



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

May 28, 2002

S. 2182

Cyber Security Research and Development Act

*As ordered reported by the Senate Committee on Commerce, Science, and Transportation
on May 17, 2002*

SUMMARY

S. 2182 would authorize appropriations for several research initiatives related to computer security at two agencies—the National Science Foundation (NSF) and the National Institute of Standards and Technology (NIST). The bill would establish the terms and conditions for awarding grants, fellowships, cooperative agreements, and loans for certain doctoral fellowships related to computer security, and would authorize NIST to conduct similar research at its laboratories. It would authorize the appropriation of \$978 million over the 2002-2007 period for these activities. This total would include funding for the ongoing activities of the Computer System Security and Privacy Advisory Board and a study by the National Academy of Sciences on the vulnerability of the nation's computer network infrastructure.

Assuming appropriation of the specified amounts, CBO estimates that implementing this bill would cost \$671 million over the 2002-2007 period. The bill would not affect direct spending or receipts; therefore, pay-as-you-go procedures would not apply.

S. 2182 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 2182 is shown in the following table. The costs of this legislation fall within budget functions 250 (general science, space, and technology) and 370 (commerce and housing credit).

	By Fiscal Year, in Million of Dollars					
	2002	2003	2004	2005	2006	2007
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
National Science Foundation ^a						
Authorization Level	0	78	110	128	134	142
Estimated Outlays	0	15	58	93	114	125
National Institute of Standards and Technology ^b						
Authorization Level	2	47	62	76	92	107
Estimated Outlays	0	23	37	53	69	84
Total Changes						
Authorization Level	2	125	172	204	226	249
Estimated Outlays	0	38	95	146	183	209

a. NSF has a total appropriation of \$4.9 billion in 2002.

b. Thus far, NIST has a total appropriation of \$680 million in 2002.

BASIS OF ESTIMATE

S. 2182 would authorize the appropriation of \$592 million for NSF and \$386 million for NIST over the 2002-2007 period for these agencies to carry out a variety of grant, fellowship, loan, and other programs related to research on computer security. Based on the spending patterns of similar NSF and NIST programs, CBO estimates that implementing the bill would cost NSF about \$405 million and NIST about \$266 million over the 2002-2007 period, assuming the appropriation of the authorized amounts. For this estimate, CBO assumes that funds will be appropriated near the beginning of each fiscal year, with the exception of the \$2 million authorization for NIST in 2002 (which we assume will be provided this summer).

CBO expects that the doctoral fellowships authorized by this bill would be treated as direct loans and would be subject to credit reform procedures. S. 2182 would require that such fellowships be repaid but would forgive specified amounts if the recipient is employed as a full-time faculty member. For this estimate, CBO assumes that NSF would use the \$5 million authorized annually for these fellowships to cover the subsidy cost of such loans.

PAY-AS-YOU-GO CONSIDERATIONS: None.

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

S. 2182 contains no intergovernmental mandates as defined in UMRA and would impose no costs on state, local, or tribal governments. The bill would benefit public universities by authorizing the appropriation of \$978 million, much of which would be for grant programs to institutions of higher education, including public universities, for a number of projects aimed at improving computer and network security. Any costs incurred by public universities would be voluntary.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

This bill contains no new private-sector mandates as defined in UMRA.

PREVIOUS CBO ESTIMATE

On December 17, 2001, CBO transmitted a cost estimate for H.R. 3394, the Cyber Security Research and Development Act, as ordered reported by the House Committee on Science on December 6, 2001. H.R. 3394 is very similar to S. 2182, although H.R. 3394 would authorize the appropriation of \$878 million over the 2002-2007 period. CBO estimated that implementing H.R. 3394 would cost \$420 million during the 2002-2006 period, assuming the appropriation of the necessary amounts.

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