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**Department of Defense
Fiscal Year (FY) 2016 President's Budget Submission**

February 2015



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 2016 President's Budget
 Exhibit R-1 FY 2016 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

20 Jan 2015

Appropriation	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Research, Development, Test & Eval, DW	125,016	150,372		150,372	84,796		84,796
Total Research, Development, Test & Evaluation	125,016	150,372		150,372	84,796		84,796

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Department of Defense
 FY 2016 President's Budget
 Exhibit R-1 FY 2016 President's Budget
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 (Dollars in Thousands)

20 Jan 2015

Summary Recap of Budget Activities	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Advanced Technology Development	12,067						
Advanced Component Development And Prototypes	41,908	67,104		67,104	25,200		25,200
Management Support	53,430	65,049		65,049	53,557		53,557
Operational System Development	17,611	18,219		18,219	6,039		6,039
Total Research, Development, Test & Evaluation	125,016	150,372		150,372	84,796		84,796
Summary Recap of FYDP Programs							
General Purpose Forces	8,429	12,163		12,163	10,734		10,734
Intelligence and Communications	8,348	11,552		11,552	10,413		10,413
Research and Development	105,313	122,248		122,248	60,671		60,671
Administration and Associated Activities	2,926	4,409		4,409	2,978		2,978
Total Research, Development, Test & Evaluation	125,016	150,372		150,372	84,796		84,796

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 Total Obligational Authority
 (Dollars in Thousands)

20 Jan 2015

Appropriation	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The Joint Staff	125,016	150,372		150,372	84,796		84,796
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 FY 2016 President's Budget
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 Total Obligational Authority
 (Dollars in Thousands)

20 Jan 2015

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

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
64	0603828J	Joint Experimentation	03	12,067							U
		Advanced Technology Development		12,067							
99	0604445J	Wide Area Surveillance	04	25,955	53,000		53,000				U
102	0604787J	Joint Systems Integration	04	5,714	7,002		7,002				U
103	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	3,834				25,200		25,200	U
104	0604828J	Joint FIRES Integration and Interoperability Team	04	6,405	7,102		7,102				U
		Advanced Component Development And Prototypes		41,908	67,104		67,104	25,200		25,200	
141	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	37,314	43,176		43,176	35,471		35,471	U
155	0605502J	Small Business Innovative Research	06	2,177							U
166	0204571J	Joint Staff Analytical Support	06	5,591	10,321		10,321	7,673		7,673	U
169	0303166J	Support to Information Operations (IO) Capabilities	06	8,348	11,552		11,552	10,413		10,413	U
		Management Support		53,430	65,049		65,049	53,557		53,557	
185	0607828J	Joint Integration and Interoperability	07	11,847	11,968		11,968				U
186	0208043J	Planning and Decision Aid System (PDAS)	07	2,838	1,842		1,842	3,061		3,061	U
236	0902298J	Management HQ - OJCS	07	2,926	4,409		4,409	2,978		2,978	U
		Operational System Development		17,611	18,219		18,219	6,039		6,039	
Total Research, Development, Test & Eval, DW				125,016	150,372		150,372	84,796		84,796	

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 Total Obligational Authority
 (Dollars in Thousands)

20 Jan 2015

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

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
64	0603828J	Joint Experimentation	03	12,067							U
		Advanced Technology Development		12,067							
99	0604445J	Wide Area Surveillance	04	25,955	53,000		53,000				U
102	0604787J	Joint Systems Integration	04	5,714	7,002		7,002				U
103	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	3,834				25,200		25,200	U
104	0604828J	Joint FIRES Integration and Interoperability Team	04	6,405	7,102		7,102				U
		Advanced Component Development And Prototypes		41,908	67,104		67,104	25,200		25,200	
141	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	37,314	43,176		43,176	35,471		35,471	U
155	0605502J	Small Business Innovative Research	06	2,177							U
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		Management Support		53,430	65,049		65,049	53,557		53,557	
185	0607828J	Joint Integration and Interoperability	07	11,847	11,968		11,968				U
186	0208043J	Planning and Decision Aid System (PDAS)	07	2,838	1,842		1,842	3,061		3,061	U
236	0902298J	Management HQ - OJCS	07	2,926	4,409		4,409	2,978		2,978	U
		Operational System Development		17,611	18,219		18,219	6,039		6,039	
Total The Joint Staff				125,016	150,372		150,372	84,796		84,796	

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

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64	03	0603828J	Joint Experimentation.....	Volume 5 - 1

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

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Line Item	Budget Activity	Program Element Number	Program Element Title	Page
99	04	0604445J	Wide Area Surveillance.....	Volume 5 - 2
102	04	0604787J	Joint Systems Integration.....	Volume 5 - 3
103	04	0604826J	Joint C5 Capability Development, Integration, and Interoperability Assessments.....	Volume 5 - 16
104	04	0604828J	Joint FIRES Integration and Interoperability Team.....	Volume 5 - 33

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***Budget Activity 06: RDT&E Management Support
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141	06	0605126J	Joint Integrated Air & Missile Defense Organization (JIAMDO).....	Volume 5 - 41
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169	06	0303166J	Support to Information Operations Capability.....	Volume 5 - 64

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185	07	0607828J	Joint Integration & Interoperability.....	Volume 5 - 67
186	07	0208043J	Planning and Decision Aid System (PDAS).....	Volume 5 - 78
236	07	0902298J	Management Headquarters.....	Volume 5 - 79

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Joint Experimentation	0603828J	64	03.....	Volume 5 - 1
Joint FIRES Integration and Interoperability Team	0604828J	104	04.....	Volume 5 - 33
Joint Integrated Air & Missile Defense Organization (JIAMDO)	0605126J	141	06.....	Volume 5 - 41
Joint Integration & Interoperability	0607828J	185	07.....	Volume 5 - 67
Joint Staff Analytical Support (JSAS)	0204571J	166	06.....	Volume 5 - 59
Joint Systems Integration	0604787J	102	04.....	Volume 5 - 3
Management Headquarters	0902298J	236	07.....	Volume 5 - 79
Planning and Decision Aid System (PDAS)	0208043J	186	07.....	Volume 5 - 78
Small Business Innovation Research/Small Business Technology Transfer Program	0605502J	155	06.....	Volume 5 - 58
Support to Information Operations Capability	0303166J	169	06.....	Volume 5 - 64
Wide Area Surveillance	0604445J	99	04.....	Volume 5 - 2

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I</i> BA 3: <i>Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603828J <i>I Joint Experimentation</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	15.841	12.067	-	-	-	-	-	-	-	-	-	27.908
P01: <i>Joint Experimentation</i>	15.841	12.067	-	-	-	-	-	-	-	-	-	27.908

A. Mission Description and Budget Item Justification

As of FY2015, the Joint Experimentation effort has transitioned to Joint Staff Analytical Support, PE 0204571J, BA6.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	12.067	-	-	-	-
Current President's Budget	12.067	-	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-

Change Summary Explanation

In FY2013, the Chairman, Joint Chiefs of Staff directed the transformation of the Joint Experimentation program to an assessment focus. The Joint Staff no longer supports experimentation functions originally outlined in the Joint Experimentation R-2. While JS J7 divested this piece, other portions such as concept development and wargaming were retained. The shift in focus aligns more closely with those functions under BA6 RDT&E Management Support. As a result, this line was zeroed out and the remaining requirement was realigned to Joint Staff Analytical Support, PE 0204571J, BA6.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604445J / <i>Wide Area Surveillance</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	25.955	53.000	-	-	-	-	-	-	-	-	78.955
P001: <i>Wide Area Surveillance</i>	0.000	25.955	53.000	-	-	-	-	-	-	-	-	78.955
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)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	30.000	53.000	-	-	-
Current President's Budget	25.955	53.000	-	-	-
Total Adjustments	-4.045	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-4.045	-	-	-	-

Change Summary Explanation

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	3.230	3.834	7.002	-	-	-	-	-	-	-	-	14.066
<i>P787: Joint Systems Integration</i>	3.230	3.834	7.002	-	-	-	-	-	-	-	-	14.066
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 FY 2016, this legacy USJFCOM PE will be consolidated along with PE 0604828J (JFIIT) and PE 0607828J (JII) into a single new Joint Staff PE 0604826J – Joint Command, Control, Communications, Computers, and Cyber Integration (JC5I).

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J I <i>Joint Systems Integration</i>
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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	7.402	7.002	6.839	-	6.839
Current President's Budget	3.834	7.002	-	-	-
Total Adjustments	-3.568	-	-6.839	-	-6.839
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-3.568	-	-	-	-
• PE Consolidation	-	-	-6.839	-	-6.839

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 2014	FY 2015	FY 2016
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<p>Title: Joint Systems Integration</p> <p>FY 2014 Accomplishments: Interoperability Assessments(IA) and Interoperability Technology Demonstration Center (ITDC)</p> <p>Continued the efforts initiated for FY 2013 and responded to identified operational issues and shortfalls. Interoperability assessments were conducted to solve warfighter problems, including coalition challenges. FY 2014 assessment objectives focused on; Cyberspace, Mission Partner Environment, Common Operational Picture, Wireless to the Tactical Edge, Joint Fires Capabilities, Data Strategy Implementation, and Information Sharing Capabilities.</p> <p>Afghanistan Mission Network (AMN) Coalition Interoperability Assurance Validation (CIAV) Transition and Assessments – AMN is the primary Coalition, Command, Control and Communications and Computers, Intelligence, Surveillance, and Reconnaissance (C5ISR) network for International Assistance Forces (ISAF) in Afghanistan. C4AD is supporting the assessment of Coalition Mission Threads (CMTs) and Coalition Tactics, Techniques and Procedures (CTTPs) to identify and correct interoperability problems.</p>	3.834	7.002	-
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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J / <i>Joint Systems Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>Bold Quest 2014 (BQ14) Technical Support and Interoperability Assessments – Assessed interoperability and documented identified deficiencies of select systems within the joint fires mission thread during BQ14-1 and BQ 14-2 operational venues.</p> <p>Coalition Interoperability Assessments – Conducted interoperability assessments between selected systems during the Coalition Warrior Interoperability Exploration, Experimentation, Examination Exercise (CWIX) 2014 event.</p> <p>Global Command and Control-Joint (GCCS-J) v4.2.0.9 and Radiant Mercury (RM) Risk Mitigation Interoperability Assessment – Assessed interoperability of GCCS-J and RM.</p> <p>Mission Partner Environment (MPE) Federated Mission Networking (FMN) Interoperability Assessments – Provided interoperability assessments of selected U.S. and Coalition systems.</p> <p>Mission Partner Environment (MPE) Federated Mission Networking (FMN) Joining, Membership and Exit Instructions (JMEI) Assessments – Assessed FMN’s JMEI developed for Combined Endeavor 2014.</p> <p>Tactical Infrastructure Enterprise Services (TIES) Coalition Warfare Program (CWP) Interoperability Assessment – Assessing the capability of sharing data from authoritative data sources using web services in a C2 Core conformant, standardized data format.</p> <p>Tactical Infrastructure Enterprise Services (TIES) Joint Capability Technical Demonstration (JCTD) Interoperability Assessment - Assessing the capability of sharing data from authoritative data sources using web services in a C2 Core conformant, standardized data format.</p> <p>Joint Fire Support (JFS) Joint Mission Thread (JMT) Interoperability Assessment – Assessed JFS system of systems interoperability across user, decision maker, and Service boundaries.</p> <p>Ground to Air Situational Awareness (C2A SA) Operational Assessment Support – Assessed interoperability between U.S./ Coalition servers and participating aircraft.</p> <p>Network Integration Evaluation (NIE) Mission Partner Environment (MPE) Analysis Support – Observed current joint and coalition information sharing shortfalls and recommended options for implementing an MPE in future MPE events.</p> <p>Joint Command and Control (JC2) Common User Interface (CUI) / Enterprise Storefront (ES) Capability Assessment – Assessing JC2 CUI/ES capability in an operational context to support decision-making, planning, and situational awareness.</p>			

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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>Mission Partner Environment Shared Situational Awareness Study Support (MPE SSA) to NORAD-USNORTHCOM – Assessed how a MPE would function in a Defense Support of Civil Authorities (DSCA) environment.</p> <p>Automated NATO Database Interface (ANDI) Interoperability Assessment – Assessing the automated exchange of targeting data between the U.S. Modernized Integrated Database (MIDB) and the NATO Integrated Command and Control Database (ICCDB).</p> <p>Results: 19 assessment projects completed to resolve coalition and warfighter challenges. Assessments produced 307 findings, 69 conclusions, and 55 recommendations (32 confirmed accepted/implemented to date)</p> <p>Technical Assessments and Integration (TA&I) Continued FY 2013 initiatives investigating impacts of technology advances in wireless devices, mesh and ad-hoc networking, satellite modem technology, and small lightweight secure digital capabilities on warfighter command and control capabilities and match emerging critical warfighter requirements with the technologies to identify near-term technology solutions supporting Combatant Commanders. Areas of concentration included Wireless to the Tactical Edge Integration, Cyberspace, and Common Operational Picture.</p> <p>Joint Operational Long Term Evolution Deployable (JOLTED) Tactical Cellular System (TACTICS) Joint Capability Technical Demonstration (JCTD) - Technical Manager – JOLTED TACTICS is an Internet Protocol (IP) based system designed to provide robust 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.</p> <p>C2 Applications over Broadband Cellular (C2 ABC) Integration and Assessment – Integrating and assessing emerging C2 and tailored applications using broadband cellular technologies to provide the warfighter at the tactical edge with expanded situational awareness.</p> <p>Celestial Reach Joint Capability Technical Demonstration (JCTD) Assessment – Assessed a wide-band antenna solution for joint air, ground, and maritime operations and the capability’s utility in providing wide-band communications that support Command and Control (C2) and Intelligence Surveillance and Reconnaissance (ISR) applications to enroute users.</p> <p>National Security Agency (NSA) Commercial Solutions for Classified (CSfC) Secure Wireless Local Area Network (SWLAN) Integration Assessment – Assisting the National Security Agency in the development and assessment of a Suite B software encryption solution. This capability supports communicating over SECRET wireless networks without using Type-1 hardware solutions (e.g., SecNet 54, Talon, or KG-250s).</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>Tactical Mobility Security Integration and Assessment (TMSIA) Spiral II –In partnership with the National Security Agency integrating a security architecture for lightweight, man-portable communications-on-demand packages that allow the user to quickly establish secure 4G cellular wireless networks.</p> <p>Results: 6 integration projects completed or in work. 2 technical assessments of soon to be fielded capabilities revealed: 47 findings, 2 conclusions, and 9 recommendations. Technical integration efforts including JCTD support include 3 Defense Information Assurance Security Accreditation Working Group (DSAWG) presentations, 2 technical demonstrations, 2 technical integration tests, 13 developmental tests, 1 technical readiness test, and 1 certification test and evaluation.</p> <p>Persistent Command and Control Environment Continued FY 2013 initiatives by engaging the Services and Communities of Interest (COI) to leverage the capabilities of the Persistent Command and Control Environment by bringing joint solutions through C4AD's integration and operational assessment process. Provide a comprehensive Joint Task Force (JTF) environment required to also support cyber training, cyber capability development, and cyber assessment by expanding the connectivity and capability of the existing persistent environment to support the Enterprise Cyber Range Environment (ECRE) focused on user requirements, architectures, standards, measures, metrics, instrumentation, and data collection requirements.</p> <p>C4AD Project Engineering Support – Provided infrastructure, communications, network, information assurance, security, and engineering support as required.</p> <p>Cyber Assessment Event Number 1- Provided a representative Joint Task Force (JTF) Headquarters node within the Enterprise Cyber Range Environment (ECRE) to assess C2 system vulnerabilities to red team exploitation and improve blue team responses.</p> <p>Cyber Assessment Event Numbers 2-3 - Provided a representative Joint Task Force (JTF) Headquarters node within the Enterprise Cyber Range Environment (ECRE) to assess C2 system vulnerabilities to red team exploitation and improve blue team responses.</p> <p>CYBERCOM Project C; White Cell Facility and Training Support – Provided selected systems to assess system vulnerabilities to red team exploitation.</p> <p>DoD Information Assurance (IA) Range C2 Systems Support – Provided selected systems to assess system vulnerabilities to red team exploitation.</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>		R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>Navy Cyber Defense Operations Command Facility Support – Provided selected systems to assess system vulnerabilities to red team exploitation.</p> <p>Coalition Validation and Verification Environment (C2VE) – Establishing a persistent operational/technical assessment capability in support of Combatant Command and Coalition interoperability requirements.</p> <p>Results: Upkeep, maintenance, and currency of the persistent environment that includes: 27 internal local area networks (Unclas, Secret, TS/SCI, and Coalition), 9 operational, 6 research and development and 3 test and assessment wide area networks, 22 U.S. C2 Systems, 5 Coalition C2, 4 C2 Services, 24 Core Admin Services, 6 Cross Domain Baseline Services, 5 Cyber Environment C2Systems, 6 IA/Cyber Security Guard Services, 11 IA/Cyber Security Services, 30 Instrumentation Tools, and 30 Servers.</p> <p>FY 2015 Plans: Interoperability Assessments(IA) and Interoperability Technology Demonstration Center (ITDC)</p> <p>Continue the efforts initiated for FY 2014 and respond to unpredictable operational issues and shortfalls. Interoperability assessments will be conducted to solve warfighter problems, including coalition challenges. FY 2015 assessment objectives remain focused on; Cyberspace, Mission Partner Environment, Common Operational Picture, Wireless to the Tactical Edge, Joint Fires Capabilities, Data Strategy Implementation, and Information Sharing Capabilities.</p> <p>Bold Quest (BQ) 2015 Support – Design, accredit, install, operated and maintain the BQ15 exercise network.</p> <p>C2 Common Operating Picture (COP) Support and Assessment to CYBERFLAG (CF) 2015-1 – Provide C2 systems, a common operational picture, and assessment of cyber attacks on Global Command and Control System – Joint (GCCS-J).</p> <p>Automated NATO Database Interface (ANDI) Interoperability Assessment – Continue assessing the automated exchange of targeting data between the U.S. Modernized Integrated Database (MIDB) and the NATO Integrated Command and Control Database (ICCDDB).</p> <p>Tactical Infrastructure Enterprise Services (TIES) Coalition Warfare Program (CWP) Interoperability Assessment – Assessing the capability of sharing data from authoritative data sources using web services in a C2 Core conformant, standardized data format.</p>				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>Tactical Infrastructure Enterprise Services (TIES) Joint Capability Technical Demonstration (JCTD) Interoperability Assessment - Assessing the capability of sharing data from authoritative data sources using web services in a C2 Core conformant, standardized data format.</p> <p>Joint Fire Support (JFS) Joint Mission Thread (JMT) Interoperability Assessment – Continue assessing JFS system of systems interoperability across user, decision maker, and Service boundaries.</p> <p>Mission Partner Environment (MPE) Federated Mission Networking (FMN) Joining, Membership and Exit Instructions (JMEI) Assessments – Continue assessing developing JMEIs to implement MPE in an operational venue.</p> <p>Coalition Warrior Interoperability Exploration, Experimentation, Examination Exercise Interoperability Assessments – Conduct interoperability assessments between selected systems during CWIX 2015 event.</p> <p>Mission Partner Environment (MPE) Federated Mission Networking (FMN) Coalition Interoperability Assurance and Validation (CIAV) Assessments – Continue interoperability assessment of coalition systems supporting coalition mission threads in a coalition/joint environment.</p> <p>Operation Resolute Support Coalition Interoperability Assurance and Validation (CIAV) Post International Assistance Force Afghanistan – Support further identification, assessment and resolution of coalition interoperability and integration problems affecting mission threads.</p> <p>Joint Cross Domain eXchange (JCDX) Interoperability Assessment – Assess that JCDX version xx is interoperable with Global Command and Control System – Joint (GCCS-J) version xx.</p> <p>Mission Partner Environment (MPE) Network Integration Evaluation (NIE) 15 Analysis Support – Provide analysis that the Army’s future network is interoperable with Joint, Multinational and Interagency network capabilities.</p> <p>Joint Command and Control (JC2) Common User Interface (CUI) / Enterprise Storefront (ES) Capability Assessment – Continue assessing JC2 CUI/ES capability in an operational context to support decision-making, planning, and situational awareness.</p> <p>Friendly Force Tracking (FFT) Assessment Support – Assess U.S. and Allied ground to air situational awareness systems and capabilities.</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>		R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>Joint Information Environment (JIE) Service Compliance Assessment – Support the assessment of the Services compliance with implementing the JIE.</p> <p>Technical Assessments and Integration (TA&I) Continue FY 2014 initiatives investigating impacts of technology advances in wireless devices, mesh and ad-hoc networking, satellite modem technology, and small lightweight secure digital capabilities on warfighter command and control capabilities and match emerging critical warfighter requirements with the technologies to identify near-term technology solutions supporting Combatant Commanders. Areas of concentration include Wireless to the Tactical Edge Integration and Common Operational Picture.</p> <p>Joint Operational Long Term Evolution Deployable (JOLTED) Tactical Cellular System (TACTICS) Joint Capability Technical Demonstration (JCTD) - Technical Manager – JOLTED TACTICS is an Internet Protocol (IP) based system designed to provide robust 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.</p> <p>C2 Applications over Broadband Cellular (C2 ABC) Integration and Assessment – Integrating and assessing emerging C2 and tailored applications using broadband cellular technologies to provide the warfighter at the tactical edge with expanded situational awareness.</p> <p>National Security Agency (NSA) Commercial Solutions for Classified (CSfC) Secure Wireless Local Area Network (SWLAN) Integration Assessment – Assisting the National Security Agency in the development and assessment of a Suite B software encryption solution. This capability supports communicating over SECRET wireless networks without using Type-1 hardware solutions (e.g., SecNet 54, Talon, or KG-250s).</p> <p>Tactical Mobility Security Integration and Assessment (TMSIA) Spiral II – In partnership with the National Security Agency integrating a security architecture for lightweight, man-portable communications-on-demand packages that allow the user to quickly establish secure 4G cellular wireless networks.</p> <p>Broad Band Cellular Integration (B2CI) – Provide integration support for broad band cellular or other 4G based capabilities. Persistent Command and Control Environment</p>				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>		R-1 Program Element (Number/Name) PE 0604787J <i>I Joint Systems Integration</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
Continue FY 2014 initiatives by engaging the Services and Communities of Interest (COI) to leverage the capabilities of the Persistent Command and Control Environment by bringing joint solutions through C4AD's integration and operational assessment process. Provide a comprehensive Joint Task Force (JTF) environment required to also support cyber training, cyber capability development, and cyber assessment by expanding the connectivity and capability of the existing persistent environment to support the Enterprise Cyber Range Environment (ECRE) focused on user requirements, architectures, standards, measures, metrics, instrumentation, and data collection requirements.				
C4AD Project Engineering Support – Provide infrastructure, communications, network, information assurance, security, and engineering support as required.				
Navy Cyber Defense Operations Command Facility Support – Provide selected systems to assess system vulnerabilities to red team exploitation.				
C2 Support to the Cyber Persistent Test and Training Environment (PTTE) – Provide selected systems to assess system vulnerabilities to red team exploitation.				
Cyber Assessment Event Number 3 - Provide a representative Joint Task Force (JTF) Headquarters node within the Enterprise Cyber Range Environment (ECRE) to assess C2 system vulnerabilities to red team exploitation and improve blue team responses.				
Cyber Assessment Event Number 4 and 5 - Provide a representative Joint Task Force (JTF) Headquarters node within the Enterprise Cyber Range Environment (ECRE) to assess C2 system vulnerabilities to red team exploitation and improve blue team responses.				
Accomplishments/Planned Programs Subtotals		3.834	7.002	-
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
E. Acquisition Strategy				
N/A				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

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

F. Performance Metrics
N/A: Consolidating to new PE in FY2016 - reference PE0604826J

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 The Joint Staff Date: February 2015

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
0400 / 4	PE 0604787J / <i>Joint Systems Integration</i>	P787 / <i>Joint Systems Integration</i>

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604787J / <i>Joint Systems Integration</i>	Project (Number/Name) P787 / <i>Joint Systems Integration</i>
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FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
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 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604787J / <i>Joint Systems Integration</i>	Project (Number/Name) P787 / <i>Joint Systems Integration</i>
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Schedule Details

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

Note

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604826J <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	-	25.200	-	25.200	23.483	22.419	24.089	24.089	Continuing	Continuing
001: <i>C5 Assessments and Analyses</i>	0.000	-	-	13.696	-	13.696	13.940	14.195	14.190	14.190	Continuing	Continuing
002: <i>C5 Capability Development</i>	0.000	-	-	7.079	-	7.079	5.118	3.801	5.483	5.483	Continuing	Continuing
003: <i>Joint Fires C2 Interoperability</i>	0.000	-	-	4.425	-	4.425	4.425	4.423	4.416	4.416	Continuing	Continuing

A. Mission Description and Budget Item Justification

Lead command, control, communications, computers, and cyber (C5) assessments, analyses, capability development, and Joint Fires 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 is a new PE for FY2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY2013 after JFCOM disestablishment. The following PEs will no longer be 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)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	25.200	-	25.200
Total Adjustments	-	-	25.200	-	25.200
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Legacy Program Element Consolidation	-	-	25.200	-	25.200

Change Summary Explanation

This is a new Program Element (PE) for FY2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY2013 as a result of the JFCOM disestablishment. The following PEs will no longer be used after FY2015: 0604828J - Joint FIRES Integration and Interoperability Team (JFII), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>					Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>		
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
001: <i>C5 Assessments and Analyses</i>	-	-	-	13.696	-	13.696	13.940	14.195	14.190	14.190	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Conduct assessments and analyses of existing and emerging command, control (C2), communications, computers, and cyber (C5) capabilities, in both a persistent environment and in the field, producing and utilizing decision-quality information to achieve joint and combined interoperable and integrated solutions. The Joint Staff possesses the unique laboratory facilities and deployable skill sets within DOD to lead these efforts for the Department.

This is a new Program Element (PE) for FY2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY2013 as a result of the JFCOM disestablishment. The following PEs will no longer be used after FY2015: 0604828J - Joint FIRES Integration and Interoperability Team (JFII), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: C5 Assessments and Analyses	-	-	13.696
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 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.			
Accomplishments/Planned Programs Subtotals	-	-	13.696

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

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 per year 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 per year to satisfy Combatant Command training objectives, including the cyber threat to mission systems.
- (4) Provide C2 Systems and Persistent C4 Environment supporting at least four (4) individual/team training events per year to meet training and certification objectives.
- (5) Provide C2 Systems and Persistent C4 Environment to support at least two (2) Cyber Assessments per year supporting Cyber capability development.
- (6) Integrate at least two (2) new capabilities per year supporting Combatant Command, Service, Agency, and Commercial Solutions for Classified and Mobile Computing program requirements.
- (7) Maintain a Persistent C4 Environment capability on a daily basis to replicate systems typically found in a Joint Task Force.
- (8) Ensure 100% of all government employee travel is in accordance with the Joint Federal Travel Regulation/Joint Travel Regulation.
- (9) Complete events within schedule and budget. Provide and track status of recommendations.

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
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

<i>TBD</i>																												
To be developed.																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>TBD</i>				
To be developed.	1	2016	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>				Project (Number/Name) 002 / <i>C5 Capability Development</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
002: <i>C5 Capability Development</i>	-	-	-	7.079	-	7.079	5.118	3.801	5.483	5.483	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Lead the development and validation of command, control, communications, computers, and cyber (C5) capability requirements to achieve an effective and agile Joint Force in support of joint and combined operations. Efforts include C5 capability requirements determination, prioritization, and integration, as well as C5I data standards development, architectures integration, and technical specifications development, documentation, and enforcement.

This is a new Program Element (PE) for FY2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY2013 as a result of the JFCOM disestablishment. The following PEs will no longer be used after FY2015: 0604828J - Joint FIRES Integration and Interoperability Team (JFII), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: C5 Capability Development	-	-	7.079
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.			
Accomplishments/Planned Programs Subtotals	-	-	7.079

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

- (1) Develop and deliver detailed FY2016 Joint command and control (C2) requirements via a minimum of six JCIDS-validated documents, to include: Capability Definition Packages and Capability Packages, articulating capability needs and supporting architectures and data needs in the mission areas of situational awareness/ common operational picture, force employment, planning and execution, security cooperation, cyber C2, and cross-functional capabilities for subsequent action by materiel developers and acquisition community.
- (2) Identify and develop FY2016 Joint C2 operational priorities, mapped to validated Joint C2 requirements, in order to obtain required Joint Requirements Oversight Council (JROC) Memorandum approvals for inclusion into DOD's Joint C2 FY2016 Sustainment and Modernization Plan.
- (3) Conduct Quarterly Configuration Control Board sessions to improve and increase information sharing via promulgation of one Domain content update.
- (4) As U.S. lead representative, improve and increase the level of mission partner interoperability and information sharing by leading two NATO Data Management Syndicate sessions.
- (5) On behalf of the DOD CIO, lead a minimum of six Enterprise Service and Data Panels (ESDP) with the goal to improve and increase the suitability and reusability of DOD Enterprise Services and Authoritative Data Sources.
- (6) Improve and increase the number of integrated architectures developed and analyzed for the WMA to include mission threads, joint command and control requirements, warfighting C2 capabilities, and mission partners, and ensure they are suitable to inform decision-makers and fully support warfighter capability development.
- (7) Improve and increase the number of federated Combatant Command, Service, and DOD Agency architecture products, to enable timely access and enable reusability by users to support capability acquisition, requirements generation, development and testing.
- (8) Validate up to 1500 JIE architecture documents to increase compliance with JIE architecture standards, metrics, and engineering design specifications across DOD.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

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

- (9) Conduct 250 JCIDS and Information Support Plan (ISP) reviews during FY2016, with the goal to increase and improve Joint Requirements Oversight Council (JROC) validation process support.

- (10) Provide C4/Cyber Functional Capabilities Board Action Officer support for a minimum of seven programs of record during FY2016, with the goal to increase and improve JROC validation process support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 The Joint Staff **Date:** February 2015

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
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Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
C5 Capability Development - Contracts	C/FP	Various : Various	-	-		-		6.369		-		6.369	-	-	-
C5 Capability Development - MIPRs	MIPR	Various : Various	-	-		-		0.500		-		0.500	-	-	-
C5 Capability Development - Travel	TBD	Various : Various	-	-		-		0.200		-		0.200	-	-	-
Maintenance	C/CPFF	Various : Various	-	-		-		0.010		-		0.010	-	-	-
Subtotal			-	-		-		7.079		-		7.079	-	-	-

Project Cost Totals	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
	-	-	-	7.079	-	7.079	-	-	-

Remarks
 This is a new Program Element (PE) for FY2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY2013 as a result of the JFCOM disestablishment. The following PEs will no longer be used after FY2015: 0604828J - Joint FIRES Integration and Interoperability Team (JFII), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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

C5 Capability Development																												
C5 Capability Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C5 Capability Development				
C5 Capability Development	1	2016	4	2016

Note
To be developed.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

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
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
003: Joint Fires C2 Interoperability	-	-	-	4.425	-	4.425	4.425	4.423	4.416	4.416	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Lead DoD's joint and combined mission areas of Joint Fires (JF), Joint Close Air Support (JCAS), Friendly Force Tracking (FFT), and Combat Identification (CID), interfacing directly with North Atlantic Treaty Organization (NATO) and coalition partners to resolve policy issues, and develop capability improvements for the joint warfighter to maximize combat effectiveness, and minimize fratricide and collateral damage.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Joint Fires C2 Interoperability	-	-	4.425
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 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.			
Accomplishments/Planned Programs Subtotals	-	-	4.425

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

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 completion for Mode 5 Initial Operating Capability (IOC) from FY2014-2018. Monitor Service fielding progress of one hundred sixty-nine 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 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 partner nations.

(5) Conduct Accreditation Assessments for fourteen 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 U.S. and NATO joint fires-related doctrine and Tactics, Techniques, and Procedures (TTP) publications.

(7) Lead planning, coordination and execution of two Bold Quest 2016 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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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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

<i>Joint Fires C2 Interoperability</i>																												
Joint Fires C2 Interoperability																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Fires C2 Interoperability</i>				
Joint Fires C2 Interoperability	1	2016	4	2016

Note

To be developed.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604828J <i>I Joint FIRES Integration and Interoperability Team</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	6.541	6.405	7.102	-	-	-	-	-	-	-	-	20.048
P857: <i>Joint Deployable Analysis Team (JDAT)</i>	6.541	6.405	7.102	-	-	-	-	-	-	-	-	20.048
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 legacy USJFCOM PE will be consolidated along with PE 0604787J (JSIC) and PE 0607828J (JII) into a single new Joint Staff PE 0604826J – Joint Command, Control, Communications, Computers, and Cyber Integration (JC5I).

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.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	7.506	7.102	6.963	-	6.963
Current President's Budget	6.405	7.102	-	-	-
Total Adjustments	-1.101	-	-6.963	-	-6.963
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-1.101	-	-	-	-
• PE Consolidation	-	-	-6.963	-	-6.963

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604828J <i>I Joint FIRES Integration and Interoperability Team</i>
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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 2014	FY 2015	FY 2016
<p>Title: Joint Fires Integration & Interoperability Team (JFIIT)</p> <p>FY 2014 Accomplishments:</p> <p>(1) Provided analytical, technical, and operational support for the planning, coordination, and execution of Bold Quest (BQ) 14-2 and Network Integration Evaluation (NIE) 14 to assess US Services and coalition force integration and interoperability. Benefits included successful integration of simulation with real-time activities and accomplishment of planned event objectives, altogether making the first BQ/NIE a milestone Joint/USA event.</p> <p>(2) Chaired the JFS Executive Coordinated Implementation (CI) Engineering Change Implementation Group (ECIG) for Digitally Aided Close Air Support (DACAS) and ECIG for Digitally Aided Fires Support (DAFS). Conducted and published reports for two DACAS Coordinated Implementation Risk Reduction Events (BQ13-2, BQ14-2) and provided subject matter expertise (SME) for JFS JMT development and demonstrations (BQ14-1, BQ14-2). Overall, these efforts supported the continued development and assessment of Engineering Change Proposals (ECPs) providing the guidelines for coordinated implementation of DACAS and DAFS protocols, ensuring incremental US and partner nation system-of-systems interoperability.</p> <p>(3) Authored Black Dart 2013 Final Report for Joint Staff (JS) J8 Joint Integrated Air and Missile Defense Organization (JIAMDO). Provided analytical, technical, and operational support to Black Dart 2014, a counter-unmanned aircraft systems (C-UAS) and counter-cruise missile (C-CM) demonstration assessing DoD, Inter-Agency, and Industry's C-UAS/C-CM capabilities across the Integrated Air and Missile Defense (IAMD) Joint Engagement Sequence (JES). Data collection at Black Dart 2014 enabled end-of-event After Action Reports (AARs), participant self-assessments, and will serve as the basis for post-event analysis and reporting. Benefits include improvements to surveillance, detection, tracking, identification, and engagement of UAS/CM and will inform future weapon systems acquisition decisions as well as JES tactics, techniques and procedures (TTP) refinement.</p> <p>(4) Provided cyberspace analysis support to the Director of Operational Test & Evaluation's (DOT&E) information assurance assessment for US Northern Command during Exercise Vigilant Shield (VS) 2014. Developed and rehearsed red team actions affecting participating command and control (C2) system operations and supported "C2 effects" integration during VS execution. Accomplished C2 information system data collection and analysis to correlate C2 effects with red team actions. Benefits included training improvements in Combatant Command (CCMD) cyberspace operations and initial analysis of current capabilities to measure/assess the impact of cyberspace attacks on the Global Command and Control System-Joint (GCCS-J). Additionally, conducted the planning and rehearsal of similar support for VS 2015 to be executed in FY15.</p>	6.405	7.102	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604828J / <i>Joint FIRES Integration and Interoperability Team</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>(5) Led the analytical planning, test conduct, data collection and analysis for five DOD Enterprise Cyberspace Range Environment (DECRE) Command and Control (C2) Information Systems (IS) events supporting the development, assessment, and training of command, control, communications, and computers (C4)/cyberspace capabilities. DECRE events provided relevant outcome regarding the vulnerabilities of select CCMD C2 information systems and the associated network architectures with direct implications for current C2/network configurations.</p> <p>(6) Led the initial capabilities assessment for DOT&E's Automated Cyber Threat Identification and Vulnerability Emulation (ACTIVE) to develop and assess a methodology for assessing cyberspace vulnerabilities and the needed Live, Virtual, Constructive (LVC) environment with supporting simulators/stimulators as well as the various analysis tools needed to support the assessment methodology. This program is defining the various requirements to support the integration of cyberspace compliance, vulnerability and interoperability testing into conventional developmental testing. information sharing shortfalls and recommended options for implementing an MPE in future MPE events.</p> <p>(7) Supported Commander, Operational Test and Evaluation Force (COMOPTEVFOR), DOT&E sponsored, interoperability assessment of select US Pacific Command C2 systems during Exercise Valiant Shield 14. JDAT's collection and reduction of qualitative and quantitative data from select airborne and ground based IAMD systems enabled follow-on analysis by COMOPTEVFOR.</p> <p>(8) Completed an independent assessment of a Long-Term Evolution (LTE) wireless capability known as Joint Operational Long Term Evolution Deployable (JOLTED) Tactical Cellular System (TACTICS) for US Special Operations Command. The reported findings, conclusions, and recommendations support improvements to mature this system and critical insights for future testing.</p> <p>(9) Completed an independent assessment of the Personnel Recovery Single Card Solution handheld radio proof-of-concept field-test for the Joint Personnel Recovery Agency, JS J3. Findings and recommendations will contribute to the replacement of legacy personnel recovery systems with next-generation technologies.</p> <p>(10) Assisted COMOPTEVFOR with Identification Friend or Foe (IFF) Mode 5 Level 1 Joint Operational Test Approach analysis to validate the interoperability of fielded combat systems. Served as COMOPTEVFOR's lead analysis organization, responsible for all reconstruction and analysis, coordination of issues with Service program offices, and producing a detail report of results for submission to DOT&E. JDAT analysis and published products were commended by COMOPTEVFOR and DOT&E leadership.</p> <p>(11) Provided the USAF 505th TS/DOY (Tactics and Testing) augmentation support during Red Flag 14-3 (an Air Combat Command sponsored exercise) with mission feedback support to the dynamic targeting training audience.</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604828J / <i>Joint FIRES Integration and Interoperability Team</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
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(12) Provided SME for the revision of the NATO Standardization Agreement (STANAG) 3733, the JFIRE Multi-Service Procedures for the Joint Application of Firepower publication, and Joint Terminal Attack Controller (JTAC) Memorandums of Agreement for DoD and partner nations.

(13) Updated JDAT tools to support planned assessments and the efforts of other government agencies in support of Test Resource Management Center.

FY 2015 Plans:

(1) Continue providing analytical, technical and operational support to the demonstration and assessment of U.S./Coalition C2 information systems and procedures at JS J6 BQ 15. Provide instrumentation, data collection and management, mission monitoring, and daily feedback to participants. Additionally, perform an assessment of select executed operations (e.g. IAMD, Mode 5 IFF) and publish a report of outcomes. Benefits include improved demonstration of U.S./Coalition C2 information systems and enhanced assessment of participating coalition and U.S. systems and their respective employment procedures. Event outcomes will be advocated by the Executive Steering Committees (ESCs) for Joint Fire Support and Combat Identification.

(2) Provide analytical, technical, and operational support to assess current US C-UAS/C-CM capabilities across the IAMD joint engagement sequence during JS J8 JIAMD Black Dart 2015 demonstration. Provide execution assistance and real-time monitoring, data collection/processing and management, daily feedback to participants and post event analysis; publish a final report of demonstrated capabilities. Benefits include improvements to surveillance, detection, tracking, identification, and engagement of counter-unmanned aircraft systems.

(3) Team with designated Service Operational Test Agencies (OTAs) to conduct DOT&E information assurance (cyberspace) assessments for USEUCOM during Exercise Austere Challenge 2015 and USNORTHCOM in Exercise Vigilant Shield 2016. Provide C2 information system data collection and analysis to correlate with red team actions. Benefits include training improvements in CCMD cyberspace operations and initial analysis of current capabilities to measure/assess the impact of cyberspace attacks select C2 IS.

(4) Team with designated OTAs to conduct DOT&E interoperability assessments for select CCMD Joint Task Force exercises. Provide data collection, analysis, and display using JDAT developed tools. Benefits include improvements in U.S. and Coalition C2 information systems interoperability, processes, and procedures in support of the commander's decision cycle.

(5) Continue providing analytical leadership, data collection and analysis to DECRE C2 IS events supporting the development, assessment, and training of command, control, communications, and computers (C4)/cyberspace capabilities. Benefits include the

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>(12) Provided SME for the revision of the NATO Standardization Agreement (STANAG) 3733, the JFIRE Multi-Service Procedures for the Joint Application of Firepower publication, and Joint Terminal Attack Controller (JTAC) Memorandums of Agreement for DoD and partner nations.</p> <p>(13) Updated JDAT tools to support planned assessments and the efforts of other government agencies in support of Test Resource Management Center.</p> <p>FY 2015 Plans:</p> <p>(1) Continue providing analytical, technical and operational support to the demonstration and assessment of U.S./Coalition C2 information systems and procedures at JS J6 BQ 15. Provide instrumentation, data collection and management, mission monitoring, and daily feedback to participants. Additionally, perform an assessment of select executed operations (e.g. IAMD, Mode 5 IFF) and publish a report of outcomes. Benefits include improved demonstration of U.S./Coalition C2 information systems and enhanced assessment of participating coalition and U.S. systems and their respective employment procedures. Event outcomes will be advocated by the Executive Steering Committees (ESCs) for Joint Fire Support and Combat Identification.</p> <p>(2) Provide analytical, technical, and operational support to assess current US C-UAS/C-CM capabilities across the IAMD joint engagement sequence during JS J8 JIAMD Black Dart 2015 demonstration. Provide execution assistance and real-time monitoring, data collection/processing and management, daily feedback to participants and post event analysis; publish a final report of demonstrated capabilities. Benefits include improvements to surveillance, detection, tracking, identification, and engagement of counter-unmanned aircraft systems.</p> <p>(3) Team with designated Service Operational Test Agencies (OTAs) to conduct DOT&E information assurance (cyberspace) assessments for USEUCOM during Exercise Austere Challenge 2015 and USNORTHCOM in Exercise Vigilant Shield 2016. Provide C2 information system data collection and analysis to correlate with red team actions. Benefits include training improvements in CCMD cyberspace operations and initial analysis of current capabilities to measure/assess the impact of cyberspace attacks select C2 IS.</p> <p>(4) Team with designated OTAs to conduct DOT&E interoperability assessments for select CCMD Joint Task Force exercises. Provide data collection, analysis, and display using JDAT developed tools. Benefits include improvements in U.S. and Coalition C2 information systems interoperability, processes, and procedures in support of the commander's decision cycle.</p> <p>(5) Continue providing analytical leadership, data collection and analysis to DECRE C2 IS events supporting the development, assessment, and training of command, control, communications, and computers (C4)/cyberspace capabilities. Benefits include the</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604828J <i>I Joint FIRES Integration and Interoperability Team</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
identification/mitigation of cyberspace vulnerabilities for select C2 information systems and the associated network architectures with broad implications for real-world CCMD C2/network configurations.			
(6) Continue the analytical leadership for DOT&E's Automated Cyber Threat Identification and Vulnerability Emulation (ACTIVE) to develop and assess a methodology for assessing cyberspace vulnerabilities and the needed Live, Virtual, Constructive (LVC) environment with supporting simulators/stimulators as well as the various analysis tools needed to support the assessment methodology. Benefits include the initial requirements to integrate cyberspace compliance, vulnerability and interoperability testing into conventional developmental testing.			
(7) Continue providing C2 data collection and analytical support to the Joint Fires Support ESC. Chair the ECIG and lead efforts to develop and assess ECPs for DACAS and DAFS CI to ensure coordinated/incremental system of systems interoperability across US and partner nations. Benefits will include recommendations in the areas of system interoperability, standardization, and development of associated Universal Joint Tasks and TTP.			
(8) Continue to update JDAT tools to support planned assessments as well as DOD-wide Joint test and evaluation activities.			
Accomplishments/Planned Programs Subtotals	6.405	7.102	-

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

F. Performance Metrics

N/A: PE is consolidating in FY2016 - Refer to PE0604826J

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604828J / <i>Joint FIRES Integration and Interoperability Team</i>	Project (Number/Name) P857 / <i>Joint Deployable Analysis Team (JDAT)</i>

Remarks
N/A: PE Consolidating in FY2016 - reference PE0604826J

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604828J / <i>Joint FIRES Integration and Interoperability Team</i>	Project (Number/Name) P857 / <i>Joint Deployable Analysis Team (JDAT)</i>

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
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	■

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604828J / <i>Joint FIRES Integration and Interoperability Team</i>	Project (Number/Name) P857 / <i>Joint Deployable Analysis Team (JDAT)</i>

Schedule Details

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

Note

N/A: PE Consolidating in FY2016 - reference PE0604826J

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

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)
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	269.991	37.314	43.176	35.471	-	35.471	27.967	27.799	30.208	30.208	Continuing	Continuing
P001: Core	83.126	17.862	20.178	15.671	-	15.671	10.437	10.761	11.708	11.708	Continuing	Continuing
P002: Homeland	67.544	-	-	-	-	-	-	-	-	-	Continuing	Continuing
P003: Black Dart	16.583	3.052	3.200	2.444	-	2.444	3.000	3.000	3.300	3.300	Continuing	Continuing
P004: Joint Distributed Engineering Plant	13.712	0.500	3.000	3.000	-	3.000	1.300	1.538	1.700	1.700	Continuing	Continuing
P005: Nimble Fire	44.450	8.727	9.400	8.000	-	8.000	7.230	7.000	7.500	7.500	Continuing	Continuing
P006: Cruise Missile Combat Identification (CID)	44.576	7.173	7.398	6.356	-	6.356	6.000	5.500	6.000	6.000	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 (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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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605126J <i>I Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>
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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	42.772	43.176	35.471	-	35.471
Current President's Budget	37.314	43.176	35.471	-	35.471
Total Adjustments	-5.458	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-5.458	-	-	-	-

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

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
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P001: Core	83.126	17.862	20.178	15.671	-	15.671	10.437	10.761	11.708	11.708	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Core	17.862	20.178	15.671
<p>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:</p> <ul style="list-style-type: none"> • 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 			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> • 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 Defense Committee <p>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.</p> <p>FY 2014 Accomplishments: Performed Ballistic Missile Defense directed studies and program support activities including: contracting, finance, systems engineering and technical assistance, administration, security, communications, leased space and supply. CORE has reduced contracted advisory and assistance services (CAAS), and intends to leverage organic (military and federal civilian) labor to achieve planned mission. A new JIAMDO Security contract was awarded below the independent government cost estimate (IGCE) and previous contract award levels. CORE transitioned JIAMDO office communications to voice-over internet protocol (VOIP) from traditional landline producing savings of \$30K per year.</p> <p>FY 2015 Plans: Perform Ballistic Missile Defense directed studies and 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.</p> <p>FY 2016 Plans: Perform Ballistic Missile Defense directed studies and program support activities including: contracting, finance, systems engineering and technical assistance, administration, security, communications, leased space and supply. Planned additional</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
reductions in contract advisory and assistance services are projected. Planned award of a new SETA contract is anticipated in 2016.			
Accomplishments/Planned Programs Subtotals	17.862	20.178	15.671

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 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P002 / <i>Homeland</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P002: <i>Homeland</i>	67.544	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P003: <i>Black Dart</i>	16.583	3.052	3.200	2.444	-	2.444	3.000	3.000	3.300	3.300	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 2014	FY 2015	FY 2016
Title: JIAMDO Black Dart	3.052	3.200	2.444
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 2014 Accomplishments: Executed live-fly, live-fire C-unmanned aircraft system (UAS) technology demonstration to assess and validate existing and emerging IAMD capabilities. Presented emerging solutions to inform requirements decision-making. Identified and developed IAMD operational concepts, system interoperability, and operational architectures for C-UAS mission set. Advocated for Warfighters' desired C-UAS capabilities and affordable, integrated solutions. Integrated Combatant Command sponsored scenarios, employing an intel-driven mix of threat cruise missile and UAV target surrogates acting in concert, which enabled			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P003 / <i>Black Dart</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>CCMDs to make real-time changes to Tactics, Techniques, and Procedures TP/C2 based on BLACK DART results. Demonstrated steady-state capabilities of the current NNC Homeland Defense Design. Integrated numerous Joint Test and Demonstrations into BLACK DART event to include: Joint Counter Low Slow UAS (JCLU) Joint TTP Development; JEPAC Advanced Electronic Attack Testing; SDEST Electronic Warfare Development; JTAP C2 and Datalink Evaluation; JPHID Improved Combat ID TTP Development. Developed MQ-9 air intercept profiles for future integration of AIM-9X. Developed TTPs and conducted weapons system analysis for: AH-1Z, UH-1Y, AH-64D, F/A-18, EA-18G, EC-130H, JSTARS, EP-3E, MH-60R, E-2D, & Aegis CG. Demonstrated unmanned aerial vehicle UAV as electronic attack platform with Digital Radio Frequency Memory (DRFM) technology. First-ever exploitation of National Technical Means for UAS detection & identification on Link 16. First ever integration of Cyber-attack options.</p> <p><i>FY 2015 Plans:</i> Continue to improve, expand, and refine FY2014 objectives to include: Continue to develop innovative material and non-material solutions that enhance all phases of the Joint Engagement Sequence versus the UAS threat. Refine kinetic and non-kinetic negation systems and capabilities. Develop detailed threat scenarios based on direct input from CCMDs to provide specific recommendations on material and non-material solutions to warfighter requirements. Expand interagency participation to demonstrate C-UAS options in both Title 10 and Title 50 operational environments. Continue to increase fidelity of threat representations' size & performance. Continue to expand US DoD and Inter-agency system portfolio participation.</p> <p><i>FY 2016 Plans:</i> Continue FY2015 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.</p>			
Accomplishments/Planned Programs Subtotals	3.052	3.200	2.444

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P003 / <i>Black Dart</i>

(3) Field C-UAS capability.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
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			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P004: Joint Distributed Engineering Plant	13.712	0.500	3.000	3.000	-	3.000	1.300	1.538	1.700	1.700	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Joint Distributed Engineering Plant (JDEP)	0.500	3.000	3.000
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 2014 Accomplishments: Received results from effort to improve link interoperability between the U.S. E-2 and North Atlantic Treaty Organization (NATO) E-3. New capability identified to significantly improve the recognized air picture by modifying software parameters in both			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P004 / <i>Joint Distributed Engineering Plant</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>systems. Capability results in a no-cost solution to Allied interoperability. Continued U.S./UK Coalition effort for Correlation De-correlation Interoperability Testing to further apply the Chairman of the Joint Chiefs of Staff Integrated Air and Missile Defense Vision for 2020.</p> <p>FY 2015 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.</p> <p>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.</p>				
Accomplishments/Planned Programs Subtotals		0.500	3.000	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				
<p>(1) Each JDEP event develops measures of effectiveness (MOE) & measures of performance (MOP) based on an eighteen month test planning and event process.</p> <p>(2) Complete events within schedule and budget.</p> <p>(3) Events provide useful data to improve Air Missile Defense interoperability, with implemented and recommended corrective changes.</p> <p>(4) Events must be linked to the current approved IAMD Architecture, provide joint benefit, contribute to Joint Interoperability, and address IAMD ICD capability gaps</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

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
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P005: <i>Nimble Fire</i>	44.450	8.727	9.400	8.000	-	8.000	7.230	7.000	7.500	7.500	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: JIAMDO Nimble Fire	8.727	9.400	8.000
<p>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.</p> <p>FY 2014 Accomplishments: Continued to provide the Joint Staff, Services, Combatant Commanders and Missile Defense Agency (MDA) with the necessary information to better inform acquisition and requirements decisions.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / <i>Nimble Fire</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
<p>In support of OSD (AT&L), VCJS and CDR NORAD-NORTHCOM, conducted a Homeland wargame assessing current and future IAMD architectures' ability to address the cruise missile threat to the National Capital Region.</p> <p>Supported U.S. Fleet Forces Command (USFFC) Naval Integrated Fire Control – Counter Air (NIFC-CA) wargame designed to provide familiarization and training to the Theodore Roosevelt Carrier Strike Group (CSG). USN senior leaders decided to use the venue to train the next 3 CSGs.</p> <p>Conducted JROC-directed reassessment of the U.S. Pacific Command (PACOM) IAMD capability against projected 2020 threat. In collaboration with the Services, MDA, USSTRATCOM and USCYBERCOM, introduced additional kinetic and non-kinetic capabilities.</p> <p>Provided Army leadership with data on the contribution of Army's Indirect Fire Protection Capability Increment 2I (IFPC-2I) to cruise missile defense (CMD) in CENTCOM.</p> <p>Supported USMC expeditionary warfare analysis considering Expeditionary Force 21 Capstone Concept tenets.</p> <p>Funded and integrated a wide range of new capabilities and simulations: (1) 4 manned adversary simulators; enhancing both red and blue TTP development and threat employment, (2) MDA approved Terminal High Altitude Area Defense (THAAD) model, (3) Enhanced Electronic Warfare (EW) modeling for all IAMD platforms, (4) USAF's 3 Dimensional Expeditionary Long-Range Radar (3DELRR) per initial Technical Requirements Document.</p> <p>Provided unique data collection, analysis and visualization capabilities to stakeholders and extracted end-to-end kill chain information to support IAMD assessments and findings.</p> <p>Additional details are classified.</p> <p>FY 2015 Plans: Fund and execute at least 2 Joint events and provide direct support for up to 3 Service, MDA or COCOM sponsored events.</p> <p>Continue to improve overall environment capabilities exploring all aspects of the Chairman's Joint IAMD Vision 2020.</p> <p>Improve blue force systems and capabilities to represent projected FYDP+2 upgrades.</p> <p>Partner with USSTRATCOM to improve overall Electronic Warfare capabilities.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / <i>Nimble Fire</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
Collaborate with AMRAAM project office to standardize modeling of air-to-air missiles on all USN and USAF weapon systems.			
Integrate 4 additional Joint Strike Fighter simulations to better explore Joint interoperability.			
Continue to investigate future gateway concept contributions to Joint IAMD.			
Strengthen ties with intelligence community (e.g., Office of Naval Intelligence (ONI), Missile and Space Intelligence Center (MSIC), National Air and Space Intelligence Center (NASIC)) for improved threat representation.			
Explore 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.			
<i>FY 2016 Plans:</i>			
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.			
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.			
Accomplishments/Planned Programs Subtotals	8.727	9.400	8.000

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / <i>Nimble Fire</i>
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. (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 2016 The Joint Staff										Date: February 2015		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				Project (Number/Name) P006 / Cruise Missile Combat Identification (CID)			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P006: Cruise Missile Combat Identification (CID)	44.576	7.173	7.398	6.356	-	6.356	6.000	5.500	6.000	6.000	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 (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.

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. It provides the Chairman, JCS and the Joint Requirements Oversight Council (JROC) the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency (MDA) 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 conduct of Military Utility Assessments and analysis of the Ballistic Missile Defense System (BMDS). JIAMDO supports the USSTRATCOM mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO represents the Joint Staff in work on the AMD Capabilities Based Assessment Joint Service Team and provides direct support to U.S. Northern Command (USNORTHCOM) for homeland air surveillance issues.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Cruise Missile Combat Identification (CID)	7.173	7.398	6.356
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 2014 Accomplishments: Details of this program are classified.			
FY 2015 Plans: Details of this program are classified.			
FY 2016 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P006 / <i>Cruise Missile Combat Identification (CID)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
Details of this program are classified.			
Accomplishments/Planned Programs Subtotals	7.173	7.398	6.356

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 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502J / <i>Small Business Innovation Research/Small Business Technology Transfer Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	2.177	-	-	-	-	-	-	-	-	Continuing	Continuing
001: <i>SBIR/STTR</i>	-	2.177	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Program. Title 15, Section 638 of the United States Code established the SBIR and STTR program and requirements.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	-	-	-	-	-
Current President's Budget	2.177	-	-	-	-
Total Adjustments	2.177	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	2.177	-			

Change Summary Explanation

Reflects FY2014 SBIR/STTR requirement. Per Title 15, Section 638 of United States Code, SBIR/STTR transfers will occur through 30 Sep 2017.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0204571J I <i>Joint Staff Analytical Support (JSAS)</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	3.010	5.591	10.321	7.673	-	7.673	5.812	5.763	5.751	5.751	Continuing	Continuing
P001: <i>Future Joint Force Development</i>	0.018	-	9.489	7.673	-	7.673	5.812	5.763	5.751	5.751	Continuing	Continuing
P002: <i>Global Force Management Data Initiative (GFM DI)</i>	2.992	5.591	0.832	-	-	-	-	-	-	-	-	9.415

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)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	0.087	10.321	7.673	-	7.673
Current President's Budget	5.591	10.321	7.673	-	7.673
Total Adjustments	5.504	-	-	-	-
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Prior year carry-over obligated	5.504	-	-	-	-

Change Summary Explanation

Continues concept development and wargaming functions.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support (JSAS)				Project (Number/Name) P001 / Future Joint Force Development			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P001: <i>Future Joint Force Development</i>	0.018	-	9.489	7.673	-	7.673	5.812	5.763	5.751	5.751	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, joint concept development and joint wargaming capabilities for the Joint Staff (TJS) and Combatant Commands (CCMDs). JSAS encompasses the developmental tools and infrastructure required to conduct evaluation of concepts through Wargaming, develops joint concepts, conducts research and analysis of joint capability gaps, and actively researches, develops and integrates relevant non-materiel solutions, lessons learned, and best practices across the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities (DOTmLPE) spectrum to support increased capability for the current and future Joint Force to assist the Chairman in fulfilling his statutory responsibilities. Key deliverables provided by JSAS include wide-ranging force structure assessments through joint concept development, joint wargaming by utilizing joint and coalition operational analysis which provides course of action development for the Joint Force structure, and environment, analyses, and studies to aid in decision-making and other analysis efforts to implement timely, low-cost initiatives.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Future Joint Force Development	-	9.489	7.673
Description: FY2015 efforts will focus on supporting the President’s “Sustaining U.S. Global Leadership Priorities for the 21st Century Defense” with emphasis on implementing the Joint Operational Access Concept, and building Joint Force 2020 as described in the Chairman, Joint Chiefs of Staff Capstone Concept for Joint Operations. Specific work will focus on joint concept development, including implementation, evaluation through the Iron Crucible Wargaming effort, gap analysis, the resultant recommended 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 2014 Accomplishments: FY2014 accomplishments include the inaugural execution of the Chairman’s Wargame, Iron Crucible, which assesses the ability of the programmed Joint Force of 2020 to execute globally integrated operations through global agility and flexible joint command and control. The first execution of Iron Crucible will focus on the Capstone Concept for Joint Force 2020 (CCJO), the Joint Operational Access Concept (JOAC), the Joint Concept for Entry Operations (JCEO), and the Joint Concept for Rapid Aggregation (JCRA). The outcome will validate the central idea of the concepts and discovered capability gaps to be considered for future concepts. In support of the anticipated development of a follow-on to the current CCJO, a sequence of seminars engaging military and civilian DoD experts, academia, and think tanks on the future operations environment beyond 2020 was initiated and will conclude in FY2015 with the publishing of a final report. Other accomplishments include the completion			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support (JSAS)</i>	Project (Number/Name) P001 / <i>Future Joint Force Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
and signing of the JCEO and JCRA plus implementation plans for JOAC, JCEO and JCRA, and the Joint Concept for Joint Electromagnetic Spectrum Operations (JCJEMSO). FY 2015 Plans: Specific work will focus on joint concept development, including implementation, evaluation through the Iron Crucible Wargaming effort, gap analysis, the resultant recommended 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 2016 Plans: Specific work will focus on joint concept development, including implementation, evaluation through the Iron Crucible Wargaming effort, gap analysis, the resultant recommended 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.			
Accomplishments/Planned Programs Subtotals	-	9.489	7.673

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Future Joint Force Development efforts result in development of and integration or transition/implementation of concepts and capabilities to improve current and future joint force capability, and are measured by the following:

- (1) Completion of implementation plans for approved concepts and establishment of assessment mechanisms to measure execution of implementation plans.
- (2) Collaboration with a broad, cross-cutting representation from Services, Academia, CCMDs, Defense Agencies, and Industry to conduct research and produce analysis in support of Joint Force development.
- (3) Introduce teams of innovative operating methods leading to DOTmLPF changes.
- (4) Development of new concepts which are vetted through a deliberate, rigorous, process resulting in Chairman of the Joint Chiefs of Staff (CJCS) endorsement.
- (5) Successful execution of CJCS Wargame, Iron Crucible series of events, and transition of wargame outcomes into appropriate mechanisms to foster Joint Force Development consistent with CJCS Joint Force 2020 objectives.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support (JSAS)	Project (Number/Name) P002 / Global Force Management Data Initiative (GFM DI)
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P002: <i>Global Force Management Data Initiative (GFM DI)</i>	2.992	5.591	0.832	-	-	-	-	-	-	-	-	9.415
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 2014	FY 2015	FY 2016
Title: Global Force Management Data Initiative (GFM DI)	5.591	0.832	-
<p>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.</p> <p>FY 2014 Accomplishments:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support (JSAS)</i>	Project (Number/Name) P002 / <i>Global Force Management Data Initiative (GFM DI)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
Development of the AGT for Assignment and Apportionment functions to meet Full Operation Capability (FOC) schedule. Once FOC, AGT will need to be tested with actual data via individual service management systems (servers) to validate the forces assignment. FY 2015 Plans: 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		5.591	0.832	-
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				
E. Performance Metrics (1) The Services, CCMDs, Joint Staff and OSD will be able to efficiently manage force structure resources in half the time the current process takes. (2) Global force structure management will now become a near-real time planning tool.				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166J <i>I Support to Information Operations Capability</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	3.975	8.348	11.552	10.413	-	10.413	10.576	10.700	10.700	10.700	Continuing	Continuing
001: <i>Information Operations Range</i>	3.975	8.348	11.552	10.413	-	10.413	10.576	10.700	10.700	10.700	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)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	8.394	11.552	10.413	-	10.413
Current President's Budget	8.348	11.552	10.413	-	10.413
Total Adjustments	-0.046	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-0.046	-	-	-	-

Change Summary Explanation

The increase in funding between FY2014 and FY2015 improves Joint IO range training & assessment throughput capacity to address CJCS mandates. The change from FY15 to FY16 is \$0.161 increase in funding baseline and a decrease in funding due to a zero-based transfer of \$1.3M from RDT&E to O&M to properly align labor costs with operations.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0303166J <i>I Support to Information Operations Capability</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>Title: Information Operations Range</p> <p>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.</p> <p>FY 2014 Accomplishments:</p> <p>(1) Increased JIOR capacity to support a 50 percent increase in user demand for training, testing, and experimentation event support through site expansion and development of new persistent environments. Increased JIOR capabilities, expanding Network Operations & Security Center (NOSC) coverage (12x5) to support increased user demand; completed proof-of-concept as precursor to transition to hybrid Defense Research and Engineering Network – Defense Information Systems Network (DREN-DISN) transport circuit solution.</p> <p>(2) Developed and began fielding Live Laboratory Advanced Visual Analytics (LAVA); 1 Gigabits per second (Gbps) capable JIOR service delivery points.</p> <p>(3) Reduced risk by completion of deferred critical lifecycle maintenance and deployment of improved network test equipment.</p> <p>FY 2015 Plans:</p> <p>(1) Expand national DoD and Inter-Agency awareness and support regarding IO and cyber related activities</p> <p>(2) Improve the threat representation and operational relevance of the network</p> <p>(3) Improve the integration of Live Virtual Constructive (LVC) simulations with other Joint training and testing communities and infrastructures</p> <p>FY 2016 Plans:</p> <p>Continues FY2015 efforts:</p> <p>(1) Expand national DoD and Inter-Agency awareness and support regarding IO and cyber related activities</p> <p>(2) Improve the threat representation and operational relevance of the network</p> <p>(3) Improve the integration of LVC simulations with other Joint training and testing communities and infrastructures</p>		8.348	11.552	10.413
Accomplishments/Planned Programs Subtotals		8.348	11.552	10.413
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166J <i>I Support to Information Operations Capability</i>	
<p>E. Acquisition Strategy</p> <p>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.</p>		
<p>F. Performance Metrics</p> <p>RDT&E development efforts are evaluated based on the performance metrics. This ensures the JIOR capacity and capability development funding is synchronized against prioritized training and testing requirements, based on designs derived and tested against synchronized requirements, and result in deployed capabilities that are within the enterprise's capacity to deliver. Performance metrics include, but are not limited to; cost, time, relevancy, and analytics and as defined below:</p> <ul style="list-style-type: none"> • Cost – Does the effort enable the most cost effective cyber training? • Time – Will the effort enable trainers/ testers to more quickly create and synchronize testing, and more rapidly plan and execute cyber training and test events? • Relevance – Will the effort enable cyber mission forces certification and re-certification, and training? Does the capability enable cyber range practitioners to more rapidly reconfigure networks? Does the capability increase range availability to conduct relevant training based upon realistic design of cyber environments? • Analytics – Will the effort enable cyber practitioners to better assess how well individuals, staff and/or units operate under cyber-induced degraded, denied or compromised network conditions? <p>Measures:</p> <ol style="list-style-type: none"> (1) Meet capacity needs to train and certify Cyber Mission Forces (CMF) teams through FY2016. (2) Complete all planned lifecycle modernization upgrades for FY2016. (3) Initiate project to enable hybrid communications transport circuit solution & transition eligible JIOR communication circuits from Defense Research and Engineering Network – Defense Information Systems Network (multi-year project). (4) Initiate project to peer the Joint IO Range and the Joint Mission Environment Test Capability 2.0 (JMETC 2.0) in order to leverage each other's assets/capabilities. (5) Host Cyber Guard/Cyber Flag events with less than two priority-1 (urgent fix required) and three priority-2 (immediate fix) problem trouble reports per event. (6) Complete DoD Architecture Framework (DODAF) Viewpoint surveys and documentation in FY15. Use DODAF findings to vet designs for a virtual mil-ops cyber range with enterprise stakeholders. (7) Work towards automating manual paper-driven planning processes in order to reduce event planning timeline. (8) Leverage automation to progress towards reducing network reconfiguration time to maximize environment use and reuse of Defense Enterprise Cyber Range Environment (DECRE) ranges. (9) Field Live Laboratory Advanced Visual Analytics (LAVA) to users of the JIOR. 		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

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
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	4.200	11.847	11.968	-	-	-	-	-	-	-	-	28.015
P818: Joint Integration & Interoperability	4.200	11.847	11.968	-	-	-	-	-	-	-	-	28.015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	12.652	11.968	11.594	-	11.594
Current President's Budget	11.847	11.968	-	-	-
Total Adjustments	-0.805	-	-11.594	-	-11.594
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-0.805	-	-	-	-
• PE Consolidation	-	-	-11.594	-	-11.594

Change Summary Explanation

In FY2016, PE 0607828J - Joint Integration and Interoperability is realigned to PE 0604826J.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
Title: Joint Integration & Interoperability	11.847	11.968	-
FY 2014 Accomplishments:			
(1) Completed 343 Joint Capabilities Integration and Development System (JCIDS)/ Information Support Plan reviews.			
(2) Provided C4/Cyber Functional Capabilities Board Action Officer support for 13 programs.			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607828J <i>I Joint Integration & Interoperability</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>(3) Completed Mission Partner Environment (MPE) implementation milestones on schedule:</p> <ul style="list-style-type: none"> - Coordinated MPE governance and management forums as required, to include annual Executive Steering Committee (ESC) sessions - Maintained and evolved the U.S. Joining Membership and Exiting Instructions (JMEI) as required - Ensured continued MPE implementation by conducting bi-weekly Coordination Meetings <p>(4) Participated in multinational engagement forums as required to support the DD C5I mission:</p> <ul style="list-style-type: none"> - Supported NATO Federated Mission Networking (FMN) governance, management and implementation events as scheduled to ensure continued alignment with MPE - Supported semi-annual NATO C3 Board meetings, helping to evolve alliance C2 strategies - Sponsored capability development events such as the semi-annual TIDE Sprint and the NATO Computer Assisted Exercise (CAX) Forum - Coordinate with the NATO C2 and Modeling and Simulation (M&S) Centres of Excellence (COEs) to ensure their respective Programs of Work (POWs) align with DD C5I priorities, including participating in their annual Steering Board/Steering Committee meetings which approve the POWs. <p>(5) Developed a Department-wide integrated cyber range capability involving multiple mission partners and capabilities to address cyber vulnerabilities and risks:</p> <ul style="list-style-type: none"> - Developed representations of Combatant Command (CCMD) and Joint Functional Component Commands' C2 architectures to foster cyber capability development and training. - Developed an operational relevant environment for Combatant Commanders and decision-makers to address the cyber threat with minimum impact on operations. - Developed a distributed and realistic collective training environment for TTP development and pre-deployment team training for National Mission Force CPTs. - Conducted planning and execution of three C4 Cyber Assessment events consisting of nine phases between March 2013 and July 2014 enabled accelerated teamwork, engineering, data collection, analysis, and interoperability across the Department's cyber ranges and mission partners. <p>(6) Performed C2 capability prioritization and sequencing via the OUSD(AT&L) and DoD CIO-sponsored Joint C2 Sustainment and Modernization Planning process, with follow-on C2 capability production, integration, fielding and sustainment for FY13/14 approved priorities. Provided direct engagement with Component materiel developers to operationally shape C2 products and solutions while ensuring requirements traceability through the Net-enabled Requirements Identification Database, the Decision Support Tool (with operator use cases), and JCIDS requirements documents. JCIDS documents included twelve Capability Definition Packages (CDPs) and Capability Packages (CPs) supporting the mission areas of force employment, situational</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0607828J <i>Joint Integration & Interoperability</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>awareness, security cooperation, air event information sharing, joint planning & execution, cyber C2 and cross-functional capabilities. JCIDS documents included functional requirements for mission services, cross domain enterprise services, cyber security, and coalition data exchange—heavily influenced Service acceptance of new JCIDS Manual's Information Technology (IT) Box process for IT requirements management.</p> <p>(7) Developed, staffed, and received approval for key Chairman Joint Chiefs of Staff documents, i.e., Chairman, Joint Chiefs of Staff Instruction (CJCSI) 3265.01, C2 Governance and Management (Oct 2013), and Chairman, Joint Chiefs of Staff Manual (CJCSM) 3265.01, Joint C2 Requirements Management Process and Procedures (Nov 2013) which guide DoD's Joint C2 capability needs development and management across the Combatant Commands, Services and Agencies. Developed the FY2014 Requirements Prioritization and Sequencing Plan and JROC-approved FY15 Joint C2 Operational Priorities (JROCM 024-14) which are the Warfighters' demand signal for the annual Joint C2 Sustainment and Modernization Plan (SMP)—approved by OUSD/AT&L and guides the sustainment of current C2 capabilities and the synchronized development of future C2 capabilities (modernization)—a \$750M materiel investment.</p> <p>(8) FY2014 Joint C2 materiel capability delivery included: 1) Initial fielding of the Global-Theater Security Cooperation Management FY2014 Accomplishments (cont'd)</p> <p>Information System to Combatant Commands (Mar 2014)—provides a common web-based, single, centrally-hosted enterprise capability that serves as the information focal point for DoD security cooperation while sun-setting nine disparate stand-alone applications; 2) delivery of 30+ Joint C2 Common User Interface (CUI) widgets focused on situational awareness, intel support to C2, targeting, and Global Force Management—available to warfighters through a web-enabled, thin-client marketplace; 3) delivery of Agile Client capabilities (focused on situational awareness) with modular thick-client applications and plug-ins to enhance Common Operational Picture capabilities; 4) enabled increased access to USNORTHCOM's Air Event Information Sharing Service—provides time-sensitive exchange of decision support & air track data for air defense and air security partners (U.S. Federal, DoD, and North American national agencies) supporting Operation NOBLE EAGLE (ONE) air events; and 5) fielding of Global Command & Control System-Joint (GCCS-J) Global software version 4.3 for improved COP message formats, new targeting capabilities, and COP track data tagging enhancements (reduces ghost tracks).</p> <p>(9) Conducted Joint Staff sponsored Bold Quest Coalition Capability Demonstration and Assessment involving 12 partner nations, all US Services and U.S. Special Operations Command successfully demonstrating the integration of Mode 5 interoperability and live, virtual, construction dismounted operations at Ft Benning GA, White Sands Missile Range, NM, Holloman AFB, NM, and Ft Bliss, TX. Systems of systems interoperability assessment focused on command and control missions from a multi-national</p>				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff		Date: February 2015		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0607828J <i>I Joint Integration & Interoperability</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
<p>perspective at the tactical level. Led 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.</p> <p>(10) Led Accreditation visits to 5 Joint Terminal Attack Controller (JTAC) 1 Forward Air Controller (Airborne), and 2 Joint Fires Observer (JFO) Schoolhouses.</p> <p>(11) Validated a significant number Joint Information Environment (JIE) solutions architectures consisting of Unified Capabilities, Enterprise Operations Centers (EOC), Core Data Center (CDC), Single Security Architecture, Installation Processing Node (IPN), Installation Service Node, Network Normalization Transport and Engineering Design Specifications for EOC, CDC and IPN for the Director Joint Staff J6.</p> <p>(12) Developed, staffed and produced Joint Common Systems Function List Version 6.0.</p> <p>(13) Developed the Capability to Gap Analysis for the JIE Initial Capabilities Document (ICD), assisted in the development of sections of the ICD and the metrics for the capability requirements and the ICD integrated architectures – approved by JROCM 075-14.</p> <p>(14) Successfully engaged combatant command representatives in JIE through the use of engagement meetings and staffing of JIE architectures.</p> <p>(15) Developed and successfully applied criteria for the use of JCIDS for JIE capability development and refinement.</p> <p>(16) Identified a SOF best practice for En-route Mission Command Capability (EMCC) and developed, demonstrated via Tactics, Techniques and Procedures (TTP) improved en-route C2 capability to facilitate planning and situational awareness (SA) during forcible entry operations for all DoD Global Response Forces.</p> <p>(17) Developed and fielded JIE Integrated Dictionary (AV-2) Development Guidance to provide standardized processes to support normalization and synchronization of over 4000 terms and definitions.</p> <p>(18) Hosted and provided Quality Assurance and Configuration Management for over 1500 JIE architecture views in the WMA Architecture Federation and Integration Portal (AFIP)</p> <p>(19) Developed and implemented of WMA Architecture Development Standards Guide (June 2014) and received first time C/S/A concurrence on standardized processes and methodologies for sharing of architecture.</p>				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607828J <i>I Joint Integration & Interoperability</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>(20) Made significant improvements to the portal code, at virtually no additional cost to the Joint Staff or WMA partners, supporting scalability for hosting of architectures for the USAF, USNORTHCOM, USSOUTHCOM, USCENTCOM, and USSOCOM, resulting in annual savings of over \$5 million to those organizations.</p> <p>(21) Developed updated Joint C2 CDD supporting architectures (ver. 1.4).</p> <p>(22) Started the Acquisition Technology and Logistics (AT&L) co-sponsored cross-cutting study of the JSEAD mission area with the effort during this year centering on the data collection and Mission analysis – final report due in FY15.</p> <p>(23) Introduced Joint Mission Thread concepts to NATO as a baseline for development of NATO and National level mission threads. First step in developing methods for interoperable and reusable architecture data across mission partners.</p> <p>(24) Shared Joint Mission Thread methodology with Department of Homeland Security (DHS) resulting in development of first DHS Operations Mission Thread, Maritime Interdiction.</p> <p>(25) Led the development of the JS J6 inputs for the Joint Command and Control Reference Architecture.</p> <p>(26) Completed 3 Data & Services Steering Committees (DSSC); Established new IT Governance Body, Enterprise Service & Data Panel (ESDP) and held 7 sessions; Led two Data Management Syndicate (DMS) sessions; generated a NATO Core Data Framework Vision paper; led one Data Tagging & Labeling (DATAL) tiger team with the five eye nations: Established the National Information Exchange Model (NIEM) Military Operations (MILOPS) Domain V1.0; held two Configuration Control; Generated a NIEM conformance test paper for JIE; Established the Tactical Infrastructure Enterprise Service (TIES) Joint Capability Technology Demonstration (JCTD) and Coalition Warfare Program (CWP); demonstrated a tactical coalition identity management solution in CWIX14; Provided quarterly authoritative data sources (ADS) exposure metrics to the Joint Capability Board (JCB); mapped the ADS to FY14 operational priorities and to the existing warfighter joint mission threads; Generated CYBER Situational Awareness data needs; Completed revision of MIL-STD-2525D, Joint Military Symbolology and CJCSM 6120.01 Joint Multi-TDL Operating Procedures and their associated NATO Allied Procedural Publications, (APP)-06 and ADatP 33; Voting representation FY 2014 Accomplishments (cont'd)</p> <p>or subject matter expert in 10 tactical data link forums, three as Lead, four as Co-Lead; and seven NATO TDL sessions, one as Lead; for US Message Text Format (USMTF) in 6 MTF forums; 3 Geospatial Working Groups and 7 sub working group meetings to</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607828J <i>I Joint Integration & Interoperability</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>include the Country Code WG that finalized version 2 of the US Geopolitical Entities, Names, and Codes (GENC); Launched the Interoperability Enhancement Process (IEP) capability in the Defense Enterprise Computing Center (DECC) at Ogden, Utah.</p> <p>FY 2015 Plans:</p> <p>(1) Serve as DoD’s capability sponsor, requirements lead, and Warfighter advocate for Joint C2 family of programs encompassing mission focus areas for situational awareness/common operational picture, intelligence support to C2/targeting, force employment, planning & execution, cyber C2, and core-enabling/cross-functional capabilities. 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 (gaps, shortfall), defined requirements (old, new, emerging), and potential solutions for C2 stakeholders and decision-makers to consider. Lead C2 working groups and O6-level forums to synchronize C2 requirements development and Service program synchronization. Develop/coordinate the annual Joint C2 Operational Priorities (encompassing sustainment and modernization needs) as the warfighter’s demand signal for required capability needs and obtain JROC-approval. Develop/staff the FY16 Requirements Prioritization and Sequencing Plan and JCIDS documents (Capability Definition Packages and Capability Packages) to sustain and modernize the Joint C2 family of programs—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. Perform direct engagement/collaboration with Component materiel developers to ensure requirements traceability throughout the materiel development process. Engage with Joint and mission partners to improve coalition C2 data exchange.</p> <p>(2) Validate JIE Architectures for Director Joint Staff J6. Provide Joint Staff representation and positions for the JIE JTRB. Conduct analysis, Identify integration, synchronization and risk issues as they pertain to JIE Architectures and Engineering Design Standards. Develop architectures for Joint Information Environment (JIE) requirements development, acquisition of capabilities and conformation of JIE compliance. Provide analysis and recommendations to the JTSO IDTs and CIO RA Working Groups. Coordinate staffing of JIE Architectures, Integrated Dictionary and EDSs with the CCMDs, Services and Agencies via JSAP. Maintain and refine the Joint Common Systems Function List V 7.0 for use in reference and solutions architectures required for JCIDS, ISPs and JIE. Analyze JCIDS Capability Documents and ISPs and their architectures for interoperability, integration, performance, cost and schedule. Develop integrated architectures for the Joint Staff Warfighting Mission Area.</p> <p>(3) Continue to lead implementation and integration efforts for DoD Joint Information Environment (JIE) / Mission Partner Environment (MPE) capabilities, including piloting and implementation efforts with COCOMs, Services, Agencies, and Coalition partners. Continue the integration of JIE/MPE and Cyber capabilities into joint and coalition training. Extend development of JIE/ MPE architecture products to enhance linkage with Coalition partners. Leverage the Joint C4I Partnership to manage capability development, assessment, test, and certification of COCOM and JTF C4I systems and capabilities. Continue development of C4/ Cyber requirements and assessment of systems providing capabilities to joint missions in an operational environment to verify</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607828J / <i>Joint Integration & Interoperability</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>interoperability earlier in the development cycle. Continue to develop, prioritize, and sequence C4/Cyber capability requirements and enterprise mission services.</p> <p>(4) Continue to 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. Execute Joint Staff-sponsored Bold Quest 2015 assessment demonstration, including integration of Cyber capabilities with command and control of Conventional and Special Operations Force missions from a multi-national perspective at the tactical level.</p> <p>(5) Support DOD CIO efforts to refine and implement the DOD Data Framework and lead the implementation of the NIEM Military Operations Domain, data exchange standards. Continue JROC-directed Authoritative Data Source (ADS) work with emphasis on the Cyber mission area. Begin transition of Tactical Infrastructure Enterprise Services (TIES) Joint Capability Technology Demonstration (JCTD) to automate DOD meta-data tagging and identity access capabilities.</p> <p>(6) Continue to lead implementation and integration efforts for DoD Joint Information Environment (JIE) / Mission Partner Environment (MPE) capabilities, including piloting and implementation efforts with COCOMs, Services, Agencies, and Coalition partners. Continue the integration of JIE/MPE and Cyber capabilities into joint and coalition training. Extend development of JIE/MPE architecture products to enhance linkage with Coalition partners. Leverage the Joint C4I Partnership to manage capability development, assessment, test, and certification of COCOM and JTF C4I systems and capabilities. Continue development of C4/Cyber requirements and assessment of systems providing capabilities to joint missions in an operational environment to verify interoperability earlier in the development cycle. Continue to develop, prioritize, and sequence C4/Cyber capability requirements and enterprise mission services.</p> <p>(7) Continue to 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. Execute Joint Staff-sponsored Bold Quest 2015 assessment demonstration, including integration of Cyber capabilities with command and control of Conventional and Special Operations Force missions from a multi-national perspective at the tactical level.</p> <p>(8) Support DOD CIO efforts to refine and implement the DOD Data Framework and lead the implementation of the NIEM Military Operations Domain, data exchange standards. Continue JROC-directed Authoritative Data Source (ADS) work with emphasis on the Cyber mission area. Begin transition of Tactical Infrastructure Enterprise Services (TIES) Joint Capability Technology Demonstration (JCTD) to automate DOD meta-data tagging and identity access capabilities.</p> <p>(9) Continue development of joint mission threads in accordance with JROC and C4/Cyber FCB guidance to expand development of solutions architectures for enterprise mission services in support of DOD JIE/MPE and Cyber capabilities. Provide joint mission</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff	Date: February 2015
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607828J <i>I Joint Integration & Interoperability</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
thread data via web-enabled portal capability to enable operational context data reuse for testing, training, programming, and program development. Continue to refine the quantity and quality of WMA architecture data available to support DOD CIO architecture requirements and Joint Staff capability analysis, assessments, and modeling and simulation processes. Analyze NR KPP architectures and capabilities for interoperability and integration, and provide NR KPP waiver recommendations based on operational/systems requirements analysis.			
Accomplishments/Planned Programs Subtotals	11.847	11.968	-

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A - FY2016 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 - FY2016 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 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607828J / <i>Joint Integration & Interoperability</i>	Project (Number/Name) P818 / <i>Joint Integration & Interoperability</i>

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 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607828J / <i>Joint Integration & Interoperability</i>	Project (Number/Name) P818 / <i>Joint Integration & Interoperability</i>

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
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 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607828J / <i>Joint Integration & Interoperability</i>	Project (Number/Name) P818 / <i>Joint Integration & Interoperability</i>

Schedule Details

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

Note

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-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0208043J I <i>Planning and Decision Aid System (PDAS)</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	8.293	2.838	1.842	3.061	-	3.061	3.061	3.061	3.061	3.061	Continuing	Continuing
P001: <i>Planning and Decision Aid System OPS</i>	8.293	2.838	1.842	3.061	-	3.061	3.061	3.061	3.061	3.061	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)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	3.061	1.842	3.061	-	3.061
Current President's Budget	2.838	1.842	3.061	-	3.061
Total Adjustments	-0.223	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Carry-over from FY2014	-0.223	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 The Joint Staff **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0902298J I <i>Management Headquarters</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	9.685	2.926	4.409	2.978	-	2.978	1.010	1.055	1.055	1.055	Continuing	Continuing
P001: <i>Joint Staff Information Network (JSIN)</i>	9.685	2.926	4.409	2.978	-	2.978	1.010	1.055	1.055	1.055	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 Joint Chiefs of Staff (JCS). JSIN improves action processing for faster coordination of critical issues with CCMDs, Services, and Agencies, as well as within TJS.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	3.475	4.409	2.978	-	2.978
Current President's Budget	2.926	4.409	2.978	-	2.978
Total Adjustments	-0.549	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Prior year carry-over	-0.549	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0902298J / Management Headquarters				Project (Number/Name) P001 / Joint Staff Information Network (JSIN)			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P001: Joint Staff Information Network (JSIN)	9.685	2.926	4.409	2.978	-	2.978	1.010	1.055	1.055	1.055	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Management Headquarters provides the day-to-day financial resources necessary to support The Joint Staff (TJS) operations. Across TJS, Management Headquarters supports various efforts including network infrastructure, civilian pay accounts, supplies, travel, training, portfolio management, business process reviews, and transformation initiatives. TJS is transitioning to the Joint Information Environment (JIE) framework to achieve full spectrum superiority, improve mission effectiveness, increase security, and realize IT efficiencies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: Joint Staff Information Network (JSIN)	2.926	4.409	2.978
<p>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 CCMDs, Services, and Agencies, as well as within TJS.</p>			
<p>FY 2014 Accomplishments: Developed technological solutions to Joint Staff Information Technology initiatives including Enterprise Services Implementation of Enterprise Task Management (U/S). The Joint Information Environment (JIE) electronic Document, Task and Records Management (eDTRM) solution was developed to provide an Open Technology / Open Source Solution with the ability to leverage Cloud computing capabilities in support of operational requirements for documents, tasks, and records management. The funding provided the Joint Staff (JS) with engineering design, testing, evaluation, delivery, licensing, and management support associated with the JIE eDTRM project.</p>			
<p>FY 2015 Plans: Provide planning and support to Joint Staff Information Technology initiatives, including continued migration for Service Desk operations to the US Army Information Technology Agency (ITA) and JS applications, refinement of Thin Client (U) and Mobile Computing solutions, Application Virtualization (S) and (U), Cross Domain Services FOC, Joint Staff Action Processing-Modified system transition to an Enterprise Content Management and Task Management (U/S) optimization and integration through JIE in a Core Data Center, on-going STE transition to Secure VOIP/VoSIP, Enterprise Services Implementation including Enterprise Task Management (U/S), Identity and Access Management capabilities, implementation of a Managed Print Service (MPS),</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0902298J / <i>Management Headquarters</i>	Project (Number/Name) P001 / <i>Joint Staff Information Network (JSIN)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<p>Unified Capabilities and consideration of DoD cloud services for achieving efficiencies, improved mission effectiveness, and strengthening our security posture. Track JIE definitions and architecture and develop plans for building, participating in, or migrating to appropriate JIE architecture.</p> <p>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. As well, continued refinement of the U.S. Army Information Technology Agency desktop as a service, Application Virtualization (S) and (U), Cross Domain Services, 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.</p>			
Accomplishments/Planned Programs Subtotals	2.926	4.409	2.978

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 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0902298J / <i>Management Headquarters</i>	Project (Number/Name) P001 / <i>Joint Staff Information Network (JSIN)</i>

(5) Reduce cost of Joint Staff controlled IT-services by subscribing to locally hosted IT services providers (Information Technology Agency (ITA) - tier 1, tier 2, etc).

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0902298J / <i>Management Headquarters</i>	Project (Number/Name) P001 / <i>Joint Staff Information Network (JSIN)</i>

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
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

<i>Joint Staff Information Network (JSIN)</i>	
Joint Staff Information Network (JSIN)	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 The Joint Staff		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0902298J / <i>Management Headquarters</i>	Project (Number/Name) P001 / <i>Joint Staff Information Network (JSIN)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Staff Information Network (JSIN)</i>				
Joint Staff Information Network (JSIN)	1	2016	4	2016