

Status Update

Subcommittee on Networking and Information Technology



George Scalise, Co-Chair
September 12, 2006



PCAST's Charge

- PCAST is charged to serve as the President's Information Technology Advisory Committee under the High-Performance Computing Act of 1991 (Public Law 102-194)
- This advisory committee shall provide the Director [of the Office of Science and Technology Policy (OSTP)] with an independent assessment of:
 - (1) progress made in implementing the [Networking and Information Technology Research and Development (NITRD)] Program;
 - (2) the need to revise the Program;
 - (3) the balance between the components of the Program;
 - (4) whether the research and development undertaken pursuant to the Program is helping to maintain United States leadership in [networking and information] technology; and
 - (5) other issues identified by the Director.



Subcommittee Membership (1)

- Daniel A. Reed (Co-Chair), Vice Chancellor, University of North Carolina, Chapel Hill
- George Scalise (Co-Chair), President, Semiconductor Industry Association
- F. Duane Ackerman, Chairman and CEO, BellSouth Corporation
- Erich Bloch, Corporate R&D Management Consultant, Washington Advisory Group
- Raul J. Fernandez, CEO, ObjectVideo
- Richard H. Herman, Chancellor, University of Illinois, Urbana-Champaign
- E. Floyd Kvamme, Partner, Kleiner, Perkins, Caulfield & Byers



Subcommittee Membership (2)

- E. Kenneth Nwabueze, CEO, SageMetrics
- Luis M. Proenza, President, University of Akron
- Hector de Jesus Ruiz, Chairman and CEO, Advanced Micro Devices, Inc.
- Stratton D. Sclavos, Chairman of the Board, President, and CEO, VeriSign, Inc.
- John Brooks Slaughter, President and CEO, National Action Council for Minorities in Engineering
- Charles Vest, President Emeritus and Professor, Massachusetts Institute of Technology



Chronology of Subcommittee Activities

- March 29, 2006: Initial subcommittee meeting and information gathering meeting, Washington, DC
- May 3: Information gathering meeting, Arlington, VA
- June 7: Planning meeting, Arlington, VA
- June 23: Information gathering meeting, Arlington, VA
- June 26: Work to develop a snapshot of the global networking and information technology ecosystem begins
- July 12: Appointments to the Technical Advisory Group (TAG) for Networking and Information Technology are complete
- July 14: Information gathering meeting, Arlington, VA
- August 8: Information gathering meeting, Palo Alto, CA
- August 30: Information gathering meeting, Chicago, IL
- September 12: Status update at PCAST meeting, Washington, DC



Information Gathering: Components of the NITRD Program

- Basic information: Definitions and associated budgets of the Program Component Areas (PCAs) in the NITRD Program
- Strategic priorities, programmatic priorities, and interagency planning and coordination activities associated with the PCAs
- Role of the NITRD Subcommittee and the NITRD National Coordination Office
- Sources: March 29, 2006 meeting; FY2007 Supplement to the President's Budget; PITAC reports; and other NITRD Program materials



Information Gathering: NITRD Program Agencies (1)

- The NITRD Program strategic goals (below) served as the focal point for agency input:
 - Provide research and development foundations for assuring continued U.S. technological leadership in advanced networking, computing systems, software, and associated information technologies
 - Provide research and development foundations for meeting the needs of the Federal government for advanced networking, computing systems, software, and associated information technologies
 - Accelerate development and deployment of these technologies in order to maintain world leadership in science and engineering; enhance national defense and national and homeland security; improve U.S. productivity and competitiveness and promote long-term economic growth; improve the health of the U.S. citizenry; protect the environment; improve education, training, and lifelong learning; and improve the quality of life



Information Gathering: NITRD Program Agencies (2)

- Agency input about the NITRD Program
 - Progress towards the achievement of NITRD strategic goals
 - Relationship of NITRD strategic goals to agency mission needs
 - Assessment of the implementation of the NITRD Program
- Agency responses to the 1999 PITAC review of the NITRD Program
- Directions in networking and information technology R&D
- Sources: July 14, 2006 meeting and FY2007 Supplement to the President's Budget



Information Gathering: Academia and Industry (1)

- Views of experts from academia and industry (including a number of TAG members) about the most significant technical challenges and opportunities for U.S. leadership and competitiveness in networking and IT were solicited
 - Which current policies and emphases are most effective in addressing these challenges and opportunities?
 - What, if anything, should be changed?
 - What is the potential impact for the Nation?



Information Gathering: Academia and Industry (2)

- Implications for the NITRD Program
 - Changes in the Federal government's investments in terms of R&D topics, emphases, funding mechanisms, or other issues?
 - Changes to interagency activities?
- Sources: August 8, 2006 and August 30, 2006 meetings; written statements; literature review (ongoing)



Snapshot of the Global Networking and Information Technology Ecosystem

- Networking and IT R&D does not stand alone—it is a part of a larger ecosystem
 - Components of this ecosystem include technology transfer, infrastructure, entrepreneurship, a skilled workforce, etc.
- Baseline data on this ecosystem as it exists today—a snapshot—are needed to provide the proper context to develop PCAST findings and recommendations
- Science and Technology Policy Institute (STPI) of the Institute for Defense Analyses selected to prepare the snapshot
- Work on the snapshot began on June 26, 2006



Planning (1)

- Continue gathering information
 - Hold additional information gathering meetings in September and October
 - Obtain additional input from our Technical Advisory Group on Networking and Information Technology
 - Review relevant published literature
 - Review snapshot upon completion
- Formulate findings and recommendations
 - Synthesize and assess the inputs received in information gathering activities
 - Develop draft findings and recommendations
 - Present and discuss preliminary findings and recommendations at the January 2007 PCAST meeting



Planning (2)

- Develop report
 - Draft and edit text
 - Goal: Report approved by PCAST in spring 2007
- Develop “lessons learned” document
 - Review the processes employed in this assessment of the NITRD Program
 - Develop a template and identify best practices for the next assessment