Department of Defense
Fiscal Year (FY) 2017 President's Budget Submission

February 2016

The Joint Staff

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Department of Defense
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Research, Development, Test & Eval, DW	150,372	76,865		76,865	68,586		68,586
Total Research, Development, Test & Evaluation	150,372	76,865		76,865	68,586		68,586

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 28, 2016 at 12:49:53

Department of Defense
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 Jan 2016

Summary Recap of Budget Activities	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Advanced Component Development And Prototypes	65,420	21,700		21,700	23,642		23,642
Management Support	68,378	50,370		50,370	41,080		41,080
Operational System Development	16,574	4,795		4,795	3,864		3,864
Total Research, Development, Test & Evaluation	150,372	76,865		76,865	68,586		68,586

Summary Recap of FYDP Programs

	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
General Purpose Forces	19,700	7,825		7,825	10,502		10,502
Intelligence and Communications	12,179	10,404		10,404	857		857
Research and Development	115,382	55,683		55,683	56,401		56,401
Administration and Associated Activities	3,111	2,953		2,953	826		826
Total Research, Development, Test & Evaluation	150,372	76,865		76,865	68,586		68,586

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 28, 2016 at 12:49:53

Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority   28 Jan 2016
(Dollars in Thousands)

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Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
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(Dollars in Thousands)

28 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 Jan 2016

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Sec
98	0604445J	Wide Area Surveillance	04	59,823							U
101	0604787J	Joint Systems Integration	04	3,150							U
102	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04		21,700		21,700	23,642		23,642	U
103	0604828J	Joint FIRES Integration and Interoperability Team	04	2,447							U
		Advanced Component Development And Prototypes		65,420	21,700		21,700	23,642		23,642	
142	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	39,795	33,983		33,983	32,759		32,759	U
167	0204571J	Joint Staff Analytical Support	06	16,404	5,983		5,983	7,464		7,464	U
170	0303166J	Support to Information Operations (IO) Capabilities	06	12,179	10,404		10,404	857		857	U
		Management Support		68,378	50,370		50,370	41,080		41,080	
188	0607828J	Joint Integration and Interoperability	07	10,167							U
189	0208043J	Planning and Decision Aid System (PDAS)	07	3,296	1,842		1,842	3,038		3,038	U
240	0902298J	Management HQ - OJCS	07	3,111	2,953		2,953	826		826	U
		Operational System Development		16,574	4,795		4,795	3,864		3,864	
		Total Research, Development, Test & Eval, DW		150,372	76,865		76,865	68,586		68,586	

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The Joint Staff
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 Jan 2016

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240	0902298J	Management HQ - OJCS	07	3,111	2,953		2,953	826		826	U
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		Total The Joint Staff		150,372	76,865		76,865	68,586		68,586	

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Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Program Element Table of Contents (Alphabetically by Program Element Title)

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff | | | | | | | | | | | **Date:** February 2016 | |

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	PE 0604445J I *Wide Area Surveillance*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	25.955	59.823	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0	85.778
P001: *Wide Area Surveillance*	25.955	59.823	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0	85.778
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Wide Area Surveillance (WAS) program transfers to the U.S. Air Force in FY 2016.

Details of this project are classified.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	53.000	0.000	0.000	-	0.000
Current President's Budget	59.823	0.000	0.000	-	0.000
Total Adjustments	6.823	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Execution of prior year funds	6.823	-	-	-	-

Change Summary Explanation

The Wide Area Surveillance (WAS) program transfers to the U.S. Air Force in FY 2016.

PE 0604445J: *Wide Area Surveillance*
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| **Appropriation/Budget Activity** 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)* | | | | | **R-1 Program Element (Number/Name)** PE 0604787J *I Joint Systems Integration* | | | | | | | |

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	7.064	3.150	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.214
P787: *Joint Systems Integration*	7.064	3.150	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.214
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In support of the Chairman's responsibility for the assessment of the capability and adequacy of United States forces to successfully execute the national military strategy the Joint Systems Integration (JSI) Program Element provides mission funding for the Joint Staff J6 C4 Assessments Division (C4AD). C4AD conducts interoperability assessments and develops solutions/recommendations to improve integration of Service, Defense Agency, and coalition systems.

C4AD's Persistent Command and Control Environment replicates an operational environment and provides Combatant Commands, Services, Agencies and Coalition partners at the joint force headquarters level, a laboratory and assessment venue for the warfighter and capability developer to identify and solve interoperability and integration issues with current and near-term joint and coalition capabilities. With this capability, C4AD assesses system of systems interoperability, operational capability, procedural compliance and technical suitability of emerging and existing systems and programs to confirm readiness for deployment.

By establishing ground truth for interoperability and suggesting remedies for demonstrated shortfalls, C4AD is an enabler for the Chairman's priorities to: pioneer new ways to combine and employ emergent capabilities, drive Jointness deeper, sooner in capability development, move quickly toward Joint information and simulation networks that support secure and agile command and control, expand the envelope of interagency and international cooperation, and promote multilateral security approaches and architectures.

In FY2016 this program element will be consolidated with PE 0604826J - Joint C5 (Joint Command, Control, Communications, Computers and Cyber) Capability Development, Integration, and Interoperability Assessments.

PE 0604787J: *Joint Systems Integration*
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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff				Date: February 2016	

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 Program Element (Number/Name) PE 0604787J *I Joint Systems Integration*			

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	7.002	0.000	0.000	-	0.000
Current President's Budget	3.150	0.000	0.000	-	0.000
Total Adjustments	-3.852	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY2015 Carryover	-3.852	-	-	-	-

Change Summary Explanation

In FY2016 this program element will be consolidated with PE 0604826J - Joint C5 (Command, Control, Communications, Computers, and Cyber) Capability Development, Integration, and Interoperability Assessments.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Joint Systems Integration	3.150	-	-
FY 2015 Accomplishments: (1) Conducted 16 interoperability assessments of fielded and emerging command, control, communications, computers, and cyber (C5) systems that resulted in over 200 recommendations and/or solutions in support of the National Military Strategy, Chairman's guidance, and operational needs statements from operational commanders. Integrated advanced technologies to demonstrate new capabilities in wireless devices (5), wireless security. (2) Meshed and ad-hoc networking (2), satellite modem technology (1), and small lightweight secure digital datalink capabilities (2) on warfighter command and control nets. Automated NATO Database Interface (ANDI) Interoperability Assessment – Assessed the automated exchange of targeting data between the U.S. Joint Targeting Toolbox (JTT) and the NATO Joint Targeting System (JTS) which reduces manpower requirements and data entry errors by automating the transfer of targeting data. This makes targeting data available in real time and reduces targeting errors/fratricide resulting from bad data. (3) Tactical Infrastructure Enterprise Services (TIES) Coalition Warfare Program (CWP) Interoperability Assessment – Executed a successful OCONUS technical demonstration and operational utility assessment of the Tactical Infrastructure Enterprise Services (TIES) Coalition Warfare Program (CWP) that established a two-way identity access management, data security labeling and information exchange capability among multiple allied partner nations.			

PE 0604787J: *Joint Systems Integration*
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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff			Date: February 2016		
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			**R-1 Program Element (Number/Name)** PE 0604787J *I Joint Systems Integration*		

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
(4) Joint Fire Support (JFS) Joint Mission Thread (JMT) Interoperability Assessment – Assessed JFS system of systems interoperability across user, decision maker, and Service boundaries to evaluate the capability to support immediate close air support in a joint/multinational operational environment to improve time between and accuracy of JCAS capability. (5) Bold Quest 15 Mission Partner Environment (MPE) Federated Mission Networking (FMN) Joining, Membership and Exit Instructions (JMEI) Assessments – Assessed developing JMEIs to implement MPE in the Bold Quest operational venue. Provides risk mitigation for global implementation of MPE partner information sharing as a key enabler of Joint Force 2020. (6) Coalition Warrior Interoperability Exploration, Experimentation, Examination Exercise (CWIX) Interoperability Assessments – Conducted interoperability assessments between selected systems during the CWIX 2015 event. CWIX provides the venue for NATO and coalition partners to pool and share resources to achieve C2 systems interoperability prior to deployment. (7) Federated Mission Networking (FMN)/Mission Partner Environment (MPE) Assessment and Enhancement of Civilian-Military Interoperability – Assessed the tactics, techniques, procedures, and methodologies to overcome the challenges of incompatible/ non-interoperable services and systems required for the timely establishment of effective information sharing with non-military mission partners supporting humanitarian disaster relief operations. (8) Austere Challenge 2015; Radiant Mercury Operational Demonstration Capability Assessment – Validated the correction of previously discovered discrepancies in the prescribed Radiant Mercury Rule-Set that allows compliant data flow between USEUCOM headquarters and UK headquarters. (9) Coalition Validation and Verification Environment (C2VE) – Developed a persistent assessment environment that enables Coalition partners to validate the capability to share critical information quickly and accurately to support information exchange requirements of multi-national operations. (10) Bold Quest (BQ) 2015 Engineering Support – Designed, accredited, installed, operated and maintained the BQ15 exercise tailored network in support of the BQ operational demonstration. (11) Friendly Force Tracking (FFT) Assessment Support – Assessed US and Allied ground to air situational awareness systems and capabilities to ensure shared situational awareness and reduce the risk of fratricide incidents in coalition air-to-ground situations.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604787J I *Joint Systems Integration*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
(12) Targeting and Intelligence, Surveillance and Reconnaissance Systems Interoperability Assessment – Conducted an interoperability assessment between US Pacific Command and Theater Service Components joint targeting and command/decision systems that identified interoperability gaps and recommended potential solutions.			
(13) Distributed Common Ground System-Army Interoperability Assessment – Conducted an interoperability assessment in support of the Joint Interoperability Test Command's interoperability certification of the DCGS-A version 3.2 interface to the Modernized Integrated Database (MIDB). This interface is used daily in USEUCOM and Korea to maintain currency and validity of intelligence databases.			
(14) Joint Operational Long Term Evolution Deployable (JOLTED) Tactical Cellular System (TACTICS) Joint Capability Technical Demonstration (JCTD) - Technical Manager – JOLTED TACTICS is an ongoing project that is an Internet Protocol (IP) based system designed to provide secure cellular communications to tactical users. This system leverages innovations in Fourth Generation (4G) LTE Cellular technologies and mobile Ka band spread spectrum satellite communications to deliver megabits of data to mobile and dismounted teams armed with mobile devices such as smartphones or netbooks.			
(15) C2 Applications over Broadband Cellular (C2 ABC) Integration and Assessment – Ongoing project that is integrating and assessing legacy C2 and emerging tailored applications using broadband cellular technologies to provide the warfighter at the tactical edge with expanded situational awareness.			
(16) National Security Agency (NSA) Commercial Solutions for Classified (CSfC) Secure Wireless Local Area Network (SWLAN) Integration Assessment – Assisted NSA in the development and assessment of a Suite B software encryption solution. This capability supports communicating over classified wireless networks without using Type-1 hardware.			
(17) Classified Reconfigurable Operational Wireless Network Integration (CROWN) – Developing a multi-classification secure wireless capability that is fully compliant and supports integration of commercial smartphones, tablets, and laptops for access to enterprise services for deployed users. Its development will enable rapid deployment of communications capability to a tactical environment with a reduced physical footprint, increased logistical flexibility, and reduced cost.			
(18) Tactical Infrastructure Enterprise Services (TIES) Joint Capability Technical Demonstration (JCTD) Interoperability Assessment - Assessed the capability of sharing data from authoritative data sources using web services in a National Information Exchange Model (NIEM) conformant standardized data format.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604787J *I Joint Systems Integration*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
(19) C2 Common Operating Picture (COP) Support and Assessment to Cyber Flag (CF) 2015-1 – Provided C2 systems, a common operational picture, and assessment of cyber effects on these systems integrated into the Navy Defensive Cyber Operation DoD Information Network (DoDIN) Simulation, Training, and Exercise Platform (STEP) environment. (20) Cyberspace Situational Awareness Display, Symbology Set Assessment – Assessed the usability, usefulness, and scope of newly published MIL-STD-2525D, standardized graphical symbols for use in Cyberspace operations information displays. (21) DoD Enterprise Cyber Range Environment (DECRE) Event 3 – Developed the distributed DECRE by integrating additional organizations and capabilities and leveraging the best practices, tools, and procedures required to provide an environment for training cyber warriors, assessing cyber techniques, and assessing networks and systems vulnerabilities. DoD lacks an enterprise training and development environment to further understand computer network defense activities, operations, and impacts. (22) Navy Cyber Defense Operations Command Facility Support – Provided selected systems to assess system vulnerabilities to red team exploitation. (23) Cyber Assessment Event Number 4 Phases 1, 2, 3 - Provided a representative Joint Task Force (JTF) Headquarters node to assess C2 system vulnerabilities to red team exploitation and improve blue team responses. (24) Office of Cost Assessment and Program Evaluation (CAPE) Cyber Defense C2 Systems Support – Provided required systems, system administration support and connectivity for three events to evaluate cyberspace defensive strategies and allow for the exploration of the impact of alternate defensive strategies. (25) Cyber Guard 15 Assessment and Support – Provided assessment and all infrastructure support to sustain services to 180 workstations for 540 participants for three events which assessed Cyber Mission Force command and control operations.			
Accomplishments/Planned Programs Subtotals	3.150	-	-

D. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

E. Acquisition Strategy
 N/A

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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F. Performance Metrics		
N/A: Consolidating to new PE in FY2016 - reference PE0604826J		

PE 0604787J: *Joint Systems Integration*
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Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604787J *I Joint Systems Integration*	**Project (Number/Name)** P787 *I Joint Systems Integration*

Remarks

 N/A: Consolidating to new PE in FY2016 - reference PE0604826J

Exhibit R-4, **RDT&E Schedule Profile:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604787J / *Joint Systems Integration*	**Project (Number/Name)** P787 / *Joint Systems Integration*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Consolidation																												
Consolidating to new PE in FY2016 - reference PE0604826J					▮																							

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Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604787J *I Joint Systems Integration*	**Project (Number/Name)** P787 *I Joint Systems Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Consolidation				
Consolidating to new PE in FY2016 - reference PE0604826J	1	2016	1	2016

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Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					**R-1 Program Element (Number/Name)** PE 0604826J *I Joint C5 Capability Development, Integration, and Interoperability Assessments*							

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	21.700	23.642	-	23.642	23.638	23.629	23.630	23.630	Continuing	Continuing
001: *C5 Assessments and Analyses*	0.000	0.000	10.196	12.898	-	12.898	12.898	12.842	12.843	12.843	Continuing	Continuing
002: *C5 Capability Development*	0.000	0.000	7.079	6.594	-	6.594	6.590	6.637	6.637	6.637	Continuing	Continuing
003: *Joint Fires C2 Interoperability*	0.000	0.000	4.425	4.150	-	4.150	4.150	4.150	4.150	4.150	Continuing	Continuing

A. Mission Description and Budget Item Justification

Lead command, control, communications, computers, and cyber (C5) assessments, analyses, capability development, and Joint Fires Command and Control (C2) interoperability efforts required to achieve an effective, integrated, and interoperable Joint Force. Efforts include C5 requirements determination, C5 architectures development and integration, C5 data standardization, Joint Fires C2 interoperability, and C5 integration and interoperability assessments. This was a new PE for FY 2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY 2013 after JFCOM disestablishment. The following PEs are no longer used: 0604828J - Joint Fires Integration and Interoperability Team (JFI), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	25.200	23.483	-	23.483
Current President's Budget	0.000	21.700	23.642	-	23.642
Total Adjustments	0.000	-3.500	0.159	-	0.159
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Economic Adjustment	-	-	0.159	-	0.159

Change Summary Explanation

Inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments						Project (Number/Name) 001 / C5 Assessments and Analyses	
COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
001: C5 Assessments and Analyses	0.000	0.000	10.196	12.898	-	12.898	12.898	12.842	12.843	12.843	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Conduct analysis and assessment activities to inform and enhance Joint warfighter capabilities in support of U.S. National security requirements. Provide timely, facts-based findings and recommendations for action through the formal DoD decision-making processes used to validate operational requirements and apply funding to field effective, interoperable capabilities. Conduct interoperability assessments and analyses that evaluate capability and interoperability of fielded and emerging command, control, communications, computers, and cyber (C5), and systems in response to operational issues and shortfalls. Conduct integration/integration assessment efforts focused on emerging capabilities in wireless devices and security, tactical command and control and networking, satellite communications, advanced secure digital datalinks, and coalition data exchanges.

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2015	FY 2016	FY 2017
Title: C5 Assessments and Analyses	-	10.196	12.898

Description: Conduct analysis and assessment activities to inform and enhance Joint warfighter capabilities in support of U.S. National security requirements. Provide timely, facts-based findings and recommendations for action through the formal DoD decision-making processes used to validate operational requirements and apply funding to field effective, interoperable capabilities. Conduct interoperability assessments and analyses that evaluate capability and interoperability of fielded and emerging command, control, communications, computers, and cyber (C5), and systems in response to operational issues and shortfalls. Conduct integration/integration assessment efforts focused on emerging capabilities in wireless devices and security, tactical command and control and networking, satellite communications, advanced secure digital datalinks, and coalition data exchanges.

FY 2016 Plans:
Conduct interoperability assessments and analysis that evaluate capability and interoperability of fielded and emerging command, control, communications, computers, and cyber (C5), and systems in response to operational issues and shortfalls. FY 2016 focus areas include: Command and Control, Mission Partner Environment, and operations in Cyberspace Capability Development. This includes the impact of technology advances in wireless devices, modem technology, and small secure digital capabilities on warfighter command and control capabilities to match emerging requirements with near-term technology solutions. A comprehensive Joint Task Force (JTF) environment will support the integration and operational assessment process and support cyber training, capability development and assessments, separately and in coordination with the Department of Defense Cyber

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff			Date: February 2016		
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Range Environment (DECRE). This is achieved by maintaining a persistent C5 laboratory environment that allows for a rapidly reconfigurable joint, coalition, and inter-agency interoperability assessments, including participation in the Coalition Interoperability and Assurance Validation (CIAV) which supports on-going war efforts. In a live setting, a deployable capability allows for range instrumentation and both the collection and analysis of decision quality data for cyber and command and control operations. This objective, joint analysis provides the data and analysis from which Director, Operational Testing and Evaluation decisions are made. *FY 2017 Plans:* FY 2017 focus areas include: Command and Control, Mission Partner Environment, Integrated Air and Missile Defense (IAMD), Joint Fires Support, operations in Cyberspace Capability Development, and Joint Test and Evaluation Digitally Aided Close Air Support (DACAS). Ensure C5 Assessments and Analyses activities are conducted through persistent, reconfigurable C5 laboratories replicating joint and coalition system of systems operational environments that connect to other virtual, constructive, and live environments across national and multi-national operational, research, and test networks leveraging operational venues/exercises. Provide a deployable assessment capability (including contested joint environments) allowing for range instrumentation and both the collection and analysis of decision quality data for command and control operations.			
Accomplishments/Planned Programs Subtotals	-	10.196	12.898

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 N/A

E. Performance Metrics

 (1) Conduct at least fifteen (15) interoperability assessments designed to identify Joint and Coalition interoperability issues and recommend fixes/solutions to Program Managers, Combatant Commands, Services, and Agencies.

 (2) Support a minimum of six (6) exercises and events in the field (deployed), providing data collection, analysis, and recommendations based on decision quality data, in order to improve and increase Joint C2 and Joint Fires C2 interoperability.

 (3) Provide C2 Systems and Persistent command, control, communications, and computers (C4) Environment supporting at least two (2) Combatant Command Exercises to satisfy Combatant Command training objectives, including the cyber threat to mission systems.

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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(4) Support a minimum of thirty (30) Coalition Interoperability Assurance and Validation (CIAV) events and provide a minimum of one hundred (100) recommendations to resolve end-to-end mission based interoperability issues, validate Tactics, Techniques, and Procedures, and support NATO Future Mission Networking (FMN) and U.S. Mission Partner Environment (MPE) implementation plans.

(5) Provide C2 Systems and Persistent C4 Environment supporting at least four (4) individual/team training events per year to meet training and certification objectives.

(6) Provide C2 Systems and Persistent C4 Environment to support at least two (2) Cyber Assessments supporting Cyber capability development.

(7) Integrate at least two (2) new capabilities per year supporting Combatant Command, Service, Agency, and Commercial Solutions for Classified and Mobile Computing program requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 The Joint Staff													Date: February 2016	

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contract Management and Engineering Technical Services	C/CPFF	Various : Norfolk, Suffolk, Eglin	-	-		10.196	Mar 2016	12.898	Sep 2016	-		12.898	-	-	-
Subtotal			-	-		10.196		12.898		-		12.898	-	-	-

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	10.196	12.898	-	12.898	-	-	-

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2017 The Joint Staff		**Date:** February 2016
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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint C5I																												
Joint Information Environment/Mission Partner Environment								███████████																				

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Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
Joint C5I				
Joint Information Environment/Mission Partner Environment	1	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0604826J / *Joint C5 Capability Development, Integration, and Interoperability Assessments*					Project (Number/Name) 002 / *C5 Capability Development*			
COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
002: *C5 Capability Development*	0.000	0.000	7.079	6.594	-	6.594	6.590	6.637	6.637	6.637	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Lead C2 capability development and integration in order to achieve an interdependent joint force. This will be accomplished through four focus areas: Capability Development, C4 Architectures, Data and Services, and Interoperability and Integration.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: C5 Capability Development	-	7.079	6.594

Description: Lead C2 capability development and integration in order to achieve an interdependent joint force. This will be accomplished through four focus areas;
Capability Development, C4 Architectures, Data and Services, and Interoperability and Integration.

FY 2016 Plans:
Functionally manage and develop joint C4/Cyber (C5) Joint Capabilities Integration and Development System (JCIDS) requirements and capability development needs and serves as direct liaison between operational users and material developers throughout the capability lifecycle. Coordinate with warfighter community, to include multi-national and other mission partners, to identify common requirements and priorities and to identify on-going and planned partner materiel and non-materiel efforts to address similar/common needs and capability gaps. Integration actions include the continued development and implementation of Mission Partner Environment (MPE) capabilities framework. Develop and integrate data and services requirements, standards, technical specifications, and policy to support improved interoperability and information sharing with joint, mission partners and other U.S. Government departments and agencies. Develop architectures and conduct analysis for the Joint Information Environment (JIE), Warfighting Mission Area (WMA), mission threads, best practices, and JCIDS documents that enables interoperability and integration. Provide a WMA Federated Architecture sharing environment for the Combatant Commands, Services and DoD agencies ensuring access, integration, and reusability off architecture artifacts. Collaborate with USD for Acquisition, Technology, and Logistics (AT&L), DoD Chief Information Officer (CIO), Combatant Commands, Services, Agencies, interagency and multinational partners to address integration and interoperability with joint and multinational forces, and other U.S. Government departments and agencies.

FY 2017 Plans:
Lead C2 capability development and integration in order to achieve an interdependent joint force. This will be accomplished through four focus areas;

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604826J *I Joint C5 Capability Development, Integration, and Interoperability Assessments*	**Project (Number/Name)** 002 *I C5 Capability Development*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
(1) Capability Development - Sustain and utilize the Net-Enabled Requirements Identification Database (NRID) and the Decision Support Tool (DST) to provide accessibility and visibility into C2 capability needs and potential solutions for C2 stakeholders and decision-makers to consider. Develop/coordinate the annual Joint C2 Operational Priorities and obtain JROC-approval. Develop/ staff the FY 2019 Requirements Prioritization and Sequencing Plan and JCIDS documents - supports C2 capability prioritization and sequencing via the OUSD(AT&L)-sponsored Joint C2 Sustainment and Modernization Plan (SMP) process, with follow-on C2 capability production, integration, fielding and sustainment.

(2) C4 Architectures - Develop architectures and conduct analysis for the Joint Information Environment (JIE), Mission Partner Environment (MPE), Warfighting Mission area (WMA), mission threads, best practices, C5 requirements and JCIDS documents that enables interoperability and integration. Provide a WMA Federated Architecture sharing environment for the Combatant Command, services and DoD agencies ensuring access, integration and reusability of architecture artifacts. Provide the analysis and integration of identified combat proven Special Operation Forces C2 "best practices" and demonstrate the benefits these integrated capabilities bring to Joint/Coalition forces and other agencies.

(3) Data and Services - Develop, promote and integrate data and services requirements, standards, technical specifications, and policy to support improved interoperability and information sharing with joint, mission partners and other U.S. Government departments and agencies.

(4) Interoperability and Integration - For DoD coalition operations, develop and track the FY 2017 Mission Partner Action Plan for CCMD, Service and Agency action. Establish a Federated Mission Networking threshold capability in NATO. Coordinate with NATO and partner nation Foreign Liaison Officers (FLOs) to identify and execute specific information sharing/collaboration initiatives. Support Afghan Mission Network integration and interoperability requirements. Support cyber training, capability development and assessments, separately and in coordination with the Department of Defense Cyber Range Environment (DECRE). | | | |
| **Accomplishments/Planned Programs Subtotals** | - | 7.079 | 6.594 |

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

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Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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D. Acquisition Strategy

N/A

E. Performance Metrics

1) Secure JROC approval of the FY 2019 Joint C2 operational priorities defining C2 capability needs/gaps providing senior level oversight and direction to Joint C2 capability development.

(2) Secure DoD approval for seven (7) JCIDS requirements documents to support materiel development of Joint C2, Adaptive Planning/Execution, Global-Theater Security Cooperation, Readiness, and Cross Functional information technology capabilities enabling timely delivery of materiel solutions to meet warfighter capability needs/gaps.

(3) Ensure Joint C2 requirements development supports the DoD-directed Better Buying Power 100% by continuing the rapid development and fielding of virtualized C2 system capabilities to CCMDs and Services, i.e., GCCS-J Global (COP & I3), Agile Client—an x86 (PC-based) infrastructure, Enterprise Widget Storefront for web access of Joint C2 data and applications, Joint Planning and Execution Services to replace legacy systems.

(4) Provide two (2) planned releases of Global-Theater Security Cooperation Management Information System (G-TSCMIS) capability on both NIPRnet & SIPRnet for CCMDs/Services allowing G-TSCMIS use in a disconnected, intermittent, or limited bandwidth (DIL) environment, as well as providing an initial cross domain data exchange capability between security levels.

(5) Validate the architectures and engineering design specifications for twenty-seven (27) JIE and MPE projects.

(6) Conduct three (3) National Information Exchange Model Military Operations Domain Configuration Control Board sessions to improve and increase information sharing via promulgation of one Domain content update.

(7) Lead a minimum of six (6) Enterprise Service and Data Panels (ESDP) with the goal to improve and increase the interoperability and reusability of DOD Enterprise Services and Authoritative Data Sources.

(8) Include mission partnering concepts in four (4) Combatant Command and Service exercises.

(9) Establish at least two (2) new or enhanced information/sharing and collaboration areas NLT 30 Jun 17.

(10) Establish and refine processes and procedures to ensure FMN implementation is included in two (2) NATO exercises.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 The Joint Staff													Date: February 2016		

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / *Joint C5 Capability Development, Integration, and Interoperability Assessments*	Project (Number/Name) 002 / *C5 Capability Development*

Product Development ($ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
C5 Capability Development - Contracts	C/FP	Various : Various	-	-		7.079		6.594	Sep 2015	-		6.594	-	-	-
		Subtotal	-	-		7.079		6.594		-		6.594	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		7.079		6.594		-		6.594	-	-	-

Remarks

This is a new Program Element (PE) for FY 2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY 2013 as a result of the JFCOM disestablishment. The following PEs will no longer be used after FY 2015: 0604828J - Joint FIRES Integration and Interoperability Team (JFII), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

Exhibit R-4, RDT&E Schedule Profile: PB 2017 The Joint Staff		**Date:** February 2016
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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint C4 architecture and C4/Cyber capability development																												
Joint C4 architecture and C4/Cyber capability development									████																			

Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604826J *I Joint C5 Capability Development, Integration, and Interoperability Assessments*	**Project (Number/Name)** 002 *I C5 Capability Development*

Schedule Details

Events by Sub Project	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
Joint C4 architecture and C4/Cyber capability development				
Joint C4 architecture and C4/Cyber capability development	1	2017	4	2017

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Appropriation/Budget Activity 0400 *I* 4				**R-1 Program Element (Number/Name)** PE 0604826J *I Joint C5 Capability Development, Integration, and Interoperability Assessments*						**Project (Number/Name)** 003 *I Joint Fires C2 Interoperability*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
003: *Joint Fires C2 Interoperability*	0.000	0.000	4.425	4.150	-	4.150	4.150	4.150	4.150	4.150	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, Combat Identification (CID), and Friendly Force Tracking (FFT) capabilities. Conduct Joint Fire Support (JFS)/Joint Close Air Support (JCAS) and CID-FFT action plans to fulfill CJCSI-directed, General Officer/Flag Officer (GOFO) level responsibilities. Conduct JFS Executive Steering Committee (ESC) standardization team accreditation visits to U.S. and partner nation schoolhouses to ensure Memorandum of Agreement (MOA) signatories are accomplishing schoolhouse training in compliance with the Memorandums.

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2015	FY 2016	FY 2017
Title: Joint Fires C2 Interoperability *Description:* Lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, Combat Identification (CID), and Friendly Force Tracking (FFT) capabilities. Conduct Joint Fire Support (JFS)/Joint Close Air Support (JCAS) and CID-FFT action plans to fulfill CJCSI-directed, General Officer/Flag Officer (GOFO) level responsibilities. Conduct JFS Executive Steering Committee (ESC) standardization team accreditation visits to U.S. and partner nation schoolhouses to ensure Memorandum of Agreement (MOA) signatories are accomplishing schoolhouse training in compliance with the Memorandums. Execute Joint Staff-sponsored Bold Quest 2017 systems-of-systems interoperability assessment, including integration of Cyber capabilities with command and control of Conventional and Special Operations Force missions from a multinational perspective at the tactical level. These efforts directly support 2014 Quadrennial Defense Review and 2015 National Military Strategy goals to increase interoperability with allies and partners. *FY 2016 Plans:* Lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, Combat Identification (CID), and Friendly Force Tracking (FFT) capabilities. Conduct Joint Fire Support (JFS)/ Joint Close Air Support (JCAS) and CID-FFT action plans to fulfill JROC-chartered, General Officer/Flag Officer (GOFO) level responsibilities. Conduct JFS Executive Steering Committee (ESC) standardization team accreditation visits to U.S. and partner nation schoolhouses to ensure Memorandum of Agreement (MOA) signatories are accomplishing schoolhouse training in compliance with the Memorandums. Execute Joint Staff-sponsored Bold Quest 2016 systems-of-systems interoperability	-	4.425	4.150

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
assessment, including integration of Cyber capabilities with command and control of Conventional and Special Operations Force missions from a multinational perspective at the tactical level. ***FY 2017 Plans:*** Execute Joint Staff-sponsored Bold Quest 2017 systems-of-systems interoperability assessment, including integration of Cyber capabilities with command and control of Conventional and Special Operations Force missions from a multinational perspective at the tactical level. These efforts directly support 2014 Quadrennial Defense Review and 2015 National Military Strategy goals to increase interoperability with allies and partners.			
Accomplishments/Planned Programs Subtotals	-	4.425	4.150

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 N/A

E. Performance Metrics

 (1) Lead development of situational awareness and cooperative/non-cooperative identification capabilities that enable U.S. and NATO/Coalition warfighters to identify friendly, enemy, and neutral forces for "shoot/don't shoot" decisions.

 (2) Synchronize Service testing, acquisition and fielding of Mode 5 IFF capability, with focus on Full Operational Capability (FOC) in 2020. Monitor Service fielding progress of one hundred sixty-nine (169) platform types.

 (3) Complete Definition Package for Block 2 of Digitally Aided Close Air Support (DACAS) coordinated implementation in conjunction with participating Service programs of record. Effort will enable over twenty (20) U.S. and partner nation systems to be more interoperable in the CAS mission area.

 (4) Expand digital call-for-fire solution development to include enhanced multi-national interoperability with six (6) partner nations.

 (5) Conduct Accreditation Assessments for fourteen (14) of thirty current signatory schoolhouses (8 Joint Terminal Attack Controller (JTAC), 2 Forward Air Controller (Airborne), and 4 Joint Fires Observer (JFO) Schoolhouses).

 (6) Lead development and refinement of four (4) U.S. and NATO joint fires-related doctrine and Tactics, Techniques, and Procedures (TTP) publications.

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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(7) Lead planning, coordination and execution of two (2) Bold Quest 2017 systems of systems interoperability assessment to facilitate U.S. and coalition integration.

(8) Plan and conduct quarterly Joint Fire Support and Combat ID-Friendly Force Tracking Executive Steering Committee and working group meetings to address identified shortfalls in those mission areas.

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Test and Evaluation ($ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Fires C2 Interoperability - Contracts	C/FP	Various : Various	-	-		4.425		4.150	Sep 2016	-		4.150	-	-	-
		Subtotal	-	-		4.425		4.150		-		4.150	-	-	-

			Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
		Project Cost Totals	-	-		4.425		4.150		-		4.150	-	-	-

Remarks

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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Advance Innovations to accelerate C2 capabilities																												
Advance Innovations to accelerate C2 capabilities									▮▮▮▮▮																			

Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 **/** 4	**R-1 Program Element (Number/Name)** PE 0604826J **/** *Joint C5 Capability Development, Integration, and Interoperability Assessments*	**Project (Number/Name)** 003 **/** *Joint Fires C2 Interoperability*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Advance Innovations to accelerate C2 capabilities				
Advance Innovations to accelerate C2 capabilities	1	2017	4	2017

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff | | | | | | | | | | | Date: February 2016 | |

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	PE 0604828J *I Joint FIRES Integration and Interoperability Team*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	12.946	2.447	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.393
P857: *Joint Deployable Analysis Team (JDAT)*	12.946	2.447	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.393
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The JFIIT mission is to employ scientific methods to research, investigate, test, assess, and evaluate current and emergent Joint command and control (C2) information systems and associated procedures. These activities measure capabilities and limitations, identify shortfalls and root cause, recommend and verify solutions, and validate joint capabilities. The resultant empirical outcomes influence Joint Capability development in areas such as Policy; Joint Doctrine; Tactics, Techniques and Procedures (TTP); integration and interoperability of capabilities. JDAT provides decision-quality data and cogent solutions to customers and stakeholders responsible for improving Joint C2 information systems integration and interoperability, informing acquisition decisions, and ensuring that Services and Agencies field integrated and interoperable systems. The emphasis of JFIIT efforts is the analysis of C2 information systems and supporting procedures to provide Services and Agencies findings and recommendations based on quantifiable data to improve Joint C2 integration and interoperability. Evaluations range from small, single-focus events to large, multi-event/venue exercises.

In FY 2016 this program element will be consolidated with PE 0604826J - Joint C5 (Command, Control, Communications, Computers, and Cyber) Capability Development, Integration, and Interoperability Assessments.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	7.102	0.000	0.000	-	0.000
Current President's Budget	2.447	0.000	0.000	-	0.000
Total Adjustments	-4.655	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY2015 Carryover	-4.655	-	-	-	-

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*		**R-1 Program Element (Number/Name)** PE 0604828J *I Joint FIRES Integration and Interoperability Team*

Change Summary Explanation
In FY2016 this program element will be consolidated with PE 0604826J - Joint C5 (Command, Control, Communications, Computers, and Cyber) Capability Development, Integration, and Interoperability Assessments.

C. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Joint Fires Integration & Interoperability Team (JFIIT)	2.447	-	-
FY 2015 Accomplishments: Analysis activities enhanced joint warfighter capabilities in support of U.S. National security requirements. Provided timely, facts-based findings and recommendations for action through the formal DoD decision-making processes used to validate operational requirements and apply funding to field effective, interoperable capabilities. Activities and benefits to DoD and warfighters are summarized below. (1) Conducted analysis of joint fires capabilities at BOLD QUEST event. Assessed Joint-coalition capabilities relevant to the Joint Mission Threads (JMTs) of Coalition Intelligence, Surveillance, and Reconnaissance (CISR), joint fires, IAMD and Joint Close Air Support (JCAS) in order to identify interoperability gaps and integration shortfalls. Identified twelve (12) interoperability discrepancies between US systems for joint fires (limited to digitally aided fire support, DAFS) with eleven (11) findings reported to acquisition program offices and one resolved for US Army fire support systems. Analysis results inform US Government decisions to field interoperable and integrated US-Coalition capabilities. DoD stakeholders included Defense Information Systems Agency (DISA), Joint Staff , USA, and USAF; international defense stake holders include Canada (Canadian Forces Warfare Center), Denmark (Defence Command Denmark), Norway (Norwegian Battle Lab & Experimentation), Italy, France, United Kingdom, as well as NATO (NATO Communications and Information Agency). (2) Assessed a Mission Partner Environment (MPE) during the scheduled BOLD QUEST event; applied the recently approved MPE capabilities definition packages (CDPs) to frame current and future assessments of MPEs and provide recommendations for improved MPE operations. Effective analysis of MPE performance through collaboration between DoD, Inter-Agency (IA) and Coalition partners inform capabilities development and subsequent decisions on mitigating gaps and shortfalls in the MPE capability. (3) Collected data and provided analysis on the integration of counter-UAS (C-UAS) operational architectures, operational concepts, and tactics, techniques, and procedures (TTPs) in support of broader air and missile defense requirements during BLACK DART event. Evaluated existing combatant command plans for C-UAS operations; provided qualitative/quantitative findings with recommendations that inform the Integrated Air & Missile Defense (IAMD) roadmap. Effective analysis of C-UAS capabilities through collaboration within JS (J6 and J8) and among broader DoD, Inter-Agency (IA) and Industry partners informs Service decisions on the mitigation of adversary UAS capabilities. Service and combatant command stakeholders included USN, USAF, USA, NORAD/NORTHCOM, PACOM, and CENTCOM; IA stakeholders included Department of Homeland Security; and			

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604828J *I Joint FIRES Integration and Interoperability Team*	

C. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
key foreign observers included UK/JAP/AUS/ROK. Also participating were select U.S. and foreign acquisition programs (both fielded and emerging technologies). (4) Identified and evaluated over ten (10) specific cyber vulnerabilities during DoD Enterprise Cyberspace Range Environment (DECRE) events; provided qualitative/quantitative findings with recommendations to participating programs, and Director Operational Test and Evaluation (DOT&E) to enhance planning for future cyber security events. Analysis of Joint C2 information systems and procedures, with data collected through exercise of validated DoD scenarios in an operationally relevant multi-phased event, inform DoD mitigation of cyberattacks against command and control systems. Service and combatant command stakeholders included NORTHCOM, DOT&E and JS.			
Accomplishments/Planned Programs Subtotals	2.447	-	-

D. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

E. Acquisition Strategy
 N/A

F. Performance Metrics
 N/A: PE is consolidating in FY 2016 - Refer to PE0604826J

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604828J *I Joint FIRES Integration and Interoperability Team*	**Project (Number/Name)** P857 *I Joint Deployable Analysis Team (JDAT)*

Remarks

 N/A: PE Consolidating in FY2016 - reference PE0604826J

PE 0604828J: *Joint FIRES Integration and Interoperabi...*
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Exhibit R-4, **RDT&E Schedule Profile:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604828J *I Joint FIRES Integration and Interoperability Team*	**Project (Number/Name)** P857 *I Joint Deployable Analysis Team (JDAT)*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Consolidation																												
Transition to PE0604826J					▮																							

Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 4	**R-1 Program Element (Number/Name)** PE 0604828J *I Joint FIRES Integration and Interoperability Team*	**Project (Number/Name)** P857 *I Joint Deployable Analysis Team (JDAT)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Consolidation				
Transition to PE0604826J	1	2016	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff										Date: February 2016	

| Appropriation/Budget Activity
0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support* | | | | | R-1 Program Element (Number/Name)
PE 0605126J *I Joint Integrated Air & Missile Defense Organization (JIAMDO)* | | | | | | |

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	307.305	36.230	33.983	32.759	-	32.759	32.581	34.971	34.971	35.570	Continuing	Continuing
P001: *Core*	100.988	18.913	14.183	9.029	-	9.029	9.343	10.271	10.271	10.476	Continuing	Continuing
P002: *Homeland*	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P003: *Black Dart*	19.635	3.404	2.444	3.000	-	3.000	3.000	3.300	3.300	3.366	Continuing	Continuing
P004: *Joint Distributed Engineering Plant*	14.212	0.036	3.000	2.500	-	2.500	2.738	2.900	2.900	2.958	Continuing	Continuing
P005: *Nimble Fire*	53.177	8.362	8.000	12.230	-	12.230	12.000	12.500	12.500	12.650	Continuing	Continuing
P006: *Cruise Missile Combat Identification (CID)*	51.749	5.515	6.356	6.000	-	6.000	5.500	6.000	6.000	6.120	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint air and missile defense architectures, and provides advocacy for innovative, technically mature and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at all major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the Air and Missile Defense Prioritized List and the Global Integrated Air and Missile Defense Assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and U.S. Northern Command for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff			**Date:** February 2016		
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*			**R-1 Program Element (Number/Name)** PE 0605126J *I Joint Integrated Air & Missile Defense Organization (JIAMDO)*		
B. Program Change Summary ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**
Previous President's Budget	43.176	35.471	27.967	-	27.967
Current President's Budget	36.230	33.983	32.759	-	32.759
Total Adjustments	-6.946	-1.488	4.792	-	4.792
• Congressional General Reductions	-	-0.026			
• Congressional Directed Reductions	-	-1.462			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Additional support to the Nimble Fire effort.	-	-	4.792	-	4.792
• FY2015 Carryover	-6.946	-	-	-	-

Change Summary Explanation

JIAMDO-Core: The Joint Staff reduced reliance upon contracted advisory and assistance service efforts and increased leverage upon organic (military and federal civilian) labor.

JIAMDO-Homeland: Programs will be near development completion and conducting Military Utility Assessment, which requires live assets and integration development.

JIAMDO-Nimble Fire: Increased effort in FY2017.

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 / 6				**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*						**Project (Number/Name)** P001 / *Core*		
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
P001: *Core*	100.988	18.913	14.183	9.029	-	9.029	9.343	10.271	10.271	10.476	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (TJS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission area and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint air and missile defense architectures and concepts.

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Core	18.913	14.183	9.029
Description: Provides overall staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, and homeland defense. This includes performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core also leads the definition, assessment, development, and approval of Joint AMD Operational Concepts, Operational Architectures, and capability requirements to guide the Department's joint/interagency/combined fully integrated and net-centric capable air defense (including defense against cruise missiles, unmanned aerial vehicles, and ballistic missiles). JIAMDO Core also: • Develops and integrates joint exercises, simulations, war-games, force resource allocations, and interoperability initiatives • Manages relevant Congressional interaction and CCMD interface through a cadre of liaisons collocated with major headquarters • Directly supports and sponsors homeland air surveillance related demonstration and analysis activities			

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P001 / *Core*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
• Runs the AMD Working Group focusing CCMD, Joint Staff, and Service collaboration efforts in the generation of joint concepts and development of the integrated AMD architecture and roadmap • Develops U.S. positions for, and serves as the U.S. representative to the NATO Air and Missile Defense Committee JIAMDO Core also enables strategic planning development, infrastructure, security, travel, administrative, and other support activities. Funding pays for: Contractor Systems Engineering and Technical Assistance (SETA) support for Air & Cruise Missile Defense (ACMD), Ballistic Missile Defense (BMD), Homeland Air Security (HAS) strategic planning, senior level briefings, and JIAMDO white papers, leased office space including all upkeep services, all travel costs for government, and contractor support personnel, including support for Combatant Commander liaison personnel travel, multiple levels of security including lease support for a Joint Worldwide Intelligence Communications System (JWICS) communications line, and Special Compartmented Information (SCI) terminals (due to the classified nature and the diverse content of work in the JIAMDO portfolio), 24-hour physical security force and alarm monitoring, and maintenance, daily on-site security personnel to meet DOD, National Industrial Security Program Operating Manual (NISPOM), and other security regulations, for all administrative and support functions, all associated Information Technology (IT) support, copier purchase and maintenance, as well as basic office supplies and furniture, telephones, telephone lines, classified telephones, and classified/unclassified data connections. *FY 2015 Accomplishments:* Performed Air and Cruise Missile Defense, and Ballistic Missile Defense directed studies in support of the Chairman (such as the fourth of a series of quantitative performance analysis, the Joint Capability Mix Study IV); provided analytical support into the premier ballistic missile defense wargame, NIMBLE TITAN; addressed critical air and missile defense related issues to NATO; and related program support activities including: contracting, finance, systems engineering and technical assistance, administration, security, communications, leased space and supply. Planned additional reductions in contract advisory and assistance services are projected. Planning will begin on the solicitation of CORE SETA contract. *FY 2016 Plans:* Perform Airand Cruise Missile Defense, and Ballistic Missile Defense directed studies in support of the Chairman and related program support activities including: contracting, finance, systems engineering and technical assistance, administration, security, communications, leased space and supply. Planned additional reductions in contract advisory and assistance services are projected. Planned award of a new SETA contract is anticipated in 2016. *FY 2017 Plans:* Continue performing Ballistic Missile Defense directed studies with changes in program support activities as a result of reorganization and office move to the Pentagon. Ancillary support functions such as administrative, security, communications, Information Technology and finance will be provided by the JS. The JS reduced reliance upon contracted assistance service			

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Appropriation/Budget Activity 0400 **/** 6	**R-1 Program Element (Number/Name)** PE 0605126J **/** *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P001 **/** *Core*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
efforts and increased leverage upon organic (military and federal civilian) personnel. Systems Engineering and Technical Assistance contract will still be in place.			
Accomplishments/Planned Programs Subtotals	18.913	14.183	9.029

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 Not required for Budget Activities 1, 2, 3 and 6.

E. Performance Metrics
 (1) Support two major Nimble Fire exercises during FY 2016.

 (2) Conduct two Air and Missile Defense Working Groups per month.

 (3) Support U.S. Representative to NATO Air Defense Council (NADC) to include 2 overseas NADC meetings per year.

 (4) Develop and maintain electronic library of current Joint and Service AMD Publications.

 (5) Develop and maintain operational architecture compliance with DoD Architectural Framework (DODAF) standards.

 (6) Ensure 100% of all government employee travel is in accordance with the Joint Federal Travel Regulation/Joint Travel Regulation.

 (7) Maintain all unclassified/classified LANs on a daily basis in accordance with TJS Office of the Chief Information Officer guidance/policy.

 (8) Ensure all computers, NIPRNET/SIPRNET, are refreshed according to J6 policy/guidance.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff										Date: February 2016	
Appropriation/Budget Activity 0400 / 6				**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*						**Project (Number/Name)** P002 / *Homeland*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P002: *Homeland*	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint air and missile defense architectures, and provides advocacy for innovative, technically mature and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at all major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the Air and Missile Defense Prioritized List and the Global Integrated Air and Missile Defense Assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and U.S. Northern Command for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

The Homeland program transitioned to a USAF-led Program of Record across the Future Year Defense Program in the beginning of FY 2016. JIAMDO will retain operational and requirements oversight.

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Appropriation/Budget Activity 0400 / 6				R-1 Program Element (Number/Name) PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*						Project (Number/Name) P003 / *Black Dart*		

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P003: *Black Dart*	19.635	3.404	2.444	3.000	-	3.000	3.000	3.300	3.300	3.366	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at all major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the Air and Cruise Missile Defense Prioritized Capability List, the Global Integrated Air and Missile Defense Assessment, and analysis of the Ballistic Missile Defense System (BMDS). JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and U.S. Northern Command for homeland air and cruise missile surveillance issues.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Black Dart	3.404	2.444	3.000
Description: Provides funding to support administration and execution of Black Dart demonstrations. Black Dart is a unique joint, interagency demonstration focusing on rapid development and implementation of Counter - Unmanned Aircraft Systems (CUAS) technology from readily-available commercial and governmental products. *FY 2015 Accomplishments:* Executed live-fly, live-free C-Unmanned Aircraft System (C-UAS) technology demonstration to assess and validate existing and emerging IAMD capabilities. The program presented emerging solutions to inform requirements decision-makers. Identified and developed IAMD operational concepts, system interoperability, and operational architectures for C-UAS mission set. Black Dart advocated for warfighters' desired C-UAS capabilities and affordable, integrated solutions. Integrated Combat Command			

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Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 **/** 6	**R-1 Program Element (Number/Name)** PE 0605126J **/** *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P003 **/** *Black Dart*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
sponsored scenarios, employing an intel-driven mix of threat cruise missile and UAV target surrogates acting in concert, which enabled CCMDs to make real-time changes to Tactics, Techniques, and Procedures TP/C2 based on Black Dart results. The program integrated numerous Joint Test and Demonstrations into one even to including: Joint Multi-Platform Advanced Combat ID JCTD; Cyber Capabilities for USAF; Electronic Attack Development; and Laser Negation System Development. Developed TTPs and conducted weapons system analyses for AH-1Z, UH-1Y, EA-18G, EC-130H, AWACS, MH-60R/S, EC-130H, and RC-135. *FY 2016 Plans:* Continued FY 2015 plans including: Demonstrate UAS capabilities to employ within visual range (WVR) and beyond visual range (BVR) weapons in a counter-UAS, counter-air, and counter-cruise missile role. Expand the breadth, complexity, and integration of cyber capabilities. *FY 2017 Plans:* Demonstrate UAS capabilities to employ within visual range and beyond visual range weapons in a counter-UAS, counter-air, and counter-cruise missile role. Expand the breadth, complexity, and integration of additional non-kinetic capabilities to include electronic and cyber effects. To the maximum extent possible, include foreign partner system and personnel participation.			
Accomplishments/Planned Programs Subtotals	3.404	2.444	3.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not required for Budget Activities 1, 2, 3 and 6.

E. Performance Metrics

(1) Complete events within schedule and budget. Events provide useful data to improve C-UAS capability.

(2) Document gaps, develop and substantiate hardware, software, and employment concepts.

(3) Field C-UAS capability.

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 I 6					R-1 Program Element (Number/Name) PE 0605126J I *Joint Integrated Air & Missile Defense Organization (JIAMDO)*					Project (Number/Name) P004 I *Joint Distributed Engineering Plant*		

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P004: *Joint Distributed Engineering Plant*	14.212	0.036	3.000	2.500	-	2.500	2.738	2.900	2.900	2.958	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint air and missile defense architectures, and provides advocacy for innovative, technically mature and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at all major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the Air and Missile Defense Prioritized List and the Global Integrated Air and Missile Defense Assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and U.S. Northern Command for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Joint Distributed Engineering Plant (JDEP) *Description:* Conducted a joint test event to assess the interoperability of joint, integrated air and missile defense weapon systems that leveraged commercial-off-the-shelf (COTS) Networks to perform Joint Integrated Fire Control. This effort provided users the means to create family-of-system (FoS) environments by linking existing capabilities using hardware, software, and operators in a live-fly environment. *FY 2015 Accomplishments:* JDEP conducted an appropriate distributed test event to assess the interoperability of coalition, joint, integrated air and missile defense weapons systems. The program provided users the means to create FoS environments by linking existing capabilities	0.036	3.000	2.500

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P004 / *Joint Distributed Engineering Plant*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
using hardware, software, and operator-in-the-loop. Link existing Coalition, Service and Joint combat system engineering and test sites via distributed communications. Reduce developmental cycle times by leveraging existing facilities. Extremely positive results from the earlier four Coalition Correlation / Decorrelation Interoperability Testing (C/DIT) events were the basis for extending the International Project Arrangement (PA) between the DoD OUSD (AT&L) / JCS and United Kingdom MoD, out to FY 2019 in PA Amendment One. High Level Objectives (HLO) since these test events began in FY 2010: (HLO #1) Assess Correlation / Decorrelation Interoperability of Link-16 systems under the STANAG 5516 Ed 4 and MILSTD 6016E for the U.S. Navy's E-2C, U.S. Army's Patriot Missile System and United Kingdom Royal Air Force E-3D (AWACS). (HLO #2) Assess STANAG 5602 Ed 3 interoperability between the U.S. & U.K. platforms using their SIMPLE protocol communication devices Common Connectivity Device (CCD) for the U.S. E-2C Hawkeye and U.S. Patriot and the Multi-Link Test Facility (MLTF) for the U.K. AWACS E-3D. (HLO #3) Provide input to Tactics, Techniques and Procedures (TTPs) and Capabilities & Limitations (CAPS&LIMS) to fielded tactical software. (HLO #4) Assess interoperability Correlation / Decorrelation performance and impact when operating with Coalition units. (HLO #5) Verify network architecture is capable of providing an adequate infrastructure to meet the other C/DIT event objectives.			
FY 2016 Plans: Fund an appropriate joint distributed test event to assess the interoperability of joint, integrated air and missile defense weapons systems. Provide users the means to create FoS environments by linking existing capabilities using hardware, software, and operator-in-the-loop. Link existing Service and Joint combat system engineering and test sites via distributed communications. Reduce developmental cycle times by leveraging existing facilities.			
FY 2017 Plans: Expand on the FY 2016 Joint JDEP C/DIT-16 / AGILE FIRE event results by expanding and including the entire IAMD architecture Link-16 hardware-in-the-loop FoS platforms in a robust USFK IAMD operational scenario.			
Accomplishments/Planned Programs Subtotals	0.036	3.000	2.500

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0605126J *I Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P004 *I Joint Distributed Engineering Plant*

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 Not required for Budget Activities 1, 2, 3 and 6.

E. Performance Metrics
 (1) Each JDEP event develops measures of effectiveness (MOE) & measures of performance (MOP) based on an eighteen month test planning and event process.
 (2) Complete events within schedule and budget.
 (3) Events provide useful data to improve Air Missile Defense interoperability, with implemented and recommended corrective changes.
 (4) Events must be linked to the current approved IAMD Architecture, provide joint benefit, contribute to Joint Interoperability, and address IAMD ICD capability gaps.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 / 6					**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*						**Project (Number/Name)** P005 / *Nimble Fire*	
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
P005: *Nimble Fire*	53.177	8.362	8.000	12.230	-	12.230	12.000	12.500	12.500	12.650	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint air and missile defense architectures, and provides advocacy for innovative, technically mature and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at all major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the Air and Missile Defense Prioritized List and the Global Integrated Air and Missile Defense Assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and U.S. Northern Command for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: JIAMDO Nimble Fire	8.362	8.000	12.230
Description: The Department's only joint integrated air and missile defense operator-in-the-loop simulation that is comprised of current and future land, sea, and air weapon systems representing each of the Services AMD capabilities. Enhances air and missile defense capability through the exploration of joint concepts and capabilities using current and future IAMD systems exercised by highly experienced operators against an integrated threat and providing quantifiable data that supports senior leadership within the Department of Defense, Combatant Commanders, and the Services. *FY 2015 Accomplishments:* - Funded and executed two (2) Joint virtual simulation events and directly supported two (2) Service and Program Office sponsored events,			

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P005 / *Nimble Fire*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- Continued to provide and improve simulation environment and capabilities which enable Joint Force to integrate IAMD capabilities in accordance with the Chairman's Joint IAMD Vision 2020, - Improved blue force systems and capabilities to represent projected FYDP +2 upgrades, - Partnered with USSTRATCOM to improve overall Electronic Warfare capabilities, - Collaborated with AMRAAM project office to standardize modeling of air-to-air missiles on all U.S. Navy and U.S. Air Force weapon systems, - Integrated 4 additional Joint Strike Fighter simulations to better explore Joint interoperability, - Continued to investigate future gateway concept contributions to Joint IAMD, - Strengthened ties with intelligence community (e.g., Office of Naval Intelligence, Missile and Space Intelligence Center, and National Air and Space Intelligence Center) for improved threat representation, - Explored the impacts of Electronic Attack, emerging CONOPS/TTP's, offensive cyber operations, and Integrated Fire Control to the IAMD mission area, - Additional details are classified.			
FY 2016 Plans: Fund and execute at least 2 Joint events and provide direct support for up to 3 Service, MDA or COCOM sponsored events. Continue to improve overall environment capabilities exploring all aspects of the Chairman's Joint IAMD Vision 2020. Continue to improve blue force systems and capabilities to represent projected FYDP+2 upgrades. Continue to investigate future gateway concept contributions to Joint IAMD. Continue to strengthen ties with intelligence community (e.g., ONI, MSIC, NASIC) for improved threat representation.			

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P005 / *Nimble Fire*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Enhance overall Infrared (IR) capabilities. Explore the impacts of Electronic Attack, emerging CONOPS/TTP's, offensive cyber operations, and Integrated Fire Control to the IAMD mission area. Explore classified joint force capabilities and the associated impact to IAMD. ***FY 2017 Plans:*** - Fund and execute (2) Joint events and provide support for up to three (3) Service, MDA, or CCMD sponsored events, - Improve blue force systems and capabilities to represent projected FYDP +5 upgrades, - Partner with USAF IAMD Cyber Lead and USCYBERCOM to improve modeling of offensive and defensive cyber effects in the simulated environment, - Explore, develop, and improve upon the space-layer in the environment and its contribution to Joint IAMD, - Explore Left-Of-Launch and other Non-Kinetic Effects and their impact on Joint IAMD, - Continue to investigate future gateway concept contributions to Joint IAMD, - Continue development and exploration of impacts of Electronic Attack, emerging CONEMPS/TTP's, and Integrated Fire Control to IAMDO mission area, - Explore classified joint force capabilities and associated impact to IAMD, - Additional details are classified.			
Accomplishments/Planned Programs Subtotals	8.362	8.000	12.230

C. Other Program Funding Summary ($ in Millions)
N/A
Remarks

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Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605126J / *Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P005 / *Nimble Fire*

D. Acquisition Strategy

Not required for Budget Activities 1, 2, 3 and 6.

E. Performance Metrics

(1) Complete events within schedule and budget.
(2) Document gaps and shortfalls.
(3) Inform the Joint Capabilities Board (JCB) on results and findings.
(4) Specific details are classified.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 *I* 6					**R-1 Program Element (Number/Name)** PE 0605126J *I Joint Integrated Air & Missile Defense Organization (JIAMDO)*				**Project (Number/Name)** P006 *I Cruise Missile Combat Identification (CID)*			
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
P006: *Cruise Missile Combat Identification (CID)*	51.749	5.515	6.356	6.000	-	6.000	5.500	6.000	6.000	6.120	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Air and Missile Defense (AMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to air and missile defense issues. JIAMDO serves as the operational community's proponent for characteristics, requirements, and capabilities in air and missile defense, and is the joint air and missile defense resource proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint air and missile defense architectures, and provides advocacy for innovative, technically mature and affordable solutions.

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Cruise Missile Combat Identification (CID)	5.515	6.356	6.000
Description: Develops joint Counterair Combat Identification technology, and positions it for fielding on front-line weapon systems. Monitors, assesses, and enhances joint AMD Combat ID programs. *FY 2015 Accomplishments:* Details of this program are classified. *FY 2016 Plans:* Details of this program are classified. *FY 2017 Plans:*			

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0605126J *I Joint Integrated Air & Missile Defense Organization (JIAMDO)*	**Project (Number/Name)** P006 *I Cruise Missile Combat Identification (CID)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Details of this program are classified.			
Accomplishments/Planned Programs Subtotals	5.515	6.356	6.000

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 Not required for Budget Activities 1, 2, 3 and 6.

E. Performance Metrics
 Details of this program are classified.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*					**R-1 Program Element (Number/Name)** PE 0204571J *I Joint Staff Analytical Support (JSAS)*							
COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	8.601	4.915	5.983	7.464	-	7.464	6.363	5.751	5.751	5.751	Continuing	Continuing
P001: *Future Joint Force Development*	0.018	4.392	5.983	5.564	-	5.564	5.763	5.751	5.751	5.751	Continuing	Continuing
P002: *Global Force Management Data Initiative (GFM DI)*	8.583	0.523	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P003: *GFM DI Enterprise Force Structure (EFS) Integration*	0.000	0.000	0.000	1.900	-	1.900	0.600	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) family of programs provides defense analytical support capabilities for the Joint Staff (TJS) and Combatant Commands (CCMDs). JSAS encompasses the developmental tools and infrastructure required to conduct analyses and formulates the results to best assist the Chairman in fulfilling his statutory responsibilities. Key deliverables provided by JSAS include wide-ranging force structure assessments, course of action development for the Joint Force environment, analyses and studies to aid in decision-making, and other analysis efforts to implement timely, low-cost initiatives.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	10.321	7.673	5.812	-	5.812
Current President's Budget	4.915	5.983	7.464	-	7.464
Total Adjustments	-5.406	-1.690	1.652	-	1.652
• Congressional General Reductions	-	-0.017			
• Congressional Directed Reductions	-	-1.673			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	1.652	-	1.652
• FY2015 Carryover	-5.406	-	-	-	-

Change Summary Explanation

Addition of the Global Force Management (GFM) Data Initiative Enterprise Force Structure (EFS) Integration project to provide critical upgrades to GFM mission applications to meet CCMD and warfighter requirements.

PE 0204571J: *Joint Staff Analytical Support (JSAS)*
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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff										Date: February 2016	

Appropriation/Budget Activity 0400 I 6	R-1 Program Element (Number/Name) PE 0204571J I *Joint Staff Analytical Support (JSAS)*	Project (Number/Name) P001 I *Future Joint Force Development*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P001: *Future Joint Force Development*	0.018	4.392	5.983	5.564	-	5.564	5.763	5.751	5.751	5.751	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) program supports the Chairman of the Joint Chiefs of Staff US US Code Title 10, Subtitle A, Part I, Chapter 5, Section 153 statutory responsibilities that directs the analytical support, management, development, evaluation, and implementation of joint concepts. The Joint Concepts Program provides management capabilities and analytical support for the Joint Staff, Combatant Commands, and Services to execute the Joint Concepts Program. Key deliverables include: CJCSI 3010 Guidance for Development and Implementation of Joint Concepts; a comprehensive view of the future operating environment; identification of joint concepts necessary to address future operating environment challenges and achieve objectives of the National Military Strategy; evaluation and testing of joint concepts; and implementation of joint concepts into DOTMLPF in order to advance the operational effectiveness of the future Joint Force and enable the introduction of new capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Future Joint Force Development *Description:* FY 2015 efforts focused on supporting the President's "Sustaining U.S. Global Leadership Priorities for the 21st Century Defense" with emphasis on concept assessment of the Chairman's Capstone Concept for Joint Operations, implementing the Joint Operational Access Concept, and developing new operational concepts to support achievement of the NMS. Specific work focused on joint concept development, implementation, and assessment through the Iron Crucible Wargaming series resulting in joint capability gap analysis and recommendations for non-materiel solutions that will improve current and future joint force capability including operating in anti-access and area denial environments, joint command & control, counterterrorism, and defeating threats in all domains, including cyber. *FY 2015 Accomplishments:* Specific work focused on developing, implementing, and evaluating joint concepts. The CJCS approved four new joint concepts that were completed and began implementation planning in FY 2015: Joint Concept for Rapid Aggregation, Joint Concept for Electromagnetic Spectrum Operations, Joint Concept for Logistics version 2.0, and Joint Concept for Health Services. Seven Joint Concepts were initiated and will be completed in FY16: Joint Concept for Cyberspace, Joint Concept for Preventing the Use or Transfer of WMD, Joint Concept for Human Aspects in Military Operations, Joint Concept for Access and Maneuver in the Global Commons, Joint Concept for Robotic and Autonomous Systems, Joint Concept for Operating in the Information Environment, and Joint Concept for Integrated Campaigning. The FY15 update of the Joint Operational Access Implementation Plan was completed and approved by the CJCS in August 2015 and work has begun on the FY16 update. An update of two key	4.392	5.983	5.564

PE 0204571J: *Joint Staff Analytical Support (JSAS)*
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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0204571J *I Joint Staff Analytical Support (JSAS)*	**Project (Number/Name)** P001 *I Future Joint Force Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
joint force development documents were initiated: the CJCS's Capstone Concept for Joint Operations that describes the vision for how joint forces will operate in the future and guides all joint force development; and the DJ-7's Joint Operating Environment that describes military joint force challenges based on the anticipated future security environment of 2035. An update of the CJCSI 3010 began with expected completion in FY 2016. Twelve joint concepts were archived after extensive staffing and approval by the DJS during Phase I of a legacy concept review. Fourteen joint concepts are under review for archiving in FY 2016 as part of Phase II of a legacy concept review. The draft Joint Concept for Robotics and Autonomous Systems was evaluated in an analytic workshop as part of the concept development process, and produced refined ideas to shape the Department's approach to the impact of robotics and autonomous systems to Joint Warfighting over the next 20 years. As a result of concept assessment of the Chairman's Capstone Concept for Joint Operations, feedback was provided to inform DoD decision making on Goldwater-Nichols Act reviews including that Senior leaders require integrated processes to develop and implement global crisis-response options, anticipate cross-CCMD challenges, assess risk, make timely resource allocation decisions, integrate special capabilities, and communicate strategic priorities. Specific results: - recommended re-examining above CCMD C2 measures to support global decision-making during high-demand multi-AOR crises. This TTX also developed ways to accelerate logistics planning and improve feasibility of CCDR estimates prior to the CJCS/SECDEF review. - suggest global synchronization is impacted at two levels: (1) above CCMD through strategic guidance, authorities, resource allocation, and risk assessment; and (2) across-CCMD through access, force sharing, information sharing, and the harmonizing of actions. This SLS deliberated the challenges in force management, pre-conflict cross-CCMD coordination, shared battle rhythms, and supported/supporting command relationships. - identified ways to integrate Defense and National Intelligence systems for more effective collection management and more agile ISR and PED resource management. Initiatives seek improved asset awareness across the globe, better management tools, and expanded force management authorities. IB 15-3 results provide timely information to DoD leadership as they consider changes to the Unified Command Plan (UCP) and other ways to overcome global ISR challenges. IMPACTS: The IRON CRUCIBLE Series influences senior leaders' perspectives on global synchronization and continues to expand DoD understanding of critical requirements for global agility and global synchronization. Event reports and writings on			

Exhibit **R-2A**, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0204571J *I Joint Staff Analytical Support (JSAS)*	**Project (Number/Name)** P001 *I Future Joint Force Development*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
global agility have impacted senior Department leaders and contribute to the narrative on innovation and efficiencies in the 2015 NMS. The Series has produced 30 recommendations for force development in the areas of policy, doctrine, and training. *FY 2016 Plans:* Concept Development work will focus on completing the update of the Capstone Concept for Joint Operations and the Joint Operating Environment. Seven joint concepts started in FY 2015 will be completed and submitted for CJCS approval. Implementation planning for the seven joint concepts will be initiated. The CJCSI 3010 will be updated and approved with improved terminology and process descriptions to guide joint concept development and implementation standards and practices across the Department of Defense. Additional legacy joint concepts will be archived in FY 2016 based on extensive collaboration with the joint concept community and approval by the Director, Joint Staff (DJS). Concept Assessment efforts will assess multiple joint concepts against future challenges, and support ongoing actions for joint concept transition. This work will be shaped by the learning needs from joint concept sponsors. The proposed campaign includes three lines of effort, an initial workshop to refine learning needs, and a final workshop to review findings and develop recommendations for joint force development. *FY 2017 Plans:* Assess the Family of Joint Concepts based on the Capstone Concept for Joint Operations and identify new concepts that are needed to address the challenges of the future operating environment. Continue implementing approved joint concepts in order to advance the operational effectiveness of the future Joint Force and enable the introduction of new capabilities. Conduct IRON CRUCIBLE Series events to assess the body of ideas in joint concepts aligned to senior leader priorities including focus on Russia, China, North Korea, Iran and ISIS, hybrid or gray zone conflict, cyberspace and robotics and autonomous systems.			
Accomplishments/Planned Programs Subtotals	4.392	5.983	5.564

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 N/A

E. Performance Metrics
 Concept development performance metrics are derived from the Chairman's Title 10 responsibilities and CJCSI 3010.02D Guidance for Development and
 implementation of Joint Concepts and, as such, support the purpose of informing the Department's senior leadership by examining military problems and providing an

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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azimuth for future force development. As a component of the overall Joint Force Development system, concept development and implementation products or processes are highly qualitative in nature; there are few strong quantitative performance measures in proposing new operational approaches, whether a concept is achievable, or if they inform decisions on joint capabilities. The follow metrics apply to the role of Joint Concepts in the Joint Strategic Planning System:

Performance measure 1 - Identify concepts that must be developed to support defense needs and priorities. Metrics: Process is complete. Product is on time. Analysis is thorough.

Performance measure 2 – Develop Joint Concepts assigned by CJCS and General Officer Steering Committee. Metric: Central idea and principles inform leadership and capability assessments.

Performance measure 3 – Conduct assessments that support implementation of approved Joint Concepts. Metrics: assessments and wargames inform or guide materiel and non-materiel capability development.

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Appropriation/Budget Activity 0400 *I* 6					**R-1 Program Element (Number/Name)** PE 0204571J *I Joint Staff Analytical Support (JSAS)*					**Project (Number/Name)** P002 *I Global Force Management Data Initiative (GFM DI)*		

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P002: *Global Force Management Data Initiative (GFM DI)*	8.583	0.523	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) family of programs provides defense analytical support capabilities for the Joint Staff (TJS) and Combatant Commands (CCMDs).   JSAS encompasses the developmental tools and infrastructure required to conduct analyses and formulates the results to best assist the Chairman in fulfilling his statutory responsibilities.   Under the umbrella of analytical support tools are the Automated Global Force Management Tool (AGT) and the Collaborative Issue Resolution Tool (CIRT), both which will meet requirements set forth in Title 10 U.S.C. and the Unified Command Plan (UCP) for automating the Global Force Management Implementation Guidance Forces For (Assignment and Apportionment) tables. Additionally, the Joint Organizational Server (JOS) will be the enabler system for Joint Staff personnel to be entered, near-real-time, into the automated Forces For Process.

RDT&E efforts for GFM DI ends in FY2015.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Global Force Management Data Initiative (GFM DI)	0.523	-	-
Description: RDT&E funds for the Global Force Management (GFM) program will enable the Assignment, Allocation, and Apportionment functions for forces to meet the requirements set forth in Title 10 U.S.C. and the Unified Command Plan (UCP). The development of the Secretary of Defense's "Forces for Unified Commands" Memorandum Assignment Tables has historically been a labor intensive staffing process conducted annually. The automated GFM Toolset is the first downstream consumer of force structure data resident in the seven organization (org) servers that are made available by the GFM Data Initiative (DI) effort. CIRT has streamlined force management, increased common understanding of force assignment, and supported timely force management decisions. The objective is to automate the generation of the Global Force Management Implementation Guidance (GFMIG) and Forces For Unified Commands (Forces For) Assignment, Apportionment, and Allocation tables. These efforts will flatten, streamline, and automate the current process while providing high fidelity data and transparency, and enhance Combatant Commander risk assessment to operational plans. The Joint Organizational Server (JOS) will be the enabler system for Joint Staff personnel to be entered, near-real-time, into the automated Forces For Process. Failure to fund for this effort negatively impacts the ability of the Services, CCMDs, Joint Staff (JS) and Office of the Secretary of Defense (OSD) to efficiently manage force structure resources. *FY 2015 Accomplishments:*			

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Finalize the AGT for Assignment and Apportionment functions to meet GO/FO Staffing cycle event for AGT verification testing. Enable full Joint Operations Capability for two-way interface with individual service management systems and OSD servers.			
Accomplishments/Planned Programs Subtotals	0.523	-	-

C. Other Program Funding Summary ($ in Millions)

 N/A

Remarks

D. Acquisition Strategy

 N/A

E. Performance Metrics

 Specific performance metrics are being developed.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff											Date: February 2016	
Appropriation/Budget Activity 0400 I 6				**R-1 Program Element (Number/Name)** PE 0204571J I *Joint Staff Analytical Support (JSAS)*							**Project (Number/Name)** P003 I *GFM DI Enterprise Force Structure (EFS) Integration*	
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
P003: *GFM DI Enterprise Force Structure (EFS) Integration*	0.000	0.000	0.000	1.900	-	1.900	0.600	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

GFM DI Enterprise Force Structure (EFS) Integration effort provides the next steps for GFM Mission Application enhancements intrinsic to balancing Global Force Demand against the Total Military Force. This is complex, multi-variant and requires modernized technologies that must provide integrated information by linking authoritative force structure data (derived from the GFM DI Organizational Servers) to C2 data (resident in GFM Mission Applications). The Joint Staff Operations Directorate (J3) is the functional leader for GFM Allocation and GFM Mission Applications. Accordingly, TJS will employ a joint strategy for efficiently fulfilling Enterprise Force Structure (EFS) data utility.

The DoD must quickly transition from legacy systems that promulgate data disparity across the Defense enterprise in order to meet the National Military Objectives that have evolved from large force scenarios to operations that include small-to-full scale activities. As stated in both the NSS and NMS, our adversaries demonstrate the ability to adapt to kinetic or non-kinetic terrain. Consequently, Information Technology (IT) superiority, capabilities, and recognition of associated vulnerabilities are an operational imperative. Yet, warfighters, strategic planners and GFM decision makers are unable to seamlessly exchange information in a manner that keeps pace with globally changing threats to rapidly and accurately accomplish force sourcing activities to support SecDef allocation decisions. TJS is mandated to utilize the Service Org Server (OS) Enterprise Force Structure (EFS) data to enhance managing, assessing, and displaying the worldwide disposition of U.S. forces. Key deliverables include incrementally developed, operationally realistic capability enhancements focused on Resource-Informed Planning and GFM sourcing functionality required by JROCM 111-14, the Capability Development Document (CDD) for Global Force Management Data Initiative (GFM DI); JROCM 073-13, Joint Command and Control (JC2) Capability Definition Package (CDP); Joint Operation Planning Process (JOPP) and Assessment CDP; and Force Planning & Deployment Planning/Execution CDP.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Critical upgrades to GFM Mission Applications directly supporting Enterprise Force Structure (EFS) Integration.	-	-	1.900
Description: The GFM Mission DI EFS Integration effort requires RDT&E funds to upgrade GFM Mission Applications in order to ensure GFM DI Next Steps Allocation Implementation is achieved. This addresses the final phases for the GFM DI effort that was formerly started within the Joint Staff Analytical Support (JSAS) family of programs; specifically the Assignment and Apportionment functions and development of the Automated GFM Tool (AGT) that streamlined the SECDEFs "Forces for Unified Commands" Memorandum Assignment Tables. RDT&E efforts for Assignment and Apportionment functions within the purview of Joint Staff J8 are scheduled to end in FY2015 with the declaration of AGT Full Operation Capability (FOC). In order to complete the GFM DI tasks, efforts must begin as early as possible to ensure all GFM DI planned milestones, reflected in Section E, are			

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
realized and thereby enable a Global Visibility Capability. GFM applications managed by the Joint Staff are used by the JSAS family of programs and this effort to fund critical upgrades is a precondition to GFM DI EFS Integration. *FY 2017 Plans:* Specific RDT&E work will focus on a decentralized data strategy resulting from the DoD CIO "DoD Cloud Way Forward" service-oriented architecture that flattens the legacy "Silos of Databases" paradigm by providing infrastructure services. This will satisfy the Joint Allocation IPlan guidance for mapping Enterprise Force Structure capabilities to Force-Management modeled workflows uniting both user and technical functionality. The result is incremental development of enabling technologies designed to operationalize force structure data resident in each Service Organizational Server (Service OS) and meet Interim Operational Capability (IOC). This will be accomplished by first aggregating the Service OS into a Global Laydown Service that aggregates the Service OS data, then by linking the unique organization identifier (OUID) in the aggregate service to establish the C2 relationships habitual to the Allocation process (OPCON and TACON Links). The minimum capability to establish the OUID/UIC linkages in JOPES TPFDDs, mapped to GFM allocation information (FTN, RFF and DEPORD/LNR), and Transportation data (TTAN/TTN) comprises the baseline IT functionality available to the DoD Enterprise.This is foundational for the success of GFM DI Next Steps implementation writ large and includes cyber security improvements required to meet the latest Information Assurance compliance standards.			
Accomplishments/Planned Programs Subtotals	-	-	1.900

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 Joint migration or transition to a JIE compliant JC2 Architecture and ultimate Life-Cycle Logistics within an Acquisition Portfolio.

E. Performance Metrics
 The GFM DI Enterprise Force Structure (EFS) integration efforts will result in a Global Laydown Service and Joint Force Capability Catalog that supports a Global Visibility Capability (GVC) allowing for GFM Allocation and Joint Future Force integration or transition/implementation of concepts and capabilities to the APEX Enterprise. This yields value-added non-materiel solutions, lessons learned, and best practices across the Doctrine, Organization,Training, Materiel, Leadership and Education, Personnel, Facilities - Policy (DOTMLPF-P). This is a cost-effective yet full spectrum approach to support and assist the Chairman in fulfilling his statutory responsibilities while improving current and future joint force capabilities, and are measured by the following:

 (1) Meet Initial Operating Capability (IOC) performance elements.

Exhibit R-2A, **RDT&E Project Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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(2) Enterprise Force Structure Data services and Web Service Interfaces supporting a Joint Force Capabilities Catalog (JFCC) described in the Enterprise Force Structure (EFS) Capability Package (CP) that is essential to operationalizing the force structure data and achieve GFM DI Next Steps Allocation.

(3) Services, CCMDs, Joint Staff and OSD will be able to efficiently manage force generation supporting GFM Allocation in less than the current time it takes with a common view of the sourcing-to-employment tracking of forces. This is realized by the automated linking of the Organization Unique Identifier (OUID) attributes from the GFM DI Org Servers (OS) to the Unit Identification Code (UIC) resident in JOPES TPFDDs, GFM allocation information (FTN, RFF, and DEPORD/LNR), and Transportation data.

(4) GFM applications that allow a Joint Planner to inculcate the association of standard and consistent force structure instance data and consistently applied data "types" with force structure data referenced over time in the GFM Allocation sourcing solutions and deployment planning,execution, and distribution processes.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff											Date: February 2016	

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0303166J *I Support to Information Operations Capability*							

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	12.323	11.552	10.404	0.857	-	0.857	0.673	0.673	0.673	0.781	Continuing	Continuing
001: *Information Operations Range*	12.323	11.552	10.404	0.857	-	0.857	0.673	0.673	0.673	0.781	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD a closed-loop, persistent, geographically distributed network to conduct training, testing, and experimentation in support of Computer Network Attack (CNA)/Computer Network Defense (CND) in a threat representative environment with realistic and relevant targets and command & control systems of interest. JIOR uniquely provides Services, Combatant Commanders (CCMD), and other government agencies the ability to test deployment and collaboratively gain insights into advanced Cyberspace, Information Operations (IO), and Electronic Warfare (EW) capabilities under current and future operational environment conditions. JIOR integrates other cyberspace ranges, replicates critical infrastructure, cyber targets, Internet traffic, and opposing forces. These provide the capacity to meet Presidential policy and CJCS mandates for training and certification of 6000+ cyber warriors by 2017 and DoD/Interagency cyber vulnerability assessments. The JIOR security construct allows users to develop, test, and secure their unique cyber capabilities and protect their identity during range activities. The JIOR conducts multiple, simultaneous, and disparate training, testing, and experimentation events.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	11.552	10.413	0.857	-	0.857
Current President's Budget	11.552	10.404	0.857	-	0.857
Total Adjustments	0.000	-0.009	0.000	-	0.000
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

The majority of funding for the Joint IO range shifted to the Operation and Maintenance appropriation (same program element) for proper execution. A program requirements review determined most of the cost for the range was in the operation and maintenance of systems, support contracts, and overhead expenses, better suited for the O&M appropriation.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0303166J *I Support to Information Operations Capability*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Information Operations Range	11.552	10.404	0.857
Description: The Joint Information Operations Range (JIOR) is a closed-loop network that forms a live-fire range utilizing encrypted tunneling over existing networks to conduct training, testing, and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Computer Network Attack (CNA)/Computer Network Defense (CND)), and Cyberspace mission areas in a threat representative environment. **FY 2015 Accomplishments:** (1) Expanded national, DoD, and Inter-Agency awareness and support regarding IO and cyber related activities. (2) Improved the threat representation and operational relevance of the network. (3) Improved the integration of Live Virtual Constructive (LVC) simulations with other Joint training and testing communities and infrastructures. **FY 2016 Plans:** Continues FY 2015 efforts: (1) Expand national, DoD, and Inter-Agency awareness and support regarding IO and cyber related activities. (2) Improve the threat representation and operational relevance of the network. (3) Improve the integration of LVC simulations with other Joint training and testing communities and infrastructures. **FY 2017 Plans:** The Joint Staff conducted a thorough program review and determined the majority of IO Range expenses were better suited to the O&M appropriation for proper execution. (1) Continues FY2016 efforts. (2) Evaluate and deploy network automation tools to better manage the JIOR.			
Accomplishments/Planned Programs Subtotals	11.552	10.404	0.857

D. Other Program Funding Summary ($ in Millions)

 N/A

Remarks

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Exhibit R-2, **RDT&E Budget Item Justification:** PB 2017 The Joint Staff		**Date:** February 2016
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E. Acquisition Strategy

The Joint IO Range manages the development and expansion of Joint IO Range capabilities to an increasing number of customers. Integration into the Joint Exercise program has allowed users to increase the use and capability of the range. Continued development of tools for the range will be required as adversarial capabilities improve. Automation of JIOR scheduling and network reconfiguration will be critical to increasing capacity and meeting user demands.

The Joint Staff conducted a thorough program review and determined the majority of IO Range expenses were better suited to the O&M appropriation for proper execution.

Continues FY2016 efforts:

(1) Expand national, DoD, and Inter-Agency awareness and support regarding IO and cyber related activities.
(2) Improve the threat representation and operational relevance of the network.
(3) Improve the integration of LVC simulations with other Joint training and testing communities and infrastructures.

Evaluate and deploy network automation tools to better manage the JIOR.

F. Performance Metrics

The Joint Staff conducted a thorough program review and determined the majority of IO Range expenses were better suited to the O&M appropriation for proper execution.

Measures: JIOR modernization results in reduced network reconfiguration time for use and reuse of DoD Enterprise Cyber Range Environment (DECRE) ranges.

- Number of Defense Research an Engineering Network (DREN) circuits remaining and rate of replacement with Defense Information Systems Network (DISN) circuits (Cost).

- Estimated man-hours saved due to transforming manual paper-driven planning processes to on-demand automated services (Schedule).

- Sufficient capacity & agility to support Cyber Mission Forces force development and MDAP/C2 systems cybersecurity assessments & testing (Outcomes).

- Improved rapid response for short-notice mission rehearsal requirements from days to on-demand (Outcomes).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff											Date: February 2016	

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0607828J *I Joint Integration & Interoperability*							

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	16.047	10.167	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	26.214
P818: *Joint Integration & Interoperability*	16.047	10.167	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	26.214
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY2016 this PE will be realigned to PE 0604826J - Joint C5 Capability Development, Integration and Interoperability Assessments.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	11.968	0.000	0.000	-	0.000
Current President's Budget	10.167	0.000	0.000	-	0.000
Total Adjustments	-1.801	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY2015 Carryover	-1.801	-	-	-	-

Change Summary Explanation

In FY 2016, PE 0607828J - Joint Integration and Interoperability is realigned to PE 0604826J.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Joint Integration & Interoperability	10.167	-	-
FY 2015 Accomplishments: (1) Developed and secured DoD approval for eight (8) JCIDS documents to support materiel development of Joint C2 system capabilities for: DoD's Enterprise Common Operational Picture (COP); the Common Tactical Picture; the Mission Partner Environment (MPE); Force Planning and Deployment Planning & Execution; Joint Operations Planning Process and Assessment; and Joint C2 Cyber capabilities. Six software solutions were delivered to the Combatant Commands and Services as a result of these JCIDS documents.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0607828J *I Joint Integration & Interoperability*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
(2) Identified and resolved critical data exchange issues between GCCS-J and United Kingdom C2 systems, between GCCS-J and the Air Force's AOC weapon system, and between GCCS-J and USTRANSCOM movement planning data services.			
(3) Increased the number of JIE and Warfighting Mission Area architecture products available for integration and reuse by 25% and significantly improved user search capability for structured and unstructured data.			
(4) Delivered Tactics, Techniques and Procedures (TTPs) and integration for the En-route Mission Command Capability based on SOF best practices to the Army's 18th Airborne Corps and the USMC Special Purpose Marine Air Ground Task Forces providing for the first time enhanced C2 capability en-route to include secure voice, email, chat, ISR feeds and Common Operational Picture.			
(5) Led the Department's adoption of the White House directed National Information Exchange Model (NIEM) with the creation and implementation of the Military Operations Domain data exchange framework (now at version 3.1) resulting in improved Joint, Interagency and Coalition warfighter interoperability and information sharing.			
(6) Created a North Atlantic Treaty Organization (NATO) Core Data Framework, which received formal NATO approval and endorsement, establishing a common multi-nation warfighter information sharing approach and which establishes critical US-to-allied nation interoperability requirements.			
(7) Conducted Joint Staff sponsored Bold Quest Coalition Capability Demonstration and Assessment involving fourteen (14) partner nations, all US Services and U.S. Special Operations Command successfully demonstrating viability of implementing Mission Partner Environment concepts; the integration of ground-to-air situational awareness capabilities; and digitally enhanced call-for-fire and close air support operations through live, virtual, construction dismounted operations at Ft Benning GA, White Sands Missile Range, NM, Holloman AFB, NM, and Ft Bliss, TX.			
(8) Led Accreditation visits to seven (7) Joint Terminal Attack Controller (JTAC); 1 Forward Air Controller (Airborne); and 3 Joint Fires Observer (JFO) Schoolhouses. Accreditation of US and partner nation schoolhouses ensured trained and qualified personnel meet standardized performance metrics, enabling enhanced trust and interoperability during current and future combat operations			
(9) Provided CCMDs, Services and Agencies with Mission Partner Environment (MPE) network joining and exiting instructions for sharing information allowing a more rapid shift (hours vs days) from peacetime operations to JTF combat operations; delivered requirements and standards for Unclassified Information Sharing to the Joint Staff requirement process for whole of government			

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C. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
and coalition partner operations e.g. Domestic Operations, United Nations Humanitarian Assistance/Disaster Relief via JROC validated documents. (10) Incorporated MPE concepts and principles into Senior Leader Capstone and Joint Professional Military Education (JPME) programs, Joint Doctrine Publications, Joint Knowledge Online (JKO) and four (4) CCMD and Service exercises. (11) Solved "Chat" and "Common Operational Picture" (COP) Afghan Mission Network interoperability emergent requirement in support of NATO's Operation Resolute Support. (12) Provided a realistic Ballistic Missile Defense test bed employing Service Red Team activities by integrating the Command and Control Information Systems (C2 IS) with the Missile Defense Agency's Command, Control, Battle Management and Communication (C2BMC) systems and Aegis Weapons System provided by Surface Combat Systems Center Wallops Island. (13) Developed a Concept of Operations for integrating cyber effects into exercise Master Scenario Event Lists (MSEL) and implemented cyber effects MSELs during USNORTHCOM's Vigilant Shield 2014 exercise.			
Accomplishments/Planned Programs Subtotals	10.167	-	-

D. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

E. Acquisition Strategy
 N/A - FY 2016 consolidation of this PE (0607828J) and two other legacy JFCOM PEs (0604787J, 0604828J) into 1 new Joint Staff PE (0604826J).

F. Performance Metrics
 N/A - FY 2016 consolidation of this PE (0607828J) and two other legacy JFCOM PEs (0604787J, 0604828J) into 1 new Joint Staff PE (0604826J).

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Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 7	**R-1 Program Element (Number/Name)** PE 0607828J *I Joint Integration & Interoperability*	**Project (Number/Name)** P818 *I Joint Integration & Interoperability*

Remarks

 FY 2016 consolidation of this PE (0607828J) and two other legacy JFCOM PEs (0604787J, 0604828J) into 1 new Joint Staff PE (0604826J).

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Exhibit R-4, **RDT&E Schedule Profile:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 7	**R-1 Program Element (Number/Name)** PE 0607828J *I Joint Integration & Interoperability*	**Project (Number/Name)** P818 *I Joint Integration & Interoperability*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Consolidation																												
PE Consolidation.					▮																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 The Joint Staff					Date: February 2016	
Appropriation/Budget Activity 0400 / 7			**R-1 Program Element (Number/Name)** PE 0607828J / *Joint Integration & Interoperability*		**Project (Number/Name)** P818 / *Joint Integration & Interoperability*	

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Consolidation				
PE Consolidation.	1	2016	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 The Joint Staff										Date: February 2016	

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208043J *I Planning and Decision Aid System (PDAS)*						

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	11.131	1.788	1.842	3.038	-	3.038	3.037	3.037	3.037	3.097	Continuing	Continuing
P001: *Planning and Decision Aid System OPS*	11.131	1.788	1.842	3.038	-	3.038	3.037	3.037	3.037	3.097	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides engineering and testing support to the Planning and Decision Aid System, a classified Joint Staff automated information system supporting the combatant commanders, Services, and Department of Defense Agencies.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	1.842	3.061	3.061	-	3.061
Current President's Budget	1.788	1.842	3.038	-	3.038
Total Adjustments	-0.054	-1.219	-0.023	-	-0.023
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.219			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY2015 Carryover	-0.054	-	-	-	-
• Revised Economic Adjustment	-	-	-0.023	-	-0.023

Change Summary Explanation

Classified details provided in a separate budget exhibit submitted on SIPRNET.

PE 0208043J: *Planning and Decision Aid System (PDAS)*
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Exhibit R-2, **RDT&E Budget Item Justification:** PB 2017 The Joint Staff											**Date:** February 2016	

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*					**R-1 Program Element (Number/Name)** PE 0902298J / *Management Headquarters*							

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	12.611	3.111	2.953	0.826	-	0.826	0.861	0.860	0.860	0.861	Continuing	Continuing
P001: *Joint Staff Information Network (JSIN)*	12.611	3.111	2.953	0.826	-	0.826	0.861	0.860	0.860	0.861	Continuing	Continuing

A. Mission Description and Budget Item Justification

Provides RDT&E funds for the Joint Staff Information Network (JSIN). JSIN is the network infrastructure (for both classified and unclassified information) enabling collaboration and information-sharing among the Joint Staff, Combatant Commands (CCMD) and the Services. The JSIN also provides crucial business-related, decision-making information, and workflow support affecting military operations in support of the JCS. JSIN improves actions processing for faster coordination of critical issues with Combatant Commands, Services, and Agencies, as well as within TJS.

B. Program Change Summary ($ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	4.409	2.978	1.010	-	1.010
Current President's Budget	3.111	2.953	0.826	-	0.826
Total Adjustments	-1.298	-0.025	-0.184	-	-0.184
• Congressional General Reductions	-	-0.025			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY2015 Carryover	-1.298	-	-	-	-
• Economic Adjustment	-	-	-0.184	-	-0.184

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff										Date: February 2016	
Appropriation/Budget Activity 0400 *I* 7				**R-1 Program Element (Number/Name)** PE 0902298J *I Management Headquarters*					**Project (Number/Name)** P001 *I Joint Staff Information Network (JSIN)*		
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
P001: *Joint Staff Information Network (JSIN)*	12.611	3.111	2.953	0.826	-	0.826	0.861	0.860	0.860	0.861	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides RDT&E funds for the Joint Staff Information Network (JSIN). JSIN is the network infrastructure (for both classified and unclassified information) enabling collaboration and information-sharing among the Joint Staff, Combatant Commands (CCMD) and the Services. The JSIN also provides crucial business-related, decision-making information, and workflow support affecting military operations in support of the JCS. JSIN improves actions processing for faster coordination of critical issues with Combatant Commands, Services, and Agencies, as well as within TJS.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Title: Joint Staff Information Network (JSIN) *Description:* Provides RDT&E funds for the Joint Staff Information Network (JSIN). JSIN is the network infrastructure (for both classified and unclassified information) enabling collaboration and information-sharing among the Joint Staff, Combatant Commands (CCMD) and the Services. The JSIN also provides crucial business-related, decision-making information, and workflow support affecting military operations in support of the JCS. JSIN improves actions processing for faster coordination of critical issues with Combatant Commands, Services, and Agencies, as well as within TJS. *FY 2015 Accomplishments:* Provided requirements refinement, limited roll out of a production system, planning of legacy data migration and assessment of Joint Staff's electronic Document Task and Records Management (eDTRM) project. eDTRM provides Joint Staff a system that is able to leverage the cloud computing capabilities within the Defense Enterprise Computing Centers (DECC)/Joint Information Environment (JIE) and able to integrate with and leverage information contained within other Task and Records Management Systems currently in use within the Joint Community. Workflows developed included Chairman's Public Correspondence, Military Awards, Freedom of Information Act, Mandatory Declassification Review, Security Review, Staff Actions and Records Management. *FY 2016 Plans:* Joint Staff migration to JIE continues with placement of applications into JIE Core Data Centers and participation within Installation Processing Nodes. Mobile user access to JSIN services includes unclassified and classified mobile device use of JSIN-U and JSIN-S portals. Subscription to the Defense Information Systems Agency (DISA) provided Unified Capabilities portfolio will allow a full complement of voice, video, chat, web conferencing, email, and mobility functionality. Continued refinement of the U.S. Army Information Technology Agency desktop as a service, Application Virtualization (S) and (U), Cross Domain Services,	3.111	2.953	0.826

Exhibit R-2A, RDT&E Project Justification: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 *I* 7	**R-1 Program Element (Number/Name)** PE 0902298J *I Management Headquarters*	**Project (Number/Name)** P001 *I Joint Staff Information Network (JSIN)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017**
Enterprise Content Management and Task Management (U) optimization and integration, Enterprise Services Implementation including Enterprise Task Management (U/S), Identity and Access Management capabilities, completion of a Managed Print Service (MPS) and consideration of DoD cloud services will achieve efficiencies, improve mission effectiveness, and strengthen our security posture. *FY 2017 Plans:* Work with the Joint Service Provider (JSP) to develop and refine methodologies to improve Active Directory hardening, network consolidation strategies, and improve data protection. Continue to develop and integrate more mobile capacities in the JS users as more and more systems are handheld and data hosted in the DOD cloud.			
Accomplishments/Planned Programs Subtotals	3.111	2.953	0.826

C. Other Program Funding Summary ($ in Millions)
 N/A

Remarks
 N/A

D. Acquisition Strategy
 N/A

E. Performance Metrics

 (1) Reduce technical support hours per desktop a minimum of 10% through deployment of thin client and virtualized management of the IT baseline.

 (2) Avoid cost for technology refresh of NIPR and SIPR desktops via the proper planning, testing, and piloting of a Joint Staff Thin Client solution.

 (3) Reduce the cost of building, operating, and maintaining Joint Staff specific solutions through implementation of enterprise capabilities, and adoption of new cost models for execution (Enterprise Task management, Unified Communications, JIE, and Managed Print Services (MPS).

 (4) Reduce redundancies in Core and Mission IT Capabilities through implementation of a comprehensive portfolio management policy and avoid cost through the institutionalization of investment management governance model.

 (5) Reduce cost of Joint Staff controlled IT-services by subscribing to locally hosted IT services providers (Joint IT Service Provider-Pentagon (JITSP-P).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 The Joint Staff		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0902298J / *Management Headquarters*	**Project (Number/Name)** P001 / *Joint Staff Information Network (JSIN)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Support	MIPR	SPAWAR : Washington, DC	1.359	-		-		-		-		-	-	-	-
		Subtotal	1.359	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Support	MIPR	SPAWAR : Washington, DC	11.252	3.111		2.953		0.826	Sep 2015	-		0.826	-	-	-
		Subtotal	11.252	3.111		2.953		0.826		-		0.826	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.611	3.111		2.953		0.826		-		0.826	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0902298J / *Management Headquarters*	**Project (Number/Name)** P001 / *Joint Staff Information Network (JSIN)*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint Staff Information Network (JSIN)																												
Joint Staff Information Network (JSIN)								██████████																				

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Exhibit R-4A, **RDT&E Schedule Details:** PB 2017 The Joint Staff		**Date:** February 2016
Appropriation/Budget Activity 0400 *I* 7	**R-1 Program Element (Number/Name)** PE 0902298J *I Management Headquarters*	**Project (Number/Name)** P001 *I Joint Staff Information Network (JSIN)*

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Joint Staff Information Network (JSIN)				
Joint Staff Information Network (JSIN)	1	2017	4	2017

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