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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 Program Element (Number/Name) PE 0305251A / Cyberspace Operations Forces and Force Support
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	40.510	-	40.510	56.509	52.820	52.128	53.625	Continuing	Continuing
FA8: Cyberspace Operations Forces and Force Support	-	0.000	0.000	40.510	-	40.510	56.509	52.820	52.128	53.625	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Persistent Training Environment (PTE) will provide the Department of Defense (DoD) cyber forces with a capability that uses a combination of loosely affiliated or independent virtual environments with varied capabilities that are not scalable or extensible. The current environment constrains training capabilities and capacity, but lack a joint or standard approach consistent with a broader vision of PTE. PTE system approaches are aligned to the outputs of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD AT&L) and Chairman of the Joint Chiefs of Staff (CJCS) J6 led, "Cyber Range Evaluation of Alternatives (EOA) Findings and Issue Paper Deliberations," dated 17 November 2015. The US Army acknowledges it is the lead candidate service to perform as the Executive Agent (EA) for Cyber Training Ranges and DoD Acquisition Lead for the PTE.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	40.510	-	40.510
Total Adjustments	0.000	0.000	40.510	-	40.510
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	40.510	-	40.510

Change Summary Explanation

FY 2017 Plans: Funds support the initial Pilot activities within a materiel development strategy to deliver capabilities which will duplicate, emulate, and simulate cyberspace operational environments with associated missions of the DoD cyber force.

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Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0305251A / <i>Cyberspace Operations Forces and Force Support</i>				Project (Number/Name) FA8 / <i>Cyberspace Operations Forces and Force Support</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
FA8: <i>Cyberspace Operations Forces and Force Support</i>	-	0.000	0.000	40.510	-	40.510	56.509	52.820	52.128	53.625	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

NEW START

A. Mission Description and Budget Item Justification

The Persistent Training Environment (PTE) will provide the Department of Defense (DoD) cyber force with a capability that uses a combination of loosely affiliated or independent virtual environments with varied capabilities that are not scalable or extensible. The current environment constrains training capabilities and capacity, but lack a joint or standard approach consistent with a broader vision of PTE. PTE system approaches are aligned to the outputs of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD AT&L) and Chairman of the Joint Chiefs of Staff (CJCS) J6 led, "Cyber Range Evaluation of Alternatives (EOA) Findings and Issue Paper Deliberations," dated 17 November 2015. The US Army acknowledges it is the lead candidate service to perform as the Executive Agent (EA) for Cyber Training Ranges and DoD Acquisition Lead for the PTE.

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

	FY 2015	FY 2016	FY 2017
Title: Event Management	-	-	10.510
Description: EVENT MANAGEMENT: Dedicated event scheduling, allocation, and management functions for event design, planning and execution, supported by standardized training assessment tools and capabilities.			
FY 2017 Plans:			
EVENT MANAGEMENT: Dedicated event scheduling, allocation, and management functions for event design, planning and execution, supported by standardized training assessment tools and capabilities.			
a.) OPFOR Environment: Capability to provide environment to support live and automated OPFOR capability which is realistically tailored to the training audience.			
b.) System Capacity: Capability to support individual and collective training, certification and recertification activities within definitive timelines.			
c.) Modeling and Simulations: Capability to provide training event data collection for event replay and archiving to include operation of the cyber range and instrumentation and tools.			
d.) Assessments and Management: Capability to provide assessment and analysis support to include analytics, metrics, and Master Scenario Event List (MSEL) execution.			
Title: Environment	-	-	10.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
<p>Description: Operate the PTE with 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 2017 Plans: 2.) ENVIRONMENT: Operate the PTE with realistic vignettes/scenarios as part of a system (syllabus) of individual and collective training that includes certification and real-world mission rehearsals. a.) Interoperability: Capability to generate a training network that is able to emulate an operational network. b.) System Capacity: Capability to reconstitute the environment from a given save point. Incorporates pre-determined standardized environment constructs and scenarios. c.) Modeling and Simulations: Capability to replicate current/future requirements and threats.</p>				
<p>Title: Connectivity</p> <p>Description: On-Demand reliable, secure physical and virtual global access from wherever participants are geographically located. A core cyber exercise network and event management platform with access to the full suite of DoD, Service, Interagency, Multinational, and States' distributed systems.</p> <p>FY 2017 Plans: 3.) CONNECTIVITY: On-Demand reliable, secure physical and virtual global access from wherever participants are geographically located. A core cyber exercise network and event management platform with access to the full suite of DoD, Service, Interagency, Multinational, and States' distributed systems. a.) System Accessibility: Capability to provide user interface as well as to facilitate user provided assets (crew training facility, system under test, and other user assets). b.) System Capacity: Capability to support network capacity for multiple engagements from multiple sites and connections (to include intra-range entities, between ranges, cross-domain solutions, and other resources) c.) Interoperability: Capability to ensure interoperability standards for integration of environments and service assets at geographically separated locations. d.) Cybersecurity Measures: Capability to ensure continuous enforcement of security policies to prevent successful intrusions, protect data at rest, and eradicate the threat to and cause of any incident.</p>		-	-	10.000
<p>Title: TRAINING SITES</p> <p>Description: TRAINING SITES: Capability to enable and provide the CMF to connect to the PTE from Base, Post, Camp, Station, or Deployed Locations for distributed cyber training, certification, and major training events.</p> <p>FY 2017 Plans:</p>		-	-	10.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
<p>TRAINING SITES: Capability to enable and provide the CMF to connect to the PTE from Base, Post, Camp, Station, or Deployed Locations for distributed cyber training, certification, and major training events.</p> <p>a.) System Capacity: Capability to connect training sites to PTE (Unclassified through Top Secret and SAP)</p> <p>b.) System Accuracy: Capability to develop foundational documentation or continuous rework of documentation to include team TTPs and Validation.</p>				
Accomplishments/Planned Programs Subtotals		-	-	40.510
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Acquisition strategy is awaiting approval by the governance structure to include Army, USCYBERCOM, USD (P&R), Joint Staff, and the Services.				
E. Performance Metrics				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016				
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Product Development (\$ in Millions)																
				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Operations Forces and Force Support	C/TBD	Various : Various	0.000	-		-		40.510		-		40.510	0	40.510	0	
Subtotal			0.000	-		-		40.510		-		40.510	0.000	40.510	0.000	
				Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				0.000	-		0.000		40.510		-		40.510	0.000	40.510	0.000
<u>Remarks</u>																

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Event Management									Event Management																			
Environment									Environment																			
Connectivity									Connectivity																			
Training Sites									Training Sites																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Event Management	2	2017	2	2021
Environment	2	2017	2	2021
Connectivity	2	2017	2	2021
Training Sites	2	2017	2	2021

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