

112<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 3834

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## AN ACT

To amend the High-Performance Computing Act of 1991 to authorize activities for support of networking and information technology research, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Advancing America’s  
3 Networking and Information Technology Research and  
4 Development Act of 2012”.

5 **SEC. 2. PROGRAM PLANNING AND COORDINATION.**

6 (a) PERIODIC REVIEWS.—Section 101 of the High-  
7 Performance Computing Act of 1991 (15 U.S.C. 5511)  
8 is amended by adding at the end the following new sub-  
9 section:

10 “(d) PERIODIC REVIEWS.—The agencies identified in  
11 subsection (a)(3)(B) shall—

12 “(1) periodically assess the contents and fund-  
13 ing levels of the Program Component Areas and re-  
14 structure the Program when warranted, taking into  
15 consideration any relevant recommendations of the  
16 advisory committee established under subsection (b);  
17 and

18 “(2) ensure that the Program includes large-  
19 scale, long-term, interdisciplinary research and de-  
20 velopment activities, including activities described in  
21 section 104.”.

22 (b) DEVELOPMENT OF STRATEGIC PLAN.—Section  
23 101 of such Act (15 U.S.C. 5511) is amended further by  
24 adding after subsection (d), as added by subsection (a)  
25 of this Act, the following new subsection:

26 “(e) STRATEGIC PLAN.—

1           “(1) IN GENERAL.—The agencies identified in  
2 subsection (a)(3)(B), working through the National  
3 Science and Technology Council and with the assist-  
4 ance of the National Coordination Office described  
5 under section 102, shall develop, within 12 months  
6 after the date of enactment of the Advancing Amer-  
7 ica’s Networking and Information Technology Re-  
8 search and Development Act of 2012, and update  
9 every 3 years thereafter, a 5-year strategic plan to  
10 guide the activities described under subsection  
11 (a)(1).

12           “(2) CONTENTS.—The strategic plan shall  
13 specify near-term and long-term objectives for the  
14 Program, the anticipated time frame for achieving  
15 the near-term objectives, the metrics to be used for  
16 assessing progress toward the objectives, and how  
17 the Program will—

18           “(A) foster the transfer of research and  
19 development results into new technologies and  
20 applications for the benefit of society, including  
21 through cooperation and collaborations with  
22 networking and information technology re-  
23 search, development, and technology transition  
24 initiatives supported by the States;

1           “(B) encourage and support mechanisms  
2           for interdisciplinary research and development  
3           in networking and information technology, in-  
4           cluding through collaborations across agencies,  
5           across Program Component Areas, with indus-  
6           try, with Federal laboratories (as defined in  
7           section 4 of the Stevenson-Wydler Technology  
8           Innovation Act of 1980 (15 U.S.C. 3703)), and  
9           with international organizations;

10           “(C) address long-term challenges of na-  
11           tional importance for which solutions require  
12           large-scale, long-term, interdisciplinary research  
13           and development;

14           “(D) place emphasis on innovative and  
15           high-risk projects having the potential for sub-  
16           stantial societal returns on the research invest-  
17           ment;

18           “(E) strengthen all levels of networking  
19           and information technology education and  
20           training programs to ensure an adequate, well-  
21           trained workforce; and

22           “(F) attract more women and underrep-  
23           resented minorities to pursue postsecondary de-  
24           grees in networking and information tech-  
25           nology.

1           “(3) NATIONAL RESEARCH INFRASTRUC-  
2           TURE.—The strategic plan developed in accordance  
3           with paragraph (1) shall be accompanied by mile-  
4           stones and roadmaps for establishing and maintain-  
5           ing the national research infrastructure required to  
6           support the Program, including the roadmap re-  
7           quired by subsection (a)(2)(E).

8           “(4) RECOMMENDATIONS.—The entities in-  
9           volved in developing the strategic plan under para-  
10          graph (1) shall take into consideration the rec-  
11          ommendations—

12                   “(A) of the advisory committee established  
13                   under subsection (b); and

14                   “(B) of the stakeholders whose input was  
15                   solicited by the National Coordination Office, as  
16                   required under section 102(b)(3).

17          “(5) REPORT TO CONGRESS.—The Director of  
18          the National Coordination Office shall transmit the  
19          strategic plan required under paragraph (1) to the  
20          advisory committee, the Committee on Commerce,  
21          Science, and Transportation of the Senate, and the  
22          Committee on Science, Space, and Technology of the  
23          House of Representatives.”.

1 (c) ADDITIONAL RESPONSIBILITIES OF DIRECTOR.—  
2 Section 101(a)(2) of such Act (15 U.S.C. 5511(a)(2)) is  
3 amended—

4 (1) in subparagraph (A) by inserting “edu-  
5 cation,” before “and other activities”;

6 (2) by redesignating subparagraphs (E) and  
7 (F) as subparagraphs (F) and (G), respectively; and

8 (3) by inserting after subparagraph (D) the fol-  
9 lowing new subparagraph:

10 “(E) encourage and monitor the efforts of the  
11 agencies participating in the Program to allocate the  
12 level of resources and management attention nec-  
13 essary to ensure that the strategic plan under sub-  
14 section (e) is developed and executed effectively and  
15 that the objectives of the Program are met;”.

16 (d) ADVISORY COMMITTEE.—Section 101(b)(1) of  
17 such Act (15 U.S.C. 5511(b)(1)) is amended—

18 (1) after the first sentence, by inserting the fol-  
19 lowing: “The co-chairs of the advisory committee  
20 shall meet the qualifications of committee member-  
21 ship and may be members of the President’s Council  
22 of Advisors on Science and Technology.”; and

23 (2) in subparagraph (D), by striking “high-per-  
24 formance” and inserting “high-end”.

1 (e) REPORT.—Section 101(a)(3) of such Act (15  
2 U.S.C. 5511(a)(3)) is amended—

3 (1) in subparagraph (C)—

4 (A) by striking “is submitted,” and insert-  
5 ing “is submitted, the levels for the previous  
6 fiscal year,”; and

7 (B) by striking “each Program Component  
8 Area;” and inserting “each Program Compo-  
9 nent Area and research area supported in ac-  
10 cordance with section 104;”;

11 (2) in subparagraph (D)—

12 (A) by striking “each Program Component  
13 Area,” and inserting “each Program Compo-  
14 nent Area and research area supported in ac-  
15 cordance with section 104;”;

16 (B) by striking “is submitted,” and insert-  
17 ing “is submitted, the levels for the previous  
18 fiscal year,”; and

19 (C) by striking “and” after the semicolon;

20 (3) by redesignating subparagraph (E) as sub-  
21 paragraph (G); and

22 (4) by inserting after subparagraph (D) the fol-  
23 lowing new subparagraphs:

24 “(E) include a description of how the objectives  
25 for each Program Component Area, and the objec-

1 tives for activities that involve multiple Program  
2 Component Areas, relate to the objectives of the  
3 Program identified in the strategic plan required  
4 under subsection (e);

5 “(F) include—

6 “(i) a description of the funding required  
7 by the National Coordination Office to perform  
8 the functions specified under section 102(b) for  
9 the next fiscal year by category of activity;

10 “(ii) a description of the funding required  
11 by such Office to perform the functions speci-  
12 fied under section 102(b) for the current fiscal  
13 year by category of activity; and

14 “(iii) the amount of funding provided for  
15 such Office for the current fiscal year by each  
16 agency participating in the Program; and”.

17 (f) DEFINITION.—Section 4 of such Act (15 U.S.C.  
18 5503) is amended—

19 (1) by redesignating paragraphs (1) through  
20 (7) as paragraphs (2) through (8), respectively;

21 (2) by inserting before paragraph (2), as so re-  
22 designated, the following new paragraph:

23 “(1) ‘cyber-physical systems’ means physical or  
24 engineered systems whose networking and informa-  
25 tion technology functions and physical elements are

1 deeply integrated and are actively connected to the  
2 physical world through sensors, actuators, or other  
3 means to perform monitoring and control func-  
4 tions;”;

5 (3) in paragraph (3), as so redesignated, by  
6 striking “high-performance computing” and insert-  
7 ing “networking and information technology”;

8 (4) in paragraph (4), as so redesignated—

9 (A) by striking “high-performance com-  
10 puting” and inserting “networking and infor-  
11 mation technology”; and

12 (B) by striking “supercomputer” and in-  
13 serting “high-end computing”;

14 (5) in paragraph (6), as so redesignated, by  
15 striking “network referred to as” and all that fol-  
16 lows through the semicolon and inserting “network,  
17 including advanced computer networks of Federal  
18 agencies and departments;”; and

19 (6) in paragraph (7), as so redesignated, by  
20 striking “National High-Performance Computing  
21 Program” and inserting “networking and informa-  
22 tion technology research and development program”.

1 **SEC. 3. LARGE-SCALE RESEARCH IN AREAS OF NATIONAL**  
2 **IMPORTANCE.**

3 Title I of such Act (15 U.S.C. 5511) is amended by  
4 adding at the end the following new section:

5 **“SEC. 104. LARGE-SCALE RESEARCH IN AREAS OF NA-**  
6 **TIONAL IMPORTANCE.**

7 “(a) IN GENERAL.—The Program shall encourage  
8 agencies identified in section 101(a)(3)(B) to support  
9 large-scale, long-term, interdisciplinary research and de-  
10 velopment activities in networking and information tech-  
11 nology directed toward application areas that have the po-  
12 tential for significant contributions to national economic  
13 competitiveness and for other significant societal benefits.  
14 Such activities, ranging from basic research to the dem-  
15 onstration of technical solutions, shall be designed to ad-  
16 vance the development of research discoveries. The advi-  
17 sory committee established under section 101(b) shall  
18 make recommendations to the Program for candidate re-  
19 search and development areas for support under this sec-  
20 tion.

21 “(b) CHARACTERISTICS.—

22 “(1) IN GENERAL.—Research and development  
23 activities under this section shall—

24 “(A) include projects selected on the basis  
25 of applications for support through a competi-  
26 tive, merit-based process;

1           “(B) involve collaborations among re-  
2           searchers in institutions of higher education  
3           and industry, and may involve nonprofit re-  
4           search institutions and Federal laboratories, as  
5           appropriate;

6           “(C) when possible, leverage Federal in-  
7           vestments through collaboration with related  
8           State initiatives; and

9           “(D) include a plan for fostering the trans-  
10          fer of research discoveries and the results of  
11          technology demonstration activities, including  
12          from institutions of higher education and Fed-  
13          eral laboratories, to industry for commercial de-  
14          velopment.

15          “(2) COST-SHARING.—In selecting applications  
16          for support, the agencies shall give special consider-  
17          ation to projects that include cost sharing from non-  
18          Federal sources.

19          “(3) AGENCY COLLABORATION.—If 2 or more  
20          agencies identified in section 101(a)(3)(B), or other  
21          appropriate agencies, are working on large-scale re-  
22          search and development activities in the same area  
23          of national importance, then such agencies shall  
24          strive to collaborate through joint solicitation and se-

1       lection of applications for support and subsequent  
2       funding of projects.

3               “(4) INTERDISCIPLINARY RESEARCH CEN-  
4       TERS.—Research and development activities under  
5       this section may be supported through interdiscipli-  
6       nary research centers that are organized to inves-  
7       tigate basic research questions and carry out tech-  
8       nology demonstration activities in areas described in  
9       subsection (a). Research may be carried out through  
10      existing interdisciplinary centers, including those au-  
11      thorized under section 7024(b)(2) of the America  
12      COMPETES Act (Public Law 110–69; 42 U.S.C.  
13      1862o–10).”.

14   **SEC. 4. CYBER-PHYSICAL SYSTEMS.**

15       (a) ADDITIONAL PROGRAM CHARACTERISTICS.—Sec-  
16      tion 101(a)(1) of such Act (15 U.S.C. 5511(a)(1)) is  
17      amended—

18               (1) in subparagraph (H), by striking “and”  
19               after the semicolon;

20               (2) in subparagraph (I), by striking the period  
21               at the end and inserting a semicolon; and

22               (3) by adding at the end the following new sub-  
23               paragraphs:

24               “(J) provide for increased understanding of the  
25               scientific principles of cyber-physical systems and

1 improve the methods available for the design, devel-  
2 opment, and operation of cyber-physical systems  
3 that are characterized by high reliability, safety, and  
4 security; and

5 “(K) provide for research and development on  
6 human-computer interactions, visualization, and big  
7 data.”.

8 (b) TASK FORCE.—Title I of such Act (15 U.S.C.  
9 5511) is amended further by adding after section 104, as  
10 added by section 3 of this Act, the following new section:

11 **“SEC. 105. UNIVERSITY/INDUSTRY TASK FORCE.**

12 “(a) ESTABLISHMENT.—Not later than 180 days  
13 after the date of enactment of the Advancing America’s  
14 Networking and Information Technology Research and  
15 Development Act of 2012, the Director of the National  
16 Coordination Office shall convene a task force to explore  
17 mechanisms for carrying out collaborative research and  
18 development activities for cyber-physical systems, includ-  
19 ing the related technologies required to enable these sys-  
20 tems, through a consortium or other appropriate entity  
21 with participants from institutions of higher education,  
22 Federal laboratories, and industry.

23 “(b) FUNCTIONS.—The task force shall—

24 “(1) develop options for a collaborative model  
25 and an organizational structure for such entity

1 under which the joint research and development ac-  
2 tivities could be planned, managed, and conducted  
3 effectively, including mechanisms for the allocation  
4 of resources among the participants in such entity  
5 for support of such activities;

6 “(2) propose a process for developing a re-  
7 search and development agenda for such entity, in-  
8 cluding guidelines to ensure an appropriate scope of  
9 work focused on nationally significant challenges and  
10 requiring collaboration and to ensure the develop-  
11 ment of related scientific and technological mile-  
12 stones;

13 “(3) define the roles and responsibilities for the  
14 participants from institutions of higher education,  
15 Federal laboratories, and industry in such entity;

16 “(4) propose guidelines for assigning intellec-  
17 tual property rights and for the transfer of research  
18 results to the private sector; and

19 “(5) make recommendations for how such enti-  
20 ty could be funded from Federal, State, and non-  
21 governmental sources.

22 “(c) COMPOSITION.—In establishing the task force  
23 under subsection (a), the Director of the National Coordi-  
24 nation Office—

1           “(1) shall appoint an equal number of individ-  
2           uals with knowledge and expertise in cyber-physical  
3           systems from—

4                   “(A) institutions of higher education, in-  
5                   cluding minority-serving institutions and com-  
6                   munity colleges; and

7                   “(B) industry; and

8           “(2) may appoint not more than 2 individuals  
9           from Federal laboratories.

10          “(d) REPORT.—Not later than 1 year after the date  
11 of enactment of the Advancing America’s Networking and  
12 Information Technology Research and Development Act of  
13 2012, the Director of the National Coordination Office  
14 shall transmit to the Committee on Commerce, Science,  
15 and Transportation of the Senate and the Committee on  
16 Science, Space, and Technology of the House of Rep-  
17 resentatives a report describing the findings and rec-  
18 ommendations of the task force.

19          “(e) TERMINATION.—The task force shall terminate  
20 upon transmittal of the report required under subsection  
21 (d).

22          “(f) COMPENSATION.—Members of the task force  
23 shall serve without compensation.”.

1 **SEC. 5. CLOUD COMPUTING SERVICES FOR RESEARCH.**

2 Title I of such Act (15 U.S.C. 5511) is amended fur-  
3 ther by adding after section 105, as added by section 4(b)  
4 of this Act, the following new section:

5 **“SEC. 106. CLOUD COMPUTING SERVICES FOR RESEARCH.**

6 “(a) INTERAGENCY WORKING GROUP.—Not later  
7 than 180 days after the date of enactment of the Advanc-  
8 ing America’s Networking and Information Technology  
9 Research and Development Act of 2012, the Director of  
10 the National Coordination Office, working through the  
11 National Science and Technology Council, shall convene  
12 an interagency working group to examine—

13 “(1) the research and development needed—

14 “(A) to enhance the effectiveness and effi-  
15 ciency of cloud computing environments;

16 “(B) to increase the trustworthiness of  
17 cloud applications and infrastructure; and

18 “(C) to enhance the foundations of cloud  
19 architectures, programming models, and inter-  
20 operability; and

21 “(2) the potential use of cloud computing for  
22 federally-funded science and engineering research,  
23 including issues around funding mechanisms and  
24 policies for the use of cloud computing services for  
25 such research.

1       “(b) CONSULTATION.—In carrying out the tasks in  
2 paragraphs (1) and (2) of subsection (a), the working  
3 group shall consult with academia, industry, Federal lab-  
4 oratories, and other relevant organizations and institu-  
5 tions, as appropriate.

6       “(c) REPORT.—Not later than 1 year after the date  
7 of enactment of the Advancing America’s Networking and  
8 Information Technology Research and Development Act of  
9 2012, the Director of the National Coordination Office  
10 shall transmit to the Committee on Science, Space, and  
11 Technology of the House of Representatives and the Com-  
12 mittee on Commerce, Science, and Transportation of the  
13 Senate a report describing the findings and any rec-  
14 ommendations of the working group.

15       “(d) TERMINATION.—The interagency working group  
16 shall terminate upon transmittal of the report required  
17 under subsection (c).”.

18 **SEC. 6. NATIONAL COORDINATION OFFICE.**

19       Section 102 of such Act (15 U.S.C. 5512) is amended  
20 to read as follows:

21 **“SEC. 102. NATIONAL COORDINATION OFFICE.**

22       “(a) OFFICE.—The Director shall continue a Na-  
23 tional Coordination Office with a Director and full-time  
24 staff.

1       “(b) FUNCTIONS.—The National Coordination Office  
2 shall—

3           “(1) provide technical and administrative sup-  
4 port to—

5               “(A) the agencies participating in planning  
6 and implementing the Program, including such  
7 support as needed in the development of the  
8 strategic plan under section 101(e); and

9               “(B) the advisory committee established  
10 under section 101(b);

11           “(2) serve as the primary point of contact on  
12 Federal networking and information technology ac-  
13 tivities for government organizations, academia, in-  
14 dustry, professional societies, State computing and  
15 networking technology programs, interested citizen  
16 groups, and others to exchange technical and pro-  
17 grammatic information;

18           “(3) solicit input and recommendations from a  
19 wide range of stakeholders during the development  
20 of each strategic plan required under section 101(e)  
21 through the convening of at least 1 workshop with  
22 invitees from academia, industry, Federal labora-  
23 tories, and other relevant organizations and institu-  
24 tions;

1           “(4) conduct public outreach, including the dis-  
2           semination of findings and recommendations of the  
3           advisory committee, as appropriate; and

4           “(5) promote access to and early application of  
5           the technologies, innovations, and expertise derived  
6           from Program activities to agency missions and sys-  
7           tems across the Federal Government and to United  
8           States industry.

9           “(c) SOURCE OF FUNDING.—

10           “(1) IN GENERAL.—The operation of the Na-  
11           tional Coordination Office shall be supported by  
12           funds from each agency participating in the Pro-  
13           gram.

14           “(2) SPECIFICATIONS.—The portion of the total  
15           budget of such Office that is provided by each agen-  
16           cy for each fiscal year shall be in the same propor-  
17           tion as each such agency’s share of the total budget  
18           for the Program for the previous fiscal year, as spec-  
19           ified in the report required under section  
20           101(a)(3).”.

21 **SEC. 7. IMPROVING NETWORKING AND INFORMATION**  
22 **TECHNOLOGY EDUCATION.**

23           Section 201(a) of such Act (15 U.S.C. 5521(a)) is  
24 amended—

1 (1) by redesignating paragraphs (2) through  
2 (4) as paragraphs (3) through (5), respectively; and

3 (2) by inserting after paragraph (1) the fol-  
4 lowing new paragraph:

5 “(2) the National Science Foundation shall use  
6 its existing programs, in collaboration with other  
7 agencies, as appropriate, to improve the teaching  
8 and learning of networking and information tech-  
9 nology at all levels of education and to increase par-  
10 ticipation in networking and information technology  
11 fields, including by women and underrepresented mi-  
12 norities;”.

13 **SEC. 8. CONFORMING AND TECHNICAL AMENDMENTS.**

14 (a) SECTION 3.—Section 3 of such Act (15 U.S.C.  
15 5502) is amended—

16 (1) in the matter preceding paragraph (1), by  
17 striking “high-performance computing” and insert-  
18 ing “networking and information technology”;

19 (2) in paragraph (1)—

20 (A) in the matter preceding subparagraph  
21 (A), by striking “high-performance computing”  
22 and inserting “networking and information  
23 technology”;

24 (B) in subparagraphs (A), (F), and (G), by  
25 striking “high-performance computing” each

1 place it appears and inserting “networking and  
2 information technology”; and

3 (C) in subparagraph (H), by striking  
4 “high-performance” and inserting “high-end”;  
5 and

6 (3) in paragraph (2)—

7 (A) by striking “high-performance com-  
8 puting and” and inserting “networking and in-  
9 formation technology and”; and

10 (B) by striking “high-performance com-  
11 puting network” and inserting “networking and  
12 information technology”.

13 (b) TITLE I.—The heading of title I of such Act (15  
14 U.S.C. 5511) is amended by striking “**HIGH-PER-**  
15 **FORMANCE COMPUTING**” and inserting “**NET-**  
16 **WORKING AND INFORMATION TECH-**  
17 **NOLOGY**”.

18 (c) SECTION 101.—Section 101 of such Act (15  
19 U.S.C. 5511) is amended—

20 (1) in the section heading, by striking “**HIGH-**  
21 **PERFORMANCE COMPUTING**” and inserting  
22 “**NETWORKING AND INFORMATION TECH-**  
23 **NOLOGY RESEARCH AND DEVELOPMENT**”;

24 (2) in subsection (a)—

1 (A) in the subsection heading, by striking  
2 “NATIONAL HIGH-PERFORMANCE COMPUTING”  
3 and inserting “NETWORKING AND INFORMA-  
4 TION TECHNOLOGY RESEARCH AND DEVELOP-  
5 MENT”;

6 (B) in paragraph (1) of such subsection—

7 (i) in the matter preceding subpara-  
8 graph (A), by striking “National High-Per-  
9 formance Computing Program” and insert-  
10 ing “networking and information tech-  
11 nology research and development pro-  
12 gram”;

13 (ii) in subparagraph (A), by striking  
14 “high-performance computing, including  
15 networking” and inserting “networking  
16 and information technology”;

17 (iii) in subparagraphs (B) and (G), by  
18 striking “high-performance” each place it  
19 appears and inserting “high-end”; and

20 (iv) in subparagraph (C), by striking  
21 “high-performance computing and net-  
22 working” and inserting “high-end com-  
23 puting, distributed, and networking”; and

24 (C) in paragraph (2) of such subsection—

25 (i) in subparagraphs (A) and (C)—

1 (I) by striking “high-performance  
2 computing” each place it appears and  
3 inserting “networking and information  
4 technology”; and

5 (II) by striking “development,  
6 networking,” each place it appears  
7 and inserting “development,”; and

8 (ii) in subparagraphs (F) and (G), as  
9 redesignated by section 2(c)(1) of this Act,  
10 by striking “high-performance” each place  
11 it appears and inserting “high-end”;

12 (3) in subsection (b)—

13 (A) in paragraph (1), in the matter pre-  
14 ceding subparagraph (A), by striking “high-per-  
15 formance computing” both places it appears  
16 and inserting “networking and information  
17 technology”; and

18 (B) in paragraph (2), in the second sen-  
19 tence, by striking “2” and inserting “3”; and

20 (4) in subsection (c)(1)(A), by striking “high-  
21 performance computing” and inserting “networking  
22 and information technology”.

23 (d) SECTION 201.—Section 201(a)(1) of such Act  
24 (15 U.S.C. 5521(a)(1)) is amended by striking “high-per-  
25 formance computing” and all that follows through “net-

1 working;” and inserting “networking and information re-  
2 search and development;”.

3 (e) SECTION 202.—Section 202(a) of such Act (15  
4 U.S.C. 5522(a)) is amended by striking “high-perform-  
5 ance computing” and inserting “networking and informa-  
6 tion technology”.

7 (f) SECTION 203.—Section 203(a) of such Act (15  
8 U.S.C. 5523(a)(1)) is amended—

9 (1) in paragraph (1), by striking “high-per-  
10 formance computing and networking” and inserting  
11 “networking and information technology”; and

12 (2) in paragraph (2)(A), by striking “high-per-  
13 formance” and inserting “high-end”.

14 (g) SECTION 204.—Section 204 of such Act (15  
15 U.S.C. 5524) is amended—

16 (1) in subsection (a)(1)—

17 (A) in subparagraph (A), by striking  
18 “high-performance computing systems and net-  
19 works” and inserting “networking and informa-  
20 tion technology systems and capabilities”;

21 (B) in subparagraph (B), by striking  
22 “interoperability of high-performance com-  
23 puting systems in networks and for common  
24 user interfaces to systems” and inserting

1 “interoperability and usability of networking  
2 and information technology systems”; and

3 (C) in subparagraph (C), by striking  
4 “high-performance computing” and inserting  
5 “networking and information technology”; and  
6 (2) in subsection (b)—

7 (A) in the heading, by striking “HIGH-  
8 PERFORMANCE COMPUTING AND NETWORK”  
9 and inserting “NETWORKING AND INFORMA-  
10 TION TECHNOLOGY”; and

11 (B) by striking “sensitive”.

12 (h) SECTION 205.—Section 205(a) of such Act (15  
13 U.S.C. 5525(a)) is amended by striking “computational”  
14 and inserting “networking and information technology”.

15 (i) SECTION 206.—Section 206(a) of such Act (15  
16 U.S.C. 5526(a)) is amended by striking “computational  
17 research” and inserting “networking and information  
18 technology research”.

19 (j) SECTION 207.—Section 207(b) of such Act (15  
20 U.S.C. 5527(b)) is amended by striking “high-perform-  
21 ance computing” and inserting “networking and informa-  
22 tion technology”.

23 (k) SECTION 208.—Section 208 of such Act (15  
24 U.S.C. 5528) is amended—

1           (1) in the section heading, by striking “**HIGH-**  
2           **PERFORMANCE COMPUTING**” and inserting  
3           “**NETWORKING AND INFORMATION TECH-**  
4           **NOLOGY**”; and

5           (2) in subsection (a)—

6                 (A) in paragraph (1), by striking “High-  
7                 performance computing and associated” and in-  
8                 serting “Networking and information”;

9                 (B) in paragraph (2), by striking “high-  
10                performance computing” and inserting “net-  
11                working and information technologies”;

12                (C) in paragraph (3), by striking “high-  
13                performance” and inserting “high-end”;

14                (D) in paragraph (4), by striking “high-  
15                performance computers and associated” and in-  
16                serting “networking and information”; and

17                (E) in paragraph (5), by striking “high-  
18                performance computing and associated” and in-  
19                serting “networking and information”.

Passed the House of Representatives April 27, 2012.

Attest:

*Clerk.*



112<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**H. R. 3834**

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**AN ACT**

To amend the High-Performance Computing Act of 1991 to authorize activities for support of net-working and information technology research, and for other purposes.