

Calendar No. 334

105TH CONGRESS
2^D SESSION

S. 1609

[Report No. 105-173]

A BILL

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the Advisory Committee on High-Performance Computing and Communications, Information Technology, and the Next Generation Internet to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

APRIL 2, 1998

Reported without amendment

Calendar No. 334105TH CONGRESS
2^D SESSION**S. 1609****[Report No. 105-173]**

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the Advisory Committee on High-Performance Computing and Communications, Information Technology, and the Next Generation Internet to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 4, 1998

Mr. FRIST (for himself, Mr. ROCKFELLER, Mr. McCAIN, Mr. HOLLINGS, Mr. BURNS, and Mr. KERRY) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

APRIL 2, 1998

Reported by Mr. McCAIN, without amendment

A BILL

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the Advisory Committee on High-Performance Computing and Communications, Information Tech-

nology, and the Next Generation Internet to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
 2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Next Generation Inter-
 5 net Research Act of 1998”.

6 **SEC. 2. DEFINITIONS.**

7 (a) **TERMS USED IN THIS ACT.**—For purposes of
 8 this Act—

9 (1) **INTERNET.**—The term “Internet” has the
 10 meaning given such term by section 230(e)(1) of the
 11 Communications Act of 1934 (47 U.S.C. 230(e)(1)).

12 (2) **GEOGRAPHIC PENALTY.**—The term “geo-
 13 graphic penalty” means the imposition of costs on
 14 users of the Internet in rural or other locations at-
 15 tributable to the distance of the user from network
 16 facilities, the low population density of the area in
 17 which the user is located, or other factors, that are
 18 disproportionately greater than the costs imposed on
 19 users in locations closer to such facilities or on users
 20 in locations with significantly greater population
 21 density.

1 (b) DEFINITION OF NETWORK IN HIGH-PERFORM-
2 ANCE COMPUTING ACT OF 1991.—Paragraph (4) of sec-
3 tion 4 of the High-Performance Computing Act of 1991
4 (15 U.S.C. 5503) is amended by striking “network re-
5 ferred to as the National Research and Education Net-
6 work established under section 102; and” and inserting
7 “network, including advanced computer networks of Fed-
8 eral agencies and departments; and”.

9 **SEC. 3. FINDINGS.**

10 (a) IN GENERAL.—The Congress finds that—

11 (1) United States leadership in science and
12 technology has been vital to the Nation’s prosperity,
13 national and economic security, and international
14 competitiveness, and there is every reason to believe
15 that maintaining this tradition will lead to long-term
16 continuation of United States strategic advantages
17 in information technology;

18 (2) the United States’ investment in science
19 and technology has yielded a scientific and engineer-
20 ing enterprise without peer, and that Federal invest-
21 ment in research is critical to the maintenance of
22 United States leadership;

23 (3) previous Federal investment in computer
24 networking technology and related fields has resulted

1 in the creation of new industries and new jobs in the
2 United States;

3 (4) the Internet is playing an increasingly im-
4 portant role in keeping citizens informed of the ac-
5 tions of their government; and

6 (5) continued inter-agency cooperation is nec-
7 essary to avoid wasteful duplication in Federal net-
8 working research and development programs.

9 (b) ADDITIONAL FINDINGS FOR THE 1991 ACT.—
10 Section 2 of the High-Performance Computing Act of
11 1991 (15 U.S.C. 5501) is amended by—

12 (1) striking paragraph (4) and inserting the fol-
13 lowing:

14 “(4) A high-capacity, flexible, high-speed na-
15 tional research and education computer network is
16 needed to provide researchers and educators with ac-
17 cess to computational and information resources, act
18 as a test bed for further research and development
19 for high-capacity and high-speed computer networks,
20 and provide researchers the necessary vehicle for
21 continued network technology improvement through
22 research.”; and

23 (2) adding at the end thereof the following:

24 “(7) Additional research must be undertaken to
25 lay the foundation for the development of new appli-

1 cations that can result in economic growth, improved
2 health care, and improved educational opportunities.

3 “(8) Research in new networking technologies
4 holds the promise of easing the economic burdens of
5 information access disproportionately borne by rural
6 users of the Internet.

7 “(9) Information security is an important part
8 of computing, information, and communications sys-
9 tems and applications, and research into security ar-
10 chitectures is a critical aspect of computing, infor-
11 mation, and communications research programs.”.

12 **SEC. 4. PURPOSES.**

13 (a) IN GENERAL.—The purposes of this Act are—

14 (1) to serve as the first authorization in a series
15 of computing, information, and communication tech-
16 nology initiatives outlines in the High-Performance
17 Computing Act of 1991 (15 U.S.C. 5501 et seq.)
18 that will include research programs related to—

19 (A) high-end computing and computation;

20 (B) human-centered systems;

21 (C) high confidence systems; and

22 (D) education, training, and human re-
23 sources; and

1 (2) to provide for the development and coordi-
2 nation of a comprehensive and integrated United
3 States research program which will—

4 (A) focus on the research and development
5 of a coordinated set of technologies that seeks
6 to create a network infrastructure that can sup-
7 port greater speed, robustness, and flexibility
8 than is currently available and promote
9 connectivity and interoperability among ad-
10 vanced computer networks of Federal agencies
11 and departments;

12 (B) focus on research in technology that
13 may result in high-speed data access for users
14 that is both economically viable and does not
15 impose a geographic penalty; and

16 (C) encourage researchers to pursue ap-
17 proaches to networking technology that lead to
18 maximally flexible and extensible solutions
19 wherever feasible.

20 (b) MODIFICATION OF PURPOSES OF THE 1991
21 ACT.—Section 3 of the High-Performance Computing Act
22 of 1991 (15 U.S.C. 5502) is amended by—

23 (1) striking the section caption and inserting
24 the following:

1 **“SEC. 3. PURPOSES.”;**

2 (2) striking “purpose of this Act is” and insert-
3 ing “purposes of this Act are”;

4 (3) striking “universities; and” in paragraph
5 (1)(I) and inserting “universities;”;

6 (4) striking “efforts.” in paragraph (2) and in-
7 serting “network research and development pro-
8 grams;”; and

9 (5) adding at the end thereof the following:

10 “(3) promoting the further development of an
11 information infrastructure of information stores,
12 services, access mechanisms, and research facilities
13 available for use through the Internet;

14 “(4) promoting the more rapid development and
15 wider distribution of networking management and
16 development tools; and

17 “(5) promoting the rapid adoption of open net-
18 work standards.”.

19 **SEC. 5. DUTIES OF ADVISORY COMMITTEE.**

20 Title I of the High-Performance Computing Act of
21 1991 (15 U.S.C 5511 et seq.) is amended by adding at
22 the end thereof the following:

23 **“SEC. 103. ADVISORY COMMITTEE.**

24 “(a) IN GENERAL.—In addition to its functions
25 under Executive Order 13035 (62 F.R. 7231), the Advi-
26 sory Committee on High-Performance Computing and

1 Communications, Information Technology, and the Next
2 Generation Internet, established by Executive Order No.
3 13035 of February 11, 1997 (62 F.R. 7231) shall—

4 “(1) assess the extent to which the Next Gen-
5 eration Internet program—

6 “(A) carries out the purposes of this Act;

7 “(B) addresses concerns relating to, among
8 other matters—

9 “(i) geographic penalties (as defined
10 in section 2(2) of the Next Generation
11 Internet Research Act of 1998); and

12 “(ii) technology transfer to and from
13 the private sector; and

14 “(2) assess the extent to which—

15 “(A) the role of each Federal agency and
16 department involved in implementing the Next
17 Generation Internet program is clear, com-
18plementary to and non-duplicative of the roles
19of other participating agencies and depart-
20ments; and

21 “(B) each such agency and department
22 concurs with the rule of each other participat-
23ing agency or department.

24 “(b) REPORTS.—The Advisory Committee shall as-
25 sess implementation of the Next Generation Internet ini-

1 tiative and report, not less frequently than annually, to
 2 the President, the United States Senate Committee on
 3 Commerce, Science, and Transportation, and the United
 4 States House of Representatives Committee on Science on
 5 its findings for the preceding fiscal year. The first such
 6 report shall be submitted 6 months after the date of enact-
 7 ment of the Next Generation Internet Research Act of
 8 1998 the last report shall be submitted by September 30,
 9 2000.”.

10 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

11 Title I of the High-Performance Computing Act of
 12 1991 (15 U.S.C 5511 et seq.), as amended by section 5
 13 of this Act, is amended by adding at the end thereof the
 14 following:

15 **SEC. 104. AUTHORIZATION OF APPROPRIATIONS.**

16 “There are authorized to be appropriated for the pur-
 17 pose of carrying out the Next Generation Internet pro-
 18 gram the following amounts:

“Agency	FY 1999	FY 2000
“Department of Defense	\$42,500,000	\$45,000,000
“Department of Energy	\$20,000,000	\$25,000,000
“National Science Foundation	\$25,000,000	\$25,000,000
“National Institutes of Health	\$5,000,000	\$7,500,000
“National Aeronautics and Space Administra- tion	\$5,000,000	\$5,000,000
“National Institute of Standards and Tech- nology	\$5,000,000	\$7,500,000”.