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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 United States Cyber Command **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0208086JCY I <i>Cyber Training Environment</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	114.980	-	114.980	158.345	126.987	123.271	139.613	Continuing	Continuing
CY01: <i>Cyber Training Environment</i>	0.000	0.000	0.000	114.980	-	114.980	158.345	126.987	123.271	139.613	Continuing	Continuing

Note

A. Mission Description and Budget Item Justification

Persistent Cyber Training Environment (PCTE) supports the United States Cyber Command (USCYBERCOM) by enabling the critical need for the DoD Cyber Mission Force (CMF) to train at the individual, team, and force level. PCTE provides the DoD CMF with a standardized training capability that maximizes shared content across the Services. PCTE is able to emulate network environments as well as connect with other range environments and cyber training assets. The Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI) was designated as the DoD Acquisition Lead for the PCTE and the program is directed by the 2016 National Defense Authorization Act, Section 1645. With the Joint Requirements Oversight Council (JROC) validation of the Information System - Capability Development Document (IS- CDD) on 4 November 2019, the PCTE program quickly achieved Milestone B on 6 December 2019. Through ongoing rapid prototyping efforts, the PCTE platform has fulfilled the critical need for a CMF standardized training capability upon release of PCTE Version 2 in Fourth Quarter Fiscal Year 2020, and continues to do so with ongoing version releases.

FY 2024 PCTE funding will focus on Commander United States Cyber Command (CDRUSCYBERCOM) priorities within platform releases to include capability improvements that enhance Cyber Mission Force (CMF) operations and support mission readiness. Areas of planned enhancements will focus on feature updates and capacity expansion required to deliver initial PCTE schoolhouse training, improved CMF Joint Qualification Requirements (JQRs) training and increased mission rehearsal capabilities. The PCTE platform will continue collaboration with all stakeholders within the Joint Cyber Warfighting Architecture (JCWA), and continue integration efforts across the JCWA portfolio as prioritized through USCYBERCOM. The PCTE platform will maintain accreditations at all required classification levels that to serve DoD CMF user training at the all domains classification levels. Platform infrastructure and licensing will be maintained to support the full DoD CMF user base.

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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	114.980	0.000	114.980
Total Adjustments	0.000	0.000	114.980	0.000	114.980
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Transfer-In / PDM and PBD Growth	0.000	0.000	114.980	-	114.980

Change Summary Explanation

In FY 2024, the Military Services and the Defense Information Services Agency (DISA) transferred resources to USCYBERCOM. The transfer of the responsibilities for the planning, programming, budgeting, and execution of these resources to USCYBERCOM satisfy Congressional requirements contained in the FY22 NDAA, Section 1507 (Public Law 117-81, December 27, 2021).

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Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Cyber Command										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0208086JCY / <i>Cyber Training Environment</i>				Project (Number/Name) CY01 / <i>Cyber Training Environment</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CY01: <i>Cyber Training Environment</i>	0.000	0.000	0.000	114.980	-	114.980	158.345	126.987	123.271	139.613	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Persistent Cyber Training Environment (PCTE) supports the United States Cyber Command (USCYBERCOM) by enabling the critical need for the DoD Cyber Mission Force (CMF) to train at the individual, team, and force level. PCTE provides the DoD CMF with a standardized training capability that maximizes shared content across the Services. PCTE is able to emulate network environments as well as connect with other range environments and cyber training assets. The Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI) is designated as the DoD Acquisition Lead for the PCTE and the program is directed by the 2016 National Defense Authorization Act, Section 1645. With the Joint Requirements Oversight Council (JROC) validation of the Information System - Capability Development Document (IS- CDD) on 4 November 2019, the PCTE program quickly achieved Milestone B on 6 December 2019. Through ongoing rapid prototyping efforts, the PCTE platform fulfilled the critical need for a CMF standardized training capability upon release of PCTE Version 2 in the Fourth Quarter Fiscal Year 2020, and continues to do so with ongoing releases.

FY 2024 PCTE funding will focus on Commander United States Cyber Command (CDRUSCYBERCOM) priorities within platform releases to include capability improvements that enhance Cyber Mission Force (CMF) operations and support mission readiness. Areas of planned enhancements will focus on feature updates and capacity expansion required to deliver initial PCTE schoolhouse training, improved CMF Joint Qualification Requirements (JQRs) training and increased mission rehearsal capabilities. The PCTE platform will continue collaboration with all stakeholders within the Joint Cyber Warfighting Architecture (JCWA) and continue integration efforts across the JCWA portfolio as prioritized through USCYBERCOM. The PCTE platform will maintain accreditations at all required classification levels that serve the DoD CMF for user training on all domain levels. Platform infrastructure and licensing will be maintained to support the full DoD CMF user base.

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

	FY 2022	FY 2023	FY 2024
Title: Event Management for Persistent Cyber Training Environment (PCTE)	0.000	-	68.221
Description: Design, build and iterate PCTE capabilities; build upon individual, collective and institutional training features supporting operational force training requirements supported by standardized training assessment tools and capabilities; develop improved readiness functions, event scheduling, allocation and management for PCTE to include event design, planning, and execution.			
FY 2024 Plans: FY 2024 PCTE funding will focus on Commander United States Cyber Command (CDRUSCYBERCOM) priorities within platform releases to include capability improvements that enhance Cyber Mission Force (CMF) operations and support mission readiness. Areas of planned enhancements are comprised of PCTE application features and capability updates required to accelerate initial			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>PCTE schoolhouse training, improve CMF Joint Qualification Requirements (JQRs) training, and increase mission rehearsal capabilities. Improvements to features such as readiness assessment, traffic generation, learning management, training content development and discoverability will continue to mature to support USCYBERCOM holistic readiness objectives.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY 2024, the Military Services and the Defense Information Services Agency (DISA) transferred resources to USCYBERCOM. The transfer of the responsibilities for the planning, programming, budgeting, and execution of these resources to USCYBERCOM satisfy Congressional requirements contained in the FY22 NDAA, Section 1507 (Public Law 117-81, December 27, 2021).</p>				
<p>Title: Environment Operations and Management for Persistent Cyber Training Environment (PCTE)</p> <p>Description: Development of PCTE with mission-relevant terrain and realistic vignettes/scenarios as part of a system (syllabus) of individual and collective training that includes certification and real-world mission rehearsals.</p> <p>FY 2024 Plans: FY 2024 PCTE funding will continue to focus on USCYBERCOM priorities to integrate the capability as part of the JCWA data fabric in collaboration with all component stakeholders. To enhance Cyber Mission Force (CMF) operations and support mission readiness, PCTE plans to focus on JCWA mission objectives that increase mission relevant content sharing, integration computation and data exchange.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY 2024, the Military Services and the Defense Information Services Agency (DISA) transferred resources to USCYBERCOM. The transfer of the responsibilities for the planning, programming, budgeting, and execution of these resources to USCYBERCOM satisfy Congressional requirements contained in the FY22 NDAA, Section 1507 (Public Law 117-81, December 27, 2021).</p>		0.000	-	7.399
<p>Title: Physical and Virtual Connectivity for the Persistent Cyber Training Environment (PCTE)</p> <p>Description: PCTE maintains an infrastructure that is highly dynamic mainly consisting of Regional Compute and Storage (RCS) nodes that enables on demand, reliable, and secure virtual access from anywhere participants are geographically located. Additionally, the PCTE RCS infrastructure creates a core cyber exercise integrated network and event management platform to support CMF training on all domains and classification levels.</p> <p>FY 2024 Plans: FY 2024 PCTE funding will focus on CDRUSCYBERCOM priorities that enable the platform infrastructure to scale to meet Cyber Mission Force (CMF) readiness objectives. As part of the technical refresh strategy, PCTE will introduce a scalable enterprise platform infrastructure. This new approach provides enhancements to expand RCS capacity and deliver infrastructure improvements required to enable schoolhouse training on PCTE, significantly advance CMF Joint Qualification Requirements</p>		0.000	-	37.610

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>(JQRs) training and increase mission rehearsal capabilities. To support readiness, PCTE infrastructure will continue to leverage DoD and commercial enterprise transport services at the Unclassified, Secret/Releasable, and Top-Secret enclaves.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY 2024, the Military Services and the Defense Information Services Agency (DISA) transferred resources to USCYBERCOM. The transfer of the responsibilities for the planning, programming, budgeting, and execution of these resources to USCYBERCOM satisfy Congressional requirements contained in the FY22 NDAA, Section 1507 (Public Law 117-81, December 27, 2021).</p>				
<p>Title: Persistent Cyber Training Environment (PCTE) Test and Evaluation</p> <p>Description: PCTE integration, development, and operational testing which includes validation and verifications (V&V), operational assessments (OA), and testing in association with cyber training exercises. These areas are incorporated throughout the Product Manager (PM) Development Operations (DevOps) process in coordination with the Director, Operational Test and Evaluation (DOT&E). An Operational Test Authority (OTA) has been incorporated to conduct operational testing leveraging DevOps testing processes.</p> <p>FY 2024 Plans: Testing will continue in FY 2024 with integration and V&V testing of the PCTE capability on a per-version basis. To decrease the time it takes to identify and resolve emerging Cyber threats on the platform, PCTE will be subject to continuous Cybersecurity-focused test activities in FY 2024 through a concept called Persistent Cyber Operations. Operational Test efforts in FY 2024 include integration testing with other platforms within the Joint Capability Warfighter Architecture (JCWA).</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY 2024, the Military Services and the Defense Information Services Agency (DISA) transferred resources to USCYBERCOM. The transfer of the responsibilities for the planning, programming, budgeting, and execution of these resources to USCYBERCOM satisfy Congressional requirements contained in the FY22 NDAA, Section 1507 (Public Law 117-81, December 27, 2021).</p>		0.000	-	1.750
Accomplishments/Planned Programs Subtotals		0.000	-	114.980
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
N/A				
D. Acquisition Strategy				
The PCTE program employs an incremental acquisition strategy leveraging a number of contracting vehicles and acquisition streamlining methods to deliver capability rapidly and efficiently. Through the execution of existing cyber contracts, Other Transactional Authority (OTA) contracts, and Federal Acquisition Regulation (FAR)				

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based contracts, the PCTE program is able to continue enabling the PCTE platform to achieve scalability, optimization, innovation, and quality standards to meet the dynamic needs of the CMF user base. The Product Manager awarded an integration focused Single Award Indefinite Delivery/Indefinite Quantity (ID/IQ) contract to serve PCTE as well as other cyber community customers called the Cyber Training, Readiness, Integration, Delivery, and Enterprise Technology (TRIDENT) contract on Q1 FY2022. The Cyber TRIDENT contract enables PCTE to provide iterative capability provided to the CMF in Capability Drops (CDs) that either improve or add features. These CDs will be based on requirements contained and further developed as part of the PCTE Information System - Capability Development Document (IS-CDD). This is a major capability acquisition that will continue to deliver capability in line with Information Technology (IT) Box requirements strategy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 United States Cyber Command **Date:** March 2023

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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
PCTE Development and Integration Support	C/IDDQ	Various : Various	-	-		-		7.399	Mar 2024	-		7.399	Continuing	Continuing	-
PCTE Cyber Training, Readiness, Integration, Delivery, and Enterprise Technology (TRIDENT) Contract	C/IDDQ	Various : Various	-	-		-		63.705	May 2024	-		63.705	Continuing	Continuing	-
PCTE Development and Integration - Other Contracts	Option/ FFP	Various : Various	-	-		-		42.126	Apr 2024	-		42.126	Continuing	Continuing	-
Subtotal			-	-		-		113.230		-		113.230	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
PCTE Government Test and Evaluation	Option/ Various	Various : Various	-	-		-		1.750	Apr 2024	-		1.750	Continuing	Continuing	-
Subtotal			-	-		-		1.750		-		1.750	Continuing	Continuing	N/A

Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
-	-	-	114.980	-	114.980	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 United States Cyber Command **Date:** March 2023

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Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Platform Releases (v1.0 - v7.0) - (IS-CDD 1)	Platform Releases [v1.0 - v7.0] - [IS-CDD 1]																											
PCTE v4.0	1 PCTEv4.0																											
PCTE v5.0	2 PCTEv5.0																											
PCTE v6.0	3 PCTEv6.0																											
PCTE v7.0	4 PCTEv7.0																											
Platform Releases (v8.0 - v13.0) - (IS-CDD 2)																	Platform Releases [v8.0] - [IS-CDD 2]											
PCTE v8.0																	5 PCTEv8.0											
PCTE v9.0																					6 PCTEv9.0							
PCTE v10.0																					7 PCTEv10.0							
PCTE v11.0																					8 PCTEv11.0							
PCTE v12.0																					9 PCTEv12.0							
PCTE v13.0																					10 PCTEv13.0							

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 United States Cyber Command		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>PCTE v8.0 (IS-CDD 2)</i>				
PCTE v9.0	2	2024	2	2024
<i>PCTE v10.0</i>				
PCTE v11.0	4	2025	4	2025
<i>PCTE v12.0</i>				
PCTE v13.0	4	2026	4	2026