| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | | | | | | | | | | | **Date:** May 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Appropriation/Budget Activity<br>2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)* | | | | | | R-1 Program Element (Number/Name)<br>PE 0605041A *I Defensive CYBER Tool Development* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | - | 0.000 | 84.336 | 55.165 | - | 55.165 | 23.522 | 21.707 | 28.765 | 48.855 | Continuing | Continuing |
| EV5: *Defensive Cyber Operations* | - | 0.000 | 84.336 | 55.165 | - | 55.165 | 23.522 | 21.707 | 28.765 | 48.855 | Continuing | Continuing |

**Note**

This program element is a continuation of efforts funded in FY 2016 in PE 0303140, project 491.

**A. Mission Description and Budget Item Justification**

The Defensive Cyber Tool Development group of programs designs, builds, and tests the advanced Cyber tools and infrastructure that enables active defense of the network from Home Station Mission Command to the deployed tactical Command Post (CP). This capabilities will enable integration of the Cyber Mission Force with the Regional and Local Cyber Network Defense elements. These tools will provide cutting edge hardware and software, integrated with existing infrastructure and tools to facilitate active Defensive Cyber operations. Cyber Tool Development will include Data Analytics solutions to enable the ability to correlate and analyze the massive amount of data coming across the network and provide timely situational awareness. It will also include development, integration, and testing of Defensive Cyber Tools and Infrastructure that will facilitate pushing Cyber sensor data to the Data analytics engine as well as support remote access to prevent or react to a Cyber incident. Cyber Tool Development includes creation of developmental environments for emerging commercial tool assessment as well as Army Cyber Soldier development of tools. Additionally, this Program Element supports the development of a Cyber Mission Planning tool that is an application-based, scalable, secure warfighting system to support cyberspace operations mission planning and command. The Mission Planning tool helps identify Cyberspace Key Terrain (KT-C) and determines probable attack vectors; and produces a set of relevant internal defense measures, triggers, and decision points.

This Program Element will support the start of several DCO programs beginning in FY19 and supports material solutions for the October 2016 JROC approved Defensive Cyberspace Operations Information Systems Initial Capabilities Document (IS ICD). The hardware and software capabilities enable Army Cyber defense forces to protect, search and discover, maneuver and engage, and mitigate and respond to enemy cyberspace operations. DCO programs will allow near real-time employment of defensive measures that will allow friendly cyber forces to maintain advantage. These programs directly support US Cyber Command Integrated Priority List #2 Produce Advanced Cyberspace Infrastructure and #5 Defensive Forces to execute passive and active defense operations at net-speed.

| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | | | | **Date:** May 2017 | |
|---|---|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)* | | | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | | |

| B. Program Change Summary ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 0.000 | 33.836 | 26.585 | - | 26.585 |
| Current President's Budget | 0.000 | 84.336 | 55.165 | - | 55.165 |
| Total Adjustments | 0.000 | 50.500 | 28.580 | - | 28.580 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • R1 Annex Update | 0.000 | 50.500 | 28.580 | - | 28.580 |

**Change Summary Explanation**

FY 2018 Base funding in the amount of $28.580 million was added to support transition of Defense Advanced Research Projects Agency (DARPA) Plan X (Mission Planning capability) to the Army, creation of a tools development and assessment environment, and reducing the size with expansion of capabilities of the Big Data Platform – Prototype.

UNCLASSIFIED

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | | | | | | | | | Date: May 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Appropriation/Budget Activity<br>2040 I 5 | | R-1 Program Element (Number/Name)<br>PE 0605041A I *Defensive CYBER Tool Development* | | Project (Number/Name)<br>EV5 I *Defensive Cyber Operations* | |
|---|---|---|---|---|---|

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EV5: *Defensive Cyber Operations* | - | 0.000 | 84.336 | 55.165 | - | 55.165 | 23.522 | 21.707 | 28.765 | 48.855 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**Note**
 Defensive Cyberspace Operations - Infrastructure (DCO-I) Tactical - (PEO C3T)
 Defensive Cyberspace Operations (DCO) –  Cyber Data Analytics - (PEO EIS)
 Defensive Cyberspace Operations - Mission Planning - (PEO EIS)
 Defensive Cyberspace Operations - Cyber Protection Team Support - (PEO EIS)

**A. Mission Description and Budget Item Justification**

DCO programs provide initial capabilities to Cyber Protection Teams. Teams enable passive and active cyberspace defensive operations to preserve friendly cyberspace capabilities, and protect data, networks, net-centric capabilities, and other designated systems. FY2018 RDT&E DCO efforts consists of four critical capabilities:

 1. Tactical DCO Infrastructure: Tactical system (computing infrastructure) which resides within the Command Post, at BDE through Corps, for both organic Cyber Network Defenders as well as remote access by Cyber Protect Teams through the Local Area Network (LAN) to support defense of the Network (PEO C3T)
 2. Cyber Data Analytics: analytics that leverage Defense Information Security Agency (DISA) Acropolis analytics PEO EIS)
 3. Cyber Mission Planning: the hardware and software baseline for remote cyber maneuver based on the Defense Advanced Research Projects Agency (DARPA) Plan X (PEO EIS)
 4. DCO Tool Suite – The environment and tool development of software to enable Army Cyber forces to perform DCO missions (PEO EIS)

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|---|---|---|---|
| **Title:** Defensive Cyberspace Operations  - Infrastructure (DCO-I) Tactical  (PEO C3T) | - | 17.714 | 21.236 |

**Description:** Defensive Cyberspace Operations - Infrastructure (DCO-I) Tactical program integrates and delivers key hardware and software that enables the Cyber Mission Forces to protect, search and discover, maneuver and engage, and mitigate and respond to enemy cyberspace operations.

**FY 2017 Plans:**
FY17 initiates the Engineering Design and Development for Network Operations software in support of the Defensive Cyber Operations Infrastructure (DCO-I) Information IS ICD which further integrates existing capability and extends that capability down to the Battalion Level. This funding initializes the program and funds the development effort for the first build cycle. FY17 also

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| Appropriation/Budget Activity<br>2040 / 5 | R-1 Program Element (Number/Name)<br>PE 0605041A / Defensive CYBER Tool Development | Project (Number/Name)<br>EV5 / Defensive Cyber Operations |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|---|---|---|---|
| funds initial delivery of architecture products that help drive subsequent builds. DCO-I testing will include developmental events conducted on lab configurations and networks followed by an Operational Evaluation using Soldiers and live equipment.<br><br>*FY 2018 Plans:*<br>FY18 continues the Engineering Design and Development for Network Operations software in support of the Requirements Definition Package (RDP) for the Tactical Defensive Cyber Operations-Infrastructure (TDI), which further integrates existing capability and extends that capability down to the Battalion Level. This funding initializes the program and funds the development effort for the first build cycle. FY18 funding continues the delivery of architecture products that help drive subsequent builds. TDI testing will include developmental events conducted on lab configurations and networks followed by an Operational Evaluation using Soldiers and live equipment. | | | |
| *Title:* Defensive Cyberspace Operations (DCO) - Cyber Data Analytics (PEO EIS)<br><br>*Description:* Cyber Data Analytics provides IT cyberspace threat and vulnerability hunting capability that will allow the Army Cyber Mission forces to ingest multitudes of data sources, correlate that data, perform analysis and then turn that data into visual information in order to detect and illuminate adversaries and vulnerabilities. Data between cyberspace defenders to detect and illuminate adversaries conducting reconnaissance and offensive cyber operations within designated key terrain in cyberspace.<br><br>*FY 2017 Plans:*<br>FY17 continues development of the Big Data Pilot encompassing design and development that was focused on getting the core platform to a threshold capability, additional interfaces, user interfaces, and security upgrades.<br><br>*FY 2018 Plans:*<br>FY18 transitions the Big Data Pilot to a data analytics capability for Cyber Protection Brigade and continues the Big Data Pilot Initiative. Initiative focus is on ingesting structured, semi-structured, and unstructured data from multiple data sources (e.g., Joint Regional Security Stacks (JRSS), intrusion detection systems, intrusion prevention systems, network device log files, trouble tickets, firewalls, proxies, web and applications server log files, etc) and providing situational awareness of cyberspace battlefield. | - | 6.970 | 14.570 |
| *Title:* Defensive Cyberspace Operations (DCO) – Mission Planning - (PEO EIS)<br><br>*Description:* Mission Planning focuses on creating an Application-based, scalable, secure warfighting system to support cyberspace operations mission planning and command. Mission Planning Tools helps identify Cyberspace Key Terrain (KT- C) and determines probable attack vectors and produce a set of relevant internal defense measures, triggers, and decision points.<br><br>*FY 2017 Plans:* | - | 5.300 | 14.819 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | **Date:** May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 *I Defensive Cyber Operations* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|---|---|---|---|
| Additional situational understanding capabilities were provided to the Army Cyber Operations Information Center and technology assessments for modules on the Defense Advanced Research Projects Agency (DARPA) Plan X capability.<br><br>*FY 2018 Plans:*<br>FY18 transitions the Defense Advanced Research Projects Agency (DARPA) Plan X capability from a Technology Readiness Level of 5 to 6 and enhances the systems abilities to collaborate with other DCO capabilities, providing the operator with a unified mission planning and execution capability.  Specific focus will be placed on creating battlespace awareness (SA), mission planning, course of action development, wargamming and execution capabilities. | | | |
| *Title:* Cyber Protection Team Support (DCO Platforms) - (PEO EIS)<br><br>*Description:* FY17 initiates the Defensive Cyberspace Operations - Infrastructure (DCO-I) Engineering Design, Development, and Software maintenance of standardized cloud infrastructure software to include deployment and build platforms for three primary environmental configurations (garrison, deployable and tactical).  Additionally, providing advanced hypervisor, cloud deployment, security and integration and development.<br><br>*FY 2017 Plans:*<br>DCO Platforms provides advanced security of infrastructure software for government managed purposes. Government unique cloud environment and management for infrastructure software facilitating collaboration and enhanced security to protect the abstraction layer of the infrastructure. The foundational mission command platform for the conduct of cyberspace operations based on the transition of advanced technologies from the DARPA Foundational Cyberwarfare Program (Plan X). The platform includes battlespace Situational Awareness (SA), mission<br>planning, course of action development, wargamming and execution capabilities. The platform will be developed in a continuous delivery methodology utilizing DevOps-like paradigms to ensure continued integration of new technological advances. Lastly, DevOps development for a centralized collaboration environment and repository including test and continuous delivery components. Facilitating license management, compilation and hosting of new platforms, centralized deployment/integration/ hosting of products, synchronization of software tools developed by cyber forces; including tool development chain with integrated test capability and deployment by cyber mission effectiveness.<br><br>*FY 2018 Plans:*<br>This capability will continue to improve and provide advanced security of infrastructure software for government managed purposes.  Government unique cloud environment and management for infrastructure software facilitating collaboration and enhanced security to protect the abstraction layer of the infrastructure.  Also continuing Cyberspace Mission Command / Battle Management Platform efforts.  The foundational mission command platform for the conduct of cyberspace operations based on the transition of advanced technologies from the Defense Advanced Research Projects Agency (DARPA) Foundational Cyberwarfare Program (Plan X).  The platform includes battlespace awareness (SA), mission planning, course of action | - | 3.852 | 4.540 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A / *Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 / *Defensive Cyber Operations* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|---|---|---|---|
| development, wargamming and execution capabilities. The platform will be developed in a continuous delivery methodology utilizing DevOps-like paradigms to ensure continued integration of new technological advances. Lastly, DevOps development for a centralized collaboration environment and repository including test and continuous delivery components. Facilitating license management, compilation and hosting of new platforms, centralized deployment/integration/hosting of products, synchronization of software tools developed by cyber forces; including tool development chain with integrated test capability and deployment by cyber mission effectiveness (existing DCO systems to be managed within - Log Collector & Q-tip). | | | |
| *Title:* JUONS ST-0007<br><br>*Description:* Details are classified.<br><br>*FY 2017 Plans:*<br>Details are classified. | - | 50.500 | - |
| Accomplishments/Planned Programs Subtotals | - | 84.336 | 55.165 |

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

| Line Item | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • 52: *OPA Defensive Cyber Operations (MDEP FPFP SSN B63103)* | - | 15.132 | 25.836 | - | 25.836 | 37.203 | 44.898 | 43.926 | 74.902 | Continuing | Continuing |
| • 45: *OPA Defensive Cyber Operations (MDEP FPMC SSN TA0600)* | 19.920 | - | - | - | - | - | - | - | - | 0 | 19.920 |
| • N/A: *OMA Defensive Cyber Operations (MDEP MU2Z SAG 432612)* | - | - | 0.640 | - | 0.640 | 3.000 | 5.000 | 5.000 | 5.000 | Continuing | Continuing |
| • 52: *OPA Defense Cyber Operations (MDEP MU2Z SSN B63103)* | - | - | 27.600 | - | 27.600 | 18.000 | 10.000 | 10.000 | 10.000 | Continuing | Continuing |

**Remarks**

| **Exhibit R-2A**, **RDT&E Project Justification:** FY 2018 Army | | **Date:** May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 *I Defensive Cyber Operations* |

**D. Acquisition Strategy**

The Defensive Cyber Tool Development line will support multiple Information System - Requirement Development Packages that result in multiple programs. The Army will conduct a Materiel Development Decisions in FY17 based upon the Defensive Cyberspace Operations (DCO) Information System Initial Capabilities Document (IS ICD).

The Tactical Defensive Cyber Operations-Infrastructure (TDI) program is expected to be an Acquisition Category III program using the Department of Defense Instruction 5000.02 Model 4: Accelerated Acquisition approach. The capability will primarily use commercial off the shelf (or slightly modified commercial off the shelf) hardware and software integrated with components of the Warfighter Information Network – Tactical and Mission Command programs. TDI will integrate with the Command Post Computing Environment and is the pre-positioned infrastructure at Echelons Corps and Below (ECB) that enables global, regional, and local cyberspace defenders to conduct DCO mission planning and protection measures. Execution of the TDI program will be a combination of Government Labs (COMMUNICATIONS-ELECTRONICS RESEARCH, DEVELOPMENT AND ENGINEERING CENTER) and Contractor support.

The Defensive Cyberspace Operations-infrastructure (DCO-I) and Cyber Protection Tool suite will use contract approach for the program of record that permits development of capability to accommodate all infrastructures (Garrison Deployable Infrastructure (GDI), DCO-I Deployable (DDI), and TDI).  It will primarily use commercial off the shelf (or slightly modified commercial off the shelf) hardware, software, and auxiliary services based on three prototype stacks fielded in FY16 at Redstone Arsenal, Fort Belvoir, and Fort Gordon Cyber Battle Lab to facilitate requirements refinement for program of record and initial capabilities.

**E. Performance Metrics**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | | | | | | | | | | Date: May 2017 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 5 | | | | | | | **R-1 Program Element (Number/Name)**<br>PE 0605041A / Defensive CYBER Tool Development | | | | | **Project (Number/Name)**<br>EV5 / Defensive Cyber Operations | | |

**Management Services ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T) | C/TBD | Aberdeen Proving Ground : MD | 0.000 | - | | 1.732 | | 3.820 | | - | | 3.820 | Continuing | Continuing | Continuing |
| Defensive Cyberspace Operations (DCO) - Big Data Pilot (PEO EIS) | C/TBD | PEO EIS : Ft Belvoir, VA | 0.000 | - | | 0.131 | | 3.400 | | - | | 3.400 | Continuing | Continuing | Continuing |
| Defensive Cyberspace Operations –Infrastructure (DCO-I) Enterprise (PEO EIS) | C/TBD | PEO EIS : Ft Belvoir, VA | 0.000 | - | | - | | 1.000 | | - | | 1.000 | Continuing | Continuing | Continuing |
| Cyber Protection Team Support (DCO Platforms) (PEO EIS) | C/TBD | PEO EIS : Ft Belvoir, VA | 0.000 | - | | - | | 0.002 | | - | | 0.002 | Continuing | Continuing | Continuing |
| JUONS ST-0007 | C/TBD | TBD : TBD | 0.000 | - | | 50.500 | | - | | - | | - | 0.000 | 50.500 | 0.000 |
| **Subtotal** | | | 0.000 | - | | 52.363 | | 8.222 | | - | | 8.222 | - | - | - |

**Remarks**

TDI: Program Office and System Engineering Management and Services

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T) | C/TBD | Aberdeen Proving Ground : MD | 0.000 | - | | 13.408 | | 14.468 | | - | | 14.468 | Continuing | Continuing | Continuing |
| Big Data Pilot (PEO EIS) | C/TBD | Ft. Belvoir : VA | 0.000 | - | | 6.839 | | 12.500 | | - | | 12.500 | Continuing | Continuing | Continuing |
| Defensive Cyberspace Operations –Infrastructure (DCO-I) Enterprise (PEO EIS) | C/TBD | ACC-RI : IL | 0.000 | - | | 5.300 | | 13.180 | | - | | 13.180 | Continuing | Continuing | Continuing |
| Cyber Protection Team (PEO EIS) | C/TBD | ACC-RI : IL | 0.000 | - | | 3.852 | | 2.725 | | - | | 2.725 | Continuing | Continuing | Continuing |

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | Date: May 2017 |
|---|---|---|

| Appropriation/Budget Activity<br>2040 / 5 | R-1 Program Element (Number/Name)<br>PE 0605041A / Defensive CYBER Tool Development | Project (Number/Name)<br>EV5 / Defensive Cyber Operations |
|---|---|---|

### Product Development ($ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal | | | 0.000 | - | | 29.399 | | 42.873 | | - | | 42.873 | - | - | - |

**Remarks**

TDI: Systems Engineering and tool integration

### Test and Evaluation ($ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T) | C/TBD | Aberdeen Proving Ground : MD | 0.000 | - | | 2.574 | | 1.570 | | - | | 1.570 | Continuing | Continuing | Continuing |
| Defensive Cyberspace Operations (DCO) - Big Data Pilot (PEO EIS) | C/TBD | Aberdeen Proving Ground : MD | 0.000 | - | | - | | 2.500 | | - | | 2.500 | Continuing | Continuing | Continuing |
| Subtotal | | | 0.000 | - | | 2.574 | | 4.070 | | - | | 4.070 | - | - | - |

**Remarks**

TDI: Developmental Testing of Systems Engineering and tool integration followed by an operational evaluation

| | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|
| Project Cost Totals | 0.000 | - | 84.336 | 55.165 | - | 55.165 | - | - | - |

**Remarks**

| **Exhibit R-4**, RDT&E Schedule Profile: FY 2018 Army | | **Date:** May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 *I Defensive Cyber Operations* |

| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 I 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A I *Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 I *Defensive Cyber Operations* |



Schedule chart showing events across FY 2016–FY 2022:

- (1) DCO - CA Acquisition Decision Memorandum — DCO - DMCA ADM (milestone 1, FY 2017 Q2)
- (2) DCO - CA Contract Award — DCO - DMCA Contract Award (milestone 2, FY 2018 Q2)
- (3) DCO - CA Build — DCO - DMCA Build (milestone 3, FY 2019 Q3)
- (4) DCO - CA Developmental Test — DCO - DMCA DT (milestone 4, FY 2019 Q2)
- DCO - CA - Initial Operational Test — DCO - DMCA - IOT (FY 2019 Q2-3)
- (5) DCO - CA - Full Deployment — DCO - DMCA - Full Deployment (milestone 5, FY 2020 Q4)
- (6) DCO - CA - Production Award — DCO - DMCA - Production Award (milestone 6, FY 2020 Q4)
- DCO-I Enterprise GDI Cloud Infrastructure — Procurement and fielding of stacks (FY 2017 Q1 – FY 2020 Q4)
- Plan X Transition From DARPA — transition from DARPA 4Q; AWA requirements; Cyber Industry Challenge Support (FY 2017 Q1-2)
- DCO Platforms (garrison, deployable and tactical) — DEV Ops, Centralization of initial platforms (FY 2017 Q1 – FY 2020 Q4)
- DCO-I Enterprise (Plan X) Milestone C — Milestone C (FY 2017 Q2)
- DCO-I Enterprise MDD — MDD (FY 2017 Q1)

| **Exhibit R-4A**, **RDT&E Schedule Details:** FY 2018 Army | | **Date:** May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 5 | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | **Project (Number/Name)**<br>EV5 *I Defensive Cyber Operations* |

## Schedule Details

| Events | Start | | End | |
|---|---|---|---|---|
| | **Quarter** | **Year** | **Quarter** | **Year** |
| DCO IS ICD Approval | 4 | 2016 | 4 | 2016 |
| DCO MDD | 1 | 2017 | 1 | 2017 |
| Tactical DCO-I Requirements Definition Package | 3 | 2017 | 3 | 2017 |
| Tactical DCO-I Milestone C | 3 | 2018 | 3 | 2018 |
| Tactical DCO-I Contract Award | 3 | 2018 | 3 | 2018 |
| Tactical DCO-I Build | 3 | 2018 | 4 | 2019 |
| Tactical DCO-I Developmental Test | 3 | 2018 | 1 | 2019 |
| Tactical DCO-I Initial Operational Test | 3 | 2019 | 3 | 2019 |
| Tactical DCO-I Full Rate Production | 1 | 2020 | 1 | 2020 |
| Tactical DCO-I Production Award | 2 | 2020 | 2 | 2020 |
| DCO - Cyber Analytics (CA) | 1 | 2018 | 1 | 2018 |
| DCO - CA Materiel Development Decision | 2 | 2017 | 2 | 2017 |
| DCO - CA Milestone B | 2 | 2017 | 2 | 2017 |
| DCO - CA Acquisition Decision Memorandum | 2 | 2017 | 2 | 2017 |
| DCO - CA Contract Award | 3 | 2018 | 3 | 2018 |
| DCO - CA Build | 3 | 2019 | 3 | 2019 |
| DCO - CA Developmental Test | 2 | 2019 | 2 | 2019 |
| DCO - CA - Initial Operational Test | 3 | 2019 | 3 | 2019 |
| DCO - CA - Full Deployment | 4 | 2020 | 4 | 2020 |
| DCO - CA - Production Award | 4 | 2020 | 4 | 2020 |
| DCO-I Enterprise GDI Cloud Infrastructure | 1 | 2017 | 4 | 2021 |
| Plan X Transition From DARPA | 2 | 2017 | 4 | 2017 |

| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | | | | **Date:** May 2017 | |
|---|---|---|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 5 | | **R-1 Program Element (Number/Name)**<br>PE 0605041A *I Defensive CYBER Tool Development* | | | **Project (Number/Name)**<br>EV5 *I Defensive Cyber Operations* | |

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| DCO Platforms (garrison, deployable and tactical) | 2 | 2017 | 4 | 2021 |
| DCO-I Enterprise (Plan X) Milestone C | 4 | 2017 | 4 | 2017 |
| DCO-I Enterprise MDD | 1 | 2017 | 1 | 2017 |