Agency NITRD Budgets by Program Component Area

Key: FY 2014 Budget Actuals, *FY 2015 Budget Estimates*, and **FY 2016 Budget Requests**
(Dollars in Millions)

Agency/ Program Component Area		Cybersecurity & Information Assurance (CSIA)	High Confidence Software & Systems (HCSS)	High End Computing Infrastructure & Applications (HEC I&A)	High End Computing Research & Development (HEC R&D)	Human Computer Interaction & Information Management (HCI&IM)	Large Scale Networking (LSN)	Social, Economic, & Workforce Implications of IT (SEW)	Software Design & Productivity (SDP)	Total[10]
NSF	FY 2014 Actual	103.4	87.2	233.6	116.0	282.6	131.7	119.8	77.6	1,151.8
	FY 2015 Estimate	*106.8*	*94.9*	*217.9*	*131.8*	*292.3*	*127.9*	*125.8*	*88.6*	*1,186.0*
	FY 2016 Request	**111.7**	**97.9**	**221.4**	**138.4**	**297.0**	**130.8**	**129.1**	**90.6**	**1,217.0**
DoD[11]		182.5	56.4	82.0	240.3	98.7	80.5	0.4	14.2	755.0
		152.1	*37.5*	*73.4*	*243.3*	*136.2*	*63.4*		*7.6*	*713.4*
		156.1	**53.0**	**78.9**	**204.2**	**132.8**	**66.8**	**2.7**	**8.7**	**703.4**
DOE[12]		30.7	7.5	333.6	107.1		58.4	8.7		546.0
		32.7	*25.0*	*374.7*	*128.1*		*71.6*	*3.0*		*635.1*
		30.0	**15.0**	**352.3**	**214.6**		**78.2**	**10.0**		**700.2**
NIH		1.0	24.0	190.0	17.0	251.1	6.0	31.0	92.0	612.0
		1.0	*24.0*	*191.0*	*17.0*	*250.0*	*6.0*	*31.0*	*93.0*	*613.0*
		1.0	**25.0**	**196.0**	**18.0**	**255.0**	**6.0**	**32.0**	**95.0**	**628.0**
DARPA		265.3	4.5		35.1	96.1	7.5			408.5
		309.3	*8.0*		*26.5*	*75.5*				*419.2*
		297.7	**12.1**		**23.2**	**100.0**				**433.0**
NIST		61.6	13.9	14.4	3.1	10.1	7.9	4.4	4.1	119.5
		67.6	*13.9*	*14.4*	*3.1*	*10.1*	*7.9*	*4.4*	*4.1*	*125.5*
		72.6	**14.9**	**14.4**	**3.1**	**11.1**	**7.9**	**4.4**	**4.1**	**132.5**
NASA			13.5	73.2	0.8	20.5	1.0		10.5	119.5
			10.5	*67.3*	*1.1*	*20.5*	*1.0*		*10.1*	*110.5*
			9.8	**69.1**	**1.1**	**20.5**	**1.0**		**10.6**	**112.1**
DHS[13]		77.8				10.0		3.8		91.6
		67.5				*7.2*		*4.4*		*79.1*
		69.0						**4.0**		**73.0**
NOAA				21.4	0.2	1.5	3.3		0.7	27.1
				24.5	*0.2*	*1.5*	*3.3*		*0.7*	*30.2*
				33.5	**0.2**	**1.5**	**3.3**		**0.7**	**39.2**
AHRQ						29.1	0.5			29.6
						27.7	*0.5*			*28.2*
						22.4	**0.5**			**22.9**
DOE/ NNSA				9.0	5.0			3.0		17.0
				8.9	*7.8*			*2.7*		*19.4*
				9.6	**9.1**			**3.5**		**22.2**

[10] Totals may not sum correctly due to rounding.

[11] DoD budget includes funding for OSD and the DoD Service research organizations. DoD Service research organizations include: Air Force Research Laboratory (AFRL), including the Air Force Office of Scientific Research (AFOSR); Army Research Laboratory (ARL), including the Army Research Office (ARO); Naval Research Laboratory (NRL); and Office of Naval Research (ONR). The Communications-Electronics Research, Development, and Engineering Center (CERDEC), Defense Research and Engineering Network (DREN), and High Performance Computing Modernization Program (HPCMP) are under Army. Although DARPA and OSD research organizations are under DoD, they are independent of the research organizations of the DoD Services (Air Force, Army, and Navy). NSA is a research organization under DoD, but does not report NITRD funding.

[12] DOE budget includes funding from DOE's Office of Science (SC), Office of Electricity Delivery and Energy Reliability (OE), and Energy Transformation Acceleration Fund.

[13] As of the date the 2016 Budget was released, final 2015 appropriations for DHS were not yet enacted. Therefore, the 2015 row of this table reflects amounts requested for DHS in the 2015 Budget.

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EPA	FY 2014 Actual			3.3		3.0				6.3
	FY 2015 Estimate			3.2		2.7				5.9
	FY 2016 Request			3.0		2.5				5.5
DOT[14]			1.5							1.5
			1.5							1.5
			1.5							1.5
NARA						0.2				0.2
						0.2				0.2
						0.2				0.2
Total FY 2014 Actuals[10]		722.3	208.4	960.5	524.6	802.9	296.8	171.1	199.1	3,885.6
Total FY 2015 Estimates[10]		736.9	215.3	975.3	558.8	823.9	281.6	171.2	204.1	3,967.1
Total FY 2016 Requests[10]		738.2	229.3	978.2	611.9	842.9	294.6	185.7	209.8	4,090.6

NITRD Program Budget Analysis

Fiscal Year Overview for 2015-2016

In the following analysis of the NITRD Program, the President's FY 2016 request is compared with the FY 2015 estimates. Changes in NITRD Program budgets reported in the budget analysis reflect revisions to program budgets due to evolving priorities, as well as Congressional actions and appropriations.

Summary

The President's 2016 budget request for the NITRD Program is $4.1 billion, an increase of $100 million, approximately 2.5 percent more than the $4.0 billion 2015 estimate. The overall change is due to both increases and decreases in individual agency NITRD budgets, which are described below.

NITRD Program Budget Analysis by Agency

This section describes changes greater than $10 million between 2015 estimated spending and 2016 requests. Smaller changes are discussed only if they represent shifts in funding focus. Budget numbers in these descriptions are rounded from initial agency numbers with three decimals to the nearest tenth.

NSF

Comparison of 2015 estimate ($1,186.0 million) and 2016 request ($1,217.0 million): The $31.0 million increase is primarily due to increases of $6.6 million in HEC R&D for Advanced Computational Infrastructure; $4.9 million in CSIA for Secure and Trustworthy Cyberspace (SaTC) and Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS); and $4.7 million in HCI&IM for Cyber-enabled Materials, Manufacturing, and Smart Systems (CEMMSS) and Understanding the Brain, with smaller increases in other PCAs.

DoD

Comparison of 2015 estimate ($713.4 million) and 2016 request ($703.4 million): The decrease of $10.0 million is primarily due to a $39.1 million decrease in HEC R&D following higher FY 2015 estimated spending enabled by the additional funds appropriated by Congress for the High Performance Computing Modernization Program (HPCMP) for FY 2015, with smaller increases and decreases in other PCAs, partially offset by an increase of $15.5 million in HCSS.

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[14] DOT budget is included to reflect funding for transportation initiatives beginning in FY 2014.

DOE
Comparison of 2015 estimate ($635.1 million) and 2016 request ($700.2 million): The $65.1 million increase is primarily due to an $86.5 million increase in DOE/SC funding in HEC R&D for exascale computing, with smaller increases in other PCAs, partially offset by a decrease of $22.4 million in HEC I&A due to the completion of some site preparations for planned upgrades at the Leadership Computing Facilities and other program shifts, and a decrease of $10.0 million in HCSS following higher FY 2015 estimated spending on the additional projects expected under the ARPA-E Open 2015 Funding Opportunity Announcement.

NIH
Comparison of 2015 estimate ($613.0 million) and 2016 request ($628.0 million): The increase of $15.0 million is primarily due to increases of $5.0 million in HEC I&A for the development of high end computing applications to support innovative biomedical research and $5.0 million in HCI&IM for new information management programs, with smaller increases in other PCAs.

DARPA
Comparison of 2015 estimate ($419.2 million) and 2016 request ($433.0 million): The increase of $13.8 million is primarily due to a $24.5 million increase in HCI&IM for enhanced language translation efforts and an increase for the Big Mechanism program, with smaller increases and decreases in other PCAs, partially offset by a decrease of $11.6 million in CSIA due to the completion of the Rapid Software Development using Binary Components (RAPID) and Crowd Sourced Formal Verification (CSFV) programs, and the drawdown of several cyber programs: Automated Program Analysis for Cybersecurity (APAC), Plan X, and Cyber Grand Challenge.

NITRD Program Budget Analysis by PCA

Using the information presented above, this section provides an analysis of the NITRD Program budget by PCA, summarizing the more substantial differences between 2015 estimates and 2016 requests. The changes are described below.

HCSS
Comparison of 2015 estimate ($215.3 million) and 2016 request ($229.3 million): The $14.0 million increase is largely due to an increase of $15.5 million at DoD, with smaller increases and decreases at other agencies, partially offset by a $10.0 million decrease at DOE.

HEC R&D
Comparison of 2015 estimate ($558.8 million) and 2016 request ($611.9 million): The $53.1 million increase is largely due to an increase of $86.5 million at DOE, with smaller increases and decreases at other agencies, partially offset by a $39.1 million decrease at DoD.

HCI&IM
Comparison of 2015 estimate ($823.9 million) and 2016 request ($842.9 million): The $19.0 million increase is largely due to an increase of $24.5 million at DARPA, with smaller increases and decreases at other agencies.

LSN
Comparison of 2015 estimate ($281.6 million) and 2016 request ($294.6 million): The $13.0 million increase is largely due to an increase of $6.6 million at DOE for the Energy Sciences network (ESnet) and for Small Business Innovation Research (SBIR), with smaller increases and decreases at other agencies.

SEW
Comparison of 2015 estimate ($171.2 million) and 2016 request ($185.7 million): The $14.5 million increase is largely due to an increase of $7.0 million at DOE for the Computational Sciences Graduate Fellowship, with smaller increases at other agencies.