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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0306250F / <i>Cyber Operations Technology Support</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	-	226.073	282.218	234.576	0.000	234.576	0.000	0.000	0.000	0.000	Continuing	Continuing
646008: <i>US Cyber Command Technology Development</i>	-	226.073	282.218	234.576	0.000	234.576	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

US Cyber Command's (USCYBERCOM) mission is to deter or defeat strategic threats to US interests and infrastructure, provide mission assurance for the operations and defense of the Department of Defense information environment, and support the achievement of Joint Force Commander objectives.

USCYBERCOM in conjunction with the Services and National Agencies will develop and expand infrastructure architectures and capabilities/tools to support Cyber Mission Forces (CMF). Focus is on four broad program areas: Joint Common Services, Joint Access Platforms, Joint Weapons, and Joint Sensors.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY21 \$0.000M was expended for civilian pay expenses in this program element, and in FY22 \$0.000M is forecasted for civilian pay expenses in this program element.

The FY 2023 funding request was reduced by \$17.074 million to account for the availability of prior year execution balances.

The specific details and aspects of these cyber activities are classified and will be provided on a need-to-know basis.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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<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	234.395	242.499	0.000	0.000	0.000
Current President's Budget	226.073	282.218	234.576	0.000	234.576
Total Adjustments	-8.322	39.719	234.576	0.000	234.576
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-8.322	0.000			
• Other Adjustments	0.000	39.719	234.576	0.000	234.576

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 646008: *US Cyber Command Technology Development*

Congressional Add: *Cloud Communications Validation Pilot*

Congressional Add Subtotals for Project: 646008

Congressional Add Totals for all Projects

	<b>FY 2021</b>	<b>FY 2022</b>
	0.000	0.000
	0.000	0.000
	0.000	0.000

**Change Summary Explanation**

The FY 2022 Appropriations Law, Division N--Ukraine Supplemental, Title III added \$39.719M to PE 0306250F.

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

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

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Title:</b> Joint Common Services	40.201	60.504	60.550
<b>Description:</b> Provides mission/business enabling IT infrastructures, business IT capabilities and life-cycle sustainment; supports internal mission/business operations for USCYBERCOM; and enables JCWA efforts across USCYBERCOM.			
The origin, details, and specific aspects of these efforts are classified and will be provided on a need-to-know basis.			
<b>FY 2022 Plans:</b>			

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Continue the development of the JCWA as the common joint capability to enable split-based, offensive and defensive operations. Continue sustainment of cyber operations capabilities in support of the CMF</p> <p>Continue development of USCYBERCOM cross-domain solutions that enable automated data flow from access platform to data repository and enable enrichment of data and reporting across security domains. Continue expansion, sustainment and compliance of fielded capabilities in support of cyber operations.</p> <p>Continue development of technologies, policies, and processes needed to enable Intelligence and "indicator" sharing across the DODIN tiers and domains.</p> <p>Continue to provide enrichment of USCYBERCOM Title 10 data with additional Title 50 sources.</p> <p>Continue to drive standards and interoperability of JCWA.</p> <p>Continue to provide critical support to a developing and maturing Acquisition and Contracting entities and improve the efficiency and effectiveness of program management and acquisition processes.</p> <p><b>FY 2023 Plans:</b></p> <p>Will continue development of the JCWA as the common joint capability to enable split-based, offensive and defensive operations. Continue sustainment of cyber operations capabilities in support of the CMF.</p> <p>Will continue development of USCYBERCOM cross-domain solutions that enable automated data flow from access platform to data repository and enable enrichment of data and reporting across security domains. Will continue expansion, sustainment and compliance of fielded capabilities in support of cyber operations.</p> <p>Will continue development of technologies, policies, and processes needed to enable Intelligence and "indicator" sharing across the DODIN tiers and domains.</p> <p>Will continue to provide enrichment of USCYBERCOM Title 10 data with additional Title 50 sources.</p> <p>Will continue to drive standards and interoperability of JCWA.</p>				

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Will continue to provide critical support to a developing and maturing Acquisition and Contracting entities and improve the efficiency and effectiveness of program management and acquisition processes.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding increased due to inflationary adjustments.</p>				
<p><b>Title:</b> Joint Access Platforms</p> <p><b>Description:</b> Delivers infrastructures and systems that enable access to networks through traditional and non-traditional means.</p> <p>The origin, details, and specific aspects of these efforts are classified and will be provided on a need-to-know basis.</p> <p><b>FY 2022 Plans:</b> Perform a technology refresh and upgrade of the Security Operations Center (SOC) to conduct advanced analytics of on-net operations infrastructure.</p> <p>Continue to develop OpenCPI applications against strategic targets and expand the suite of supported hardware.</p> <p>Continue to scale the deployment of proven access enabling components across strategic target spaces and integrate resulting data feeds into Common Operating Pictures(s).</p> <p><b>FY 2023 Plans:</b> Will continue to perform a technology refresh and upgrade of the Security Operations Center (SOC) to conduct advanced analytics of on-net operations infrastructure.</p> <p>Will continue to develop OpenCPI applications against strategic targets and expand the suite of supported hardware.</p> <p>Will continue to scale the deployment of proven access enabling components across strategic target spaces and integrate resulting data feeds into Common Operating Picture(s).</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding decreased to the program baseline level established prior to inclusion of FY 2022 Appropriations Law supplemental funding for Ukraine.</p>		66.736	68.571	48.328
<p><b>Title:</b> Joint Weapons</p> <p><b>Description:</b> Capabilities that are developed, tested, stored, and employed for cyberspace operations.</p>		99.317	131.577	119.118

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
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The origin, details, and specific aspects of these efforts are classified and will be provided on a need-to-know basis.

**FY 2022 Plans:**  
Continue to enhance and sustain common service exploitation frameworks supporting CMF operations based on evolving operational requirements.

Continue the research, development, integration, and procurement of mission-focused exploit capabilities as a common service to support CMF operations.

Continue to update Personal Security Protection Testing Services to ensure they support current test needs and facilitate delivered cyber weapons through operational acceptance.

Continue to perform Functional Acceptance Testing and deliver fully tested foundational cyber weapons into the Government's Development Evaluation (DE) and Operational Evaluation (OE) processes.

Continue to develop and deliver independently-tested foundational tools suites to incrementally achieve a full complement of required capabilities. The foundational tool suites will provide operational agility for CMF cyberspace operations.

Continue to measure signatures on each spiral of delivered tools to verify uniqueness of tools and diversity of source code.

Continue to develop and deliver specialized tools, exploits, and research to CMF that will enable access to "hard targets."

**FY 2023 Plans:**  
Will continue to enhance and sustain common service exploitation frameworks supporting CMF operations based on evolving operational requirements.

Will continue the research, development, integration, and procurement of mission-focused exploit capabilities as a common service to support CMF operations.

Will continue to update Personal Security Protection Testing Services to ensure they support current test needs and facilitate delivered cyber weapons through operational acceptance.

Will continue to perform Functional Acceptance Testing and deliver fully tested foundational cyber weapons into the Government's Development Evaluation (DE) and Operational Evaluation (OE) processes.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2023 Air Force		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0306250F / <i>Cyber Operations Technology Support</i>		
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Will continue to develop and deliver independently-tested foundational tools suites to incrementally achieve a full complement of required capabilities. The foundational tool suites will provide operational agility for CMF cyberspace operations.</p> <p>Will continue to measure signatures on each spiral of delivered tools to verify uniqueness of tools and diversity of source code.</p> <p>Will continue to develop and deliver specialized tools, exploits, and research to CMF that will enable access to "hard targets."</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding decreased to the program baseline level established prior to inclusion of FY 2022 Appropriations Law supplemental funding for Ukraine.</p>				
<p><b>Title:</b> Joint Sensors</p> <p><b>Description:</b> Development of capabilities to collect, process, analyze, and share data elements both on- and off-DoDIN environments. Includes both dynamically emplaced capabilities and static, enduring systems and applications.</p> <p>The origin, details and specific aspects of these efforts are classified and will be provided on a need-to-know basis.</p> <p><b>FY 2022 Plans:</b> Work towards consolidation of Advanced Frameworks for cyber operations, situational awareness, and risk assessment and mitigation into a multiple-purpose solution in Unified Platform.</p> <p>Incorporate new advanced risk management tool from research labs into risk assessment component of Unified Platform.</p> <p>Leverage new capabilities and analytics for countering malign influence campaigns to support operations in defense of 2022 midterm elections; document lessons learned.</p> <p>Implement automated anomaly detection and mitigation analytics for defense of critical DoD command and control communications infrastructures.</p> <p><b>FY 2023 Plans:</b> NC3 Mission pilot was 2 year funding with the results provided to STRATCOM.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b></p>		19.819	21.566	6.580

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
Funding decreased due to the completion of the NC3 pilot program.			
<b>Accomplishments/Planned Programs Subtotals</b>	226.073	282.218	234.576

	<b>FY 2021</b>	<b>FY 2022</b>
<b>Congressional Add:</b> Cloud Communications Validation Pilot	0.000	0.000
<b>FY 2021 Accomplishments:</b> N/A		
<b>FY 2022 Plans:</b> N/A		
<b>Congressional Adds Subtotals</b>	0.000	0.000

**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• OPAF 03 834320: <i>C3 Countermeasures</i>	11.986	9.981	3.808	-	3.808	0.000	0.000	0.000	0.025	Continuing	Continuing

**Remarks**

**E. Acquisition Strategy**

Facilitate the delivery of technology capabilities to the Cyber Mission Forces, by applying innovative solutions for existing and emerging technologies. Contracts are awarded under full and open competition whenever possible. Variations of both Fixed Price (FP) and Cost Plus (CP) contracting vehicles and the use of Other Transactional Authority (OTA) will be implemented leveraging USCYBERCOM Acquisition authorities. USCYBERCOM will also rely on various Service Component, Combatant Command and National Security Agency contracting offices for procurement of cyber capabilities and contractor support.

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

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0306250F / <i>Cyber Operations Technol ogy Support</i>	<b>Project (Number/Name)</b> 646008 / <i>US Cyber Command Technology Development</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			
Joint Common Services	Various	Multiple Agencies : Various	-	39.277	Apr 2021	59.403	Apr 2022	59.234	Apr 2023	-		59.234	Continuing	Continuing	-
Joint Access Platforms	Various	Multiple Agencies : Various	-	65.199	Apr 2021	67.323	Apr 2022	47.277	Apr 2023	-		47.277	Continuing	Continuing	-
Joint Tools	Various	Multiple Agencies : Various	-	97.031	Apr 2021	129.182	Apr 2022	116.528	Apr 2023	-		116.528	Continuing	Continuing	-
Joint Sensors	Various	Multiple Agencies : Various	-	19.364	Apr 2021	21.173	Apr 2022	6.437	Apr 2023	-		6.437	Continuing	Continuing	-
Cloud Communication Validation Pilot	TBD	TBD : TBD	-	-		-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	220.871		277.081		229.476		-		229.476	Continuing	Continuing	N/A

<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			
Management Services	C/CPAF	Not specified. : TBD	-	0.000		-		-		-		-	Continuing	Continuing	-
PMA	Various	Various : Various	-	5.202	Apr 2021	5.137	Apr 2022	5.100	Apr 2023	-		5.100	Continuing	Continuing	-
<b>Subtotal</b>			-	5.202		5.137		5.100		-		5.100	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>			-	226.073	282.218	234.576	-	234.576	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2023 Air Force		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0306250F / <i>Cyber Operations Technology Support</i>	<b>Project (Number/Name)</b> 646008 / <i>US Cyber Command Technology Development</i>

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

<b><i>Cyber Operations Technology Development</i></b>	
Scalable resilient infrastructure (Joint Common Services)	
CYBERCOM access platform build out capacity (Joint Access Platforms)	
Mission-based platform FOC (Joint Access Platforms)	
DDoS for DODIN spiral development (Joint Access Platforms)	
Cyber UCAP spiral development - 1 (Joint Weapons)	
Exploitation framework spiral development (annual) - (Joint Weapons)	
Foundational tool suites (spirals annual) (Joint Weapons)	
Analytics development (Joint Sensors)	
Cloud Communication Validation Pilot	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Air Force		<b>Date:</b> April 2022
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Cyber Operations Technology Development</i></b>				
Scalable resilient infrastructure (Joint Common Services)	1	2021	4	2023
CYBERCOM access platform build out capacity (Joint Access Platforms)	1	2021	4	2023
Mission-based platform FOC (Joint Access Platforms)	1	2021	3	2023
DDoS for DODIN spiral development (Joint Access Platforms)	1	2021	4	2023
Cyber UCAP spiral development - 1 (Joint Weapons)	3	2021	2	2023
Exploitation framework spiral development (annual) - (Joint Weapons)	1	2021	4	2023
Foundational tool suites (spirals annual) (Joint Weapons)	1	2021	4	2023
Analytics development (Joint Sensors)	1	2021	4	2023
Cloud Communication Validation Pilot	1	2021	2	2023

**Note**

In response to Section 1507 of the FY22 NDAA, the FY24+ funds for PE 0306250F will be transferred to USCYBERCOM to be responsible for the planning, programming, budgeting, and execution of the resources.