

Testimony before the United States House of Representatives
Committee on Science and Technology
Hearing on
Leadership Under Challenge: Information Technology R&D in a Competitive World
(2007 report of the President's Council of Advisors on Science and Technology)

Oral remarks - FINAL

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Room 2318
Rayburn House Office Building
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Let me begin by thanking Chairman Gordon, ranking member Mr. Hall, Mr.s Hill and Carson of Indiana, and all members of the House Science and Technology Committee, for the opportunity to be here today. I am the Chair of the Coalition for Academic Scientific Computation, or CASC. I am offering testimony as requested by Chairman Gordon regarding the President's Council of Advisors on Science and Technology 2007 report *Leadership Under Challenge: Information Technology R&D in a Competitive World*. To provide context for this testimony, CASC is an educational nonprofit organization dedicated to using advanced computing technology to accelerate scientific discovery for national competitiveness, global security, and economic success. There are a total of 53 CASC members – colleges, universities, and computing labs - in 36 States and the District of Columbia. I note that the members of the Committee represent a total of 24 States; of those, 19 are home to at least one CASC member.

As stated in the PCAST report, we must improve the networking and information technology ecosystem in the U.S. to maintain and extend our competitive advantage in innovation. The NITRD Program's support of thirteen Federal agencies, including DoD, DoE, DARPA, NASA, NIH, NIST, and NSF, has accelerated information technology innovation and led to new insights in science, technology, and medicine. These advances have lead to valuable changes in the private sector.

CASC fully supports the overall recommendations in the 2007 PCAST report. The recommendations in the PCAST report, if well supported by funding and executed aggressively, will contribute greatly to continued US leadership in networking and information technology.

With that overarching endorsement as the key point of this testimony, CASC would like to make a few suggestions to emphasize and add to the PCAST recommendations.

First, Federal investment in NIT research and development will be most valuable in the long run if investment patterns in the many subareas included within NITRD are as consistent as possible over time.

The PCAST report makes several important recommendations regarding workforce development. We agree with these recommendations and would like to suggest additional areas of emphasis: programs that will increase the number of students who choose a major related to NIT after entering college undecided on a major; and continue to strengthen and expand the emphasis on Science, Technology, Engineering, and Mathematics disciplines in elementary and secondary education. We commend Chairman Gordon and this committee as a whole for leadership in creating and supporting the development of the STEM program. We hope that you might consider expanding it to include greater emphasis on computing.

CASC would also like to expand on the report's recommendation regarding a strategic roadmap for Federal investments in high-end computing research and development. In addition to the recommendations made in the report, such a plan should implement methods for sustained support and maintenance of software critical to the U.S. NIT agenda. This plan should also support the coordination of U.S. High End Computing facilities that maximizes the total benefit to U.S. national interests by leveraging investments at the college, university, state, and regional levels, in addition to Federal investments.

In closing let me return to the title of the 2007 PCAST report: Leadership Under Challenge. U.S. leadership is indeed under challenge in many ways across the globe. As regards networking and information technology, the current challenges are without precedent. Without strong investment, the U.S. is at risk of losing its longstanding position of global leadership in NIT, and the consequences of that would be catastrophic. However, the recommendations made in the PCAST report, if enacted and well funded, will continue and extend U.S. leadership in networking and information technology, and fuel future U.S. global leadership in innovation generally. This will lead to continued and improved prosperity, health, and security for Americans and indeed all citizens of the world.

Thank you again for the opportunity to appear before you today. I should note that my testimony this morning has been endorsed by a vote of CASC members. The voting representative of one CASC member was unreachable due to travel. The remaining 52 CASC members have voted unanimously endorse the testimony I have presented.

I hope these remarks have been helpful to the committee. I am happy to answer any questions now or at any time in the future.

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