



# **Information and Communications Technology R&D in the U.S Federal Government**

**David B. Nelson, Ph.D.**

Director, National Coordination Office for  
Information Technology Research and Development

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Communications Technology R&D in Japan and the  
United States*

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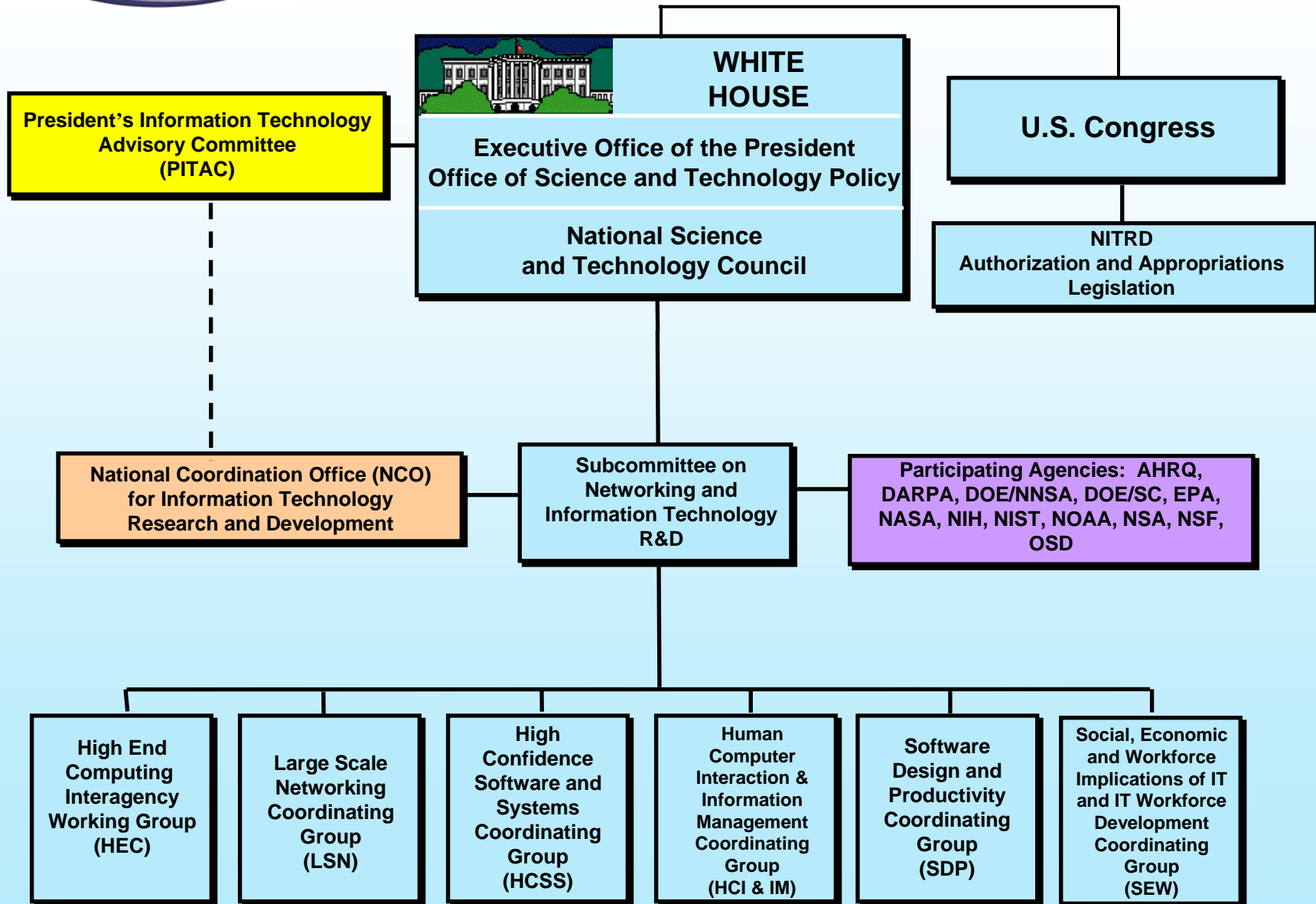


## **Federal role in networking and information Technology R&D**

- Federally-sponsored research builds the technology base on which the information technology industry has grown
- Federal government funds basic research not funded by industry
  - High risk, innovative ideas whose practical benefits may take years to demonstrate
- Networking and Information Technology R&D program (NITRD) helps focus interagency ICT R&D:
  - Identify common research needs
  - Plan inter-agency research programs
  - Coordinate and collaborate on research announcements and funding
  - Promote application of research successes
  - Review research results and adjust accordingly
- NITRD Program authorized by Congress in Public Laws 102-194 and 105-305
- National Coordination Office for IT R&D (NCO) coordinates planning, budget, and assessment activities for the NITRD Program
- NCO Director reports to the Director of the White House Office of Science Technology Policy (OSTP) and co-chairs the Subcommittee on Networking and Information Technology R&D in the National Science and Technology Council



# NITRD Program Coordination



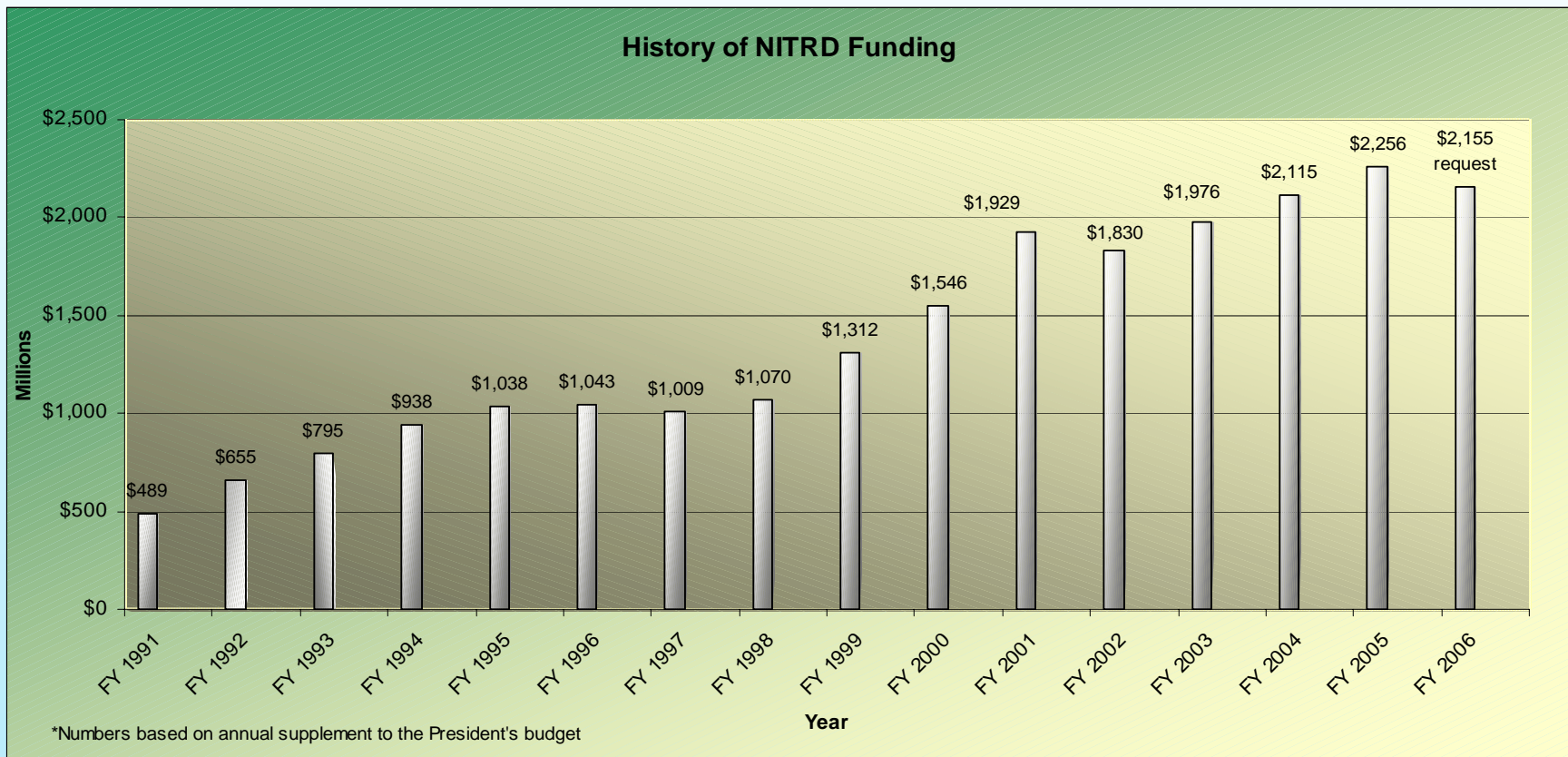


# NITRD Participating Agencies and Departments

- Department of Defense
  - Office of the Secretary of Defense (OSD)
  - Defense Advanced Research Projects Agency (DARPA)
  - National Security Agency (NSA)
- Department of Energy
  - Office of Science (DOE/SC)
  - National Nuclear Security Administration (DOE/NNSA)
- Department of Health and Human Services
  - National Institutes of Health (NIH)
  - Agency for Health Research and Quality (AHRQ)
- Department of Commerce
  - National Institute of Standards and Technology (NIST)
  - National Oceanic and Atmospheric Administration (NOAA)
- National Science Foundation (NSF)
- National Aeronautics and Space Administration (NASA)
- Environmental Protection Agency (EPA)
- Observers
  - Federal Aviation Administration (FAA)
  - Food and Drug Administration (FDA)



# HISTORY OF NITRD FUNDING





## Program Highlights for 2005-2006

- **Implementation of *Federal Plan for High-End Computing***
  - Joint Planning and funding of research in software for high-end computing
  - Continuation of High Productivity Computing Systems Program
    - System development
    - Performance metrics
    - Productivity and usability metrics
  - Development support for Black Widow system
  - Installation and use of new computing systems
    - DOE Leadership System at Oak Ridge National Laboratory
    - NASA Project Columbia at Ames Research Center
    - NSF Red Storm at Pittsburgh Supercomputer Center
    - (DOE Blue Gene-L at Lawrence Livermore National Laboratory)
  - Opening Federal computing resources to wider user communities



## **Program Highlights for 2005-2006 (Cont.)**

- **Networking Research and Development**
  - Optical Network Testbeds
  - Grid and Middleware Computing Technologies
- **Information integration technologies**
- **Prototype real-time high-confidence operating system**
- **Cyber security, information assurance, authentication**
- **Technology transfer to applications areas**
  - Computer-based medical devices
  - National Health Care Information Network
  - Communities of practice



## **Issues (Examples)**

- **Quality of software**
- **Security and privacy**
- **Distributed data and computing**
- **Role and structure of computational science**





## **For Further Information**

**Please contact us at:**

[nco@nitrd.gov](mailto:nco@nitrd.gov)

**Or visit us on the Web:**

[www.nitrd.gov](http://www.nitrd.gov)