



OFFICE OF THE VICE PRESIDENT  
WASHINGTON

May 5, 1993

MEMORANDUM FOR THE PRESIDENT

FROM: THE VICE PRESIDENT

SUBJECT: Response to John Ahlen's letter regarding NIST

You asked for my advice on how to respond to John Ahlen's concerns regarding the new NIST Director and NIST's approach to small business. I attach Mr. Ahlen's letter and respond to the issues he raised as follows:

1. **The new NIST Director will not understand the marketplace and will not be able to work productively with civilian industry because she comes from DARPA.**

The new Director, Arati Prabakhar, rose to prominence within DARPA for the stellar way she managed a \$100 million program. She is widely respected in the electronics industry and in the civilian sector for her work with dual-use technologies. Because many of DARPA's grants go to companies of between 2-10 people, Arati has had considerable experience evaluating and working with small companies.

2. **Someone unknown in the state technology programs and not knowledgeable about state delivery programs has a major liability.** Arati will not be working alone at NIST. She will be assisted by a staff very experienced with and knowledgeable about state technology programs. In addition, the Commerce Department expects to fill some of its top technology positions with people from state technology programs.

3. **The NIST bureaucracy does not like this appointment and will undermine her.** For too long, NIST has been an "inbox" operation. The decision to appoint Arati reflects a decision to transform the NIST culture into one that aggressively reaches out to innovative businesses in order to create a dynamic civilian technology program that can apply DARPA's focus and efficiency in the civilian sector where market forces play a bigger role than in defense. It is not surprising that the traditional NIST culture will resist this somewhat. However, there are many at NIST who are eager for this to occur and Secretary Brown and Deputy Secretary Rollwagen are very supportive of Arati and the direction she wants to pursue.

4. A career economist in the Advanced Technology Program did not evidence any appreciation of the role of small businesses in advancing technology and creating jobs. It is unfortunate that Mr. Ahlen received a bad briefing from a career economist in the ATP program. The ATP program director, George Uriano has a much better understanding of the role of small business.

While ATP funds many small business grants (in the last three years, 48% of their grants went to small businesses as defined by SBA guidelines), there is still much we can do to improve the flexibility in this area. The Department of Commerce is co-chairing, along with the Small Business Administration, a task force under the National Economic Council to review small and medium sized business job creation. In addition, I will request that Dr. Jack Gibbons speak with Ahlen to understand better his perspective on the Federal technology programs.

THE WHITE HOUSE  
OFFICE OF THE PRESS SECRETARY

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FOR RELEASE UPON DELIVERY

10 A-M Wednesday, September 29, 1993

**HISTORIC PARTNERSHIP FORGED WITH AUTO MAKERS  
AIMS FOR 3-FOLD INCREASE IN FUEL EFFICIENCY IN AS SOON AS TEN YEARS  
New Technologies, New Economic Opportunities, New Types of Cars**

WASHINGTON -- President Bill Clinton and Vice President Al Gore today joined with the Big Three American auto makers to announce an historic new partnership aimed at strengthening U.S. competitiveness by developing technologies for a new generation of vehicles up to three times more fuel efficient than today's -- a technological challenge comparable to or greater than that involved in the Apollo project.

The agreement sets groundbreaking research and development goals for industry and government engineering teams. A model for the new partnership between government and industry, this all-out effort will ensure that the U.S. auto industry leads the world in technology, preserving and creating jobs and economic growth. Research projects will be launched in three categories:

- o Advanced manufacturing techniques to make it easier to get new product ideas into the marketplace quickly, for example, rapid, computer-based design and testing systems and new automation and control systems that can lower production costs;
- o Technologies that can lead to near-term improvements in automobile efficiency, safety, and emissions, for example, lightweight, recyclable materials and catalysts for reducing exhaust pollution; and
- o Research that could lead to production prototypes of vehicles capable of up to three times greater fuel efficiency, for example, radical new concepts such as fuel cells and advanced energy storage systems such as ultracapacitors, to produce more fuel-efficient cars that are affordable, meet or exceed current safety standards and retain the performance and comfort available today.

This new partnership represents a technological venture as ambitious as any America has attempted, coordinating the efforts of America's best scientists and engineers to develop vehicles it would have been hard to imagine even a few years ago. Technologies previously available only in the defense industries will help redefine what's possible. America's national laboratories and other research facilities will be able to apply their expertise. But this is not a government project with government goals. It allows American business to set a path to meet ambitious objectives and define areas where government support can be most helpful.

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# A NEW PARTNERSHIP FOR CARS OF THE FUTURE

Ensuring U.S. Leadership, Expanding Economic Opportunity,  
Preserving Jobs, Protecting the Environment

## Summary

This new partnership forged by President Clinton, Vice President Gore and America's Big Three auto makers -- General Motors, Ford, and Chrysler -- is aimed at strengthening U.S. competitiveness by developing technologies for a new generation of vehicles up to three times more fuel efficient than today's. It is a technological venture as ambitious as any America has ever attempted and a model for the new partnership between government and industry envisioned by President Clinton. This partnership is an all-out effort to ensure that the U.S. auto industry leads the world in technology, expanding economic opportunity, preserving jobs, protecting the environment, and strengthening our economic competitiveness.

The Big Three Auto makers and the federal government have agreed to ambitious research and development goals for automobiles of the future. The long term goal is development of affordable, safe, attractive, and dramatically more efficient automobiles. It is a bold statement of America's commitment to environmental stewardship and environmental protection -- not only in the United States, but around the world. Groundbreaking research and development goals for industry and government engineering teams will be launched in three categories:

- o Advanced manufacturing techniques to make it easier to get new product ideas into the marketplace quickly, for example, rapid, computer-based design and testing systems and new automation and control systems that can lower production costs;
- o Technologies that can lead to near-term improvements in automobile efficiency, safety, and emissions, for example, lightweight, recyclable materials and catalysts for reducing exhaust pollution; and
- o Research that could lead to production prototypes of vehicles capable of up to three times greater fuel efficiency, for example, radical new concepts such as fuel cells and advanced energy storage systems such as ultracapacitors, to produce more fuel-efficient cars that are affordable, meet or exceed current safety standards and retain the performance and comfort available today.

This new partnership will coordinate the efforts of America's best scientists and engineers to develop vehicles hard to imagine even a few years ago. It puts the principles of the Vice President's National Performance Review to work, bringing together agencies that had no organized way of coordinating their research efforts to now work toward a common goal, sharing information and avoiding duplication. Technologies previously available only in the defense industries will help redefine what's possible. America's national laboratories and other research facilities will be able to apply their expertise, re-directing the best talent in the U.S. defense research agencies to attack a peacetime challenge.

virtual design and prototyping from the Army Tank Command, and many other technologies will be available for the project. These government facilities have enormous expertise in technologies but lack practical understanding of what it takes to create and sell a vehicle. By working closely with the U.S. industry toward shared objectives, experts in the defense labs will gain a much clearer understanding of what is needed to design a practical car and experts in the auto industry will gain a much clearer understanding of what is technically possible and available in the enormous U.S. defense technology base.

> Breaks wasteful gridlock over auto issues: This partnership replaces controversy with cooperation, breaking decades of gridlock between the industry and government about the best way to ensure low automobile emissions and high safety standards. Today, government shares with industry a vision of technology that can produce competitively priced, high-performance, low-pollution, safe vehicles. This partnership focuses government and industry research efforts on the development of technological improvements that could meet ambitious pollution and safety standards in a vehicle that would preserve all the features Americans expect from automobiles and light trucks.

### The Partnership at Work

> Industry and government will immediately name teams of their respective scientists to identify necessary research projects and establish priorities. Each research project will be approved individually through a streamlined process.

> The projects will involve government and industry funding, the percentage of which will vary from project to project, though it is likely that more industry money will be spent on projects with near-term, marketplace applications and more government money will be spent on riskier, longer-term projects.

> This project will not increase the government's total spending on research but will guarantee that taxpayers get the most for their money by ensuring that federal research projects, such as the ones identified by the auto industry-government team, are of greatest importance to the nation.

> The project will be managed by an interagency team, consisting of the Departments of Energy, Defense, Commerce, and Transportation, the Environmental Protection Agency, NASA, and the National Science Foundation. It will be led by Dr. Mary Good, Undersecretary of Commerce for Technology.

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## PARTNERSHIP FOR A NEW GENERATION OF VEHICLES

The New Technology Initiative announced by President Bill Clinton and Vice President Al Gore on February 22, 1993, is the basis for a new program joining the President, on behalf of the Federal Government, and USCAR, a partnership of Ford, Chrysler, and General Motors Corporation, in a unique research and development effort. The goal is the development of commercially-viable vehicle technology that, over the long-term, can preserve personal mobility while further reducing the impact of cars and light trucks on the environment, and reducing dependence on imported petroleum. Such a vehicle, that meets applicable safety and emission standards, and provides the performance, affordability, and comfort the public has come to expect from American automobiles, can help assure world leadership for the U.S. industry.

This partnership between the government and the industry will permit dedication of private and public resources to programs designed to achieve major technological breakthroughs that can make traditional regulatory interventions irrelevant. The goal of the program is to develop a vehicle which could achieve fuel efficiencies up to three times today's comparable vehicle, while at the same time cost no more to own and drive than today's automobile, maintain performance, size and utility of comparable vehicles, and meet or exceed safety and emission requirements. This goal is established with the knowledge that it will require maximum effort on the part of industry and government and results comparable to the Apollo Program or the Manhattan Project while achieving manufacturing process breakthroughs sufficient to make the vehicle commercially viable.

Throughout the research program, the industry commits to apply, as they become commercially viable, those technologies resulting from the research program that would be expected to significantly increase vehicle fuel efficiency, including improvements in today's powertrains, catalysts, materials, and manufacturing technologies and capacity for use of alternative fuels. But it is recognized that reaching the goal of fuel efficiencies up to three times today's comparable vehicle may be dependent on the development of revolutionary new approaches, such as fuel cells, to replace the internal combustion engine.

The development of fuel cells, as well as new generation batteries, ultra-capacitors, and other technologies may be beyond what is reasonable and realistic to expect to be achieved and it is recognized that the more radical the technology necessary to reach this goal, the less certain its achievement and the timetable in which it can be achieved. Nevertheless, the goal is to develop a concept vehicle during the 1990's and a production prototype within approximately a decade. It is expected that government laboratories will make major contributions, concentrating on areas where technology is unproven, and there is presently limited consumer demand as a result of the low price of fuel.

# PARTNERSHIP FOR A NEW GENERATION OF VEHICLES

## A Declaration of Intent

### SUMMARY

USCAR, a partnership of Ford, Chrysler, and General Motors, is pleased to join with the President on behalf of the federal government, in this Declaration of Intent to pursue a unique research and development effort. The goal is the development of commercially-viable vehicle technology that, over the long-term, can preserve personal mobility while further reducing the impact of cars and light trucks on the environment, and reducing dependence on imported petroleum. Such a vehicle, that meets applicable safety and emission standards, and provides the performance, affordability, and comfort the public has come to expect from American automobiles, can help assure world leadership for the U.S. industry.

### SHARED VISION

On February 22, 1993, President Clinton announced a comprehensive new initiative "Technology for America's Economic Growth, A New Direction to Build Economic Strength," intended to move America forward to a stronger economy, a cleaner environment, more competitive business, more effective government, and technological leadership in critical fields. As part of his initiative, the President focused on the U.S. auto industry and he proposed linking the research efforts of the various government agencies with those of the U.S. auto manufacturers and working together to design programs to develop prototype vehicles which reach the goals described below.

The U.S. automobile industry has made a major commitment to research and innovation in the past, and the results are visible in the increasing productivity of its employees and plants, and in attractive products offered at competitive prices around the world. Looking to the future, the new challenges of international competition and the costs of meeting increasingly stringent environmental standards can best be met if government and industry work together to develop a new generation of automobiles.

We have made considerable progress in emissions and fuel economy, but rapid development of new technology is essential to pave the way for major further gains. Breakthroughs are possible in basic research in areas such as combustion, light-weight materials, and alternative sources of fuel.

This program represents a fundamental change in the way government and industry interact -- a shift to a new era of progress through partnership and cooperation to address the nation's goals, rather than through the confrontational and adversarial relationship of the past. This new public policy of partnership and cooperation will

Both industry and government leaders agree that cooperation and combining resources is the best way to make significant progress. Industry will provide leadership in identifying research opportunities that can meet the goals of this Initiative and in producing and marketing new vehicle technologies once their commercial viability has been demonstrated.

The federal government, working with fuel producers, will promote the accelerated development and production of alternative fuels. The vehicle manufacturers, to the extent practicable and appropriate, will ensure vehicle compatibility with new fuels.

## **RESEARCH GOALS**

The goal of this program is embodied in three independent, but related, research initiatives. The first will explore technologies that improve the process of designing, manufacturing, and producing vehicles, and that permit greater flexibility in incorporating new production processes and products. The second will develop a range of technologies that improve fuel economy and performance and reduce the emissions associated with conventional vehicle designs. The third will pursue development of a revolutionary class of efficient, environmentally friendly, commercially viable vehicle.

The specific goals of these three initiatives are as follows:

1. Pursuing advances in manufacturing techniques that can reduce production costs and product development times for all car and truck production. These advances include such technologies as: use of high-speed computers for efficient design and testing of products and components before they are fabricated; advanced materials and material fabrication techniques; efficient, flexible manufacturing equipment; and advanced sensors and control systems to optimize the performance of complex assembly and parts management.

These technologies are critical to developing commercially feasible vehicles. Advances in manufacturing technologies can ensure that new concepts can be put into production quickly and with minimal delay. New production technologies will enable the industry to make effective use of advanced materials that can reduce production time, reduce costs, increase safety, increase recyclability, and increase fuel efficiency because of reduced weight. Advanced design and simulation can ensure optimum aerodynamic performance.

2. Pursuing advances in vehicles that can lead to increases in the efficiency of standard vehicle designs. Research will focus on technologies that reduce the demand for energy from the engine and drive train (advanced materials; improved aerodynamics, improved tires, reduced friction), as well as improved engine and transmission efficiency. For example, research will focus on

achievement of the goals of this Declaration of Intent and to the rapid application of any developed commercially viable technology.

While the relative proportions of government and private funding will vary depending on the government program (if any) utilized to support a particular aspect of the Initiative, and on the specific project involved, it is envisioned that there will be significant cost sharing by industry and government. The proportion of federal funding will be higher for high-risk projects where the outcome is uncertain and that of industry funding will be higher for technologies with a clear, near-term market.

Focusing research and development activities around these objectives will help maintain the technical leadership and global competitiveness of the nation's automobile industry. It will secure and create U.S. jobs in this sector, which are a vital source of quality employment and tax revenues. The industry and government parties hereby signal their commitment to work together to design and carry out efficient, flexible research programs to achieve the goals of the Initiative. The federal government also hereby intends to use the power of federal vehicle procurement to support the goals of this Initiative, and to encourage state government and other groups to take similar actions to ensure the success of this Initiative.

#### **NEXT STEPS**

Several steps will be taken immediately:

- 1) Industry and government officials will be named immediately to establish a mechanism for determining program goals and a process for developing a longer range plan to achieve the program goals. They will address issues including the need to protect U.S. technology, development of milestones and deliverables, and establishment of a common information base that can be used to develop policy options. The government and the industry will broadly solicit technology sources that have a potential to advance the goals of this Initiative.
- 2) Industry and government will immediately name teams of their scientists and engineers who will develop coordinated lists of specific research and development projects to meet the research and development goals and establish priorities.
- 3) Within 60 days, one or more agencies of the federal government, in consultation with the other parties to this Declaration of Intent, will put forward generic procedures for Cooperative Research and Development Agreements (CRADAs) that will facilitate the government's quick response to research and development needs identified under the Initiative. These procedures will cover research and development conducted in federal laboratories. They will also provide a consistent approach to issues such as the availability of federally funded research to the broader research community. A management plan will

participants in the Initiative. This will include a detailed description of the proposed research and estimates of required expenditures.

- 7) Analytical teams consisting of staff of the relevant federal agencies and representatives of industry will work to develop a common information base that can be used to evaluate options for meeting national environmental and other goals.
- 8) An unbiased organization acceptable to both the industry and the government, such as the National Academy of Sciences, will be asked to set up a peer review process to comment on the technologies selected for research and on progress made.

### **SCOPE OF THIS DOCUMENT**

As outlined by this Declaration of Intent, the parties expect many individual contracts, grants, CRADAs, and other project agreements to be undertaken by industry, or between industry and government, in support of the goals of the program. Similarly, the government expects and plans to utilize its resources, including its research and development programs, in a manner that will foster the goals of this program. However, neither this Declaration of Intent nor the program it is designed to initiate, is intended as a commitment of specific government or private funds or resources. Such contractual and decision making functions will continue to be carried out through contracts, agreements, and other arrangements made under and subject to, all applicable laws and regulations. It is intended and hoped that other relevant industries and groups will also declare their intent to work in partnership with the government and the automotive industry to help achieve the goals of this Initiative.

**NEWS**

Corporate News

Public Affairs

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**IMMEDIATE RELEASE**

Following is the text of remarks delivered by Harold A. Poling, chairman and chief executive officer of Ford Motor Company, at the White House announcement of a partnership for a new generation of vehicles in Washington, D.C., September 29, 1993.

On behalf of Ford, I'm pleased to join the President, the Vice President, Chrysler and General Motors in making this important announcement.

As significant as this undertaking is, I think what we are really talking about this morning is trust.

Trust in our abilities to work together.

Trust in our scientists and engineers.

Trust in our determination to make progress.

Enormous strides in cooperative research have taken place in the past several years. Government and industry -- particularly the auto manufacturers and their suppliers, some of whom are with us today -- are now working together on issues where there are common interests and objectives. And it is being done without compromising our basic competitiveness in the marketplace.

It wasn't always like that. Not too long ago, we regarded government as an adversary, and government felt the same way about us. Now we're starting to work jointly to find more ways to improve our nation's economy and our own competitiveness and meet national goals.

This partnership will push the theoretical limits of energy efficiency, and there's no promise that the desired technologies will be found. But the opportunity for making this leap forward is unprecedented.



**STATEMENT BY GENERAL MOTORS PRESIDENT AND CEO JOHN F. SMITH, JR.  
ON THE GOVERNMENT/AUTO INDUSTRY'S PARTNERSHIP FOR A NEW  
GENERATION OF VEHICLES ANNOUNCED SEPTEMBER 29, 1993.**

Thank you very much. On behalf of everyone at General Motors, it is a great pleasure for me to be here today.

It is not everyday that someone comes to a White House ceremony like this to speak of revolution. But that's really why we're here this morning. Revolutions take many forms and differ in their consequences, but the one we're talking about today has the potential of providing significant benefits for everyone involved -- especially future generations.

The revolution that has brought us together this morning seeks nothing less than a major, even radical breakthrough in automotive technology which can dramatically increase fuel efficiency, improve safety, and reduce emissions -- while maintaining the affordability, performance and utility of current comparable vehicles. Simply put, we are proposing a whole new class of car we've never seen before ... one that will break through our paradigms of today and challenge our technical and creative thinking as never before.

This new way, to be successful, replaces confrontation with trust and moves away from assigning blame to sharing credit. Our industry must do its part to see that we do not miss this great opportunity to revolutionize our relationship with government. It will take the best efforts and resources of both the industry and the government to make this happen.

The difficulties and obstacles confronting this revolution should not be underestimated, and our expectations should be realistic. But the potential benefits for the environment and for safety, and especially for future generations of Americans, make this initiative exciting, important and compelling.

We salute the leadership of the President and the Vice President in bringing together industry and government for this important initiative. And General Motors is very pleased to be involved in what promises to be a truly exciting partnership.

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For Release After 10:00 a.m.  
Wednesday, September 29, 1993

Contact: John Guiniven  
(202) 862-5409

STATEMENT BY ROBERT J. EATON, CHAIRMAN AND CHIEF EXECUTIVE OFFICER,  
CHRYSLER CORPORATION, ON THE GOVERNMENT/AUTO INDUSTRY'S PARTNERSHIP  
FOR A NEW GENERATION OF VEHICLES ANNOUNCED SEPTEMBER 29, 1993

Mr. President. Mr. Vice President.

The current political debate is dominated by NAFTA and health care reform. Those are critical issues -- no doubt about it.

But in its own way, the program we're embarking on today could prove to be every bit as important. Its contributions to the environment and energy conservation could match the contributions of NAFTA to our economic well-being, and health care reform to our physical and social well-being.

It won't be easy. The task before us is huge. We're trying to develop a whole new generation of vehicles that will achieve up to three times the energy efficiency of today's cars and trucks -- while offering the same or improved levels of utility, safety and affordability. To reach that ambitious goal will require major breakthroughs in technology, and there are no guarantees that we can do it.

Our progress will be measured in inches, not in miles. But all of us here today believe that dramatic progress will be made. We're willing to do the hard work and make the investments in order to succeed.

(more)

# AUTO FACTS

## U.S. AUTO INDUSTRY

1. Motor vehicle and equipment manufacturing is the largest of all U.S. manufacturing industries.
2. The U.S. produced 76% of the world's motor vehicles in 1950, 28% in 1970, 20% in 1990, and 19% in 1991.
3. Of the new cars and trucks sold in the U.S., more than 99% were domestic in 1951, 87% domestic in 1971, and 79% domestic in 1991 (up from 73% in 1987).
4. The U.S. auto industry, its dealers, and suppliers, provided over 2 million direct jobs last year, and more than 13 million people are employed in the U.S. in all motor vehicle related industries.
5. The U.S. auto industry accounts for 4.5% of the U.S. Gross Domestic Product, and cars account for 10% of all consumer spending.
6. World sales of motor vehicles are expected to grow faster than in the U.S., as developing nations improve their transportation systems, leading to increased export potential for U.S. firms.
7. Big 3 automakers spend \$11.3 billion on worldwide R&D.
8. Consumers spend an average of \$16,000 on a new American car.

## DRIVING PATTERNS

1. Highway miles driven in the U.S. doubled from 1950 to 1970, and nearly doubled again between 1970 and 1990.
2. Vehicle miles traveled (total miles traveled by all motor vehicles) grew at a compound rate of 3.3% per year from 1970 to 1990.
3. In the U.S. alone, motor vehicles drove nearly 2.2 trillion miles in 1993.
4. In 1992 there was approximately one car per licensed driver in the U.S. There were about 1.8 vehicles per household.
5. Average miles driven each year rose 17% per vehicle from 1977 to 1990.

## Glossary

- Advanced Catalysts** Catalysts are used to control tailpipe emissions on all cars sold in the U.S. today. The research contemplated under this agreement would include "lean NOx catalysts" -- catalysts capable of controlling NOx emissions even though the exhaust stream is lean, i.e., has excess oxygen in it. Successful development of such a catalyst would help improve engine efficiency which can be achieved by lean-burn designs.
- Coefficient of Drag** A measure of the air-resistance of a vehicle. This is extremely important at highway speeds since the force needed to move a car through the air when a car is going 60 mph is nine times higher than the force needed when the car is going 20 mph. Typical cars have drag coefficients of 0.35. Experimental cars have reached 0.17 -- nearly as low as those of modern fighter-aircraft.
- Flywheels** Flywheels are a mechanical, kinetic energy storage device in which the energy is stored in a rapidly rotating disk or cylinder. Their attractiveness depends on whether they can beat other storage systems in cost, reliability, and efficiency.
- Fuel Cells** A substitute for the conventional internal combustion engine used in cars today. Fuel cells convert hydrogen into electricity in a simple system which can have no moving parts. The only byproduct of the process is water vapor -- there is no other pollution. The hydrogen needed by fuel cells can either be stored directly (e.g. compressed in a tank) or it can be manufactured on-board from an alcohol fuel like methanol. Fuel cells have been used for many years in the space program but until recently it was difficult to be optimistic that their price could be reduced to levels acceptable as automobile engines. Breakthroughs achieved during the past few years have opened exciting new possibilities.
- Fuel Reformers** Fuel cells like those used in the U.S. space program used pure hydrogen as a fuel. In a practical vehicle, using a liquid fuel such as methanol might be more attractive. However, in order to make these liquid fuels work in a fuel cell, the liquid fuels have to be altered (reformed) to separate the hydrogen from the carbon in the fuel. Research is needed to reduce reformer size and weight, and improve response time and controllability.
- Gas Turbines** Engines similar to those used in modern aircraft.

**Virtual  
Prototyping**

The ability to design and test components using computer simulations. This can substitute for building physical prototypes and greatly reduce the time required to perfect a product.

MARCH 14, 1994

MEMORANDUM FOR THE VICE PRESIDENT

FROM: GREG SIMON  
JIM KOHLENBERGER

SUBJECT: S. 4 FILIBUSTER CALLS

There are three calls we'd like you to make in advance of the cloture vote on S. 4 scheduled for 10:00 am on Tuesday. Specifically, we'd like you to call Senators Stevens and Kassebaum today, and Senator Burns tomorrow morning before the vote. The message is three fold -- 1) S. 4 is important to the business community 2) it is fiscally responsible and comes within the spending caps and 3) its programs are bipartisan and initially created under the Reagan and Bush administrations. General S. 4 and Republican specific talking points are attached.

STEVENS

Senator Stevens has two problems. First, he is concerned that NIST money will bleed money from NOAA. You are uniquely situated to be able to offer the assurance that this won't hurt NOAA funding. Second, he also has problems on the equity financing provision. On equity financing, he should know that the President's FY95 budget proposes nothing for equity financing regardless of the authorization level.

KASSEBAUM

Senator Kassebaum has a pending amendment to limit product liability law suits against small airplanes that have been in existence for 15 years or more. She may be interested to hear that the administration will be able to support her bill. Background on the status of a SAP for her bill is attached.

The general aviation liability measure, which Kassebaum has championed for seven years, was recommended by the National Airline Commission as necessary to reviving the U.S. general aviation aircraft industry. Previously, the United States was the world leader in the production of general aviation aircraft, with piston aircraft sales at about 13,000 annually from 1965 to 1982. However, since then, sales have fallen to barely 500 per year, in part because of the added costs of liability insurance. According to Kassebaum, more than 100,000 jobs have been lost in aircraft and related industries as a result. The amendment currently enjoys strong support in Congress, with 51 senators and 280 House members on record as supporting it. However, its prospects for enactment still have been mixed because House Energy Committee Chairman Jack Brooks has opposed the legislation and prevented

it from being reported to the House floor.

**BURNS**

Senator Burns has consistently voted with us on the bill. You are calling him before the vote to shore up his support.

**ATTACHMENTS:**

Basic S.4 talking points

Talking points for Republicans

Background on Kassebaum's General Aviation Liability bill.

## S. 4, The National Competitiveness Act of 1994: (Republicans)

◆ Republicans should cast a vote for American business.

- S. 4 is important to industry and supported by the business community
- S. 4 is a modest and much-needed step in reallocating post Cold War R&D
- S. 4 will not add to the deficit
- S. 4's programs are bipartisan; in fact, many were initially created during the Reagan and Bush Administrations.

◆ S. 4 builds on pro-business programs created under President's Reagan and Bush. The bill authorizes industry-led public-private partnerships to help create jobs, revitalize our manufacturing base, and ensure American competitiveness in the global economy.

- S. 4 builds on bi-partisan efforts to create a comprehensive manufacturing program; increase the Advanced Technology Program; accelerate the development of the National Information Infrastructure; and establish a program to monitor and assess foreign technological capabilities.

◆ S. 4's are strongly endorsed by industry: the bill expands civilian technology programs, like the ATP, started under the Bush Administration, that have the strong support of the business community because they are industry-led, cost-shared, and merit-based. S. 4 is supported by NAM, Council on Competitiveness, AEA and other industry groups.

- The ATP is pork free: industry proposes projects and winners are chosen by public and private-sector peer review panels.

- S. 4's programs will help small and mid-sized manufacturers who create the new, high-wage jobs our country needs. The Manufacturing Extension Partnership will create a network of regional and local technology "extension" centers that will revitalize our technological base the way agricultural extension centers helped U.S. agriculture.

◆ S. 4 is a wise investment in America's economic future: it will not add one penny to the Federal deficit because all spending will be funded within the hard freeze on discretionary spending.

- Technology programs are leveraged investments with a high rate of return: by helping industry's innovators and the nation's small and mid-sized companies, we will grow the economy.

◆ S. 4 is a modest and much-needed step in reallocating the post-cold war federal R & D budget.

- Even after the increases of these programs over the next three years, they will make up less than 2% of the federal R & D budget.

## ANSWERS TO THE MYTHS ABOUT S. 4 AND "INDUSTRIAL POLICY"

**Myth:** The Administration is creating a new "industrial policy" for the United States that industry opposes.

**Reality:** The Administration is building on the American tradition of public-private partnerships to invest in American technological competitiveness, an effort that American industry supports.

◆ The Administration's technology policy recognizes that technology is the engine of economic growth and that industry is the primary creator of new technology.

◆ Government has a legitimate role in supporting industry R & D efforts, a tradition that has helped U.S. businesses take the lead in fields such as aeronautics, pharmaceuticals, and agriculture.

◆ Industry needs the programs of S. 4 to create incentives for high-priority technology development activities that have high technical risk, long pay-back horizons, or investment costs that are too great for individual firms to bear alone.

◆ Industry strongly supports S. 4: for example, the National The Advanced Industry Coalition sent a letter to Senator Dole, signed by 32 professional organizations, companies and academic institutions, saying this is industry's bill.

AEA "believes that its views have been heard by Congress and reflected in the bill. . . . S. 4. will promote American competitiveness and enhance the ability of the private sector to create jobs in this country."

— **Myth:** the government is picking winners and losers:

-- **Reality:** The programs authorized by S. 4 are industry-led and co-funded; generic R & D helps industry overcome basic technological problems, not fund competing commercial products; S. 4 contains no earmarks or pork projects.

◆ The ATP program: Industry conceives, manages, and executes the projects; projects are peer reviewed and judged on technical and business merit; industry contributes matching funds; funding is for generic, enabling technologies with wide application.

◆ The MEP program: Outreach is driven by the needs of U.S. small and mid-sized businesses; projects are proposed and cost-shared by state, local, and private groups.

MARCH 22, 1994

MEMORANDUM FOR GREG SIMON

FROM : JIM KOHLENBERGER

SUBJECT : TELEMEDICINE

Kristin mentioned that you are speaking to a group on health care and the information highway and would like some background. I have culled information on the Health Security Act, the telecommunications reforms bills, and the High performance computing bill as they relate to health care information systems. All three bills can be tied together as part of the economic security focus of the administration. There are several key issues in the Health Care plan dealing with information technology that I have attached hand-outs on. Specifically they are administrative simplification, privacy and security of health care information, and rural health care access.

First, a few salient tidbits to cite/use. Twenty-five cents out of every dollar on a hospital bill goes to administrative costs and does not buy any patient care. The number of health care administrators is increasing four times faster than the number of doctors. Better use of information technology and the development of health care applications for the NII can make an important contribution to health care reform. Experts estimate that telecommunications applications could reduce health care costs by \$ 36 to \$ 100 billion each year while improving quality and increasing access. Below are some of the existing and potential applications:

I. Telemedicine:

By using telemedicine, doctors and other care givers can consult with specialists thousands of miles away; continually upgrade their education and skills; and share medical records and x-rays.

Example: In Texas, over 70 hospitals, primarily in rural areas, have been forced to close since 1984. The Texas Telemedicine Project in Austin, Texas offers interactive video consultation to primary care physicians in rural hospitals as a way of alleviating the shortage of specialists in rural areas. This trial is increasing the quality of care in rural areas and providing at least 14 percent savings by cutting patient transfer costs and provider travel.

2. Unified Electronic Claims:

More than 4 billion health care claims are submitted annually from health care providers to reimbursement organizations such as insurance companies, Medicare, Medicaid, and HMOs. Moreover, there are 1500 different insurance companies in the United States using many different claims forms. The administrative costs of the U.S. health care system could be dramatically reduced by moving towards standardized electronic submission and processing of claims.

### 3. Personal Health Information Systems:

The United States can use computers and networks to promote self care and prevention by making health care information available 24 hours a day in a form that aids decision making. Most people do not have the tools necessary to become an active and informed participant in their own health care. As a result, far too many people (estimates range from 50 to 80 percent) entering the health care system do not really need a physician's care. Many improperly use the system by, for example, using the emergency room for a cold or back strain. Many of those who end up with serious health problems enter the health care system too late, and thus require more extensive and costly therapy. Michael McDonald, chairman of the Communications and Computer Applications in Public Health (CCAPH), estimates that even if personal health information systems were used only 25 to 35 percent of the time, \$ 40 to \$ 60 billion could be saved.

Example: InterPractice Systems, a joint venture of Harvard Community Health Plan in Boston and Electronic Data Systems, has placed terminals in the homes of heavy users of health care, such as the elderly, pregnant women, and families with young children. Based on a patient's symptoms and their medical history, an electronic advice system makes recommendations to HCHP's members about using self care, talking with a doctor, or scheduling an appointment. In one instance, "an 11-year old who regularly played with the terminal heard his father complain one day of chest pains and turned to the system for help; it diagnosed the symptoms as a probable heart attack. The diagnosis was correct."

### 4. Computer-Based Patient Records:

The Institute of Medicine has concluded that Computer-Based Patient Records are critical to improving the quality and reducing the cost of health care. Currently:

- o 11 percent of laboratory tests must be re-ordered because of lost results;
- o 30 percent of the time, the treatment ordered is not documented at all;
- o 40 percent of the time a diagnosis isn't recorded; and
- o 30 percent of the time a medical record is completely unavailable during patient visits.

### Health Security Plan

As I understand it, the Health Security plan calls for using electronic data interchange for health care transactions, regional information networks, magnetic-stripe health care identification cards and patient confidentiality protections. Virtually all of the details will be decided by the National Health Board, appointed by the president to oversee all aspects of health care reform. The National Health Board will develop standardized forms for claims submission, clinical encounters and enrollment transactions within one year of enactment and mandate that all providers and payers adopt the forms within nine months after they are published in the Federal Register. The Board would submit a comprehensive privacy

protection act to Congress within three years, with violators subject to a fine of up to \$10,000 for each violation. The American National Standards Institute, the National Institute of Standards and Technology, and the Workgroup for Electronic Data Interchange would help the National Health Board review standards for automating insurance transactions.

#### Health Security Plan Encourages Health Networks to help Rural Communities

The Health Security Act envisions regional electronic networks to help meet the unique needs of rural health care where more than half of the rural poor do not own a car and nearly 60 percent of the elderly are not licensed to drive.

- Under the Health Security plan, technical and financial assistance will be provided to develop networks. This will help the rural communities that need outside expertise to establish links with larger referral centers and academic health centers.
- The Health Security plan includes grants to support the development of telecommunications links between underserved providers and other providers, health care centers, and institutions. This will help facilitate "group practices without walls," allowing easier consultation and coordination among rural providers and with urban providers.
- New grants will be provided to academic health centers to help build information and referral infrastructure needed to support rural health networks.

Simplicity: Reducing paperwork and cutting red tape.

#### The Health Security Plan:

- o Gives everyone a Health Security Card. The card--with full protection for privacy and confidentiality--will allow for electronic billing and the creation of health care information networks. This will reduce paperwork and simplify the system.
- o Requires insurance companies to use a single claim form. The Health Security Act will reduce the insurance company red tape that forces doctors and patients to spend their time filling out forms and fighting bureaucrats. All health plans will adopt a single, standard claims form by Jan. 1, 1995. It will enable doctors and nurses to spend more time taking care of you -- and less time wrestling with paper.

#### TELECOMMUNICATIONS REFORM BILLS

In addition to the health care plan, the telecommunications reform bills on the hill will have a direct impact on telemedicine. For instance, the American Telemedicine Association,

(9) Three dimensional geometric modeling and artificial intelligence methods for interpreting an array of medical images.

(10) complex simulations of sociological populations affected disproportionately by selected diseases or disorders.

# **NII / African American Outreach Meeting**

Ceremonial Office

5:15 - 6:00 pm, Wednesday, June 15, 1994

**Meeting requested by David Strauss.**

**Briefing prepared by Jim Kohlenberger, Michela Alioto, Jeff Watson, & Flo McAfee.**

## **EVENT**

You are meeting with a group of about ten African American leaders to engage them on what the NII means to them. This is an opportunity to talk about the economic opportunities, the empowerment and the benefits that the NII will bring.

This will be the first time some of these people will have received any formal presentation from the Administration on the NII. Many in the group will have a general knowledge of telecommunications, and are therefore interested in the full realm of possibilities regarding community service, educational and business participation in new technology.

The participants of this meeting are extremely optimistic about this meeting and the opportunity for an ongoing dialogue on this issue. Although they represent different aspects of the African American community, their common interest is to guarantee that African American have full participation in the new technology.

## **YOUR ROLE AND CONTRIBUTION**

- Your role is to give an overview of the NII discuss how it will effect the economy in total creating new jobs and opportunities, the importance of universal service as a means for empowering all Americans and how the upcoming PCS auction decision on minority participation is important to achieving the NII's goal of universal access. This briefing is an opportunity to expand the groups understanding of the NII and the opportunities it offers their communities as more than PCS -- its jobs, its opportunities, and technology that overlooks societal boundaries.

## **PROGRAM NOTES**

- **Study on the NII and how it will effect minorities.** According to a study sponsored by various consumer in civil rights groups including the Consumer Federation of America and the NAACP, the RBOC's are planning to build the first of their advanced communications networks for the NII in mainly affluent areas of the country, bypassing poorer neighborhoods and minority populations. This study has obviously raised concerns about an exclusionary "electronic redlining" that these groups consider to be similar to the kind of discrimination that is curbed by the law in fields like banking and insurance.

This study is the first systematic examination of early construction plans around

the country, looking specifically at the income and racial characteristics of the areas initially designed for advanced services that would combine video, voice and computer communications. This study examined a dozen detailed plans by four regional phone companies -- Ameritech, Bell Atlantic, Pacific Telesis, and U.S. West.

*"Access to the NII is a frontline challenge to civil rights communities and must be addressed in the national telecommunications legislation now before Congress."*

Wade Henderson  
Director, NAACP Washington Bureau

**African American National Summit.** June 13 was the second day of a summit conference regarding issues effecting African Americans. African American leaders from around the country wrestled in closed sessions with how to empower their communities, develop their young and build a stronger economic base. The economic solutions debated ranged from government reparations for the black community to developing more youth entrepreneurs.

**Andrew Barrett's Address to the Urban League.** FCC Commissioner Andrew Barrett addressed the Los Angeles Urban League last month and expressed concern that the NII would further disenfranchise the already marginalized urban community, in particularly blacks and other minorities: " while telecommuting may save time and enhance the work environment for some, it may be bad news for minority-owned businesses and the Latinos, African Americans and Asian Americans working at service jobs in business districts such as Downtown Los Angeles."

In response to this, the Committee on Applications Technology of the IITF draft White Paper on Telecommuting outlines ways for telework centers to become integral parts of empowerment zones and the work force re-training / training. These centers would allow interactive access to workers without computers and/or modems.

## ATTACHMENTS

- Talking Points
- Minority Telecommunications Background
- Minority Business Access to PCS Licenses
- Administration Brag Sheet on African Americans

TALKING POINTS  
NII Outreach Meeting  
*Wednesday, June 15, 1994*

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This is a chance for you to highlight three main themes: the affect the NII will have on the people of this country, universal access, and public interest and empowerment.

**NOTE:** You may want to begin by recalling your recent trip to South Africa and tie it into the NII by discussing how the election results were available on the internet and in every online home computer across the United States and the globe just as the printing presses in Johannesburg were warming up to print the actual papers in South Africa. This is a real demonstration of how our lives will increasingly become more effected by the NII.

**It's All About People** -- The information infrastructure is not about technology, it's about people. So, in conjunction with this we have attached a number of different scenarios. Below are a few examples:

- ✓ It's about Georgia Griffith of CompuServe who is deaf and blind but who communicates without hindrance on the information superhighway.
- ✓ It's about first-grader Taylor Vaughn, from Nashville, Tennessee who this year, while recovering from a life-threatening bone marrow transplant, was able to keep up with his school work and classmates via interactive computer.
- ✓ It's about small business owners having better access to government contracts through electronic commerce.
- ✓ It's about police officers being able to retrieve mainframe database information such as criminal records and traffic violations from their patrol cars so they can spend less time behind a desk and more time fighting crime on the streets.

**The information infrastructure improves people's lives in real and tangible ways. Technology is just the means of doing so.**

**Universal access.** -- This Administration is committed to connecting every classroom, library, hospital and clinic by the year 2000 to the NII.

The President and I have issued a challenge that will be met one way or another: All

Americans -- rich and poor, urban and rural -- will have access to the benefits of the communications revolution.

Universal access is a very important goal in the creation of the NII as universal coverage is to the President's health care plan. This Administration will not falter on that commitment because the future competitiveness of our economy -- indeed the future of our country -- depend on it. Because it's the right thing to do.

- **Public interest** -- The NII will be our network of information superhighways, but it will also be a vehicle for growth. The Council of Economic Advisors estimates that the NII will add more than \$100 billion to the economy over the next decade which will mean about 500,000 new jobs in the next two and a half years alone.

- **PCS** -- Last week the Federal Communications Commission decided to allocate spectrum for the upcoming wideband PCS auction. It was a good decision that will lead to new products, new services -- and new, high-quality jobs.

The FCC will soon have to face a related issue -- the future of the so-called "pioneer's preference" will benefit not just the pioneer comments in the FCC rulemaking concerning the future use of the pioneer's preference. Our position is simple -- the pioneer's preference should be retained but should not be permitted to bestow disproportionate benefits to any private recipients. The administration believes that the FCC should re-formulate the future use of the pioneer's preference. From now on, a pioneer should pay for the use of the spectrum -- but should receive a discount totaling no more than 20 % of the value the spectrum award could generate through an auction.

(See Minority Business Access to PCS Licenses)

# Development of Minority Business Enterprise, in the Telecomm. Industry Background

by Chris Ulrich

## Facts

Data collected by NTIA indicates that minority-owned businesses are generally underrepresented in telecommunications businesses. The data indicates:

- (1) Only one half of a percent of the total number of firms in the telecommunications industry are owned by minorities.
- (2) There are only fifteen cable operators in the U.S. -- 9 black, 2 hispanic, 2 Native American, 1 Asian Pacific, and 1 Asian Indian-- representing less than 1% of the cable industry.
- (3) Revenues from all firms studied comprised less than half of one percent of the total industry revenues.
- (4) There are only 11 minority firms engaged in the delivery of cellular specialized mobile radio, radio paging, or messaging services.
- (5) In addition, the information available shows that most of the minority owned firms were small, and that access to financing was a major obstacle.
- (6) Minority owned firms greatest presence was in the telecommunications equipment manufacturing segment where they made up 9.7% of the total number of firms.

## Personal Communications Services

Minority firms have a strong interest in PCS. MTDP recently developed a list of businesses in strategic partnerships with minority and women entrepreneurs and small businesses interested in PCS.

At this time NTIA is reviewing rules released by the FCC on April 20 specifying that mechanisms such as installment payments and bidding credits may be allowed when spectrum licenses are auctioned, and that some blocks of radio spectrum in some services may be set aside specifically for such entities. (Decision are scheduled for release in June 29th.) According to the FCC, minority firms are split on PCS set asides. Half feel that set asides are necessary while others feel it will label them as second class choice because they did not get the spectrum competitively.

✓ These minority preference policies are tools intended to help firms that might otherwise find it difficult to participate in spectrum-related business. In addition, they reflect the important policy judgment that

some entities may not be able to participate in spectrum based businesses without preferences.

### Education and Training

NII Initiatives directly address education and training concerns:

In getting every library, classroom, and healthcare facility hooked up using public-private partnerships, NTIA initiated this year a matching grant program, the Telecommunications and Information Infrastructure Assistance Program (TIIAP), that will help fund demonstration projects by schools, libraries, health care facilities, and other community organizations in support of the NII. Applications for the first round of grants were due on May 12, 1994, and NTIA received approximately 1,050 applications.

- ✓ Minorities will benefit from the TIIAP, because regulatory policies governing this program include the requirement that special consideration be given to grant applications that involve minorities.
- ✓ In addition, Secretary Brown committed the award of at least one grant to an entity in an empowerment zone.

### Access to Capital and MTDP

Minority Telecommunications Development Program's (MTDP) primary mission is to increase minority ownership of communications businesses through policy input, MTDP also develops programs that focus on the specialized needs of minorities in the telecommunications industry.

MTDP is studying new strategies for capital formation that can be made available to minority communications firms. With the assistance of outside contractors, MTDP is examining methods used to aggregate capital and attempting to develop new strategies for capital development in telecommunications that can contribute to the dialogue in this area. NTIA expects to release a report on these issues later in the year, and engage in public outreach on this topic.

MTDP is also extensively involved in outreach to minority communities on capital formation issues. MTDP has co-sponsored an annual "Fast Starts" conference for entrepreneurs, lenders, and attorneys with New York University Law School and the FCC. These conferences focus on business opportunities in telecommunications. The most recent seminar, held April 27-28, addressed some of the issues involved in developing businesses in Personal Communications Services (PCS) and other technologies expected to flourish as the NII develops.

THE WHITE HOUSE

WASHINGTON

**"Building a Full Partnership"**  
**A Fact Sheet on the Clinton Administration**  
September 15, 1993

One year ago when Governor Bill Clinton participated in the Congressional Black Caucus Annual Legislative Weekend as a candidate for President, he spoke of building a "full partnership" with the African American community. He said then that, if elected President, he would offer his "full participation" and "heartfelt commitment to progress." This principle still holds true today.

Working with the African American community, including the Congressional Black Caucus, the Clinton Administration has built a foundation for a full partnership. President Clinton has appointed more African Americans to senior level positions than has any President in American history. Five African Americans now sit in the President's Cabinet, more than in any previous administration. They include Commerce Secretary Ronald Brown, Agriculture Secretary Mike Espy, Energy Secretary Hazel O'Leary, Veterans Affairs Secretary Jesse Brown, and Drug Policy Coordinator Lee Brown. Together, these officials command budgets in excess of \$120 billion, supervise close to a half-million federal employees, and make decisions that affect every facet of American life.

In the White House, the President has appointed African Americans in record numbers and to unprecedented positions. For the first time, two African American women, Alexis Herman and Maggie Williams, serve as Assistants to the President and direct White House departments.

Throughout the agencies and departments, President Clinton has appointed record numbers of African Americans as well. These appointments include three deputy cabinet secretaries: Clifton Wharton as Deputy Secretary of State, Terrance Duvernay as Deputy Secretary of Housing and Urban Development, and Walter Broadnax as Deputy Secretary of the Department of Health and Human Services.

In addition, the President has appointed African Americans to untraditional positions. For example, Bob Nash serves as Undersecretary of Agriculture. Ron Noble serves as Assistant Secretary of the Treasury for Enforcement and oversees the Secret Service. Rodney Slater serves as Administrator of the Federal Highway Administration. Emmett Paige serves as Assistant Secretary of Defense for Command, Control, Communications and Intelligence. Leslie Turner serves as Assistant Secretary of the Interior for Territorial and International Affairs.

Other appointments include Joycelyn Elders, who directs our nation's public health programs as Surgeon General and Cassandra Robinson, who serves as Deputy Administrator of the Small Business Administration. These are only a handful of the many appointments of African Americans made by President Clinton.

With the partnership of the Congressional Black Caucus, the Administration has also launched bold, new legislation. Last month, the President signed into law a new budget that will provide a tax break to small business owners and expand the Earned Income Tax Credit to lift the working poor out of poverty. The President pushed for and won the passage of the National Service Act to rebuild our communities and inspire our youth. The Administration won passage of a bill to establish Empowerment Zones in our nation's inner cities. And after years of Washington gridlock, the first piece of legislation the President signed was the Family & Medical Leave Act to protect working parents from losing their jobs when they need to take care of a child or a loved one.

In spite of what has been accomplished, there is much more to do. The Administration plans to put thousands more police officers not only on the streets but in the community, and it has proposed imposing a five-day waiting period for handgun purchases. Soon, the President will also announce his plan to reform the nation's health care system so that finally every American will be guaranteed medical coverage.

With your help, in full partnership, the Administration can achieve these goals and continue to build a better America.

The following facts and information highlight just a few of the many examples of steps President Clinton has taken to fight for the country's future.

## APPOINTMENTS

- Appointed the most diverse Cabinet and Administration in history.
- With four African American members, the Clinton Cabinet is 29% African American.
- Clinton Cabinet-level appointments include:
  - Jesse Brown, Secretary of Veterans Affairs
  - Lee Brown, Drug Policy Coordinator
  - Ronald Brown, Secretary of Commerce
  - Mike Espy, Secretary of Agriculture
  - Hazel O'Leary, Secretary of Energy

- For the first time in history, appointed two African American women (Alexis Herman as Director of Public Liaison and Maggie Williams as Chief of Staff to the First Lady) as Assistants to the President.
- Appointed more than twice as many African Americans to leadership and senior staff positions than any previous administration.
- Appointed three deputy cabinet secretaries, including Clifton Wharton as Deputy Secretary of State, Terrance Duvernay as Deputy Secretary of Housing and Urban Development, and Walter Broadnax as Deputy Secretary of Health and Human Services.
- Appointed the first African American Surgeon General, Joycelyn Elders.
- Appointed an African American, Drew Days, as Solicitor General, the United States's Chief Advocate before the U.S. Supreme Court.
- Appointed Ron Noble Assistant Secretary of the Treasury for Enforcement, a role which places him in charge of the U.S. Secret Service.
- Appointed Rodney Slater as Administrator of the Federal Highway Administration.
- Nominated the first African American ever as U.S. Attorney for the District of Columbia, Eric Holder, Jr.
- Nominated three African American women, Veronica Coleman of Tennessee, Vickie Miles-LeGrange of Oklahoma, and Gaynelle Griffin-Jones of Texas as United States Attorneys.

## ECONOMY

- Passed the single largest deficit-cutting plan in history, reducing the deficit by \$496 billion over five years.
- Signed into law the Small Business Guaranteed Credit Enhancement Act, significantly increasing the availability of loans that can be guaranteed by the SBA.
- Initiated aggressive action to alleviate the credit crunch on small business and issued more than ten regulatory initiatives to provide small businesses with more capital at lower interest rates.

- Expanded the Earned Income Tax Credit to lift working families out of poverty with incentives to work. When fully implemented, over 20 million households with incomes of up to \$27,000 will benefit.
- Passed the Emergency Supplemental Appropriations Act of 1993, providing \$4 billion in emergency unemployment compensation to approximately 1.9 million unemployed American workers.

## FAMILIES & CHILDREN

- Signed the Family and Medical Leave Act, which requires employers to allow workers up to 12 weeks of unpaid leave to care for an infant or a loved one in a time of need.
- Passed a comprehensive child immunization plan, which includes a 96% increase in funding, so that every child, regardless of family income, will be immunized against disease.
- Dramatically increased funding for the Women, Infants & Children (WIC) program.
- Enacted key provisions of the Mickey Leland Act, broadening food stamp assistance for poor families with children.
- Achieved \$1 billion in funding for the Family Support and Preservation Initiative that will help prevent child abuse and help parents learn the skills and tools necessary to raise children.

## EDUCATION

- Dramatically increased funding for Head Start, with full funding by 1997.
- Created the Historically Black College and University Capital Financing Program, which provides a federal guarantee for private sector bond financing for the repair and construction of facilities at historically black colleges and universities.
- Created the Institute for International Public Policy, which taps the talents of underrepresented minorities for the foreign service of the United States and private international volunteer organizations.
- Created the Faculty Development Fellowship Program to make grants to institutions of higher learning for programs to assist talented faculty from underrepresented groups obtain advance degrees and develop their careers.

- Passed a National Service Act that will give tens of thousands of young Americans a chance to contribute to their communities while they earn credit toward their higher education.
- Proposed funding for the construction, maintenance, and endowment of the Mary McLeod Bethune Memorial Fine Arts Center.
- Passed the Student Loan Reform Act of 1993, which will make college more affordable and save taxpayer money through direct federal lending.
- Set forth "Goals 2000," a comprehensive national educational reform that embraces new, world-class learning standards, underscores the link between education and employment, and encourages bottom-up, not top-down, educational reform.

## VOTING RIGHTS

- Signed the Motor Voter Bill, which expands voting rights for the poor and the young by establishing voter registration locations in drivers license offices, unemployment offices, and other public facilities.
- Argued in court for the expansion of the enforcement of Section 2 of the Voting Rights Act.

## URBAN POLICY

- Vigorously enforced the Civil Rights Act of 1964 in Vidor, Texas by announcing a plan to remove the Orange County Housing Authority Board of Commissioners and Executive Director for failure to protect black former residents in this all-white town's public housing community.
- Initiated a four-pronged strategy to help integrate East Texas public housing facilities by increasing security and providing safe access to public transportation in Vidor, Texas and establishing an oversight office to monitor desegregation plans throughout East Texas. The plan will be implemented by the Department of Housing and Urban Development as part of a new direction for the department.
- Granted \$300 million to the Urban Revitalization Demonstration Program (Hope VI) to revitalize the most severely distressed public housing developments in the nation.

- Introduced legislation to create a network of Community Development financial institutions to provide capital and basic banking services to credit-starved, low-income communities.
- Proposed strengthening the Community Reinvestment Act, which is designed to encourage banks to lend to members of the community.
- Developed a plan to create Empowerment Zones and Enterprise Communities to encourage business investment in depressed urban areas.
- Signed an Executive Order directing the Interagency Council on the Homeless to develop a plan to make federal homeless programs more effective to break the cycle of homelessness.
- Proposed the "D.C. Initiative," which will create a comprehensive program for dealing with homelessness in the District of Columbia.
- Introduced the Housing and Community Development Act of 1993, which will significantly change rent policy for public housing and make home ownership easier for low income Americans.

## CRIME

- Signed a Presidential Directive to reform federal firearms licensing procedures by improving background checks and imposing other security measures to keep guns out of the hands of criminals.
- Signed a Presidential Directive to close the loophole on the importation of assault pistols.
- Proposed a five-day waiting period on the purchase of handguns ("The Brady Bill").
- Passed the Police Hiring Supplement, making \$150 million available to communities most in need of community policing.

## HEALTH

- Created the Office of Minority Health Research and Alternative Medicine at the National Institutes of Health.
- Named the first ever White House AIDS policy coordinator to organize federal policy to fight the deadly disease.

- Revoked the Reagan/Bush "gag rule" that prohibited doctors in federally-funded facilities and public clinics from even mentioning family planning to their patients.
- Revoked the Reagan/Bush restrictions on family counseling in military hospitals.

## Participants

1. Ms. Felicia Kessel  
Consultant with Corning, Inc. & NAACP  
Columbia, MD

She serves as a public affairs consultant for Corning and several non-profit organizations. Her main task with Corning is to create understandable literature about the new technology for community-based organizations.

2. Ms. Nellie Thornton  
National President  
Jack and Jill  
Mt. Vernon, NY

This is a national social organization for African-American children between the ages 6 and 15. Ms. Thornton is also an elementary school principal.

3. Dr. Constance Sims  
Director of Telecommunications  
Love Christian Academy  
Nanuet, New York

(See attached Wall Street Journal article.)

4. Mr. Scott Mills  
Vice President  
Lehman Brothers  
Washington, DC

5. Mr. William Todd  
Director, External Affairs  
Bell Atlantic  
Arlington, Virginia

He interested is forging opportunities for partnership between African American businesses and corporate America.

6. Mayor Wilber D. Minter, Sr. (Mayor Pro-Tem of Oak Ridge, TN)  
President  
National Black Caucus of Local Elected Officials  
Oak Ridge, TN

7. Mr. Martin Taylor  
Staff Director  
National Black Caucus of Local Elected Officials  
Washington, DC

8. Mr. Ralph Everett  
Paul, Hastings, Janosfsky & Walker  
Washington, DC

9. Mr. Alan Bowser  
Executive Vice President of Operations  
United Negro College Fund (UNCF)

The UNCF is installing a new technology center, through the efforts of IBM, that will link the headquarters and their 41-member private black colleges.

10. Dr. Roy L. Beasley  
Director  
Academic Computer Services  
Howard University

Howard University recently received money from DOD to put in a new technology system at the university. They will link up with a local high school to provide satellite information.

## MINORITY BUSINESS ACCESS TO PCS LICENSES

**OVERVIEW:** On June 29, 1994, the FCC will issue an Order establishing the rules to auction approximately 3000 wireless Personal Communications Services (PCS) licenses. A critical issue is how the FCC will satisfy the legislative mandate to disseminate PCS licenses to a variety of businesses, including businesses owned by minorities. Ensuring that minority businesses obtain PCS licenses through this auction is important to achieving the goals of the National Information Infrastructure, particularly the goal of universal access. Potential large companies that bid for PCS licenses have tremendous economic power and strong incentives to invest substantial resources to obtain these licenses. This memorandum addresses a range of options to promote minority-business entry in the PCS auction-- from the most effective to the least effective.

### I. Universal Service-Competitive Solutions

A. Licensing new wireless personal communications services (PCS) in various markets throughout the United States can provide a potential competitive solution to several goals articulated for National Information Infrastructure (NII) initiatives. Specifically, a wide dissemination of PCS licenses could support the NII goals of: 1. universal service and access; 2. private investment in infrastructure; 3. new competition; and 4. open access to NII. By structuring a PCS framework with a variety of markets, and multiple competitors, large and small, PCS could become a significant market solution to promoting universal access and affordable pricing in markets throughout the country.

B. Promoting access by large numbers of new entrants could increase the potential for diverse and innovative service offerings. Companies owned by minorities can play a vital role in serving certain geographic areas and markets that might otherwise be overlooked by other industry competitors. Further, minority-owned firms have been shown to employ more minorities relative to other companies. The combination of these factors promote Congress' goal of ensuring that new and innovative technologies are readily accessible to the American people, 47 U.S.C. 309(j)(3)(B), 1993 Omnibus Budget Reconciliation Act [OBRA].

C. PCS will offer businesses owned by minorities, women, small businesses and rural telephone companies (collectively Designated Entities) the opportunity to provide affordable wireless services in various markets or segments of markets that might otherwise be unserved initially by the large interexchange and local exchange carriers.

D. In order to serve these various markets with affordable PCS services, minority-owned companies must overcome significant initial barriers-- access to capital and underrepresentation in the industry. These barriers have existed even without requirements to purchase an FCC license or franchise through an auction. The auction requirements of OBRA will erect an additional barrier to entry for minority-owned firms, many of whom have experienced problems raising capital for ongoing business concerns in less capital-intensive industries.

E. As new competitors seek to provide consumer access to the NII, the ability to overcome existing regulatory barriers and capital formation issues will be critical. As a result, it is important that the FCC decision to auction PCS licenses effectively addresses the following goals of section 309(j) of the 1993 Omnibus Budget Reconciliation Act (OBRA):

1. Section 309(j) (3) (B)-- "promot[e] economic opportunity and competition and ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."

2. Section 309(j) (4) (A) provides that to promote the statute's objectives, the Commission shall "consider alternative payment schedules and methods of calculation, including lump sums or guaranteed installment payments, with or without royalty payments, ... and combinations of such schedules and methods."

3. Section 309(j) (4) (D) mandates that the FCC "ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services." To achieve this goal, the statute requires the Commission to "consider the use of tax certificates, bidding preferences, and other procedures."

F. In order to accomplish the competitive bidding goals of OBRA, the FCC adopted a Second Report and Order on March 8, 1994, which established: (1) general rules and procedures and a broad menu of competitive bidding methods for auctionable services; and (2) a menu of preferences for designated entities--including spectrum set-asides, installment payments, bidding preferences and tax certificates. The upcoming decision on June 29, 1994 will establish FCC auction rules for PCS, and determine which combination of these preferences must be used to effectively enhance the successful participation of minorities and other designated entities at the PCS auction.

## II. PCS Licensing Structure

A. Each NIS service area will have 3 large licenses and 3 small licenses. Each of the 51 regional Major Trading Area (MTA) markets will have 2 large licenses, each of the 493 Basic Trading Area (BTA) will have 1 large license and 1 small license.

B. The upcoming June 29, 1994 FCC decision will determine the extent to which minority-owned companies have a chance to compete successfully for PCS licenses at the auction. In order to satisfy the goals of OBRA Section 309(j) and the articulated goals of the NII, auction rules promoting minority entry into PCS must be effective, and fully address:

1. Access to capital barriers;
2. Underrepresentation of minority-owned firms in the telecommunications industry;
3. Effective incentives for partnering with minority companies in order to overcome the significant disparity in the economic power of larger telecommunications companies.

Such disparities include capital investment in infrastructure, billions of dollars in revenue, significant cashflow from ongoing businesses, ease of access to capital markets at favorable terms, customer billing and marketing arrangements, and familiarity with state, local and federal regulatory compliance.

## III. Economic Power of Potential Large PCS Providers

A. The combined revenue of the RBOCs, GTE, the three larger interexchange carriers (AT&T, MCI and Sprint), and Airtouch, is \$195.5 billion. Combined earnings comprise \$61.9 billion; and cumulative book value is \$86.7 billion. These companies employ a cumulative total of over 1 million people. The average cost of capital for these large companies is approximately 10%; as opposed to 15.5% for mid-size companies like Allnet, Rochester Telephone, or SNET, and 20% for start-up companies.

B. As part of ongoing operating expenses, large interexchange carriers, such as MCI, pay approximately \$5 billion in local access charges annually. Combined local access revenues for interexchange carriers amounts to \$30 billion annually.

C. The top 20 local exchange carriers ranked by a 1992 USTA list, have over \$100 million in annual operating revenue. The local exchange carriers represent a cumulative total of approximately 145 million access lines.

D. These large companies invest several hundred million to one billion dollars annually to upgrade their networks.

E. Cellular companies have approximately \$10-12 billion in annual revenues, and \$10-12 billion in capital investment.

F. In addition to these companies, cable companies, utility companies, paging companies, equipment manufacturers and computer companies also are likely to invest in PCS. Cumulatively, these companies represent billions of dollars in additional revenue.

#### IV. What Large Providers are likely to Bid for PCS

##### A. Incentives for High Bidding include:

##### 1. Avoiding Access Charges

Interexchange carrier efforts to reduce their annual \$30 billion cumulative charges for local access from local exchange carriers. The interexchange carriers will have incentives to bid for PCS to reduce their local loop access charges as a fixed operating cost, and generate new sources of revenue. Thus, the value of PCS spectrum to interexchange carriers as a local loop alternative could be considerably high; given their desire to lower this the fixed expense of local access charges.

##### 2. Building on Existing Infrastructure

Local exchange carriers, cable operators, CAPs, cellular carriers, wireless ESMR providers, and other entities with invested capital in communications networks will seek to leverage these facilities to enter new consumer markets, or enhance existing services.

##### 3. Taking Advantage of Existing Cashflow

Generating auction investment revenues from ongoing cashflows allows large companies to set own terms for repayment and required return on investment in initial years. Further, ongoing operations can subsidize initial losses from PCS investments until markets develop.

##### 4. Cost is not an issue

For large existing telecommunications and wireless service providers, cost of spectrum acquisition may not be significant relative to valuation of new opportunities to reduced existing

fixed costs of enter new markets with enhancements to existing infrastructure.

#### B. Possible Costs of PCS License Bid and Network Construction

1. Various estimates of BTA or MTA PCS buildout costs range from \$30-100 million dollars.

2. PCS license bidding valuations by large companies will vary, depending on their strategic interest. PCS license values could reach between \$100-200 million dollars in certain key markets for large players.

3. Against this backdrop, new entrants, particularly minority-owned companies and small businesses, must receive auction preferences which will account for the following factors in order to effectively address the advantages and headstart of larger entities:

- a. Leverage from existing business revenues and cashflow.
- b. Leverage from existing infrastructure plant investment.
- c. Access to capital markets and financial terms.
- d. Ability to set own terms for payout period.
- e. Strategies to offset ongoing fixed costs (e.g. local access charges) or enter new markets (e.g. computer companies, cable companies or CAPs).
- f. Niche service possibilities.
- g. Wide-area service alternative to cellular.
- h. Effective incentives for large company investment or partnering with minority-owned companies.

#### V. Policy Tools for Minority-Owned Companies

Range of options from most effective to least effective.

##### A. Set-aside for minorities

1. Most effective for leveling the playing field and promoting participation by minority-owned companies under OBRA section 309(j).

2. Because of interoperability of PCS license scheme established by June 9, 1994 decision, such a set-aside would attract investment capital for minority-owned PCS companies by large entities who would either seek to enter those markets with synergy strategies or get involved in new services.

3. Eliminates variables introduced by large player market power, including revenues, cashflows, existing infrastructure, subsidies, and easier access to capital.

4. Legal issues raised by race and gender-based preferences can be addressed.

#### B. Entrepreneur Blocks

1. Effective in promoting participation by businesses other than largest players and providing opportunities for the largest players to partner with smaller entities, including minority-owned businesses.

2. Utilizing a \$100 million revenue eligibility limit, would allow existing Tier II and Tier III local exchange carriers and mid-size interexchange carriers to participate in PCS process.

3. Providing significant bidding credits to minority (50-60%), women (30-40%), and small businesses (25-30%) within this block would help overcome the leverage of existing infrastructures owned by Tier II and Tier III LECs.

4. Reduces the number of variables and advantages that largest companies can bring to PCS auction process.

5. Commission engaged in effort of this nature when it licensed cellular services, and dedicated one license per market to wireline telephone companies, and one license per market to non-wireline, new entrants. Thus, classification of block to promote new entrant competition along economic lines is not a suspect classification. Significant bidding credits for minorities within such a revenue limit test could offset some of the advantages of larger companies within this block. Further, rural telephone companies would have enhanced capabilities to compete for and win PCS licenses under such a scheme. Finally, larger companies would have incentives to partner with designated entities, where they are excluded by the revenue limit.

#### C. Bidding Credits Only

To offset the advantages of the largest potential PCS competitors, a raw bidding credit of 50-70% would likely be required. However, such a bidding credit would not address the various incentives that larger companies have to make substantial bids in order to acquire PCS spectrum. Bidding credits less than this amount, may or may not be effective in attracting large company investment, unless the size of bidding credit effectively offsets a fixed cost (i.e. a significant percent of PCS buildout requirements.)

#### D. Installment Payments and Partitioning

Of some benefit, but unlikely to offset any advantages of larger companies who can finance PCS license acquisition from large cashflow reserves.

#### E. Tax Certificates

Only effective at the time initial investors receive a capital gain from growth of PCS licenses. Given level of competition for future wireless markets, this tool will not likely enhance minority-entry used by itself. In combination with a set-aside or entrepreneur block tool, however, this tool could be of some benefit for partnering arrangements.

*Born Again*

Evangelical Schools  
Reinvent Themselves  
By Stressing Academics  
Shaking Off Bigoted Past,  
Many Woo Minorities,  
Send Grads to Ivy League  
'Sin Cities' and Spankings

By Steve Stocklow

Staff Reporter of THE WALL STREET JOURNAL

MANUET, N.Y. — Next to the Manuet Mall there is a school that doesn't put up with undinvolved parents. If they skip monthly meetings with teachers, or even arrive late, they are fined \$100.

It is a school where 127 of the 135 pupils are black, third graders learn to write resumes, eighth graders study organic chemistry and the stated goal is to get every child into Harvard University. It is a school whose 12 five-year-old kindergarteners last year all scored in the 95th percentile in the math and reading sections of the Stanford Achievement Test.

It is also a school that teaches that God created the world in six days, and that the theory of evolution is wrong.

Love Christian Academy, a four-year-old private institution, is part of a new

**CLASS REVOLUTION**

*The rebellion against public schools*

PART OF A SERIES

wave of trend-setting Christian schools. Unlike many of their predecessors, these schools aren't smack in the Bible Belt. They aren't all-white segregationist academies. They don't ban Darwin, "The Catcher in the Rye" or rock-and-roll. Although many still teach creationism, they strive with equal, if not greater, ardor to provide a first-class education.

"We believe in doing everything in excellence," says Pastor Clinton Utterback, whose 3,000-member Pentecostal congregation, Redeeming Love Christian Center, has poured \$7 million into Love Christian Academy through tithing and donations. "There's nothing that I perceive about Christianity that forces you to be second class."

About a million children today attend an estimated 100 evangelical Protestant schools. The vast majority of these schools sprang up in the past 20 years, in the first widespread recession from the public school system since the emergence of Roman Catholic schools a century ago.

But while enrollment at Catholic schools in recent decades plummeted — to about 2.6 million today from about 5.6 million in 1964 — evangelical schools have seen the opposite. Although their numbers peaked a decade ago, enrollment once again is climbing, at an estimated 10% a year.

**Bastions of Intolerance**

Many parents send their students to Christian schools because they offer Bible-based curricula, allow prayer and preach conservative values such as sexual abstinence. Historically, academia wasn't their strength. For years, most of the schools were all-white, founded first and foremost to avoid court-ordered segregation. Critics have long lambasted them as backward bastions of intolerance.

But the critics' rhetoric ignores the Christian schools' own evolution. Prompted by competition for students — and pressure from parents — many have reinvented themselves, putting a new emphasis on academics. Now they are the choice of a growing number of families frustrated with a public-school system that too often fails.

"When people come to our school, what is often motivating them is they're looking for an excellent academic program," says Kenneth Taxis, headmaster of the Delaware County Christian School in Newtown Square, Pa., where three years ago 10% of the 60-member graduating class were National Merit Finalists, vs. less than 1% of graduating seniors nationwide. Recent Delaware graduates were accepted into Princeton, Yale, Dartmouth, Johns Hopkins and the University of Pennsylvania.

Minority recruitment at many of the schools is rising as well. So-called white-flight academies still exist, but researchers estimate that 75% of Christian schools today are interracial. Moreover, all-black day schools represent one of the fastest-growing segments of the Christian education movement. More than 200 of these schools, which vary from storefront operations to rehabilitated public-school buildings, have turned up in urban areas throughout America, including Los Angeles, Philadelphia and Baltimore.

**The Dinner-Theater Church**

Love Christian Academy, 35 miles northwest of New York City on a busy commercial road, is part of a church complex that formerly housed a dinner theater. The school offers classes for children from three years old up to eighth grade, and is adding a new grade every year. To be eligible to attend the school — which this year costs \$3,000 and offers no financial aid or bus transportation — a child's parents must belong to the church, although church officials say they are considering lifting the requirement to attract more students.

The school's current enrollment reflects the congregation's regional pull. Only two of the 125 students live in Manuet. Another 20 live within a 15-mile radius. The rest are car-pooled from as far away as

Please Turn to Page A6, Column 1

# Born Again: Evangelical Schools Strive to Improve Academically

Continued from First Page

New York City's borough of Queens, more than an hour's drive.

"It gets a little tiring," says Tina Kaplan, who for three years has transported her six-year-old son Daniel — one of only two white students in the school — each day from Monroe, N.Y., about 20 minutes away. But Ms. Kaplan says it is worth it. "I like the quality of the school, the personal and individual attention they give to the children."

As the children arrive one cool morning, each gets a first-name greeting and a hug from Beatrice Seldon, a retired telephone-company manager and special-education aide. "Hi, Jonathan. Congratulations, big guy!" she says to a student sporting a ribbon on his maroon-and-gray school uniform to show he made the honor roll.

## Prayers and Pencils

Down a spottless carpeted hall, in Michele O'Flaherty's first-grade class, the nine children begin the day by sharpening their pencils and practicing how to tell time. Then Savior Knight, age six, walks to the front. While the other pupils bow their heads, she recites a prayer she wrote. "I pray that people around the world hear the gospel and be saved," it begins.

Next, the others rise and join her, clapping and singing two spirituals. Next comes the Christian Pledge of Allegiance (pledge allegiance to the Bible, God's only word . . .), followed by the regular flag salute and a class recital of a poem that was written by Mr. Underbach's wife, Sarah, who serves as co-pastor:

*... The foolish turn to drugs; they think it keeps them sane. I have the mind of Christ and drugs will never dull my brain.*

*... I believe that God has planned for and created my special mate. Until the day I marry, sex is something for which I wait.*

A few minutes later, "devotions" end and a full day of academics begins. The children push their chairs in a circle and take turns reading out loud "Charlotte's Web," a book usually read by older students. Without exception, they read flawlessly.

## Pat Riley's Place

"What is excellence?" Mrs. O'Flaherty asks at another point. "Excellence is the gradual result of always trying to do better," they reply in unison, quoting a line they have memorized from a book by National Basketball Association coach Pat Riley.

Mrs. O'Flaherty spent three years teaching at New York City public high schools but, fed up with the bureaucracy, came to Love Christian Academy four years ago. Now she receives similar pay but more freedom, she says — including the freedom to choose a secular curriculum over a Christian one.

200 compulsory laws, the 1995 law requires parents to participate in their child's education, including volunteering to work in school at least one day a year, or long hours. "If I call a parent into a conference, the parent must come," she says. "They don't have that kind of leverage in the public schools."

Not every parent finds such rules easy to live with. At least two families have removed their children from the school because they found the rules too strict. And Ms. Kaplan says she "was not pleased" after being fined for being one day late on a tuition payment.

## The Lord and Harvard

The architect of Love Christian Academy's rules is its superintendent, Connie Sims, a 12-year veteran of public schools who previously served as an assistant superintendent of schools in Port Jervis, N.Y. "I never envisioned I would be a Christian school private educator," says the sprightly 53-year-old. "I believe in the public-school dream of everyone having access to education."

Asked her goals, she doesn't hesitate: "I know I want all my students to go to

Harvard. And I want them to know the Lord." (None of the school's students has yet reached college age.) Her standards: "They'll all speak a foreign language. They'll all play an instrument. They'll write and speak well." She also wants every student to be computer-literate. So the school soon will install a \$330,000 state-of-the-art, multimedia computer system that is wired with fiber-optic cable.

But not all of Dr. Sims's ideas are so modern. Besides encouraging the teaching of creationism — which she admits she once didn't believe herself — she practices an old-fashioned kind of discipline: corporal punishment. When pupils misbehave, she explains matter-of-factly, "I spank them. It's the last thing we do, not the first. And it's done sparingly. But it's also scriptural — you spare the rod, you spoil the child." She says she has spanked three children — with her hand and a paddle — since September. Parents don't object: before students are accepted at the school, their parents must accept the school's discipline policy.

Dr. Sims says what motivated her to run Love Christian Academy was the remarkable mandate the pastors gave her: "You can have all the money you want. You can hire the staff you want. You can establish the curriculum you want. We want excellence."

Moreover, she was told that since all of the students attend the church's three-hour Sunday service, "Don't worry about the Christianity part. We want an academic institution of excellence that is Christian."

"That's a little different from a Christian institution that's academic," she

## American Babylon

But even at Christian schools where Christianity is stressed more, aspirations are on the rise. At Cuyahoga Valley Christian Academy in Cuyahoga Falls, Ohio, all 16 seniors in the class of 1993 went on to college. Here, academics and religion are freely mixed in class. In an eighth-grade English class, teacher Pamela Lingo begins a discussion on Stephen Vincent Benet's allegorical short story, "By the Waters of Babylon," by asking the class, "what cities in America are equated with great sin?"

"Chicago," suggests one boy.

"I think there are some that are more famous than that," Mrs. Lingo replies.

Other suggested "sin cities" follow. "New York City." "San Francisco." "Los Angeles." When the teacher says she is thinking of a place where prostitution and gambling flourish, a boy answers, "Las Vegas." Mrs. Lingo smiles approvingly.

Charlotte Cummings, an 18-year-old senior who is a National Merit Finalist, says she chose to attend Cuyahoga Valley because she believed it offered a warmer atmosphere than public high school. "There's a lot of encouragement given here that I don't always hear about from friends I have who go to public schools," she says. Although she says the religious emphasis can get in the way of academic discussions, she ranks Cuyahoga Valley as more academically rigorous than her local public school. Overall, Cuyahoga students score above the national average on the SAT, but lag some local public schools.

## Taking a Licking

Back at Love Christian Academy, Jared Coleman, an 11-year-old sixth grader whose mother is a public-school teacher, says he prefers his school over the public elementary school he previously attended in New York City.

His opinion didn't change even after one of his teachers struck him with a ruler for talking instead of reading quietly. He says he understands why. "When you grow up, they want you to be disciplined," Jared explains. "And they don't want you to be in like a carwash job. They want you to be in a law firm or a doctor's office. They want you to be the president of a corporation."

Asked if the teacher hit him hard, he replied, "Hard enough to get the message."

## Participants

1. Ms. Felicia Kessel  
Consultant with Corning, Inc. & NAACP  
Columbia, MD

She serves as a public affairs consultant for Corning and several non-profit organizations. Her main task with Corning is to create understandable literature about the new technology for community-based organizations.

2. Ms. Nellie Thornton  
National President  
Jack and Jill  
Mt. Vernon, NY

This is a national social organization for African-American children between the ages 6 and 15. Ms. Thornton is also a elementary school principal.

3. Dr. Constance Sims  
Director of Telecommunications  
Love Christian Academy  
Nanuet, New York

(See attached Wall Street Journal article.)

4. Mr. Scott Mills  
Vice President  
Lehman Brothers  
Washington, DC

5. Mr. William Todd  
Director, External Affairs  
Bell Atlantic  
Arlington, Virginia

He interested is forging opportunities for partnership between African American businesses and corporate America.

6. Mayor Wilber D. Minter, Sr. (Mayor Pro-Tem of Oak Ridge, TN)  
President  
National Black Caucus of Local Elected Officials  
Oak Ridge, TN

7. Mr. Martin Taylor  
Staff Director  
National Black Caucus of Local Elected Officials  
Washington, DC

8. Mr. Ralph Everett  
Paul, Hastings, Janosfsky & Walker  
Washington, DC

9. Mr. Alan Bowser  
Executive Vice President of Operations  
United Negro College Fund (UNCF)

The UNCF is installing a new technology center, through the efforts of IBM, that will link the headquarters and their 41-member private black colleges.

10. Dr. Roy L. Beasley  
Director  
Academic Computer Services  
Howard University

Howard University recently received money from DOD to put in a new technology system at the university. They will link up with a local high school to provide satellite information.



THE VICE PRESIDENT  
WASHINGTON

July 20, 1994

The Honorable Maria Cantwell  
House of Representatives  
Washington, D.C. 20515

*Maria*  
Dear ~~Representative~~ Cantwell:

I write today to express my sincere appreciation of your efforts to move the national debate forward on the issue of information security and export controls. I share your strong conviction for the need to develop a comprehensive policy regarding encryption, incorporating an export policy that does not disadvantage American software companies in world markets while preserving our law enforcement and national security goals.

As you know, the Administration disagrees with you on the extent to which existing controls are harming U.S. industry in the short run and the extent to which their immediate relaxation would affect national security. For that reason we have supported a five-month Presidential study. In conducting this study, I want to assure you that the Administration will use the best available resources of the federal government. This will include the active participation of the National Economic Council and the Department of Commerce. In addition, consistent with the Senate-passed language, the first study will be completed within 150 days of passage of the Export Administration Act reauthorization bill, with the second study to be completed within one year after the completion of the first. I want to personally assure you that we will reassess our existing export controls based on the results of these studies. Moreover, all programs with encryption that can be exported today will continue to be exportable.

On the other hand, we agree that we need to take action this year to ensure that over time American companies are able to include information security features in their programs in order to maintain their admirable international competitiveness. We can achieve this by entering into a new phase of cooperation among government, industry representatives and privacy advocates with a goal of trying to develop a key escrow encryption system that will provide strong encryption, be acceptable to computer users worldwide, and address our national security needs as well.

Key escrow encryption offers a very effective way to accomplish our mutual goals. That is why the Administration adopted the key escrow encryption standard in the "Clipper Chip" to provide very secure encryption for telephone communications while preserving the ability for law enforcement and national security. But the Clipper Chip is an approved federal standard for telephone communications and not for computer networks and video networks. For that reason, we are working with industry to investigate other technologies for those applications.

The Administration understands the concerns that industry has regarding the Clipper Chip. We welcome the opportunity to work with industry to design a more versatile, less expensive system. Such a key escrow system would be implementable in software, firmware, hardware, or any combination thereof, would not rely upon a classified algorithm, would be voluntary, and would be exportable. While there are many severe challenges to developing such a system, we are committed to a diligent effort with industry and academia to create such a system. We welcome your offer to assist us in furthering this effort.

We also want to assure users of key escrow encryption products that they will not be subject to unauthorized electronic surveillance. As we have done with the Clipper Chip, future key escrow systems must contain safeguards to provide for key disclosure only under legal authorization and should have audit procedures to ensure the integrity of the system. Escrow holders should be strictly liable for releasing keys without legal authorization.

We also recognize that a new key escrow encryption system must permit the use of private-sector key escrow agents as one option. It is also possible that as key escrow encryption technology spreads, companies may establish layered escrowing services for their own products. Having a number of escrow agents would give individuals and businesses more choices and flexibility in meeting their needs for secure communications.

I assure you the President and I are acutely aware of the need to balance economic and privacy needs with law enforcement and national security. This is not an easy task, but I think that our approach offers the best opportunity to strike an appropriate balance. I am looking forward to working with you and others who share our interest in developing a comprehensive national policy on encryption. I am convinced that our cooperative endeavors will open new creative solutions to this critical problem.

Sincerely,



Al Gore

AG/gcs

bcc: Representative Lee Hamilton  
 Representative Dan Glickman  
 Representative Benjamin Gilman  
 Representative Larry Combest

Representative Ronald Dellums  
 Representative Floyd Spence  
 Representative Sam Gejdenson  
 Representative Toby Roth

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

FOR IMMEDIATE RELEASE  
THURSDAY, October 20, 1994

CONTACT: 202-456-7035

**VICE PRESIDENT UNVEILS FIRST INTERACTIVE CITIZENS' HANDBOOK  
Internet Service on White House, Administration Provides  
Multimedia Electronic Information**

WASHINGTON -- In an effort to make government information more readily accessible to citizens across the country, Vice President Gore, joined by Associate Director for Technology in the Office of Science and Technology Policy, Lionel S. (Skip) Johns and world-renowned artist Peter Max, today (10/20) unveiled the first interactive, multimedia, electronic citizens' handbook on the White House, including detailed information about Cabinet-level and independent agencies, and information about the First Family and the White House.

"This first-of-its-kind program is an electronic roadmap to the federal government -- a place on the information superhighway where people can get needed information about government services and where they can provide immediate feedback to the President," Vice President Gore said.

"Welcome to the White House: An Interactive Citizens' Handbook" provides a single point of access to all electronic government information on the Internet, a vast electronic computer network used by people in more than 150 countries. Examples of accessible material demonstrated at today's event include information about the President and Vice President and their families, a virtual tour of the White House, detailed information about Cabinet-level and independent agencies, a subject-searchable index of federal information, and a map of Washington, D.C.

By using free software such as Mosaic, developed by the National Center for Supercomputing Applications, a person can access this information through a multimedia interface which includes photographs, audio, and "hotlinks" in the text that take the user to related areas of interest. It also is accessible by individuals who are hearing or sight-impaired through the use of Lynx, special software developed by the University of Kansas. For those individuals without a computer, the information will be accessible through public libraries, designated businesses, non-profit organizations, schools, universities, and museums.

The service promotes interaction and participation between citizens and their federal government. It is part of President Clinton and Vice President Gore's vision to create a National Information Infrastructure -- a seamless web of communications networks that will forever change the way we live, learn, work and communicate with each other.

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**"Welcome to the White House" can be accessed at: <http://www.whitehouse.gov>**

Medical Center said the new studies suggest that patients and their doctors can choose between angioplasty and bypass surgery - or even a drug regimen - as long as they understand the pluses and minuses of each. If a patient has blockages in either of two particularly vital spots, however, surgery is best because it improves survival, they wrote.

## Challenging the view of post-op crybabies

**TIANTRUMS, BED-WETTING AND** other behavior problems are less common and less serious in children following surgery than was formerly thought, according to researchers from San Francisco and the Yale School of Medicine.

A study reported this week at a meeting of the American Society of Anesthesiologists involved 128 children aged 1 to 10 years who had same-day surgery like hernia repair or placement of ear tubes. Two weeks later, their parents answered questions about the children's psychological status and behavior.

More than half - 54 percent - reported insignificant or minor problems following the procedures, said the researchers, headed by Dr. Zeev N. Kain of Yale. Some form of behavioral problem developed in 44 percent of the children, but only 18 percent of those were severe.

## US versus Canada: More on wait debate

**CRITICS OF CANADA'S SINGLE-PAY** -er, government-funded health system often say that patients have to wait too long for surgery or other treatments that can be obtained quickly in the United States. A new study has found that Canadians having artificial knees implanted did wait longer than Americans did, but that levels of overall satisfaction differed little.

Patients in the study, who lived in the province of Ontario, had to wait an average of four weeks for an initial consultation with an orthopedic surgeon, while US patients (mainly from Pennsylvania and Indiana) were seen within two weeks. Once the operation was planned, American patients got their operations within three weeks, while in Ontario the average wait was eight weeks.

"The differences were not as long as some might have anticipated," the authors, from the University of Toronto, write in today's issue of the *New England Journal of Medicine*.

## Long view worsens for Lyme patients

**A STUDY SAID TO BE THE FIRST** systematic examination of long-term effects of Lyme disease has shown that years after infection, patients may have muscle and joint pain and impairment, verbal memory problems, difficulty concentrating and sleeping, and fatigue. Researchers from Harvard Medical School and the Brigham and Women's Hospital reported that of 35 people living in Ipswich who had contracted the disease in the mid-1980s, 15 were suffering from long-term effects.

The report, in the current *Annals of Internal Medicine*, said patients infected more recently may not have as many long-term problems because antibiotic treatment is more standard today.

■ More world, national news, Pages 5-17, 21-23, 79

Welcome to the White House

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WELCOME TO THE WHITE HOUSE

An Interactive Citizens' Handbook

President's Welcome Message

Guest Book

Vice President's Welcome Message

# A new White House address

## Clintons, Gore and Socks make a move into cyberspace

By Michael Krashinsky  
-LOBE STAFF

**WASHINGTON** - Click your mouse and you can hear Socks the cat meow. Click on a picture of President Clinton, and hear the familiar voice: "This is the very first on-line tour of the White House."

If that's not enough, you can click to see Vice President Al Gore's favorite political cartoons, or read what the White House calls a list of the Clinton administration's many accomplishments.

The latest accomplishment will be shown off today at a White House ceremony hosted by Gore. The White House is introducing the equivalent of a presidential on-line service on the Internet, with text, pictures, sound and eventually video. A preview of the system was made available yesterday.

While the White House has been on-line for months, with electronic mail and speeches available for downloading, the unveiling of a White House "home page" marked the first time that the Clinton White House has ventured into the fast-expanding world of the Internet's "World Wide Web," accessible with software called Mosaic. Users must have an Internet connection.

It is Al Gore's dream come true: The information highway he helped build now stops at 1600 Pennsylvania Ave.

"He was in here yesterday playing with it," said Jock Gill, a presidential aide helping on the project. "He's really into it."

And what about Clinton, who has said

that he has been unable to learn how to use a computer? He doesn't have a computer in the Oval Office.

"I would characterize the president as comfortable with a yellow legal pad," Gill said. Asked if Clinton had clicked his way through the service, Gill said that the president had not actually used the service, "but he understands it intellectually."

Clinton sat down a couple of weeks ago to make a recording for several parts of the service, which can be heard when the user clicks on a presidential podium that is labeled "President's Welcome Message."

Part of the service borders on being a cyberspace "fantasy," with pictures of Clinton golfing, riding and appearing with his wife. Some want more: "It needs a sound clip of the president playing the saxophone," said Susan Flannery of the Cambridge Public Library, which provides Internet access.

There is the potential for questions about whether the service will be self-serving and political. With a click of the mouse, a user - or "interactive citizen" - can see "highlights of the Clintons' first 18 months in the White House." Another click, and the citizen can learn that Gore is "a leader in science, space and technology."

"I had zero pressure to make it partisan," Gill said.

The Republican National Committee has no similar service, although it does have a text-based "Republican forum" on CompuServe. An RNC spokeswoman, Anne Gasin, had no problem with the White House program: "The more the public knows about Clinton's policies, the more we like it."

A small but growing number of politicians are posting home pages or similar services on the Internet. The Senate decided recently that such home pages should not be allowed during campaigns, but the House has no similar prohibition.

Candidates, meanwhile, are beginning to see on-line services as an alternative medium that one day could rival talk radio. Sen. Dianne Feinstein, the Democrat from California, has a campaign-sponsored home page that includes articles critical of her opponent, Rep. Michael Huffington.

Gill, who shuttles between Washington and his home in Medford, Mass., is one of the brains behind the White House system. He envisions an expanded democracy via computer, where a typical person from home can access thousands of government document pictures and audio and video clips.

David Greenschler, an official at The Computer Museum in Boston who is working on an exhibition that will include the White House service, said self-promotion by Clinton and other politicians is to be expected.

"It's like calling someone on the phone and asking how you're doing," he said. "You're going to say you're doing a good job." In any case, Greenschler said that Clinton's opponents are bound to open their own home pages. "Anybody can get one up on the other side of the story," he said.

The White House address for the Internet user is <http://www.whitehouse.gov>

# Info highway leads to Pennsylvania Ave.

## White House open for Internet tour

By Greg Pierce  
THE WASHINGTON TIMES

The Clinton administration yesterday celebrated the government's new niche on the Internet, even introducing artist Peter Max to explain a painting that adorns the progress report on the "National Information Infrastructure."

The orange circles in a blue sky are satellites connected to other satellites and to the ground, Mr. Max said, explaining the Internet communication process.

The lesson in modern art and technology was meant to supplement a computer tour of the White House and Cabinet agencies led by Vice President Al Gore. Myriad government documents, pictures and sounds awaits those with the right software and Internet access. The government system went on line yesterday.

"This is an exciting day for me," Mr. Gore said. The project will bring "the entire federal government to your desktop computer."

Reporters were allowed a little hands-on experience after Mr. Gore's demonstration before the media and agency officials in an auditorium in the Old Executive Office Building.

Computer users with a yen to find out more about the president

and his kin can place the cursor on a box called "Family Life at the White House." With a click of the mouse, this information comes up on the screen:

"To relax, President Clinton plays the saxophone and, occasionally, a round of golf." Color pictures show the president making music and hacking at a golf ball.

The tour goes on: "He likes to play with the family cat, Socks, as well as enjoying other leisure activities, such as horseback riding, bike riding and boating." There is a color picture of Socks on the president's shoulder.

There is even a box marked "President's Welcome Message." Click the mouse and you hear Mr. Clinton saying, "Welcome to the White House," and, at the end, reminding users, "Please don't forget to sign the guest book."

Another box allows the user to sign the guest book and register comments. Click another box to hear from Mr. Gore.

The system has more serious uses, as Mr. Gore emphasized. Users can call up government job listings as well as information about federal retirement benefits, veterans benefits, farm loans, disaster aid, Medicare and a host of other government programs.

Each Cabinet agency has a "page" in what the White House



Photo by Cliff Owen/The Washington Times

Vice President Al Gore discusses the wonders of the government information available with the click of a mouse via the World Wide Web.

calls "the first interactive citizens' handbook."

Mr. Gore was particularly impressed by the opportunities made available by the Small Business Administration. "It's like having an SBA regional office on your desktop," he said.

A press release said Americans can "start and finance a small business" by clicking on the SBA's moneybag icon.

The "handbook" uses a service called the World Wide Web. It can be accessed through software such as Mosaic, which is distributed free by the National Center for Supercomputing Applications.

The electronic address for "Welcome to the White House" is <http://www.whitehouse.gov>.

Mr. Gore said the service will be accessible even to those who do not own computers because it is being made available to libraries and schools and, in the next few years, through 12,000 computer kiosks at post offices.

Lionel Johns, associate director of the White House Office of Technology, said he does not know how much the service costs, but he expects it "to save money, not cost money," in part by reducing the number of people who must answer the government's phones.

APRIL 7, 1995

MEMORANDUM FOR THE VICE PRESIDENT

FROM: MICHAEL GILL  
JIM KOHLENBERGER

SUBJECT: DNC AND TECHNOLOGY

Your meeting with Senator Dodd today is an opportunity to highlight the critical need for embedding technology throughout the DNC operations. Dodd and Fowler both have said that technology is a top priority at the DNC. We have concerns, however, that there is a need for more structured approach toward technology and more coordination between the DNC, reelect, state parties, the convention and the White House. Additionally, we want to ensure that Vice Presidential staff are involved in the decisionmaking process.

DNC MEETING

Tony Wilson, Jim Kohlenberger and I have met with Dick Bell and others at the DNC to discuss the current state of technology at the DNC and what needs to be done in order to be prepared for the next 19 months. The meeting went very well and the group agreed the DNC needed the following:

- 1) a good PLAN.
- 2) Sufficient FUNDING. (you were mentioned as a possible rainmaker)
- 3) an EMPOWERED technology decision maker (the group suggested Dick Bell from the DNC.)
- 4) to ensure FEC compliance. (corporate donations, etc.)

CHARLIE ROSE MEETING

Rep. Rose was asked by Chm. Fowler to help get the Web Page set up at the DNC. Rep. Rose called me and requested a meeting. I checked with Leg. Affairs and Domestic Policy and they thought it was a good idea. I met with Rep. Rose and told him of the meeting I had at the DNC and explained to him our goals of a PLAN, FUNDING, EMPOWERING A TECHNOLOGY LEADER and ENSURING FEC COMPLIANCE. I offered to help him in any way and told him we were very interested and enthusiastic about building a solid infrastructure at the DNC. And that with good planning the DNC, the Reelect, the Hill and the White House would all be able to talk to each other AND to the state party members throughout the convention, the campaign and beyond.

SUGGESTED TALKING POINTS

IF THE SUBJECT COMES UP YOU MAY WANT TO COMMENT ON THE SUCCESSFUL MEETINGS YOUR STAFF HAS HAD ON TECHNOLOGY AND OUR WILLINGNESS TO HELP IN THAT REGARD.

YOU MAY WANT TO COMMEND DODD AND FOWLER FOR MAKING TECHNOLOGY A TOP PRIORITY AT THE DNC.

SINCE THE REPUBLICANS ARE AHEAD OF US AND HAVE MORE MONEY, YOU MAY WANT TO MENTION THE NEED FOR A GOOD PLAN AND A GOOD PERSON IN CHARGE SO WE GET THE "MOST BANG FOR OUR TECHNO-BUCK"



THE VICE PRESIDENT  
WASHINGTON

STATEMENT BY THE VICE PRESIDENT ON  
PREFERENCES FOR "DESIGNATED ENTITIES"  
IN A BROADBAND PERSONAL COMMUNICATIONS SERVICE AUCTION

On June 29, the Commission will adopt rules for conducting auctions to assign licenses to providers of broadband personal communications services (PCS), including how best to incorporate into a competitive bidding scheme preferences for certain "designated entities," such as small businesses and businesses owned by minorities and women. The Administration applauds the Commission's efforts to address this difficult, but critical issue.

The Administration strongly supports the Commission's tentative proposal to reserve two "entrepreneur's blocks" within each Basic Trading Area for entities whose annual revenues are below a certain threshold -- for example, \$100 million. A specific small business designation for these blocks is the most direct effective mechanism for preserving opportunities for small companies in an auction environment, which was a major concern of Congress when it authorized the Commission to use auctions.

In addition, the Commission should permit small businesses to reduce up-front costs by permitting installment payments, i.e., allowing such firms to pay for licenses in installments over a period of years.

The Commission should also ensure that businesses owned by minorities and women are not excluded from the competitive business process. Study after study indicates that such businesses are significantly underrepresented in most telecommunications markets and that access to capital is the principal impediment to their increased participation in those markets. To rectify this situation, minorities and women who are otherwise eligible to participate in auctions for the designated "entrepreneur's blocks" should be given a bidder's preference -- that is, a minority or woman should be able to purchase a desired license for a specified discount below his or her winning auction bid.

The Commission should also allow larger firms to make non-majority, non-controlling equity investments in businesses owned by women and minorities without voiding their eligibility for the entrepreneur's blocks. Allowing larger investments would risk enriching individuals for serving the interests of larger firms, rather than creating a new generation of minority and women owners who can enrich the lives of their communities. For much the same reason, the Administration also would support limits on transfers of "entrepreneur block" licenses to non-eligible firms for a specified period of time (e.g., 3-5 years) after they were first acquired at auction.

Remarks of  
Vice-President Al Gore

The Armed Forces Communications and  
Electronics Association Conference  
Tyson's Corner, VA  
February 13, 1996

**The Technology Challenge:  
Building a Government for the Information Age**

Thank you very much. Thank you very much, Roger. I can't thank you enough for those kind words. Really, too kind. They set off my hubris alarm if there was such a thing based on smoke detector technology. Politicians ought to carry them on their belts, but I do appreciate your kind words and, more than that, I appreciate the chance I've had to work with you and I'd like to say here to this group, Roger, that Roger Johnson has really been my key ally in the internal debates in the White House during the critical stages in which reinventing government was either going to get off the ground or crash ignominiously. And as a former CEO who understands the bottom line, he was absolutely essential in coming in at the right moment to make the decisive arguments, and I really appreciate your help and your friendship, Roger, and we all wish you well as you go back to the private sector, and thank you very much for a job well done.

I want to acknowledge the other distinguished guests who are here. David Barram, Deputy Secretary of the Department of Commerce, another good friend and ally. John Koskinen, the Deputy Director at OMB, and my key ally in the Executive Office of the President who handles reinvention work out of OMB. Frank Gicca, Chairman of the Board of AFCEA; Jim Busey, President of AFCEA, and thanks to this organization for its outstanding work and for your hospitality this morning, as well. And Jim Flyzick, Director of the Office of Telecommunications Management at the Department of the Treasury, and someone who's worked very closely with Elaine Kamarck and Greg Woods and myself, Bob Stone, others that are reinventing government team, and we appreciate your help, Jim.

I didn't quite understand those remarks about stiffness and seriousness, Roger. It's been so cold lately, people who don't know me well have thought I was frozen stiff. But I'm used to those comments, actually. Every time I hear a new "stiff" joke I always have the same reaction, "Very funny, Tipper."

I do greatly enjoy being vice president, and I'm reminded of the great seal of the vice

president here, of one of the reasons why I enjoy it so much. If you close your left eye and turn your head just right it says, "President of the United States of America."

It's really a thrill for me every time.

The digital presentation that you just saw shows not only two different ways of working, but two fundamentally different ways of thinking. Two organizing metaphors, if you will. Fundamentally important, because as we shift metaphors we shift our understanding of the world around us. Since the early 1900s, at least, the dominant metaphor in America has been the metaphor of the factory, a clockwork machine with human hands among its moving parts. We've talked about all of the things important to us in machine and factory terms. We've talked about the economy in industrial terms, "pumping it up," watching it "wind down." Organizations have been hierarchical, with top management, middle management, and workers seen as cogs in the machine, programmed by those who make the decisions at the apex of the management pyramid to perform the same task repetitively, over and over again. Schools drew parallels with assembly lines, almost literally, with desks in parallel rows where products and children moved through a series of steps with value added at each step along the way.

But that metaphor has outlived its usefulness. That doesn't keep us from continuing to use it, however, as we lean on a crutch of older metaphors that are splintering with age. So this week, in a series of three speeches on science and technology, I am, among other things, suggesting an alternative metaphor, an updated metaphor. One more appropriate to the times and, hopefully, with a greater ability to explain the new circumstances in which we find ourselves. It is the metaphor of distributed intelligence. It is based on a computer metaphor. And, hopefully, it can help update our notions of self-government and bring them more into harmony with the new realities of the information age.

At the beginning of the computer age, in the mainframe era, we relied almost entirely on machines with huge central processing units, surrounded by fields of data arrayed in memory cells. The design was not unlike that of a mass production factory. The central processing unit, or CPU, sent out to the field of memory to get raw data, brought it back to the center, processed it, then distributed the results back into the memory. This technique performed certain tasks quite well, especially those that were amenable to a rigid hierarchy of data. Then advances began.

IBM got its first big push with a new technique called vector processing, which relied on the same basic technique but it speeded it up. As one of these tasks was underway the next would begin, before the first was completed. But all of the data retrieved from the field

of memory still had to be stacked up at the CPU to be processed sequentially. And that took time, and still caused three trips from the processor to the memory field. That generated energy and made it more difficult to reach faster speeds.

Then along came the new architecture of massive parallelism. We broke processing power into — I say "we," the cleverest computer scientists in our country — broke processing power into lots of units and distributed the processing power out into the field of memory so that in each location where memory was stored there was co-located a small part of the cumulative processing power. Presented with a problem, all of the processors in this machine began to work on parts of the problem simultaneously, and all of the different parts of the solution were brought to the center simultaneously and assembled. It turned out that for most problems that approach just works better, provided there is adequate software to coordinate the signals for beginning work and ending work and integrating the parts of the solution in the proper way.

Well, this basic idea has been applied elsewhere in our lives, but the metaphor has not traveled to many parts of our lives and didn't come anywhere near the government. And that's a shame, for in the realm of governance or economics or public policy the model of distributed intelligence has enormous explanatory power. Think for a moment about what the American Revolution was all about. We got tired of having decisions made for us in another place across the ocean. And our forbears wrote a revolutionary document for self-governance that was based on the exciting and revolutionary principle that the ordinary person is best able to make decisions that affect his or her life and is capable of making those decisions in combination with all of the other citizens of this new nation of ours. That's distributed intelligence. People are better able to understand the circumstances of their own lives and make political decisions based on that understanding than anyone can make for them. And when their cumulative judgments are made, the resulting guidance for our nation is far superior to the decisions made by a monarch or a czar or a dictator in whatever guise.

Take a second example. You can explain the economic collapse of communism by pointing out that capitalism takes advantage of distributed intelligence. The so-called "invisible hand" of the marketplace results from millions, indeed billions, of small decisions made by buyers and sellers in the marketplace which, together, process an enormous amount of information that determines which supplies of what products should be at what location at what price. As the pace of our lives speeded up in this century, the ability of a central command authority in the Soviet Union or any other communist land, to keep up with the economic needs of the various parts they attempted to govern, essentially broke down.

To take a third example. In the private sector this same phenomenon and the same

metaphor which encompasses it illuminates why business is shedding middle layers of management and pushing decision-making authority out to employees on the front lines, where organizations encounter change first, at the edge, not at the center.

Business Week, some years ago, had a cover story entitled "The Virtual Corporation." Yet, the phrase "virtual organization" still comes across to many as a kind of a buzz phrase, years after the business community has incorporated most of its essential truths. Your conference title, "Virtual Government on the NII," tells me that you understand quite well the power of the distributed intelligence model embodied in the information superhighway and that you are here exploring the changes it makes possible. This is your game, and your tools of the game are powerful and growing more powerful. Tomorrow, I will be going to the University of Pennsylvania to commemorate the fiftieth anniversary of ENIAC, the world's first electric, programmable computer, a computer which filled a very large room, yet had less capability than today is in my wristwatch and in many of the watches worn in this room.

The explosive growth of the World Wide Web began just three years ago, with the alpha release of Mosaic. Browsers like Net Scape, Mosaic and Microsoft Explorer are already into their second generation, with fabulous speed and the facility to search the entire planet for information and then deliver it to right under your nose. Your IT tools are comparatively cheap and getting cheaper rapidly. ENIAC cost \$486,000.00 to build. This watch cost \$35.00. ENIAC used enough kilowatts in an hour to power a typical house for almost two weeks. Today's pocket calculators, vastly more powerful than ENIAC, go for as little as \$20.00 and run for years on a \$3.00 battery or even on God's free gift of sunlight. The cost of storing data has fallen from \$5.00 a megabyte to less than 25 cents, in just the last three years. And that is measuring it in mid-plunge.

I recently used statistics comparable to these with a group of young people, and relied on an old and, to some ears, hackneyed example by saying if automobiles had improved in performance and price as rapidly as computers in the last fifty years, then a Rolls Royce today would get a million miles a gallon and would cost only 15 cents. A student in the front row raised his hand and said, "Yes, Mr. Vice President, but it would only be about this long."

Metaphors are limiting as well as illuminating.

American business, though, has been applying these new information tools and the new metaphor that explains modern organizations, and has been reinventing itself to compete and win. We know that we can do the same thing in government. Our reinvention program, begun with the National Performance Review, is showing amazing results. My new book,

"Common Sense Government" -- I don't get any proceeds, I'm not hawking this book here -- the proceeds go to charity and to establish cash awards for excellence among federal employees. This tells the stories of the people, some of them in this room, who are making these changes happen.

There is a great deal left to do. We have barely begun. But we're now moving in the right direction and we're gaining speed and momentum. But belief in the power of the new metaphor and the success of reinvention so far contribute in no small way already to the president's commitment to a balanced budget. We know we can make government work better and cost less. And the great enabler in reinvention success has been information technology. Not just because of the new capacity to handle information it gives us, but because of the way it stimulates new thinking by men and women in organizations that have grown stale and find it difficult to do the job well. By encountering a new capacity to handle information and do work in new, more efficient ways, information technology has inspired many people to literally reinvent the organizations they are part of. We're seeing this live up to its potential as a tool for revolutionary change.

In Miami, individual inspectors tap into worldwide collections of data to target high-risk shipments and speed inspections. What has resulted? Cocaine seizures are up by a factor of three, compared to this same period last year. And, simultaneously, we're moving passengers through the airport much more quickly. And as we look ahead to a balanced budget world, we can see technology solutions that will let us do more with less. Baby boomers can expect world-class service from the Social Security Administration because of programs to re-engineer internal processes and put Social Security Administration's services on-line and on kiosks in malls.

All of this makes the men and women in this room, you who are leaders of the government's information technology brain trust, more important today than ever before in this nation's history, because you hold the key to the puzzle our nation faces. How can we deploy these new technologies to reduce the cost of government and, at the same time, improve delivery of the government's services that our citizens demand. As you work to answer that question, you will see us changing the way we acquire technology for the virtual government. The new way fits our distributed intelligence model and follows the best practices of businesses. As you well know, what we've been doing in the past benefits the old factory model.

This past Saturday, in the defense appropriations bill, the president signed into law the Information Technology Management Reform Act of 1996. It is the result of substantial bipartisan effort. We have been working on this very closely with Senators Cohen and

Glenn, and will shortly -- and the president will shortly issue an executive order with the details necessary to carry it out. In a nutshell, we will distribute procurement authority to agencies but hold them accountable for results. Information technology is a capital investment, and we expect returns in the same terms that business does, like savings and productivity. Next, we will share technical resources across agency lines, working as a virtual government on the biggest issues and on common needs.

Third, we will encourage more rapid, modular procurement of major systems, rather than massive mega-contracts that outlast technology changes and outlast management turnover. We have had enough of that approach. We will shift protests from the General Services Board to GAO's less burdensome process, and we will create a chief information officer as a focal point in each cabinet department and major agency. So we have a best in business management approach, a powerful new organizing metaphor, and we have breakthrough technologies.

Is anything missing from this vision? Well, yes. Something so important that, without it, we would just waste our money. Our efforts to build tomorrow's government must be unfailingly customer-driven. Let me give you a quick example of the point that I'm trying to make here. In fact, it's about drivers licenses. A few years ago, the State of Oregon decided to improve service at their DMV offices. They figured everyone hated waiting in line to get licenses. They assumed that was the main problem they had to solve. So they designed a new, faster, more powerful computer system to speed up the process, and they prepared to install more workstations.

Luckily, before they actually bought and installed the whole thing, they stopped long enough to conduct some focus groups with customers, and they actually asked their customers what they wanted in order to fine-tune the system. They got a big surprise. The number one customer complaint was not the long lines at all. They weren't even close. Anybody guess what the biggest problem was? The pictures. The unflattering photographs on the license. People only had to wait in line for a license once every five years, but they had to look at that awful picture every time they took it out of their wallet or purse; there was the mug shot. Well, once Oregon accurately identified the problem their customers most wanted solved, they designed a slightly different high-tech solution, a video system that let people see and select from several shots before the license was printed. Vanity prevailed. The customers were happy.

But the organization worked as it should have worked. We have learned this lesson over and over again, reinventing government. For example, the IRS assumed that taxpayers put top priority on getting their tax booklets right after Christmas -- so they could look at

them on the desk for months as their anger built up slowly. In conducting interviews and taking other steps to ascertain what the customer really wanted, they found that the top priority was as little contact as possible with the IRS. So, now you see the IRS rolling out a host of electronic filing options, like Tele-file, in all fifty states. Tele-file takes about eight minutes and is almost error-proof. And for those who use it, why would we go back to a postcard? The telephone is much easier.

Some of our reinventors have also used customer input to totally shape a product called the U.S. Business Adviser. The U.S. Business Adviser is a web site that gives business one-stop access to all the government agencies that regulate or assist businesses. We put it together because one of the complaints we heard most from business was that they had to go door-to-door and more, dealing with forty-plus different agencies. Clearly, a high-tech solution was possible, and a lot faster and cheaper than trying to physically move agencies in with each other.

So the customers started us down this track. We unveiled and demo'ed an early version at last summer's White House Conference on Small Business. The conferees there loved the concept. We showed it to the president. He asked for a search about cutting Christmas trees on federal lands. We had the answer in seconds, and he was impressed. He remembered the principle, "Ask your customers," and created a task force to work on the product with business users. And, by the way, I want to again thank Dave Barum, Deputy Secretary of Commerce, and also Phil Lader, Administrator of SBA, for what the two of them have done in leading a terrific inter-agency task force that produced a wonderful new version of the Business Adviser. I'll show you that version in just a minute.

We put the Adviser up on the web with a comments button, so everybody could make suggestions. We ran sessions with user groups from businesses, large and small, all over the country, in order to get in-depth feedback on the design. In other words, we treated it like a product being taken to market. Here's what we heard. Our customers absolutely love the Business Adviser idea of one-stop access to our information and services. And they wanted to change practically everything about the version that we showed them. Well, we have done that now, and the new version goes up on the World Wide Web as soon as I snap my fingers. [Snap] [Music]

For my next trick ... Well, ladies and gentlemen, the new customer-improved U.S. Business Adviser.

Now, as I show you what it can do, I will tell you about some of the surprises our customers had for us. Page 1 of our first version looked like this. We thought that

looked pretty neat, and the president loved it. Page 2 was even better. It had a big, high-resolution color picture of moi. But our customers, a good many of whom apparently are Republican business owners, didn't want to wait with the meter running while our big, beautiful pictures downloaded. So the new version looks like this. And, in fact, you see the customer can even select text only and get the plain, pipe-rack version. That's for those in a hurry, or those running text browsers like Links. The system will also automatically sense and respond if the user is coming through a version 2.0 browser, like America Online, or it will automatically switch to give the full treatment to users on Net Scape or other HTML 3.0 browsers.

The customer user groups said they wanted the Adviser to do five things. Those things are embodied in the five function buttons shown here and on all pages. They want to go straight to commonly-asked questions. They want to find out how to do things. They were emphatic. They didn't just want more information -- they're up to their ears in information. They wanted to be able to quickly find out how to do things, and then -- imagine the temerity -- they wanted to go ahead and actually do the things. Like, file their taxes. Report wage and withholding data. Apply for permits and licenses. So this new version sets up a structure to do that and makes a start along that line. And there will be plenty more to come.

Our customers want to search in plain English for specific things they seek. Sometimes they want to browse to see what we have got. And they want news, the latest news. Under "Common Questions" we put answers to common business tax questions, Postal Service questions, and other questions. This is a basic structure that can easily accept the common questions from other agencies. We set up this flexible structure to accept additions in all parts of the Adviser.

In the "How-To" section, businesses told us they wanted how-to information, compliance assistance tools, and other step-by-step guides. Here, you will find advice from the Small Business Administration on how to start a business. You can also get forms and publications from the IRS to assist you during tax time. OSHA has a neat tool called the Asbestos Adviser, which helps you determine if your building is asbestos safe. If it's not, it prints a customized guide to assist you in making your building match the asbestos rules.

For searches, we are giving business several options. For example, they can search a host of databases from the Government Printing Office, like economic indicators or the Federal Register, or -- and this is my favorite -- customers can use a simple English query to search through 106,000 federal government web pages in seconds. Imagine, you are looking for information on exporting auto parts to Asia. Well, you don't have to imagine. You can

do it simply by typing it in. Here's what the Business Adviser gives you after you type it in. The title of the document, the source of the information, and the best passage from within the document so you know whether this is what you are looking for.

Some people wanted to browse. So we have arranged the Browse Section of the Business Adviser like a library. Simply click on the section you're interested in, say, "Doing Business with the Government," and you can look through the content relevant to that subject area, just like examining books on a shelf.

The last section of the Business Adviser is news. Here, the business community will have access to late-breaking information and press releases from the agencies that work with them.

Now, the implications for this product that I've just shown you are far-reaching. AOL recognizes this, American Online, and has it as a featured item. But the problem and the need we are addressing is not peculiar to business. All kinds of government customers are still now shuffling door-to-door. We've got to stop that, stop making them do that. We see the Adviser as the first of a whole family of products that serve all customer groups -- beneficiaries, veterans, travelers, the research community, state and local governments, and more. IT is helping reinvent the way we meet customer needs all over government.

Electronic benefits transfer cards -- and I had an example here somewhere, but you've seen them, in any case -- EBT cards deliver Social Security payments, veterans benefits, welfare, the whole range of government payments and assistance. All of this with the convenience and security of a modern debit card, even to recipients who don't have bank accounts. And the government saves \$120 million per year compared with mailing out checks or messing around with food stamps. Works better from the customer's point of view, costs less for the government and the taxpayers.

Now, when we say "customers," we mean customers inside the government as well as the public. In our reinventing government work we commonly talk about inside customers and outside customers. For example, the VA Medical Center in Baltimore was the first hospital in the country to go to all-digital imagery, everything from MRIs to X-rays to color photos. Images are all available any time, anywhere in the hospital, for as many specialists as want them. Better support for doctors, better medicine for patients -- big administrative savings.

"Wings," which was referred to in the presentation just before I came out. "Wings" is not just a popular sit-com. It is the beginning -- beginnings of a one-stop service where the

general public will be able to get their Social Security benefits statement, file their state and local taxes, or change their address with the agencies across government if they move.

If you are looking for opportunities to help, don't be discouraged by this list. I assure you the customers still have quite a few problems with the government that technology hasn't solved, and we need your help. I hope that all of you will take to heart the challenge of creating this new self-government that Americans deserve. Try this. Veterans get a wide range of benefits -- medical care, mortgage guarantees, college tuition, disability payments. Getting all their records of past benefits and current eligibility to the right place at the right time is an expensive job for the government. And the frequent delays are frustrating for veterans.

Can we put 64K of memory on the card for the veteran to keep, and update it along with the VA database every time the veteran calls on the government? You tell me. And tell me if we applied Smart Cards throughout government, wouldn't our critical mass set the standard for everyone? Or how about this problem -- current law guarantees that communities have the right to know what toxic chemicals local companies are releasing into the environment. Each year, companies report their releases to EPA, which compiles by locality and state and publishes them for all to see. But since most of the process is manual, the lag time is about two years. So communities aren't really in the know; they're in the "knew." Can you solve that one? I'll bet you can. I'll bet you can, because the new information technologies make it possible to solve it and inspire you to figure out how to solve it.

Well, there's no shortage of crucial work for each of you in a government that is determined to serve its customers better for less. All of your skill is needed, all of your energy is required. Just remember the vision statement of the Government Information Technology Services Working Group of the Information Infrastructure Task Force of the Committee on Applications and Technology -- Now you know why we call them "GITs."

Anyway, I'm not asking you to remember their name, but I am asking you to remember their vision. And here's their vision. "To help create a government that uses information technology to interact with and serve its customers on their terms." Let that be your creed, and we will all be singing your praises. Thank you very much.

Microsoft Transcript  
Microsoft CEO Summit  
Remarks by Vice President Al Gore  
Introduction by Bill Gates  
May 8, 1997  
Four Seasons Hotel, Seattle, WA

MR. GATES: We're pleased to have the vice president here. He has certainly promoted the information super highway since he first used that term over 20 years ago. In 1992, he was the author of the High Performance Computing and Communications Act, and he's certainly been at the forefront of science and technology for the Clinton administration. He's one of the first policymakers who really understood the potential of technology and the new information age. And he's really continuing to help shape that debate. I've had the privilege of meeting with him many times and sharing ideas. I've drawn on his wisdom and quoted him in many speeches.

A little while ago, I had to go on the Letterman show, and so I said, "Well, I know what I'll do; I'll get the videotape of what the vice president did when he went on the show." I would just do the same thing he did. And it turns out, what he did, he took some government ashtrays, and had a hammer and proved that, when they broke, they broke into the specified number of pieces. So, unfortunately, I didn't think I could duplicate that. But it was helpful.

So let's give a warm welcome to the vice president, Al Gore.  
(Applause.)

VICE PRESIDENT GORE: Thank you very much. Thank you very much, ladies and gentlemen. And, Bill, thank you for your very kind words of introduction. I remember that Letterman show. I didn't know you were going to bring that up. I gave a Top 10 list on that show of the most enjoyable things about being vice president, and I remember number five on the list; it has to do with the Great Seal of the Vice President. If you look at that seal and close your left eye and turn your head just right, it says "President of the United States of America." (Laughter.)

Anyway -- and incidentally, of course, this is a sobering time for me, living with the awareness that I'm only one kneecap away from the presidency. (Laughter.)

Some of you may not have seen the Legal Times article about the inauguration January 20th. In the Constitution, the president's term expires precisely at noon on January 20th. And by custom, I was sworn in at 11:58. And then the opera singer Jesse Norman sang, and sang too long. She was great, don't get me wrong, but the president did not take his oath to begin his second term until 12:05. (Clears throat.) (Laughter.)

You've anticipated me. It was an important five minutes for me, for my family. And if I may be so bold for America. (Laughter.) It wasn't exactly a morning in America, but it was pretty close at 12:01 p.m., and historians will record that during the Gore administration our country was at peace at home and abroad. Our economy was booming with low inflation. We created 3.1 jobs, 1.2 of them here in Seattle.

History will also record, with all due respect to President Clinton, that in my administration we had fewer crimes committed than in any other presidency, Democratic or Republican, in history. And it's because we put two new community police officers on the beat, Eddie and Duane. (Laughter.)

But what's most important to me is that partisan bickerance, so frequently the bane of Washington, gave way to bipartisan harmony the entirety of my administration with patriotic hymns bursting forth from the steps of the Capitol. I think it's for that reason the chant began there on the steps and swept westward all the way to the Pacific: "Five more minutes! Five more minutes!"

Anyway, it's really great to be here, and I want to acknowledge the other distinguished guests who were here. I want to thank Steve Forbes for being a cohort of this remarkable event, and I want to thank you, again, Bill Gates, for conceiving it and bringing it off so well. I wish that I had been able to be here personally for every session, but I've gotten some reports from some of the other presentations, and they sounded really fascinating.

I want to acknowledge my friend and a tremendous leader of this state of Washington the Governor Gary Locke, who is off to such a fantastic start and one of my allies in the move to reinvent government. We call it REGO -- that's "Gore" spelled sideways, so I've worked hard on that.

And it's great to be here with a person who I am a little biased because he's a personal friend of 30-some-odd years, but our chairman of the FCC, Reed Hundt, who I personally believe is by far the best

chairman of the SEC we've ever had, and I really appreciate the hard work that you're doing, Reed.

And to the other government leaders who are my colleagues: the postmaster general, Marvin Runyon, and the head of the National Security Agency, General Kenneth Minihan and General Edmonds and Richard Danzig, and the others, and the distinguished guests and the CEOs and others who ought to be singled out.

This afternoon, I would like to talk to you about the new economy and the limited but critical role that I think government has to play in the 21st Century. So here goes: Gore on the New Economy, Version 1.0; you'll be notified about upgrades.

You have been discussing here the future of the corporation in this era of technologically driven change. In joining in your conversation, I would like to discuss also how the very same sources are influencing government, forcing the transformation of government and reshaping the relationship between government and corporations.

There are actually two changes that frame our conversation. The first you have described explicitly as the technology revolution, which is, of course, only the latest manifestation of the larger scientific revolution that began reshaping the economy and society more than three and a half centuries ago, and of course now, in our lifetime, in many fields -- the life sciences, the earth sciences, brain research, materials development to cite but a few examples -- knowledge is increasing at an unbelievably rapid pace. But the one field in which it is having the biggest impact is really the revolution in information technology.

It's important also to recognize that the information revolution is peppered with a second change implicit in the framing of today's conversation: the globalization of the marketplace. This change has also been in the making for quite some time. As a matter of fact, as soon as communication became electrified, it was inevitable that the marketplace would become global.

In 1851, inspired by the telegraph invented 16 years earlier, Nathaniel Hawthorne wrote these words: "By means of electricity, the world of matter has become a great nerve vibrating thousands of miles in a breathless point of time. The round globe is a vast brain, instinct with intelligence." Much as Jules Verne foresaw submarines and moon landings, Hawthorne sort of saw the digital nervous system that Bill Gates discussed this morning.

These two changes, globalization and the revolution in information technology, have combined to create a new age with an entirely new business reality and entirely new challenges and opportunities.

The place to begin talking about it is by asking about the impacts, not on business or government, but on people. What is the human impact of these changes? Well, for starters, most of us feel we have a lot more information than we can possibly deal with. How many times have you heard that metaphorical question, how can you drink out of a fire hose? A friend of mine in the computer industry once made this point by saying that, if you tried to describe our human brains in computer terms, you'd say we have a low bit rate, but high resolution. And what he meant by that was that when we try to absorb information bit by bit, it takes a long time and we're not really very good at it.

For example, years ago the telephone industry conducted research and found that seven digits were the most we could retain in our memories, and then they went and added four more digits.

But we do have very high resolution. Meaning we can quickly absorb the meaning of patterns containing huge quantities of data at a single gulp, and then infer the meaning of each bit by reference to its context. For example, there are 200 billion stars in the Milky Way. We recognize that pattern instantly. Bill and Melinda's daughter Jennifer recognized their faces within two weeks of her birth, a task that no computer can yet replicate with speed or accuracy.

This capacity for high resolution has served us very well. But the problem is this: most of the voluminous new information now becoming available to humankind about the world around us comes to us not arrayed in recognizable patterns, but in huge sand dunes of data. For example, our satellites take a complete photograph of the earth's surface every 18 days, but 99 percent of the information collected never fires a single neuron in a single human brain. The Clementine division of NASA to explore the surface of the moon contains 20 terabytes of data that no human eyes have ever seen.

High-performing computers help us to master this challenge, but there was a mismatch between the incredible speeds with which processing power expands and the snail's pace with which new advances in transmission capacity have been made available. I once used the old cliché with a college audience that if a -- you've probably --

many of you have probably used this, too, if a car had made the same exponential advances as a computer, a Cadillac would get 100,000 miles to the gallon and cost only 50 cents. And one of the students in the front row raised his hand and said, "Yes, Mr. Vice President, but it would only be about this big."

The challenge we face was similar to the challenge we confronted after World War II when ever family bought a car and the two-lane roads could no longer handle the traffic. Indeed, just as in earlier eras nations gained competitive advantage by improving the infrastructure of transportation, deep water ports, railroads and super highways. comparative advantage now can be enhanced by a superior national information infrastructure built by sensible deregulation and competition policy. But the point remains, what is the human impact, and how do we adapt our organizations, both in business and in government, to deal with these sweeping changes?

Many of you in this room have been pioneers in the transformation of business to adapt to these new realities. Your presence here confirms our shared view that this is a work in progress, and the underlying change which requires adaptation is not only continuing but accelerating in its pace and intensity.

Businesses in the industrial age organize themselves according to the model of the factory, and so did government. Most employees were valued primarily for their physical ability to perform repetitive tasks according to instructions from management that infrequently change. Indeed, any communication from the CEO to the people actually producing goods and services had to travel through multiple layers of middle management, existing primarily for the purpose of passing information from one level to the next. As public education empowered a larger fraction of the American population, a few pioneering managers recognized that the most valuable asset in the corporation was the unused brainpower of the men and women performing repetitive physical tasks. A new theory of corporate management emerged, and the publication of books describing it became a major new cottage industry.

"Theory Z." "Participative management." "In search of excellence." "Quality circles." A hundred different labels were fastened to the same basic insights: Employees can think. They're smart. If you can convince them to pay attention to what they're doing in context and share with them the larger objectives of the organization of which they're a part, then respectfully harvest their ideas about how to improve and fine-tune the collective endeavor and

then invite them to help implement the innovations they've come up with, companies can boost the bottom line. They can creatively encounter change at the company's edge, where change is first experienced, and not wait for news of that change to wind its way through multiple redundant, obsolete layers up to a CEO who is insulated and isolated at the top of the proverbial pyramid.

This morning I met with the team at Boeing producing the new 777 aircraft. Listen to the way this world leader describes his work, the people I met with are part of an integrated design/build team system. Grouped into small teams of eight to ten people, they have been assigned to refine and mesh all aspects of the aircraft from top to bottom. The idea is to have each team consider the aircraft as a whole and empower each team to act quickly on their own on ideas free from chain of command second guessing.

The new information technologies make it easier for more companies to take this approach, to empower their employees, and eliminate the barriers between employees' ideas and resulting corporate innovation. This wave of change has already had an enormous impact. Many of you here have led this change. All of you have adapted to it. And now several of you, along with other pioneers, are creating yet another new wave of change in corporate management. Moving from an appreciation of physicality and intellect to an appreciation of emotions, creativity or, if you will, heart.

Perhaps the greatest challenge facing you is attracting and retaining talented people. CEOs who have found ways to honor and respect their employees' loyalties to their spouses and families and communities have reduced turnover and reduced absenteeism, and increased creativity and productivity. Family-friendly work places, family and medical leave, flex-time, and other measures to bolster employees' emotional satisfaction are proving to be extremely valuable to earnings, revenues and profits. Companies like the First Tennessee National Bank have reconfigured their corporate missions to take emotion into account, and this soft-headed approach is showing hardheaded results.

Another way to describe this phenomenon might be to say they're getting more from their employees by focusing more on their core capacity, and with the help of their employees, understanding better their customers' needs and desires. In the business world, there is a new appreciation for the value of focusing on core capacities: The so-called virtual corporation uses new information technology to combine the core capacities of different companies for a mutually

beneficial endeavor. The phrase that you're using here, rich and free capitalism describes a very similar overlapping phenomenon.

But what is our core capacity as human beings? In 1872, the steam hammer defeated John Henry. At the conclusion of this century, at the end of four games in a six game series, Big Blue is tied with Gary Kasparov. Physical health and fitness continues to matter a great deal. A well educated mind is our key strategic asset. But in the 21st century, as the information revolution continues to accelerate, I'm convinced that it will become ever more apparent that our core capacity is spirit, creativity, heart.

For example, how did the electronic communications revolution begin? Samuel Morris was a portrait painter. In fact, his painting of James Monroe hangs in the White House today. While Morris was working on a portrait of General LaFayette in Washington, his wife, who lived about 300 miles away, grew ill and died, but it took seven days for the news to reach him. In his grief and remorse, he began to wonder whether it might be possible to erase barriers of time and space so no one would be unable to reach a loved one in time of need. Pursuing this thought, he came to discover how to use electricity to convey messages at the speed of light, and invented the telegraph. Emotion led to innovation.

Over the past 50 years, technological innovation has been responsible in the view of many for more than half of the nation's growth in productivity. Our approach to the new economy must include a new appreciation for the key role of innovation and for those factors which tend to promote it. In the old economy, growth depended largely on capital and labor. The task of policymakers was to keep those factors of production in sync. When the phasing was poor, we got a down turn in growth or an upturn in inflation, which continued until capital and labor were restored to their proper balance. These factors are still crucial. But the new economy is different.

As the economist Paul Romer has argued, the true engines of growth may be ideas and the technologies created from those ideas. The only way to produce more economic value and thereby boost economic growth rates is to find ever more valuable ways to use the objects available to us. We first used sand in an hourglass to measure time. Now, of course, we use it to form the silicon chips that power the personal computers. Same object, more creative use.

Paul Romer and others are teaching us that innovation is not something that happens outside the economy, as traditional economic

theory had held; innovation occurs inside the economy, and it is essential if economies are to grow. Innovation is reshaping the very way we think about the economy and the vocabulary we use to describe it. To discuss the economy, we once resorted to the metaphor of a machine. Policymakers slowed things down or sped them up, stepped on the gas or hit the brakes, or shifted gears. But the new economy is more like an ecosystem, which depends for its health on diversity, nutrients, and its ability to change and evolve and learn and grow.

In the old economy, the key to growth was an individual sector. In the new economy, the key to growth may be an economic web and the diversity of those webs both require and create. Invent the personal computer, and you inevitably spawn a web of products and services that move outward from that event -- mouse pads, computer repair shops, Windows 95, and so it goes. The economic web is, itself, the generator of the next novel growth opportunity, innovation sparks innovations. And establishing the proper conditions for innovations to flourish is one of the policymaker's highest obligations.

But the larger move from hard to soft is affecting every one of your companies. In the old economy, the value of a company was mostly in its hard assets, its buildings, machines and physical equipment. In the new economy, the value of a company derives more from its intangibles, its human capital, intellectual property, brain power and heart. In a market economy, it's no surprise that markets themselves have begun to recognize the potent power of these intangibles. It's one reason that net asset values of companies are so often well below their market capitalization.

Baruch Lev, an accounting professor at the NYU Business School, says that nearly 40 percent of the market valuation of the average company is missing from the balance sheet. For high-tech firms, the percentage is more than 50 percent. And recent research by Ernst & Young's Center for Business Innovation suggests that securities analysts are basing about 35 percent of their portfolio decisions on intangibles, and that the more an analyst relies on these factors, the more accurate his or her predictions seem to be.

The importance of intangibles underscores the importance of the questions that I return to again. What about people? What kinds of policies should we follow to promote our success in the new economy in ways that enhance the quality of our lives? Well, just as the process of corporate transformation has moved from a focus on muscle power to brain power, and is now beginning to move to a focus on innovation, creativity and heart, our approach to national policy is doing the

same, but not without controversy.

We have an ongoing national debate that sometimes features arguments that sound like they originated in the Land of Oz. You remember the famous Frank Baum story and the Judy Garland movie about Dorothy and her companions who went off to see the wizard. Incidentally, speaking of magic kingdoms, I'm looking forward to boarding the Emerald Star and going to see this magnificent house a little bit later on, Bill.

In any event, there are many in this period of technological change and globalization who feel like Dorothy -- suddenly placed in an unfamiliar landscape unable to go back home. And they are tempted to listen to advisors whose economic philosophies mirror the personal attributes of Dorothy's companions.

For instance, there is a group that makes up what we might call the scarecrows. They have hearts and a sweet disposition, but don't always make good use of their brain. The scarecrows are frightened of imports, fearful of more open trade, scared of competition and the challenge it represents. They are resentful of immigrants and want to punish them, and they are extremely apprehensive about new technologies. But they fail to analyze the true nature of our condition. Scarecrows believe that the forces of the new economy are fundamentally destructive, and that government's job is to throw up walls and slow down the pace of change. They also call for protecting corporate welfare, and similarly for propping up companies that cannot compete.

Now, in some ways, the scarecrows sometimes have a point. On any trade agreement, the terms must be fair, and the United States cannot harmonize downward on important issues like labor and the environment. But fundamentally, our commitment to open trade is crucial to our economic future. Or take immigration, it's certainly true that illegal immigration has to be stopped, and we need an orderly process for admitting legal immigrants. And middle-income families must have the opportunities to acquire the tools and the education to make the most of all these changes. But immigration is good for the United States, and always has been.

Ultimately, the scarecrows' good intentions lead them to unwise conclusions. On trade, they ignore the fact that America's tariffs are relatively small compared to those of other nations, and that most trade agreements, therefore, increase our entry into other markets, not the reverse, and jobs depending on exports pay well better than

the average. Besides, history teaches us that isolation, holing up behind impenetrable barriers is not the way economies grow. We've tried this approach; it has been a dismal failure. And if you don't believe me, I have two words for you: Smoot-Hawley.

The scarecrows are also dangerously pessimistic. Their philosophy assumes that American workers and American companies can't compete and aren't as good as the rest of the world. And that is just plain manifestly wrong. Holding back change may reduce anxieties in the short-term, but it stifles progress in the long-term. We know that prosperity in the new economy depends on innovations. The scarecrows offer only a prescription for stagnation. You have to have a heart, but you also have to use your head.

Now, if you don't like that strawman, here's another one. Remember the tin man. The tin men have a cold, calculating bead on the facts and figures and theories that measure the rise and fall of markets, and the latest currency exchange rates. They are intimately familiar with the metal and plastic and silicon from which our new technologies are made. Like Oscar Wilde cynics, they know the price of everything but the value of nothing. These tin men do appear to have a well developed intellect, but their ideas are squeaky and rusty. Metallic standards provide the answer to every social problem. They have brains, but like the tin man of the tale, they lack a heart.

Their philosophy holds that the way to get the most out of the new economy is simply to slash taxes and get the government entirely out of the way. Cut taxes in half, no cut taxes by a factor of four some say, and just sit back and watch the results wash in. The central belief here is that America would enjoy unimaginable prosperity if government merely packed up and went home. This approach is flawed deeply for at least two reasons. First, we tried it and it didn't work. And much of President Clinton's economic policies have been directed at repairing the damage that this approach unleashed. In particular the massive quadrupled budget deficit.

Second, and more important for our purposes, this philosophy ignores what's new about the new economy. Bill Gates did not start Microsoft because Congress cut the capital gains tax. He did it because he had an idea and he innovated, and he worked very hard. The tin men offer no prescription for upgrading the skills of workers or for sparking innovation. They preserve the status quo by draining funds from public investments and widening the gap between rich and poor. That approach threatens to worsen the prospect of working people through a resistance to worker protections and hostility toward

collective bargaining.

Some people may benefit from the heartless policies of the tin men, but many would not, some would suffer. That result is morally unacceptable, but also economically unwise. A rising tide that lifts only some boats will eventually capsize all boats. Some of you I know are drawn to the tin men's approach. And I know who you are. But, every time you feel lured by their siren call, "no more government, no more government," take a walk around your company. Look at the people who are writing code or developing pharmaceuticals or figuring out a way to improve just in time delivery and ask yourselves how many of these talented people went to college on a government student loan? And then ask yourself where your company would be if these people didn't have a college education.

The tin men do certainly have brains. But, their brains could use a little oil to get rid of yesterday's squeak. They ignore what is new and offer an old prescription that has been tried and has failed. You've got to use your head, but you've also got to have a heart. There is a more sensible approach, accept change and its many benefits, but recognize the disruptions this change brings forth and give people the tools to thrive and prosper. But, the question has been raised, is there yet another group in this land of Oz, the lions who know what to do, but lack the courage to move forward?

This past week, not in Oz, but in America, we got the answer. Yes, we have the courage to move forward. We completed a bipartisan budget deal that eliminates, eliminates the federal budget deficit by the year 2002. It is the first balanced budget since 1969. And it will help keep alive the best economy in at least a generation. Unemployment at a 24-year low, historically low inflation, a booming stock market that has doubled in the last four years, more new small businesses created in each of the last four years than in any other year in the history of the United States of America. Growth in the last quarter of a whopping 5.6 percent, a reinvented government, downsized by 300,000 positions, smaller than it has been since President Kennedy's administration, more flexible government with rapid approval by FDA of new drugs to fight scourges like AIDS, rapid approval by agencies like the FAA of products like the Triple Seven.

Getting rid of the deficit is only the first piece of our new policy for the new economy. We also need open markets. Not protectionism, but the free and fair flow of goods, ideas and information is critical. We need flexible regulation and an open competition policy that respects the new realities of the new economy.

We also must invest in the physical infrastructure of the information age. Connect every classroom and every library to the information superhighway. Just yesterday under Chairman Hunt's leadership, we took a big step in that direction with a discounted rate for schools and libraries, an e-rate, which will pump more than \$2.2 billion per year in our information infrastructure for the future.

Now we must create the next generation of the Internet, with 1,000 times the capacity of the current Internet, and then magnify it another 1,000 fold and ensure that the Internet is a duty free zone. In an economy powered by innovation, we must also invest heavily and in the right way in education. And our budget agreement makes the largest increase in education investment in a long, long time, head start, educational standards, charter schools, Hope scholarships, Pell grants, a tax credit for college tuition, the ideas of Bill Clinton. We call him the education president and may I say here in Seattle, the ideas of Patty Murray, the education Senator.

We also need a fully reinvented government, aligned with the principles of the information age. A transformation of government to one that does work better and cost less. We must, of course, maintain a military adequate to meet America's unique global leadership role. And we have to protect our environment and make the investments necessary to keep our air and water clean and safe. In the new economy, protecting the environment is not a sacrifice we make by slowing the economy, it is a precondition for a growing economy.

And finally, we must reject those who take the low road of bashing immigrants and trafficking in intolerance. In the new economy we must provide open opportunity for every American, because in the new economy, a global economy, America's racial and ethnic diversity is a powerful economic strength, an asset that we have that is unmatched by any other nation in the world. We have to listen to America's heart. Strengthen our families, nurture and respect our values, encourage and facilitate corporate responsibility, with family friendly policies, health care coverage for working men and women and their families. And we need to protect our values against attacks from those forces that undermine them; like crime, drugs, broken homes, teen pregnancy and the barriers of intolerance and discrimination. Economic growth depends on a foundation of values.

One of the untold stories of America's extraordinary post-war economic growth was that at every layer of society people shared a preexisting set of values. People were ready for work on day-one, with a certain constellation of shared beliefs. That is equally

important in the new economy. Indeed, it may be the most crucial intangible upon which our prosperity depends. Smart people are not enough, we need people with good brains and open hearts. Measures like character education and community policing are not only the right thing to do, they're the smart thing to do to ensure that the new economy develops.

Well, this truly is an exhilarating time. Government must transform in order to aid the transformation of the new economy. It must understand the potency of the information revolution and comprehend the globalization of just about everything we do. It must also resist the temptation to either throw up walls or throw its hands and to declare either that we can't compete or that we shouldn't care. In the new economy, we need brains, we need heart, and we need each other.

Thank you very much.

END

