

Towards Digital eQuality

The U.S. Government Working Group on Electronic Commerce

2nd Annual Report, 1999

Foreword

On that sunny, but cold January day when we took office nearly seven years ago, few could have foreseen the economic revival we have experienced. Fewer still would have predicted that this month we would be celebrating the creation of the 20 millionth new job. A central ingredient in our Nation's virtuous cycle of economic reform has been the increased application of information technology to all facets of our business cycle from research and development to manufacturing, sales and marketing. All told, information technology has been responsible for about one third of real economic growth in the past few years.

Our Administration has seen the birth and evolution of electronic commerce as a major factor in our economy and our lives. When we took office there were only 1.3 million computers connected to the Internet on a worldwide basis; today there are 56.2 million. (1) Seven years ago there were fewer than five million Americans using the Internet; today that number exceeds 100 million. (2) When we created the Electronic Commerce Working Group a mere three years ago the amount of commerce conducted over the Internet totaled less than \$10 billion; now it is projected to exceed \$1 trillion in the next few years. This transformation has been led by the private sector, but increasingly government policies and attitudes towards e-commerce have played an indispensable role in shaping the outcomes.

Over the last few years, electronic commerce has become synonymous with the explosion of methods and applications of information technology. Electronic commerce has come to mean many different things to our society. On one level, it represents a profoundly different way in which businesses relate to each other. On another level, it represents a cornucopia of educational and shopping opportunities. Finally, electronic commerce has challenged government at all levels — but especially at the federal level — to determine what its role should be, when to intervene (if at all), and how to further the promise of the technology while protecting our citizens against the risks.

This annual report is another interim step towards the principled agenda our Administration has laid out. Grounded in innovation that flows from research and development by both the public and private sector, nurtured by robust competition, and fostered by a new role for government, electronic commerce has blossomed in the past few years. The challenges laid out in July 1997 for e-commerce policy-making required private sector leadership, avoidance of unnecessary restrictions, and, when needed, government intervention that is supportive, predictable, minimalist, consistent and simple. These policy principles have — at times — been a challenge to implement because of the unique features of the Internet and its global reach.

The primary policy challenges for the past year have revolved around:

- the requirements for meaningful consumer protection;
- the expanding policy issues associated with greater, faster and more ubiquitous broadband deployment,

especially for small businesses and homes;

- the challenge of improving governmental measurement and assessment of the new digital economy;
- the need for an aggressive plan to more actively engage developing countries in the world of possibility offered by e-commerce; and
- the recognition that small and medium-sized enterprises, and their rapid adoption of e-commerce, are crucial to our continued economic success.

This report outlines the progress made on each of these fronts and notes the many policy changes that have occurred in the past year which will serve to further the goals of this Administration with respect to e-commerce. These developments include: (1) a long term extension of the R&D (technically, the Research and Experimentation) tax credit to stimulate additional private sector research; (2) a dramatic increase in federal funding for the information technology sector (basic and applied IT research); (3) new intellectual property protection for patents and trademarks; and (4) substantial progress on international issues relating to taxation, consumer protection, non-discrimination against e-commerce in international trade, and an emerging consensus on an extension of a moratorium on new tariffs for e-commerce. In addition, during the past year, the Administration announced and implemented new policies with respect to the export of certain types of computers and encryption products, further expanding the market for e-commerce related products.

This interim snapshot of e-commerce policy is necessarily a work in progress. There are two constants in e-commerce policy-making. First, the pace of change both in the technology and the marketplace frequently outstrips the ability of the government to anticipate the perils of a fast growing field. This is why I continue to believe that the private sector must play a vital leadership role. Second, the legal or jurisprudential challenges of e-commerce will far outpace the existing legal models. For centuries our legal systems have been “place based”. Yet the new cyberspace frequently makes the exercise of governmental authority over conduct exceedingly difficult. Thus, one of our greatest e-commerce policy challenges will be how to adjust our existing domestic and international legal regimes to this new reality.

The Electronic Commerce Working Group has fashioned three separate directives to guide its work for the next year. Each directive moves us beyond the world of bits and bytes and into the fabric of our society. One directive instructs various federal agencies — in cooperation with the private sector — to expand the opportunities offered by using this technology in order to enrich the education and lives of all of our citizens. A second directive requires an examination of policies that will tap this new technology to strengthen our civil society. The final directive points to the need to assure that there is no digital divide separating those who have access to the new technology from those who do not.

Ordinarily, when a report like this is transmitted, it is common to thank or congratulate our staff, as well as the various federal agencies that have been involved. Such thanks are surely due, but what is unique about this policy field is the serious, meaningful and, indeed critical, contributions that have been made by the private sector. University researchers have contributed research and policy suggestions on many issues. Private organizations have been created within the last year to lead and guide the business community into more intelligent and meaningful self-regulation. Finally, many e-commerce firms have accepted the social responsibility that comes from operating in a space in which the rules are still under construction. Without active participation by these business leaders and the cooperative engagement of the Congress, international institutions, and foreign governments, the achievements outlined in this report would not have occurred.

Al Gore

Executive Summary

When President Clinton and Vice President Gore first released the Administration's strategy to facilitate the growth of electronic commerce on July 1, 1997, they set in motion a worldwide debate on how policymakers should approach electronic commerce and the rapidly growing Internet. Since that time, their vision has achieved growing global acceptance in both private sector and government policy circles. These principles – private sector leadership, avoidance of unnecessary restrictions, a minimalist government role – have proved both durable and sufficiently flexible to apply in the Internet age.

As the Internet and electronic commerce continue to grow by leaps and bounds, expanding into the far reaches of the world and transforming the way we live, work and shop, adherence to these principles becomes even more important. The new information age demands new approaches to old problems, as well as to the novel challenges and opportunities the Internet presents. The private sector has a particularly important role to play in meeting these challenges. Many in the private sector, including industry, academics, and non-profit organizations have acknowledged this responsibility and have promoted the self-regulatory mechanisms best suited for this fast moving medium. Working together, we can ensure that cyberspace is a safe place to shop and that the rights of consumers are protected.

Our vision for the future is one in which we can use these technological tools to enhance our civil society, enrich our lives by tapping the broader social benefits of the Internet, and move beyond the digital divide to digital opportunity. Our vision builds on the work we have done to promote the growth of the Internet and to create a safe and secure online environment. While continuing our previous work, our agenda for the upcoming year will challenge both government and the private sector to find new ways to bring the promise of the Internet to all people and move us towards a world of digital equality.

Last year, in his 1998 Directive on Electronic Commerce, President Clinton asked us to examine several important areas: deployment of high speed Internet access; consumer protection; encouraging developing country participation in electronic commerce; measuring the digital economy; and facilitating small business participation in electronic commerce. At the same time, the President asked us to report back on our accomplishments under his original 1997 Directive on Electronic Commerce. Our achievements under both directives have exceeded our expectations.

Increasing Confidence in Electronic Commerce: Consumer Protection, Privacy, and Security

The robust projections for the growth of electronic commerce are unlikely to hold true unless online consumers can shop on the Web with confidence. Expanding the digital economy means assuring shoppers their communications are secure, their personal data is protected, they will get what they paid for, and the underlying infrastructure is stable no matter where they shop on the Internet. Bolstering consumer confidence means strengthening self-regulatory mechanisms and enforcing existing law.

The Administration has:

- Increased effective consumer protection online by encouraging industry self regulation and the aggressive prosecution of fraudulent practices and misleading advertising in the online marketplace under existing consumer protection laws.
- Successfully promoted codes of conduct developed and enforced by the private sector as the most effective way to protect privacy online. In just over a year, websites with privacy policies or information practice statements have jumped from 14% to 66%. The Administration also has supported expanded legal protection for medical records, financial records, and children's privacy.
- Changed the Administration's encryption policy to provide U.S. firms new opportunities to sell encryption products abroad, and bring the benefits of strong encryption to individuals and businesses

using the Net around the world, while protecting the legitimate interests of public safety and national security agencies ([http://www.bxa.doc.gov/ encryption](http://www.bxa.doc.gov/encryption)).

- Bolstered the security and reliability of the underlying telecommunications infrastructure through the President's Critical Infrastructure Program set forth in Presidential Decision Directive 63. The Critical Infrastructure Coordination Group has developed the first version of the National Plan for Information Systems Protection aimed at making the Federal government a model of information security and building a voluntary public/private partnership to protect the information infrastructure (http://www.infosec.com/internet/99/internet_012799a_j.shtml).
- The President's Council on Year 2000 Conversion is working with various industry sectors, international organizations, and countries around the world to ensure that Y2K problems do not threaten the vital telecommunications and information processing systems upon which electronic commerce depends. The Council's Information Coordination Center, in cooperation with government and industry operations centers, will monitor and report on the status of critical system operations during the date rollover period.

Facilitating the Growth of the Internet

This year, we took important steps to promote the growth of the Internet by furthering pro-competitive policies. Specifically, the Administration:

- Promoted the deployment of high speed Internet services by advocating policies that ensure that competitors can enter these markets and by supporting policies that would eliminate regulation that could inhibit the deployment of new facilities.
- Successfully negotiated market opening agreements for telecommunications services and information technology products that are the building blocks for electronic commerce and built an emerging consensus that World Trade Organization rules and commitments, and their liberalizing effects, apply to e-commerce.
- Concluded agreements with the Internet Corporation for Assigned Names and Numbers (ICANN) and Network Solutions Inc. (NSI) which will allow the further development of the domain name space and the competitive provision of new domain name registration services. These developments have increased consumer choices and decreased prices (<http://www.ntia.doc.gov/ntiahome/domainname/agreements>). More than 70 entities around the world have received accreditation from ICANN to provide competitive domain name registration services and the wholesale price for domain registrations has been reduced by 33%.

In addition, the Administration's legislative accomplishments this year included a number of successes that will help to facilitate the growth of the Internet and electronic commerce through continued investment and innovation in the high tech industry, including:

- A 5-year extension of the research and experimentation tax credit, the longest extension ever, which will stimulate new private sector investment in research and development. This measure encourages technological advancement, leads to higher productivity, and helps generate new American jobs.
- Important investments in long-term research and development in areas such as information technology and the Next Generation Internet.
- Reform of our patent system that will be good for the nation's innovative companies and entrepreneurs. The legislation will strengthen the U.S. patent system in a number of ways, such as extending the term of a patent when there is an administrative delay in patent process; requiring the timely domestic publication of patent applications that also are filed abroad; and making the Patent and Trademark Office a Performance-Based Organization in order to more effectively serve America's entrepreneurs and innovators.

Promoting Opportunities for Small Business

The Internet means that anyone with a laptop and modem can open a storefront and have access to a global marketplace. We have worked to make sure that even the smallest business can take advantage of the unprecedented access to national and global markets that the Internet affords. Every business should have the opportunity to take advantage of the Internet's geographical reach and potential for profit. Some highlights include:

- Developed Virtual Trade Shows that help small companies promote sales to overseas markets.
- Provided small and medium-sized businesses with new access to an electronic bid-matching system that notifies minority firms of sales and teaming opportunities via the Internet.
- Created online services to provide information and other resources to small businesses.

Promoting a Global Framework for Electronic Commerce

With the global reach of the Internet, electronic commerce quickly connects buyers and sellers from around the world. Thus, in order for this global medium to flourish, it is critical that the legal framework supporting commercial transactions on the Internet be governed by consistent principles across state, national, and international borders. Over the past year, the Administration:

- Made significant progress towards achieving a consensus to extend the moratorium on tariffs on electronic transmissions at the World Trade Organization's (WTO) Third Ministerial Conference which opened in Seattle in November 1999. WTO Members expect to formally adopt this consensus position when the Third Ministerial resumes.
- Gained further acceptance of the Framework principles through international and bilateral negotiations and agreements. New bilateral agreements include the U.S.-Australia Joint Statement on Electronic Commerce and the U.S.-Egypt Joint Statement Concerning Electronic Commerce.

Measuring the Digital Economy

The emerging digital economy requires us to sharpen our analytical tools and assess the economic impact of the Internet and electronic commerce in the United States today. In furtherance of this goal, we:

- Published *The Emerging Digital Economy II* demonstrating the extraordinary growth of e-commerce and the positive impact on productivity resulting from growth in the information and telecommunications sector (<http://www.ecommerce.gov/ede>).
- Began to gather data on e-commerce retail sales and examine other economic surveys that could provide useful information on e-commerce developments. (<http://www.ecommerce.gov/ecomnews/e-def.html>)
- Published the *Digital Work Force* which identified trends in worker availability and cooperative measures for increasing it. The report is particularly significant given the key role that a skilled technical workforce plays in the growth of e-commerce (<http://www.ta.doc.gov/reports/itsw>).

From Digital Divide to Digital Opportunity

Currently, households with incomes of \$75,000 and higher, in urban areas, are more than *twenty times* as likely to have access to the Internet than rural households at the lowest income levels, and more than *nine times* as likely to have a computer at home. Black and Hispanic households are two-fifths as likely to have Internet access as white households. As information technology plays an ever-increasing role in Americans' economic and social lives, we cannot and will not leave anyone behind. Some of the initiatives taken by the Administration

include:

- Tripled investment in Community Technology Centers from \$10 million in FY99 to \$32.5 million in FY00.
- Supported innovative applications of information technology to link job seekers and workers with employers to fill jobs and upgrade skills through a suite of online services called America's Career Kit.
- Challenged the private sector to develop new business models for low-cost computers and Internet access to make universal access at home affordable for all Americans.
- Increased the number of classrooms connected to the Internet from 3 percent in 1994 to 51 percent in 1998.
- Implemented the "e-rate" (part of the Telecommunications Act of 1996) which connected over one million classrooms to the Internet.
- Encouraged the growth of the Internet and electronic commerce in the developing world by providing assistance to a select group of countries enabling them to use the Internet to energize their economies, gain access to knowledge that can improve standards of living, and foster the free flow of ideas.

Our agenda for the upcoming year will focus on additional programs and policies to move beyond the digital divide to digital opportunity.

Future Work

In the upcoming year, the Electronic Commerce Working Group will take on three new initiatives that will help to bring the benefits of the information revolution to all people by:

- Creating digital opportunity through increased access to the Internet for all people;
- Providing better, more efficient government services and increased government accountability for citizens; and
- Promoting other uses of the Internet with potential social benefits such as telemedicine and distance learning.

We also will continue to work on the many issues addressed in the 1997 and 1998 directives. As these issues change and evolve, the framework principles will continue to assist us in addressing the challenges and achieving the promise of the Internet and electronic commerce. Working together with the private sector, we will strive to bring the benefits of the information age to all people.

Introduction

The Internet is rapidly transforming the way we live, work, and shop in all sectors of the economy. The Internet makes it possible for anyone, whether a student, researcher, or concerned citizen, to have access to information that previously was available only to those with physical access to a sophisticated research library. People the world over can shop for a wide range of goods and services, at any time of the day or night, from the convenience of their homes, offices, or even public libraries. Businesses of any size can communicate and coordinate online with their suppliers, employees, and customers to provide improved products and services at lower costs.

Electronic commerce, the ability to carry out transactions over the Internet, can make a tremendous difference in people's lives. People are saving time and money, locating hard to find items and becoming entrepreneurs themselves – all through the use of the Internet. The Internet also provides a wealth of information on virtually

any product or service available. Over two billion orders will be placed over the Internet in 1999, (3) and that number will continue to grow exponentially.

Already significantly larger in terms of the dollar amount of the transactions, and growing even faster than business-to-consumer electronic commerce, is business-to-business electronic commerce. The adoption of Internet-based electronic commerce by the business community is making a tremendous difference in how business is conducted, fundamentally altering firm behavior and industry structure. Competition in the new electronic environment will become increasingly intense as both buyers and sellers use the Internet to make deals with customers and suppliers previously beyond their reach. As cost differentials shrink, firms increasingly will rely on innovations in products, services, and delivery to attract and retain their customers.

As technology creates an online experience we can't yet begin to imagine, the principles President Clinton and Vice President Gore first outlined in July of 1997 remain our guideposts. These principles seek to protect the public interest while freeing private enterprise from unnecessary regulations that would hinder growth and innovation. At the heart of the Administration's approach is private sector leadership. A market driven approach is essential to allow electronic commerce to flourish, and to stimulate innovation, better services, and lower prices.

This report, the second annual report of the U.S. Government Working Group on Electronic Commerce, describes our progress on electronic commerce policy issues over the last year and sets a vision for the future. As we enter the next century, and a new millennium, both the government and the private sector must embrace policies and initiatives that will allow the Internet and electronic commerce to grow and flourish, bringing numerous economic and social benefits to people everywhere.

Working Group On Electronic Commerce

Under the direction of President Clinton and Vice President Gore, the Working Group on Electronic Commerce is charged with developing and implementing the Administration's policy on electronic commerce. The Working Group consists of representatives from the White House and the principal Federal agencies involved in electronic commerce, including the Departments of Commerce, Treasury, State, Justice, Agriculture, and Health and Human Services, the U.S. Trade Representative's Office, the General Services Administration, the Small Business Administration, the Federal Communications Commission, and the Federal Trade Commission.

In the fast changing world of the Internet, the five policy principles that President Clinton and Vice President Gore set forth in July 1997 have proven sound and sufficiently flexible to apply to the new challenges arising daily. They are:

- The private sector should lead.
- Governments should avoid undue restrictions on electronic commerce.
- Where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment.
- Governments should recognize the unique qualities of the Internet .
- Electronic commerce over the Internet should be facilitated on a global basis.

These principles will continue to guide us as we address the many new opportunities and challenges the Internet presents in the rapidly emerging digital economy.

In his 1997 and 1998 Presidential Directives on electronic commerce, President Clinton asked Vice President

Gore to oversee the work of this interagency group. Under the leadership of Vice President Gore, the Working Group strives to implement the Administration's strategic vision to promote the growth of electronic commerce and allow its social and economic benefits to reach all people.

The Emerging Digital Economy

Growth of the Internet continues to exceed expectations. When our *First Annual Report* was released in November 1998, over 140 million people around the world were connected to the Internet. By September 1999, the figure had climbed to over 200 million people⁽⁴⁾ — approximately 40 percent higher than a year earlier. Reflecting this increased demand, over the same one year period, the number of Internet hosts rose by 46 percent, the number of Web servers increased by 128 percent and the number of new Web addresses rose by 137 percent. ⁽⁵⁾ Although the United States represented approximately half of those online worldwide in September of this year, Internet usage is actually growing faster outside the United States. The number of Internet users outside the United States jumped from approximately 20 million to nearly 80 million in less than two years. ⁽⁶⁾ Growth in electronic commerce also continues to exceed expectations as both firms and consumers increasingly look to the Internet as a place to do business.

Business to Consumer

E-Commerce

For consumers, electronic commerce means greater convenience, easy access to a wide variety of goods and services, and savings in time and money. Just as businesses can reach a global market by setting up a web-based storefront, online consumers have a wider variety of choices because they can shop at stores from around the world. Recent research suggests that online prices of standardized products like books and CDs are lower

than at conventional outlets. ⁽⁷⁾ Auction

sites, retail portals and online catalogs are making it easier for consumers to get better deals while spending less time shopping online. Fierce competition among online retailers drives prices down. In fact, some sites are now offering additional incentives such as free overnight shipping and gift certificates to lure customers. Online "best price" tools further spur competition by making it easier for consumers to comparison shop. Product reviews and quality comparisons also are available for virtually all products.

In early 1998, estimates were that Internet retailing might reach \$7 billion by the year 2000. Forecasters now believe that number was exceeded in 1998 and will be in the range of \$40 billion to \$80 billion by 2002. According to one estimate, 17 million U.S. households will be shopping online by the end of this year, spending

approximately \$20 billion. ⁽⁸⁾ E-commerce activity is increasing worldwide, not just in the United States. A recent report forecasts that one-third of fourth quarter e-commerce spending will be generated outside of the United States. This represents a three-fold increase in non-U.S.

spending over the same period last year.⁽⁹⁾

Business-to-Business E-Commerce

The Internet is fundamentally changing the way companies do business. A recent survey of Chief Financial Officers estimated that the proportion of U.S. companies that sell their products over the Internet will jump from 24 percent in 1998 to 56 percent by 2000. ⁽¹⁰⁾ Using the Internet for selling, however, is only one facet of e-

commerce. For businesses, electronic commerce means reduced inventory loads, lower cycle times, more efficient and effective customer service, lower sales and marketing costs, and new sales opportunities.

Businesses increasingly are adopting e-commerce to improve operating processes. One recent study predicted that U.S. companies using Internet technologies to improve core business processes will save over \$600 billion on an annual basis by 2002. (11) Firms are seeing efficiency improvements in the area of handling and processing, supply chain management, procurement, marketing, and customer service. For example, one estimate suggests that purchase cards used in conjunction with an e-purchasing system can help companies streamline the purchasing process with savings of up to 95 percent compared to manual purchase orders. (12)

Given the efficiencies of electronic business processes, firms of all sizes are considering how they can best utilize the power of the Internet. Two recently announced initiatives in the automotive industry, one by Ford Motor Company and the other by General Motors, are large scale examples that illustrate the far reaching impact of electronic commerce. Ford, in partnership with Oracle Corporation, has announced plans to develop an automotive e-business supply chain to streamline its \$80 billion in annual purchasing transactions with its more than 30,000 suppliers and \$300 billion extended supply chain. The creation of this new marketplace is expected to “dramatically reduce Ford’s purchasing costs and increase its operating efficiencies through an integrated Internet supply chain system.” (13)

Similarly (and on the same day), General Motors, with its partner Commerce One, announced its own electronic commerce initiative to develop “the world’s largest ‘virtual marketplace’ for a wide array of products, raw materials, parts and services.” (14) While the Ford initiative is focused on its own supply chain, the General Motors’ plan is broader and seeks to leverage GM’s purchasing expertise beyond the automotive supplier industry. Not only does General Motors anticipate notable cost reductions in its own procurement costs, it expects the program to contribute significantly to its revenues.

Some companies have completely reengineered their businesses to take advantage of the productivity improvements made possible by the Internet. For instance, Cisco Systems not only produces Internet products such as routers, but it uses the Internet in virtually all facets of its business. Cisco Systems gets 78 percent of its orders—some \$30 million per day and handles 80 percent of its customer-service issues over the Internet. The company estimates that the customer-service aspect of their Internet strategy alone saves millions of dollars in product support costs. Cisco also recruits and screens job candidates over its website and its financial systems are so completely integrated into the business processes, that within a year, Cisco hopes to become the first company capable of “virtually” closing its books any day of the quarter. Cisco also uses the Internet to improve its manufacturing operations. The company actually out sources most of its production and about half of the orders placed on its website flow directly to the outside company that actually makes the product and ships it to the customer. “For these orders, no Cisco employee ever touches a piece of paper until a check arrives in the mail to pay for the goods. Soon, with E-payment, even the check could be a thing of the past.” (15)

The Internet also may prove to be an important tool for reviving older industries. The Commonwealth of Pennsylvania recently announced the formation of a new website that will provide potential customers of the Commonwealth’s 45 small and medium-size powdered-metals producers with a one-stop location to put their work out for bid. Without the website, many of these small producers are being overlooked for metal-making contracts. Several industrial product manufacturers, such as Ingersoll-Rand, Lockheed Martin, and AlliedSignal have agreed to use the site to source parts. (16)

In addition, the Internet enables new entrants to compete with established firms and offers the possibility of rapid growth. For example, during the fourth quarter of 1998, web-based eToys moved aggressively into the top-slot in online toy selling. Although eToys’ fourth quarter 1998 revenues of \$22.9 million represent only a fraction of the \$23 billion U.S. toy market, the company’s success against the Web-stores of established toy sellers, such as Toys “R” Us and Wal-Mart, has made the brick-and-mortar firms scramble to revamp their Web

pages. (17) The ability of small firms to profit from Internet use is demonstrated by the fact that some of the largest e-commerce companies, such as Amazon.com and Ebay.com, were small businesses only a few years ago or didn't even exist.

Technological Developments

New technological developments are making the Internet faster and easier to use. Web-programming languages, such as Extensible Markup Language (XML), the decreasing cost and increasing availability of Internet access devices, such as wireless Web browsers, and the wider availability of broadband technologies, such as digital subscriber lines and cable modems, will make the Internet more useful for applications beyond the delivery of text information.

The increasing availability and use of new Internet access devices is a key technological development underlying the growth of electronic commerce. Recent years have seen a proliferation of different devices to access the Internet, from Web-enabled TVs to Web-enabled mobile telephones. The development of wireless application protocol (WAP) that will decrease cost and increase the availability of wireless Internet appliances will be particularly important in this evolution.

Recent developments in broadband technologies will continue to make access to the Internet faster. In particular, progress in bandwidth intensive graphics, along with streaming audio and video, will stimulate the development of new applications. Broadband connections, which function at speeds hundreds of times faster than today's dial-up telephone connections, will allow users to send and receive text, images, audio, and video with virtually no delay. Additionally, broadband offers the benefit of an "always on" connection—eliminating the need to log on and off.

In addition to phone and cable lines, communications companies are investing in the full range of technologies that may provide increased broadband availability. While cable modems are presently leading the market, increasingly, satellites may be used to deliver broadband to remote locations and locations where infrastructure is of low quality, or is nonexistent. Other options for the future include delivering broadband over the broadcasting spectrum allocated for digital television, delivering mobile broadband over cellular or PCS networks, and the use of the fixed wireless spectrum, and direct fiber connections to homes and offices.

The Growing Global Consensus

In 1999, the Administration's Electronic Commerce Working Group continued to build global acceptance of the principles first outlined in 1997 in the *Framework for Global Electronic Commerce*. As we approach the new millennium, governments, multilateral organizations, and private sector groups increasingly have joined a growing consensus that the *Framework* principles represent the most appropriate response to the challenges of the new information economy.

This year, the United States and its trading partners continued to incorporate these principles into a series of bilateral understandings. These include the U.S.-Australia Joint Statement on Electronic Commerce and the U.S.-Egypt Joint Statement Concerning Electronic Commerce. We also expect these principles to inform the work carried out under the Bilateral Electronic Commerce Cooperation Initiative between the U.S. Department of Commerce and the Mexican Ministry of Commerce and Industrial Development.

Principles into Practice

Many economies, however, have moved beyond principle to practice. The *Framework* principles became the

touchstones for multilateral, bilateral, and private sector action in 1999. Around the world, Internet stakeholders made rhetoric a reality by fostering competition and consumer choice on the World Wide Web. Governments, especially those in the developed world, adapted to a new, more limited role: setting the goals of self-regulation, helping make self-regulation effective and legislating only in limited areas.

In short, market-led electronic commerce made the transition from principle to action. The *Framework* principles shaped work plans, guidelines, tools, and policy recommendations in organizations as diverse as the Organization for Economic Cooperation and Development (OECD), the Asia Pacific Economic Cooperation (APEC) forum, and the Free Trade Area of the Americas (FTAA).

In the OECD, Ministers endorsed Taxation Framework Conditions that treat online commerce no differently than offline commerce. The OECD also concluded Consumer Protection Guidelines that establish benchmarks for transparent and effective consumer protection online. To foster the pragmatic implementation of its 1980 Privacy Guidelines, the OECD released a Privacy Inventory of Instruments and Mechanisms. It also developed a web-based application, a “Privacy Policy Wizard,” to help private-sector organizations establish privacy policies for their websites.

Private sector leadership was embraced in the Free Trade Area of the Americas (FTAA) talks, where countries in the Western Hemisphere agreed to establish a ground-breaking public-private sector collaboration on electronic commerce. Drafted with the full participation of private sector representatives from throughout the hemisphere and approved by government delegates, the Joint Committee of Experts on Electronic Commerce recommended a broad range of market-led policies that would expand the benefits of e-commerce to the region. In November, FTAA Ministers asked the Joint Committee to continue this important work.

APEC demonstrated its commitment to market-led electronic commerce by establishing an Electronic Commerce Steering Group and endorsing the OECD’s Taxation Framework Conditions and the UNCITRAL Model Law on Electronic Commerce. The latter furthers electronic commerce by giving electronic documents the same legal validity as paper documents. APEC’s Telecommunications Working Group also joined the OECD in giving critical support to the U.S. view that governments should allow market forces to determine the development of electronic authentication systems.

Private Sector Leadership

In 1999, we saw tremendous growth in the scope and depth of private sector leadership. Multilateral bodies once dominated by governments increased private sector participation in their work or welcomed it for the first time. The private sector also strengthened its capacity for developing consensus positions on key policy questions and established significant new self-regulatory mechanisms.

In APEC, the Electronic Commerce Steering Group developed under private sector leadership an E-commerce Readiness Assessment Tool. This tool will help countries judge their openness to e-commerce and areas where policy reforms may be needed. Several APEC economies are expected to use this tool over the coming year.

In the OECD, private sector representatives participated in a joint OECD-private sector Workshop on Electronic Authentication and played a key role in a special OECD session on self-regulatory codes of conduct. Over the coming year, the private sector also will participate in five technical advisory groups that will examine taxation issues.

Such groups as the Transatlantic Business Dialogue (TABD), the International Chamber of Commerce (ICC), the Global Information Infrastructure Commission (GIIC), and the U.S.-Japan Business Council (USJBC), continued or launched innovative efforts to provide policy leadership.

The TABD continued its role advising the United States and the European Union (EU) on critical transatlantic

policy issues. In 1999, the TABD urged the U.S. Government and the European Union to complete rapidly a Safe Harbor understanding that would recognize the self-regulatory system for addressing privacy concerns being established by U.S. industry. The TABD also encouraged governments to adopt rules and regulations regarding electronic authentication that are technology neutral and ensure equality of treatment for certification service providers and users from other jurisdictions.

The past year also marked the emergence of two new private sector-led groups, the Transatlantic Consumer Dialogue (TACD) and the Global Business Dialogue on e-commerce (GBDe).

Created to expand the U.S.-EU dialogue beyond business groups, the TACD consists of consumer organizations. It held its first meeting in April in Brussels and, ultimately, issued a total of 21 recommendations to governments. These recommendations covered such issues as unfair contracts, anti-competitive practices, and consumer protection.

The GBDe also quickly established itself as an important new force for self-regulation and policy leadership. The GBDe's first Conference in September demonstrated the private sector's growing capacity to address e-commerce issues on a worldwide basis. Senior representatives from 29 geographically and functionally diverse Internet corporations attended and presented recommendations to governments in such areas as tariffs, taxes, electronic authentication, intellectual property rights and dispute resolution. Seven Ministers, including Secretary Daley, attended the conference. The GBDe plans to hold a follow-up conference in September 2000 that will take stock of the progress made by governments in implementing its recommendations.

The private sector also took important steps toward establishing additional effective self-regulatory mechanisms. The online division of the Better Business Bureau, *BBBOnline*, established a privacy seal program in March. The seal program assures users that businesses displaying the seals follow credible and effective online privacy practices. By September, *BBBOnline* had announced that it had issued seals to 100 companies and was considering 400 applications. The American and Canadian Institutes of Certified Public Accountants also established a seal program, CPA WebTrust, designed to assure consumers that websites displaying its seal adhere to approved business practices and provide assured transaction integrity and information protection. The private sector also is active in developing codes of conduct for consumer protection, led by *BBBOnline* and the electronic commerce and consumer protection groups.

The Digital Age clearly requires businesses and other private sector groups to take on new responsibilities in establishing and enforcing the rules of the road. The distributed, networked economy requires rules that are global, flexible, effective, and readily adaptable to technological change. It also requires concerted collective action by the private sector to make that vision a reality. In 1999, the private sector demonstrated that it is prepared to meet this challenge.

Progress on the Presidential Directives

On July 1, 1997, President Clinton issued the first of two directives designed to implement the strategy laid out in *A Framework for Global Electronic Commerce*. Under this directive, the President assigned thirteen specific tasks to various cabinet agencies. Last year, with the release of the Working Group's *First Annual Report*, the President assigned responsibility for five new initiatives to implement the Administration's strategic vision for electronic commerce. Progress on both sets of directives are outlined below:

A. 1998 Presidential Directives

1. High Speed Internet Access

The Secretary of Commerce, in appropriate consultation with the Federal Communications Commission, shall encourage the deployment of advanced telecommunications capabilities for all Americans while preserving the vibrant and competitive free market that exists for the Internet and other interactive computer services. These agencies shall work with the Office of the United States Trade Representative to help ensure the elimination of foreign trade barriers to the deployment of advanced telecommunications capabilities.

Access to high speed Internet services – what has come to be called “broadband” access – is critical in order to realize the full benefits of the Internet. Widespread deployment of broadband services ultimately will allow people to send video, audio, text and images with virtually no delay and at an affordable price. People thousands of miles apart will be able to share virtual-reality experiences and work together on business, education or medical projects. A single service company or a single hookup could provide real-time high-fidelity music, videoconferencing, telephone, television and radio programs. Broadband networks also will promote new entertainment options, such as movies-on-demand, and enable more sophisticated approaches to distance learning, telemedicine and home health care, e-commerce, and community networking.

Our emerging digital economy thus increasingly demands broadband networks, which in turn create jobs and demand for networking equipment, appliances, and software. Deployment of these networks is important for our nation’s economic prosperity and advancement of Americans’ standard of living.

The Administration has long championed competition as the basic means of achieving widespread deployment of broadband services. The Telecommunications Act of 1996 reflects that approach, providing for accelerating deployment of advanced telecommunications networks by opening all telecommunications markets to competition. In addition, the Act requires the Federal Communications Commission (FCC) to ensure that in all regions of the nation, Americans have “access to advanced telecommunications and information services,” and to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capabilities to all Americans.” (18)

Over the past year, the Administration has identified, advocated, and adopted policies that are: (1) accelerating the deployment of broadband networks to homes, businesses, and non-profit institutions; (2) fostering a competitive market for broadband networks and services that is resulting in greater customer choice, more affordable prices, and continuous innovation, and is reducing the need for government regulation; (3) promoting the availability of broadband networks to all Americans by encouraging faster deployment to areas that otherwise would be underserved; and (4) maximizing the economic and social benefits associated with broadband networks by promoting broadband applications.

The Administration’s pro-competitive market driven approach to broadband deployment is producing the desired results. The Telecommunications Act of 1996 opened up monopoly telecom markets and allowed for the emergence of new competitive players. As competition emerges between telephone companies and cable companies, between wireline and wireless providers, companies are investing in and building out high speed, broadband networks of the future. Competition among equipment suppliers and service providers is driving the innovation that is extending the reach of these technologies, lowering their prices, and making them easier to install and use. Increased use of the Internet and other electronic networks to transmit data, video, and audio is creating the demand for broadband networks.

The Telecom Act established a framework that has spurred investment in broadband networks and services by all industry segments, using a variety of technologies. Companies have invested tens of billions of dollars in a broadband backbone and long-haul infrastructure. AT&T has built more than 40,000 route miles of fiber and is investing billions to boost its capacity and improve its network. (19) MCI quadrupled the speed of its Internet backbone in 1996 and doubled that capacity in 1997. (20) Competitive local exchange carriers have invested

heavily (\$15-\$20 billion) in fiber rings and broadband technologies such as ATM, and frame relay to boost capacity. (21) Incumbent local exchange carriers have responded by increasing their investment in broadband facilities.

There also has been considerable investment in providing broadband connections to end-users. The majority of large businesses and many medium-sized businesses already can obtain access to broadband communications via one of the many technologies—from wireline to terrestrial wireless to satellite—capable of carrying broadband communications. The Federal Communications Commission (FCC) concluded in February 1999 that, as a whole, large and medium residential broadband markets are at an earlier stage of development. The availability of and investment in broadband technology—cable, digital subscriber lines (xDSL), and other technologies that are potentially capable of delivering small office/home office (SOHO) and residential broadband—have been increasing during recent years. The first regular, sustained commercial offerings of broadband for residential customers occurred in 1996. The FCC estimates that in February 1999 there were at least 375,000 customers subscribing to broadband, which represents a residential penetration of four percent. (22) As shown in Table 1, only a limited number of existing broadband technologies—primarily cable and xDSL—are *currently* capable of cost-effectively delivering broadband over the last mile to the SOHO/residential markets. But, taken together, these two technologies today are capable of delivering broadband to a large share of U.S. homes.

Data reveal considerable investment in deployment of cable and xDSL to residential users. Currently, there are over 91 millions homes in the United States passed by cable, (23) and cable that can support two-way cable modem transmissions passes about 12 million homes. (24) The industry has spent or announced plans to spend \$9 billion to upgrade the cable infrastructure to state-of-the-art systems. (25) One estimate is that 63 percent (26) of all cable systems will be broadband-ready by 2001.

Analysts estimate that 70 to 75 percent of U.S. homes and businesses can be reached with xDSL given the current state of the technology. (27) Local exchange carriers have announced aggressive programs for deploying xDSL to tens of millions of homes by the end of this year. The FCC Cable Services Bureau's October 1999 report on *Broadband Today* cited predictions that 78 million Americans would have access to broadband technology by 2008. (28)

The Administration has advocated policies to ensure that all competitors can enter these markets and that new competitors have access to facilities that are necessary for competition to flourish. At the same time, the Administration has supported policies that would eliminate regulation that could inhibit the deployment of new facilities or disadvantage any particular market participant or technology. Thus, the Administration supported the continuing unbundling of network elements that were critical for the provision of broadband services by new entrants, but recognized that the presence of alternative sources of supply and the rise of effective competition should lead to the elimination of such regulatory requirements. Similarly, the Administration supported “wholesale” discounts by incumbent telephone companies of broadband services allowing Internet Service Providers to broaden the market for high speed services. The FCC recently has required incumbent telecommunications companies to allow new entrants to have access to the “spectrum” required for the provision of broadband data services in the wires that they control to the home.

Considerable attention has been focused on the question of “open access” to broadband delivery over cable. At the heart of this issue is consumer choice and competition at all levels of the marketplace. We believe that competition should be encouraged in all markets and support the principle that customers should have choice in both their content and their Internet access provider. Our Administration has long recognized the importance of the open characteristics of the Internet. Anyone with a laptop computer and a modem can publish on the Internet, making it much easier for people to be producers as well as consumers of information. The Internet allows people to engage in “many-to-many” communication as opposed to solely “one-to-many” communication. This has created an explosion in the number of communities that are based on shared interests as opposed to

geography. Moreover, the decentralized nature of the Internet accelerates innovation and entrepreneurship. Anyone with a good idea for a new application can post it on the Internet, where it can spread like wildfire. We must maintain what is special, valuable and unique about the Internet, even as it evolves to support broadband applications. The Administration hopes that the continued promotion of pro-competitive policies and market forces will achieve these goals.

The Telecommunications Act of 1996 is also helping to bring broadband networks and services to our communities through the E-rate program. More than a million classrooms and libraries are wired and connected to the Internet. Many of those schools and libraries have broadband connections. Schools and libraries are providing an important source of access to computers and the Internet for members of the community, as well as generating demand for advanced telecom services.

Ensuring that broadband networks reach underserved communities is an important goal of the Administration. In September 1999, the National Telecommunication and Information Administration (NTIA) co-sponsored a conference on economic development, and examined efforts to bring advanced networks and the concomitant economic benefits, such as jobs and services, to underserved communities, including inner cities as well as rural areas. Currently, the NTIA and the Department of Agriculture's Rural Utilities Service (RUS) are conducting an assessment of deployment of advanced telecommunications services, with particular emphasis on rural America compared to more densely populated areas. This assessment was initiated at the request of ten United States Senators from states with significant rural populations and areas. The report will be completed by early 2000.

RUS is one example of a program that has facilitated significant deployment of advanced telecommunications in rural areas. In 1993, President Clinton signed legislation which mandated that RUS-financed infrastructure be capable of supporting data rates of one million bits per second. Since then, the deployment of fiber optic cable has doubled so that fiber represents nearly one of every ten miles of plant in RUS financed systems. From then through 1998, RUS has financed over \$1 billion in fiber optic facilities and \$725 million in digital switching systems and enhanced feature software. In fiscal year 1999, RUS added nearly half a billion dollars of rural infrastructure financing. To facilitate the flow of investment to rural America, RUS has streamlined procedures to reduce loan processing and fund advance times.

The Department of Commerce, and the FCC are working with USTR to ensure that broadband access is deployed in foreign countries so that both the United States and foreign countries can realize the full benefits of multi-media applications. Competition and market-based principles will pave the way for people across the globe to tap the full potential of broadband services. The principles of the WTO, as discussed in a later section, establish the underlying infrastructure upon which broadband applications can be accessed on a global basis. Encouragement of rapid development of high capacity international undersea cables, wireline facilities, satellite systems, and terrestrial wireless infrastructure are necessary to support the widest range of broadband offerings around the world.

2. Consumer Protection

The Secretary of Commerce, in consultation with the Federal Trade Commission and other relevant agencies, shall foster appropriate consumer confidence in electronic commerce by working to ensure effective consumer protection online. This shall include exploring opportunities for global cooperation to enforce consumer protection laws and facilitating partnerships between industry and consumer advocates to develop redress mechanisms for online consumers. These agencies shall work with the Office of the United States Trade Representative to help avoid the creation of foreign trade barriers while protecting the interests of consumers.

The electronic marketplace offers consumers unprecedented choice and twenty-four hour accessibility and convenience. It gives established marketers and new entrepreneurs low-cost access to a virtually unlimited customer base. With these benefits, however, also comes the challenge of ensuring that the virtual marketplace is a safe and secure place to purchase goods, services, and digitized information. Consumers must be confident

that the goods and services offered online are fairly represented and the merchants with whom they are dealing — many of whom may be located in another part of the world — deliver their goods in a timely manner and are not engaged in illegal business practices such as fraud or deception. Consumer confidence also requires that consumers have access to fair and effective redress if they are not satisfied with some aspect of the transaction. U.S. Government policymakers and law enforcement officials are working to ensure consumer confidence in the virtual marketplace by enforcing existing legal protections and encouraging private sector leadership

Last spring, Secretary of Commerce William M. Daley challenged industry to work with consumer representatives to develop effective consumer protection practices, including codes of conduct for business-to-consumer electronic commerce and alternative, easy-to-use mechanisms for consumer dispute resolution, redress and enforcement. This approach recognizes that as e-commerce expands to encompass more international business-to-consumer transactions, alternative, easy-to-use mechanisms for consumer dispute resolution, redress and enforcement can help to ensure strong and effective consumer protection in the online environment and obviate the need for immediate resolution of the difficult issues surrounding jurisdiction and choice of law.

The Administration is pleased to see a number of significant responses to this challenge. In June of this year, the Better Business Bureau's online division, *BBBOnLine*, announced a project to develop a *Code of OnLine Business Practices* (www.bbb.org). *BBBOnLine* is working with industry, consumer representatives and government to develop a code to provide online merchants with guidelines to implement important consumer protections. In an effort to seek broad participation and comment, they posted their draft code on their website and are holding public meetings across the country.

A similar effort was initiated in August with the formation of the *Electronic Commerce and Consumer Protection Group*, whose members include a number of industry leaders such as America Online, American Express, AT&T, Dell Computer Corp., IBM, Microsoft, Time Warner Inc., and VISA U.S.A. Inc. This group is committed to working with consumer leaders to address electronic commerce confidence issues by formulating concrete approaches to protect consumers and facilitate e-commerce. (www.ecommercegroup.org)

In the international arena, the U.S. Government continues to work to ensure effective consumer protections on the Internet through information sharing and policy development with its trading partners. Last June, the FTC conducted a public workshop to address consumer protection in the global electronic marketplace. Foreign representatives, academics, industry members, consumer advocates and government officials, discussed emerging international issues such as jurisdiction, international agreements, and private sector initiatives.

Over the last two years, the FTC and Commerce worked with the Organization of Economic Cooperation and Development (OECD) to build international consensus for guidelines to strengthen consumer protection in e-commerce. The OECD has adopted these guidelines and will begin implementation in early 2000. Following this benchmark effort, the U.S. Government will work together with industry and consumer groups to facilitate an international dialogue on ways to best provide effective consumer redress through alternative dispute resolution (ADR), particularly in cases of cross-border transactions.

Within the Free Trade Area of the Americas (FTAA), the U.S. Government helped to develop recommendations for consumer protection in electronic commerce. We will continue to work with the many international public and private sector bodies, including the Trans-Atlantic Consumer Dialogue (TACD), the Trans-Atlantic Business Dialogue (TABD) and the Global Business Dialogue on Electronic Commerce (GBDe), to build and promote high industry standards for protecting consumers online.

The U.S. Government continues to protect consumers online by enforcing existing legal protections in the electronic marketplace. The Federal Trade Commission has brought over 100 enforcement actions against such activities as garden variety pyramid schemes and "miracle cure" health care products to technologically sophisticated scams which alter consumers' ability to control their Internet access or the websites they visit (<http://www.ftc.gov/opa/1999/9909/index.htm#22>). The Department of Justice also brought criminal charges

for a variety of Internet-related fraud schemes such as securities and investment schemes, Internet auction schemes, and immigration fraud.

Because fraud on the Internet is global, several of the FTC actions have reached defendants and victims located in other countries. In addition, the FTC has provided assistance to foreign law enforcement authorities in obtaining relief for U.S. consumers. As president-elect of the International Marketing Supervision Network, the FTC shares information and cooperates in law enforcement investigations with the consumer protection agencies of 27 countries. More information is available at <http://www.imsnrcc.org>.

Just as consumers were discovering the benefits of “surfing” the Internet for instant access to information, the FTC saw the value of surfing to educate businesses and investigate potential law violations. Since the FTC’s first “surf” to ferret out pyramid schemes in late 1996, it has become clear that this tool gives new meaning to efficiency. To date, the FTC has led some 16 surfs, with over 120 other agencies and 25 countries, identifying some 4,000 commercial websites making dubious claims, largely in the promotion of health and diet products, pyramid schemes, business opportunities, investments and credit repair.

Law enforcement also is taking advantage of new technologies in the fight against Internet fraud. This year, the FTC established an Internet Lab, equipped with hi-tech tools to investigate hi-tech consumer problems. The Lab allows investigators to search for fraud and deception in a secure environment and preserve evidence for presentation in court. In addition, the FTC’s Consumer Sentinel fraud complaint database is used by law enforcement officials across the country to securely access real-time data about national and statewide trends and provides information about particular wrongdoers. Since its inception in 1997, the database claims contributions from more than 214 partner organizations and consists of an estimated 200,000 complaints.

The Federal Bureau of Investigation (FBI), in partnership with the National White Collar Crime Center, plans to open the Internet Fraud Complaint Center (IFCC). The IFCC will receive online complaints about Internet fraud from the public through the FBI’s website and review those complaints for possible criminal investigation.

Education and training for law enforcement officials also is critical to protecting consumers in the electronic environment. In view of this, the Justice Department provided funding for a series of Internet and telemarketing fraud training sessions for state and local law enforcement. The Justice Department also plans to conduct a major joint training course on Internet fraud for federal, local and foreign prosecutors.

Beyond enforcing current law and developing strong consumer protection policies, consumers must be made aware of the availability of many tools to help them use the Internet safely. The U.S. Government continues to work with the private sector and other governments to educate industry and consumers about these tools and how to recognize the telltale signs of fraud, the importance of privacy in the information age and other critical consumer protection issues.

In preparation for the holiday shopping season, the President announced a set of tips to help online shoppers have a safe holiday shopping season (www.consumer.gov). These tips were accompanied by several similar private sector initiatives. These initiatives include: NetCoalition, a coalition of nine major Internet companies (Yahoo!, theglobe.com, Lycos, Inktomi, Excite@Home, Ebay, DoubleClick, America Online, and Amazon.com) answering questions about online privacy and consumer protection using banner ads, links, and e-mail confirmations; American Express promising to take back any item purchased online with an American Express card (for purchases up to \$300 per item until December 31, 1999); and MasterCard teaming up with the National Consumer League to launch a new consumer education initiative — “Be e-Wise!” (<http://204.193.246.62/public.nsf/docs/fc1ee58bdd58c23e852568350066888f>).

Knowing that many consumers use the Internet to shop for information, the FTC develops “sting” sites that mimic the characteristics that make a site fraudulent. Metatags embedded in the FTC sites make them instantly accessible to consumers who are using major search engines and indexing services as they look for products,

services and business opportunities. The “sting” pages link back to the FTC’s page, where consumers can find the practical, plain English information they need.

3. The Internet in Developing Countries

I direct the Secretary of State, in appropriate cooperation with the Agency for International Development, the Secretary of Commerce, the Federal Communications Commission, the Overseas Private Investment Corporation, and other relevant agencies, to initiate a program to help accelerate the spread of the Internet and electronic commerce to developing countries.

As the information technology revolution transforms the economy and provides new opportunities, the President and Vice President are committed to helping ensure that developing nations are not left behind. While 57% of Americans and Canadians have Internet access, only 0.6% of Africans can access the Internet

(www.ecommerce.gov/ede/chapter1.html).

In response to the Presidential directive to close the digital divide, the Internet for Economic Development (IED) initiative was launched in 1999 to spread the Internet and electronic commerce to developing countries. This initiative seeks to empower developing countries to use the Internet to energize their economies, gain access to knowledge that can improve standards of living, and foster the free flow of ideas.

The four major goals of this initiative are:

1. Encouraging the creation of a pro-competitive policy and regulatory environment where the Internet and e-commerce can flourish.
2. Spurring the deployment of advanced information infrastructure to remote and urban areas through collaboration with multilateral organizations, NGOs and the private sector.
3. Providing education and training to local entrepreneurs, knowledge workers, policy makers and regulators.
4. Fostering the use of specific Internet applications such as micro-e-commerce, telemedicine, distance education, and improved access to government services.

The initiative has begun work in an initial group of 11 countries which the Vice President announced in June. Those countries are Guatemala, Haiti, Jamaica, Bulgaria, Egypt, Morocco, Ghana, Guinea, Uganda, South Africa and Mozambique. The Administration hopes other developing countries will join the program in the future.

The State Department, USAID, the Commerce Department, the FCC and other government agencies are working with host governments, multilateral organizations, and the private sector to implement specific projects that respond to the country’s particular needs. Examples of some of the achievements include:

Guinea became the first country in Africa to extend high speed Internet access to its secondary cities, through high speed satellite dishes and emerging wireless technology provided by the USAID’s Leland Initiative. USAID microcredit programs are now using this technology to extend and track small enterprise loans to several thousand Guinean women who benefit from the program to earn additional money for their households.

In *Mozambique*, USAID is working closely with private Internet Service Providers to establish high-speed satellite dishes in four key secondary towns. These dishes will serve as portals to the information world for Mozambican businesses, educators, community and women’s groups and school children.

In *Uganda*, USAID in collaboration with the World Bank and Schools-online, has begun to install computer

labs, Internet access, and teacher training in up to 100 schools and teacher training institutes that will reach more than 7,000 students a year. USAID also is providing computers, Internet connectivity and training to link a Kampala-based organization of professional women with the Association of Women organization in northern Uganda to facilitate information sharing on health, business development, and education issues. Meanwhile, the FCC is running a joint training program with the Uganda Communication Commission.

In *South Africa*, an Emergency Medicine training partnership between Howard University Medical School and the University of Transkei hospital will soon migrate from mailed videocassettes to an Internet training platform, using equipment provided by USAID. This will help to increase the amount of training and the quality of care for the Transkei Hospital, a facility that serves 45,000 emergency room trauma patients each year.

In *Ghana*, a Peace Corps volunteer in northwest Ghana established a computer training and support center that helped an association of women artisans establish a website through collaboration with PeopleLink. USAID is joining the World Bank, Schools-online and the GLOBE program to link up schools; and is using the Internet to train local government officials and to begin linking the field offices of the Electoral Commission.

In *Bulgaria*, the Global Technology Corps (GTC) sponsored an October 1999 visit to Sofia by a U.S. telecommunications expert who volunteered to advise the Bulgarian Internet Alliance for Economic Development (IAED), the main telecommunications policy-making body in Bulgaria. The GTC is a State Department initiative established in August 1999 to send high tech volunteers to assist with projects identified by U.S. embassies. The Bulgaria visit was so successful that the American volunteer subsequently accepted an invitation to join the IAED Steering Committee, and continues to advise and assist the IAED.

In *Haiti*, Peace Corps volunteers plan to teach IT skills using an “Information Technology Training-of-Trainers” module that was field-tested in Ghana and Thailand in September 1999. USAID is launching a program to expand Internet access in secondary cities and rural areas and to provide training in electronic commerce, spectrum management and telecommunications regulation.

In *Jamaica*, USAID is assisting the government in drafting bid documents necessary to allow for two additional cellular companies to operate in Jamaica, providing competition to the current monopoly. USAID also will assist in redrafting Jamaica’s Telecommunications Act, developing a new regulatory framework, training of key individuals, and spectrum management.

In *Guatemala*, the U.S. Embassy proposes to facilitate establishment of an Internet-based marketing facility for an indigenous cooperative producing handicrafts. Under the auspices of the GTC, volunteers from a private consulting firm recently completed a business feasibility study. Efforts are now underway to develop a final business plan and to launch business operations.

In *Morocco*, USAID is supporting the development and use of in-service computer-based training for teachers.

In *Egypt*, the U.S. Embassy is running workshops on processing online payments to help expand the use of e-commerce.

The U.S. Telecommunications Training Institute (USTTI), an institution whose board of directors includes the FCC and the Departments of State and Commerce, is actively supporting the IED initiative. In August 1999, representatives from Bulgaria, Ghana, Guatemala, Jamaica and Uganda participated in USTTI training in Internet technologies. In December 1999, USTTI included participants from all eleven IED countries in an e-commerce seminar for developing countries.

4. Understanding the Digital Economy

The Assistant to the President for Economic Policy, in appropriate consultation with the Secretaries of

Commerce, the Treasury, Labor, and other relevant agency heads, shall analyze the economic impact of the Internet and electronic commerce in the United States and internationally. This shall include convening a conference of experts from the public and private sectors to assess the impact of investments in information technology and the influences of electronic commerce and related technologies on the economy. These experts shall consider new indicators for the information economy, new types of data collection, and new research that could be undertaken by organizations in the public and private sectors. To broaden public understanding of the impact of electronic commerce, the Department of Commerce shall publish a follow-up report to the “Emerging Digital Economy” report it issued this year.

The emerging digital economy presents difficult methodological and resource allocation problems for statistics collection and analysis, and poses challenging questions about long-term social and economic implications. The digitization of the economy is difficult to assess because it is so pervasive and is reflected in a series of interrelated phenomena – new infrastructure, processes, and transactions. However, there is growing recognition that better information about the digital economy is needed, whether for private investment decisions or for developing sound public policy.

This year, the Administration brought together internationally renowned economists and other experts from academia, business, and government at a public conference, *Understanding the Digital Economy: Data, Tools, and Research* (www.digitaleconomy.gov). Papers and discussion assessed research to date on the scale, direction, and significance of the emerging digital economy. Panels focused on key aspects of the digital economy: macroeconomic assessment, market structure and competition, organizational change, employment and the workforce, small business, and access.

Two private-sector events were scheduled around the conference during the last week in May: A seminar, “Gathering Data about the Digital Economy,” hosted by the IBM Institute for Advanced Commerce (www.ibm.com/iac/news-seminar-data-digital-economy.html) and a conference held by the University of California’s E-conomy Project on “The Digital Economy in International Perspective” (<http://e-economy.berkeley.edu/events/deip/summary.html>). In addition, the digital economy working group and the working group on the Internet for economic development initiative held a meeting with outside experts on indicators for developing countries.

In June, the Department of Commerce published *The Emerging Digital Economy II* (<http://www.ecommerce.gov/ede/report.html>), expanding on and updating the original 1998 *Emerging Digital Economy* study. The Department has committed to issuing a report on an annual basis as a vehicle for informing the public of the evolution and growing significance of the digital economy.

A lack of appropriate data hampers analysis of the impact of the digitization of the economy. For example, it is not currently possible to separate out electronic commerce activities from other types of commercial activities in the statistical series produced by the federal government. Data specific to electronic commerce currently comes, for the most part, from market research firms that use divergent definitions and methodologies. In order to address this problem, the major federal statistical agencies (Bureau of Economic Analysis, Bureau of the Census, and Bureau of Labor Statistics) are working together to formulate an electronic commerce initiative that will help ensure that official government statistics will accurately reflect the new digital economy.

The Census Bureau, in consultation with the Bureau of Economic Analysis (BEA), other federal agencies, and the private sector, has begun developing definitions appropriate to the digital economy and planning a measurement program (www.ecommerce.gov/ecmnews/e-def.html). Census is seeking to leverage its existing surveys to focus first on measuring electronic commerce transactions. It has launched a pilot study to measure fourth quarter Internet sales by retailers, and if these data meet quality standards, they will be published in Spring 2000.

BEA has introduced several new estimating methods into its estimates of GDP and international trade, including

quality-adjusted price indexes for IT products and use of chain-type indexes. These changes will result in a more accurate picture of economic growth, particularly the increasingly important contribution of computers and other high-tech products to U.S. economic growth and productivity (<http://www.bea.doc.gov/bea/an/0597od/maintext.htm>).

In addition, several new digital economy related measures were introduced into the national accounts framework in the recently released National Income and Product Accounts (NIPA) benchmarks (<http://www.bea.doc.gov/bea/an/0899niw/maintext.htm> and <http://www.bea.doc.gov/bea/an/1099niw/maintext.htm>). These include recognition of business expenditures on computer software as investment rather than current expense and new estimates of banking services to reflect the use of ATMs, electronic funds transfers, and other factors. BEA also co-funded a one-day workshop on measuring e-commerce at the Brookings Institution.

The National Science Foundation is building a publicly accessible integrated information resource for data and research on the outcomes of information technologies. A pilot bibliographic database on the social and economic implications of IT is already available at http://srsweb.nsf.gov/it_site/index.htm. A series of literature reviews about the effects of information technologies in different aspects of our lives (e.g., implications of IT for the home, service sector employment, community) will be released in the future.

SRS, a division of the National Science Foundation, is proceeding with design work for two related sample surveys. One will examine innovation (i.e., new-to-the-firm products or processes) in U.S.-based IT firms. The second survey will focus on IT users. The surveys will provide estimates of incidence and types of innovations, their sources, personnel base, costs, and contribution to firm profitability. They also will gather information on relevant market, financial, regulatory, and tax incentives and barriers.

NSF also has funded a large number of projects in areas such as information economics, information practices in organizations, use of information in research and innovation, competition and market structure, participation in electronic commerce, transformation of industries, globalization, and productivity, as well as the social and economic implications of information technology. In addition, the National Research Council has launched a study of workforce needs in information technology (<http://nationalacademies.org/itworkforce>) and an empirical study on intellectual property rights in a knowledge-based economy (<http://nationalacademies.org/ipr>).

Just as the reach of the Internet is global, the desire to understand and measure the digital economy is universal. We are working with our trading partners, both individually and in the Organization for Economic Cooperation and Development (OECD) and other venues, to harmonize data collection efforts and analyze different aspects of the digital economy. The Census work on electronic commerce definitions is proceeding in coordination with related work by the OECD.

The Council of Economic Advisors has assumed a leading role in facilitating work on the digital economy. Work in progress includes reviewing and improving data collection activities to better assess the growth of electronic commerce and the digital economy; participation in the new OECD Growth Project (initiated at the May meeting of the OECD Council at Ministerial level; see http://www.oecd.org/news_and_events/release/nw99-52a.htm, paragraph 5); and economic analysis of policy-related costs and barriers to electronic commerce.

The first phase of the digital economy initiative opened up channels of communications with a wide range of experts and private sector perspectives. We are now building on these relationships and encouraging others, including academic programs, industry groups, and consumers of government data and analysis, to actively participate in these discussions.

5. Small Business and the Internet

The Secretary of Commerce and the Administrator of the Small Business Administration shall develop strategies to help small businesses overcome barriers to the use of the Internet and electronic commerce. The initiative shall

consider the need to train Federal Government employees who have contact with small businesses on the use of the Internet and electronic commerce; identify commonly used Government products and forms that should be moved to the Internet to enable small businesses to use the Internet to interact with the Government; and develop an outreach plan to enhance electronic access to information and services that can assist small businesses' development using the Internet and electronic commerce.

Despite the benefits to businesses of utilizing information technologies and participating in the growth of e-commerce, many smaller businesses are not participating in this new way of doing business. Although the Yankee Group found that 28 percent of companies with less than 20 employees, 54 percent of companies with between 20 and 99 employees, and 62 percent of companies with between 199 and 499 employees maintain a corporate web presence, these smaller companies are primarily using their websites as online brochures. Only a small percentage (less than one-third of those with a website) are using their sites to sell products, provide customer support, or reduce operating costs. (29)

Some small businesses may face barriers to adopting e-commerce, including a lack of knowledge about the technology and its costs, insufficient information about the benefits of e-commerce and potentially applicable business models, a shortage of technically trained employees, complex and user-discouraging e-commerce implementations, and the absence of unbiased, qualified assistance. However, by failing to participate in e-commerce, these companies are missing important opportunities for lowering costs, increasing productivity, expanding market access, and improving relationships with customers and business partners alike. By not making the transition to this new way of doing business, small firms run a serious risk of becoming less competitive, affecting both their present market positions and long-term viability. As larger companies integrate e-commerce into their business, small firms run the risk of being excluded if they are unable to establish strong e-commerce ties with others in their supply chains.

The Department of Commerce and the Small Business Administration, along with other federal agencies, have engaged in a number of major initiatives to assist small companies in the use of electronic commerce:

- In order to help companies market themselves internationally via the Internet, the Department of Commerce has developed Virtual Trade Shows, or E-Expos USA, to supplement its foreign trade missions. E-Expo USA currently has more than 600 companies exhibiting their products to international buyers via this medium (<http://www.e-expousa.doc.gov>). The e-commerce Task Force within the DOC's International Trade Administration is developing a system that will automatically deliver timely market research and trade leads via e-mail to SMEs. DOC's Commercial Service has conducted a nationwide series of e-commerce seminars targeted to U.S. exporters, reaching over 1,000 exporters in 20 cities. The Commercial Service has provided basic e-commerce training for over 60 international trade specialists stationed across the nation. In addition, the Commercial Service is building video conferencing capabilities that will facilitate export transactions by electronically linking U.S. exporters with potential international customers or agent/distributors.
- The Minority Business Development Agency (MBDA) within the Department of Commerce is providing SMEs with new access to the Phoenix/Opportunity System, an electronic bid-matching system that notifies minority firms of procurement and teaming opportunities via the Internet by delivering information on business opportunities directly to a minority firm's desktop or fax machine. MBDA is assisting minority businesses in accessing critical market information and in locating local business development resources. MBDA has partnered with the National Institute for Standards and Technology (NIST) in DOC's Technology Administration to develop "Electronic Commerce - The Future is Now," a one-day course designed to introduce minority business owners to the benefits of e-commerce. MBDA also has established virtual business centers, accessible on the Internet, providing information about franchising, international trade, and access to capital.
- NIST has established an Electronic Commerce Focus Area on the Manufacturing Extension Program's (MEP) Extranet site that allows MEP Center staff to gain an understanding of e-commerce concepts, and

provides a means for MEP staff to share e-commerce experience. Currently, approximately half of the MEP Centers are planning to offer some level of e-commerce related service during FY2000. NIST's MEP program sponsored a National Manufacturing Summit on September 21 and 22, 1999 in Washington, D.C. Leaders from industry, government, and academia explored the challenges and opportunities facing America's small manufacturers and developed an action agenda to enable this sector to employ the tools of e-commerce.

- The Economics and Statistics Administration within the Department of Commerce is working to broaden understanding of small business and e-commerce by reviewing the implementation of electronic commerce and, more generally, electronic business processes by small and medium-sized firms. A major section of last May's Measuring the Digital Economy Conference was directed at the special e-commerce issues facing small businesses (www.digitaleconomy.gov).
- The Small Business Administration has created a number of online services for small businesses and is developing an electronic commerce course for its Small Business Classroom on the Web (<http://classroom.sba.gov>). The course includes a variety of links to both governmental and non-governmental sources. SBA is developing partnerships with credit card companies to increase the number of small businesses that have been certified to conduct credit card transactions with government and private sector credit card holders, and to provide more cost-effective credit card transaction processing fees for participating small businesses.
- The SBA also has developed several Internet based systems for providing information to small businesses. For instance, SBA and the National Partnership for Reinventing Government (NPR), in conjunction with an interagency task force, are creating a new *U.S. Business Advisor* (www.bus.gov) as a gateway to facilitate business access to governmental information and services. PRO-NET is an electronic gateway of procurement information for and about small business (<http://pronet.sba.gov>) through which contracting officers are linked to procurement opportunities. *SCORE Online* offers e-mail assistance and counseling help for small firms. (<http://www.score.org>). The SBA's *Women's OnLine Business Resource Center* is an interactive site where women-owned small businesses can get a variety of business development and financial assistance (<http://www.onlinewbc.org>). Finally, *Tech-Net* (<http://tech-net.sba.gov>) provides an electronic gateway of technology information and resources for and about small high tech businesses, a search engine for researchers and scientists, and a link to potential investment opportunities (<http://www.sba.gov/advo/acenet.html>).
- The Extension Service of the U.S. Department of Agriculture also has been active on SME e-commerce issues. At its National Conference for Agribusiness, conducted by Purdue University's Center for Agricultural Business, e-commerce played an extensive role. As part of the background research for the National Conference, 3500 agribusinesses were surveyed about their use of electronic commerce.
- Vermont's Cooperative Extension staff is providing workshops on e-commerce and has conducted a number of e-commerce presentations. To help agriculture and other clientele the staff has created "The International Link" featured on the USDA Direct Marketing website (www.usda.gov/da/smallbus). The staff also manages several electronic discussion lists for Vermont exporters. The University of Minnesota Extension Service has developed Internet online learning modules, and is testing them with 250 rural businesses who are considering starting up electronic commerce activities.
- The Department of Labor (DOL) has developed "elaws Advisors" (Employment Laws Assistance for Workers and Small Businesses) which are web-based interactive systems that provide easy-to-understand information to employers and workers about the laws and regulations administered by DOL. These Advisors give the regulated community access to information about their employment rights and responsibilities 24 hours a day, seven days a week. The Advisors imitate the interaction a small business person might have with a DOL expert about a particular law and/or regulation. The Advisors are expert systems that embed complex information, such as the requirements of a regulation or a safety and health standard into a computer model. Based on responses to questions posed by the Advisor, the user is provided with customized information about how the law applies in the users workplace.

Although substantial progress has been made at the department and agency level, the full benefits of a proactive

federal SME strategy will not be available without coordination between the lead agencies. The SBA, the Department of Commerce, and the United States Department of Agriculture have therefore established an interagency Small Business Electronic Commerce Working Group to coordinate SME e-commerce activities, prevent duplication of effort, and increase utilization of limited resources directed at the 21 million SMEs in the United States.

The agencies involved in the Small Business Electronic Commerce Working Group are creating new initiatives to serve SMEs. Based on meetings with SMEs, academicians, consultants, market researchers, and firms servicing the SMEs e-commerce market, these agencies are developing a collaborative proposal to help SMEs benefit from electronic commerce through increased training and education.

B. 1997 Presidential Directives

1. Tariffs

I direct the U.S. Trade Representative to work with foreign governments to secure agreement within the next 12 months that all products and services delivered across the Internet will not be subject to tariffs and that all equipment from which the Internet is built will also not be subject to tariffs. I direct the U.S. Trade Representative to work with foreign governments to secure agreement within the next 12 months that all products and services delivered across the Internet will not be subject to tariffs and that all equipment from which the Internet is built will also not be subject to tariffs.

In May 1998, the World Trade Organization's (WTO's) Ministerial Conference adopted a declaration committing all WTO member governments to refrain from imposing customs duties on electronic transmissions. Over the past year, the United States has worked intensively with the now 135 WTO countries to extend this moratorium. WTO Members developed an emerging consensus to do so at the WTO's Third Ministerial Conference which opened in Seattle in November 1999. This consensus is expected to be formally adopted by WTO members when the Third Ministerial resumes.

Extension of the moratorium embodies a key policy objective the United States has been advocating globally—namely that governments should refrain from imposing unnecessary restrictions on electronic commerce that can inhibit its growth. The benefits of such a commitment to U.S. business and consumers are enormous, given the rapid growth in both international data flows transmitted electronically and the value of the content embedded in that data. The emerging consensus on the value of the moratorium reflects recognition by WTO members that imposing customs duties on electronic transmissions would be an inefficient way to raise revenue and that the burden of instituting and complying with such a mechanism would outweigh any potential benefits and could discourage investment in electronic commerce. It also reflects recognition that any attempt to discriminate on behalf of domestic suppliers (which is one of the trade-distortive effects of customs duties) is neither practical nor beneficial in a market whose dynamism is based on its globally interconnected nature.

The United States also has worked with its trade partners to reduce tariffs on information technology equipment. Under the Information Technology Agreement (ITA), 46 countries – representing nearly 95 percent of the \$600 billion global market for information technology products – will reduce tariffs on IT products to zero, generally by the year 2000. This agreement covers the core of information technology products that comprise the Internet's hardware infrastructure, such as semiconductors and printed circuit boards, computers, most telecommunications equipment, and computer networking equipment. The United States is currently leading efforts to expand the scope of this agreement to include additional products driven by information technology and to address non-tariff barriers to information technology products.

2. Seamless Global Marketplace

I direct the U.S. Trade Representative to work with foreign governments to enforce existing agreements and secure new agreements to make electronic commerce a seamless global marketplace. This will include enforcing provisions of the recently concluded WTO Telecommunications Services Agreement; ensuring that product testing, certification, and approval processes do not unnecessarily restrict trade; ensuring that service providers have nondiscriminatory access to customers worldwide; and other measures that ensure a free flow of commerce.

Through commitments on market access, national treatment and regulatory safeguards by 70 WTO Members, the February 1998 WTO Telecommunications Services Agreement has already encouraged billions of dollars in international investment in new telecommunications facilities, much of it led by U.S. firms. As a result, the drastic reduction in long distance rates that we are witnessing in the United States, based on low-cost telecommunications services, is being steadily replicated internationally, removing geography (and borders) as a constraint on the delivery of a broad range of services and products. For instance, communication costs between countries where competition is most advanced, such as the United Kingdom, now differ little from domestic long-distance costs.

Enforcement of the WTO agreement has been key to ensuring that dominant carriers in foreign countries do not keep rates artificially high and depress demand for telecommunications services and electronic commerce. Such enforcement has been critical to bringing down rates by one-half on calls between the United States and countries such as Japan and Mexico in the 18 months since the WTO Telecommunications Agreement went into force – benefiting consumers in both the United States and foreign countries.

As a result of the broader market access and increased investor stability provided by WTO commitments, it is estimated that new investment in undersea fiber optic cables will result in a fifty-fold increase in capacity by the end of 2001, compared to mid-1999. (30) Such expansion has created competition for investment to develop regional data and electronic commerce hubs, encouraging many WTO members to unilaterally improve their market access commitments (e.g. Hong Kong, Korea, Japan, India, Singapore, Jamaica).

In addition to ensuring that existing WTO members abide by their commitments, the United States has taken the lead in ensuring that countries acceding to the WTO take on robust commitments in telecommunications services. For countries without the institutions to support competitive telecommunications markets, the U.S. Government has provided technical assistance to encourage the development of a pro-competitive regulatory framework consistent with WTO disciplines.

In order to deploy the advanced services that are driving the digital economy, countries around the world are increasingly aware of the need to ensure that service suppliers can install infrastructure and market consumer equipment in a timely manner, so as not to lag the technology curve. A major challenge for all countries has been streamlining the testing and certification procedures which can cause such delay. Implementation of the June 1998 APEC Telecommunications Mutual Recognition Arrangement, designed to address this issue, has begun, with eight APEC economies scheduled to implement this arrangement this year. The United States was instrumental to the October 1999 conclusion of a similar MRA in the Americas under the Organization of American States (OAS).

Ensuring that WTO rules and commitments contribute to a liberalized global market for electronic commerce is the main theme of the WTO Electronic Commerce Work Program established in May 1998. The United States is leading efforts to include positive results of the Work Program in the December 1999 Seattle WTO Third Ministerial, which opened in Seattle in November 1999, and is expected to resume in 2000. The United States has helped to foster continuation of the duty-free status of electronic transmissions and further agreements that WTO rules and commitments, and their liberalizing effects, apply to electronic commerce.

3. Copyright Protection

I direct the Secretary of Commerce to seek the protection of copyright in the digital environment by working to achieve ratification in the United States and overseas within the next 12 months of the World Intellectual Property Organization (WIPO) Copyright Treaty and the WIPO Performances and Phonograms Treaty.

On December 20, 1996, the Diplomatic Conference on Certain Copyright and Neighboring Rights Questions, convened by the World Intellectual Property Organization (WIPO), approved two Treaties designed to ensure international protection of copyrighted works, performances and sound recordings in the digital environment. The United States signed the Treaties on April 12, 1997. The Senate ratified the treaties in October 1998, and the implementing legislation, the Digital Millennium Copyright Act (DMCA), was passed by the Congress and signed into law by President Clinton on October 28, 1998. On September 14, 1999, the United States deposited its instruments of ratification with the Director General of WIPO.

With ratification and implementation of the Treaties by the United States complete, the Patent and Trademark Office (PTO) and other agencies are focusing their efforts on ratification and implementation of the Treaties by other nations. This involves every tool available to the United States government — bilateral discussions, trade negotiations, the Special 301 process, multilateral fora such as the WTO and the Free Trade Area of the Americas, conferences on intellectual property, and WIPO meetings or programs promoting intellectual property protection. In each of these fora, U.S. representatives discuss the importance of the Treaties to the development of electronic commerce and how the treaties should be implemented, explaining the features of the DMCA and its approach to protection of anti-circumvention devices and systems, copyright management information and limitations on liability of service providers.

For example, this past July, PTO co-sponsored with WIPO a conference for representatives from 30 African states on intellectual property in the digital age. PTO officials made presentations on the two Treaties and emphasized the importance of African states ratifying the Treaties and adapting their laws to deal with electronic commerce issues such as limitations on liability for service providers. During the same month, the Commerce Department's Commercial Law Development Program held a two-day seminar on intellectual property in Lagos, Nigeria, which also discussed the importance of the Treaties. Explanation, discussion, and promotion of the Treaties and the approach to implementation in the DMCA also is a major element of the PTO's annual Visiting Scholars Program and the Copyright Office's annual International Copyright Institute. Each year, these Washington-based programs attract dozens of government officials from a variety of developing and emerging economies.

Another area of legislative and international activity with significant effects on electronic commerce is the issue of legal protection for databases. Two legislative proposals for database protection are now pending before Congress: H.R. 354, sponsored by Congressman Coble, and H.R. 1858, sponsored by Congressman Bliley. The Administration offered extensive commentary on these measures during hearings held earlier this year. The Administration remains committed to working with the House and Senate on a database protection law that establishes adequate incentives for database production and distribution while ensuring a robust range of fair uses, particularly for scientific, research, and transformative uses. Internationally, in 1999 the Administration made presentations on these developments at WIPO regional consultations in Minsk, Buenos Aires, and Manila and at WIPO meetings in Geneva.

4. Patentable Innovations

I direct the Secretary of Commerce to update and make more efficient our system for protecting patentable innovations to meet the needs of the fast-moving electronic age and to seek agreements with other governments to protect patentable innovations worldwide.

In updating our patent system for protecting patentable innovations to meet the needs of the fast-moving

electronic age, the Patent and Trademark Office (PTO) in the Department of Commerce has been receptive to a continued expansion of subject matter eligibility in keeping with the basic principles of our patent system. The PTO is committed to ensuring that its practices and policies promote the innovation and dissemination of new technologies. It has followed suit by granting patents, when appropriate, in all advanced technologies, especially in the ever-evolving computer-related technologies. To this end, the PTO has processed and continues to process multitudes of applications directed to electronic commerce, business-related Internet applications, and other Internet-related technologies. Some of the patents issued in this area are drawn to traditional computer hardware patents, while others are based on methods of doing business over the Internet.

To enhance the efficiency of our patent system, the PTO has embarked on an ambitious program aimed at improving the examination of patent applications, particularly applications directed to computer and Internet-related technologies. The PTO continues to dedicate substantial resources to assembling a complete and comprehensive collection of computer-related technologies, as well as providing patent examiners with better access to “prior art” literature. The PTO has already established an “Electronic Information Center” that provides examiners in computer-related technologies with access to over 900 databases. Over one-third of these databases contain business and financial information. In addition, the PTO is expanding its efforts to classify patent and non patent literature to maximize the ability to conduct thorough patent searches. Moreover, the PTO is working continually to “upgrade” the skills and education of its examining corps. Along with hiring examiners with business, computer, and engineering backgrounds, the PTO is providing its patent examiners with training materials and courses to handle the flurry of patent activity in the electronic commerce related technologies.

The PTO also has taken significant steps to improve data access in the electronic age. Posting much of its patent search information, which includes over 30 million documents onto its website (<http://www.uspto.gov/>). Last year, the PTO recently expanded the content of its patent databases to provide access to the full text, as well as images and drawings, of all patents issued since 1976. As a result of this offering, the public is able to search, by keywords, and retrieve the full text and associated images of patents contained in the database.

Finally, at the urging of the Administration, the World Intellectual Property Organization (WIPO) has agreed to establish a global information network in order to promote the greater use of information technologies with the member countries of WIPO. The centerpiece of this initiative is a proposal to secure a global network that enables intellectual property offices to exchange information useful for patent examination and grant activities. In addition, this network could make available intellectual property information to the public. WIPO has already designated funds to increase connectivity among its offices, which will facilitate a global process of patent examination and grants.

5. Domain Names System Privatization (ICANN)

I direct the Secretary of Commerce to support efforts to make the governance of the domain name system private and competitive and to create a contractually based self-regulatory regime that deals with potential conflicts between domain name usage and trademark laws on a global basis.

We have taken huge strides towards fulfilling the goals of the President’s directive on domain names in the last twelve months. The Department of Commerce and the private sector have worked together to make private sector management of the domain name system (DNS) a reality. During this same period, more than a dozen companies began offering domain name registrations on a competitive basis. And, notwithstanding the difficulty of finding consensus in the multifaceted Internet community, individuals representing the full range of Internet stakeholders from around the globe have put aside their differences to work together to develop domain name policy based on traditional Internet values of consensus and bottom-up decision making. These achievements are a resounding affirmation of the principles established in the Administrations’ policy statement on management of internet names and addresses (the White Paper) (<http://www.ntia.doc.gov/ntiahome/domainname/domainname.htm>).

Only a year ago, in response to a call by the Department of Commerce, the global private sector came together to create the Internet Corporation for Assigned Names and Numbers (ICANN) to replace U.S. Government management of the domain name system with private sector leadership. The Department of Commerce and ICANN are now working in partnership to complete the transition of DNS functions to the private sector.

ICANN has already made tremendous progress in establishing structures for the representative, bottom-up processes contemplated in the White Paper. For example, ICANN has:

- Completed its organization structure and has begun to develop consensus-based policies on important topics such as the addition of new top level domains.
- Accredited more than seventy new domain name registrars from around the world to provide competitive registration services for the .com, .net, and .org domains. Fourteen of these accredited registrars are already offering retail registration services, and many more will soon go “live.” In just a few short months, competition has produced greater consumer choice and lower prices — some registrars are offering free domain names in connection with other services.
- Completed its first round of elections for the board of directors and is now operating with a full board of nineteen directors. By the summer of 2000, ICANN plans to replace the ten appointed board members that are currently serving in an interim capacity with elected board members.
- Adopted a uniform dispute resolution policy to cut down on cybersquatting (the practice of deliberately registering domain names in violation of an entity’s trademark) based on recommendations made by the World Intellectual Property Organization (WIPO). The implementation of this policy will greatly reduce the time and cost associated with conflicts between domain name registrations and trademark laws on a global basis.
- Worked with the Department of Commerce to increase the security and stability of the root server system through a Cooperative Research and Development Agreement (CRADA). ICANN’s Root Server System Advisory Committee (RSSAC) undertook, as its first order of business, an assessment of the root server system worldwide to ensure its compliance with Y2K requirements.

In order to facilitate a smooth transition to private sector management of the DNS, it was necessary for the Department of Commerce, ICANN and Network Solutions, Inc. (NSI), the company that has managed certain aspects of the domain name system on behalf of the U.S. Government since 1992, to reach agreement on a number of outstanding issues concerning the transition process. The three parties have now entered into a series of five agreements that, taken together, resolve the issues that had been a source of contention for some time. Some of the highlights of these agreements include:

- A reduction in the wholesale price of a domain name to \$6 per year.
- Increased choice for domain name registrars and registrants to determine the length of the domain name registration and greater flexibility for registrants that wish to switch between domain name service providers.
- Insured availability, on reasonable terms and conditions, of domain name registration data vital to third parties that wish to create new and innovative value added services, while prohibiting use of the data to enable the transmission of mass unsolicited commercial solicitations via e-mail (spam).
- A reduction in incentives for cybersquatting by requiring all domain name registrars to ensure adequate receipt of payment for a domain name at the time of registration.
- Use of the “InterNIC” website as a global, public information resource that will provide Internet users with domain name registration information, including a directory of all accredited registrars.

These agreements, executed on November 10, 1999, pave the way for robust competition in domain name registration services and put ICANN and private sector management of the DNS on a firm foundation for the

future.

The President's directive called for a bold experiment in private sector management of a critical global resource. The past year has demonstrated that a transition to private sector management to the Internet domain name system is achievable and is already bringing benefits to Internet users across the globe.

Over the next year, the Department of Commerce will work closely with ICANN to ensure that the transition to private sector management is completed in accordance with the Administration's principles for DNS management: stability; competition; private, bottom-up coordination; and representation.

6. Tax

I direct the Secretary of the Treasury to work with State and local governments and with foreign governments to achieve agreements that will ensure that no new taxes are imposed that discriminate against Internet commerce; that existing taxes should be applied in ways that avoid inconsistent national tax jurisdiction and double taxation; and that tax systems treat economically similar transactions equally, regardless of whether such transactions occur through electronic means or through more conventional channels of commerce.

President Clinton signed the Internet Tax Freedom Act into law on October 21, 1998. The Act imposes a three year moratorium on certain state and local taxes and trade issues associated with electronic commerce and comparable sales activities. The Act also created a Congressional Advisory Commission to consider these issues.

The Department of Treasury, the Department of Commerce and the United States Trade Representative are represented on the Advisory Commission on Electronic Commerce established by the Internet Tax Freedom Act. This Commission of business and government leaders is tasked with exploring such issues as sales and use taxes on sales made over the Internet; taxes on Internet access; international tariffs on electronic transmissions; and Federal, State and local telecommunications excise taxes. The Commission is to issue a report to Congress by its statutory deadline of April 21, 2000.

The Treasury Department played a key role in the National Tax Association sponsored Communications and Electronic Commerce Tax Project. The Project, which was composed of academics, business representatives, and state and local government officials, released a comprehensive report in September 1999 on state and local taxation of electronic commerce.

With respect to international issues, Treasury worked to develop an international consensus regarding implementation of the OECD's taxation framework conditions. OECD countries agree that those conditions—neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility—will underlie any taxation of the Internet or electronic commerce. The progress and results of the OECD work was reported at an Asia Pacific Economic Cooperation (APEC) meeting in November 1998, in an effort to keep non-OECD member countries informed of the developments within the OECD. This effort further contributes to the goal of achieving a truly global consensus regarding the taxation of electronic commerce.

Treasury and the OECD also seek input from all of the stakeholders involved in order to achieve global consensus and to ensure that any tax rules appropriately take into account the evolving transactions and technology to which they would be applied. For example, the OECD work is being advanced through a precedent setting procedure to ensure that its decisions are informed by the views of the private sector and non-member countries.

Treasury also has been active in raising important tax policy issues associated with electronic commerce taxation with our tax treaty partners. In addition, Treasury has been working with OECD and non-OECD countries to

arrive at a consensus on the proper interpretation of treaties regarding electronic commerce transactions.

7. Uniform Legal Framework/ Digital Signature

I direct the Secretary of Commerce to work with the private sector, state and local governments, and foreign governments to support the development, both domestically and internationally, of a uniform commercial legal framework that recognizes, facilitates, and enforces electronic transactions worldwide. I further direct the Secretary of Commerce within the next twelve months to seek to gain agreement with the private sector, State and local governments and foreign governments on common approaches for authentication of electronic transactions through technologies such as digital signatures.

Following a two-year effort by commercial law experts in both the private and public sectors, the National Conference of Commissioners of Uniform State Laws (NCCUSL) this summer adopted and recommended to the States a “Uniform Electronic Transactions Act” (UETA) (www.nccusl.org/pressrel/Eta799.htm). This model law, currently on “fast track” to be considered for enactment by all fifty States, sets forth a minimalist, predictable and transparent approach to electronic transactions. California has already adopted the UETA (which will go into effect there on January 1, 2000). A survey of legislative plans for the year 2000 taken by NCCUSL suggests that at least twenty-seven States will see introduction and consideration of UETA in the year 2000.

The UETA is consistent with the basic principles identified in the *Framework* for revising commercial law so that parties may enter into legally enforceable electronic transactions: parties generally should be free to order the contractual relationship between themselves as they see fit; rules should be technology-neutral (i.e., the rules should neither require nor assume a particular technology) and forward looking (i.e., the rules should not hinder the use or development of technology in the future); existing rules should be modified and new rules should be adopted only as necessary or substantially desirable to support the use of electronic technologies; and the process should involve the high-tech commercial sector as well as businesses that have not yet moved online.

Enactment of the UETA by all fifty States will take several years under the most optimistic projections. In order to eliminate uncertainty about the legal status of electronic transactions during that period, the Administration this year supported federal legislation (S. 761) that would ensure the legal enforceability of contracts and signatures in electronic form. A similar measure passed by the House of Representatives (H.R. 1714) contains in addition provisions permitting parties to a transaction to provide legally required notices and disclosures in electronic form and to satisfy recordkeeping requirements with electronic records. The Administration believes that it is important to revise laws requiring paper documents so that they do not prevent transactions from moving online, but that these revisions must ensure equivalent protection of the public interest in the online environment. We will work with Congress to craft legislation that meets that test.

Neither the UETA nor the pending federal legislation eliminate all legal obstacles to electronic transactions. A variety of other federal, state and local laws adopted before the advent of electronic commerce – for example, licensing rules and technical standards – have the unintended consequence of preventing some types of transactions from taking place online. Vice President Gore recently announced an initiative to identify such laws and to propose changes to eliminate obstacles to electronic transactions and at the same time ensure an equivalent level of protection for the public interest so that electronic commerce is as safe for consumers as more traditional forms of commerce. The Electronic Commerce Working Group is responsible for this project, which will involve consultation with the private sector and with state and local governments.

Internationally, the United States continues to press other countries to develop commercial law frameworks that recognize and enforce electronic transactions on the basis of four key principles: (1) eliminate paper-based legal barriers to electronic transactions by implementing relevant provisions of the 1996 UNCITRAL Model Law on Electronic Commerce; (2) reaffirm the rights of parties to a transaction to determine the appropriate technological means of authenticating their agreements; (3) provide that parties to a transaction should have the opportunity to prove in court that the authentication technique used in the transaction is valid; and (4) commit national

governments to treating providers and users of authentication service providers from other countries in a non-discriminatory manner.

This approach has received significant support from the private sector. In its most recent statements, the TransAtlantic Business Dialogue (TABD) and the US-Japan Business Council expressed support for the goals of technology neutrality, party autonomy, non-discrimination, and removing paper-based barriers. Similarly, at its inaugural meeting in Paris in September, the Global Business Dialogue on electronic commerce (GBDe) (www.gbde.org) confirmed the essential elements of U.S. policy in the area of authentication.

These principles were embodied in the Declaration on Authentication adopted by Ministers at the OECD Conference on Electronic Commerce in Ottawa last year. They also were endorsed in Joint Statements with the United Kingdom, Korea, and Australia in the last year, adding to the list of prior Joint Statements that includes Japan and France. We continue to press for discussion of our proposed International Convention on Electronic Transactions at the UN Commission on International Trade Law in Vienna.

We are concerned that the European Union's Electronic Signatures Directive, recently adopted by the E.U. Parliament, takes a more regulatory approach establishing specific technical requirements for electronic signatures and providing a presumption that electronic contracts signed using the government-endorsed methodology are legally binding. In our view, this approach should be reserved for specific categories of transactions where the public interest requires direct government oversight. We have raised these concerns with the European Commission and we will closely monitor implementation of the Directive by member states of the E.U. in the coming year to urge that the members states' legislation reflect the principles of party autonomy, technology neutrality, and non-discrimination so that global transactions are enabled, and not impeded.

8. Privacy Codes of Conduct

I direct the Secretary of Commerce and the Director of the Office of Management and Budget to encourage private industry and privacy advocacy groups to develop and adopt within the next 12 months effective codes of conduct, industry developed rules, and technological solutions to protect privacy on the Internet consistent with the Privacy Principles issued by the Information Infrastructure Task Force (IITF) Privacy Working Group. I further direct the Director of OMB to develop recommendations on the appropriate role of government consistent with [A Framework For Global Electronic Commerce](#). I further direct the Secretary and the Director to ensure that means are developed to protect the privacy of children.

The past year has seen important progress in the protection of personal privacy online. Privacy policies have become far more common on both federal and private-sector websites. Self-regulatory efforts online have become more widespread and enforceable. And, for the handling of especially sensitive information — for children, medical records, and financial records — the Administration has led the way toward putting legal protections in place to protect personal privacy.

Consistent with *A Framework for Global Electronic Commerce*, the U.S. Government continues to believe that private sector-developed codes of conduct are an effective way to protect privacy for many sorts of online transactions. In the last year, significant progress was made in this area. With consistent spurring by government calls for action, the private sector can now claim that nearly two-thirds (65.7%) of commercial sites have posted privacy policies or information practice statements (www.msb.edu/faculty/culnanm/gippshome.html). This is up from merely 14% a year before (www.ftc.gov/reports/privacy3/survey.htm#surveyofcommercialwebsites). This dramatic improvement was led by private-sector groups including the Online Privacy Alliance (www.privacyalliance.org), with enforcement provided by organizations such as TRUSTe, BBBOnline, and CPA WebTrust (www.truste.org, www.bbb.org, www.cpawebtrust.org). Nearly 1,000 websites now carry privacy seals from at least one of these third-party enforcement services and more than 1,000 applications are in the process of being considered for seals.

The Administration continues to encourage industry to make privacy policies ubiquitous on the Net. Some of the largest companies are showing the most leadership. In March, IBM announced that it would no longer advertise on websites that do not post privacy policies. In April, Secretary of Commerce William M. Daley sent letters to the other top web advertisers urging them to take similar actions. To date, eight market leaders — IBM, Microsoft, Disney, Intel, Compaq, Novell, Procter and Gamble and American Express — have done so. These companies, which account for more than one-third of America's top 20 web advertisers, are using their resources to bring real privacy protection to Internet users by creating incentives for more websites to provide privacy protection.

Disney has gone even further. Disney not only refuses to purchase advertisements on websites that lack privacy policies, it also will not accept Internet-based advertising from websites that lack privacy policies. Microsoft, American Express, the Direct Marketing Association, and others have created online tools to assist partner websites in generating their own privacy policies. The Administration will continue to keep the pressure on industry to work to spread the presence of effective privacy policies.

Beyond actively encouraging the posting of privacy policies, the Administration is also looking at other areas of online privacy. In July 1998, Vice President Gore asked the Department of Commerce to work with the Federal Trade Commission to encourage companies that build profiles about individuals to implement effective self-regulatory mechanisms. In early November of this year, the Department of Commerce and FTC hosted a workshop to explore "online profiling." The focus of the workshop was on the practices of companies that gather personal information at other companies' websites, through techniques such as cookies placed by banner advertisements. At the workshop, the leading companies announced the creation of a new self-regulatory group, called the Network Advertising Initiative (NAI) (www.networkadvertising.org). The NAI has committed to develop a website to provide consumers an opportunity to opt out from the services of these companies. The group also is working on a set of principles to provide effective privacy protection in the area of profiling.

The U.S. Government will continue to monitor the progress of self-regulation to determine whether the self-regulatory programs fulfill their promise of protecting the privacy of Internet users. To that end, the FTC will conduct an online survey next year to reassess progress of websites' implementation of fair information practices.

While applauding the self-regulatory efforts that have led to progress in online privacy protection, the Administration also has recognized that certain categories of sensitive records deserve protection as a matter of law, rather than solely through self-regulation. First, in the area of children's online privacy, the President supported and signed the Children's Online Privacy Protection Act of 1998 (COPPA). In the fall of 1999, the Federal Trade Commission issued the final regulations implementing COPPA. The Rule:

- applies to commercial Websites or online services directed to children under 13;
- limits information collection to what is necessary for the child's participation in an activity;
- requires the operator to post a clear and prominent privacy policy;
- requires verifiable parental consent prior to collecting, using or disclosing personal information from a child; and
- allows the private sector to create self-regulatory programs and seek approval from the FTC for "safe harbor" status.

Second, in May, 1999, President Clinton announced in the area of financial privacy that customers of banks, insurance companies, and securities firms should have effective and legally enforceable privacy protections, including for their online transactions. Under the financial services modernization law that the President signed in November, consumers will have an absolute right to know if their financial institution intends to share or sell their personal financial data, and will have the right to block sharing or sale outside the financial institutions' corporate family. The new law gives regulatory agencies full authority to enforce privacy protections, and expressly preserves the ability of states to provide stronger privacy protections. Although the new law reflects a

real improvement over the status quo, the President has promised to seek additional privacy protections – especially for effective choice about whether personal financial information can be shared with affiliated companies.

Third, medical records are another area of especially sensitive information. After Congress failed to pass legislation related to the protection of privacy of medical information by August 21, 1999 as ordered by the Health Insurance Portability Act of 1996 (HIPAA), the President announced in October comprehensive proposed regulations for the protection of medical records (www.hhs.gov/news/press/1999pres/991029.html). Consistent with HIPAA, the proposed rules would apply to all records once placed in electronic form. For those records, the rules would provide legal protections for fair information practices — notice, opt-in choice before records are used for non-medical purposes, access, security, and enforcement. The proposed regulations are scheduled to become final in early 2000. The President also has called on Congress to enact comprehensive legislation for medical records to address gaps in the current statutory authority.

As part of its overall efforts to bolster privacy online, the Administration has taken steps to act as a good model for the private sector in the area of privacy protection. To coordinate privacy policy across the Federal government, the Administration appointed a Chief Counselor for Privacy, in the Office of Management and Budget. In June, the Director of OMB instructed agencies to post clear privacy policies on their websites. By the September 1, 1999 deadline, all federal agencies had posted such policies, signaling to the private sector the feasibility and importance of notifying web visitors of how their personal information will be handled. OMB is now reaching out to the States to explore ways to ensure that good privacy practices are created at the State and local levels.

The U.S. Government has emphasized the potential of privacy self-regulation in numerous international fora, including: the Organization for Economic Cooperation and Development; the Free Trade Area of the Americas; the Asia Pacific Economic Cooperation Forum; the Global Business Dialogue on Electronic Commerce; the TransAtlantic Business Dialogue; and the TransAtlantic Consumer Dialogue. Through the new Privacy Counselor, the United States participated for the first time in both the open and closed sessions of the annual Conference of Data Protection Commissioners.

The United States has been addressing issues arising out of the European Union's Directive on Data Protection, an effort lead by the Under Secretary for International Trade in the Department of Commerce. The Directive, which went into effect in October 1998, allows transfers of personal data only to non-EU countries that provide an "adequate" level of privacy protection. The Directive requires centralized data protection authorities and detailed legal rules for handling personal information in both the on and offline environments.

Given that the United States uses a joint approach that relies on a mix of legislation, regulation, and self-regulation, there has been uncertainty about the impact of the "adequacy" standard on personal data transfers from the European Union to the United States. To ameliorate that uncertainty and provide a more predictable framework for such data transfers, the United States has developed a "safe harbor" proposal that would allow U.S. organizations to meet the E.U. "adequacy" standard by adhering voluntarily to a set of privacy principles and frequently asked questions and answers. Data flows to those U.S. organizations in the "safe harbor" could continue uninterrupted. The safe harbor principal also provided that: all 15 Member States would be bound by the European Commission's finding of adequacy; Member State requirements for prior approval of data transfers would be waived or approval would be automatic; and U.S. companies would have an interim period to implement safe harbor policies.

Substantial progress has been made on the principles of the safe harbor arrangement. On the procedural and enforcement aspects, work is also progressing but further work is needed on both sides. Both sides hope to finalize this safe harbor arrangement in the next few months. Updated drafts of the safe harbor principles and accompanying frequently asked questions and answers are available at www.ita.doc.gov/ecom.

9. Filtering/Rating System

I direct the Secretary of Commerce to encourage the development and adoption within the next 12 months by industry of easy to use and effective rating systems and filtering technologies that empower parents, teachers, and other Internet users to block content that is inappropriate for children.

The Administration believes that empowering parents, teachers, and librarians with a wide range of tools, with which they can protect children in their community in a manner consistent with their values, is ultimately the most effective approach and one that is most compatible with the First Amendment.

In May 1999, the major Internet portal companies made a commitment to Vice President Gore to launch an initiative within two months that would give parents and children easy access to specific filtering and monitoring tools, law enforcement contacts, and other online resources. In July 1999, U.S. industry launched this initiative, "GetNetWise," a new, easy-to-access online resource for parents to help keep their children safe online. The new resource contains information on Internet safety tips, consumer content filtering products, law enforcement contacts, and a guide to quality educational and age-appropriate online content

Currently, schools and libraries are using a wide range of technology tools and monitoring techniques to ensure that children do not encounter inappropriate material or dangerous situations while online. These schools and libraries are determining what will work best in their particular schools and communities. Absent proof that local decision-making is not working to protect our children, the Federal Government should not mandate a particular type of technology to filter or block material. Rather, we should encourage "acceptable use" policies by all public institutions that offer access to online resources, including the Internet. An acceptable use policy should, while being sensitive to local needs and concerns, offer reasonable assurances to parents that safeguards will be in place in the school and library setting that permit users to have educational experiences consistent with their values. To promote this policy, the Administration sent a letter to the Federal Communications Commission urging the Commission to require that any school or library that receives federal e-rate funds must have an "acceptable use" policy in place before such funds are awarded to them.

Children continue to use the Internet to enhance their learning and quality of life. In October, the Department of Commerce released *How Access Benefits Children: Connecting Our Kids to the World of Information*. This report profiled projects funded by the Department's Telecommunications and Information Infrastructure Assistance Program (TIIAP) and showed how young people across America are using the Internet and other information age tools to connect with and enrich their communities.

In October 1998, Congress passed the Child Online Protection Act (COPA) that restricts the commercial distribution of material that is "harmful to minors" on the World Wide Web. In response to a filing by a coalition of free speech advocates led by the ACLU, the U.S. District Court for the Eastern District of Pennsylvania issued a nationwide preliminary injunction on February 1, 1999, barring enforcement of the statute. The district court denied the government's motion to dismiss the plaintiffs for lack of standing and granted plaintiffs' motion for an injunction, finding that the plaintiffs had established a likelihood of success on the merits of their First Amendment facial challenge to the constitutionality of the statute. The government has appealed the district court's ruling.

The district court's proceedings do not, however, affect COPA's directive to establish a Commission on Child Online Protection. The Commission will examine the extent to which current technological tools effectively help to protect children from inappropriate online content. Under the statute, the Speaker of the House and the Senator Majority Leader selected 16 members of the Commission; the other three are designated government officials. The Commission is expected to issue a report by November 2000.

In addition to these undertakings, the Department of Education and the Department of Justice are working with the National Academy of Sciences on a study to ensure that children are protected from inappropriate material on

the Internet.

10. Technical Standards

I direct the Secretary of Commerce to support private sector development of technical standards for the Internet and the U.S. Trade Representative to oppose efforts by foreign governments to impose standards or to use standards for electronic commerce as non-tariff trade barriers.

The challenge to standards development and implementation was summarized in June, 1999, in the *Emerging Digital Economy II*: “Electronic commerce and the information technology (IT) industries that make e-commerce possible are growing and changing at breathtaking speed. Not only were we unable to foresee five years ago how advances in information technology would ‘alter the manner in which we do business and create value,’ but the rate of change is racing ahead of estimates that only a year ago appeared optimistic.” This fact underscores the long-standing policy of the U.S. Government that timely and appropriate standards are critical to the long-term commercial success of the Internet, as they allow products and services from different vendors or industry sectors to work together, facilitate competition, and assist towards enabling the global electronic marketplace.

In light of the tremendous changes underway affecting electronic commerce, however, standard setting activities must be guided by the requirements and processes of the marketplace, and not by governments. Governments should refrain from determining technical regulations and should rely, instead, on standards, protocols, and implementations developed by voluntary, industry-led, consensus-based organizations at both the national and international levels.

To ensure this core principle is carried out internationally, the U.S. Government has worked with the U.S. private sector to secure its acceptance. For example, the Office of the U.S. Trade Representative has advocated this policy objective in bilateral, regional, and multilateral fora. The Department of Commerce has vigorously advanced private sector leadership in the development of voluntary, market-relevant, consensus-based standards at the international and regional level.

In partnership, U.S. industry and the U.S. Government have reaffirmed the core principles of our policy on a global basis. In September of last year, the Steering Committee for the successful Global Standards Conference (Brussels 1997) convened and reviewed actions taken since the Conference which endorsed private sector leadership in standards development. The Steering Committee, composed of senior international representatives of industry, technical organizations, and governments, confirmed that the way forward is through market-relevant, globally accepted voluntary standards.

The *Framework* outlined a number of constructive ways that government can support the private-sector, market-led approach to standards. Consistent with this vision, the Department of Commerce’s National Institute of Standards and Technology (NIST) has provided effective support for industry-led standards. These efforts include: (1) building standards road-maps with private-sector stakeholders; (2) providing technical assistance to industry in the development and harmonization of open standards; (3) establishing neutral testbeds and developing reference implementations with technical experts from the private sector; (4) developing test methods and infrastructures for measurement and demonstration; and (5) contributing to implementation guidelines.

One globally recognized initiative in this area is the Department’s leadership in developing an Advanced Encryption Standard (AES). With the help of the global cryptography community, NIST has overseen a private sector-led process of identifying potential candidates for AES that included public workshops and a public process for receiving comments and analyses. In August of this year, the five final candidates were announced in what Secretary of Commerce William Daley described as a “critical milestone in developing the AES [that] will serve as an important security tool in support of the dynamic growth of electronic commerce.”

11. Electronic Payment Systems

I direct the Secretary of the Treasury to cooperate with foreign governments to monitor newly developing experiments in electronic payment systems; to oppose attempts made by governments to establish inflexible and highly prescriptive regulations and rules that might inhibit the development of new systems for electronic payment; and as electronic payment systems develop, to work closely with the private sector in order to keep apprised about policy development and to ensure that governmental activities flexibly accommodate the needs of the emerging marketplace.

Electronic payments have substantial advantages over paper checks, including reduced manual processing, greater accuracy, more timely transactions, better information, and reduced costs. To accelerate use of electronic payments in federal government financial transactions and in the economy, the Administration developed the Electronic Federal Tax Payment System (EFTPS) and the Electronic Fund Transfer program (EFT '99).

EFTPS was inaugurated in 1995 to collect tax payments electronically, and it converted a 37-step paper process that required 7-10 days to complete to a six step electronic process that requires two days. Two and a half million business taxpayers — 31% of all business taxpayers — are now enrolled in EFTPS. In FY 1998 the \$1.2 trillion they paid electronically represented 84% of all business taxes collected and made EFTPS one of the world's largest electronic payment collection systems. An important additional benefit of EFTPS is that participating businesses develop the capability of sending and receiving electronic payments.

The EFT '99 program allows the Federal government to make benefit payments electronically. Treasury issues 700 million government payments annually, 80% of which are benefits payments. Through a public education program, EFT increased the number of benefit recipients receiving payments electronically from 56% in FY 1996 to 75% by September 1999. Ninety-five percent of Department of Defense salary and retirement payments are currently being made via EFT, and the portion of vendors receiving their payments electronically has increased from 16% in 1995 to 53% in September 1999. To increase vendor participation in EFT, Treasury developed the Payment Advice Internet Delivery system, which provides Federal agencies an alternative method to deliver remittance information to their vendors through the Internet.

Eight million federal beneficiaries could not receive electronic payments because they lack a bank account. In 1999, Treasury introduced a program through which banks provide a low-cost bank account, the Electronic Transfer Account (ETA), for these recipients. Thus far, over 200 banks offer ETAs for a monthly fee of \$3 or less.

The payments volume that the Treasury moves electronically, and the government's commitment to electronic transaction processing, give Treasury significant influence in emerging technology development. To encourage use of electronic payments, Treasury has focused on developing new applications that increase efficiencies in government payments, on pilot programs, and on creating economies of scale in electronic payments applications. However, Treasury avoids picking "winners and losers" in the technology marketplace, and instead uses off-the-shelf technology and shops as a vendor for technology with the lowest cost and best performance.

Intra-Governmental Electronic Transactions

Through the Electronic Processes Initiatives Committee (EPIC) senior Federal officials coordinate government-wide electronic process initiatives. EPIC formed the Intergovernmental Transfers Task Force to develop requirements for processing intra-governmental transfers, and Federal agencies now utilize commercial purchase cards for processing large-volume, small-dollar intra-governmental transactions. In addition, Treasury and the Federal Reserve Bank of Richmond are developing a system for processing large-dollar, low-volume

transactions that uses next-generation web-based technology and will be operational in May 2001.

Card Services

Under the SmartPay program, GSA makes purchase and smart cards available for applications such as purchasing commercial products, paying travel and fleet expenses, and controlling access to buildings and computers. The program also streamlines “backroom” functions such as transaction processing, accounting, invoicing, reconciliation, and payment. SmartPay established a testing process for the electronic access system to evaluate the integrity and accuracy of end-to-end electronic interfaces, and agencies can combine business lines on a single card to simplify account set-up and maintenance, card-issuance, and cardholder services.

Securities Sales to the Public

Treasury’s Bureau of the Public Debt (BPD) this year began offering a variety of transaction and information services using the Internet and other electronic delivery systems. *TreasuryDirect* Electronic Service allows customers to transact marketable securities business via the Internet, and permits account holders to buy Treasury bills, notes, and bonds and perform many of the functions needed to maintain an account. The Savings Bond Connection offers persons the opportunity to purchase savings bonds over the Internet. BPD also is developing a new system for the \$163 billion state and local government securities program that will offer subscription, redemption, and account information services within a secure Internet environment.

E-filing

This year, IRS unveiled a program through which taxpayers can make tax payments by credit cards. The program will expand in 2000 to accept taxpayers’ estimated tax and extension payments and to allow taxpayers to authorize IRS to deduct tax payments from their bank accounts. As individuals make and receive payments to IRS electronically, their capability and confidence in electronic commerce will likely increase.

E-checks

Small- and mid-sized vendors often cannot process electronic payments because they lack information on the source of the payment, the account number, and the purpose. FMS is testing an e-check disbursement mechanism for Federal vendor payments that, like a paper check, allows the government to combine payment with billing information. E-checks are of particular use where a digitally signed document must accompany payment, and 50 vendors receiving Federal payments of at least \$1 million per day participate in the pilot. The first e-check was issued over the Internet in June 1998 and an evaluation will be completed by June 2000. If the pilot is considered successful, the technology may be used for other classes of payments and collections.

Stored-Value Cards

FMS is the largest user of stored value cards (SVCS) in the United States, and has engaged in pilots at 10 government locations. For payments, the cards are used at four military installations to eliminate payroll checks, and 150,000 cards with \$60 million in value have been issued. FMS piloted SVCs at two VA Medical Centers: SVCs were issued to employees, patients, and volunteers, who load value on the cards at ATMs, and terminals were installed in cafeterias, retail stores, and vending machines. SVCs work well in closed environment by eliminating paper transactions, reducing the process steps associated with paper transactions, facilitating back-end financial operations, and streamlining workflow. FMS will include additional military sites and also is working with the Bureau of Prisons to implement SVCs in prisons.

12. Securing the Internet for

E-Commerce

I direct all executive departments and agencies to promote efforts domestically and internationally to make the Internet a secure environment for commerce. This includes ensuring secure and reliable telecommunications networks; ensuring an effective means for protecting the information systems attached to those networks; ensuring an effective means for authenticating and guaranteeing confidentiality of electronic information to protect data from unauthorized use; and providing information so that Internet users become well-trained and understand how to protect their systems and their data.

Assuring the safety and security of the Internet and other networks is a global priority. Consumers and businesses need to protect their sensitive information and communications from unauthorized access over global shared information networks. Private sector demand for security has only increased with the growth of electronic commerce. Therefore, the development and use of information security tools and technology must be encouraged and deployed. One tool that is essential to protecting the security of electronic transactions is encryption.

Recognizing these needs, the Administration continues to support the use of strong encryption products within the United States. However, unlimited access to strong encryption by terrorists, criminals, drug traffickers and rogue governments to conceal their illicit activities poses risk to our public safety and national security. Therefore, the Administration continues to promote a balanced approach to encryption policy.

After several months of consultations with industry, privacy and law enforcement groups and the Congress, the Administration recently announced a new approach to its encryption policy that continues to balance, and advance, important national interests: privacy, secure electronic commerce, national security and public safety. This new framework is comprised of three elements – information security and privacy within the federal government, a new framework for export controls, and updated tools for law enforcement.

First, the Administration will promote the development and use of information technology within the federal government. The Department of Defense, for example, hopes to serve as a model for the government and private sector by securing its own communications networks. This step recognizes that sensitive government electronic information - as well as commercial and privacy information - requires strong protection from unauthorized and unlawful access if the great promise of the electronic age is to be realized.

With respect to encryption export controls, the updated policy will permit U.S. companies new opportunities to sell their products to most end users in global markets. Under the new policy:

- Any encryption commodity and software of any key length may be exported under license exception (without a license) to individuals, commercial firms, and other non-government and non-military end user in any country except the seven state supporters of terrorism. Thus, foreign businesses and individuals can have access to any U.S. encryption product to build their e-commerce systems and protect their communications.
- Any retail encryption commodity of any key length can be exported under license exception (without a license) to any end user in any country, except the seven state supporters of terrorism. Thus, products that are sold over-the-counter and other mass-market products that are designed for individual or small office, business or home use will be readily exportable from the United States without a license. General purpose operating systems, with or without embedded networking features, and other widely-used security products also will be exportable from the United States without a license, thus promoting the growth of secure e-commerce and e-business.
- Post export reporting requirements will be streamlined and significantly reduced to be consistent with U.S. industry business models, thus making it easier for U.S. industry to distribute their security products in foreign markets.

- Controls on software and non-commercial source code in the public domain, as well as open-source software, will be significantly reduced and improved from current law.
- U.S. encryption technology, such as encryption chips and software development encryption tool kits, will be more easily exported, thus promoting the development of secure electronic commerce products based on U.S. technology.

With these updates, individuals and businesses will be able to secure their communications and data over global networks. Businesses will be able to conduct secure e-commerce transactions with their clients and business-to-business e-commerce can be protected from unauthorized access. Commercial and individuals' web applications can be authenticated and secured, and global businesses will have ready access to encryption technology to secure their corporate databases, emails, and proprietary files and records. The Administration is in the process of consulting with U.S. industry and privacy groups to assist the drafting of the export regulations implementing the new policy by mid-January, 2000.

The United States Government continues a number of other initiatives to ensure the security and reliability of our national and global communications infrastructures for the near future and beyond.

In the near term, the Administration is directing substantial effort to solve a crucial issue, the Year 2000 (Y2K) computer problem, which threatens to undermine the efficacy of digital networks. In February 1998, President Clinton formed a Council on Year 2000 Conversion to address these issues. In addition to focusing on government computer systems, the Council is working with various industry sectors, international organizations, and countries around the world to ensure that Y2K problems do not threaten the vital telecommunications and information processing systems upon which electronic commerce depends. The Council's Information Coordination Center, in cooperation with government and industry operations centers, will monitor and report on the status of critical system operations during the date rollover period.

The Administration also is taking steps to protect our national infrastructures over the longer term. As instructed by President Clinton in Presidential Decision Directive 63 (PDD-63),

Protecting America's Critical Infrastructures, the Federal government is working to establish a reliable, interconnected, and secure information systems infrastructure by 2003. The Critical Infrastructure Coordination Group has developed the first version of the "National Plan for Information Systems Protection" called for in PDD-63. This draft plan has two main objectives: (1) making the Federal government a model of information security and (2) building a voluntary public-private partnership to protect national information infrastructure. In an important first step, the private sector has already begun to create information sharing and analysis centers to work among themselves to share threat information, research and development costs, industry standards and best practices. Additionally, the Administration has put forward budget requests to fund important information security training, research and development, secure systems procurement, and public key infrastructure initiatives.

Because the electronic environment of the Internet is global and border-less, the PDD also requires the development of a plan to expand international cooperation on critical infrastructure protection with like-minded and friendly nations, international organizations and multilateral corporations. The Administration continues to make significant progress in this area, fostering cooperative information exchanges, and conducting infrastructure protection exercises.

13. Government Procurement

I direct the Administrator of General Services to move the Federal Government into the age of electronic commerce by expanding "GSA Advantage," its online shopping service for the Federal community to cover four million items by 12 months from now.

Online systems for satisfying the purchasing needs of Federal agencies have become increasingly sophisticated. Sites such as GSA Advantage and DOD Email are providing fast and easy methods for purchasing goods and services which increase choices, leverage Federal purchasing power and improve the speed of delivery. Other aspects of the Federal purchasing process also have benefited from leveraging Internet technologies to increase competition and improve Federal customer satisfaction. Online procurement and ordering efforts led the application of electronic commerce within the Federal and state governments. The focus on improved efficiency of Federal processes has begun to shift in perspective to providing fully integrated service delivery. A recent study looks at Federal, international and state government experiences in the delivery of services. A study on Integrated Service Delivery is available at <http://policyworks.gov/intergov>.

GSA Advantage! Grows To Satisfy Federal Customers

GSA Advantage! allows Federal employees to access quality products and services and order them directly over the Internet at a lower government price. Exciting improvements provided customers with quicker and more precise search results, and allowed customers to see mandatory items and those from preferred sources. The number of items on Advantage grew by 30 percent and sales grew by 50 percent in 1999 with over a million dollars per day in sales in late September. In October, another phase of improvements began; the catalog now includes all remaining contracts and multi-award schedules available through the Federal Supply Service.

Increased Access to Federal Opportunities

The Electronic Posting System (EPS) could provide one-stop, convenient, universal Internet access for companies seeking business opportunities across the Federal government. As a replacement to the government's current paper-based solicitation process, agencies use the EPS to post contract notices and solicitations, making them available through a single point of entry for real-time viewing. During FY99, the Veterans Administration and the Commerce Department, joined the Government Services Administration, the National Aeronautics and Space Administration, the Department of Transportation and the Department of the Air Force as participants in the EPS. Currently, four other agencies are considering signing on. The EPS encourages best value buying by bringing in more potential vendors and increasing competition. Over 29,000 vendors are registered to receive automated notices of opportunities, an increase of 24% over last fiscal year. The system levels the playing field for small and disadvantaged businesses by further opening the buying process. The EPS provides:

- A consistent posting of acquisition-related documents.
- "One stop" electronic searching and identification of business opportunities.
- Automatic e-mail notification of Federal opportunities to interested vendors.
- A reliable interface for fulfilling Federal synopsis requirements.

The EPS is operated by the General Service Administration's Office of Acquisition Policy in partnership with six agencies, and the Office of Management and Budget (<http://www.eps.gov/>).

Increasing Efficiency of Government Buying

An electronic purchase catalog interoperability pilot is underway among Federal agencies and CommerceNet, a non-profit consortium, which promotes the adoption of electronic commerce. The pilot demonstrated the technical feasibility of delivering best value comparisons for purchasing. The pilot tested Extensible Markup Language (XML) and various technologies to prove the concept of a secure, interoperable, multi-electronic catalog architecture. The system allowed users to search several federal and commercial online product catalogs simultaneously, reducing the effort required to do market research and best value buying. Phase 2 is well on its way in demonstrating an extensive end-to-end electronic commerce business process with improved authentication and scalability. Eleven Federal agencies participated in the testing. The pilot results are being evaluated against the strategic goals established by the President's Buying and Paying task force. When fully

operational, Federal shoppers will be able to quickly compare products and take advantage of the best price using Public Key Infrastructure and Smart Cards for end-to-end secure purchasing and payment. The Federal catalogs included in the pilot are from National Aeronautics and Space Administration, the Department of Defense and GSA Advantage! The Federal Electronic Commerce Program is guiding the pilot.

A Convenient Registry for Contractors

The Defense Department's Central Contractor Registry is a World Wide Website where contractors provide basic information about themselves before doing business with military services and Defense agencies. The system replaces lengthy duplicative paper forms, could replace the many vendor databases that exist across agencies, and could become the registry for all government contractors. The General Services Administration, Veterans Affairs, Interior and National Aeronautics and Space Administration are testing the system which contains about 140,000 contractors (with expected growth to 300,000 contractors). The Department of Defense also is using this system to streamline the payment process.

New Initiatives

In the upcoming year, the Working Group will implement three new initiatives that will help to bring the benefits of the information revolution to all people by:

- Creating digital opportunity through increased access to the Internet for all people;
- Providing better, more efficient government services and increased government accountability for citizens;
- Promoting other uses of the Internet with potential social benefits, such as tele-medicine and distance learning.

Each of these initiatives is summarized below.

A. Digital Opportunity

The Internet and electronic commerce are now driving this nation's economic growth. Information tools, such as the personal computer and the Internet, are increasingly critical to economic success and full participation in all aspects of American society. People with computers and Internet access can use these tools to find a job, acquire new skills, start a small business, get lower prices for goods and services, and become more informed citizens.

Not all Americans, however, have access to new technologies or are able to enjoy the benefits of the Information Revolution. In July 1999, the National Telecommunications and Information Administration issued a report, *Falling Through the Net: Defining the Digital Divide*, which found a growing gap between certain groups with access to these tools and those without. Those who are low-income, Black or Hispanic, those living in rural areas, and single-parent households are particularly unlikely to have access to the information tools that are improving the economic and social lives of the technology "haves."

Closing the digital divide is a priority for the Administration. The new directives will establish a goal of making computers and Internet access available for every American who wants them. More specifically, the directives establish the following agenda:

- The Secretary of Commerce will work with the private sector to develop a national strategy for closing the digital divide and will report periodically on the level of connectivity among different demographic groups throughout America;
- The Secretaries of Education, Housing and Urban Development, Health and Human Services, and Labor will continue to establish Community Technology Centers, which provide access to new technologies for those who can't afford them, and also will encourage the development of information technology applications, such as computer-based training, that can empower low-income Americans; and
- The Secretaries of Education and Labor will work with the private sector to upgrade the information technology skills of America's workforce so that all Americans can obtain the skills they need to compete in our increasingly high-tech economy.

B. Electronic Government

The digital revolution requires a more efficient government that provides unprecedented access for all of its citizens. In key agencies, such as the Department of Commerce and the Federal Trade Commission, electronic services are transforming the way citizens receive services from their government. The electronic revolution in the U.S. Government is eliminating paperwork and increasing efficiency.

The U.S. Government is striving to use information technology to increase access to its goods and services for all Americans. Some examples of this effort include:

- Taxpayers can download and retrieve publications and forms as well as file taxes electronically with the Internal Revenue Service. Last year over 10% (24.6 Million) taxpayers filed electronic returns.
- Citizens can look for federal job postings and employers can search tens of thousands of resumes electronically.
- Students can apply for financial aid. The Department of Education's Office of Student Financial Aid processed 672,728 loan applications electronically in the 98-99 loan cycle.
- Consumers can access environmental information specific to local neighborhoods about drinking water, Superfund sites, air pollution, toxic releases, and hazardous waste.
- Over 100 million citizens will be able to access Census forms in the year 2000.
- Visitors at over 1,900 recreation sites can make reservations for more than 50,000 campsites and facilities.
- Peace Corps volunteers can apply online.

Although the U.S. Government has taken significant steps to move into the digital age, there is still much work to be done.

Therefore, the Electronic Commerce Working Group will strive to:

- Create one stop access for all citizens to the entire universe of existing government information.
- Get citizens online and out of government lines.
- Save taxpayers money through increased use of electronic commerce in government procurement.
- Demonstrate leadership through the government's use of technology.
- Permit greater access for citizens to government officials through technology.
- Provide for secure communications across the Federal Government using digital signature technology.

C. E-Society

The Internet and other information and communications technologies are shaping our economy and our society

in the same way that the steam engine and electricity defined the Industrial Age.

But the Internet has the potential to enhance citizenship as well as commerce. Used creatively, the Internet and information technology more generally can be a powerful tool for tackling some of our toughest social challenges as well as fostering economic growth. Information technology can and is being used to make it easier for working adults to acquire new skills, increase access to healthcare in isolated rural communities, improve the quality of life for people with disabilities, and strengthen our democracy. Caregivers for people with Alzheimer's use the Internet to lend each other moral support. Workers in several high-tech companies are helping students improve their performance in math and science and go on to college by becoming "tele-mentors." A society that uses information technology to expand opportunity and improve the quality of life for all of its citizens is an "e-society."

We have already made progress in harnessing the power of information technology to meet broad societal objectives. For example, the Administration has led a national effort to ensure that all of our children are technologically literate. Our strategy, which involves connecting every classroom to the Internet, increasing access to multimedia computers in the classroom, training teachers, and encouraging the development of high-quality educational software, has already delivered significant results.

However, we can and must do more. Therefore the administration will take concrete steps to promote the e-society. This new initiative will direct federal agencies to use information technology to:

- Expand access to higher-quality, more cost effective health care.
- Make it easier for parents to evaluate the performance of schools in their communities.
- Allow people to learn and acquire new skills at a time, place and pace that is convenient for them.
- Change the way teachers teach and students learn, and prepare students for the high-tech workplace of the 21st century.
- Make it easier to help people move from restrictive physical workplace locations to virtual offices located anywhere.
- Improve the quality of life for Americans with disabilities through new technologies such as speech recognition or text-to-speech programs.
- Protect our environment for future generations of Americans.
- Improve our ability to detect and respond to natural and man-made disasters.

Taken together, these three initiatives will allow us to move beyond the commercial aspects of e-commerce and tap the wide range of societal benefits that information technology offers. This agenda will challenge both the government and the private sector to bring the true promise of the Internet to all people.

Our achievements over the last year reflect our continued commitment to the principles first articulated in July 1997. In an information economy characterized by constant innovation and instant obsolescence, these principles have proven remarkably durable. They have guided our efforts and gained the acceptance of governments and private sector representatives across the globe. They have become the touchstones for policymaking worldwide.

We have made cyberspace a safer, simpler place to work, learn, and play without compromising these core beliefs. The private sector is increasingly exercising effective leadership on consumer protection and privacy issues. We have intervened, however, to safeguard children's privacy and buttress protections for sensitive financial and medical information. We have strengthened online security for businesses and individuals by loosening rules governing the export of strong encryption products. And we have increased the resources available in various Federal agencies to aggressively pursue online fraud and deception. Internationally, we have fostered a continuing consensus to extend the current global moratorium barring customs duties on digital products ordered and delivered over the Internet. We have introduced greater competition into the registration of new domain names and worked to narrow the gap between digital "haves" and "have nots" in the United States

and in the developing world.

Many challenges remain, however. The Information Revolution is still unfolding. New information technologies have not benefited all institutions and all segments of our society equally. Over the coming year, we will launch three new initiatives that address these gaps. One initiative will ensure that government uses the Internet to provide citizens the efficient service, comprehensive information and ease of access that they benefit from as consumers. Another will enrich our lives by tapping the power of information technology to provide distance learning, telemedicine and telecommuting. A third initiative will help digitally disenfranchised Americans gain access to computers and the Internet access needed to participate in the Information Revolution. We must ensure that our government institutions are as responsive to the benefits of technological change as our fleetest businesses. And we must ensure that the Internet fulfills its promise as an opportunity not a barrier for all Americans. The information revolution must be one that moves us towards digital equality and succeeds in benefiting all the world's citizens.

Endnotes

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- (4) “Number of People Online” Sept. 1999 (<http://www.ecommerce.gov/www.nua.ie>).
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- (6) See Nua Internet Surveys (http://www.nua.ie/surveys/how_many_online/n_america.html%20and%20http://www.nua.ie/surveys/how_many_online/world.html).
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(17) Larry Armstrong, “The War Against E-toys is No Game.” *Business Week*, 9 Aug. 1999.

(18) Telecommunications Act of 1996, Pub. L. No. 104-104, sec. 254(b)(2), 706, 110 Stat. 153 (codified at 47 U.S.C. S 157 note).

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