

**BRINGING INFORMATION TO THE WORLD:
THE GLOBAL INFORMATION INFRASTRUCTURE**

*Vice President Al Gore**

There is a saying that if you see a tusk sticking through your tent, you can assume there is an elephant outside. Those of us in Washington who focus on the politics of communications reform sometimes spend too much time focused on the tusks and not enough on what is standing just outside the tent. I would like to focus on one of those elephants — the emergence of information as the central organizing force of our society and the world as embodied in the emerging Global Information Infrastructure (“GII”).¹

The United States was born out of a commitment to the free flow of ideas and communication — freedom of religion, freedom of assembly, freedom of speech. “No taxation without representation” was the battle cry of 200 years ago against a centralized government deaf to the pleas of its citizens. It is no wonder that the First Amendment to our Constitution guarantees free speech.

Throughout our history, we have defined ourselves by hitching our desire to communicate to the star just over the next horizon. From the Pony Express to the telegraph to the transcontinental railroad to the interstate highway system, we have built one dream upon the other to strengthen the bonds that tie our nation together. When Neil Armstrong strode upon the moon, we realized that our dreams could extend beyond our nation to the entire world. But today’s dream is not about breaking speed barriers or sending pioneers into the new frontier.

It is about breaking the barriers that limit our knowledge of the world, our neighbors and ourselves. It is about millions of individual journeys to explore the frontiers of knowledge, whether it is a child’s E-

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1. The United States’ initial conception of the GI was presented at the first World Telecommunications Development Conference in Buenos Aires in March 1994. See Vice President Al Gore, Remarks Prepared for Delivery to the International Telecommunications Union (Mar. 21, 1994), available in World Wide Web, http://ntiaunix1.ntia.doc.gov:70/papers/speeches/032194_gore_giispeech.txt; see also The Global Information Infrastructure: Agenda for Cooperation, available in World Wide Web, <http://ntiaunix1.ntia.doc.gov:70/papers/documents/giagend.html>.

mail conversation with a scientist at the South Pole² or a tour of the Louvre right from your living room³ — with a side trip to look at the newly discovered cave paintings that France has put on the Internet.⁴

We will not enjoy all of the benefits of the National Information Infrastructure (“NII”)⁵ unless it is linked to a global network of networks, a GII, linking every country, every town, every village, providing not just telephone service, but high-speed data and video as well. Such a global network would enable Americans to communicate across national boundaries and continental distances as easily as we communicate across state separations today. Time zones, not cost, will be the biggest barrier to keeping in touch with family, friends, and co-workers, no matter where they are.

We talk about the GII as if it were a thing, a product, a collection of hardware and software, satellites and telephones, and switches and fibers. It is all of that, and it is more. It is a concept that has changed our perception of human potential.

It is the heir to the great breakthroughs in thought that have transformed humankind — from the vision of Copernicus that provoked circumnavigation of the planet, to the discovery of electromagnetic energy that lets us now sail the skies with satellites, cellular phones, and computers, to the birth of modern physics from the thought experiments of Einstein that lead to dramatic advances in energy, electronics, and computing almost beyond our comprehension.

Though the technologies involved in bringing us these great benefits are wondrous, I would like to address not the technologies involved in the GII, but the choices we all must make as this new global reality emerges.

As information becomes an abundant rather than a scarce resource, nations are dismantling the telecommunications monopolies of the past

2. Visit World Wide Web, <http://www.cmdl.noaa.gov/spo/spo.html>, to send E-mail to the station chief at The Climate Monitoring and Diagnostics Laboratory’s South Pole Observatory.

3. See the Louvre via “The Paris Pages” at World Wide Web, <http://www.paris.org/Musees/Louvre>, or visit the official Louvre site (in French) at World Wide Web, <http://www.louvre.fr>.

4. See World Wide Web, <http://www.culture.fr/culture/gvpda-en.html>

5. See The National Information Infrastructure: Agenda for Action, available in World Wide Web, http://ntiaunix1.ntia.doc.gov:70/papers/documents/nii_agenda_for_action.txt.

and substituting private investment and competition for government control.⁶

As they do so, they discover that their challenges are not as much technological as political and strategic. Two questions arise time and time again: first, what is the vision for the GII?; and second, what are the values it will serve and promote?

Beginning with the first World Telecommunications Development conference in Buenos Aires in early 1994, the United States has promoted a vision for the GII that incorporates the principles this Administration believes are critical to the success of our NII as well. These five principles — private investment, competition, universal service, open access, and flexible regulations — have since been adopted and endorsed by industry and political leaders in fora around the world, such as the Asia-Pacific Economic Cooperation (“APEC”) meeting of telecommunications ministers in Seoul, Korea,⁷ the Summit of the Americas meeting in Miami last December,⁸ the G-7 ministerial meeting last February in Brussels,⁹ and the meeting of the G-7 leaders in Halifax.¹⁰

While these principles are easier to espouse than to achieve, there are visible signs of progress.

The APEC nations have taken steps to open markets for telecommunications equipment and services. The nations of the European Union have pledged to liberalize the market for basic telephone service by January 1998.¹¹ The negotiations now underway at the World Trade Organization in Geneva are moving clearly toward a multilateral agreement in the spring of this year to open telecommunications markets.¹² In addition, the United States has now signed bilateral agreements with Chile, Argentina, Ukraine, Russia, and other countries to work together to promote investment and competition in the telecom-

6. See, e.g., Ray Moseley, *Richest Nations to Speed Communication Competition*, CHI. TRIB., Feb. 27, 1995, at 4.

7. See *Full Text of APEC Info Meeting's Declaration*, JAPAN ECON. NEWSWIRE, May 30, 1995, available in LEXIS, News Library, Cumws File.

8. See *Summit of the Americas: Declaration of Principles and Plan of Action*, 34 INT'L L. MATERIALS 808, 825 (1995).

9. See *Leaders Debate Global Information Superhighway*, ISDN NEWS, March 14, 1995, No. 6, Vol. 8, available in LEXIS, News Library, Cumws File.

10. See *Consensus Builds for Networks: U.S. Pledges 'Moral Suasion' to Win Over Nations on Global Network*, COMM. DAILY, June 21, 1995, at 2, available in LEXIS, News Library, Cumws File.

11. See Emma Tucker, *EU Clears Lines for Telecom Hopefuls*, THE FINANCIAL TIMES (London), Nov. 16, 1995, at 2.

12. See *WTO Telecoms Agreement*, BUS. L. BRIEF, Oct. 23, 1995, at 7, available in WESTLAW, Allnews Database.

munications sector. We have worked to promote global connectivity through the World Radiocommunication Conference in Geneva.¹³ We are also engaged in bilateral discussion with South Africa, as well as planning our participation in an international meeting there next spring on the role of telecommunications in the lesser developed countries.¹⁴

The principles comprising our vision have provided a template for development of the GII in countries of widely varying needs, cultures, and technologies. In the developing world, we are promoting and supporting telecommunications development through these principles as an essential factor in economic growth and development, and not as a luxurious result of growth. To our economic competitors and trading partners, we have laid out a challenge to remove our remaining barriers to foreign investment in telecommunications services as they do the same.

In all cases, global and national development are not possible without allowing private investment, open access to the marketplace, and competition — and we are fighting to achieve this around the world.

The emergence of the GII will occur as the result of thousands of efforts around the world to connect our nations and our citizens. Like a beautiful fractal image, these parts will resemble the whole in organizational structure and shape at any scale and at any level you encounter it. Similarly, as a complex system, it will achieve a level of self-organization that creates the emergence of new functions and properties that cannot be designed or predicted in advance.

It is unavoidable that the values that guide our efforts in developing the GII will replicate alone within the system as a whole. That is why so many people are worried when all they hear about the GII is futuristic, utopian scenarios dominated by technological wonders and strange vocabularies.

They fear that in designing the future of technology, we will forget the future of democracy; that in promoting instant communication, we will ignore universal education; that in our ambition for greater productivity and new sources of wealth, we will fail to lift the economic well-being and standards of living for all segments of our societies. They are right to ask: "What are the values of this new information age?"

13. See *WRC-95 Opens the Door for the Big LEOs and Teledesic*, MOBILE SATELLITE NEWS, Nov. 30, 1995, available in LEXIS, News Library, Cumws File.

14. See *Trade Briefs: More Telecom Summitry Slated on Open Markets*, JOURNAL OF COMMERCE, June 21, 1995, at A3; see also *U.S. Regards South Africa as Door to Africa*, XINHUA NEWS AGENCY, Dec. 7, 1995, available in LEXIS, News Library, Cumws File.

There are thousands of competing visions for how to develop and achieve the GII. Each corporation, each industry, each sector has its own strategies for success and would-be technological dominance. But we must ask who will worry about the next generation and not only the next dollar? Who will provide the public interest a seat at the feast? Who can afford to look beyond their immediate self-interest to the properties of the system as a whole? Finally, how can we accomplish these tasks without burdening the sector that will be responsible for building the GII?

I firmly believe that the proper role of government in the development of the GII is to promote and achieve at every stage of growth, at every level of operation, at every scale, the public interest values of democracy, education, and economic and social well-being for all of our citizens. If we do not attempt to see to it that every project, every network, every system addresses the public interest at the beginning, when will it be addressed? How can we expect the final system or organism, if you will, to express these values if we do not inculcate these values into its DNA at its beginning?

Providing for consideration of the public interest is not the only rule of the governments of the world. They must take responsibility for removing most of the roadblocks to private investment and competition. But promoting and protecting the public interest must be their principal focus.

Similarly, while making a profit is the focus of private industry, that should not be its members' only role. They can provide the innovation and vision to bring the benefits of the GII to every corner of the earth in an affordable and useful way.

If the United States is to provide the vision for a GII that incorporates these values, we simply must embody them in word and deed. Because we cannot lead by asking others to do as we say, not as we do. So what actions can we take — what actions are we taking — to show that we are serious about our vision and our values?

I believe there are two areas where the United States can demonstrate its commitment to the principles of competition, open access, universal service, private investment, and flexible regulations in the service of the values of democracy, education, and economic opportunity.

One area, of course, is the reform of the 1934 Communications Act, upon which we have recently reached agreement with the Congress to strengthen each of the five principles. The other area is the way we spend our national resources to promote those values at home and abroad.

The telecommunications reform agreement we have made seizes a great opportunity to value what we received from previous generations who had the foresight to provide for the public interest, and to plan for the future by increasing opportunities, expanding universal service, enhancing education, and strengthening the economy. This agreement is a victory for the American and worldwide economies, and for American consumers in its creation of a telecommunications industry for the 21st century. It will lower prices, increase and improve services in telecommunications, and preserve the diversity of voices and viewpoints in television and radio that are essential to our democracy.

The agreement reached will prevent the media concentration that was of concern to the President and will provide for fair competition between local and long-distance telephone companies. It will also provide for greater flexibility in cable programming services while preventing the deregulation of companies that do not face competition for several years.¹⁵

We are additionally gratified that the bill contains the provisions for the V-chip that will enable families to control the content of television programming that comes into their homes, and that it contains a provision to make advanced telecommunications services available at low cost to schools, libraries, and hospitals.

The effect of the agreement we have reached will be to preserve competition, which keeps prices low.¹⁶

But despite this agreement, there are still areas upon which the President and I have deep disagreements with the Congress. Since the earlier House and Senate communications reform bills passed, the Senate has cut the budget of the FCC by 20%.¹⁷ The agreement we have reached with the Congress gives the FCC more responsibility for implementing telecommunications reform. As a result, this action

15. This agreement addresses the President's concerns, expressed best in his veto message on the earlier House bill, H.R. 1555, 104th Cong., 1st Sess. (1995):

[L]egislation is needed to stimulate investment, promote competition, provide open access to information networks, strengthen and improve universal service and provide for flexible regulations for this important industry. Consumers should receive the benefits of lower prices, better quality, and greater choices in their telephone and cable services, and they should continue to benefit from a diversity of voices and viewpoints in radio, television, and the print media.

Statement on Proposed Telecommunications Reform Legislation, 31 WEEKLY COMP. PRES. DOC. 1355 (July 31, 1995).

16. See, e.g., Elizabeth Willson, *Groups Warn of Deregulation's Costs*, ST. PETERSBURG TIMES, Oct. 19, 1995, at 1E.

17. See John Rendleman, *Budget Cuts Could Harm FCC*, COMMUNICATIONS WEEK, Sept. 25, 1995, at 4.

implies that telecommunications reform could be either a failure or a fraud: a failure because the Congress is not serious about the FCC having anything to implement, or a fraud because it purports to give the FCC the power to make decisions in the public interest, but is not interested in giving them the resources to actually do it.

This is not the way to lead the world into the Information Age. Believe me, the world is watching what we do and watching very carefully.

The United States should be on the leading edge, not the extreme ragged edge of reform. We should lead the world in assuring a role for the public interest in our telecommunications system. Assuring that role includes full funding for the FCC.

The second area where we are called upon to demonstrate our commitment to our own vision and values is in the area of the budget. Here too, the Congress appears to be mindless of our past and blind to our future.

Our nation's leadership in developing the GII is rooted in our leadership in science and technology — leadership made possible by 50 years of unprecedented bipartisan commitments. Since World War II, Americans have built a technological base that is bringing us economic rewards today — creating new jobs and spawning new industries. The story is a remarkable one, unique in all human history. In fact, over the past 50 years, innovation has been responsible for at least a quarter — and possibly as much as half — of the nation's economic growth.¹⁸ Does anyone seriously wish to make the case that it would have occurred without a significant government role?

Federal investments in technology research and development have made possible the basic building blocks of the NII. It was a creative partnership started more than 25 years ago among the federal government, industry, and academia in high-performance computing and communications that supported research into what has become the Internet and helped drive the evolution of the communications and information industry. This partnership has led to the creation of new businesses that seem to pop up from nowhere, but that in fact are built on a solid foundation of visionary technological support from the government, academia, and the private sector.¹⁹

But today, America's technological future is under attack by short-sighted ideologues who pretend to understand history but have no

18. See Leslie Helm, *Advanced Technology Program Caught in the Works of Politics*, L.A. TIMES, Nov. 26, 1995, at D1.

19. See e.g., Gary H. Anthes, *The History of the Future*, COMP. WORLD, Oct. 3, 1994, at 101.

understanding whatsoever. According to an analysis by the American Association for the Advancement of Science, the balanced budget plan proposed by Congressional Republicans would gut federal R&D spending on civilian technology, leading to a decline by a third in investment in R&D over the next seven years.²⁰

Moreover, House Appropriations action would savage funding for virtually every key technology program — programs that are critical to carrying out our commitment to the future. Programs that include the Advanced Technology Program, our Technology Re-investment Initiative, critical DOE activities, including the Partnership for a New Generation of Vehicles, and our Environmental Technology Initiative.²¹

The Senate is moving along the same misguided path. They have drastically reduced the budget for the National Telecommunications and Information Administration (“NTIA”) — the agency charged with advancing the very initiatives that will bring greater competition to the communications industry and the sole agency that invests in underserved and rural areas to provide advanced telecommunications services that promote education, health care, and economic development. And they have eliminated NTIA’s NII grant initiative.²²

This is exactly the wrong time to be cutting investments in innovation and destroying the blueprint that led to the unprecedented growth in activity after World War II.

President Clinton understands how important a balanced budget is to our economic future. He also understands how critical these technology investments are to ensuring future economic growth. That is why he balanced his budget in a way that preserves the nation’s leadership in science and technology.

I have been excited about the era we are entering since I first held a fiber optic wire in my hand nearly twenty years ago. I have met with many experts in the cluster of fields that have made new advances that made this possible. I believe in the power of technology to bring good things to the world and to our citizenry. But we must have the courage to live our vision and express our values in our daily work if we are to lead the world on this incredibly exciting journey.

We have each of us and each nation a job to do to bring the world to the next generation. The work we do to build a GII is not in the

20. *Interim Report on Congressional Appropriations for R&D in FY 1996*, American Association for the Advancement of Science, August 29, 1995, available in World Wide Web, <http://www.aaas.org/spp/dspp/rd/interrupt.htm>.

21. See, e.g., Helm, *supra* note 19.

22. *NTIA, ATP Grants Head Back into Uncharted Waters*, NEW TECHNOLOGY WEEK, Oct. 23, 1995, available in WESTLAW, Allnews Database.

service of wires or satellites, but is in the service of a global vision that can be realized in every neighborhood of the world. We must work together in Washington, across the nation, and around the world to make this vision a reality in service of the values that we all hold dear.

