores the fact that state and local governments are already promoting and implementing changes that are achieving the policy objectives outlined in the section on findings.

This is not a mere question of S. 1822 preempting previous state and local authority. S. 1822 undermines a regulatory and policymaking foundation that has been instrumental in the United States' leadership in development and deployment of advanced telecommunications. Furthermore, S. 1822 does not take advantage of the regulatory capacity, expertise, and experience that has been built in state public utility commissions and local governments. It moves access to those with the authority to resolve complaints about the performance of telecommunications providers away from the consumer. Finally, it assumes that there is a single definition and a prescriptive answer to every aspect of telecommunications policy and regulation (e.g., universal service, definition of competition, use of public rights-of-way) that is appropriate in every community.

The policy objectives outlined in S. 1822 are laudable. Our concern is that the mechanics of the bill will not result in the desired outcome. Like the House version, it focuses on mandates and creates a bureaucratic bottleneck within the FCC that will slow down, rather than accelerate, deployment of the NII. Instead of directing their energies toward innovative, efficient ways to meet the demand for advanced telecommunications services, both the industry and government will expend their time and resources on meeting the prescriptive mandates contained within the bill.

The following framework for an alternative to Titles I, II, and V of the Communications Act of 1994 is provided by a coalition of state and local government associations and consumer groups.

TITLE I—PROTECTION AND ADVANCED OF UNIVERSAL SERVICE

The policy objectives outlined in Section 101 are generally acceptable. State and local governments acknowledge the need for all citizens to have comparable access to the National Information Infrastructure pipeline at affordable rates. However, Title I melds the concept of universal access to the physical infrastructure with entitlement to information services and applications that may be transmitted over the pipeline and the equipment that may be required to access these services. There is no single definition for terms such as "access," "reasonable," "as far as possible," and "reasonably comparable" that is appropriate for all communities. Therefore, a broad federal definition of universal service would fail to account for the economic, social, and political preferences within individual communities. It would mandate that some consumers be charged for services they do not need and do not want.

We propose that the language in Title I be amended to give the FCC responsibility for managing a national universal service fund that ensures a connection to the switched public network at affordable rates. Restructuring the fund to ensure that all carriers contribute equitably to the fund and establishing the mechanism by which the fund's revenues will be allocated among the competitive service providers to achieve this policy objective should be the first priority for the FCC. In other words, Congress should ensure that nothing in S. 1822 backs away from the commitment to provide a connection to the switched public network. However, one must recognize that expansion of the universal service objective and the mechanism to fund it will have customer rate implications for both long distance and local service.

Under our proposal the FCC, in consultation with government and industry representatives, would determine the minimum capacity required for consumers to access the current range of information services including voice, data, and video. As new applications change the minimum capacity requirements, the FCC, again in consultation with the industry and state and local government, could adjust both the definition and the funding support to ensure that the federal universal service policy objective can shift with changes in technology. The eventual definition of universal access should be technology neutral. For example, the language might read "* * * each household shall have access to broadband capacity for the transmission of voice, data, and video." This objective could be met by various wireline and wireless technologies. Universal access for all citizens, regardless of their place of residence, to the pipeline will require some interstate reallocation of resources through the restructured universal service fund. The language in Title I should clearly link any federal definition of universal service to a national funding mechanism that supports the policy objective.

Determining which applications or on-premise equipment should be available at affordable prices to all households is a decision that should remain with state and local government. Any enhancements in terms of applications or on-premise equipment should be based on community needs, interests, and public support for an enhanced system.

The definition of universal service has significant social and economic consequences for states, localities, the public, businesses, and non-profit entities. Title I should enable states to establish a broad, open process for addressing the policy objective of expanded universal service. The Title should recognize that there is an economic incentive associated with a broader universal objective. Therefore, it is in each state's economic interest to develop universal service policies and funding mechanisms that go beyond basic service. S. 1822 does not recognize that someone (i.e. consumers) eventually pays for any additional services and content included under the universal service policy objective. Balancing the cost of new services with the benefits will vary from jurisdiction to jurisdiction. These are public decisions that should be made closer to the consumer, not by the FCC.

Finally, Section 103—Public Rights-of-Way establishes an FCC driven mechanism for pricing public investment in the telecommunications network by establishing an arbitrary price (up to five percent of capacity of a network) and excludes state and local governments from the benefits. Rights-of-way represent the most valuable real estate the public owns and its management is a powerful tool to enhance community welfare and assist economic development. Governments should be allowed to negotiate the compensation for the public contributions (e.g., right-of-way access) as long as the eventually determined price is then equitably applied to all providers. Market forces and the interest of government to promote private investment in its telecommunications infrastructure will control the rate of compensation. We recommend that this section be retitled to more accurately reflect the issue of public use of the network and that the language focus on the process by which decisions on public use and compensation be determined. The process should include public input concerning the potential users of any dedicated public use access, not an arbitrary list of non-profit entities.

TITLE III—REGULATORY REFORM

Congress should establish the regulatory parameters (e.g., number portability, unbundling of services) contained within Section 230—Telecommunications Competition. However, rather than centralize the regulatory function in the FCC the bill should outline a regulatory scheme that draws on the abilities of regulatory entities at each level of government to ensure a smooth transition to a competitive regulatory environment.

The state and local government coalition proposes the following division of labor among the FCC, state public utility commissions, and local government.

FCC

Regulate interstate telecommunications services.

Establish the necessary federal mechanisms (e.g., number portability clearinghouse) required to meet the regulatory reform parameters.

Monitor the progress of regulatory reform and the transition to a competitive environment identifying specific issues that may require additional attention.

State PUC

Make the determination when competition exists in a local telecommunications markets.

Ensure that intrastate carriers operate in accordance with federal and state statutory and regulatory requirements.

Review carriers for fitness and customer responsiveness in order to protect consumer interests.

Maintain the authority to sanction carriers that operate outside federal or state statutory and regulatory requirements.

Local Government

Coordinate and manage non-discriminatory access to public rights-of-way.

Consistent with state law, carry out any regulatory function (e.g., cable service oversight) reserved for the state under the regulatory framework.

States and localities would not object to a date-certain deadline—not less than two years—for revamping their current regulations and procedures to comply with the federal policy parameters.

Second, to further the policy objectives outlined in S. 1822, we believe that Congress should support technical assistance programs to facilitate state and local compliance with the regulatory reform requirements. Such assistance could include peer-to-peer consulting, dissemination of information on innovative regulatory practices, and the development of model laws and regulations. [Note: It has been reported that administration of the Cable Act of 1992 required an annual increase in the FCC's operating budget of $30 million. At most, a technical assistance program would cost 10 percent of that amount.]

This division of labor makes sense for a number of reasons. There already exists a system of state and federal administrative and judicial remedies if the state regulatory body violates these parameters. The fallacy of Title III, as it is currently written, is the injection of the FCC as the initial point of relief. This would circumvent the existing administrative and judicial avenues and create a bottleneck that is distanced from the consumer.

The current language places PUCs and localities in the uncomfortable position of being required to enforce federal policies without the authorities to sanction the violating carrier. In fact, a carrier can circumvent the PUC and local government and request a waiver of the requirement directly from the FCC. This bifurcation of responsibility and authority is the worst possible scenario.

Finally, Title III contains numerous bureaucratic redundancies. For example, Section 230(k) requires the FCC to establish rules that require carriers to obtain approval from State commissions before operating in rural markets to ensure that it is operating within federal parameters. State commissions do not need an FCC regulation to carry out federal law. These provisions in the bill are unnecessary and patronizing. They should be removed.

TITLE V—REGULATORY PARITY AMONG PROVIDERS OF CABLE SERVICE

We believe the reference to "cable services" in Title V is inappropriate. Cable implies a transmission technology. The substance of Title V deals with video programming. A more accurate description of the Title V would be "Regulatory Parity Among Providers of Video Services."

State and local governments strongly support the concept of "regulatory symmetry" among providers of any telecommunications service. The regulatory requirements on a given company should be based on the services it provides, not on its name, structure, or technology. For example, a provider of video entertainment to residential customers should be treated the same regardless of whether it is a cable

company transmitting over coaxial cable or a phone company using twisted pair wire.

We believe that the current language in Title V moves in the opposite direction. Furthermore, it again centralizes certain regulatory functions in the FCC that should remain with state and local government. Regulation of cable services should be consistent with the general regulatory framework outlined above.

Finally, both Title III and Title V contain language that blocks the ability of local governments to receive just compensation for access to public rights-of-way. Revenues generated through cable franchise fees are a significant source of income for localities. In many instances, these revenues and/or in-kind contributions are dedicated to enhancing the public's access to information consistent with the findings in the introduction to S. 1822. Regardless of who regulates video services in terms of fitness and responsiveness to consumers, the bill should enable localities, consistent with state law, to negotiate just compensation for access to rights-of-way as long as the eventually determined price is reasonably comparable for comparable services. This includes the authority to impose fees on video service providers which use the rights-of-way, provided such fees are imposed equitably on all providers of such services within the jurisdiction.

This issue is unrelated to general state and local taxing authority which should remain unaffected by the legislation.

ANALYSIS OF AMENDMENTS BEING CONSIDERED BY SENATOR LEAHY

S. 1822 language following mark-up	Amendment considered by Sen. Leahy	Problems with the amendment
No language exists in the current bill	Amendment #1 proposes to add a new subparagraph to Section 3 that states "nothing in this Act shall be construed to give the Commission the authority to modify, impair, or supersede the applicability of rights under patent, copyright, trademarks or any other intellectual property law."	Without question, protection of intellectual property rights in the NII is critical. However, some policy decisions of the FCC affect the exploitation of rights that would otherwise exist under intellectual property laws (patents, copyrights and trademarks), the proposed amendment represents an attempt to limit current FCC authority to administer this new Act. This proposed amendment does not take into account the legitimate reasons some past and current FCC rules "modify" or "supersede" monopoly IP rights, i.e. the FCC involvement in the phone jack decision *If included in the bill, a phrase should be added to the end of the proposed amendment language that says, "beyond that authority already held by the Commission."*

S. 1822 language following mark-up	Amendment considered by Sen. Leahy	Problems with the amendment
TITLE I, SEC 201C (b) Public Access -- Advanced Services -- calls for the Commission to establish rules that -- (3) "ensure that appropriate functional requirements or performance standards, or both, or interoperability standards, are established for telecommunications carriers that connect such public institutional telecommunications users" with the public switched network." (5) "to address such other matters as the Commission may determine." ["defined in an earlier section as "all public and non-profit accredited elementary and secondary school classrooms, health care facilities, libraries, museums (including zoos and aquariums), public broadcast stations, and any other class of public institutional telecommunications users identified by the Commission."]	Amendment #2 proposes to eliminate subsections (3) and (5) from the bill.	Attempts to limit FCC authority to ensure access to interoperable networks to educational institutions, libraries, museums, and other public or non-profit groups.
SEC 229 Infrastructure Investment "(a) Rural Markets and Noncompetitive Markets -- To the extent possible, consumers in rural markets and noncompetitive markets shall have access to high quality, interoperable telecommunications network facilities and capabilities which -- (1) provide subscribers with sufficient interactive bi-directional network capacity to allow access to information services that provide a combination of voice, data, image and video; and (2) are widely available at just, reasonable, affordable and nondiscriminatory rates."	Amendment #3 proposes to change "interoperable telecommunications network facilities and capacities" to "advanced systems."	"Interoperable" has a specific meaning related to one of the core functions of the NII: to ensure that all Americans -- including those in rural areas -- are able to communicate with each other. In contrast, "advanced systems" is very vague and raises the possibility that consumers in rural markets could be shortchanged if no specific guidelines are established. For example, a state may determine that access to satellite television technology constitutes access to an "advanced system" and may determine that no need exists for further developments.

S. 1822 language following mark-up	Amendment considered by Sen. Leahy	Problems with the amendment
TITLE II, SEC 229 Infrastructure Investment "*(c) Telecommunications Network Standards* (A) Interconnection and Interoperability Standards -- The Commission shall encourage telecommunications carriers and telecommunications equipment manufacturers to develop standards to ensure interconnection, interoperability and reliability of telecommunications networks." " (B) Industry Assistance -- The Commission shall, when necessary, establish deadlines, create incentives, or use other mechanisms to assist the industry to develop and implement such standards." "(C) Commission Authority to Establish Standards -- The Commission may establish standards when industry participants fail to reach agreement."	Amendment #3 proposes to delete the word "interoperability" both times it appears in the current text of subsection (A); it inserts the word "telecommunications" before the word standards in the same section. This amendment also proposes deleting both subsections (B) and (C) entirely.	Interoperability means the ability of different components, from different vendors, to work together seamlessly from the user's point of view. Interoperability denotes that components work together in more than one "direction." Interconnection deals only with the connections of components and may work in only one direction. For example, on an interoperable network, such as the Internet or the phone network, two people can exchange e-mail or voice messages to one another, and to others. A network could be technically "interconnected" if one person can send messages to another person, even if the second person is unable to reply. The deletion of the word interoperability from subsection (A) changes the intent of the subsection. The primary purpose of subsections (B) and (C) is to encourage the industry standards setting process, and to ensure that standards could be set if industry is unable to do so. These subsections seem in line with the industry point of view that the FCC should not jump in and start setting standards, while at the same time it promotes access and benefits users/consumers since it promotes the establishment of the infrastructure, and helps set up the "rules of the road" in cases where industry fails to do so. The process that took place to establish the interface specification for the phone jack is an example of such a process -- the end result of which did not hurt industry or stifle innovation, while at the same time helped produce an interoperable phone network to benefit everyone.

SEC 405 of House passed HR 3626	Language considered by Sen. Leahy for a new title [X] -- Competitive Consumer Procurement	Problems with the proposed language for title X
the role of the Commission is (page 181) -- "(9)(A) to identify ... critical interfaces with such networks (i) to ensure that end users can connect info. devices to such networks, and (ii) to ensure that information service providers are able to transmit information to end users, and (B) as necessary, to take steps to ensure these networks and services are accessible to a broad range of equipment manufacturers, info. providers and program suppliers.	the role of the Commission is -- (a)(viii) in public telecommunications network markets that are not workably competitive, to ensure ... that end users can reasonably connect information devices to such networks and to reasonably promote the openness and accessibility of these networks to a broad range of equipment manufacturers, information providers and program suppliers.	Whereas the House passed language identifies the issue of ensuring access at critical interfaces in the context of the developing NII, the language for a new title to S.1822 only identifies a role for the Commission in public telecommunications markets that are not "workably competitive." Then the role of the FCC is only to ensure "reasonable connection", and to "reasonably promote" access. The House passed language provides the FCC with leeway to determine what might be necessary. The proposed Senate amendment limits the flexibility of the FCC to ensure access to a diversity of info. and program suppliers.
no definition of "Open Public Telecommunication Network Interfaces" included in the House passed language	Definition of "Open Public Telecommunications Network Interfaces" for proposed of this title -- "network interfaces, that may involve both proprietary and nonproprietary technologies, having specifications that are readily available to all vendors, service providers and users on reasonable licensing terms and conditions, if any.	The phrase "reasonable licensing terms and conditions" is ambiguous, and very subjective. What is "reasonable" from the point of view of a multi-billion company, may differ significantly from what a small software developing firm run out of someone's home would consider "reasonable." Similarly, what is "reasonable" to for-profit organizations may not be "reasonable" to non-profit organizations.

SEC 405 of House passed HR 3626	Language considered by Sen. Leahy for a new title [X] -- Competitive Consumer Procurement	Problems with the proposed language for title X
no definition of "telecommunications" included in the House passed language.	Definition of "telecommunications" for purposes of this new title -- "transmission, between or among points specified by the user of information of the user's choosing, without change in the form or content of the information as sent and received, by means of electromagnetic transmission, with or without the benefit of any closed transmission medium, including all instrumentalities, facilities, apparatus and services, (including the receipt, switching, and delivery of such information) essential to such transmission." (emphasis added)	This definition differs in at least one critical way from the definitions for "wire" and "radio" communications contained in the Communications Act. The proposed definition deals with things "essential" to transmission -- whereas the longstanding definition deals with things "incidental" to transmission, and has allowed the FCC, among other things, to ensure that equipment does not create radio interference. In an integrated NII, where different technologies may be interchangeable, it is unclear whether any one thing could be considered "essential." For example, if you could use either a TV or a computer to receive something over the NII, is either "essential"? The apparent purpose of this new definition is to greatly limit the ability of the FCC to act as the NII develops.
PURPOSES OF FCC INQUIRY		
(b)(3) "to examine the costs and benefits of maintaining varying levels of interoperability between and among interactive communications services." (page 182)	(c)(1) examine "the importance of maintaining accessible public telecommunications networks."	Many express a vision of the NII in which virtually anyone can be both a consumer *and* an information/services provider. Such a vision is fulfilled if we have interoperable systems. "Maintaining accessible" networks is based strictly on the status quo. Clearly, we have accessible networks, and clearly this is important. In contrast, examining the costs and benefits of interoperability is forward looking in that it places emphasis on what will prove to be a critical NII issue.

SEC 405 of House passed HR 3626	Language considered by Sen. Leahy for a new title [X] -- Competitive Consumer Procurement	Problems with the proposed language for title X
(b)(7) "to ascertain the conditions necessary to ensure that any critical interface is available to information and content providers and others who seek to design, build, and distribute interoperable devices for these networks so as to ensure network access and fair competition for independent information providers and consumers."	(c)(ii) to examine "means to establish open public telecommunications network interfaces: (A) between common carrier network providers or cable operators and converter boxes, interactive communications devices and other customer premises equipment; (B) between common carrier network providers or cable operators and information service providers; and (C) between common carrier network providers and cable operators." (f) "The Commission may only establish standards on interconnection standards on interconnection for the interfaces specified in c(ii)"	The House language directs the FCC to conduct a study that would ensure interoperability and competition, and does not predetermine where these critical access points do and will exist. In contrast, the Senate proposal attempts to predetermine which interfaces will be critical and limit the FCC to only deal with the interfaces identified. Because the NII is still developing, if Congress tries to identify and limit the critical interfaces that the FCC should be looking at, other bottlenecks could develop. Even based on the current status of technology, the list of only three interfaces seems too limited. The Computer Systems Policy Project (CSPP), a coalition of 13 computer industry CEOs, released a report which identified four categories of critical interfaces. At a minimum, all four of these interface categories should be considered
(b)(9) "to assess current regulation of telephone, cable, satellite, and other communications delivery systems to ascertain how best to ensure interoperability between those systems." (page 183)	(c)(iii) examine "the current regulation of telephone, cable, satellite and other public telecommunications delivery systems to ascertain how best to ensure interconnection between those systems."	This is another time where the word interoperability has been replaced with interconnection. Interoperability has been identified by many groups and government agencies as a critical NII concept. As discussed earlier (on pages 2 and 3 of this chart), interconnection is not the same thing

SEC 405 of House passed HR 3626	Language considered by Sen. Leahy for a new title [X] -- Competitive Consumer Procurement	Problems with the proposed language for title X
PROMOTING UNBUNDLING		
(b) (10) The Commission is to "assess the adequacy of current regulation of telephone, cable, satellite and other communications delivery systems with respect to bundling of equipment and services and to identify any changes in unbundling regulations necessary to assure effective competition and encourage technological innovation" (c) "the Commission shall prescribe such changes in its regulations as the Commission determines as necessary pursuant to subsection (b)(10)	(e) "the Commission shall make such changes in its regulations as are necessary to -- (i) prohibit the bundling of public telecommunications network services with converter boxes, interactive communications devices, and other customer premises equipment unless a workably competitive market is found to exist in the relevant public telecommunications network service marketplace"	The proposed Senate language seems to limit unbundling to non-competitive markets -- by only prohibiting bundling in cases where workable competition does not exist. A similar limitation does not appear in the House passed language.

Document No. 196