THE NITRD AGENCIES: RESEARCH DIRECTIONS

AHRQ – the Agency for Healthcare Research and Quality – focuses on research into state-of-the-art IT for use in health care applications such as computer-based patient records, clinical decision support systems, and standards for patient care data, information access, and telehealth.

DARPA – the Defense Advanced Research Projects Agency – is focused on future-generations computing, communications, and networking as well as embedded software and control technologies, and human use of information technologies in national defense applications such as battlefield awareness.

DOE/NNSA – the Department of Energy National Nuclear Security Administration, Advanced Simulation and Computing (ASCI) – was established to develop new means of assessing the performance of nuclear weapon systems, predict their safety and reliability, and certify their functionality through high-fidelity computer models and simulations.

DOE Office of Science is exploring, developing, and deploying computational and networking tools that enable researchers in the scientific disciplines to model, simulate, analyze, and predict complex physical, chemical, and biological phenomena important to DOE. The Office also provides support for the geographically distributed research teams and remote users of experimental facilities whose work is critical to DOE missions. FY 2004 is the fourth year of the Office's Scientific Discovery through Advanced Computing (SciDAC) initiative, which is focused on the next generation of scientific simulation and collaboration tools for the scientific areas that are the focus of DOE research.

EPA – the Environmental Protection Agency – has the IT research goal of facilitating multidisciplinary ecosystem modeling, risk assessment, and environmental decision making at the Federal, state, and local levels, and by other interested parties, through advanced use of computing and other information technologies.

NASA – the National Aeronautics and Space Administration – is extending U.S. technological leadership to benefit the U.S. aeronautics, Earth and space science, and spaceborne research communities.

NIH – the National Institutes of Health – is applying the power of computing, both to manage and analyze biomedical data and to model biological processes, in its goal to develop the basic knowledge for the understanding, diagnosis, treatment, and prevention of human disease.

NIST – the National Institute of Standards and Technology – is working with industry and with educational and government organizations to make IT systems more useable, secure, scalable, and interoperable; to apply IT in specialized areas such as manufacturing and biotechnology; and to encourage private-sector companies to accelerate development of IT innovations. It also conducts fundamental research that facilitates measurement, testing, and the adoption of industry standards.

NOAA – the National Oceanic and Atmospheric Administration – is an early adopter of emerging computing technologies for improved climate modeling and weather forecasting, and of emerging communications technologies for disseminating weather forecasts, warnings, and environmental information to users such as policymakers, emergency managers, industry, and the general public.

NSA – the National Security Agency – is addressing some of the most challenging problems in the country in computing, storage, communications, networking, and information assurance in order to help ensure our national security.

NSF – the National Science Foundation – supports basic research in all NITRD areas, incorporates IT advances in science and engineering applications, supports computing and networking infrastructure for research, and educates world-class scientists, engineers, and IT workforce.

ODDR&E – the Office of the Director, Defense Research & Engineering, Department of Defense – manages the University Research Initiative, which focuses on IT R&D for Department of Defense applications, research infrastructure, and science and engineering education.

Other Federal agencies participate in networking and information technology research and development, and coordinate with NITRD activities, using funds that are not budgeted under the program.