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Welcome and Introduction by Dr. John H. Gibbons

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February 27, 1997

The Honorable John H. Gibbons -- Address to the HPCC Advisory Committee

On behalf of President Clinton and Vice President Gore, I want to thank all of you for the effort you have made to help us in one of this century's great endeavors. The Vice President will have the opportunity to thank you personally when he meets with you tomorrow.

The technology of information lies at the core of many of our hopes for America's future -- in industry and commerce, in education, in medicine, in the way we talk with each other, in the way we organize knowledge. The President made his interest clear in the emphasis he put on science and technology -- and information technology in particular -- in the first state of the union address of his second term. He said:

"To prepare America for the 21st century we must harness the powerful forces of science and technology to benefit all Americans. This is the first State of the Union carried live in video over the Internet. But we've only begun to spread the benefits of a technology revolution that should become the modern birthright of every citizen."

We must build the second generation of the Internet so that our leading universities and national laboratories can communicate in speeds orders of magnitude faster than today, to develop new medical treatments, improved sources of energy, to make things, new ways of working together.

But we cannot stop there. As the Internet becomes our new town square, a computer in every home -- a teacher of all subjects, a connection to all cultures -- this will no longer be a dream, but a necessity. And over the next decade, that should be our goal.

Several things seem clear as we consider how this new revolution must be built.

First, while the rate of innovation in computers and communication has been astonishing over the short two and a half decades that we've worked with microprocessors, it is clear that we are only at the start of the tidal wave of invention that will carry us into the next century. We are only beginning to learn how to use the powerful tools already available through powerful computers and gigabit networks -- and the technology keeps improving.

Second, its obvious that most of the invention and investment that will drive this revolution will come from the private sector. The government's primary role is to ensure that markets operate efficiently, and fairly, so that private invention can prosper. We are proud of our track record in creating an efficient market for information technology through telecommunication regulation, protection of intellectual property, and other means.

Third, it's also obvious that there are areas where the government itself can help stimulate investment through building partnerships between businesses and universities and providing funds for key research that individual investors could not undertake on their own. We can be proud of the success of ARPA-net, NSF-net and the achievements of teraflop computing and gigabit networks that resulted from the High Performance Computing and Communication initiative the Vice President helped to launch while in the Senate.

But we know that times have changed and our programs must change with them. The industry has changed, our international competition has changed, the technology has changed. We have reshaped our own programs as a result. Having achieved the original goals of the HPCC program we have reshaped our program around new goals -- goals that you will hear about in this morning's briefings. We have turned our attention to a new generation of the Internet and look to research directed to understanding the performance of complex systems and the way complex information can be harnessed to help the real needs of people -- information in usable form; information when it is needed and where it is needed.

These are tasks of extraordinary complexity. They need to be approached with research partnerships tailored to contemporary needs. The government recognizes its responsibility to help, but also recognizes its limits. And the drive to achieve a balanced budget by the year 2000 gives us a particularly acute recognition of these limits. The fact that the President has asked for a $100 million increase in funding for the Next Generation Internet in these extraordinary tough budget times underscores the importance we attach to these issues.

We need your help in setting priorities and helping us craft programs that attack them. We need your guidance to design programs that serve both public needs and the needs of the companies that we must rely on to convert ideas into products, income, and jobs.

Clearly, there are many issues that will shape markets for new information technology and we'd like to hear your views on all of them. But the unique task of this group, and the task that guided our selection of the many talented people who have agreed to serve, is to design effective research and development programs that can be carried out by the agencies participating in this discussion today. There are many forums for discussing issues related to specific regulatory, trade, and legal issues of information. But this group is unique in having the ability to guide the research programs that will not only define information technology for the 21st century -- technology that will continue to redefine our society - but also define the legal and regulatory challenges that will affect and be affected by these research programs. Design of an efficient and coordinated research program in this area - coordinated across government and in partnership with the private sector -- is one of the most important challenges facing government today. If we succeed we will have given the next generation tools of enormous power. It's essential that we find an effective way for businesses, universities, and government agencies to work together

inventing and testing a faster Internet with higher quality of service. We face a daunting set of challenges as we reach beyond teraflop computers to machines a thousand times faster. And we are only beginning to understand how to apply these tools to modern applications in medicine, education and other fields -- applications that will require new software strategies, new ways of approaching interoperability, new ways to design and test complex systems that are secure against accidents and intentional attacks, new ways to represent knowledge -- not just information -- in a way that is accessible to real people with real jobs to do.

We appreciate the effort you have made to be with us today and we all look forward to working with you on these fascinating and important issues in the years to come.