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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 8: Software and Digital Technology Pilot Programs</i>	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	56.706	108.841	94.888	-	94.888	11.809	6.921	3.949	4.682	0.000	287.796
CD1: <i>Defensive Cyber - Software Prototype Devel</i>	-	56.706	108.841	86.349	-	86.349	11.809	6.921	3.949	4.682	0.000	279.257
DD2: <i>Joint Cyber Warfighting Architecture Software</i>	-	-	-	8.539	-	8.539	-	-	-	-	0.000	8.539

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

This funding line is a key enabler of the Army Modernization Priorities in support of Defense Cyberspace Operations (DCO). DCO is the only Army program selected for the BA8 Software Pilot Program (PE 0608041A) starting in Fiscal Year (FY) 2021. The program realigned \$39.765 million FY2023 Research, Development, Test and Evaluation (RDTE) from PE 060541A EV5 and \$46.584 million FY2023 Other Procurement Army (OPA) from PE 0128B63000 to BA8 Software Pilot Program PE 0608041A Project Code CD1. FY2023 OPA PE 0128B63000 funding also aligned \$8.539M to BA8 Software Pilot Program PE 0608041A Project Code DD2.

FY2023

The DCO budget line includes funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Tactical DCO Infrastructure (TDI); (Legacy) Program Executive Office Enterprise Information Systems (PEO EIS) Defensive Cyber Operations; and Army Cyber Command (ARCYBER) Rapid Cyber Prototyping.

- Defensive Cyber Operations (DCO) consists of platform and software programs which are key elements of the DCO Maneuver Baseline infrastructure, platform, and tools. The employment of defensive capabilities creates specific effects in cyberspace through actions that allow commanders to achieve the following objectives: deter, destroy, and defeat enemy offensive cyberspace operations; gain time; economy of force; control key terrain; protect tasked critical assets and infrastructure; and develop intelligence. DCO supports the Army Cyber Command (ARCYBER), Information Warfare Operations Center (IWOC), FORSCOM, (5) Regional Cyber Centers (RCCs), Cyber Warfare Battalion (CWB), Multi-Domain Task Force (MDTF), Cyber Protection Brigade (CPB), and (41) Cyber Protection Teams (CPTs) in COMPO 1/2/3.

Defensive Cyber Tools and Analytics:

- \* DCO - Cyberspace Analytics - (PEO EIS) - Strategic Level (ACOIC)
- \* DCO - Mission Planning - (PEO EIS) - Strategic Level
- \* DCO - Tools Suite - (PEO EIS) - Garrison/Tactical Level
- \* DCO - User Activity Monitoring - (PEO EIS) - Strategic Level
- \* DCO - Forensics and Malware Analysis - (PEO EIS) - Garrison/Tactical Level
- \* DCO - Threat Emulation - (PEO EIS) - Strategic Level

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<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 8: Software and Digital Technology Pilot Programs</i>	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>
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- \* DCO - DCO Development Environment (DCODE) - (PEO EIS)
- \* DCO - Counter Infiltration - (PEO EIS) - Garrison/Tactical Level (Funding beginning in FY2023)

- ARCYBER Rapid Cyber Prototyping provides software based capabilities that can quickly respond to emerging cyber threats and keep up with threat technology; while supporting Multi-Domain operations. ARCYBER identifies potential development and prototyping efforts via Cyber Needs Forms (CNFs) based on operational feedback, changes in the operational information environment and/or trends of adversarial activity; which drive CONOP and TTP modifications. These are separate and distinct from DCO programmed efforts already funded or budgeted for by PM DCO and are used to rapidly address a network threat/vulnerability.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	56.706	118.811	0.000	-	0.000
Current President's Budget	56.706	108.841	94.888	-	94.888
Total Adjustments	0.000	-9.970	94.888	-	94.888
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-9.922			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	94.888	-	94.888
• FFRDC Transfer	-	-0.048	-	-	-

**Change Summary Explanation**

Fiscal Year 2022 (FY2022) in the amount of \$9.970 million decreased to the Defensive Cyber program, cited from \$6.922 million overestimation of program management costs, \$3.000 million overestimation of DCO Mission Planning costs, and \$48 thousand from FFRDC reduction.

FY2023 funding increase reflects the fact that the FY2022 President's Budget request did not include out-year funding.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 8					<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>				<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CD1: <i>Defensive Cyber - Software Prototype Devel</i>	-	56.706	108.841	86.349	-	86.349	11.809	6.921	3.949	4.682	0.000	279.257
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

This funding line is a key enabler of the Army Modernization Priorities in support Line of the Army Network Modernization Strategy Line of Effort (LOE) 1, Key Enabler for Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

The Defensive Cyber Operations (DCO) budget line includes funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Tactical DCO Infrastructure (TDI) (Legacy); Program Executive Office Enterprise Information Systems (PEO EIS) Defensive Cyber Operations; and Army Cyber Command (ARCYBER) Rapid Cyber Prototyping.

- Defensive Cyber Operations (DCO) consists of platform and software programs which are key elements of the DCO Maneuver Baseline infrastructure, platform, and tools. The employment of defensive capabilities creates specific effects in cyberspace through actions that allow commanders to achieve the following objectives: deter, destroy, and defeat enemy offensive cyberspace operations; gain time; economy of force; control key terrain; protect tasked critical assets and infrastructure; and develop intelligence. DCO supports the Army Cyber Command (ARCYBER), Information Warfare Operations Center (IWOC), FORSCOM, (5) Regional Cyber Centers (RCCs), Cyber Warfare Battalion (CWB), Multi-Domain Task Force (MDTF), Cyber Protection Brigade (CPB), and (41) Cyber Protection Teams (CPTs) in COMPO 1/2/3.

Defensive Cyber Tools and Analytics:

- \* DCO - Cyberspace Analytics - (PEO EIS) - Strategic Level (IWOC)
- \* DCO - Mission Planning - (PEO EIS) - Strategic Level
- \* DCO - Tools Suite - (PEO EIS) - Garrison/Tactical Level
- \* DCO - User Activity Monitoring - (PEO EIS) - Strategic Level
- \* DCO - Forensics and Malware Analysis - (PEO EIS) - Garrison/Tactical Level
- \* DCO - Threat Emulation - (PEO EIS) - Strategic Level
- \* DCO - DCO Development Environment (DCODE) - (PEO EIS)
- \* DCO - Counter Infiltration - (PEO EIS) - Garrison/Tactical Level (Funding beginning in FY2023)

- ARCYBER Rapid Cyber Prototyping provides software based capabilities that can quickly respond to emerging cyber threats and keep up with threat technology; while supporting Multi-Domain operations. ARCYBER identifies potential development and prototyping efforts via Cyber Needs Forms (CNFs) based on operational feedback, changes in the operational information environment and/or trends of adversarial activity; which drive CONOP and Tactics Techniques and Procedures (TTP)

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modifications. These are separate and distinct from DCO programmed efforts already funded or budgeted for by PM DCO and are used to rapidly address a network threat/vulnerability.				
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Tactical DCO Infrastructure (TDI) (PEO C3T)</p> <p><b>Description:</b> TDI is a software only program that pre-configures applications from DCO's Tool Suite to allow local and remote Cyber defenders the ability to conduct cyberspace surveillance and maneuver against an adversary traversing within the tactical network. The TDI capability is hosted on the TSI and will reside within the Command Post at echelon Army Service Component Commands (ASCC) through Brigade.</p> <p><b>FY 2022 Plans:</b> FY 2022 RDTE Plans: \$5.545M FY 2022 funding supports development engineering, integration, testing, training development and program management to complete the last capability within the current IT box, CD3. CD3 will integrate the enhanced DCO tool suite that will enable broader data collection and data aggregation from Project Manager Tactical Network (PM TN)'s Endpoint Security and SIEM Platform (ESSP) and the ability for WiFi and 4G Connection. PEO C3T will execute these funds.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY2023 TDI funding transitioned from PE 0608041A Project Code CD 1 Defensive Cyber- Software Prototype Development to PE 0605041A Project Code XU3 Defense Cyber Tool Development (Tactical DCO-I). TDI is solely funded with RDT&amp;E for development, engineering, testing, training development, and program management. TDI, an RDT&amp;E only program, did not provide an opportunity for the BA-8 Software Pilot Program to assess the alignment of multiple appropriations into a single appropriation.</p>		5.000	5.545	-
<p><b>Title:</b> Defensive Cyber Operations - Cyber Analytics (PEO EIS)</p> <p><b>Description:</b> DCO Cyberspace Analytics Big Data Platform (BDP) is a scalable software-based capability hosted in the cloud, called Gabriel Nimbus (GN), which offers interfaces and visualization 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><b>FY 2022 Plans:</b> FY2022 RDTE Plans: \$12.300M FY2022 funding supports software and modification to BDP/GN to include engineering, integration, cybersecurity, and testing of capability releases (11) through (14) leading to Full Operational Capability (FOC). It is anticipated that Cyber Analytics will achieve FOC in 4QFY2022. Cyber Analytics capability will be installed and operational on designated infrastructure at the regional and local level to ingest, process, and store corresponding data.</p>		16.127	35.800	20.712

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>FY2022 OMA Plans: \$23.500M</p> <p>FY2022 funding supports all hosting costs for (10) PB of NIPR that is needed from a strategic perspective to help prevent possible future cyber attacks, (3) PB of SIPR, and (3) PB of JWICS ((2) PB for Cyber Analytics and (1) PB for User Activity Monitoring). Cloud hosting size must be large enough to efficiently ingest all of the data feeds, and any PB increase will also increase the costs of the management tool and managed professional services. FY2022 funding supports initiation of the Cyberspace Analytics Development Support contract and continuous development of BDP applications and analytics to include the associated engineering, integration, cybersecurity, testing, and training for new capability releases. FY2022 funding also supports software and modification to BDP/GN to include engineering, integration, cybersecurity, and testing of new capability releases leading to Full Operational Capability (FOC). It is anticipated that Cyber Analytics will achieve FOC in 4QFY2022. Cyber Analytics capability will be installed and operational on designated infrastructure at the regional and local level to ingest, process, and store corresponding data.</p> <p><b>FY 2023 Plans:</b></p> <p>Prior to BA8 Pilot program, this capability was funded with RDTE funding (PE 0605041A EV5).</p> <p>FY2023 RDTE Plans: \$20.712M</p> <p>FY2023 funding provides for managed professional services to support Risk Management Framework/Authorization to Operate (RFM/ATO), security updates, system support, patches, and licenses through the management orchestration tool - Rapid Analytic Deployment Management Framework (RADMF). FY2023 funding supports the Lower Echelon Analytic Platform (LEAP) and the LEAP Tactical (LTAC) integration, testing, and installation on tactical and garrison level systems at selected bases, camps, posts, and stations. FY2023 funding also supports continuous development of BDP applications and analytics to include the associated engineering, integration, cybersecurity, testing, and training for new capability releases through the Cyberspace Analytics Development Support Contract.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b></p> <p>FY2023 funding adjustment decreases due to transferring cloud hosting funding responsibility to ARCYBER for cloud hosting of 14 Petabyte (PB) NIPR, 3 PB SIPR, and 3 PB JWICS starting in FY23 and future years defense program (FYDP).</p>				
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Mission Planning (PEO EIS)</p> <p><b>Description:</b> DCO Mission Planning (DCOMP) Solution is a software solution that facilitates situational awareness and understanding, workflow for order execution, and capabilities that bridge the gap between strategic, operational, and tactical cyberspace operators which enable targeted decision support products on existing DCO systems.</p> <p><b>FY 2022 Plans:</b></p> <p>FY2022 RDTE Plans: \$4.108M</p>		1.110	4.108	2.809

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>FY2022 funding supports development engineering, integration, and testing of three capability releases (software upgrades). Delivers mission command and planning at all levels supporting Cyber Defense Forces. Creates a DCO mission execution framework by utilizing the DCOMP Solution to collaborate, understand, plan, and manage DCO missions in real-time. Offers a shared situational awareness amongst cyberspace defenders about their missions and areas of operation. It is anticipated that Mission Planning will achieve FOC in 4QFY2022. FOC shall be considered attained when DCOMP capabilities are met IAW functional values agreed upon by the capability developer, operational user, program office, and evaluators; FOC additionally requires the DCOMP solution to be capable of autonomously allocating virtual resources and installing DCO tools within the corresponding guest operating systems so that cyberspace defenders can immediately conduct missions upon maneuvering to the supporting infrastructure.</p> <p><b>FY 2023 Plans:</b> Prior to BA8 Pilot program, this capability was funded with RDTE funding (PE 0605041A EV5). FY2023 RDTE Plans: \$2.809M FY2023 DCOMP solution will transition to Joint Cyber Command and Control (JCC2). FY2023 funding supports the transition and sustainment of the DCOMP applications during the transition to JCC2. FY2023 also supports development of the Army's specific requirements not delivered through the joint solution under JCC2.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Due to the transition of DCOMP solution to JCC2, remaining FY2023 funding supports the Army's specific requirements which are not part of the joint solution through JCC2.</p>				
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Tools Suite (PEO EIS)</p> <p><b>Description:</b> DCO Tools Suite is a flexible and dynamic software based suite of warfighting capabilities that enables Cyber Protection Teams (CPTs), Regional Cyber Centers (RCCs), and in some cases local defenders to perform DCO and cybersecurity actions. DCO tools consists of prepositioned and tailorable software packages that are integrated and available at all echelons to support or directly cause effects through the execution of Cyber Mission Force (CMF) and cyberspace workforce tasks. They are executed or managed within a DCO platform.</p> <p><b>FY 2022 Plans:</b> FY2022 OPA Plans: \$3.393M FY2022 funding supports procurement of new tools and renewal of existing tools providing the following capabilities: New capabilities include Network visualization within the cloud, Security Orchestration Automation and Response (SOAR), Single Node Solution (Operating System pilot), and testing of new requirements like a possible Industrial Control System/Supervisory Control and Data Acquisition (ICS/SCADA) solution; and Renewals include capabilities like Discovery (Network), Vulnerability Analysis, Command and Control, Threat Emulation, Acquisitions Data, High Speed Data Transport, Endpoint Detection and Recovery</p>		18.541	25.667	21.486

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>(EDR), intel analysis, Continuous Monitoring, Mitigate/Clear/Remediate, Event Correlation, DevSecOps, license renewals, and new equipment training. A new tools suite will be procured every year. Each new tools suite is derived from ARCYBER's annually published requirements and priorities. Tools suites may differ from year to year as some tools are divested, while new tools are added to include any innovations or advances in technology. DCO Tools Suite v4 will begin in FY2022, and Tools Suite v5 in FY2023. The users and operators of the tools are the CPTs. The increase in funding will allow the PM to prototype future tools that may be added to the tool suite purchase.</p> <p>FY2022 OMA Plans: \$22.274M FY2022 funding support license renewals and professional services.</p> <p><b>FY 2023 Plans:</b> Prior to BA8 Pilot program, this capability would have been funded with OPA funding (PE 0128B63000) and OMA funding. FY2023 OPA Plans: \$2.793M FY2023 OMA Plans: \$18.693M FY2023 funding supports new tools, training, license renewals, and professional services.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY2023 decrease due to funding aligned to PE 0608041A Project Code DD2 in FY2023.</p>				
<p><b>Title:</b> Defensive Cyber Operations (DCO) - User Activity Monitoring (PEO EIS)</p> <p><b>Description:</b> DCO User Activity Monitoring (UAM) is the primary capability within the Army's overall Insider Threat (InT) program. UAM is mainly a software-based, scalable solution that has an on-premise solution and a cloud solution. It proactively identifies and mitigates internal risks associated with the theft or misuse of critical, mission essential data. It utilizes an integrated approach with a centralized UAM cell sending data to a core Insider Threat Hub.</p> <p><b>FY 2022 Plans:</b> FY2022 RDTE Plans: \$11.590M FY2022 funding supports development engineering, integration, and testing of the cloud based UAM Capability Suite to support ARCYBER and the CIO-G6 Special Access Program (SAP) Community. This entails continued behavioral pattern analysis, license renewals and maintenance, expanding production to tactical end point users, and transition from the on-premise solution to the cloud solution with the Army's Big Data Platform. FY2022 focuses on the deployable UAM capability that will be configured to monitor, capture, and analyze data in a congested, complex, and highly contested cyberspace and electromagnetic environment. The capability at the tactical level will be tailored to send alerts to a higher level analysis cell (ex. Regional Cyber Center (RCC) or Combatant Command Joint Cyber Center). FOC will be achieved in 2QFY2024.</p>		3.639	13.000	12.155

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>FY2022 OMA Plans: \$1.410M                      FY2022 funding support (1) PB cloud hosting for JWICS. UAM Cloud capability will utilize machine learning behavior anomaly detection and data visualization to identify security threats in near real-time.</p> <p><b>FY 2023 Plans:</b>                      Prior to BA8 Pilot program, this capability was funded with RDTE funding (PE 0605041A EV5).                      FY2023 RDTE Plans: \$12.155M                      FY 2023 funding supports continued development engineering, integration, and testing of the cloud based UAM Capability Suite to support ARCYBER and the CIO-G6 Special Access Program (SAP) Community. This entails continued behavioral pattern analysis, license renewals and maintenance, expanding production to tactical end point users, and transition from the on-premise solution to the cloud solution with the Army's Big Data Platform. FY 2023 focuses on the continued deployable UAM capability that will be configured to monitor, capture, and analyze data in a congested, complex, and highly contested cyberspace and electromagnetic environment. The capability at the tactical level will be tailored to send alerts to a higher level analysis cell (ex. Regional Cyber Center or Combatant Command Joint Cyber Center).</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>                      FY2023 decrease related to software license quantities and training events.</p>			
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Forensics and Malware Analysis (PEO EIS)</p> <p><b>Description:</b> DCO Forensics and Malware Analysis (F&amp;MA) capability is a software/hardware based solution enabling global, regional, and local cyberspace defenders to perform forensics either remotely or locally. Forensics is evidence related and Malware capabilities provides a sandboxlike, virtual environment that allows for the conduct of real-time, automated and dynamic malware decomposition and behavior analysis. Forensics gives cyberspace defenders the ability to collect, process, search, and analyze evidence from portable electronic devices, removable media, system hard drives, and random access memory. This process rapidly triages an incident and place the impacted system(s) back in service.</p> <p><b>FY 2022 Plans:</b>                      FY2022 OMA Plans: \$2.645M                      FY2022 funding supports licenses renewals, maintenance, professional services and potential training activities as well as the delivery of a Sandbox Solution to further meet malware analysis requirements defined in the RDP. The malware analysis capability is a software-based application (Ida Pro) utilized by global and regional defenders to analyze malicious code in a sandbox-like, virtual environment (hardware). The malware sandbox capability will allow cyberspace defenders to collaborate in a member-only, protected environment; submit malware samples, check samples against popular open source tools and identify malware families using correlation and visualization tools.</p> <p><b>FY 2023 Plans:</b></p>	1.231	2.645	2.116

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>FY2023 RDTE Plans: \$2.116M                      FY2023 funding supports annual licenses renewals, maintenance, professional services for completion of fielding, and program support costs.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>                      FY2023 funding decrease related to no hardware costs are required.</p>				
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Threat Emulation (PEO EIS)</p> <p><b>Description:</b> DCO Threat Emulation capability is a software based suite of tools used to gain access to evaluated networks through multi-vectors of unknown, partially known, or known access methods. Threat Emulation will enable the implementation of real world threat tactics, techniques, and procedures (TTPs) against risk areas such as web services, endpoints, passwords and identities, phishing and social engineering, mobile devices, and wired/wireless network systems in order to reveal critical security exposures.</p> <p><b>FY 2022 Plans:</b>                      FY2022 RDTE Plans: \$3.078M                      FY2022 funding supports the production phase and an increase in engineering, integration and testing. During this time, the work in the production phase will ensure that the capability meets all Risk Management Framework (RMF) requirements needed for the capability to be used in an open network. Additionally, FY22 funds support the development of training and support materials to be provided to designated units at the time of fielding.</p> <p><b>FY 2023 Plans:</b>                      Prior to BA8 Pilot program, this capability was funded with RDTE funding (PE 0605041A EV5).                      FY2023 RDTE Plans: \$6.686M                      FY2023 funds licenses to support up to 5000 endpoint agents for the key operational user footprint, continuous modernization and support costs, and (12+) On-Premise VM Management Consoles deployed to RCC-C, RCC-P, RCC-E, RCC-SWA, RCC-K, PCTE, I2CEWS, and the MDTF.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>                      FY2023 funding increase supports additional licenses to support up to 5000 endpoint agents.</p>		1.584	3.078	6.686
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Garrison DCO Platform - Next Generation (PEO EIS)</p> <p><b>Description:</b> Modernization of the Garrison DCO Platform (GDP) solution to a next generation garrison platform in the future, one system will be capable of reaching multiple locations as opposed to fielding one at every identified location. Each of these locations will still require equipment at the local level, such as network tapping equipment and sensors to feed information.</p>		-	-	5.755

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p><b><i>FY 2023 Plans:</i></b> FY2023 RDTE Plans: \$5.755M Garrison DCO Platform (GDP) was added to PE 0608041A Project Code CD1 in FY2023 to support development of GDP next generation garrison platform.</p> <p><b><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i></b> Garrison DCO Platform (GDP) was added to PE 0608041A Project Code CD1 in FY2023 to support development of GDP next generation garrison platform.</p>				
<p><b><i>Title:</i></b> Defensive Cyber Operations (DCO) - Counter Infiltration (PEO EIS)</p> <p><b><i>Description:</i></b> Counter Infiltration (formerly Threat Deception) supports the global defenders the ability to conduct Counter Infiltration operations to detect and respond to advanced persistent threat (APT) within the defended network enclave. Our Cyber Defenders employ this capability to conduct defensive cyberspace operations (DCO) internal defensive measures (DCO-IDM) to detect and respond to adversary malicious presence and actions. This capability provides the functional ability conduct DCO-IDM using deception tactics, techniques, and procedures (TTP). This capability provides the means employing fundamental military principles of deception (ways) to conduct effective DCO-IDM mission.</p> <p><b><i>FY 2023 Plans:</i></b> FY2023 RDTE Plans: \$1.255M Counter Infiltration was added to PE 0608041A Project Code CD1 in FY2023 to support prototyping effort for Counter Infiltration capability.</p> <p><b><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i></b> Counter Infiltration was added to PE 0608041A Project Code CD1 in FY2023 to support prototyping effort for Counter Infiltration capability.</p>		-	-	1.255
<p><b><i>Title:</i></b> Defensive Cyber Operations (DCO) - DCO Development Environment (PEO EIS)</p> <p><b><i>Description:</i></b> DCO Development Environment (DCODE) (formerly Forge) is a physical and virtual assets that provides continual integration, upgrade, assess, optimization and Soldier operational environment. It is designed to provide centralized lifecycle management and consists of the following capabilities: (1) Forge - physical or virtual asset that provides integration and assessment capabilities during the development and integration phases of operations (centrally managed patching and security); and (2) Development Network - provides the capability to remote into multiple networks (provides safe and secure infrastructure framework for Cyber Protection Teams (CPTs)).</p> <p><b><i>FY 2022 Plans:</i></b></p>		-	8.500	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>FY 2022 RDTE Plans: \$8.500M  FY 2022 funding transferred from RDTE PE 0605041A EV5. The funding will continue assessment of new cyber technologies within controlled environment, assesses capabilities in integrated environment, provides virtual training access 24/7 worldwide, and assesses/pushes approved enhancement remotely.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>  FY2023 funding is reported under RDTE PE 0605041A EV5.</p>				
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Management Services (PEO EIS)</p> <p><b>Description:</b> Funding provides program management services and support from a mix of government matrix personnel and contractor management services for implementation, fielding, system engineering, logistics, program management and acquisition support.</p> <p><b>FY 2022 Plans:</b>  FY 2022 RDTE Plans: \$2.070M  FY 2022 OPA Plans: \$5.927M</p> <p>FY 2022 funding provides continued program management services and support from a mix of government matrix personnel and contractor management services for implementation, fielding, system engineering, logistics, program management and acquisition support.</p> <p><b>FY 2023 Plans:</b>  Prior to BA8 Pilot program, the support was funded with RDTE (PE 0605041A EV5) and OPA (PE 0128B63000) funding. FY2023 funding provides continued program management services and support from a mix of government matrix personnel and contractor management services for implementation, fielding, system engineering, logistics, program management and acquisition support.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>  FY2023 funding increase to support government matrix and contractors performing mission critical implementation, fielding, system engineering, logistics, programmatic, and acquisition support for eight defensive cyber programs of record.</p>		9.009	7.997	13.375
<p><b>Title:</b> Defensive Cyber Operations (DCO) - Rapid Cyber Prototyping (ARCYBER)</p> <p><b>Description:</b> ARCYBER Rapid Cyber Prototyping provides software based capabilities that can quickly respond to emerging cyber threats and keep up with threat technology; while supporting Multi-Domain operations. ARCYBER identifies potential development and prototyping efforts via Cyber Needs Forms (CNFs) based on operational feedback, changes in the operational information environment and/or trends of adversarial activity; which drive CONOP and Tactics Techniques and Procedures (TTP)</p>		0.465	2.501	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
modifications. These are separate and distinct from DCO programmed efforts already funded or budgeted for by PM DCO and are used to rapidly address a network threat/vulnerability.			
<b><i>FY 2022 Plans:</i></b> FY 2022 RDTE Plans: \$2.501M ARCYBER will continue to leverage Limited Acquisition Authority (LAA) for solutions that will enable solving more complicated problems that span Cyber, EW, and IO domains through rapid prototyping and capability assessments, which is outside of approved Requirements Definition Packages (RDPs) but within the scope of the FY 2018-2022 IT Box.			
<b><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i></b> No funding requests in FY2023.			
<b>Accomplishments/Planned Programs Subtotals</b>	56.706	108.841	86.349

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• B63103: <i>Advanced Cyber Tool Development</i>	41.153	27.389	0.000	-	0.000	-	-	-	-	0.000	68.542
• B66350: <i>ARCYBER DEFENSIVE CYBER OPERATIONS</i>	-	-	18.239	-	18.239	-	-	-	-	0.000	18.239
• B89001: <i>Insider Threat Program - Unit Activity Monitoring</i>	1.760	-	1.796	-	1.796	1.647	1.787	1.792	1.792	0.000	10.574
• 0605041A: <i>Defensive CYBER Tool Development</i>	28.544	18.811	33.029	-	33.029	17.664	10.662	10.698	10.631	0.000	130.039

**Remarks**  
 OPA PE B63103 - DCO hardware procurement, fielding, and new equipment training for Garrison DCO Platform (GDP), Deployable Defensive Systems (DDS), and DCODE Armory.  
 OPA PE B66350 (New OPA line starting in FY2023) - DCO hardware procurement, fielding, and new equipment training for GDP, DDS, and DCODE Armory.  
 OPA PE B89001 - DCO Insider Threat Program - Unit Activity Monitoring for UAM operations conducted in support of the Army's insider threat program.  
 RDTE PE 0605041A Project EV5 - DCO platform infrastructure, integration, and assessments.

**D. Acquisition Strategy**  
 The DCO Information System Initial Capabilities Document (IS ICD) was approved on 19 December 1017 by the Army Requirements Oversight Council (AROC). DCO programs are under an IT Box construct with five year term (FY2018-2022) which aligns with current Requirements Definition Packages (RDPs). IT Box establishes

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>
<p>funding thresholds, by appropriation, for a program over the capability's projected lifecycle of five (5) years. Current IT Box will expire in 4QFY2022 and planned to be renewed in 3QFY2022.</p> <p>The Milestone Decision Authority (MDA), approved the Materiel Development Decision (MDD) on 13 April 2018, designating Tactical DCO Infrastructure (TDI) as an ACAT III program. The MDA approved a tailored defense unique software intensive acquisition approach for TDI. Under further consideration, the MDA assessed the TDI program and determined that TDI meets the criteria for an ACAT IV program and MDA delegation. The program is considered low risk due to program maturity and continued use of Commercial Off the Shelf (COTS) tools within the TDI baseline. On 23 November 2021, the MDA approved delegation of the TDI program to the Program Manager (PM) and re-designation of the program to ACAT IV. The TDI program's RDP was approved on 16 July 2018 by the Army Requirement Oversight Council (AROC). The TDI program office will develop and deploy preconfigured software in a series of capability drops (CD) in order to deliver full functional values of the RDP that align with DCO priorities. The TDI program is under an Information Technology (IT) Box construct with a five (5) year term (FY2018-FY2022) which aligns with the current requirements (includes initial capability drop through CD3). The TDI Initial Capability integrated the initial DCO tool suite on the TSI hardware platform and enabled remote connection. CD1 will integrate the enhanced DCO tool suite that will expand the sensor architecture to more command post applications. CD 2 will integrate the enhanced DCO tool suite that will leverage machine learning and expand the data collection beyond the command post to the extended tactical network. This will finalize integration of current DCO remote operations capability to facilitate timely escalation of remote incident response. CD3 will integrate the enhanced DCO tool suite that will enable broader data collection and data aggregation (including existing logs from other Programs of Record (PoR), and the ability for WiFi and 4G connection.</p> <p>The TDI program achieved initial capability delivery 1QFY2020. Full Deployment for the current IT Box (FY2018-FY2022) is planned for 3QFY2023 with the completion of CD3. TDI Full Deployment is defined as when TDI has completed the development and testing of the last capability drop within the IT Box (reaching full functional values of the RDP) and has transferred the capability to the CPCE/TSI program to commence fielding. The TDI IT Box will be renewed in FY2022 for the following five (5) year term (FY2023-FY2027). Execution of the TDI program will be a combination of government entities and commercial vendors. TDI will be hosted on the Tactical Server Infrastructure (TSI) and will be fielded by the CPCE/TSI program in accordance with their fielding schedule.</p> <p>The ARB approved GDP on 27 February 2018; Cyber Analytics and DCO Tool Suite RDPs on 18 May 2018; Mission Planning on 8 November 2018; User Activity Monitoring and Forensics and Malware Analysis on 18 March 2019; and Threat Emulation on 24 August 2020. The Counter Infiltration approval is targeted for 3QFY2022. The MDA designated these as ACAT IV programs. Under subsequent reviews, the MDA approved agile acquisition approach to develop and deliver pre-configured software in a series of releases and capability drops in order to deliver full functional values of the RDP that align with DCO priorities. DCO programs utilize standard and FY 2018 National Defense Authorization Act (NDAA) Section 874 agile pilot evolutionary acquisition processes (30-90 rapid acquisition approach). DCO continually delivers new technologies and capabilities as a prototype and fields updated capabilities. DCO contract strategy utilizes multiple existing contracts vehicles to include Other Transactional Authority (OTA), Federal Acquisition Regulation (FAR)-based, Blanket Purchase Agreement (BPA), and Basic Ordering Agreement (BOA).</p>		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>
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<b>Management Services (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCO -Tactical DCO Infrastructure (TDI) (PEO C3T)	Various	CACI;CECOM : APG, MD	-	0.376	Nov 2020	0.582	Mar 2022	-		-		-	Continuing	Continuing	-
DCO - Management Services (PEO EIS)	SS/TBD	Various : Various	-	9.009	Feb 2021	7.997	Feb 2022	13.375	Feb 2023	-		13.375	Continuing	Continuing	-
<b>Subtotal</b>			-	9.385		8.579		13.375		-		13.375	Continuing	Continuing	N/A

<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCO - Tactical DCO Infrastructure (TDI) (PEO C3T)	Various	Parsons; CECOM SEC; CCDC : APG, MD	-	4.065	Nov 2020	4.176	Dec 2021	-		-		-	Continuing	Continuing	-
DCO - Cyber Analytics (PEO EIS)	C/FFP	Army Contracting Command - Rock Island (ACC-RI) : Rock Island, IL	-	16.127	Mar 2021	35.800	Mar 2022	20.712	Mar 2023	-		20.712	Continuing	Continuing	-
DCO - Tools Suite (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	18.541	Mar 2021	25.667	Mar 2022	21.486	Mar 2023	-		21.486	Continuing	Continuing	-
DCO - Mission Planning (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	1.110	Feb 2021	4.108	Feb 2022	2.809	Feb 2023	-		2.809	Continuing	Continuing	-
DCO - User Activity Monitoring (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	3.639	Feb 2021	13.000	Feb 2022	12.155	Feb 2023	-		12.155	Continuing	Continuing	-
DCO - Forensics and Malware (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	1.231	Mar 2021	2.645	Mar 2022	2.116	Mar 2023	-		2.116	Continuing	Continuing	-
DCO - Threat Emulation (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	1.584	Feb 2021	3.078	Feb 2022	6.686	Feb 2023	-		6.686	Continuing	Continuing	-
DCO - Garrison DCO Platform (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	-		-		5.755		-		5.755	Continuing	Continuing	-
DCO - Counter Infiltration (PEO EIS)	C/FFP	ACC-RI : Rock Island, IL	-	-		-		1.255		-		1.255	Continuing	Continuing	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Dev</i>
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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCO - Rapid Cyber Prototyping (ARCYBER)	C/FFP	ACC-RI : Rock Island, IL	-	0.465	Apr 2021	2.501	Apr 2022	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	46.762		90.975		72.974		-		72.974	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCO - Tactical DCO Infrastructure (TDI) (PEO C3T)	Various	DLA; CECOM ILSC : Philadelphia, PA; APG, MD	-	0.179	Jul 2021	0.213	Jun 2022	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	0.179		0.213		-		-		-	Continuing	Continuing	N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCO - Tactical DCO Infrastructure (TDI) (PEO C3T)	Various	ATEC; CTSF : APG, MD; Ft. Hood TX	-	0.380	Jan 2021	0.574	Mar 2022	-		-		-	Continuing	Continuing	-
DCO - DCO Development Environment (PEO EIS)	MIPR	ATEC, SEC and TYAD : Various	-	-		8.500	Jan 2022	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	0.380		9.074		-		-		-	Continuing	Continuing	N/A

			Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	56.706	108.841	86.349	-	86.349	Continuing	Continuing	N/A

**Remarks**  
 Tactical DCO Infrastructure (TDI) funding transferred to PE 0605041A Project Code XU3 beginning in FY2023.  
 Contract award dates reflect when contract option years plan to be exercised/when funding plans to be obligated.

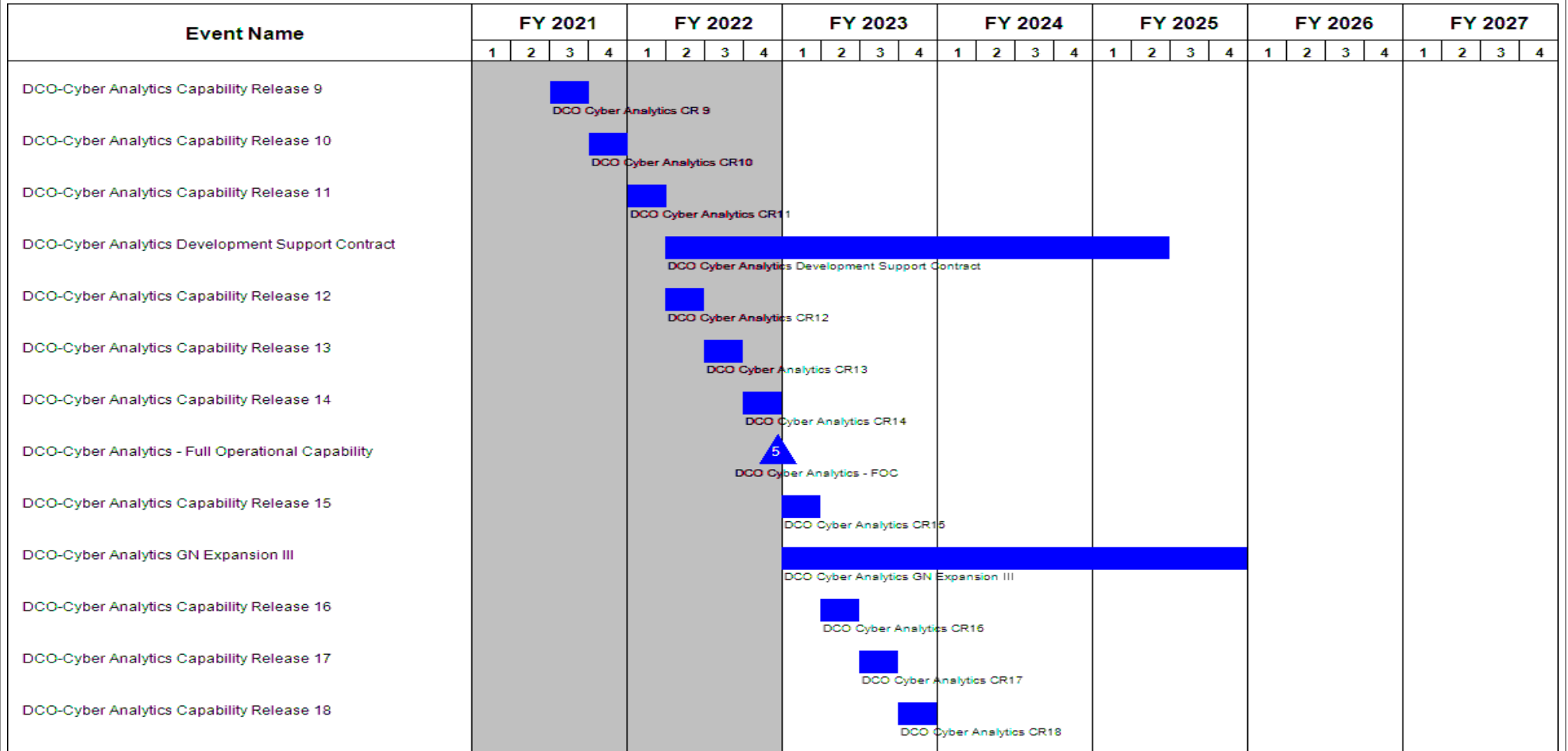
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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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 - TDI CD 1 Delivery				▲ 1 TDI Delivery - CD 1																								
DCO - TDI Development/Integration/Fixes - CD 2	■																											
DCO - TDI Testing - CD 2			■																									
DCO - TDI CD 2 Delivery								▲ 3 TDI Delivery - CD 2																				
DCO - TDI Development/Integration/Fixes - CD 3					■																							
DCO - TDI Testing - CD 3																												
DCO - Cyber Analytics POR Contract	■																											
DCO-Cyber Analytics GN Expansion II	■																											
DCO-Cyber Analytics Capability Release 7	■																											
DCO-Cyber Analytics Lower Echelon Analytics Platform (LEAP)	■																											
DCO-Cyber Analytics LEAP Tactical (LTAC) Release		■																										
DCO-Cyber Analytics Enhancements, Testing & Deployment		■																										
DCO-Cyber Analytics Capability Release 8	■																											

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>			<b>Date: April 2022</b>		
<b>Appropriation/Budget Activity</b> 2040 / 8		<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>		<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>	



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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 POR Contract	[Blue bar spanning FY 2021 Q1 to FY 2023 Q4]																											
DCO-Mission Planning Capability Release 5	[Blue bar]				[Blue bar]				[Blue bar]																			
DCO-Mission Planning - Initial Operational Capability									6	[Blue bar]																		
DCO-Mission Planning Capability Release 6					[Blue bar]				[Blue bar]																			
DCO-Mission Planning - Full Operational Capability									7	[Blue bar]																		
DCO-Mission Planning Capability Release 7 (Transition/Sustainment)									[Blue bar]				[Blue bar]															
DCO-Mission Planning Testing and Cross Platform Deployment													[Blue bar]															
DCO-Tools Suite v2	[Blue bar]																											
DCO-Tools Suite v3	[Blue bar]																											
DCO-Tools Suite v4					[Blue bar]																							
DCO-Tools Suite v5									[Blue bar]																			
DCO-Tools Suite v6													[Blue bar]															
DCO-Tools Suite v7																	[Blue bar]											

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027							
	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-Tools Suite v8																																
DCO-Tools Suite v8																																
DCO-User Activity Monitor POR Contract																																
DCO-User Activity Monitoring - Behavioral Analysis																																
DCO-User Activity Monitoring - Integrate with BDP																																
DCO-User Activity Monitoring - Total NET Employment																																
DCO-User Activity Monitoring Capability - Full Operational Capability																																
DCO-User Activity Monitoring - FOC																																
DCO-Forensics and Malware -Initial Operating Capability																																
DCO-Forensics and Malware - IOC																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (BY)																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (BY)																																
DCO-Forensics and Malware - Sandbox Solution																																
DCO-Forensics and Malware - Sandbox Solution																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY1)																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY1)																																
DCO-Forensics and Malware - Full Operating Capability																																
DCO-Forensics and Malware - FOC																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY2)																																
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY2)																																
DCO-Forensics and Malware - Ida Pro Procurement 2 (BY)																																
DCO-Forensics and Malware - Ida Pro Procurement 2 (BY)																																

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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-Forensics and Malware - Ida Pro Procurement 2 (OY1)																												
DCO-Forensics and Malware - Encase Investigator Maintenance (BY)																												
DCO-Forensics and Malware - Encase Investigator Maintenance (OY1)																												
DCO-Forensics and Malware - Encase Investigator Maintenance (OY2)																												
DCO-Forensics and Malware - Encase Investigator Maintenance (OY3)																												
DCO-Threat Emulation POR Contract																												
DCO-Threat Emulation - Social Engineering Toolkit																												
DCO-Threat Emulation - Exploit Code Generator																												
DCO-Threat Emulation - Proprietary Interface																												
DCO-Threat Emulation - Initial Operational Capability																												
DCO-Threat Emulation - Full Operational Capability																												
DCO-Garrison DCO Platform - Next Generation Pilot																												
DCO-Garrison DCO Platform - Next Generation Procurement																												

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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-Counter Infiltration - Prototyping																												
DCO-Counter Infiltration - Procurement / Renewals																												
DCO-DCO Development Environment																												
DCO-ARCYBER Rapid Cyber Prototyping (Rapid Proto / Capability Assessm																												

**Note**  
Tactical DCO Infrastructure (TDI) scheduled events and milestones beginning in FY2023 are reflected within RDTE PE 0605041A Project Code XU3.

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DCO - TDI CD 1 Delivery	4	2021	4	2021
DCO - TDI Development/Integration/Fixes - CD 2	1	2021	3	2022
DCO - TDI Testing - CD 2	3	2021	3	2022
DCO - TDI CD 2 Delivery	3	2022	3	2022
DCO - TDI Development/Integration/Fixes - CD 3	1	2022	4	2022
DCO - TDI Testing - CD 3	4	2022	4	2022
DCO - Cyber Analytics POR Contract	2	2019	1	2022
DCO-Cyber Analytics GN Expansion II	1	2021	4	2022
DCO-Cyber Analytics Capability Release 7	1	2021	1	2021
DCO-Cyber Analytics Lower Echelon Analytics Platform (LEAP) Release	1	2021	4	2022
DCO-Cyber Analytics LEAP Tactical (LTAC) Release	2	2021	4	2022
DCO-Cyber Analytics Enhancements, Testing & Deployment	2	2021	4	2024
DCO-Cyber Analytics Capability Release 8	2	2021	2	2021
DCO-Cyber Analytics Capability Release 9	3	2021	3	2021
DCO-Cyber Analytics Capability Release 10	4	2021	4	2021
DCO-Cyber Analytics Capability Release 11	1	2022	1	2022
DCO-Cyber Analytics Development Support Contract	2	2022	2	2025
DCO-Cyber Analytics Capability Release 12	2	2022	2	2022
DCO-Cyber Analytics Capability Release 13	3	2022	3	2022
DCO-Cyber Analytics Capability Release 14	4	2022	4	2022
DCO-Cyber Analytics - Full Operational Capability	4	2022	4	2022
DCO-Cyber Analytics Capability Release 15	1	2023	1	2023

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**Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
DCO-Cyber Analytics GN Expansion III	1	2023	4	2025
DCO-Cyber Analytics Capability Release 16	2	2023	2	2023
DCO-Cyber Analytics Capability Release 17	3	2023	3	2023
DCO-Cyber Analytics Capability Release 18	4	2023	4	2023
DCO-Mission Planning POR Contract	1	2021	4	2023
DCO-Mission Planning Capability Release 5	2	2021	4	2021
DCO-Mission Planning - Initial Operational Capability	4	2022	4	2022
DCO-Mission Planning Capability Release 6	1	2022	4	2022
DCO-Mission Planning - Full Operational Capability	4	2022	4	2022
DCO-Mission Planning Capability Release 7 (Transition/Sustainment)	1	2023	3	2023
DCO-Mission Planning Testing and Cross Platform Deployment	3	2023	3	2023
DCO-Tools Suite v2	4	2020	2	2021
DCO-Tools Suite v3	2	2021	4	2021
DCO-Tools Suite v4	2	2022	4	2022
DCO-Tools Suite v5	2	2023	4	2023
DCO-Tools Suite v6	2	2024	4	2024
DCO-Tools Suite v7	2	2025	4	2025
DCO-Tools Suite v8	2	2026	4	2026
DCO-User Activity Monitor POR Contract	1	2021	3	2024
DCO-User Activity Monitoring - Behavioral Analysis	1	2021	4	2023
DCO-User Activity Monitoring - Integrate with BDP	2	2021	2	2024
DCO-User Activity Monitoring - Total NET Employment	1	2024	2	2024
DCO-User Activity Monitoring Capability - Full Operational Capability	2	2024	2	2024
DCO-Forensics and Malware -Initial Operating Capability	3	2022	3	2022
DCO-Forensics and Malware - Ida Pro Procurement 1 (BY)	2	2021	2	2022

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**Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> CD1 / <i>Defensive Cyber - Software Prototype Devel</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
DCO-Forensics and Malware - Sandbox Solution	1	2022	4	2022
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY1)	2	2022	2	2023
DCO-Forensics and Malware - Full Operating Capability	4	2022	4	2022
DCO-Forensics and Malware - Ida Pro Procurement 1 (OY2)	2	2023	2	2024
DCO-Forensics and Malware - Ida Pro Procurement 2 (BY)	2	2024	2	2025
DCO-Forensics and Malware - Ida Pro Procurement 2 (OY1)	2	2025	2	2026
DCO-Forensics and Malware - Encase Investigator Maintenance (BY)	2	2021	2	2022
DCO-Forensics and Malware - Encase Investigator Maintenance (OY1)	2	2022	2	2023
DCO-Forensics and Malware - Encase Investigator Maintenance (OY2)	2	2023	2	2024
DCO-Forensics and Malware - Encase Investigator Maintenance (OY3)	2	2024	2	2025
DCO-Threat Emulation POR Contract	1	2021	4	2025
DCO-Threat Emulation - Social Engineering Toolkit	1	2021	4	2025
DCO-Threat Emulation - Exploit Code Generator	3	2021	2	2022
DCO-Threat Emulation - Proprietary Interface	1	2022	4	2022
DCO-Threat Emulation - Initial Operational Capability	1	2022	1	2022
DCO-Threat Emulation - Full Operational Capability	4	2024	4	2024
DCO-Garrison DCO Platform - Next Generation Pilot	2	2023	4	2024
DCO-Garrison DCO Platform - Next Generation Procurement	2	2025	4	2027
DCO-Counter Infiltration - Prototyping	1	2023	4	2023
DCO-Counter Infiltration - Procurement / Renewals	1	2024	4	2027
DCO-DCO Development Environment	1	2022	4	2022
DCO-ARCYBER Rapid Cyber Prototyping (Rapid Proto / Capablity Assessments)	3	2021	2	2023

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 8					<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>				<b>Project (Number/Name)</b> DD2 / <i>Joint Cyber Warfighting Architecture Software</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
DD2: <i>Joint Cyber Warfighting Architecture Software</i>	-	-	-	8.539	-	8.539	-	-	-	-	0.000	8.539
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

This funding line is a key enabler of the Army Modernization Priorities in support Line of the Army Network Modernization Strategy Line of Effort (LOE) 1, Key Enabler for Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

FY2023 funding was aligned from BA8 Software Pilot Program PE 0608041A Project Code CD1.

Defensive Cyber Operations (DCO) consists of platform and software programs which are key elements of the DCO Maneuver Baseline infrastructure, platform, and tools. The employment of defensive capabilities creates specific effects in cyberspace through actions that allow commanders to achieve the following objectives: deter, destroy, and defeat enemy offensive cyberspace operations; gain time; economy of force; control key terrain; protect tasked critical assets and infrastructure; and develop intelligence. DCO supports the Army Cyber Command (ARCYBER), Information Warfare Operations Center (IWOC), FORSCOM, (5) Regional Cyber Centers (RCCs), Cyber Warfare Battalion (CWB), Multi-Domain Task Force (MDTF), Cyber Protection Brigade (CPB), and (41) Cyber Protection Teams (CPTs) in COMPO 1/2/3.

Defensive Cyber Tools and Analytics:

\* DCO - Tools Suite - (PEO EIS) - Garrison/Tactical Level

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

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Title:</b> Defensive Cyber Operations (DCO) - Tools Suite (PEO EIS)	-	-	8.539
<b>Description:</b> DCO Tools Suite is a flexible and dynamic software based suite of warfighting capabilities that enables Cyber Protection Teams (CPTs), Regional Cyber Centers (RCCs), and in some cases local defenders to perform DCO and cybersecurity actions. DCO tools consists of prepositioned and tailorable software packages that are integrated and available at all echelons to support or directly cause effects through the execution of Cyber Mission Force (CMF) and cyberspace workforce tasks. They are executed or managed within a DCO platform.			
<b>FY 2023 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army	<b>Date:</b> April 2022
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<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> DD2 / <i>Joint Cyber Warfighting Architecture Software</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2021	FY 2022	FY 2023
FY2023 funding was aligned from BA8 Software Pilot Program PE 0608041A Project Code CD1. FY2023 provides software licenses, professional services, and training for (60) Deployable Defensive System-Modular (DDS-M) kits to service Cyber Protection Teams (CPTs) in COMPO 1.			
<b><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i></b> FY2023 funding was aligned from BA8 Software Pilot Program PE 0608041A Project Code CD1.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	8.539

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0605041A: <i>Defensive CYBER Tool Development</i>	28.544	18.811	33.029	-	33.029	17.664	10.662	10.698	10.631	0.000	130.039
• B63103: <i>Advanced Cyber Tool Development</i>	41.153	27.389	0.000	-	0.000	-	-	-	-	0.000	68.542
• B66350: <i>ARCYBER DEFENSIVE CYBER OPERATIONS</i>	-	-	18.239	-	18.239	-	-	-	-	0.000	18.239
• B89001: <i>Insider Threat Program - Unit Activity Monitoring</i>	1.760	-	1.796	-	1.796	1.647	1.787	1.792	1.792	0.000	10.574

**Remarks**  
RDTE PE 0605041A Project EV5 - DCO platform infrastructure, integration, and assessments.  
OPA PE B63103 - DCO hardware procurement, fielding, and new equipment training for Garrison DCO Platform (GDP), Deployable Defensive Systems (DDS), and DCODE Armory.  
OPA PE B66350 (New OPA line starting in FY2023) - DCO hardware procurement, fielding, and new equipment training for GDP, DDS, and DCODE Armory.  
OPA PE B89001 - DCO Insider Threat Program - Unit Activity Monitoring for UAM operations conducted in support of the Army's insider threat program.

**D. Acquisition Strategy**  
The DCO Information System Initial Capabilities Document (IS ICD) was approved on 19 December 2017 by the Army Requirements Oversight Council (AROC). DCO programs are under an IT Box construct with five year term (FY2018-2022) which aligns with current Requirements Definition Packages (RDPs). IT Box establishes funding thresholds, by appropriation, for a program over the capability's projected lifecycle of five (5) years. Current IT Box will expire in 4QFY2022 and planned to be renewed in 3QFY2022.

The ARB approved DDS RDP on 27 February 2018, and DCO Tools Suite on 18 May 2018. The MDA designated this as ACAT IV program. Under subsequent reviews, the MDA approved agile acquisition approach to develop and deliver pre-configured software in a series of releases and capability drops in order to deliver full functional

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> DD2 / <i>Joint Cyber Warfighting Architecture Software</i>

values of the RDP that align with DCO priorities. DCO programs utilize standard and FY 2018 National Defense Authorization Act (NDAA) Section 874 agile pilot evolutionary acquisition processes (30-90 rapid acquisition approach). DCO continually delivers new technologies and capabilities as a prototype and fields updated capabilities. DCO contract strategy utilizes multiple existing contracts vehicles to include Other Transactional Authority (OTA), Federal Acquisition Regulation (FAR)-based, Blanket Purchase Agreement (BPA), and Basic Ordering Agreement (BOA).



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>			<b>Date: April 2022</b>		
<b>Appropriation/Budget Activity</b> 2040 / 8		<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>		<b>Project (Number/Name)</b> DD2 / <i>Joint Cyber Warfighting Architecture Software</i>	

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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 - Tools Suite									<div style="background-color: #0000ff; width: 100%; height: 15px; margin-bottom: 2px;"></div> DCO - Tools Suite																			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 8	<b>R-1 Program Element (Number/Name)</b> PE 0608041A / <i>Defensive CYBER - Software Prototype Development</i>	<b>Project (Number/Name)</b> DD2 / <i>Joint Cyber Warfighting Architecture Software</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DCO - Tools Suite	2	2023	3	2023