tion 278h of this title, amending sections 278g–3, 1511e, and 7301 of this title and section 1862 of Title 42, The Public Health and Welfare, and redesignating section 278h of this title as 278q of this title] may be cited as the 'Cyber Security Research and Development Act'.''

§ 7402. Definitions

In this chapter:

(1) Director

The term ''Director'' means the Director of the National Science Foundation.

(2) Institution of higher education

The term ''institution of higher education'' has the meaning given that term in section 1001(a) of title 20.

(Pub. L. 107–305, § 3, Nov. 27, 2002, 116 Stat. 2368.)

References in Text

This chapter, referred to in text, was in the original ''this Act'', meaning Pub. L. 107–305, Nov. 27, 2002, 116 Stat. 2367, known as the Cyber Security Research and Development Act, which is classified principally to this chapter. For complete classification of this Act to the Code, see Short Title note set out under section 7401 of this title and Tables.

§ 7403. National Science Foundation research

(a) Computer and network security research grants

(1) In general

The Director shall award grants for basic research on innovative approaches to the structure of computer and network hardware and software that are aimed at enhancing computer security. Research areas may include—

(A) authentication, cryptography, and other secure data communications technology;

(B) computer forensics and intrusion detection;

(C) reliability of computer and network applications, middleware, operating systems, control systems, and communications infrastructure;

(D) privacy and confidentiality;

(E) network security architecture, including tools for security administration and analysis;

(F) emerging threats;

(G) vulnerability assessments and techniques for quantifying risk;

(H) remote access and wireless security;

(I) enhancement of law enforcement ability to detect, investigate, and prosecute cyber-crimes, including those that involve piracy of intellectual property;

(J) secure fundamental protocols that are integral to inter-network communications and data exchange;

(K) secure software engineering and software assurance, including—

(i) programming languages and systems that include fundamental security features;

(ii) portable or reusable code that remains secure when deployed in various environments;

(iii) verification and validation technologies to ensure that requirements and specifications have been implemented; and

(iv) models for comparison and metrics to assure that required standards have been met;

(L) holistic system security that—

(i) addresses the building of secure systems from trusted and untrusted components;

(ii) proactively reduces vulnerabilities;

(iii) addresses insider threats; and

(iv) supports privacy in conjunction with improved security;

(M) monitoring and detection;

(N) mitigation and rapid recovery methods;

(O) security of wireless networks and mobile devices;

(P) security of cloud infrastructure and services;

(Q) security of election-dedicated voting system software and hardware; and

(R) role of the human factor in cybersecurity and the interplay of computers and humans and the physical world.

(2) Merit review; competition

Grants shall be awarded under this section on a merit-reviewed competitive basis.

(3) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

(A) $35,000,000 for fiscal year 2003;

(B) $40,000,000 for fiscal year 2004;

(C) $46,000,000 for fiscal year 2005;

(D) $52,000,000 for fiscal year 2006; and

(E) $60,000,000 for fiscal year 2007.

(b) Computer and network security research centers

(1) In general

The Director shall award multiyear grants, subject to the availability of appropriations, to institutions of higher education, nonprofit research institutions, or consortia thereof to establish multidisciplinary Centers for Computer and Network Security Research. Institutions of higher education, nonprofit research institutions, or consortia thereof receiving such grants may partner with 1 or more government laboratories or for-profit institutions, or other institutions of higher education or nonprofit research institutions.

(2) Merit review; competition

Grants shall be awarded under this subsection on a merit-reviewed competitive basis.

(3) Purpose

The purpose of the Centers shall be to generate innovative approaches to computer and network security by conducting cutting-edge, multidisciplinary research in computer and network security, including improving the security and resiliency of information technology, reducing cyber vulnerabilities, and anticipating and mitigating consequences of cyber attacks on critical infrastructure, by conducting research in the areas described in subsection (a)(1).

(4) Applications

An institution of higher education, nonprofit research institution, or consortia thereof