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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Office of the Secretary Of Defense **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0305199D8Z / <i>Net Centricity</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	164.169	16.827	23.275	20.620	0.000	20.620	19.258	19.162	19.565	19.956	Continuing	Continuing
199: <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i>	164.169	16.827	23.275	20.620	0.000	20.620	19.258	19.162	19.565	19.956	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

New Start (Y/N): No

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

This program supports the Department's initiatives to deter aggression, defend the homeland, and build sustainable and long-term advantage.

DoD CIO provides strategic direction, policy guidance, and oversight that enables the Department to effectively research, define, prioritize, acquire, field, and sustain command, control, and communications (C3) capabilities in support of DoD operations and the warfighter. Specific C3 disciplines include: tactical (space, aerial, terrestrial, and maritime) communications and datalinks; communications infrastructure; satellite communications (SATCOM), including SATCOM terminals and gateways; electromagnetic spectrum (EMS) enterprise capabilities, infrastructure, and architectures; positioning, navigation, and timing (PNT); Defense Information Systems Network (DISN) infrastructure; commercial mobile devices (CMD); and emerging fifth generation (5G) and mobile capabilities.

The C3 modernization (C3M) program provides technical analysis, systems engineering, and capability oversight necessary to provide warfighters information advantage through organic and partnered C3 systems and capabilities, including weapon systems and platforms. This program comprehensively assesses critical information systems from initial design through capability development. C3M shapes a significant portion of the Combined Joint All Domain Command and Control (CJADC2) technology foundation by aligning the DoD's C3 information technology (IT) investments on the DoD's Digital Modernization Strategy (DMS).

These funds provide the capability to research, conduct technical analyses and assessments, evaluate, manage and deconflict an increasingly contested and congested spectrum environment through ground, air, and space communication networks. These capabilities include the ability to provide secure information access and services (e.g., cryptographic modernization management plan). The program supports the Department's CJADC2 efforts by refining joint protocols.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	17.192	23.275	20.620	-	20.620
Current President's Budget	16.827	23.275	20.620	-	20.620
Total Adjustments	-0.365	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.365	-			

**Change Summary Explanation**

The decrease from FY 2024 to FY 2025 is due to completing the Nimble Fire joint integrated air and missile defense (IAMD) modeling and simulation (M&S) efforts. The Department committed to funding two Nimble Fire events in FY 2024 only, which include planning, integration, blue system testing, and data analysis. The M&S efforts focused on future, integrated non-kinetic and kinetic fires, and multi-domain IAMD operational utility across the joint force. In addition, DoD CIO will complete sustainable spectrum access M&S efforts, including spectrum research, technical analyses and assessments, and validating Federal Aviation Administration (FAA)/National Telecommunications and Information Administration (NTIA) model and mode S identification friend or foe (IFF) implementation metrics.

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<b>Title:</b> Net Centricity Plans and Accomplishments	16.827	23.275	20.620	-	20.620
<b>Description:</b> Same as program level mission description.					
<b>FY 2024 Plans:</b>					
– Re-charter the SATCOM Systems Engineering Group, co-chaired by the Under Secretary of Defense for Acquisition and Sustainment and U.S. Space Force, and new focus on requirements and planning, programming, budgeting, and execution synchronization.					
– Initiate the Enterprise SATCOM Management and Control Implementation Plan, with initial focus on integrated data management and resource allocation automation.					
– Implement the automated DoD SATCOM terminal registry and resource allocation capabilities.					
– Continue rationalizing current SATCOM tools (SATCOM database management tool and Joint SATCOM management environment) to the SATCOM Operational Management and Situational Awareness Tool and migration to the Joint Warfighting Cloud Capability environment.					

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<ul style="list-style-type: none"> <li>– Continue governance and oversee modernized modem fielding (enterprise SATCOM gateway modem Army, Air Force antijam modem.</li> <li>– Continue Mobile User Objective System terminal oversight to keep fielding on schedule, in accordance with the Chairman of the Joint Chiefs of Staff-defined net transition strategy.</li> <li>– Continue efforts to formalize ground infrastructure sharing in Geraldton, AUS and work with other partners (UK, NZ, CAN) on prospective non-geosynchronous teleport partner locations.</li> <li>– Continue developing (MTS-CDD) to define ground infrastructure requirements.</li> <li>– Continue supporting the broadband SATCOM force design and follow-on analysis.</li> <li>– Continue technical analysis and identify modern transmission security mitigation controls to improve DoD’s next-generation commercial SATCOM utilization.</li> <li>– Continue evolving SATCOM networks toward a digital intermediate frequency (IF) modem architecture.</li> <li>– Continue SATCOM International Standards Committee analysis.</li> <li>– Finalize remaining North Atlantic Treaty Organization (NATO) SATCOM extremely high frequency sites’ initial operational capability and conduct NATO SATCOM services 6th generation reinvestment boards to allocate invoiced payments to deserving SATCOM projects.</li> <li>– Continue supporting allied and coalition interoperability efforts, including NATO migration plan, Joint Strike Fighter partner interoperability, US/Swedish master information exchange agreement, and integrating US and foreign C3 systems.</li> <li>– Continue analyzing multinational information sharing programs and initiatives, related acquisition strategies, and functional requirements.</li> <li>– Continue video dissemination and two-way global broadcast service support to inform follow-on DoD implementation.</li> <li>– Continue implementing SATCOM gateway optimization and resiliency and broadband force design initiatives.</li> <li>– Continue broadband and narrowband SATCOM force designs support and follow-on analysis.</li> <li>– Continue hub-based high frequency communications concept to provide protected high-rate communications needed for long range connectivity in satellite-denied environments.</li> <li>– Continue implementing SATCOM gateway optimization and resiliency and broadband force design initiatives.</li> <li>– Continue broadband and narrowband SATCOM force designs support and follow-on analysis.</li> <li>– Continue tactical processing nodes system engineering and architecture analysis.</li> <li>– Continue analyzing tactical secure voice cryptographic interoperability specification implementation on tactical radios.</li> <li>– Continue efforts to determine strengths, weaknesses, and waveform and network management capability uses; identify gaps; and identify new technologies to support waveform and network management.</li> </ul>					

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<ul style="list-style-type: none"> <li>- Continue technical assessments/refine commercial wireless policy guidance to support DMS implementation; continue assessing cybersecurity policies effects.</li> <li>- Continue wireless architecture and advanced technologies analysis to inform Department-wide policies and implement mobility solutions.</li> <li>- Continue technical analysis to oversee waveform policies and technical specifications compliance.</li> <li>- Continue DoD commercial mobility implementation and systems engineering analysis on defense mobile unclassified and classified capabilities (DMUC/DMCC).</li> <li>- Continue analysis to support DMUC derived credentials implementation.</li> <li>- Continue refining CMD certification processes, mobile application/device management guidelines, DoD mobile public key infrastructure (PKI) guides, and personal user-based enforcement guidelines; update approved CMD product matrix.</li> <li>- Continue implementation assessments to refine mobile application and device strategies.</li> <li>- Develop an analytical model that facilitates rapid, safe, and operationally adequate access to the 1030/1090 MHz spectrum.</li> <li>- Develop a resilient, secure, and adaptive tactical IT infrastructure that can operate in a contested, congested, and operationally limited EMS environment.</li> <li>- Develop EMS statistical and associative M&amp;S techniques.</li> <li>- Modernize DoD's spectrum dependent systems to a fully integrated information and decision support architecture for all-domain maneuver and fires superiority.</li> <li>- Modernize spectrum data, data collection, databases, storage retrieval, and aggregation.</li> <li>- Develop artificial intelligence-enabled spectrum data analytics.</li> <li>- Modernize electromagnetic battle management, situational awareness, and command and control (C2) integration.</li> <li>- Continue 5G analysis and develop policy to enable dynamic, bidirectional, and cognitive spectrum sharing.</li> <li>- Continue analysis and policy guidance on DoD tactical 5G technology use.</li> <li>- Develop 5G standards engagement plan.</li> <li>- Continue CMD and voice encryption technical and business case analyses.</li> <li>- Update the tactical radio and communication security modernization plan.</li> <li>- Continue developing interoperable land mobile radio (LMR) standards to support public safety communications.</li> <li>- Continue LMR policy implementation analysis; refine procedures to support DoD's LMR implementation.</li> <li>- Continue DoD waveform development and management analysis.</li> <li>- Maintain DoD-approved waveform baseline and authoritative repository.</li> </ul>					

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<ul style="list-style-type: none"> <li>- Continue technical analysis to secure intelligence, surveillance, and reconnaissance (ISR) data and encryption over wireless platforms; conduct implementation assessments through unmanned aircraft systems encryption data calls.</li> <li>- Lead the narrowband communications services analysis of alternatives (AoA) working group, focusing on ground infrastructure, user terminals, and cost baselines.</li> <li>- Continue analyzing coalition C2 and multinational information sharing, functional requirements, strategic policy development, and capability strategies to guide mission partner environment (MPE) development.</li> <li>- Continue analyzing select joint and military service C2 programs/initiatives to promote enterprise data and services.</li> <li>- Continue common mission network transport capability implementation analysis.</li> <li>- Continue analyzing coalition C2 and multinational information sharing, functional requirements, strategic policy development, and capability strategies to guide mission partner environment (MPE) development.</li> <li>- Continue analyzing select joint and military service C2 programs/initiatives to promote enterprise data and services.</li> <li>- Continue common mission network transport capability implementation analysis.</li> <li>- Continue adopting and evolving enterprise mission services to support the DMS and joint communications architecture.</li> <li>- Conduct follow-on analysis to implement the Global Command and Control System AoA recommendations.</li> <li>- Continue joint force capability needs analysis to enable C2.</li> <li>- Evaluate enterprise operations center architectures and information requirements to support C2 investment decisions.</li> <li>- Continue joint C3 requirements, capability gaps, and integrated priority list analysis to support DoD CIO engagement in C3 functional capability boards.</li> <li>- Continue analyzing network management interoperability, architecture, and data artifacts.</li> <li>- Continue technical analysis to support the network management strategy and roadmap implementation.</li> <li>- Continue developing data ontologies and National Information Exchange Model compliant network management information exchange package documents.</li> <li>- Continue technical analysis supporting C3 policies, plans, studies, roadmaps, and capability assessments.</li> <li>- Continue studies and analyses supporting mobile device security efforts.</li> <li>- Continue technical analysis/studies on migrating current applications and services to DoD core data centers and support application rationalization.</li> <li>- Continue technical analysis to support DMS implementation capability upgrades and technical planning.</li> <li>- Continue studies and analyses on DMS technical implementation actions.</li> </ul>					

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<ul style="list-style-type: none"> <li>– Continue technical analyses and studies related to software defined networking as an approach to network normalization and security.</li> <li>– Continue Link 16 joint interoperability enhancement progress analysis and add variable message format.</li> <li>– Assess developing waveform technologies to improve tactical data link network robustness and scalability.</li> <li>– Continue efforts to maintain DMS infrastructure framework and synchronization roadmap to track infrastructure deployment or implementation. – Continue reviewing DMS objectives, plans, technical approaches, schedules, and cost factors to support CJADC2 implementation.</li> <li>– Support business case development activities, as required.</li> <li>– Develop guidance (e.g., information system security engineering guidance) and programming recommendations to integrate trusted systems, networks, concepts, and processes into the acquisition and maintenance of DoD information systems, enclaves, and services, including tactical communication commodities purchase and integration.</li> <li>– Review/refine Electronic Flight Bag procedures.</li> </ul> <p><b><i>FY 2025 Base Plans:</i></b></p> <ul style="list-style-type: none"> <li>– Continue base program initiatives from prior budget year.</li> <li>– Continue implementing the DoD Enterprise Mass Warning &amp; Notification system and modernize Next Generation 9-1-1.</li> </ul> <p><b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b></p> <p>The decrease from FY 2024 to FY 2025 is due to completing the Nimble Fire joint IAMD M&amp;S efforts. The Department committed to funding two Nimble Fire events in FY 2024 only, which include planning, integration, blue system testing, and data analysis. The M&amp;S efforts focused on future, integrated non-kinetic and kinetic fires, and multi-domain IAMD operational utility across the joint force. In addition, DoD CIO will complete sustainable spectrum access M&amp;S efforts, including spectrum research, technical analyses and assessments, and validating FAA/NTIA model and mode S IFF implementation metrics.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	16.827	23.275	20.620	-	20.620

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

**Remarks**

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**E. Acquisition Strategy**  
N/A





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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Office of the Secretary Of Defense		<b>Date:</b> March 2024
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>*** SUBPROJECT TITLE ***</b>				
FY 2022 Projected Execution	1	2021	4	2022
FY 2023 Projected Execution	1	2022	4	2023
FY 2024 Projected Execution	1	2023	4	2024
FY 2025 Projected Execution	1	2024	4	2025
FY 2026 Projected Execution	1	2025	4	2026
FY 2027 Projected Execution	1	2026	4	2027