

24. CYBERSECURITY FUNDING

Cybersecurity is an important component of the Administration's IT modernization efforts, and the President remains dedicated to securing the Federal enterprise from cyber-related threats. Assessments of the Federal Government's overall cybersecurity risk continue to find the Federal enterprise to be at risk. Cybersecurity budgetary priorities will continue to seek to reduce this risk based on data-driven, risk-based assessments of the threat environment and the current Federal cybersecurity posture. The President's Budget includes an estimated \$17.4 Billion which supports the protection of Federal information systems and our nation's most valuable information including the personal information of the American public. This budget funds activities in support of the President's Executive Order 13800 on Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure,¹ the outcomes of the Report to the President on Federal IT Modernization, the Modernize IT to Increase Productivity and Security (IT Modernization) Cross Agency Priority (CAP) Goal of the President's Management Agenda (PMA),² and the National Cybersecurity Strategy.³

National Cybersecurity Strategy

In September 2018, the White House released the National Cyber Strategy, which reinforces ongoing work and provides strategic direction for the Federal Government to take action on short and long-term improvements to cybersecurity for the government, private sector, and individuals. The National Cyber Strategy recognizes that private and public entities have struggled to secure their systems as adversaries have increased the frequency and sophistication of their malicious cyber activities, and directs the Federal Government to do its part to ensure a secure cyber environment for our country.

Data Collection Methodology and Adjustments

Section 630 of the Consolidated Appropriations Act, 2017 (Pub. L. No. 115-31) amended 31 U.S.C. § 1105 (a) (35) to require that an analysis of Federal cybersecurity funding be incorporated into the President's Budget. The Federal spending estimates in this analysis utilize funding and programmatic information collected on the Executive Branch's cybersecurity efforts, including cybersecurity activities and funding for all Federal agencies,

¹ <https://www.whitehouse.gov/presidential-actions/presidential-executive-order-strengthening-cybersecurity-federal-networks-critical-infrastructure/>.

² See <https://www.performance.gov/>.

³ <https://www.whitehouse.gov/wp-content/uploads/2018/09/National-Cyber-Strategy.pdf>

not just those carried out by the Department of Homeland Security (DHS) and Department of Defense (DOD).

Agencies provide funding data at a level of detail sufficient to consolidate information to determine total governmental spending on cybersecurity. OMB provided the following guidance to agencies regarding the reporting of cybersecurity budget information for each fiscal year (FY): FY 2018 Actual levels should reflect the actual budgetary resources available for that year; FY 2019 Estimate levels should reflect the estimated budgetary resources available that year, assuming for those agencies that at the time the budget was prepared were operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115-245, as amended) that the amounts included for 2019 should reflect the annualized level provided by the continuing resolution; and FY 2020 President's Budget levels should reflect final policy decisions included in the President's Budget. Agencies were directed to coordinate responses between their Chief Financial Officers, Chief Information Officers, and Chief Information Security Officers. Submissions were assessed against prior cybersecurity budget submissions and historical security performance.

Federal Budget Authority

The FY 2020 President's Budget includes \$17.4 billion of budget authority for cybersecurity-related activities, an \$790 million (5 percent) increase above the FY 2019 estimate. Due to the sensitive nature of some activities, this amount does not represent the entire cyber budget. The DOD was the largest contributor to the budget authority for cybersecurity-related activities submitted in the President's Budget with \$9.6 billion in cybersecurity funding in FY 2020.

Agencies reported cybersecurity budget authority in FY 2020 in order to fulfill their responsibilities for protecting information and information systems commensurate with the risk and magnitude of potential harm. However, a number of agencies also have cybersecurity-related spending that is not dedicated to the protection of their own networks, serving instead a broader cybersecurity mission. For instance, to ensure a consistent baseline level of information security, there are a number of programs that provide tools and capabilities government-wide, such as DHS's Continuous Diagnostics and Mitigation (CDM) program. Additionally, numerous programs exist that further enhance national and Federal cybersecurity focused on areas such as standards, research, and the investigation of cyber-crimes rather than specific technical capabilities.

Table 24-2 provides an overview of civilian CFO Act Agency cybersecurity spending as aligned to the NIST Cybersecurity Framework functions, Identify, Protect,

Table 24-1. AGENCY CYBERSECURITY FUNDING TOTALS
(In millions of dollars)

	FY 2018	FY 2019	FY 2020
Department of Agriculture	262	480	311
Department of Commerce	350	403	392
Department of Defense	8,048	8,734	9,643
Department of Education	104	139	143
Department of Energy	448	520	557
Department of Health & Human Services	359	474	460
Department of Homeland Security	1,859	1,921	1,919
Department of Housing & Urban Development	15	35	25
Department of Justice	821	824	881
Department of Labor	93	93	94
Department of State	362	363	400
Department of the Interior	88	103	111
Department of the Treasury	445	505	522
Department of Transportation	185	224	232
Department of Veterans Affairs	386	530	513
Environmental Protection Agency	21	44	45
General Services Administration	72	79	80
National Aeronautics & Space Administration	171	169	171
National Science Foundation	247	239	224
Nuclear Regulatory Commission	25	32	29
Office of Personnel Management	38	45	47
Small Business Administration	9	16	16
Social Security Administration	167	225	205
U.S. Agency for International Development	44	68	44
Non-CFO Act Agencies	362	382	372
Total	14,978	16,645	17,435

Detect, Respond, and Recover. Table 24-3 provides a more detailed view of the information presented in Table 24-1. In addition to total cybersecurity budget amounts, the table provides amounts at the bureau level to give greater insight into the structure of agency cybersecurity budgets. Due to the sensitivity of the information, the cybersecurity budget information for DOD has not been broken out in this way.

Non-Federal Cybersecurity Spending

The most recent and comprehensive study of State-level cybersecurity spending revealed that the majority of States allocate between zero and two percent of their total IT budgets to cybersecurity.^{4 5} It also revealed that cyber-

Table 24-2. NIST FRAMEWORK FUNCTION CIVILIAN CFO ACT AGENCY FUNDING TOTALS
(In millions of dollars)

NIST Framework Function	FY 2020
Identify	2,258
Protect	2,671
Detect	962
Respond	1,316
Recover	213
Total	7,420

This analysis excludes Department of Defense spending.

⁴ OMB does not collect any cybersecurity expenditure data from State, local, or private entities directly.

⁵ Source: Doug Robinson and Srini Subramanian, 2016 Deloitte-

security spending has not increased to meet increasing cybersecurity challenges, with the majority of respondents reporting such budgets remaining flat or increasing less than five percent since 2014. Recent research also indicates that State and local governments rely heavily on inter-agency collaboration and Federal programs to fund their cybersecurity activities, with 49 percent of State CISOs reporting they seek alternative funding sources from intra-state agencies or programs, and 47 percent reporting a heavy reliance on DHS-specific programs.⁶ According to the Federal Emergency Management Administration (FEMA)’s 2017 National Preparedness Report, 82 percent of States report that cybersecurity is a high priority but only 13 percent rate themselves as proficient, which marks a three percent decline from 2012.⁷ However, States also report cybersecurity as the biggest growth area for IT spending moving forward.⁸

While it is difficult to estimate how much the U.S. private sector spends on cybersecurity, the research firm Gartner releases routine estimates of cybersecurity spending globally and forecasts that cybersecurity spending is anticipated to rise more than 12 percent in 2018 to \$114 billion.⁹ The firm further forecasted that information security spending would increase 8.7 percent in FY 2019 to \$124 billion. A similar report from Gartner in early 2017 noted that private entities are moving away from a prevention-only focus and moving toward a defense-in-depth approach by enhancing capabilities to detect and respond to cybersecurity incidents. The International Data Corporation predicts that spending will continue to grow, and at a faster rate than overall IT spending, reaching \$101.6 billion in 2020.¹⁰

Additional Information

The President’s Budget is also required to include an analysis of fee-based cybersecurity costs as well as gross and net appropriations or obligational authority and outlays. Agencies have not historically reported their cybersecurity budgets in this manner, and OMB continues to work with the broader Federal community to capture this information in a way that is helpful to both agencies and Congress.

NASCIO Cybersecurity Study, “State Governments at Risk: Turning Strategy and Awareness into Progress,” September 20, 2016, at <https://www.nascio.org/Portals/0/Publications/Documents/2016/2016-Deloitte-NASCIO-Cybersecurity-Study.pdf>.

⁶ Source: Robinson and Subramanian.

⁷ Source: Federal Emergency Management Agency, Department of Homeland Security, 2017 National Preparedness Report, at: www.fema.gov/media-library-data/1503926640648-0b64216b808eb42a93ba96fe8888d113/2017NationalPreparednessReport_508_COMPLIANT.pdf.

⁸ Source: Paul Lipman, “4 Critical Challenges to State and Local Government Cybersecurity Efforts (Industry Perspective),” July 17, 2015, at <http://www.govtech.com/opinion/4-Critical-Challenges-to-State-and-Local-Government-Cybersecurity-Efforts.html>.

⁹ Source: Gartner, “Gartner Forecasts Worldwide Information Security Spending to Exceed \$124 billion in FY 2019,” August 15, 2018, at www.gartner.com/en/newsroom/press-releases/2018-08-15-gartner-forecasts-worldwide-information-security-spending-to-exceed-124-billion-in-2019.

¹⁰ Source: International Data Corporation, “Worldwide Semiannual Security Spending Guide,” October 12, 2016, at https://www.idc.com/getdoc.jsp?containerId=IDC_P33461.

Table 24–3. CIVILIAN AGENCY CYBERSECURITY FUNDING BY BUREAU
(In millions of dollars)

Organization	FY 2018	FY 2019	FY 2020
CFO Act Agencies	\$6,568.1	\$7,529.3	\$7,419.8
Department of Agriculture	\$261.7	\$480.4	\$310.7
Agricultural Marketing Service	\$1.4	\$2.2	\$2.2
Agricultural Research Service	\$3.3	\$4.7	\$4.6
Animal & Plant Health Inspection Service	\$1.6	\$1.8	\$1.9
Departmental Management	\$182.8	\$382.2	\$218.2
Economic Research Service	\$0.1	\$0.8	\$0.8
Farm Service Agency	\$8.1	\$10.3	\$6.4
Food and Nutrition Service	\$3.9	\$4.0	\$4.0
Food Safety & Inspection Services	\$7.1	\$8.0	\$8.3
Foreign Agricultural Service	\$1.5	\$0.9	\$0.9
Forest Service	\$16.7	\$24.9	\$24.2
National Agricultural Statistics Service	\$2.0	\$1.9	\$2.0
National Appeals Division	*	*	*
National Institute of Food and Agriculture	\$0.7	\$0.7	\$0.6
Natural Resources Conservation	\$6.1	\$11.9	\$13.9
Office of Chief Economist	\$0.2	\$0.2	\$0.2
Office of Civil Rights	\$0.1	\$0.1	\$0.1
Office of Communications	\$1.7	\$0.8	\$0.8
Office of Inspector General	\$0.7	\$0.9	\$1.0
Office of the General Counsel	*	*	
Office of the Secretary	\$14.6	\$14.8	\$14.5
Risk Management Agency	\$1.2	\$1.9	\$0.8
Rural Development	\$7.9	\$7.4	\$5.3
Department of Commerce	\$349.7	\$403.3	\$391.6
Bureau of Industry and Security	\$3.5	\$3.5	\$3.5
Bureau of the Census	\$76.7	\$120.5	\$96.2
Departmental Management	\$31.7	\$28.2	\$28.3
Economic and Statistical Analysis	\$2.3	\$2.2	\$2.2
International Trade Administration	\$7.3	\$7.3	\$10.9
National Institution of Standards & Technology	\$105.0	\$103.8	\$103.6
National Oceanic & Atmospheric Administration	\$65.6	\$66.2	\$74.3
National Technical Information Service	\$2.4	\$2.5	\$2.9
National Telecom/Information Administration	\$2.9	\$4.1	\$3.7
US Patent and Trademark Office	\$52.2	\$64.9	\$65.9
Department of Education	\$103.8	\$139.0	\$142.6
Departmental Management	\$30.9	\$37.7	\$35.3
Institute of Education Science	\$4.2	\$4.1	\$4.1
Office of Federal Student Aid	\$68.7	\$97.2	\$103.3
Department of Energy	\$447.9	\$519.7	\$557.1
Departmental Administration	\$92.9	\$94.9	\$79.5
Energy Programs	\$151.1	\$171.4	\$175.5
Environment & Other Defense Activities	\$45.1	\$52.2	\$63.4
National Nuclear Security Administration	\$138.0	\$178.4	\$215.8
Power Marketing Administration	\$20.7	\$22.8	\$23.0
Department of Health & Human Services	\$359.0	\$474.5	\$460.2
Administration for Children & Families	\$7.2	\$5.7	\$5.7
Administration on Aging	\$0.9	\$1.0	\$0.7
Agency for Healthcare Research	\$2.4	\$2.4	\$2.6
Centers for Disease Control	\$58.6	\$68.7	\$48.4
Centers for Medicare and Medicaid Services	\$44.4	\$93.4	\$80.5
Departmental Management	\$49.8	\$92.6	\$68.1
Food and Drug Administration	\$37.0	\$34.2	\$57.9
Health Resources & Services Administration	\$12.5	\$14.7	\$16.1
Indian Health Service	\$10.1	\$9.8	\$9.8
National Institutes of Health	\$102.4	\$114.8	\$126.3

Table 24–3. CIVILIAN AGENCY CYBERSECURITY FUNDING BY BUREAU—Continued
(In millions of dollars)

Organization	FY 2018	FY 2019	FY 2020
Office of Inspector General	\$1.6	\$1.8	\$2.1
Program Support Center	\$29.7	\$32.7	\$38.7
Substance Abuse and Mental Health Administration	\$2.4	\$2.7	\$3.2
Department of Homeland Security.....	\$1,858.9	\$1,921.1	\$1,919.1
Customs and Border Protection	\$41.3	\$42.4	\$67.4
Department of Management and Operations	\$99.8	\$166.0	\$170.9
Domestic Nuclear Detection Office	\$1.0	\$1.0	\$1.0
Federal Emergency Management Agency	\$22.9	\$21.8	\$32.9
Federal Law Enforcement Training Center	\$1.0	\$1.0	\$1.0
Immigration and Customs Enforcement	\$156.6	\$176.7	\$178.9
National Protection and Program Directorate	\$1,095.8	\$994.8	\$1,025.2
Office of Inspector General	\$2.4	\$2.7	\$2.8
Office of the Under Secretary for Management	\$99.8	\$140.8	\$143.5
Science and Technology	\$93.2	\$104.2	\$28.1
Transportation Security Administration	\$64.8	\$74.1	\$74.1
United States Citizenship & Immigration Services	\$38.9	\$49.9	\$47.6
United States Coast Guard	\$141.4	\$145.6	\$145.6
Department of Housing & Urban Development	\$14.9	\$34.6	\$25.2
Department of Justice	\$820.8	\$823.7	\$881.2
Bureau of Alcohol, Tobacco, Firearms, and Explosives	\$3.6	\$3.7	\$6.8
Drug Enforcement Administration	\$22.3	\$22.3	\$22.3
Federal Bureau of Investigation	\$691.0	\$680.0	\$732.0
Federal Prison System	\$9.2	\$9.2	\$9.3
General Administration	\$4.9	\$11.3	\$8.5
Legal Activities & US Marshals	\$72.7	\$79.9	\$84.6
National Security Division	\$12.2	\$12.4	\$12.7
Office of Justice Programs	\$4.9	\$5.0	\$5.0
Department of Labor	\$92.9	\$93.2	\$94.1
Bureau of Labor Statistics	\$9.5	\$7.7	\$7.7
Departmental Management	\$44.7	\$48.9	\$49.0
Employee Benefits Security Administration	\$4.2	\$0.5	\$0.5
Employment & Training Administration	\$5.6	\$5.2	\$4.9
Mine Safety and Health Administration	\$1.5	\$1.4	\$1.5
Occupation Safety & Health Administration	\$2.1	\$3.8	\$4.2
Office of Federal Contract Compliance Programs	*	\$0.1	\$0.1
Office of Labor Management Standards	\$0.1	\$0.1	\$0.1
Office of Workers' Compensation	\$2.1	\$2.1	\$2.1
Pension Benefit Guaranty Corporation	\$22.0	\$21.4	\$21.2
Wage and Hour Division	\$1.0	\$2.1	\$2.9
Department of State	\$361.5	\$363.0	\$399.5
Administration of Foreign Affairs	\$361.5	\$362.0	\$398.5
Other	\$0	\$1.0	\$1.0
Department of the Interior	\$87.9	\$103.1	\$111.2
Bureau of Indian Affairs	\$8.5	\$9.3	\$10.9
Bureau of Land Management	\$6.2	\$9.8	\$9.9
Bureau of Ocean Energy Management	\$0.7	\$0.8	\$0.9
Bureau of Reclamation	\$13.3	\$15.9	\$17.3
Bureau of Safety Environmental Enforcement	\$1.4	\$1.7	\$1.8
Departmental Offices	\$0.3	\$0.3	\$0.3
Department-Wide Programs	\$25.4	\$24.3	\$23.9
National Park Service	\$13.0	\$17.4	\$18.7
Office of Inspector General	\$0.2	\$0.2	\$0.2
Office of Insular Affairs	*	*	*
Office of Natural Resources Revenue	\$0.2	\$0.3	\$0.5
Office of Surface Mining Reclamation	\$1.1	\$1.6	\$1.6
Office of the Solicitor	\$1.1	\$1.7	\$0.8

Table 24–3. CIVILIAN AGENCY CYBERSECURITY FUNDING BY BUREAU—Continued
(In millions of dollars)

Organization	FY 2018	FY 2019	FY 2020
Office of the Special Trustee for American Indians	\$0.7	\$0.9	\$1.2
US Fish and Wildlife Service	\$7.5	\$8.6	\$10.8
US Geological Survey	\$8.3	\$10.4	\$12.2
Department of the Treasury	\$445.3	\$504.7	\$522.0
Alcohol & Tobacco Tax and Trade Bureau	\$3.6	\$3.4	\$4.6
Bureau of Engraving and Printing	\$10.5	\$10.8	\$11.3
Comptroller of the Currency	\$32.5	\$28.6	\$29.5
Departmental Offices	\$68.4	\$90.6	\$86.9
Financial Crimes Enforcement Network	\$5.3	\$5.7	\$5.7
Fiscal Service	\$23.9	\$22.9	\$24.2
Internal Revenue Service	\$292.0	\$331.0	\$349.0
United States Mint	\$9.2	\$11.7	\$10.8
Department of Transportation	\$184.8	\$224.0	\$232.3
Federal Aviation Administration	\$137.7	\$178.5	\$194.3
Federal Highway Administration	\$2.2	\$2.5	
Federal Motor Carrier Safety Administration	\$3.2	\$1.7	\$1.4
Federal Railroad Administration	\$1.6	\$1.6	\$1.7
Federal Transit Administration	\$1.2	\$1.0	\$1.0
Maritime Administration	\$1.2	\$1.5	\$1.2
National Highway Traffic Safety Administration	\$4.3	\$4.8	\$4.7
Office of Inspector General	\$0.2	\$0.2	\$0.2
Office of the Secretary	\$32.3	\$31.0	\$26.7
Pipeline and Hazardous Material Administration	\$0.9	\$1.2	\$1.2
St Lawrence Seaway Development Corporation	\$0.1	\$0.1	\$0.1
Department of Veterans Affairs	\$385.9	\$529.7	\$513.1
Environmental Protection Agency	\$21.1	\$44.1	\$44.6
General Services Administration	\$71.6	\$79.2	\$79.6
General Activities	\$56.2	\$62.1	\$62.6
Real Property Activities	\$0.1	\$0.1	\$0.1
Supply & Technology Activities	\$15.3	\$16.9	\$16.9
National Aeronautics & Space Administration	\$170.7	\$168.6	\$171.4
National Science Foundation	\$246.7	\$238.9	\$224.3
Nuclear Regulatory Commission	\$24.6	\$31.5	\$28.9
Office of Personnel Management	\$38.5	\$44.6	\$46.9
Small Business Administration	\$9.1	\$16.4	\$15.6
Social Security Administration	\$167.1	\$224.6	\$204.9
U.S. Agency for International Development	\$43.8	\$67.6	\$43.5
Non-CFO Act Agencies	\$361.8	\$381.6	\$371.7
Access Board	\$0.4	\$0.5	\$0.5
American Battle Monuments Commission	\$0.5	\$0.3	\$0.3
Armed Forces Retirement Home	\$0.8	\$0.8	\$0.8
U.S. Agency for Global Media	\$4.9	\$5.6	\$6.4
Chemical Safety and Hazard Investigation Board	\$0.1	\$0.1	\$0.2
Commission on Civil Rights	\$0.4	\$0.4	\$0.4
Commodity Futures Trading Commission	\$6.1	\$6.3	\$9.8
Consumer Product Safety Commission	\$3.0	\$2.9	\$2.9
Corporation for National and Community Service	\$3.4	\$3.5	\$3.7
Council of the Inspectors General on Integrity and Efficiency	*	\$0.6	\$0.6
Court Services and Offender Supervision Agency for the District	\$3.8	\$3.5	\$3.6
Defense Nuclear Facilities Safety Board	\$0.7	\$0.8	\$0.7
Equal Employment Opportunity Commission	\$4.5	\$4.1	\$3.9
Export-Import Bank of the United States	\$2.6	\$3.1	\$3.3
Farm Credit Administration	\$3.0	\$3.0	\$3.3
Federal Communications Commission	\$8.9	\$10.5	\$10.9
Federal Deposit Insurance Corporation	\$98.0	\$109.8	\$109.8
Federal Election Commission	\$1.0	\$1.0	\$1.0

Table 24–3. CIVILIAN AGENCY CYBERSECURITY FUNDING BY BUREAU—Continued
(In millions of dollars)

Organization	FY 2018	FY 2019	FY 2020
Federal Financial Institutions Examination Council	*	\$0.1	\$0.1
Federal Labor Relations Authority	*	*	*
Federal Maritime Commission	\$0.2	\$0.1	\$0.2
Federal Retirement Thrift Investment Board	\$35.6	\$41.4	\$30.8
Federal Trade Commission	\$9.3	\$8.3	\$10.6
Gulf Coast Ecosystem Restoration Council	\$0.2	\$0.2	\$0.2
Institute of Museum and Library Services	\$0.3	\$0.3	\$0.0
International Assistance Programs	\$18.0	\$18.6	\$19.1
African Development Foundation	\$1.0	\$1.0	\$1.0
Inter-American Foundation	\$0.4	\$0.4	\$0.4
Millennium Challenge Corporation	\$1.7	\$1.7	\$1.8
Overseas Private Investment Corporation	\$3.3	\$3.4	\$3.5
Peace Corps	\$10.4	\$10.9	\$11.2
Trade and Development Agency	\$1.3	\$1.3	\$1.3
International Trade Commission	\$3.0	\$3.2	\$2.8
Marine Mammal Commission	\$0.1	\$0.1	\$0.1
Merit Systems Protection Board	\$0.2	\$0.5	\$1.3
Morris K. Udall and Stewart L. Udall Foundation	*	*	*
National Archives and Records Administration	\$7.6	\$10.5	\$8.1
National Credit Union Administration	\$5.0	\$8.2	\$9.8
National Endowment for the Arts	\$2.3	\$1.9	\$1.9
National Endowment for the Humanities	\$0.6	\$0.7	\$0.7
National Labor Relations Board	\$1.6	\$1.6	\$1.6
National Transportation Safety Board	\$0.7	\$1.4	\$1.6
Nuclear Waste Technical Review Board	\$0.3	\$0.3	\$0.3
Occupational Safety and Health Review Commission	\$1.0	\$1.3	\$1.3
Office of Government Ethics	\$0.5	\$0.5	\$0.4
Office of Special Counsel	\$0.8	\$0.6	\$0.6
Presidio Trust	\$0.7	\$0.7	\$0.7
Privacy and Civil Liberties Oversight Board	\$0.5	\$1.3	\$1.5
Securities and Exchange Commission	\$69.5	\$63.3	\$57.5
Selective Service System	\$1.2	\$1.3	\$1.3
Smithsonian Institution	\$9.5	\$9.0	\$10.0
Surface Transportation Board	\$1.1	\$0.9	\$0.9
Tennessee Valley Authority	\$38.2	\$37.3	\$34.5
U.S. Army Corps of Engineers	\$10.6	\$10.8	\$11.9
United States Holocaust Memorial Museum	\$1.4	\$1.4	\$1.5
United States Institute of Peace	\$0.3	\$0.3	\$0.3
Total	\$6,929.9	\$7,910.9	\$7,791.5

* \$50 thousand or less