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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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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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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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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 JIAMD0 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

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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
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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
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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	
Transition to PE0604826J	■

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