

use of public and private cloud computing, including—

(1) new approaches, techniques, technologies, and tools for—

(A) optimizing the effectiveness and efficiency of cloud computing environments; and

(B) mitigating security, identity, privacy, reliability, and manageability risks in cloud-based environments, including as they differ from traditional data centers;

(2) new algorithms and technologies to define, assess, and establish large-scale, trustworthy, cloud-based infrastructures;

(3) models and advanced technologies to measure, assess, report, and understand the performance, reliability, energy consumption, and other characteristics of complex cloud environments; and

(4) advanced security technologies to protect sensitive or proprietary information in global-scale cloud environments.

(b) Establishment

(1) In general

Not later than 60 days after January 4, 2011, the Director shall initiate a review and assessment of cloud computing research opportunities and challenges, including research areas listed in subsection (a), as well as related issues such as—

(A) the management and assurance of data that are the subject of Federal laws and regulations in cloud computing environments, which laws and regulations exist on January 4, 2011;

(B) misappropriation of cloud services, piracy through cloud technologies, and other threats to the integrity of cloud services;

(C) areas of advanced technology needed to enable trusted communications, processing, and storage; and

(D) other areas of focus determined appropriate by the Director.

(2) Unsolicited proposals

The Director may accept unsolicited proposals that review and assess the issues described in paragraph (1). The proposals may be judged according to existing criteria of the National Science Foundation.

(c) Report

The Director shall provide an annual report for not less than 5 consecutive years to Congress on the outcomes of National Science Foundation investments in cloud computing research, recommendations for research focus and program improvements, or other related recommendations. The reports, including any interim findings or recommendations, shall be made publicly available on the website of the National Science Foundation.

(d) NIST support

The Director of the National Institute of Standards and Technology shall—

(1) collaborate with industry in the development of standards supporting trusted cloud computing infrastructures, metrics, interoperability, and assurance; and

(2) support standards development with the intent of supporting common goals.

(Pub. L. 111–358, title V, §524, Jan. 4, 2011, 124 Stat. 4018.)

CODIFICATION

Section was enacted as part of the America COMPETES Reauthorization Act of 2010, also known as the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010, and also as part of the National Science Foundation Authorization Act of 2010, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 502 of Pub. L. 111–358, set out as a note under section 1862p of this title.

§ 1862p–13. Tribal colleges and universities program

(a) In general

The Director shall continue to support a program to award grants on a competitive, merit-reviewed basis to tribal colleges and universities (as defined in section 1059c of title 20, including institutions described in section 1059d of title 20), to enhance the quality of undergraduate STEM education at such institutions and to increase the retention and graduation rates of Native American students pursuing associate’s or baccalaureate degrees in STEM.

(b) Program components

Grants awarded under this section shall support—

(1) activities to improve courses and curriculum in STEM;

(2) faculty development;

(3) stipends for undergraduate students participating in research; and

(4) other activities consistent with subsection (a), as determined by the Director.

(c) Instrumentation

Funding provided under this section may be used for laboratory equipment and materials.

(Pub. L. 111–358, title V, §525, Jan. 4, 2011, 124 Stat. 4019.)

CODIFICATION

Section was enacted as part of the America COMPETES Reauthorization Act of 2010, also known as the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010, and also as part of the National Science Foundation Authorization Act of 2010, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 111–358, set out as a note under section 6621 of this title, and section 502 of Pub. L. 111–358, set out as a note under section 1862p of this title.

§ 1862p–14. Broader Impacts Review Criterion

(a) Goals

The Foundation shall apply a broader impacts review criterion to identify and demonstrate project support of the following goals:

(1) Increasing the economic competitiveness of the United States.