

107TH CONGRESS  
1ST SESSION

# H. R. 1259

To amend the National Institute of Standards and Technology Act to enhance the ability of the National Institute of Standards and Technology to improve computer security, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

MARCH 28, 2001

Mrs. MORELLA (for herself, Mr. GORDON, Mr. BOEHLERT, Mr. BARCIA, Mr. EHLERS, Mr. ETHERIDGE, and Mr. GUTKNECHT) introduced the following bill; which was referred to the Committee on Science

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## A BILL

To amend the National Institute of Standards and Technology Act to enhance the ability of the National Institute of Standards and Technology to improve computer security, 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 “Computer Security  
5 Enhancement Act of 2001”.

6 **SEC. 2. FINDINGS AND PURPOSES.**

7 (a) FINDINGS.—The Congress finds the following:

1           (1) The National Institute of Standards and  
2           Technology has responsibility for developing stand-  
3           ards and guidelines needed to ensure the cost-effec-  
4           tive security and privacy of sensitive information in  
5           Federal computer systems.

6           (2) The Federal Government has an important  
7           role in ensuring the protection of sensitive, but un-  
8           classified, information controlled by Federal agen-  
9           cies.

10          (3) Technology that is based on the application  
11          of cryptography exists and can be readily provided  
12          by private sector companies to ensure the confiden-  
13          tiality, authenticity, and integrity of information  
14          associated with public and private activities.

15          (4) The development and use of encryption  
16          technologies by industry should be driven by market  
17          forces rather than by Government imposed require-  
18          ments.

19          (b) PURPOSES.—The purposes of this Act are to—

20                (1) reinforce the role of the National Institute  
21                of Standards and Technology in ensuring the secu-  
22                rity of unclassified information in Federal computer  
23                systems; and

1           (2) promote technology solutions based on pri-  
2           vate sector offerings to protect the security of Fed-  
3           eral computer systems.

4 **SEC. 3. SECURITY OF FEDERAL COMPUTERS AND NET-**  
5 **WORKS.**

6           Section 20(b) of the National Institute of Standards  
7 and Technology Act (15 U.S.C. 278g–3(b)) is amended—

8           (1) by redesignating paragraphs (4) and (5) as  
9           paragraphs (7) and (8), respectively; and

10          (2) by inserting after paragraph (3) the fol-  
11          lowing new paragraphs:

12               “(4) except for national security systems, as de-  
13               fined in section 5142 of Public Law 104-106 (40  
14               U.S.C. 1452), to provide guidance and assistance to  
15               Federal agencies for protecting the security and pri-  
16               vacy of sensitive information in interconnected Fed-  
17               eral computer systems, including identification of  
18               significant risks thereto;

19               “(5) to promote compliance by Federal agencies  
20               with existing Federal computer information security  
21               and privacy guidelines;

22               “(6) in consultation with appropriate Federal  
23               agencies, assist Federal response efforts related to  
24               unauthorized access to Federal computer systems;”.

1 **SEC. 4. COMPUTER SECURITY IMPLEMENTATION.**

2 Section 20 of the National Institute of Standards and  
3 Technology Act (15 U.S.C. 278g-3) is further amended—

4 (1) by redesignating subsections (c) and (d) as  
5 subsections (e) and (f), respectively; and

6 (2) by inserting after subsection (b) the fol-  
7 lowing new subsection:

8 “(c)(1) In carrying out subsection (a)(2) and (3), the  
9 Institute shall—

10 “(A) emphasize the development of technology-  
11 neutral policy guidelines for computer security and  
12 electronic authentication practices by the Federal  
13 agencies;

14 “(B) promote the use of commercially available  
15 products, which appear on the list required by para-  
16 graph (2), to provide for the security and privacy of  
17 sensitive information in Federal computer systems;

18 “(C) develop qualitative and quantitative meas-  
19 ures appropriate for assessing the quality and effec-  
20 tiveness of information security and privacy pro-  
21 grams at Federal agencies;

22 “(D) perform evaluations and tests at Federal  
23 agencies to assess existing information security and  
24 privacy programs;

1           “(E) promote development of accreditation pro-  
2           cedures for Federal agencies based on the measures  
3           developed under subparagraph (C);

4           “(F) if requested, consult with and provide as-  
5           sistance to Federal agencies regarding the selection  
6           by agencies of security technologies and products  
7           and the implementation of security practices; and

8           “(G)(i) develop uniform testing procedures suit-  
9           able for determining the conformance of commer-  
10          cially available security products to the guidelines  
11          and standards developed under subsection (a)(2) and  
12          (3);

13          “(ii) establish procedures for certification of  
14          private sector laboratories to perform the tests and  
15          evaluations of commercially available security prod-  
16          ucts developed in accordance with clause (i); and

17          “(iii) promote the testing of commercially avail-  
18          able security products for their conformance with  
19          guidelines and standards developed under subsection  
20          (a)(2) and (3).

21          “(2) The Institute shall maintain and make available  
22          to Federal agencies and to the public a list of commercially  
23          available security products that have been tested by pri-  
24          vate sector laboratories certified in accordance with proce-  
25          dures established under paragraph (1)(G)(ii), and that

1 have been found to be in conformance with the guidelines  
2 and standards developed under subsection (a)(2) and (3).

3 “(3) The Institute shall annually transmit to the  
4 Congress, in an unclassified format, a report containing—

5 “(A) the findings of the evaluations and tests of  
6 Federal computer systems conducted under this sec-  
7 tion during the 12 months preceding the date of the  
8 report, including the frequency of the use of com-  
9 mercially available security products included on the  
10 list required by paragraph (2);

11 “(B) the planned evaluations and tests under  
12 this section for the 12 months following the date of  
13 the report; and

14 “(C) any recommendations by the Institute to  
15 Federal agencies resulting from the findings de-  
16 scribed in subparagraph (A), and the response by  
17 the agencies to those recommendations.”.

18 **SEC. 5. COMPUTER SECURITY REVIEW, PUBLIC MEETINGS,**

19 **AND INFORMATION.**

20 Section 20 of the National Institute of Standards and  
21 Technology Act (15 U.S.C. 278g-3), as amended by this  
22 Act, is further amended by inserting after subsection (c),  
23 as added by section 4 of this Act, the following new sub-  
24 section:

1 “(d)(1) The Institute shall solicit the recommenda-  
2 tions of the Computer System Security and Privacy Advi-  
3 sory Board, established by section 21, regarding standards  
4 and guidelines that are being considered for submittal to  
5 the Secretary in accordance with subsection (a)(4). The  
6 recommendations of the Board shall accompany standards  
7 and guidelines submitted to the Secretary.

8 “(2) There are authorized to be appropriated to the  
9 Secretary \$1,030,000 for fiscal year 2002 and \$1,060,000  
10 for fiscal year 2003 to enable the Computer System Secu-  
11 rity and Privacy Advisory Board, established by section  
12 21, to identify emerging issues related to computer secu-  
13 rity, privacy, and cryptography and to convene public  
14 meetings on those subjects, receive presentations, and  
15 publish reports, digests, and summaries for public dis-  
16 tribution on those subjects.”.

17 **SEC. 6. LIMITATION ON PARTICIPATION IN REQUIRING**  
18 **ENCRYPTION AND ELECTRONIC AUTHEN-**  
19 **TICATION STANDARDS.**

20 Section 20 of the National Institute of Standards and  
21 Technology Act (15 U.S.C. 278g-3), as amended by this  
22 Act, is further amended by adding at the end the following  
23 new subsection:

24 “(g) The Institute shall not promulgate, enforce, or  
25 otherwise adopt standards or policies for the Federal es-

1 tablishment of encryption and electronic authentication  
2 standards required for use in computer systems other than  
3 Federal Government computer systems.”.

4 **SEC. 7. MISCELLANEOUS AMENDMENTS.**

5 Section 20 of the National Institute of Standards and  
6 Technology Act (15 U.S.C. 278g–3), as amended by this  
7 Act, is further amended—

8 (1) in subsection (b)(8), as so redesignated by  
9 section 3(1) of this Act, by inserting “to the extent  
10 that such coordination will improve computer secu-  
11 rity and to the extent necessary for improving such  
12 security for Federal computer systems” after “Man-  
13 agement and Budget”;

14 (2) in subsection (e), as so redesignated by sec-  
15 tion 4(1) of this Act, by striking “shall draw upon”  
16 and inserting in lieu thereof “may draw upon”;

17 (3) in subsection (e)(2), as so redesignated by  
18 section 4(1) of this Act, by striking “(b)(5)” and in-  
19 serting in lieu thereof “(b)(7)”; and

20 (4) in subsection (f)(1)(B)(i), as so redesign-  
21 ated by section 4(1) of this Act, by inserting “and  
22 computer networks” after “computers”.

23 **SEC. 8. FEDERAL COMPUTER SYSTEM SECURITY TRAINING.**

24 Section 5(b) of the Computer Security Act of 1987  
25 (40 U.S.C. 759 note) is amended—

1           (1) by striking “and” at the end of paragraph  
2           (1);

3           (2) by striking the period at the end of para-  
4           graph (2) and inserting in lieu thereof “; and”; and

5           (3) by adding at the end the following new  
6           paragraph:

7           “(3) to include emphasis on protecting sensitive  
8           information in Federal databases and Federal com-  
9           puter sites that are accessible through public net-  
10          works.”.

11 **SEC. 9. COMPUTER SECURITY FELLOWSHIP PROGRAM.**

12          There are authorized to be appropriated to the Sec-  
13          retary of Commerce \$500,000 for fiscal year 2002 and  
14          \$500,000 for fiscal year 2003 for the Director of the Na-  
15          tional Institute of Standards and Technology for fellow-  
16          ships, subject to the provisions of section 18 of the Na-  
17          tional Institute of Standards and Technology Act (15  
18          U.S.C. 278g-1), to support students at institutions of  
19          higher learning in computer security. Amounts authorized  
20          by this section shall not be subject to the percentage limi-  
21          tation stated in such section 18.

1 **SEC. 10. STUDY OF ELECTRONIC AUTHENTICATION TECH-**  
2 **NOLOGIES BY THE NATIONAL RESEARCH**  
3 **COUNCIL.**

4 (a) REVIEW BY NATIONAL RESEARCH COUNCIL.—  
5 Not later than 90 days after the date of the enactment  
6 of this Act, the Secretary of Commerce shall enter into  
7 a contract with the National Research Council of the Na-  
8 tional Academy of Sciences to conduct a study of elec-  
9 tronic authentication technologies for use by individuals,  
10 businesses, and government.

11 (b) CONTENTS.—The study referred to in subsection  
12 (a) shall—

13 (1) assess technology needed to support elec-  
14 tronic authentication technologies;

15 (2) assess current public and private plans for  
16 the deployment of electronic authentication tech-  
17 nologies;

18 (3) assess interoperability, scalability, and in-  
19 tegrity of private and public entities that are ele-  
20 ments of electronic authentication technologies; and

21 (4) address such other matters as the National  
22 Research Council considers relevant to the issues of  
23 electronic authentication technologies.

24 (c) INTERAGENCY COOPERATION WITH STUDY.—All  
25 agencies of the Federal Government shall cooperate fully  
26 with the National Research Council in its activities in car-

1 rying out the study under this section, including access  
2 by properly cleared individuals to classified information if  
3 necessary.

4 (d) REPORT.—Not later than 18 months after the  
5 date of the enactment of this Act, the Secretary of Com-  
6 merce shall transmit to the Committee on Science of the  
7 House of Representatives and the Committee on Com-  
8 merce, Science, and Transportation of the Senate a report  
9 setting forth the findings, conclusions, and recommenda-  
10 tions of the National Research Council for public policy  
11 related to electronic authentication technologies for use by  
12 individuals, businesses, and government. The National Re-  
13 search Council shall not recommend the implementation  
14 or application of a specific electronic authentication tech-  
15 nology or electronic authentication technical specification  
16 for use by the Federal Government. Such report shall be  
17 submitted in unclassified form.

18 (e) AUTHORIZATION OF APPROPRIATIONS.—There  
19 are authorized to be appropriated to the Secretary of Com-  
20 merce \$450,000 for fiscal year 2002, to remain available  
21 until expended, for carrying out this section.

22 **SEC. 11. PROMOTION OF NATIONAL INFORMATION SECUR-**  
23 **RITY.**

24 The Under Secretary of Commerce for Technology  
25 shall—

1           (1) promote an increased use of security tech-  
2           niques, such as risk assessment, and security tools,  
3           such as cryptography, to enhance the protection of  
4           the Nation’s information infrastructure;

5           (2) establish a central repository of information  
6           for dissemination to the public to promote awareness  
7           of information security vulnerabilities and risks; and

8           (3) in a manner consistent with section 12(d) of  
9           the National Technology Transfer and Advancement  
10          Act of 1995 (15 U.S.C. 272 nt), promote the devel-  
11          opment of national standards-based infrastructures  
12          needed to support government, commercial, and pri-  
13          vate uses of encryption technologies for confiden-  
14          tiality and authentication.

15 **SEC. 12. ELECTRONIC AUTHENTICATION INFRASTRUC-**  
16 **TURES.**

17          (a) **ELECTRONIC AUTHENTICATION INFRASTRUC-**  
18 **TURES.—**

19           (1) **TECHNOLOGY-NEUTRAL GUIDELINES AND**  
20 **STANDARDS.—**Not later than 18 months after the  
21          date of the enactment of this Act, the Director, in  
22          consultation with industry and appropriate Federal  
23          agencies, shall develop technology-neutral guidelines  
24          and standards, or adopt existing technology-neutral  
25          industry guidelines and standards, for electronic au-

1 authentication infrastructures to be made available to  
2 Federal agencies so that such agencies may effec-  
3 tively select and utilize electronic authentication  
4 technologies in a manner that is—

5 (A) adequately secure to meet the needs of  
6 those agencies and their transaction partners;  
7 and

8 (B) interoperable, to the maximum extent  
9 possible.

10 (2) ELEMENTS.—The guidelines and standards  
11 developed under paragraph (1) shall include—

12 (A) protection profiles for cryptographic  
13 and noncryptographic methods of authen-  
14 ticating identity for electronic authentication  
15 products and services;

16 (B) a core set of interoperability specifica-  
17 tions for the use of electronic authentication  
18 products and services in electronic transactions  
19 between Federal agencies and their transaction  
20 partners; and

21 (C) validation criteria to enable Federal  
22 agencies to select cryptographic electronic au-  
23 thentication products and services appropriate  
24 to their needs.

1           (3) REVISIONS.—The Director shall periodically  
2           review the guidelines and standards developed under  
3           paragraph (1) and revise them as appropriate.

4           (b) LISTING OF PRODUCTS.—Not later than 30  
5           months after the date of the enactment of this Act, and  
6           thereafter, the Director shall maintain and make available  
7           to Federal agencies a nonmandatory list of commercially  
8           available electronic authentication products, and other  
9           such products used by Federal agencies, evaluated as con-  
10          forming with the guidelines and standards developed  
11          under subsection (a).

12          (c) SPECIFICATIONS FOR ELECTRONIC CERTIFI-  
13          CATION AND MANAGEMENT TECHNOLOGIES.—

14               (1) SPECIFICATIONS.—The Director shall, as  
15               appropriate, establish core specifications for par-  
16               ticular electronic certification and management tech-  
17               nologies, or their components, for use by Federal  
18               agencies.

19               (2) EVALUATION.—The Director shall advise  
20               Federal agencies on how to evaluate the conform-  
21               ance with the specifications established under para-  
22               graph (1) of electronic certification and management  
23               technologies, developed for use by Federal agencies  
24               or available for such use.

1           (3) MAINTENANCE OF LIST.—The Director  
2 shall maintain and make available to Federal agen-  
3 cies a list of electronic certification and management  
4 technologies evaluated as conforming to the speci-  
5 fications established under paragraph (1).

6           (d) REPORTS.—Not later than 18 months after the  
7 date of the enactment of this Act, and annually thereafter,  
8 the Director shall transmit to the Congress a report that  
9 includes—

10           (1) a description and analysis of the utilization  
11 by Federal agencies of electronic authentication  
12 technologies; and

13           (2) a description and analysis regarding the  
14 problems Federal agencies are having, and the  
15 progress such agencies are making, in implementing  
16 electronic authentication infrastructures.

17           (e) DEFINITIONS.—For purposes of this section—

18           (1) the term “electronic authentication” means  
19 cryptographic or noncryptographic methods of au-  
20 thenticating identity in an electronic communication;

21           (2) the term “electronic authentication infra-  
22 structure” means the software, hardware, and per-  
23 sonnel resources, and the procedures, required to ef-  
24 fectively utilize electronic authentication tech-  
25 nologies;

1           (3) the term “electronic certification and man-  
2           agement technologies” means computer systems, in-  
3           cluding associated personnel and procedures, that  
4           enable individuals to apply electronic authentication  
5           to electronic information; and

6           (4) the term “protection profile” means a list of  
7           security functions and associated assurance levels  
8           used to describe a product.

9   **SEC. 13. SOURCE OF AUTHORIZATIONS.**

10          There are authorized to be appropriated to the Sec-  
11         retary of Commerce \$7,000,000 for fiscal year 2002 and  
12         \$8,000,000 for fiscal year 2003, for the National Institute  
13         of Standards and Technology to carry out activities au-  
14         thorized by this Act for which funds are not otherwise spe-  
15         cifically authorized to be appropriated by this Act.

○