

# UNCLASSIFIED

**Exhibit R-2, RDT&E Budget Item Justification:** FY 2018 Office of the Secretary Of Defense **Date:** May 2017

| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 7: Operational Systems Development</i> |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |                      |                |                |                |                |                         |                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|----------------|---------------------|-----------------------------------------------------------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <b>COST (\$ in Millions)</b>                                                                                                                            | <b>Prior Years</b> | <b>FY 2016</b> | <b>FY 2017</b> | <b>FY 2018 Base</b> | <b>FY 2018 OCO</b>                                                                | <b>FY 2018 Total</b> | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>Cost To Complete</b> | <b>Total Cost</b> |
| Total Program Element                                                                                                                                   | 39.234             | 17.532         | 17.971         | 18.455              | -                                                                                 | 18.455               | 19.549         | 19.748         | 20.130         | 20.580         | Continuing              | Continuing        |
| 199: <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i>                                          | 39.234             | 17.532         | 17.971         | 18.455              | -                                                                                 | 18.455               | 19.549         | 19.748         | 20.130         | 20.580         | 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

**UNCLASSIFIED**

|                                                                                                     |                       |
|-----------------------------------------------------------------------------------------------------|-----------------------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> FY 2018 Office of the Secretary Of Defense | <b>Date:</b> May 2017 |
|-----------------------------------------------------------------------------------------------------|-----------------------|

|                                                                                                                                                         |                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 7: Operational Systems Development</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

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>B. Program Change Summary (\$ in Millions)</b> | <b>FY 2016</b> | <b>FY 2017</b> | <b>FY 2018 Base</b> | <b>FY 2018 OCO</b> | <b>FY 2018 Total</b> |
|---------------------------------------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget                       | 18.095         | 17.971         | 19.419              | -                  | 19.419               |
| Current President's Budget                        | 17.532         | 17.971         | 18.455              | -                  | 18.455               |
| Total Adjustments                                 | -0.563         | 0.000          | -0.964              | -                  | -0.964               |
| • Congressional General Reductions                | -              | -              |                     |                    |                      |
| • Congressional Directed Reductions               | -              | -              |                     |                    |                      |
| • Congressional Rescissions                       | -              | -              |                     |                    |                      |
| • Congressional Adds                              | -              | -              |                     |                    |                      |
| • Congressional Directed Transfers                | -              | -              |                     |                    |                      |
| • Reprogrammings                                  | -              | -              |                     |                    |                      |
| • SBIR/STTR Transfer                              | -0.563         | -              |                     |                    |                      |
| • SRRB Efficiency                                 | -              | -              | -0.663              | -                  | -0.663               |
| • Program Change                                  | -              | -              | -0.301              | -                  | -0.301               |

**Change Summary Explanation**

FY 2016: SBIR Adjustment -0.490 million; STTR Adjustment -0.073 million.

FY 2017: No change.

FY 2018: SRRB Efficiency -0.663 million, Program change -0.301 million.

**UNCLASSIFIED**

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense                   |             |         |         |              |                                                                     |               |         |         |                                                                                                                                   | Date: May 2017 |                  |            |
|---------------------------------------------------------------------------------------------------------|-------------|---------|---------|--------------|---------------------------------------------------------------------|---------------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|------------|
| Appropriation/Budget Activity<br>0400 / 7                                                               |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0305199D8Z / Net Centricity |               |         |         | Project (Number/Name)<br>199 / GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities |                |                  |            |
| COST (\$ in Millions)                                                                                   | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO                                                         | FY 2018 Total | FY 2019 | FY 2020 | FY 2021                                                                                                                           | FY 2022        | Cost To Complete | Total Cost |
| 199: GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities | 39.234      | 17.532  | 17.971  | 18.455       | -                                                                   | 18.455        | 19.549  | 19.748  | 20.130                                                                                                                            | 20.580         | 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/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-

# UNCLASSIFIED

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                     |                                                                                                                                   |         |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|---------|
| Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                     | Date: May 2017                                                                                                                    |         |         |
| Appropriation/Budget Activity<br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | R-1 Program Element (Number/Name)<br>PE 0305199D8Z / Net Centricity | Project (Number/Name)<br>199 / GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities |         |         |
| wide 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 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. Accomplishments/Planned Programs (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                     | FY 2016                                                                                                                           | FY 2017 | FY 2018 |
| Title: Net Centricity Plans and Accomplishments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                     | 17.532                                                                                                                            | 17.971  | 18.455  |
| FY 2016 Accomplishments:<br>– Continued technical assessment/refine commercial wireless policy guidance to support CMD strategy implementation; continued assessments of the effects of cybersecurity policies.<br>– Continued to refine CMD certification processes, Mobile Application Management (MAM)/Mobile Device Management (MDM) guidelines, and guidelines for personal user based enforcement; updated approved product matrix for CMD.<br>– Continued implementation assessments to refine mobile application and device strategies.<br>– Reviewed/refined mobile application approval process guides, DoD Mobile PKI guides, and procedure for the Electronic Flight Bag (EFB)<br>– Continued technical and business case analyses for Commercial mobile devices and voice encryption.<br>– Completed version 3 of the Radio and Communication Security modernization plan for tactical radios. Assessed Service implementation focusing on Service investment areas to support modernization and crypto compliance goals.<br>– Continued 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.<br>– Continued development of interoperable Land Mobile Radio (LMR) standards to support public safety communications and FirstNet.<br>– Continued analysis to of LMR policy implementation; refined procedures to support LMR implementation in the DoD.<br>– Continued analysis of Waveform Development and Management in the DoD to support enhanced re-use and portability of waveforms supporting Service and Coalition communications needs.<br>– Continued analysis to maintain authoritative list of DoD-approved waveforms and supporting repository to maintain waveform baseline.<br>– Continued technical analysis on methods for securing ISR data over wireless platforms and extended encryption of these devices, conducted implementation assessments through UAS encryption data calls.<br>– Continued technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Assessed strategy alignment.<br>– Updated SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities.<br>– Continued compliance reviews of select programs; identified shortfalls in program bandwidth supportability planning and analysis and provided recommendations for corrective action. |                                                                     |                                                                                                                                   |         |         |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                   |                       |                                                                                                                                                 |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                   | <b>Date:</b> May 2017 |                                                                                                                                                 |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |                       | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                   | <b>FY 2016</b>        | <b>FY 2017</b>                                                                                                                                  | <b>FY 2018</b> |
| <ul style="list-style-type: none"> <li>– Continued efforts to implement SATCOM Gateway Right-sizing approaches to optimize SATCOM gateways across the defense enterprise.</li> <li>– Continued technical/requirements analysis and feasibility assessments for implementing legacy narrowband solutions for MUOS payload.</li> <li>– Continued analysis to support implementation approaches for JIPM alternatives.</li> <li>– Conducted follow-on analysis in support of the Protected SATCOM AoA recommendations and preferred alternative.</li> <li>– Continued technical analysis to improve DoD utilization of Commercial SATCOM capabilities..</li> <li>– Conducted Airborne ISR (AISR) transport analysis of alternatives based on Capability Based Analysis (CBA) results. Supported development of AISR Transport ICD to document enterprise wide requirements. Updated AISR transport reference architecture and requirements documents to support implementation.</li> <li>– 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.</li> <li>– Continued technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services consistent with JIE objectives.</li> <li>– Continued technical analysis for the implementation of Common Mission Network Transport (CMNT) capability.</li> <li>– Continued technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements.</li> <li>– Continued analysis to refine the joint C2 technical and architectural artifacts and inform an evaluation of alternatives for the GCCS Family of Systems.</li> <li>– Conducted analysis of capability needs to enable command and control across the JIE. Evaluated Enterprise Operations Center architectures, and information requirements to support investment decisions in JIE C2 capabilities.</li> <li>– Continued analyses to address adoption and evolution of mission services as candidate enterprise services for the JIE.</li> <li>– 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.</li> <li>– Continued wireless architecture and advanced technologies analysis to inform Department-wide policies and implementation of mobility solutions.</li> <li>– Continued technical analysis to support compliance oversight of waveform policies and technical profile specifications.</li> <li>– Continued efforts to refine communications policies and analysis technologies applicable to commercial mobile devices.</li> <li>– Continued DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC).</li> <li>– Continued analysis to support DMUC derived credentials implementation.</li> <li>– Continued analysis of LTE technology for DoD tactical use.</li> <li>– Continued technical analysis for Network Management (NM) interoperability, architecture and data artifacts.</li> </ul> |  |                                                                                   |                       |                                                                                                                                                 |                |

**UNCLASSIFIED**

|                                                                                                  |                                                                                   |                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                 | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>FY 2016</b> | <b>FY 2017</b> | <b>FY 2018</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|
| <ul style="list-style-type: none"> <li>– Continued systems engineering and architecture analysis for JIE tactical processing nodes (TPNs). Continued technical analysis of tactical cloud computing approaches as a means to enhance TPN solutions.</li> <li>– Continued analysis to address implementation of TSVSIC for tactical radios.</li> <li>– 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.</li> <li>– Continued technical analysis to support implementation of the network management strategy and roadmap.</li> <li>– Continued development of data ontologies and NIEM compliant IEPDs for network management.</li> <li>– Continued technical analysis in support of C4I policies, plans, studies, roadmaps, and capability assessments.</li> <li>– Continued end-to-end analysis of the SATCOM environment; supported technical evaluations of end-to-end capabilities.</li> <li>– Continued studies and analysis in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts.</li> <li>– Continued 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.</li> <li>– Continued technical analysis to support implementation of JIE capability upgrades and technical planning.</li> <li>– Continued studies and analysis to progress of JIE technical implementation actions.</li> <li>– Continued technical analysis and studies related to SDN as an approach to network normalization and security.</li> <li>– Continued follow-on JALN analysis with Joint Service JALN Council, overseeing Service implementation efforts.</li> <li>– Conducted 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.</li> <li>– Continued technical and policy assessments to enable TDL migration.</li> <li>– Continued efforts to finalize Joint MIL-SPEC for CDL and initiate documentation for MADL in coordination with JSF team.</li> <li>– Continued 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.</li> <li>– Analyzed 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.</li> <li>– Assessed 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. Coordinated and facilitated Teleport Program Office oversight initiatives.</li> <li>– Continued analysis to evolve SATCOM networks toward EOIP modem architecture. Continued support of video dissemination and two-way GBS capabilities to inform follow on implementation across the Department.</li> <li>– Continued analysis for the SATCOM International Standards Committee (SISC). Participated 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.</li> </ul> |                |                |                |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                                                                                                                                                 |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   | <b>FY 2016</b>                                                                                                                                  | <b>FY 2017</b> |
| <ul style="list-style-type: none"> <li>– Continued efforts to develop acquisition strategy for U.S. support to NATO SATCOM post 2019.</li> <li>– Continued technical analysis and facilitate execution of the SATCOM Systems Engineering Group (SSEG).</li> <li>– Continued efforts to review, assess, and process DISN Tech Refresh plans for CIO approval.</li> <li>– Coordinated, facilitated and recorded DISN reviews to assessed progress and issues in transport and network infrastructure, unified capabilities and network management.</li> <li>– Continued efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation.</li> <li>– Continued to maintain and expand the JIE single security architecture through analysis and implementation of the Joint Regional Security Stacks (JRSS) and associated cyber capabilities.</li> <li>– Continued acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews of JIE implementation.</li> <li>– Supported the development of business case activities as required.</li> <li>– Continued analysis of release of waveforms to foreign governments, as identified by the Arms Transfer and Technology Release Senior Steering Group (ATTR SSG).</li> <li>– Continued to analyze interoperable, secure, and affordable waveforms and wireless communications in support of Service, Multi-Service and Coalition forces.</li> <li>– Continued 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).</li> <li>– Analyzed TSVICIS implementation and COMSEC modernization compliance guidance and CJCSI 6510 requirements.</li> <li>– Provided technical analysis of SATURN ability to provide improved anti-jam communications and support Multi-Partner communications needs.</li> <li>– Determined which edition of TSVICIS and SATURN standards are integrated into radio acquisition programs.</li> <li>– Conducted trade studies to determine if they TSVICIS and SATURN can be integrated easily and are cost effective.</li> <li>– Conducted Network capabilities review (NCR) an effort to examine the capabilities programmed in the Mission Command portfolio to look for alternate strategies for a more efficient set of capabilities.</li> <li>– Conducted 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.</li> </ul> <p><b>FY 2017 Plans:</b></p> <ul style="list-style-type: none"> <li>– Continue technical assessment/refine commercial wireless policy guidance to support CMD strategy implementation; continue assessments of the effects of cybersecurity policies.</li> </ul> |                                                                                   |                                                                                                                                                 |                |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                   |                       |                                                                                                                                                 |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                   | <b>Date:</b> May 2017 |                                                                                                                                                 |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |                       | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                   | <b>FY 2016</b>        | <b>FY 2017</b>                                                                                                                                  | <b>FY 2018</b> |
| <ul style="list-style-type: none"> <li>– 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.</li> <li>– Continue implementation assessments to refine mobile application and device strategies.</li> <li>– Review/refine mobile application approval process guides, DoD Mobile PKI guides, and procedure for the Electronic Flight Bag (EFB).</li> <li>– Continue technical and business case analyses for Commercial mobile devices and voice encryption.</li> <li>– Update the Radio and Communication Security modernization plan for tactical radios. Assess Service implementation.</li> <li>– Continue analysis to update the CJTF Architecture to reflect Component C4II capability plans.</li> <li>– Continue development of interoperable Land Mobile Radio (LMR) standards to support public safety communications.</li> <li>– Continue analysis to of LMR policy implementation; refine procedures to support LMR implementation in the DoD.</li> <li>– Continue analysis of Waveform Development and Management in the DoD.</li> <li>– Continue analysis to maintain authoritative list of DoD-approved waveforms and supporting repository to maintain waveform baseline.</li> <li>– 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.</li> <li>– Continue technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Assess strategy alignment.</li> <li>– Update SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities.</li> <li>– Continue compliance reviews of select programs; identify shortfalls in program bandwidth supportability planning and analysis and provide recommendations for corrective action.</li> <li>– Continue efforts to implement SATCOM Gateway Right-sizing approaches to optimize SATCOM gateways across the defense enterprise.</li> <li>– Continue technical/requirements analysis and feasibility assessments for implementing legacy narrowband solutions for MUOS payload.</li> <li>– Continue analysis to support implementation approaches for JIPM alternatives.</li> <li>– Conduct follow-on analysis in support of the Protected SATCOM AoA recommendations and preferred alternative.</li> <li>– Continue technical analysis to improve DoD utilization of Commercial SATCOM capabilities.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services.</li> </ul> |  |                                                                                   |                       |                                                                                                                                                 |                |



**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   |                                                                                                                                                 |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   | <b>FY 2016</b>                                                                                                                                  | <b>FY 2017</b> |
| <ul style="list-style-type: none"> <li>– Continue technical analysis for the implementation of Common Mission Network Transport (CMNT) capability.</li> <li>– Continue technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements.</li> <li>– Continue analyses to address adoption and evolution of mission services as candidate enterprise services for the JIE.</li> <li>– Conduct follow-on analysis to inform implementation of the EoA recommendations for the GCCS Family of Systems.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue wireless architecture and advanced technologies analysis to inform Department-wide policies and implementation of mobility solutions.</li> <li>– Continue technical analysis to support compliance oversight of waveform policies and technical profile specifications.</li> <li>– Continue efforts to refine communications policies and analysis technologies applicable to commercial mobile devices.</li> <li>– Continue DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC).</li> <li>– Continue analysis to support DMUC derived credentials implementation.</li> <li>– Continue analysis of LTE technology for DoD tactical use.</li> <li>– Continue technical analysis for Network Management (NM) interoperability, architecture and data artifacts.</li> <li>– Continue systems engineering and architecture analysis for JIE tactical processing nodes (TPNs).</li> <li>– Continue analysis to address implementation of TSVSIC for tactical radios.</li> <li>– 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.</li> <li>– Continue technical analysis to support implementation of the network management strategy and roadmap.</li> <li>– Continue development of data ontologies and NIEM compliant IEPDs for network management.</li> <li>– Continue technical analysis in support of C4II policies, plans, studies, roadmaps, and capability assessments.</li> <li>– Continue end-to-end analysis of the SATCOM environment; support technical evaluations of end-to-end capabilities.</li> <li>– Continue studies and analysis in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts.</li> <li>– 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.</li> <li>– Continue technical analysis to support implementation of JIE capability upgrades and technical planning.</li> <li>– Continue studies and analysis to progress of JIE technical implementation actions.</li> <li>– Continue technical analysis and studies related to SDN as an approach to network normalization and security.</li> <li>– 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.</li> </ul> |                                                                                   |                                                                                                                                                 |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   |                                                                                                                                                 | <b>FY 2018</b> |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |                                                                                                                                                 |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | <b>FY 2016</b>                                                                                                                                  | <b>FY 2017</b> |
| <ul style="list-style-type: none"> <li>– Continue technical and policy assessments to enable TDL migration.</li> <li>– Continue efforts to finalize Joint MIL-SPEC for CDL and initiate documentation for MADL in coordination with JSF team.</li> <li>– 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.</li> <li>– Assess developing waveform technologies for improving the robustness and scalability of current TDL networks.</li> <li>– 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.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue efforts to evaluate and implement acquisition strategies for U.S. support to NATO SATCOM post 2019.</li> <li>– Continue technical analysis and facilitate execution of the SATCOM Systems Engineering Group (SSEG).</li> <li>– Continue efforts to review, assess, and process DISN Tech Refresh plans for CIO approval.</li> <li>– Coordinate, facilitate, and record DISN Quarterly reviews to assessed progress and issues in transport and network infrastructure, unified capabilities and network management.</li> <li>– Continue efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation.</li> <li>– Continue acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews of JIE implementation.</li> <li>– Support the development of business case activities as required.</li> <li>– 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.</li> </ul> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>– Continue technical assessment/refine commercial wireless policy guidance to support CMD strategy implementation; continue assessments of the effects of cybersecurity policies.</li> <li>– 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.</li> <li>– Continue implementation assessments to refine mobile application and device strategies.</li> </ul> |                                                                                   |                                                                                                                                                 |                |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                   |                       |                                                                                                                                                 |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                   | <b>Date:</b> May 2017 |                                                                                                                                                 |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |                       | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                   | <b>FY 2016</b>        | <b>FY 2017</b>                                                                                                                                  | <b>FY 2018</b> |
| <ul style="list-style-type: none"> <li>– Review/refine mobile application approval process guides, DoD Mobile PKI guides, and procedure for the Electronic Flight Bag (EFB).</li> <li>– Continue technical and business case analyses for Commercial mobile devices and voice encryption.</li> <li>– Update the Radio and Communication Security modernization plan for tactical radios. Assess Service implementation.</li> <li>– Continue analysis to update the CJTF Architecture to reflect Component C4II capability plans.</li> <li>– Continue development of interoperable Land Mobile Radio (LMR) standards to support public safety communications.</li> <li>– Continue analysis to of LMR policy implementation; refine procedures to support LMR implementation in the DoD.</li> <li>– Continue analysis of Waveform Development and Management in the DoD.</li> <li>– Continue analysis to maintain authoritative list of DoD-approved waveforms and supporting repository to maintain waveform baseline.</li> <li>– 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.</li> <li>– Continue technical analysis and support for Protected, Wideband, Narrowband, and Commercial SATCOM. Assess strategy alignment.</li> <li>– Update SATCOM Synchronization Architectures for Protected, Wideband, Narrowband and Commercial SATCOM capabilities.</li> <li>– Continue compliance reviews of select programs; identify shortfalls in program bandwidth supportability planning and analysis and provide recommendations for corrective action.</li> <li>– Continue efforts to implement SATCOM Gateway Right-sizing approaches to optimize SATCOM gateways across the defense enterprise.</li> <li>– Continue technical/requirements analysis and feasibility assessments for implementing legacy narrowband solutions for MUOS payload.</li> <li>– Continue analysis to support implementation approaches for JIPM alternatives.</li> <li>– Conduct follow-on analysis in support of the Protected SATCOM AoA recommendations and preferred alternative.</li> <li>– Continue technical analysis to improve DoD utilization of Commercial SATCOM capabilities.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue technical analysis of selected joint and Service C2 programs/initiatives to promote enterprise approaches for data and services.</li> <li>– Continue technical analysis for the implementation of Common Mission Network Transport (CMNT) capability.</li> <li>– Continue technical analysis of MNIS programs and initiatives, related acquisition strategies, and functional requirements.</li> <li>– Continue analyses to address adoption and evolution of mission services as candidate enterprise services for the JIE.</li> </ul> |  |                                                                                   |                       |                                                                                                                                                 |                |

**UNCLASSIFIED**

| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |         |         |         |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|--|--|--|
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |         |         |         |  |  |  |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                   |                                                                                                                                                 |         |         |         |  |  |  |
| <ul style="list-style-type: none"> <li>– Conduct follow-on analysis to inform implementation of the EoA recommendations for the GCCS Family of Systems.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue wireless architecture and advanced technologies analysis to inform Department-wide policies and implementation of mobility solutions.</li> <li>– Continue technical analysis to support compliance oversight of waveform policies and technical profile specifications.</li> <li>– Continue efforts to refine communications policies and analysis technologies applicable to commercial mobile devices.</li> <li>– Continue DoD Commercial Mobility implementation and systems engineering analysis Defense Mobile Unclassified and Classified Capabilities (DMUC/DMCC).</li> <li>– Continue analysis to support DMUC derived credentials implementation.</li> <li>– Continue analysis of LTE technology for DoD tactical use.</li> <li>– Continue technical analysis for Network Management (NM) interoperability, architecture and data artifacts.</li> <li>– Continue systems engineering and architecture analysis for JIE tactical processing nodes (TPNs).</li> <li>– Continue analysis to address implementation of TSVSIC for tactical radios.</li> <li>– 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.</li> <li>– Continue technical analysis to support implementation of the network management strategy and roadmap.</li> <li>– Continue development of data ontologies and NIEM compliant IEPDs for network management.</li> <li>– Continue technical analysis in support of C4II policies, plans, studies, roadmaps, and capability assessments.</li> <li>– Continue end-to-end analysis of the SATCOM environment; support technical evaluations of end-to-end capabilities.</li> <li>– Continue studies and analysis in support of the DoD CIO's Mobile Device Strategy and Mobile Device Security Efforts.</li> <li>– Continue Hub-Based HF Communications Concept to provide protected high rate communications needed for long range connectivity in satellite-denied environments.</li> <li>– Continue Wideband SATCOM AoA user demand projections, develop planning decks and scenario guidance with Joint Staff/J6 coordinated scenarios description paper allowing CAPE concurrence.</li> <li>– Continue oversight of Positioning, Navigation and Timing efforts and capability development through PNT Oversight Council and associated working groups.</li> <li>– Continue Space-Based Positioning, Navigation, and Timing (PNT) EXCOM collaboration on path forward to develop formal CPNT system requirements to support U.S. Critical Infrastructure.</li> <li>– Continue support for Interagency PNT efforts, including outreach, advocacy, and education.</li> <li>– Continue to lead development efforts of the annual Federal Radionavigation Plan (FRP).</li> </ul> |                                                                                   | <table> <tr> <th>FY 2016</th><th>FY 2017</th><th>FY 2018</th></tr> <tr> <td></td><td></td><td></td></tr> </table>                               | FY 2016 | FY 2017 | FY 2018 |  |  |  |
| FY 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FY 2017                                                                           | FY 2018                                                                                                                                         |         |         |         |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                   |                                                                                                                                                 |         |         |         |  |  |  |

**UNCLASSIFIED**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                                                                                                                                                 |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   | <b>FY 2016</b>                                                                                                                                  | <b>FY 2017</b> |
| <ul style="list-style-type: none"> <li>– Continue to provide secretariat support for the PNT Oversight Council, PNT Executive Management Board, and to lead associated PNT and navigation warfare working groups.</li> <li>– Continue to provide secretariat support to the C5 Leadership Board.</li> <li>– Continue PNT Trilateral MOA development (DoD, DOT, DHS) efforts.</li> <li>– Continue precise time dissemination Trilateral MOA (DoD, DoC, DHS) efforts.</li> <li>– Continue development of the roadmap for fielding Modernized GPS User equipment (MGUE).</li> <li>– Continue oversight and direction of efforts to develop and field resilient software assurance measures for MGUE.</li> <li>– Continue support for Multi-GNSS policy development.</li> <li>– Continue support and leadership role in NATO CaP2 efforts.</li> <li>– Continue to support secure voice interoperability and desires to drive planning for UHF anti-jam (SATURN) planning through NATO channels.</li> <li>– 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.</li> <li>– Continue technical analysis to support implementation of JIE capability upgrades and technical planning.</li> <li>– Continue studies and analysis to progress of JIE technical implementation actions.</li> <li>– Continue technical analysis and studies related to SDN as an approach to network normalization and security.</li> <li>– 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.</li> <li>– Continue technical and policy assessments to enable TDL migration.</li> <li>– Continue efforts to finalize Joint MIL-SPEC for CDL and initiate documentation for MADL in coordination with JSF team.</li> <li>– 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.</li> <li>– Assess developing waveform technologies for improving the robustness and scalability of current TDL networks.</li> <li>– 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.</li> <li>– 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.</li> <li>– 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.</li> <li>– Continue efforts to evaluate and implement acquisition strategies for U.S. support to NATO SATCOM post 2019.</li> <li>– Continue technical analysis and facilitate execution of the SATCOM Systems Engineering Group (SSEG).</li> </ul> |                                                                                   |                                                                                                                                                 |                |

# UNCLASSIFIED

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |                                                                                                                                                 |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Office of the Secretary Of Defense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   | <b>Date:</b> May 2017                                                                                                                           |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | <b>FY 2016</b>                                                                                                                                  | <b>FY 2017</b> |
| <ul style="list-style-type: none"> <li>– Continue efforts to review, assess, and process DISN Tech Refresh plans for CIO approval.</li> <li>– Coordinate, facilitate, and record DISN Quarterly reviews to assessed progress and issues in transport and network infrastructure, unified capabilities and network management.</li> <li>– Continue efforts to maintain JIE Infrastructure Framework and synchronization roadmap to track infrastructure deployment or implementation.</li> <li>– Continue acquisition like review of JIE objectives, plans, technical approaches, schedules and cost factors to support technical reviews of JIE implementation.</li> <li>– Support the development of business case activities as required.</li> <li>– 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.</li> </ul> |                                                                                   |                                                                                                                                                 |                |
| <b>Accomplishments/Planned Programs Subtotals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   | 17.532                                                                                                                                          | 17.971         |
| <b>C. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   |                                                                                                                                                 |                |
| N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                                                                                                                                                 |                |
| <b>Remarks</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                 |                |
| <b>D. Acquisition Strategy</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                 |                |
| N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                                                                                                                                                 |                |
| <b>E. Performance Metrics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                 |                |
| <ul style="list-style-type: none"> <li>– PPBE related issue development and approval</li> <li>– Successful technical development and analysis of the CIO and DCIO C4IIC portfolio of programs and activities</li> <li>– Develop comprehensive risk assessment and mitigation approaches of the CIO and DCIO C4IIC portfolio of programs and activities</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |                                                                                                                                                 |                |

**UNCLASSIFIED**

|                                                                                                 |                                   |                                           |                    |                |                   |                                                                                   |                   |                     |                   |                    |                   |                                                                                                                                                 |                         |                   |                                 |
|-------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|--------------------|----------------|-------------------|-----------------------------------------------------------------------------------|-------------------|---------------------|-------------------|--------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------|---------------------------------|
| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense</b> |                                   |                                           |                    |                |                   |                                                                                   |                   |                     |                   |                    |                   | <b>Date: May 2017</b>                                                                                                                           |                         |                   |                                 |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                                |                                   |                                           |                    |                |                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> |                   |                     |                   |                    |                   | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                         |                   |                                 |
| <b>Support (\$ in Millions)</b>                                                                 |                                   |                                           |                    | <b>FY 2016</b> |                   | <b>FY 2017</b>                                                                    |                   | <b>FY 2018 Base</b> |                   | <b>FY 2018 OCO</b> |                   | <b>FY 2018 Total</b>                                                                                                                            |                         |                   |                                 |
| <b>Cost Category Item</b>                                                                       | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>                                                                       | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>                                                                                                                                     | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Studies and Analysis                                                                            | Various                           | Various : Various                         | 2.159              | 0.967          | Jul 2016          | 0.992                                                                             | Jul 2017          | 0.992               | Jul 2018          | -                  |                   | 0.992                                                                                                                                           | Continuing              | Continuing        | Continuing                      |
| Technical Engineering Services                                                                  | Various                           | Various : Various                         | 24.821             | 10.730         | Jul 2016          | 10.958                                                                            | Jul 2017          | 11.442              |                   | -                  |                   | 11.442                                                                                                                                          | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>                                                                                 |                                   |                                           | 26.980             | 11.697         |                   | 11.950                                                                            |                   | 12.434              |                   | -                  |                   | 12.434                                                                                                                                          | -                       | -                 | -                               |
| <b>Management Services (\$ in Millions)</b>                                                     |                                   |                                           |                    | <b>FY 2016</b> |                   | <b>FY 2017</b>                                                                    |                   | <b>FY 2018 Base</b> |                   | <b>FY 2018 OCO</b> |                   | <b>FY 2018 Total</b>                                                                                                                            |                         |                   |                                 |
| <b>Cost Category Item</b>                                                                       | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>                                                                       | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>                                                                                                                                     | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Program Management Support                                                                      | Various                           | Various : Various                         | 7.481              | 3.799          | Jul 2016          | 3.897                                                                             | Jul 2017          | 3.897               | Jul 2018          | -                  |                   | 3.897                                                                                                                                           | Continuing              | Continuing        | Continuing                      |
| Program Support                                                                                 | FFRDC                             | Various : Various                         | 0.188              | 0.084          | Jul 2016          | 0.086                                                                             | Jul 2017          | 0.086               | Jul 2018          | -                  |                   | 0.086                                                                                                                                           | Continuing              | Continuing        | Continuing                      |
| Engineering Support                                                                             | FFRDC                             | Various : Various                         | 0.376              | 0.134          | Jul 2016          | 0.173                                                                             | Jul 2017          | 0.173               | Jul 2018          | -                  |                   | 0.173                                                                                                                                           | Continuing              | Continuing        | Continuing                      |
| R&D Support                                                                                     | Various                           | Various : Various                         | 4.209              | 1.818          | Jul 2016          | 1.865                                                                             | Jul 2017          | 1.865               | Jul 2018          | -                  |                   | 1.865                                                                                                                                           | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>                                                                                 |                                   |                                           | 12.254             | 5.835          |                   | 6.021                                                                             |                   | 6.021               |                   | -                  |                   | 6.021                                                                                                                                           | -                       | -                 | -                               |
| <b>Project Cost Totals</b>                                                                      |                                   |                                           | 39.234             | 17.532         |                   | 17.971                                                                            |                   | 18.455              |                   | -                  |                   | 18.455                                                                                                                                          | -                       | -                 | -                               |
| <b>Remarks</b>                                                                                  |                                   |                                           |                    |                |                   |                                                                                   |                   |                     |                   |                    |                   |                                                                                                                                                 |                         |                   |                                 |

**UNCLASSIFIED**

|                                                                                            |                       |
|--------------------------------------------------------------------------------------------|-----------------------|
| <b>Exhibit R-4, RDT&amp;E Schedule Profile: FY 2018 Office of the Secretary Of Defense</b> | <b>Date:</b> May 2017 |
|--------------------------------------------------------------------------------------------|-----------------------|

|                                                  |                                                                                   |                                                                                                                                                 |
|--------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriation/Budget Activity</b><br>0400 / 7 | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |
|--------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                          |                  |                  |                  |                  |                  |                  |                  |                  |
|----------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>R4</b>                                                |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>PE 0305199D8Z/ Net Centricity</b>                     |                  |                  |                  |                  |                  |                  |                  |                  |
|                                                          |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>SATCOM, JIE, NC3 and Related Engineering Analysis</b> |                  |                  |                  |                  |                  |                  |                  |                  |
|                                                          | <b>10/1/2015</b> | <b>10/1/2016</b> | <b>10/1/2017</b> | <b>10/1/2018</b> | <b>10/1/2019</b> | <b>10/1/2020</b> | <b>10/1/2021</b> | <b>10/1/2022</b> |
| FY2016 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2017 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2018 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2019 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2020 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2021 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |
| FY2022 Program Execution                                 |                  |                  |                  |                  |                  |                  |                  |                  |



**UNCLASSIFIED**

|                                                                                             |                                                                                   |                                                                                                                                                 |                       |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> FY 2018 Office of the Secretary Of Defense |                                                                                   |                                                                                                                                                 | <b>Date:</b> May 2017 |
| <b>Appropriation/Budget Activity</b><br>0400 / 7                                            | <b>R-1 Program Element (Number/Name)</b><br>PE 0305199D8Z / <i>Net Centricity</i> | <b>Project (Number/Name)</b><br>199 / <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i> |                       |

Schedule Details

| Events by Sub Project           | Start   |      | End     |      |
|---------------------------------|---------|------|---------|------|
|                                 | Quarter | Year | Quarter | Year |
| *** <b>SUBPROJECT TITLE</b> *** |         |      |         |      |
| FY17 Projected Execution        | 1       | 2017 | 4       | 2018 |
| FY18 Projected Execution        | 1       | 2018 | 4       | 2019 |
| FY19 Projected Execution        | 1       | 2019 | 4       | 2020 |
| FY20 Projected Execution        | 1       | 2020 | 4       | 2021 |
| FY21 Projected Execution        | 1       | 2021 | 4       | 2022 |
| FY22 Projected Execution        | 1       | 2022 | 4       | 2022 |