Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Office of the Secretary Of Defense	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305199D8Z / *Net Centricity*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	16.005	23.229	18.095	17.971	-	17.971	19.419	20.624	20.888	21.292	Continuing	Continuing
199: *GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities*	16.005	23.229	18.095	17.971	-	17.971	19.419	20.624	20.888	21.292	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funds will be used to provide technical analysis, systems engineering and capability management oversight of programs, projects, initiatives and activities to maximize the Department's return on investment in information technology resources and affect a comprehensive approach for assessing and procuring critical information systems from initial design, through development to capability delivery in support of improved systems performance and military operations. Emphasis is placed on the information transport, information assurance/cyber security, network and spectrum management, command and control (C2) applications, systems and services, information sharing capabilities, commercial mobile devices (CMD), applications and infrastructure, and enterprise services activities focused on the development, integration, testing and technical assessment of capabilities and applications in joint and coalition warfighter support environments. Resources support collaborative efforts to demonstrate the interoperability and performance requirements of command, control, communication, computing network, and Information Infrastructure (C4II) capabilities and programs. This program is funded under Budget Activity 7, Operational System Development.

This project provides the resources necessary to implement net centric processes and authoritative analytic methods that provide the capability to synchronize interdependent C4II capabilities across all layers (ground, air, space, maritime, cyberspace) of the joint information environment (JIE), to forecast and achieve a balance in supply and demand for network capacity, and field effective capabilities more rapidly and efficiently as an enabler for C4II capabilities applications and services. Resources are required to transform current networks and information infrastructure into an operationally unified and architecturally diverse and secure joint information environment that will provide end-to-end communications transport layer, computing networks, and mission application capabilities that are optimized and integrated with all other joint capability areas with a focus on the tactical edge faced with disconnected, intermittent, and latency (DIL) environments. There will be technical assessments, modeling and simulation, and analysis of the Joint space communications layer, Joint aerial network layer, contested communications on the move, Position Navigation and Timing (PNT), C2 mission applications, commercial mobile devices, and information sharing capabilities. These funds provide the capability for the warfighter to manage and deconflict radio frequencies through ground, air, and space communication networks. The funds will be used to develop and synchronize information assurance capabilities with other joint information environment capabilities to provide secure access to information and services (e.g. Cryptographic Modernization Management plan).
In addition, funding will continue to be used to support the Defense Information System's Agency's (DISA) and Services' interoperable improvement efforts and processes in the development of common standards and protocols. This effort includes initiating the Joint Interoperability Enhancement Process (IEP) that allows operators, engineers, and program managers to verify capabilities and identify issues in a design with Joint /Allied units prior to system fielding, or with fielded systems to identify required systems changes for systems upgrade planning. DISA and the Joint Forces Combatant Command lead the effort to transform the current standards and interoperability management tools to a common set of Joint network-enabled standards to ensure adherence to the DoD Information Network (DODIN) enterprise-wide technical baseline and for implementation of future Tactical Data Link (TDL) capabilities. These joint standards, protocols, and processes will be used for

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Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305199D8Z / *Net Centricity*

implementation and testing to ensure the TDL capabilities are synchronized with the development and integration timelines of other planned network-enabled DODIN initiatives. The threats to the networking waveforms and the Joint NC migration will also be looked at in cooperation with the Intelligence agencies.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	23.950	18.130	18.518	-	18.518
Current President's Budget	23.229	18.095	17.971	-	17.971
Total Adjustments	-0.721	-0.035	-0.547	-	-0.547
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.712	-			
• Program Adjustments	-0.009	-	-0.062	-	-0.062
• FFRDC Reduction	-	-0.035	-	-	-
• Efficiency Reduction	-	-	-0.366	-	-0.366
• Economic Assumptions	-	-	-0.119	-	-0.119

Change Summary Explanation

FY 2015: SBIR/STTR adjustment -0.712 million, Program Adjustment -0.009 million.

FY 2016: FFRDC Reduction -0.035 million.

FY 2017: Efficiency Adjustment -0.366 million, Economic Assumptions -0.119 million, Program Adjustment -0.062 million.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305199D8Z / *Net Centricity*	Project (Number/Name) 199 / *GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
199: *GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities*	16.005	23.229	18.095	17.971	-	17.971	19.419	20.624	20.888	21.292	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funds will be used to provide technical analysis, systems engineering and capability management oversight of programs, projects, initiatives and activities to maximize the Department's return on investment in information technology resources and affect a comprehensive approach for assessing and procuring critical information systems from initial design, through development to capability delivery in support of improved systems performance and military operations. Emphasis is placed on the information transport, information assurance, network and spectrum management, command and control (C2) applications, systems and services, information sharing capabilities, and enterprise services activities focused on the development, integration, testing and technical assessment of capabilities and applications in joint and coalition warfighter support environments. Resources support collaborative efforts to demonstrate the interoperability and performance requirements of command, control, communication, computing network, and Information Infrastructure (C4II) capabilities and programs. This program is funded under Budget Activity 7, Operational System Development.

This project provides the resources necessary to implement net centric processes and authoritative analytic methods that provide the capability to synchronize interdependent C4II capabilities across all layers (ground, air, space) of the joint information environment architecture, to forecast and achieve a balance in supply and demand for network capacity, and field effective capabilities more rapidly and efficiently as an enabler for C4&II capabilities applications and services. Resources are required to transform current networks and information infrastructure into an operationally unified and architecturally diverse joint information environment that will provide end-to-end communications transport layer, computing networks, and mission application capabilities that are optimized and integrated with all other joint capability areas with a focus on the tactical edge faced with disconnected, intermittent, and latency (DIL) environments. There will be technical assessments, modeling and simulation, and analysis of the Joint space communications layer, Joint aerial network layer, contested communications on the move, Position Navigation and Timing (PNT), C2 mission application, and information sharing capabilities. These funds provide the capability for the warfighter to manage and deconflict radio frequencies through ground, air, and space communication networks. The funds will be used to develop and synchronize information assurance capabilities with other joint information environment capabilities to provide secure access to information and services (e.g. Cryptographic Modernization Management plan).

In addition, funding will continue to be used to support the Defense Information System's Agency's (DISA) and Services' interoperable improvement efforts and processes in the development of common standards and protocols. This effort includes initiating the Joint Interoperability Enhancement Process (IEP) that allows operators, engineers, and program managers to verify capabilities and identify issues in a design with Joint /Allied units prior to system fielding, or with fielded systems to identify required systems changes for systems upgrade planning. DISA and the Joint Forces Combatant Command lead the effort to transform the current standards and interoperability management tools to a common set of Joint network-enabled standards to ensure adherence to the Global Information Grid (GIG) enterprise-wide

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technical baseline and for implementation of future Tactical Data Link (TDL) capabilities. These joint standards, protocols, and processes will be used for implementation and testing to ensure the TDL capabilities are synchronized with the development and integration timelines of other planned network-enabled Global Information Grid (GIG) initiatives. The threats to the networking waveforms and the Joint NC migration will also be looked at in cooperation with the Intelligence agencies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Net Centricity Plans and Accomplishments	23.229	18.095	17.971
FY 2015 Accomplishments: $5.000 million supports classified program, Details can be provided at a higher classification under separate cover. $18.229 million supported: – Conducted technical assessment/refined commercial wireless policy guidance to support CMD strategy implementation; continued assessments of the effects of cybersecurity policies. – Refined CMD certification processes, Mobile Application Management (MAM)/Mobile Device Management (MDM) guidance, and guidance for personal user based enforcement; updated approved product matrix for CMD. – Conducted implementation assessments to refine strategies for mobile applications and devices – Updated Mobile Application Approval process guide, DoD Mobile PKI guide, and procedure for the Electronic Flight Bag (EFB). – Provided technical and business case analyses for Commercial mobile devices and voice encryption. – Completed version 2 of the Radio and Communication Security modernization plan for tactical radios. Assessed Service implementation. – Conducted analysis and updated the CJTF Architecture to reflect Component C4II capability plans, include locations and connectivity of Tactical Processing Node (TPN) to support JIE at the tactical edge. – Continued development of interoperable Land Mobile Radio (LMR) standards to support public safety communications. – Conducted analysis to update LMR policy to refine procedures for LMR implementation in the DoD. – Conducted analysis and refined procedures for Waveform Development and Management in the DoD. – Evolved the Waveform Policy Implementation Guide to ensure an authoritative list of DoD-approved waveforms, with a process and supporting repository to solicit waveform applications and maintain the approved waveform baseline. – Provided technical analysis on methods for securing ISR data over wireless platforms and extended encryption of these devices, conduct implementation assessments through UAS encryption data calls. – Provided technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Developed an initial strategy and policy guidance to optimize SATCOM capabilities. – Updated SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities. Continued efforts to integrate SATCOM Sync Architectures into overall DoD CIO assessment processes. – Conducted compliance reviews of select programs; identify shortfalls in program bandwidth supportability planning and analysis and provided recommendations for corrective action. Submitted annual Bandwidth report to Congress as required by NDAA.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Completed SATCOM Gateway Right-sizing Study and developed implementation approaches to optimize SATCOM gateways across the defense enterprise. Provided technical analysis to support PACOM gateway implementation. – Continued technical and requirements analysis to determine way ahead for future Narrowband SATCOM capabilities. Continued feasibility assessments for implementing legacy narrowband solutions for MUOS payload. – Conducted business case analysis to determine alternative approaches to implement JIPM capabilities. – Provided technical analysis to assess options in support of the Protected SATCOM AoA. – Continued technical analysis to implement approaches to improve DoD utilization of Commercial SATCOM capabilities. – Conducted a capability based assessment (CBA) to identify and assess Airborne ISR (AISR) transport capability requirements and gaps. Updated AISR transport reference architecture artifacts to support assessments. – Continued technical analysis of Coalition C2 and MNIS, analyze Coalition C2 functional requirements, strategic policy development and capability strategies to guide Mission Partner Environment (MPE) development. – Conducted technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services consistent with joint C2 sustainment and modernization plans. – Provided technical analysis for the implementation of Common Mission Network Transport (CMNT) capability. – Provided technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements; continued development of C2 information sharing mechanisms consistent with capability strategies. – Conducted analysis to refine the joint C2 technical and architectural artifacts and informed transition of GCCS Family of Systems to a network enabled applications and services rationalized for the JIE. – Provided studies and analysis of the C2 capability gaps to inform investment strategies, enable investment tracking, and POM development – Conducted analyses to address adoption and evolution of C2 mission services as candidate enterprise services for the JIE. – Continued analysis of requirements, capability gaps and integrated priority lists of all joint requirements for C4II capabilities to support DoD CIO engagement in the C4/Cyber Functional Capability Board. – Continued wireless architecture and advanced technologies analysis to inform implementation of mobility solutions. – Conducted technical analysis to support compliance oversight of waveform policies and technical profile specifications. – Developed updates to Department-wide communications policy guidance applicable to commercial mobile devices. – Continued DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC). – Conducted analysis to support DMUC derived credentials implementation. – Continued analysis of LTE technology for DoD tactical use. – Continued technical analysis for Network Management (NM) interoperability, architecture and data artifacts. – Continued systems engineering and architecture analysis for JIE tactical processing nodes (TPNs). Conducted technical analysis of tactical cloud computing approaches as a means to enhance TPN solutions.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continued analysis to address Tactical Secure Voice Communications Interoperability Specification (TSVSIC) implementation. – Continued efforts to determine strengths, weaknesses, and uses of waveforms and network management capabilities; identified gaps; assessed new technologies in support of waveform and network management efforts. – Conducted technical analysis/developed GTPs and Reference Implementations in support of network management strategy and roadmap. – Continued development of data ontologies and NIEM compliant IEPDs for network management. – Conducted technical analysis in support of C4II policies, plans, studies, roadmaps, and capability assessments. – Continued end-to-end analysis of the SATCOM environment; supported evaluations and analysis of end-to-end capabilities. – Conducted studies and develop analytical papers in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts – Continued technical analysis/studies related to the migration of current applications and services to DoD Core Data Centers and supported rationalization of applications for the JIE. – Provided technical analysis to support the Joint Technology Synchronization Office (JTSO) Integrated Design Team (IDT) efforts related to implementation of JIE capability upgrades and technical planning. – Conducted studies and analysis to finalize metrics and assessed progress of JIE technical implementation actions. – Conducted technical analysis and studies related to Software Defined Networking (SDN) as an approach to network normalization. – Concluded follow-on JALN analysis with Joint Service JALN Council to oversee Service implementation efforts. – Continued efforts to establish the foundation for Interoperability Enhancement Process (IEP) for Joint capabilities with DISA/J6 Enterprise Toolset and Data Base. – Conducted technical and policy assessments to enable Tactical Data Link (TDL) migration. – Continued Joint Common Data Link (CDL) documentation of official waveform in support of Joint interoperability. – Supported Allied and Coalition interoperability efforts including NATO migration plan, JSF partner interoperability, US/Swedish MIEA, and integration of US and foreign communications and C2 systems – Conducted analysis to support Joint TDL migration policy. – Analyzed available Gateway architecture alternatives to support inter-platform connectivity and reach back. – Refined gateway right sizing options; proposed RF terminal solutions and baseband equipment suites including the number/ types of equipment needed to meet the future warfighter needs. Coordinated and facilitated Teleport Program Office oversight initiatives. – Conducted analysis to evolve SATCOM networks toward an EOIP modem architecture. Continued support of video dissemination and two-way GBS capabilities to inform follow on implementation across the Department. – Conducted analysis for the SATCOM International Standards Committee. Supported development of US lead Standardized Agreements (STANAGS) and provided a technical review of other nation's STANAG's for accuracy, completeness, and feasibility.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Conducted analysis to inform acquisition strategy for U.S. support to NATO SATCOM post 2019. – Provided technical analysis and facilitated execution of the SATCOM Systems Engineering Group (SSEG). – Conducted technical analysis to evolve the approach for Defense Information Systems Network (DISN) technology refresh plans for CIO approval. – Supported DISN Quarterly reviews to assess progress and issues in transport and network infrastructure, unified capabilities and network management in support of JIE priorities. – Conducted analysis to maintain and expand the JIE single security architecture through analysis and implementation of the Joint Regional Security Stacks (JRSS) and associated cyber security capabilities. – Continued efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation – Revised acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews. – Supported the development of business case activities as required to support investment decisions for C4II capabilities. – Conducted analysis to address a need to formalize the process of release of waveforms to foreign governments, as identified by the Arms Transfer and Technology Release Senior Steering Group (ATTR SSG). – Analyzed interoperable, secure, and affordable waveforms and wireless communications in support of Service, Multi-Service and Coalition forces – Participated in process to recommend standards conduct compliance and certification assessments in accordance with DoD policies, and reviewed content of a DoD Waveform Information Repository (IR). – Analyzed TSVCIS to determine if it meets COMSEC modernization compliance guidance and CJCSI 6510 requirements. – Provided technical analysis of SATURN ability to provide improved anti-jam communications and support Multi-Partner communications needs. – Determined which version of the TSVCIS and SATURN standards are the starting points for acquisition programs. – Conducted trade studies to determine if the TSVCIS and SATURN can be integrated easily and are cost effective.			
FY 2016 Plans: – Continue technical assessment/refine commercial wireless policy guidance to support CMD strategy implementation; continue assessments of the effects of cybersecurity policies. – Continue to refine CMD certification processes, Mobile Application Management (MAM)/Mobile Device Management (MDM) guidelines, and guidelines for personal user based enforcement; update approved product matrix for CMD. – Continue implementation assessments to refine mobile application and device strategies. – Review/refine mobile application approval process guides, DoD Mobile PKI guides, and procedure for the Electronic Flight Bag (EFB)			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue technical and business case analyses for Commercial mobile devices and voice encryption. – Completed version 3 of the Radio and Communication Security modernization plan for tactical radios. Assess Service implementation focusing on Service investment areas to support modernization and crypto compliance goals. – Continue analysis to update the CJTF Architecture to reflect Component C4II capability plans integrate the Radio and COMSEC Plan's inventory to reflect the enterprise communications capability of the CJTF Architecture that will support JIE TPNs. – Continue development of interoperable Land Mobile Radio (LMR) standards to support public safety communications and FirstNet. – Continue analysis to of LMR policy implementation; refine procedures to support LMR implementation in the DoD. – Continue analysis of Waveform Development and Management in the DoD to support enhanced re-use and portability of waveforms supporting Service and Coalition communications needs. – Continue analysis to maintain authoritative list of DoD-approved waveforms and supporting repository to maintain waveform baseline. – Continue technical analysis on methods for securing ISR data over wireless platforms and extended encryption of these devices, conduct implementation assessments through UAS encryption data calls. – Continue technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Assess strategy alignment. – Update SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities. – Continue compliance reviews of select programs; identify shortfalls in program bandwidth supportability planning and analysis and provide recommendations for corrective action. – Continue efforts to implement SATCOM Gateway Right-sizing approaches to optimize SATCOM gateways across the defense enterprise. – Continue technical/requirements analysis and feasibility assessments for implementing legacy narrowband solutions for MUOS payload. – Continue analysis to support implementation approaches for JIPM alternatives. – Conduct follow-on analysis in support of the Protected SATCOM AoA recommendations and preferred alternative. – Continue technical analysis to improve DoD utilization of Commercial SATCOM capabilities.. – Conduct Airborne ISR (AISR) transport analysis of alternatives based on Capability Based Analysis (CBA) results. Support development of AISR Transport ICD to document enterprise wide requirements. Update AISR transport reference architecture and requirements documents to support implementation. – Continue technical analysis of Coalition C2 and MNIS, analyze Coalition C2 functional requirements, strategic policy development and capability strategies to guide Mission Partner Environment (MPE) development. – Continue technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services consistent with JIE objectives.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue technical analysis for the implementation of Common Mission Network Transport (CMNT) capability. – Continue technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements. – Continue analysis to refine the joint C2 technical and architectural artifacts and inform an evaluation of alternatives for the GCCS Family of Systems. – Conduct analysis of capability needs to enable command and control across the JIE. Evaluate Enterprise Operations Center architectures, and information requirements to support investment decisions in JIE C2 capabilities. – Continue analyses to address adoption and evolution of mission services as candidate enterprise services for the JIE. – Continue analysis of requirements, capability gaps and integrated priority lists of all joint requirements for C4II capabilities to support DoD CIO engagement in the C4/Cyber Functional Capability Board. – Continue wireless architecture and advanced technologies analysis to inform Department-wide policies and implementation of mobility solutions. – Continue technical analysis to support compliance oversight of waveform policies and technical profile specifications. – Continue efforts to refine communications policies and analysis technologies applicable to commercial mobile devices. – Continue DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC). – Continue analysis to support DMUC derived credentials implementation. – Continue analysis of LTE technology for DoD tactical use. – Continue technical analysis for Network Management (NM) interoperability, architecture and data artifacts. – Continue systems engineering and architecture analysis for JIE tactical processing nodes (TPNs). Continue technical analysis of tactical cloud computing approaches as a means to enhance TPN solutions. – Continue analysis to address implementation of TSVSIC for tactical radios. – Continue efforts to determine strengths, weaknesses, and uses of waveforms and network management capabilities; identified gaps; assesse new technologies in support of waveform and network management efforts. – Continue technical analysis to support implementation of the network management strategy and roadmap. – Continue development of data ontologies and NIEM compliant IEPDs for network management. – Continue technical analysis in support of C4II policies, plans, studies, roadmaps, and capability assessments. – Continue end-to-end analysis of the SATCOM environment; support technical evaluations of end-to-end capabilities. – Continue studies and analysis in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts. – Continue technical analysis/studies related to the migration of current applications and services to DoD Core Data Centers and support rationalization of applications for the JIE. – Continue technical analysis to support implementation of JIE capability upgrades and technical planning. – Continue studies and analysis to progress of JIE technical implementation actions. – Continue technical analysis and studies related to SDN as an approach to network normalization and security.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue follow-on JALN analysis with Joint Service JALN Council, overseeing Service implementation efforts. – Conduct Joint IEP analysis for Link 16 and work on adding Variable Message Format (VMF), Link 11/22, Multifunction Advanced Data Link (MADL), and Common Data Link (CDL) through the FYDP. – Continue technical and policy assessments to enable TDL migration. – Continue efforts to finalize Joint MIL-SPEC for CDL and initiate documentation for MADL in coordination with JSF team. – Continue support for Allied and Coalition interoperability efforts including NATO migration plan, JSF partner interoperability, US/ Swedish MIEA, and integration of US and foreign communications and C2 systems. – Analyze available Gateway technology alternatives to address joint aerial layer networking capabilities in the evolving threat environment with both physical (e.g. jamming) and cyber-attacks. – Assess developing waveform technologies for improving the robustness and scalability of current TDL networks Continue efforts to refine gateway right sizing options, propose RF terminal solutions and baseband equipment suites including the number and types of equipment needed to meet the future needs of the war fighter. Coordinate and facilitate Teleport Program Office oversight initiatives. – Continue analysis to evolve SATCOM networks toward EOIP modem architecture. Continue support of video dissemination and two-way GBS capabilities to inform follow on implementation across the Department. – Continue analysis for the SATCOM International Standards Committee (SISC). Participate in the development of US lead Standardized Agreements (STANAGS) and provide a technical review of other nation's STANAG's for accuracy, completeness, and feasibility. – Continue efforts to develop acquisition strategy for U.S. support to NATO SATCOM post 2019 – Continue technical analysis and facilitate execution of the SATCOM Systems Engineering Group (SSEG) – Continue efforts to review, assess, and process DISN Tech Refresh plans for CIO approval. – Coordinate, facilitate and record DISN reviews to assessed progress and issues in transport and network infrastructure, unified capabilities and network management. – Continue efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation. – Continue to maintain and expand the JIE single security architecture through analysis and implementation of the Joint Regional Security Stacks (JRSS) and associated cyber capabilities. – Continue acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews of JIE implementation. – Support the development of business case activities as required. – Continue analysis of release of waveforms to foreign governments, as identified by the Arms Transfer and Technology Release Senior Steering Group (ATTR SSG).			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue to analyze interoperable, secure, and affordable waveforms and wireless communications in support of Service, Multi-Service and Coalition forces. – Continue analysis process and recommend standards conduct compliance and certification assessments in accordance with DoD policies, and reviewed content of a DoD Waveform Information Repository (IR). – Analyzed TSVCIS implementation and COMSEC modernization compliance guidance and CJCSI 6510 requirements. – Provided technical analysis of SATURN ability to provide improved anti-jam communications and support Multi-Partner communications needs. – Determined which edition of TSVCIS and SATURN standards are integrated into radio acquisition programs. – Conducted trade studies to determine if they TSVCIS and SATURN can be integrated easily and are cost effective. – Conduct Network capabilities review (NCR) an effort to examine the capabilities programmed in POM 17-21 in the Mission Command portfolio to look for alternate strategies for a more efficient set of capabilities. – Conduct analysis in coordination with the Director, National Security Agency/Chief, Central Security Service (DIRNSA/CHCSS), advance the state of the art in assurance tools, techniques, and methods for creating and identifying non-cryptologic software and hardware that is free from exploitable vulnerabilities and malicious intent for tactical communications.			
FY 2017 Plans: – Continue technical assessment/refine commercial wireless policy guidance to support CMD strategy implementation; continue assessments of the effects of cybersecurity policies. – Continue to refine CMD certification processes, Mobile Application Management (MAM)/Mobile Device Management (MDM) guidelines, and guidelines for personal user based enforcement; update approved product matrix for CMD. – Continue implementation assessments to refine mobile application and device strategies. – Review/refine mobile application approval process guides, DoD Mobile PKI guides, and procedure for the Electronic Flight Bag (EFB). – Continue technical and business case analyses for Commercial mobile devices and voice encryption. – Update the Radio and Communication Security modernization plan for tactical radios. Assess Service implementation. – Continue analysis to update the CJTF Architecture to reflect Component C4II capability plans. – Continue development of interoperable Land Mobile Radio (LMR) standards to support public safety communications. – Continue analysis to of LMR policy implementation; refine procedures to support LMR implementation in the DoD. – Continue analysis of Waveform Development and Management in the DoD. – Continue analysis to maintain authoritative list of DoD-approved waveforms and supporting repository to maintain waveform baseline. – Continue technical analysis on methods for securing ISR data over wireless platforms and extended encryption of these devices, conduct implementation assessments through UAS encryption data calls.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Assess strategy alignment. – Update SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities. – Continue compliance reviews of select programs; identify shortfalls in program bandwidth supportability planning and analysis and provide recommendations for corrective action. – Continue efforts to implement SATCOM Gateway Right-sizing approaches to optimize SATCOM gateways across the defense enterprise. – Continue technical/requirements analysis and feasibility assessments for implementing legacy narrowband solutions for MUOS payload. – Continue analysis to support implementation approaches for JIPM alternatives. – Conduct follow-on analysis in support of the Protected SATCOM AoA recommendations and preferred alternative. – Continue technical analysis to improve DoD utilization of Commercial SATCOM capabilities. – Conduct Airborne ISR (AISR) transport analysis of alternatives follow on analysis based on AoA recommendations and preferred alternatives. Update AISR transport reference and solution architecture artifacts to support implementation. – Continue technical analysis of Coalition C2 and MNIS, analyze Coalition C2 functional requirements, strategic policy development and capability strategies to guide Mission Partner Environment (MPE) development. – Continue technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services. – Continue technical analysis for the implementation of Common Mission Network Transport (CMNT) capability. – Continue technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements. – Continue analyses to address adoption and evolution of mission services as candidate enterprise services for the JIE. – Conduct follow-on analysis to inform implementation of the EoA recommendations for the GCCS Family of Systems. – Continue analysis of capability needs to enable command and control across the JIE. Evaluate Enterprise Operations Center architectures, and information requirements to support investment decisions in JIE C2 capabilities. – Continue analysis of requirements, capability gaps and integrated priority lists of all joint requirements for C4II capabilities to support DoD CIO engagement in the C4/Cyber Functional Capability Board. – Continue wireless architecture and advanced technologies analysis to inform Department-wide policies and implementation of mobility solutions. – Continue technical analysis to support compliance oversight of waveform policies and technical profile specifications. – Continue efforts to refine communications policies and analysis technologies applicable to commercial mobile devices. – Continue DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC). – Continue analysis to support DMUC derived credentials implementation.			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue analysis of LTE technology for DoD tactical use. – Continue technical analysis for Network Management (NM) interoperability, architecture and data artifacts. – Continue systems engineering and architecture analysis for JIE tactical processing nodes (TPNs). – Continue analysis to address implementation of TSVSIC for tactical radios. – Continue efforts to determine strengths, weaknesses, and uses of waveforms and network management capabilities; identified gaps; assesse new technologies in support of waveform and network management efforts. – Continue technical analysis to support implementation of the network management strategy and roadmap. – Continue development of data ontologies and NIEM compliant IEPDs for network management. – Continue technical analysis in support of C4II policies, plans, studies, roadmaps, and capability assessments. – Continue end-to-end analysis of the SATCOM environment; support technical evaluations of end-to-end capabilities. – Continue studies and analysis in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts. – Continue technical analysis/studies related to the migration of current applications and services to DoD Core Data Centers and support rationalization of applications for the JIE. – Continue technical analysis to support implementation of JIE capability upgrades and technical planning. – Continue studies and analysis to progress of JIE technical implementation actions. – Continue technical analysis and studies related to SDN as an approach to network normalization and security. – Continue Joint IEP analysis for Link 16 and work on adding Variable Message Format (VMF), Link 11/22, Multifunction Advanced Data Link (MADL), and Common Data Link (CDL) through the FYDP. – Continue technical and policy assessments to enable TDL migration. – Continue efforts to finalize Joint MIL-SPEC for CDL and initiate documentation for MADL in coordination with JSF team. – Continue support for Allied and Coalition interoperability efforts including NATO migration plan, JSF partner interoperability, US/ Swedish MIEA, and integration of US and foreign communications and C2 systems. – Assess developing waveform technologies for improving the robustness and scalability of current TDL networks. – Continue efforts to refine and implement gateway right sizing options; evaluate RF terminal solutions and baseband equipment suites including the number and types of equipment needed to meet the future needs of the war fighter. Coordinate and facilitate Teleport Program Office oversight initiatives. – Continue analysis to evolve SATCOM networks toward EOIP modem architecture. Continue support of video dissemination and two-way GBS capabilities to inform follow on implementation across the Department. – Continue analysis for the SATCOM International Standards Committee (SISC). Participate in the development of US lead Standardized Agreements (STANAGS) and provide a technical review of other nation's STANAG's for accuracy, completeness, and feasibility. – Continue efforts to evaluate and implement acquisition strategies for U.S. support to NATO SATCOM post 2019. – Continue technical analysis and facilitate execution of the SATCOM Systems Engineering Group (SSEG).			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
– Continue efforts to review, assess, and process DISN Tech Refresh plans for CIO approval. – Coordinate, facilitate, and record DISN Quarterly reviews to assessed progress and issues in transport and network infrastructure, unified capabilities and network management. – Continue efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation. – Continue acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews of JIE implementation. – Support the development of business case activities as required. – Develop guidance (e.g., information system security engineering guidance) and programming recommendations to ensure the integration of Trusted Systems Networks concepts and processes into the acquisition and maintenance of DoD information systems, enclaves, and services, including the purchase and integration of tactical communication commodities.			
Accomplishments/Planned Programs Subtotals	23.229	18.095	17.971

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

– PPBE related issue development and approval
– Successful technical development and analysis of the CIO and DCIO C4IIC portfolio of programs and activities
– Develop comprehensive risk assessment and mitigation approaches of the CIO and DCIO C4IIC portfolio of programs and activities

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Office of the Secretary Of Defense		Date: February 2016
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	Various	Various : Various	1.149	1.010	Jul 2015	0.967	Jul 2016	0.992	Jul 2017	-		0.992	Continuing	Continuing	Continuing
Technical Engineering Services	Various	Various : Various	8.732	16.089	Jul 2015	11.293	Jul 2016	10.958	Jul 2017	-		10.958	Continuing	Continuing	Continuing
		Subtotal	9.881	17.099		12.260		11.950		-		11.950	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various : Various	3.514	3.967	Jul 2015	3.799	Jul 2016	3.897	Jul 2017	-		3.897	Continuing	Continuing	Continuing
Program Support	FFRDC	Various : Various	0.100	0.088	Jul 2015	0.084	Jul 2016	0.086	Jul 2017	-		0.086	Continuing	Continuing	Continuing
Engineering Support	FFRDC	Various : Various	0.200	0.176	Jul 2015	0.134	Jul 2016	0.173	Jul 2017	-		0.173	Continuing	Continuing	Continuing
R&D Support	Various	Various : Various	2.310	1.899	Jul 2015	1.818	Jul 2016	1.865	Jul 2017	-		1.865	Continuing	Continuing	Continuing
		Subtotal	6.124	6.130		5.835		6.021		-		6.021	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.005	23.229		18.095		17.971		-		17.971	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Office of the Secretary Of Defense		Date: February 2016
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R4

PE 0305199D8Z/ Net Centricity

SATCOM, JIE, NC3 and Related Engineering Analysis

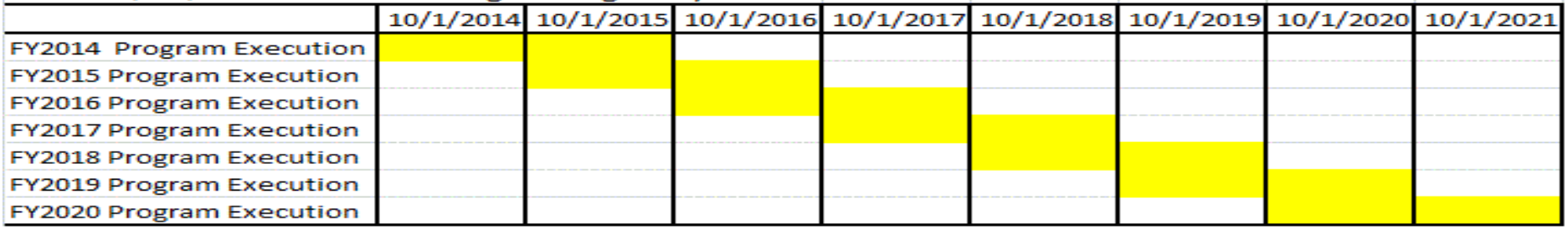

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Office of the Secretary Of Defense		Date: February 2016
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FY15 Project Execution	1	2015	4	2016
FY16 Project Execution	1	2016	1	2017
FY17 Project Execution	1	2017	1	2018
FY18 Project Execution	1	2018	1	2019
FY19 Project Execution	1	2019	1	2020
FY20 Project Execution	1	2020	1	2021

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