

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army **Date:** May 2021

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

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	50.662	28.544	18.892	-	18.892	-	-	-	-	-	-
CY5: <i>CYBER Situational Understanding</i>	-	20.183	23.892	18.892	-	18.892	-	-	-	-	-	-
EV5: <i>Defensive CYBER Operations</i>	-	30.479	4.652	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

FY2022 Defensive Cyber Operations (DCO) budget line provides funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Cyber Situational Understanding (Cyber SU).

Cyber Situational Understanding (Cyber SU) funding line supports the Army Network Modernization Strategy Line of Effort (LOE), Common Operating Environment (COE). Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy. This funding will be executed by Program Executive Office Command Control and Communications - Tactical (PEO C3T). DCO and Tactical DCO Infrastructure (TDI) funding line supports the Army Network Modernization Strategy LOE, Key Enabler for Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy. DCO funding will be executed by Program Executive Office Enterprise Information Systems (PEO EIS). TDI funding will be executed by PEO C3T.

655041CY5:

- Cyber SU is a mission command application designed for use by maneuver commanders to assist in decision making during combat operations. Cyber SU provides maneuver commanders at Brigade to Army Service Component Command (ASCC) with a broad understanding of Cyber Electromagnetic Activity (CEMA) threats by informing the commander of any cyber related impacts to physical domains, unified land operations, and the overall mission. Cyber SU allows for the visualization and understanding of physical (geographical), logical (at a specific network internet protocol), and cyber persona layers (bad actors, from individuals to nation states) of cyberspace. This is based on data/information from multiple sources and sensors that produce a CEMA overlay on the commander's Common Operational Picture (COP) within the Command Post Computing Environment (CPCE). Supporting CEMA, Cyber SU ingests existing data sources from related programs (e.g, DCO, TDI, CPCE, EWPM, UNO, DCGS-A), synchronizes and integrates blue (friendly), red (enemy), and grey (commercial/private sector data) and enables collaboration at the tactical edge. (PEO C3T)

655041EV5:

- (Legacy) Tactical DCO Infrastructure (TDI) is a software-only program, which consists of pre-configured DCO tools residing on the Tactical Server Infrastructure (TSI). The TDI capability will reside within the Command Post at echelon Corps through Brigade for both organic Cyber Network Defenders as well as remote access by Cyber Protection teams (CPT) to support defense of the Tactical Network. (PEO C3T)

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army	Date: May 2021
---	-----------------------

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

- 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), Army Cyberspace Operations and Integration Center (ACOIC), (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. (PEO EIS)

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	50.662	28.544	5.198	-	5.198
Current President's Budget	50.662	28.544	18.892	-	18.892
Total Adjustments	0.000	0.000	13.694	-	13.694
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	13.694	-	13.694

Change Summary Explanation

The increase of \$13.694 Million properly aligns program CY5 Situational Understanding for FY2022.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army										Date: May 2021		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>				Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>CY5: CYBER Situational Understanding</i>	-	20.183	23.892	18.892	-	18.892	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Cyber Situational Understanding (SU) is not part of the Software Pilot and remains within this budget line item.

A. Mission Description and Budget Item Justification

Cyber Situational Understanding (Cyber SU) funding line supports the Army Network Modernization Strategy LOE 2, Common Operating Environment (COE). Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy. This funding will be executed by Program Executive Office Command Control and Communications - Tactical (PEO C3T).

Cyber SU is a software-only, mission command application designed for use by maneuver commanders at the tactical level (Infantry, Armor, Stryker Brigade Combat Teams, Division, Corps, and Army Service Component Commands). Cyber SU is the first application of its kind designed for maneuver commanders focusing on tactical/ expeditionary combat operations to detect and mitigate cyber and electronic warfare threats and assist with decision making during combat operations.

Cyber SU produces a Cyber Electromagnetic Activity (CEMA) overlay on the commander's Common Operational Picture (COP) within the Command Post Computing Environment (CPCE) software, and is integrated on the Tactical Server Infrastructure (TSI) framework. Unlike Enterprise Cyber Mission Force(s) Tools Cyber SU was designed using the CPCE Software Development Kit (SDK), to operate within the constraints of TSI hardware, a bandwidth constrained tactical environment, and support COE standards on the Army's Command Post. The underlying Cyber SU framework is also being leveraged by the Air Force to ensure alignment with the Army and Air Force Combined Joint All Domain Command and Control (CJADC2). The Army will also continue to explore options to integrate Cyber SU functionality and data ingests between other Services.

Cyber SU provides the maneuver commander the ability to visualize and understand any cyber related impacts/threats to physical (geographical), logical (at a specific network internet protocol), and cyber persona layers (bad actors, from individuals to nation states) of tactical cyberspace data. Supporting CEMA, Cyber SU ingests existing data sources from related programs (e.g. DCO, TDI, CPCE, EWPM, UNO, DCGS-A), synchronizes and integrates blue (friendly), red (enemy), and grey (commercial/ private sector data), and enables collaboration therein at the tactical edge.

Cyber SU follows a five-year, Information Technology (IT) Box construct (FY20 - FY24) to deliver capability based on approved requirements. In this IT Box construct, Cyber SU is being developed in three capability drops (CDs): See Yourself (Initial Capability), See Your Cyber Battlespace (CD1), and Understand Your Cyber Battlespace (CD2). Each capability drop builds upon the previous drop in order to deliver Full Deployment of Cyber SU at the end of the five years. Cyber SU Initial Capability provides the Tactical Maneuver Commander and CEMA work group a user interface and data ingest focused on friendly operations. The CD 1 capability will ingest and integrate critical warfighting cyber data/ functionality (e.g. Cyber Threat Intelligence data, Electronic Warfare data, and Blue Order of Battle data, initial Red

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>	
Order of Battle data and initial grey data into actionable warfighter information. CD2 will finalize incorporation of Red Order of Battle data and grey data and incorporate advanced features and analytics for proactive decision making in support of multi-domain operations.			
Cyber SU FY22 funding supports the completion of maintenance and patching to allow for the delivery of the Cyber SU Initial capability in support of IOC planned in 3QFY22. Funding also supports the continued development, engineering, testing, training development and program management required to establish the Cyber SU CD 1 capability in support of CD 1 Limited Deployment planned for FY23. In addition, funding supports the initial development of CD2.			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021
Title: Development Engineering		18.504	17.273
Description: Leverage industry developed prototype software, as well as ingest and synchronize cyber data from multiple Program of Record (PoRs) to develop and engineer the Cyber SU capability.			
FY 2021 Plans: FY2021 funding supports the continued prototyping, development, and testing of systems engineering/architecture products, middleware and back-end services required to establish of the initial Cyber SU capability. Funds support incorporation of Cyber effects of the Command Post Computing Environment (CPCE) applications and critical warfighting functionality into the Cyber SU framework in order to achieve IOC 3QFY22. In addition, FY21 funding also supports the initial development of systems engineering/architecture products, middleware and back-end services required for Cyber SU CD 1 capability in support of CD 1 Limited Deployment planned for FY23. The CD 1 capability will ingest and integrate critical warfighting cyber data/ functionality (e.g. Cyber Threat Intelligence data, Electronic Warfare data, Blue Order of Battle data, initial Red Order of Battle data and initial grey data) into actionable warfighter information that is displayed on a CEMA overlay on the COP within CPCE. After development of each capability drop, funding will be utilized by the vendor to conduct regular software maintenance and patching. PEO C3T will execute these funds.			
FY 2022 Plans: FY2022 funding supports the completion of maintenance and patching to allow for the delivery of the Cyber SU Initial capability in support of IOC planned in 3QFY22. Cyber SU Initial Capability provides the Tactical Maneuver Commander and CEMA work group a user interface with data ingest focused on friendly operations displayed within the Command Post Computing Environment (CPCE). Funding also supports the continued development of systems engineering/architecture products, middleware and back-end services required to establish the Cyber SU CD 1 capability in support of CD 1 Limited Deployment planned for FY23. The CD 1 capability will ingest and integrate critical warfighting cyber data/ functionality (e.g. Cyber Threat Intelligence data, Electronic Warfare data, Blue Order of Battle data, initial Red Order of Battle data and initial grey data) into actionable warfighter information that is displayed on a CEMA overlay on the COP within CPCE. In addition, funding supports the initial development of CD2. CD2 will finalize incorporation of Red Order of Battle data and grey data and incorporate advanced features and analytics for proactive decision making in support of multi-domain operations. After development of each capability			
		15.073	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
drop, funding will be utilized by the vendor to conduct regular software maintenance and patching. PEO C3T will execute these funds. FY 2021 to FY 2022 Increase/Decrease Statement: Decrease due to reduced need for prototyping/development as the effort builds on an established initial capability.				
Title: Systems Test and Evaluation Description: Efforts include the planning and execution of T&E events including Developmental Test, Interoperability Testing, Software Acceptance Testing, Integration Events, Risk Reduction Events, and User Tests/Evaluations. FY 2021 Plans: FY 2021 funding will allow for the continued developmental testing (DT), user testing (UT) and user assessments (UA) for the initial Cyber SU capability, in order to gain user feedback to inform an operational assessment in 3QFY21. PEO C3T will execute these funds. FY 2022 Plans: FY 2022 funding will allow for the developmental testing (DT) of the Cyber SU CD 1 capability, in order to gain user feedback to inform development as well as an operational assessment in 3QFY22. PEO C3T will execute these funds. FY 2021 to FY 2022 Increase/Decrease Statement: Funding decrease due to a reduced amount of testing required. Further efficiency gained through consolidated PM Mission Command test events as a result of leveraging much of the same equipment and support personnel.		0.612	4.136	1.375
Title: Training Description: The development of training support products, including coordination with US Army Training and Doctrine Command (TRADOC) US Army Cyber Command, PORs, and related organizations to develop applicable program of instruction. FY 2021 Plans: FY 2021 funding provides for the continued development and verification/validation of the New Equipment Training (NET) training support package to support IOC 3QFY22. PEO C3T will execute these funds. FY 2022 Plans: FY 2022 funding provides for the development of the New Equipment Training (NET) training support package and software user manuals for Cyber SU CD 1. PEO C3T will execute these funds. FY 2021 to FY 2022 Increase/Decrease Statement:		-	0.501	0.659

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Slight increase due to additional integration required for Cyber SU training products to have similar features as the Command Post Computing Environment (CPCE) training.				
Title: Systems Engineering/Management		1.067	1.982	1.785
Description: Systems Engineering/Management includes business, technical and logistical staff support and overall management of program execution, major events and reporting.				
FY 2021 Plans: FY 2021 funding provides for program office staff (matrix and contractor) continued program execution support and to perform duties necessary to plan and execute activities and milestone events. PEO C3T will execute these funds.				
FY 2022 Plans: FY 2022 funding provides for program office staff (matrix and contractor) continued program execution support and to perform duties necessary to plan and execute activities and milestone events. PEO C3T will execute these funds.				
FY 2021 to FY 2022 Increase/Decrease Statement: Funding remains relatively constant.				
Accomplishments/Planned Programs Subtotals		20.183	23.892	18.892
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
N/A				
D. Acquisition Strategy				
The Cyber SU Information System-Initial Capabilities Document was approved on 18 July 2018 by the Joint Requirements Oversight Council. The Requirements Definition Package (RDP) was approved on 19 March 2019 by the Army Requirements Oversight Council Requirements Board. The Cyber SU program is under an Information Technology (IT) Box construct with a five (5) year term (FY20-24) which aligns with the current requirements. The IT Box will be renewed in 3QFY24 for the following five year term (FY25-29).				
The Program Executive Office, Command, Control and Communications-Tactical, Milestone Decision Authority, approved the Materiel Development Decision in Jun 2018, designating Cyber SU as an ACAT III AIS program. Cyber SU entered the Engineering and Manufacturing Development phase of the Acquisition Lifecycle with MDA approval of Milestone B conducted March 2020, and codified in an Acquisition Decision Memorandum April 2020.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
2040 / 5	PE 0605041A / <i>Defensive CYBER Tool Development</i>	CY5 / <i>CYBER Situational Understanding</i>

The program is utilizing an evolutionary and tailored acquisition under which Cyber SU will develop a series of testable, integrated subsets of capability to meet the overall full functional values of the RDP through the use of Capability Drops (CDs). Subsequent CDs are to be approved by the U.S. Army Cyber Center of Excellence in collaboration with U.S. Army Forces Command.

The program awarded a prototyping/development Other Transaction Authority (OTA) to Research Innovations Inc. (RII) in 3QFY20 in order to develop the initial Cyber SU capability. Cyber SU plans to ingest data from related programs (e.g, DCO, TDI, CPCE, EWPMPT, UNO, DCGS-A). Coordination and integration with complimentary programs and systems (sources of cyber data feeds) is an integral part of the program to ensure the data is made available to be consumed by the Cyber SU solution. The Army will also continue to explore options to integrate Cyber SU functionality and data ingests between other Services.

Cyber SU will be hosted on the Tactical Server Infrastructure (TSI) and will be fielded by the CPCE/TSI program in accordance with their fielding schedule.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>
--	---	--

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Systems Engineering/Management	C/FFP	CACI : APG, MD	-	1.067	Mar 2020	1.982		1.785	Mar 2022	-		1.785	Continuing	Continuing	-
Subtotal			-	1.067		1.982		1.785		-		1.785	Continuing	Continuing	N/A

Remarks
 FY20 contract award date reflects when option year was exercised.
 FY22 contract award date reflects when next option year is planned to be exercised.
 Funding remains relatively constant from FY21 to FY22.

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Cyber SU Prototyping/Development	C/FFP	Research Innovation Inc. (RII) : Alexandria, VA	-	18.504	Apr 2020	17.273		15.073	Dec 2021	-		15.073	Continuing	Continuing	-
Subtotal			-	18.504		17.273		15.073		-		15.073	Continuing	Continuing	N/A

Remarks
 FY20 contract award date reflects when Prototyping/Development OTA was awarded to RII.
 FY22 contract award date reflects when funding is estimated to be obligated.
 Decrease in funding from FY21 to FY22 is due to a reduced need for prototyping/development as the effort builds on an established initial capability.

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Training Development	MIPR	DLA : Philadelphia, PA	-	-		0.501		0.659	Jun 2022	-		0.659	Continuing	Continuing	-
Subtotal			-	-		0.501		0.659		-		0.659	Continuing	Continuing	N/A

Remarks
 FY22 contract award date reflects estimated obligation date of funds.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>
--	---	--

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Slight increase from FY21 to FY22 is due to additional integration required for Cyber SU training products to have similar features as the CPCE training.															

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Developmental/Integration/Interoperability Test	MIPR	WSEC : ACC, NJ	-	0.420	May 2020	2.127		0.594	Dec 2021	-		0.594	Continuing	Continuing	-
Test Support	C/FFP	CACI : APG, MD	-	0.133	Mar 2020	1.821		0.484	Mar 2022	-		0.484	Continuing	Continuing	-
Accreditation/Certification	C/FFP	CACI : APG, MD	-	0.059	Mar 2020	0.188		0.297	Mar 2022	-		0.297	Continuing	Continuing	-
Subtotal			-	0.612		4.136		1.375		-		1.375	Continuing	Continuing	N/A

Remarks
 FY20 contract award date reflects when option year was exercised/estimated obligation date of funds.
 FY22 contract award date reflects when option year is planned to be exercised/estimated obligation date of funds.
 Funding decrease from FY21 to FY22 is due to a reduced amount of testing required. Further efficiency gained through consolidated PM Mission Command test events as a result of leveraging much of the same equipment and support personnel.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	20.183	23.892	18.892	-	18.892	Continuing	Continuing	N/A

Remarks




UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>

Event Name	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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
Milestone B Approval		▲ 1 MS B																										
Prototype/Development and Testing-Initial Capability Drop																												
Integration/IAVAs/Patching-Initial Capability Drop																												
Limited Deployment Decision (Initial Capability)																												
Initial Operational Capability																												
Development and Testing- Capability Drop 1																												
Integration/IAVAs/Patching- Capability Drop 1																												
Limited Deployment Decision (Capability Drop 1)																												
Development/Testing- Capability Drop 2																												
Integration/IAVAs/Patching- Capability Drop 2																												
Full Deployment Decision (FDD) –Capability Drop 2																												
Prototype/Development and Testing- Capability Drop 3																												
Integration/IAVAs/Patching-Capability Drop 3																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>

Event Name	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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
Limited Deployment Decision (Capability Drop 3)																									 LDD-CD3			
Development and Testing- Capability Drop 4																									 Dev./Testing-CD 4			
Integration/IAVAs/Patching-Capability Drop 4																									 Int./IA			

Note
 Cyber SU Full Deployment is defined as when Cyber SU 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.

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army		Date: May 2021
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / <i>Defensive CYBER Tool Development</i>	Project (Number/Name) CY5 / <i>CYBER Situational Understanding</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
RDP Approval	2	2019	2	2019
Milestone B Approval	3	2020	3	2020
Prototype/Development and Testing-Initial Capability Drop	3	2020	3	2021
Integration/IAVAs/Patching-Initial Capability Drop	3	2021	1	2022
Limited Deployment Decision (Initial Capability)	2	2022	2	2022
Initial Operational Capability	3	2022	3	2022
Development and Testing- Capability Drop 1	3	2021	3	2022
Integration/IAVAs/Patching- Capability Drop 1	3	2022	3	2023
Limited Deployment Decision (Capability Drop 1)	3	2023	3	2023
Development/Testing- Capability Drop 2	3	2022	3	2023
Integration/IAVAs/Patching- Capability Drop 2	3	2023	3	2024
Full Deployment Decision (FDD) ?Capability Drop 2	4	2024	4	2024
Prototype/Development and Testing- Capability Drop 3	2	2025	3	2025
Integration/IAVAs/Patching-Capability Drop 3	4	2025	1	2026
Limited Deployment Decision (Capability Drop 3)	3	2026	3	2026
Development and Testing- Capability Drop 4	2	2026	3	2026
Integration/IAVAs/Patching-Capability Drop 4	4	2026	1	2027

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army										Date: May 2021		
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>EV5: Defensive CYBER Operations</i>	-	30.479	4.652	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Defensive Cyber Operations (DCO) programs were selected as a candidate for the BA8 Software RDT&E Appropriation Pilot Program beginning in FY2021. These efforts have been transferred to PE 0608041A Project CD1 beginning in FY2021.

FY2022 DCO Research Development Test and Evaluation (DCO Development Environment (DCODE)) funding associated with software platform infrastructure, integration, and assessments has been transferred to PE 0608041A Project CD1 in FY2022.

A. Mission Description and Budget Item Justification

Defensive Cyber Operations (DCO) and Tactical DCO Infrastructure (TDI) support the Army Network Modernization Strategy Line of Effort (LOE) Key Enabler for the Unified Network. These efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

FY2022 DCO budget line provides funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Cyber Situational Understanding (Cyber SU).

Platforms/Levels:

- * DCO - Tactical DCO Infrastructure (TDI) // (FY2022 funds captured in the Pilot program) // (PEO C3T)
- * DCO - Cyberspace Analytics // (FY2022 funds captured in the Pilot program) // (PEO EIS)

Defensive Cyber Tools and Analytics:

- * DCO - Mission Planning // (FY2022 funds captured in the Pilot program) // (PEO EIS)
- * DCO - User Activity Monitoring // (FY2022 funds captured in the Pilot program) // (PEO EIS)
- * DCO - DCO Development Environment (DCODE Forge) // (FY2022 funds captured in the Pilot program) // (PEO EIS)
- * DCO - Army Cyber Command (ARCYBER) Rapid Cyber Prototyping // (FY2022 funds captured in the Pilot program) // (ARCYBER)

655041EV5:

- (Legacy) Tactical DCO Infrastructure (TDI) is a software-only program, which consists of pre-configured DCO tools residing on the Tactical Server Infrastructure (TSI). The TDI capability will reside within the Command Post at echelon Corps through Brigade for both organic Cyber Network Defenders as well as remote access by Cyber Protection teams (CPT) to support defense of the Tactical Network.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army	Date: May 2021
--	-----------------------

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>
--	---	---

- 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), Army Cyberspace Operations and Integration Center (ACOIC), (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.

- (Legacy) 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) 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. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: DCO - Tactical DCO Infrastructure (TDI) (PEO C3T)</p> <p>Description: DCO Tactical DCO Infrastructure is a software-only program which consists of pre-configured DCO Tools on the Tactical Server Infrastructure (TSI) residing within the Command Post, at Brigade through Corps, for both organic Cyber Network Defenders as well as remote access by Cyber Protection Teams (CPTs) to support defense of the tactical network.</p>	4.794	-	-
<p>Title: DCO - Cyberspace Analytics (PEO EIS)</p> <p>Description: 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>	14.707	-	-
<p>Title: DCO - Mission Planning (PEO EIS)</p> <p>Description: DCO Mission Planning (DCOMP) solution acts as the lead application integrator for the Army's Big Data Platform. It is a software application-based, scalable warfighting capability for Army DCO mission command and planning at the tactical and strategic levels.</p>	2.184	-	-
<p>Title: DCO - User Activity Monitoring (PEO EIS)</p> <p>Description: DCO User Activity Monitoring is the primary capability within the Army's overall Insider Threat program. UAM is primarily a software-based, scalable solution (some hardware in the on-premise solution) that proactively identifies and mitigates</p>	1.588	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021		
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 2020	FY 2021	FY 2022
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>Title: DCO - Development Environment (formerly Forge) (PEO EIS)</p> <p>Description: 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>FY 2021 Plans: FY 2021 funding continues assessment of new cyber technologies within controlled environment, test capabilities in integrated environment, provide virtual training access 24/7 worldwide, and test/push approved enhancement remotely.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: FY2022 DCO Research Development Test and Evaluation (DCO Development Environment (DCODE)) funding associated with software platform infrastructure, integration, and assessments has been transferred to PE 0608041A Project CD1 in FY2022.</p>		4.643	3.653	-
<p>Title: DCO - Rapid Cyber Prototyping (ARCYBER)</p> <p>Description: 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) 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.</p> <p>FY 2021 Plans: FY 2021 funding supports the Rapid prototyping efforts and assessment 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.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: There is no funding budgeted in FY 2022.</p>		1.000	0.999	-
<p>Title: DCO - Management Services (PEO EIS)</p>		1.563	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021
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 2020	FY 2021	FY 2022
Description: Program management services consists of System Engineering and Technical Assistance (SETA) contractors and government/contract matrix support from Software Engineering Center (SEC), Information Systems Engineering Command (ISEC), and Army Test and Evaluation Command (ATEC) for development engineering, integration, and testing of software based DCO capabilities.			
Accomplishments/Planned Programs Subtotals	30.479	4.652	-

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

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• B63103: <i>Advanced Cyber Tool Development</i>	56.962	41.153	27.389	-	27.389	-	-	-	-	-	-
• B89001: <i>Insider Threat Program - Unit Activity Monitoring</i>	0.756	1.760	-	-	-	-	-	-	-	-	-
• 0608041A: <i>Defensive CYBER - Software Prototype Development</i>	-	56.706	118.811	-	118.811	-	-	-	-	-	-

Remarks

OPA PE B63103 - DCO hardware procurement, fielding, and new equipment training for Garrison Defensive Platform, Deployable DCO Systems, and DCODE Army.
 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 0608041A - DCO Software Pilot Program starting in FY21.

D. Acquisition Strategy

The DCO Information System Initial Capabilities Document 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 a capability's projected lifecycle of five (5) years. Current IT Box will expire in 4QFY2022 and planned to be renewed in 1QFY2022.

The Milestone Decision Authority (MDA) approved the Materiel Development Decision (MDD) on 13 April 2018 designating TDI as an ACAT III program. The Tactical DCO Infrastructure (TDI) program RDP was approved on 8 November 2018 by the Army Requirement Board (ARB). Under subsequent reviews, the MDA approved a tailored defense unique software intensive acquisition approach for TDI. To support this agile acquisition approach, the TDI program office will develop and deploy pre-configured software in a series of capability drops in order to deliver full functional values of the RDP that align with DCO priorities. The TDI program had a Full Deployment Decision (FDD) of TDI's initial capability approved by the MDA on September 2019, which allowed the program to achieve Initial Operational Capability

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Army	Date: May 2021
--	-----------------------

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>
--	---	---

(IOC) in October 2019. TDI is hosted on the Tactical Server Infrastructure (TSI) and will be fielded by the CPCE/TSI program in accordance with their fielding schedule. Execution of the TDI program will be a combination of government entities and commercial vendors.

The ARB approved Cyber Analytics RDP on 18 May 2018; DCO Mission Planning on 8 November 2018; and User Activity Monitoring on 18 March 2019. The DCODE RDP approval is targeted for 3QFY2021. The MDA designated these as ACAT IV programs. Under subsequent reviews, the MDA approved agile acquisition approach to develop and deliver preconfigured 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 FY2018 National Defense Authorization Act (NDAA) 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).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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)	C/FFP	CACI : Aberdeen Proving Ground (APG), MD	8.275	0.471	Mar 2020	-		-		-		-	0.000	8.746	-
DCO - Cyberspace Analytics (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.552	-		-		-		-		-	0.000	0.552	-
DCO - Tools Suite (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.189	-		-		-		-		-	0.000	0.189	-
DCO - Garrison Defensive Platform (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.913	-		-		-		-		-	0.000	0.913	-
DCO - Mission Planning (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.542	-		-		-		-		-	0.000	0.542	-
DCO - Deployable DCO System (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.189	-		-		-		-		-	0.000	0.189	-
DCO - Management Services (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	1.726	2.221	Oct 2019	-		-		-		-	0.000	3.947	-
Subtotal			12.386	2.692		-		-		-		-	0.000	15.078	N/A

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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 - TDI (PEO C3T)	C/CPFF	Parsons and CACI : Aberdeen Proving Ground (APG), MD	11.340	3.613	Jan 2020	-		-		-		-	0.000	14.953	-
DCO - Cyberspace Analytics (PEO EIS)	C/FFP	ACC-RI : IL	35.777	14.647	Dec 2019	-		-		-		-	0.000	50.424	-
DCO - Garrison Defensive Platform (PEO EIS)	C/FFP	ACC-RI : IL	2.060	-		-		-		-		-	0.000	2.060	-
DCO- Garrison Defensive Platforms (PEO EIS)	C/Various	ACC-PI : NJ	9.690	-		-		-		-		-	0.000	9.690	-
DCO - Mission Planning (PEO EIS)	C/CPFF	ACC-RI : IL	8.133	2.184	Feb 2020	-		-		-		-	0.000	10.317	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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 - User Activity Monitoring (PEO EIS)	C/T&M	ACC-RI : IL	-	1.588	Feb 2020	-		-		-		-	0.000	1.588	-
DCO- Threat Emulation (PEO EIS)	C/FFP	ACC-RI : IL	0.761	-		-		-		-		-	0.000	0.761	-
DCO - Rapid Cyber Prototyping (ARCYBER)	C/TBD	ACC-RI : IL	-	1.000	Apr 2020	0.999	Jun 2021	-		-		-	0.000	1.999	-
DCO- Mission Planning (PEO EIS)	MIPR	USAF, AFMC AIR FORCE RESEARCH LAB : NY	14.520	-		-		-		-		-	0.000	14.520	-
Subtotal			82.281	23.032		0.999		-		-		-	0.000	106.312	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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 - TDI (PEO C3T)	MIPR	DLA : Philadelphia, PA	0.174	0.156		-		-		-		-	0.000	0.330	-
Subtotal			0.174	0.156		-		-		-		-	0.000	0.330	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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 - TDI (PEO C3T)	MIPR	A TEC : Aberdeen Proving Ground (APG), MD	1.896	0.554	Jan 2020	-		-		-		-	0.000	2.450	-
DCO - Cyberspace Analytics (PEO EIS)	IA	A TEC & SEC : MD	4.923	-		-		-		-		-	0.000	4.923	-
DCO - Tools Suite (PEO EIS)	IA	A TEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-
DCO - Garrison Defensive Platform (PEO EIS)	IA	A TEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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 - Deployable DCO System (PEO EIS)	IA	ATEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-
DCO - Mission Planning (PEO EIS)	MIPR	ATEC : MD	1.865	-		-		-		-		-	0.000	1.865	-
DCO - DCO Development Environment (DCODE, formerly Forge (PEO EIS))	IA	ATEC & SEC & TOBYHANNA : Various	2.747	4.045	Jan 2020	3.653	Jan 2021	-		-		-	Continuing	Continuing	Continuing
Subtotal			12.931	4.599		3.653		-		-		-	Continuing	Continuing	N/A
Project Cost Totals			107.772	30.479		4.652		-		-		-	Continuing	Continuing	N/A

Remarks
DCO-TDI(PEO C3T): Award dates reflect the date that funding was/will be sent onto a pre-existing contract or to another organization.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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- IOC	▲ 1 TDI IOC																											
DCO - TDI Development/Integration/Testing-CD 1																												
DCO - Cyberspace Analytics POR Contract																												
DCO - Mission Planning POR Contract																												
DCO - Mission Planning Capability Drop #2	▲ 2 DCO MP Capability Drop #2																											
DCO - Mission Planning Capability Drop #3																												
DCO - User Activity Monitoring POR Award	▲ 3 DCO UAM POR Award																											
DCO - User Activity Monitoring POR Contract																												
DCO - User Activity Monitoring Employ on CASE Network																												
DCO - User Activity Monitoring Integrate with BDP																												
DCO - User Activity Monitoring Behavioral Analytics																												
DCO - Threat Emulation RDP Approval	▲ 4 DCO Threat Emulation																											
DCO - Threat Emulation Program of Record																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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 - Development Environment (formerly Forge)	██████████				██████████				██████████																			
DCO - Management Services	██████████				██████████				██████████																			
DCO - ARCYBER Rapid Cyber Prototyping (DRUID)	██████████				██████████				██████████																			
DCO - ARCYBER Rapid Cyber Prototyping (Inception)	██████████				██████████				██████████																			
DCO - ARCYBER Rapid Cyber Prototyping (Rapid Proto/Capability Assessments)	██████████				██████████				██████████																			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army		Date: May 2021
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
DCO - Tactical DCO-Infrastructure (TDI) - RDP Approval	3	2018	3	2018
DCO - TDI Development/Integration/Testing-Initial	1	2019	4	2019
DCO - TDI - Full Deployment Decision- Initial Capability	4	2019	4	2019
DCO - TDI- IOC	1	2020	1	2020
DCO - TDI Development/Integration/Testing-CD 1	4	2019	4	2020
DCO- Cyberspace Analytics RDP Approval	3	2018	3	2018
DCO - Cyberspace Analytics POR Award	1	2019	1	2019
DCO - Cyberspace Analytics POR Contract	2	2019	4	2020
DCO - Cyberspace Analytics Capability Drop #1	1	2019	1	2019
DCO - Cyberspace Analytics Capability Drop #2	2	2019	2	2019
DCO - Cyberpace Analytics Capability Drop #3	3	2019	3	2019
DCO - Mission Planning RDP Approved	3	2018	3	2018
DCO - Mission Planning POR Award	1	2019	1	2019
DCO - Mission Planning POR Contract	2	2019	4	2020
DCO - Mission Planning Capability Drop #1	4	2019	4	2019
DCO - Mission Planning Capability Drop #2	1	2020	1	2020
DCO - Mission Planning Capability Drop #3	2	2020	2	2020
DCO - User Activity Monitoring Prototype Award	1	2019	4	2019
DCO - User Activity Monitoring RDP Approval	1	2019	1	2019
DCO - User Activity Monitoring POR Award	1	2020	1	2020
DCO - User Activity Monitoring POR Contract	1	2020	4	2020
DCO - User Activity Monitoring Employ on CASE Network	1	2020	2	2020

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army **Date:** May 2021

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>
--	---	---

Events	Start		End	
	Quarter	Year	Quarter	Year
DCO - User Activity Monitoring Integrate with BDP	2	2020	3	2020
DCO - User Activity Monitoring Behavioral Analytics	3	2020	4	2020
DCO - Threat Emulation RDP Approval	1	2020	1	2020
DCO - Threat Emulation Program of Record	1	2020	4	2020
DCO - Development Environment (formerly Forge)	1	2019	4	2021
DCO - Management Services	1	2019	4	2020
DCO - ARCYBER Rapid Cyber Prototyping (DRUID)	3	2020	2	2021
DCO - ARCYBER Rapid Cyber Prototyping (Inception)	4	2020	4	2021
DCO - ARCYBER Rapid Cyber Prototyping (Rapid Proto/Capability Assessments)	3	2021	3	2022

Note

Full operational capability is defined when programs have completed the development and testing of the last capability drop within the IT Box (reaching full functional values of the RDP).

Current DCO and TDI IT box ends in FY22. Army Capabilities Manager (ACM, formerly TRADOC Capability Manager (TCM)) is working to renew the IT Box construct for FY23-27.