Issue Background

The President's National Security Telecommunications Advisory Committee (NSTAC) routinely encourages the Government's effective use of research and development (R&D) to bolster the resilience of telecommunications and information systems that directly or indirectly impact United States national security and emergency preparedness (NS/EP) functions. Accordingly, the NSTAC has sought to orchestrate a dialogue between industry, Government, and academia through R&D Exchange (RDX) Workshops, which result in wider awareness of and support for programmatic enhancements that should be made to NS/EP capabilities. The NSTAC invites representatives from the Office of Science and Technology Policy, the Department of Homeland Security, the Defense Advanced Research Projects Agency, the National Institute of Standards and Technology; various academic institutions; and companies from across the telecommunications and information technology landscape, to participate in the workshops to ensure inclusion of all stakeholders in the R&D community.

History of NSTAC Actions

In 1990, the growing prevalence of hacker incidents led to the formation of the NSTAC's Network Security Task Force, which it tasked to assess the threats to and vulnerabilities of the Public Switched Telephone Network. A key component of the task force's work included examining R&D issues related to security with a particular emphasis on improving commercially applicable tools. To explore security technology R&D issues in greater depth, the RDX Workshop concept first surfaced in 1991. To date, there have been six workshops:

§ **RDX Workshop #1** (1991): the first workshop consisted of two separate Government and industry events intended provide a forum for key stakeholders to share their unique perspectives on R&D issues.

§ **RDX Workshop #2** (1996): the second workshop facilitated a discussion of network security problems affecting national security and emergency preparedness (NS/EP) telecommunications, identified R&D programs in progress to address those problems, and identified future security technology R&D needs.

§ **RDX Workshop #3** (1998): held at Purdue University's Center for Education and Research in Information Assurance and Security in West Lafayette, Indiana, the third workshop examined collaborative approaches to security technology R&D.

§ **RDX Workshop #4** (2000): the fourth workshop, held at the University of Tulsa, in Tulsa, Oklahoma, examined issues of transparent security in a converged and distributed network environment.

§ **RDX Workshop #5** (2003): held at the Georgia Tech Information Security Center at the Georgia Institute of Technology, in Atlanta, Georgia, the fifth workshop focused on "*Research and Development Issues to Ensure Trustworthiness in Telecommunications and Information Systems that Directly or Indirectly Impact National Security and Emergency Preparedness*".

§ **RDX Workshop #6** (2004): the most recent workshop, held in Monterey, California, reconsidered the R&D issues associated with trustworthy NS/EP telecommunications addressed at the 2003 RDX Workshop and examined progress made, unfinished work, and new challenges.

Recent NSTAC Activities

The NSTAC's Research and Development Task Force (RDTF), drawing on the findings of the fifth and sixth Workshops, made several recommendations for a testbed pilot in its May 2005 Report, *The Critical Importance of Testbeds for NS/EP R&D*. In addition, the RDTF continues to assess the need for further NSTAC analysis of identity management and authentication as they pertain to NS/EP telecommunications and produced a paper to highlight relevant issues in 2005. The NSTAC's seventh RDX Workshop is scheduled for September 2006.