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STATEMENT FROM DR. ROBERT E. KAHN PRESIDENT & CEO CORPORATION FOR NATIONAL RESEARCH INITIATIVES 16 NOVEMBER 2005

Mr. President, Delegates and Other Participants,

About 30 years ago, as part of an experimental research project, we showed how to connect different kinds of computers on different types of computer networks in an open architecture environment. The modern Internet is the direct result of those early scientific and engineering efforts. The march of ideas and technology has continued unabated since that time, and today we are routinely astounded by the rapid pace at which ideas are generated and information is communicated and processed around the world.

With the appearance of so many new technological capabilities, we are witness today to a series of concerns as to what the Internet is, where it has been and where it is headed. To many, it is the physical realization of a powerful communication system consisting of routers, switches, computers and digital communication lines that are interconnected to move packets of information reliably and efficiently from one place to another. However, there is another more powerful concept of the Internet. In this latter view, the Internet is a logical construct, independent of its component parts. This idea, combined with the notion of an open-architecture, is arguably the most important principle of the original Internet design.

Along the way, many detailed technical choices were made to simplify matters. For example, the choice of the DNS, while not intrinsic to the Internet design, helped to identify computers by eliminating the need for users to remember IP addresses. Yet the DNS is only one way to do this. It is critical that we avoid focusing attention on older technologies, such as the DNS, to the exclusion of newer and potentially more effective solutions. The life-blood of the Internet lies in innovation and we should not ignore the powerful force of human ingenuity for the future. There is more than enough room in the Internet to accommodate new and innovative technologies.

Although serious discussions have been underway for several years about Internet Governance, technical progress now provides alternatives that may obviate the need to embrace such constraints. One alternative that I have been exploring for some time, which operates within the Internet environment, involves managing information rather than just moving packets. A realization of this effort exists in the form of what we call the "Digital Object Architecture", which is an open architecture that links together different information systems rather than just different networks and their computers. I believe this new conceptual framework to be widely applicable to the information management needs of organizations, individuals and governments.

One component of this architecture, the Handle System, is a general purpose resolution system that is now in widespread use on the Internet. The Handle System can support the DNS, in addition to other identifier systems, and was recently made available for use in connection with Grid

computing around the world. Among the early adopters is the International DOI Foundation, which is an ICANN-like organization formed within the publishing industry to identify their books and journals on the Internet.

Many of the most serious issues that have arisen with respect to the DNS and ICANN may not arise in the context of the Digital Object Architecture; and there is a potential role for the United Nations in providing assistance to developing countries in making use of this technology.

Our energies are now needed for the substantive issues that face us, such as how to negotiate electronic contracts, resolve network disputes, and fight unwarranted intrusions on the net. More importantly, we have an unprecedented opportunity to foster the development of dynamic, new digital forms of expression that may, for example, lead to improved educational opportunities and enhanced health care services.

While the Internet began as a government controlled research effort, it has now become a critical part of the global information infrastructure. The locus of control has shifted from government to the private sector through many deliberate efforts over the past two decades. I am convinced this is an appropriate outcome.

The future of the Internet should be driven by the ideas and initiatives of the finest minds in the world. The role to be played by governments in this endeavor is unlike anything that has come before. The challenge for all of us is how best to guide the continuing evolution of the Internet for the benefit of everyone.