
15 U.S. Code § 5511

Networking and Information Technology Research and Development Program

(a) Networking and Information Technology research and development

(1) The President shall implement a Networking and Information Technology Research and Development Program, which shall—

- (A) provide for long-term basic and applied research on networking and information technology;
- (B) provide for research and development on, and demonstration of, technologies to advance the capacity and capabilities of high-end computing and networking systems, and related software;
- (C) provide for sustained access by the research community throughout the United States to high-end computing, distributed, and networking systems that are among the most advanced in the world in terms of performance in solving scientific and engineering problems, including provision for technical support for users of such systems;
- (D) provide for efforts to increase software security and reliability;
- (E) provide for high-performance networks, including experimental testbed networks, to enable research and development on, and demonstration of, advanced applications enabled by such networks;
- (F) provide for computational science and engineering research on mathematical modeling and algorithms for applications in all fields of science and engineering;
- (G) provide for the technical support of, and research and development on, high-end computing systems and software required to address Grand Challenges;
- (H) provide support and guidance for educating and training additional undergraduate and graduate students in software engineering, computer science, computer and network security, applied mathematics, library and information science, and computational science;
- (I) provide for improving the security, reliability, and resilience of computing and networking systems, including Federal systems, including providing for research required to establish security standards and practices for these systems;
- (J) provide for improving the security, reliability, and resiliency of computing and networking systems used by institutions of higher education and other nonprofit research institutions for the processing, storage and transmission of sensitive federally funded research and associated data;
- (K) provide for increased understanding of the scientific principles of cyber-physical systems and improve the methods available for the design, development, and operation of cyber-physical systems that are characterized by high reliability, safety, and security;
- (L) provide for research and development on human-computer interactions, visualization, and big data;
- (M) provide for research and development on the enhancement of cybersecurity, including the human facets of cyber threats and secure cyber systems;

- (N) provide for the understanding of the science, engineering, policy, and privacy protection related to networking and information technology;
- (O) provide for the transition of high-end computing hardware, system software, development tools, and applications into development and operations; and
- (P) foster public-private collaboration among government, industry research laboratories, academia, and nonprofit organizations to maximize research and development efforts and the benefits of networking and information technology, including high-end computing.

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