

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605041A I Defensive CYBER Tool Development							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	32.535	55.165	36.626	-	36.626	89.183	42.567	99.442	137.944	0.000	493.462
EV5: Defensive Cyber Operations	-	32.535	55.165	36.626	-	36.626	89.183	42.567	99.442	137.944	0.000	493.462

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 (DCTD) 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 Centers (HSMCC) to the deployed tactical Command Post (CP). This capabilities will enable integration of the Cyber Mission Force (CMF) 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 (DCO). 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. Defensive 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 Joint Requirements Oversight Council (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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army				Date: February 2018	
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605041A / Defensive CYBER Tool Development			
B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	84.336	55.165	23.522	-	23.522
Current President's Budget	32.535	55.165	36.626	-	36.626
Total Adjustments	-51.801	0.000	13.104	-	13.104
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	11.600	-	11.600
• R1 Annex Update	-51.801	-	1.504	-	1.504
Change Summary Explanation					
FY 2019 Base funding in the amount of \$13.104 million was added to support ARCYBER DCO Acquisition Authority for rapid development capabilities, prototype funding for engineering, testing, and development of the Tactical DCO Infrastructure, Lightweight Analytics capability, Cyber Protection Team communicator capability, integration of Remote Management Capability, Creation of Real-time tools development environment.					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>				Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
EV5: <i>Defensive Cyber Operations</i>	-	32.535	55.165	36.626	-	36.626	89.183	42.567	99.442	137.944	0.000	493.462
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 - Tools Suite - (PEO EIS)
 Defensive Cyberspace Operations - Garrison DCO Platform - (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. FY2019 RDT&E DCO efforts consists of the following (5) critical capabilities:

1. Tactical DCO Infrastructure: Tactical system (computing infrastructure) which resides within the Command Post, at Battalion through Corps, for both organic Cyber Network Defenders as well as remote access by Cyber Protection Teams (CPT) 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. 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. Tools Suite: The environment and tool development of software to enable Army Cyber forces to perform DCO missions (PEO EIS)
5. Garrison DCO Platform: The infrastructure software enables the virtualization and remote management of tools and platforms used to conduct DCO missions (PEO EIS)

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

	FY 2017	FY 2018	FY 2019
Title: Defensive Cyberspace Operations - Infrastructure (DCO-I) Tactical - (PEO C3T)	5.819	15.427	6.343
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 2018 Plans: 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			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<p>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.</p> <p>FY 2019 Plans: The FY19 funding will support completion of prototype engineering, testing and initiate development of the initial capability release of TDI. FY19 funds will also support the development of documentation required to support the development request for proposal release.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: The FY2018 funding will support initial TDI prototyping and testing. The FY2019 effort will complete prototyping, testing and support the development of documentation required to get MDA approval to contract for limited TDI capability and subsequent fielding.</p>				
<p>Title: Defensive Cyberspace Operations (DCO) - Cyber Data Analytics - (PEO EIS)</p> <p>Description: The Defensive Cyberspace Analytics (DCA) capability offers interfaces and visualizations accessible by cyberspace defenders at all levels to facilitate counter-reconnaissance activities meant to discover the presence of advanced or sophisticated cyber threats and vulnerabilities.</p> <p>FY 2018 Plans: 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.</p> <p>FY 2019 Plans: FY19 focuses on creating a distributed analytic environment. This environment will allow for query of data that is resident at the Tactical, Deployable, or Garrison locations. Additionally FY19 will see the development of a lightweight analytic engine that can be placed on Tactical, Deployable, or Garrison systems to allow local operators immediate access to emerging threat data and forward sensor data. Additional analytics that will be developed include: Data Discovery, Attack Surface Analysis, Perimeter Defense Threat Analysis, and video analysis.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement:</p>		3.928	14.570	8.700

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / Defensive CYBER Tool Development	Project (Number/Name) EV5 / Defensive Cyber Operations		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
FY18 effort will focus on Big Data Platform upgrades. FY19 funding will support the integration of Lightweight Analytics and packaged deployment scripts development.				
<p>Title: Defensive Cyberspace Operations (DCO) - Mission Planning - (PEO EIS)</p> <p>Description: Mission Planning focuses on creating an Application-based, scalable, secure warfighting system to support cyberspace operations mission planning and command at the global, regional, and local levels. The Mission Planning capability enables Cyber Defenders to identify Cyberspace Key Terrain (KT-C); determine probable attack vectors; produce a set of relevant internal defense measures, triggers, and decision points.</p> <p>FY 2018 Plans: FY18 transitions the Defense Advanced Research Projects Agency (DARPA) Plan X capability to the Army and transitions the 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, war gaming and execution capabilities.</p> <p>FY 2019 Plans: FY19 integrates the cyber analytics capability through an interface into the mission planning solutions as well as integration of Cyber Protection Team Tool suites to allow for seamless transitions from one tool to another during a mission. Additional functionality such as a team communicator, allowing teams to collaborate and share site picture, as well as automated planner capabilities that ingest operations order data, deconstruct and recommend applications for the mission will be added.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: FY19 will continue to integrate the cyber analytics capability through an interface into the mission planning solutions as well as integration of Cyber Protection Team Tool suites to allow for seamless transitions from one tool to another during a mission.</p>		10.314	14.819	14.743
<p>Title: Defensive Cyberspace Operations (DCO) - Tools Suite - (PEO EIS)</p> <p>Description: The DCO Tool Suite is a flexible and dynamic (Joint Information Environemnt and Common Operating Environment compliant), software based set of warfighting capabilities that enable CPTs, Regional Cyber Center (RCC), and in some cases local defenders, to perform DCO and cyberspace security missions. DCO tools consist of software, data, or an applications that support or directly cause effects related to CMF and cyberspace workforce tasks. They are executed or managed within a platform.</p> <p>FY 2018 Plans:</p>		-	4.540	4.540

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army							Date: February 2018				
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>			Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2017	FY 2018	FY 2019		
Engineering of a Development/Operational environment for cyberspace defenders to develop or modify DCO tools based on operational threats. The environment is based on and leverages similar Offensive Cyber capabilities											
FY 2019 Plans: Development and resourcing of capabilities for Cyber Protection Teams (CPTs) to do real time writing, modification, and customization of software code and algorithms for analytics in response to mission changes; resourcing includes software for testing of newly written code, access to contracted industry experts and research facility support for creation of tools in response to emerging threats											
Title: Defensive Cyberspace Operations (DCO) - Garrison DCO Platform - (PEO EIS) Description: The Garrison DCO Platform consists of pre-positioned dedicated compute and storage resources residing at high risk locations. This infrastructure serves as a remote capability for cyberspace defenders. Remote management software is utilized to provide cross-domain access to all defensive cyber platforms, serving as the maneuver capability for defenders.							12.474	5.809	2.300		
FY 2018 Plans: The prototyping of the remote management cross domain solution at Fort Gordon to support the Army?s Cyber Protection Brigade.											
FY 2019 Plans: The enhancement of remote management capability to include passive network mapping, remote management of advanced sensors, and interface with Reserve and National Guard capabilities.											
FY 2018 to FY 2019 Increase/Decrease Statement: FY18 funding will support the Garrison DCO prototyping. FY19 effort will be for the enhancement of remote management capability to include passive network mapping, remote management of advanced sensors, and interface with Reserve and National Guard capabilities.											
Accomplishments/Planned Programs Subtotals							32.535	55.165	36.626		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• B63103: OPA Defensive Cyber Operations (MDEP FPFP SSN B63103)	19.329	24.004	23.303	-	23.303	36.492	41.100	68.704	50.000	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018	
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605041A / Defensive CYBER Tool Development				Project (Number/Name) EV5 / Defensive Cyber Operations			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• N/A: OMA Defensive Cyber Operations (MDEP MU2Z SAG 432612)	-	0.640	3.000	-	3.000	5.000	5.000	5.000	-	Continuing	Continuing
• B63103: OPA Defense Cyber Operations (MDEP MU2Z SSN B63103)	-	15.734	32.200	-	32.200	25.470	28.555	26.800	47.908	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The Defensive Cyber Tool Development line will support multiple Information Systems - Requirement Development Packages (IS RDP) that result in multiple programs. The Army will conduct a Materiel Development Decisions (MDD) in FY18 based upon the Defensive Cyberspace Operations (DCO) Information System Initial Capabilities Document (IS ICD).											
Defensive Cyber Operations Projects will initially be managed as an Acquisition Category III program using Department of Defense "IT Box" strategy and an evolutionary acquisition model. System designs focus on open architecture and open source capabilities. Development focuses on implementation of a modular design to maximize innovation through continuous releases. Modules will be refined by industry as a component through adoption of prototypes. Each program will have a prime integrator (single contractor) that integrates the new modules. The Government will assess and create prototypes of new modules under the Consortium for Command, Control, Communications and Computer Technologies (C5) Other Transactional Agreement contract vehicle. Monthly technical interchange discussions with C5 members will occur to insure new technologies are inserted as soon as possible and will lead to semiannual fielding decisions for new modules.											
The overall strategy of the Tactical DCO Infrastructure program is to develop the software infrastructure and deployment scripts that provide a solution that is physically and/or logically converged with the Army's Tactical Server Infrastructure (TSI) to minimize the size, weight, and power (SWaP) requirements in a Tactical Operations Center (TOC) or Tactical Command Post (TCP). The capability will provide pre-positioned infrastructure at echelons Battalion through Corps 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 entities and commercial vendors.											
E. Performance Metrics											
N/A											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>				Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T)	C/FFP	PEO C3T : Aberdeen Proving Ground, MD	-	4.188		2.825		2.283		-		2.283	Continuing	Continuing	Continuing
Defensive Cyberspace Operations (DCO) - Cyber Data Analytics (PEO EIS)	C/FFP	PEO EIS : Ft Belvoir, VA	-	0.228	Sep 2017	0.700		0.700		-		0.700	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Tools Suite (PEO EIS)	C/FFP	PEO EIS : Ft Belvoir, VA	-	-		0.100		0.100		-		0.100	Continuing	Continuing	Continuing
Defensive Cyberspace Operatons - Garrison DCO Platform (PEO EIS)	C/FFP	PEO EIS : Ft Belvoir, VA	-	0.724	Sep 2017	0.300		0.300		-		0.300	Continuing	Continuing	Continuing
Defensive Cyberspace Operatios - Mission Planning (PEO EIS)	C/FFP	PEO EIS : Ft Belvoir, VA	-	0.219	Sep 2017	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Subtotal			-	5.359		4.125		3.583		-		3.583	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T)	C/TBD	Aberdeen Proving Ground : MD	-	1.631		11.957		3.177		-		3.177	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Cyber Data Analytics	C/FFP	ACC-PI : NJ	-	3.700	Sep 2017	14.570		4.000		-		4.000	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Tools Suite (PEO EIS)	C/TBD	ACC-RI : IL	-	-		4.540		4.140		-		4.140	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Garrison DCO Platform (PEO EIS)	C/FFP	ACC-RI : IL	-	2.060		5.809		1.000		-		1.000	Continuing	Continuing	Continuing

UNCLASSIFIED

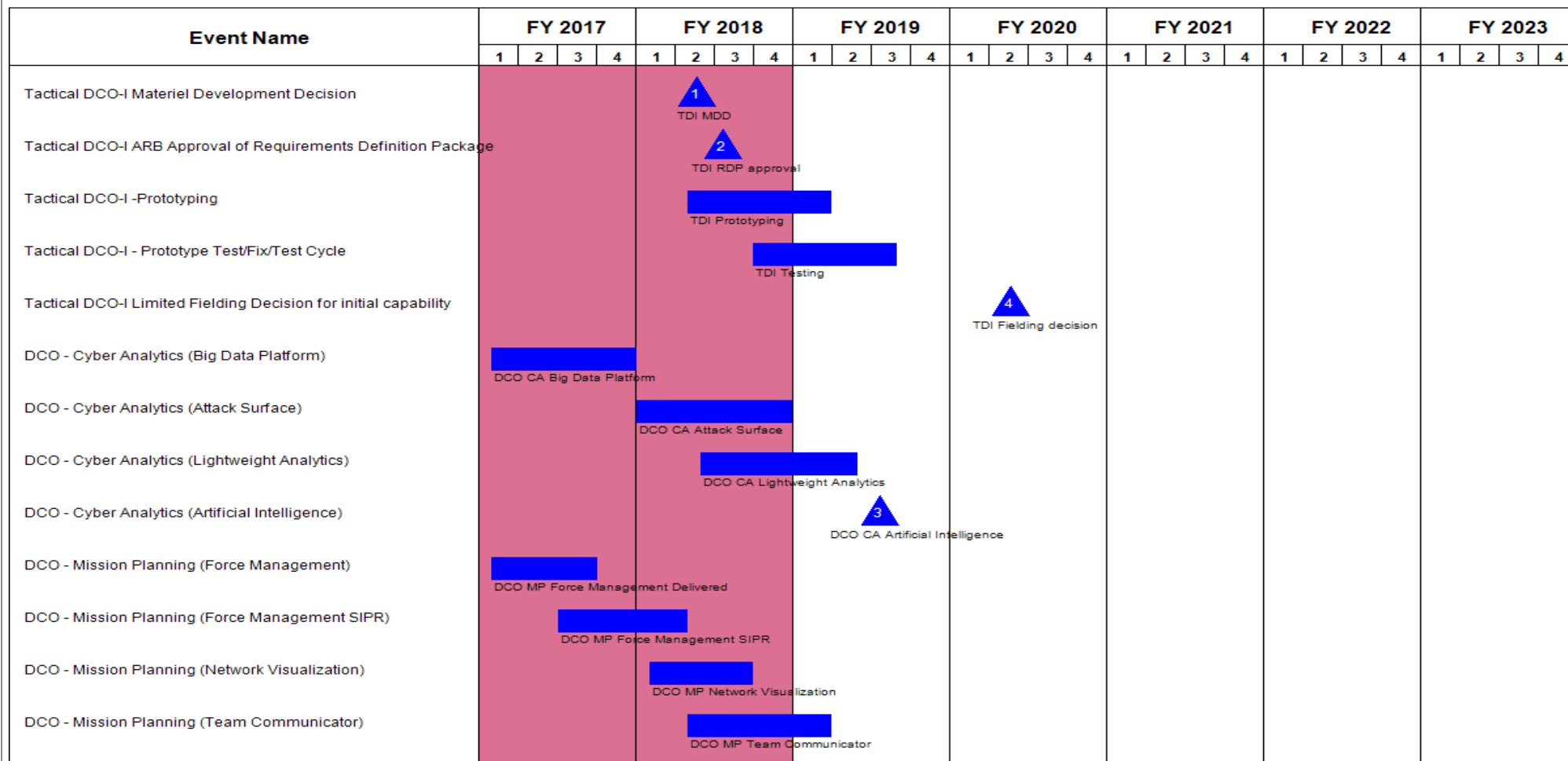
Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>				Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defensive Cyberspace Operations - Mission Planning (PEO EIS)	C/CPFF	AFRL : NY	-	10.095		13.519		14.543		-		14.543	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Garrison DCO Platforms (PEO EIS)	C/Various	ACC-PI : NJ	-	9.690		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	27.176		50.395		26.860		-		26.860	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T)	C/TBD	Aberdeen Proving Ground : MD	-	-		0.215		-		-		-	0.000	0.215	-
Subtotal			-	-		0.215		-		-		-	0.000	0.215	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Defensive Cyber Operations-Infrastructure (TDI) (PEO C3T)	C/TBD	Aberdeen Proving Ground : MD	-	-		0.430		0.883		-		0.883	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Cyberspace Analytics (PEO EIS)	C/TBD	ACC-RI : IL	-	-		-		4.000		-		4.000	Continuing	Continuing	Continuing
Defensive Cyberspace Operations - Tools Suite (PEO EIS)	C/TBD	ACC-RI : IL	-	-		-		0.300		-		0.300	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>					Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>					
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defensive Cyberspace Operations - Garrison DCO Platform (PEO EIS)	C/TBD	ACC-RI : IL	-	-		-		1.000		-		1.000	Continuing	Continuing	Continuing
Subtotal			-	-		0.430		6.183		-		6.183	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	32.535		55.165		36.626		-		36.626	Continuing	Continuing	N/A
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army			Date: February 2018		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>		Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>	



UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army			Date: February 2018		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>		Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>	

Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DCO - Mission Planning (Wargaming)																												
DCO - Tools Suite (CPT Tool Suite 0)																												
DCO - Tools Suite (CPT Tool Suite 1)																												
DCO - Tools Suite (CPT Tool Suite 2)																												
DCO - Tools Suite (CPT Tool Suite 3)																												
DCO - Garrison DCO Platform (FY17)																												
DCO - Garrison DCO Platform (FY18)																												
DCO - Garrison DCO Platform (FY19)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) EV5 / <i>Defensive Cyber Operations</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tactical DCO-I Materiel Development Decision	2	2018	2	2018
Tactical DCO-I ARB Approval of Requirements Definition Package	3	2018	3	2018
Tactical DCO-I -Prototyping	2	2018	1	2019
Tactical DCO-I - Prototype Test/Fix/Test Cycle	4	2018	3	2019
Tactical DCO-I Limited Fielding Decision for initial capability	2	2020	2	2020
DCO - Cyber Analytics (Big Data Platform)	1	2017	4	2017
DCO - Cyber Analytics (Attack Surface)	1	2018	4	2018
DCO - Cyber Analytics (Lightweight Analytics)	2	2018	2	2019
DCO - Cyber Analytics (Artificial Intelligence)	3	2019	3	2019
DCO - Mission Planning (Force Management)	1	2017	3	2017
DCO - Mission Planning (Force Management SIPR)	3	2017	2	2018
DCO - Mission Planning (Network Visualization)	1	2018	3	2018
DCO - Mission Planning (Team Communicator)	2	2018	1	2019
DCO - Mission Planning (Wargaming)	1	2019	3	2019
DCO - Tools Suite (CPT Tool Suite 0)	1	2017	3	2017
DCO - Tools Suite (CPT Tool Suite 1)	1	2018	1	2019
DCO - Tools Suite (CPT Tool Suite 2)	3	2018	3	2019
DCO - Tools Suite (CPT Tool Suite 3)	3	2019	1	2020
DCO - Garrison DCO Platform (FY17)	1	2017	1	2018
DCO - Garrison DCO Platform (FY18)	1	2018	1	2019
DCO - Garrison DCO Platform (FY19)	3	2018	3	2019