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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605030F / <i>Joint Tactical Network Center (JTNC)</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	2.222	2.256	0.000	2.256	8.732	8.950	9.135	9.465	Continuing	Continuing
655068: <i>Joint Tactical Radio System (JTRS)</i>	-	0.000	2.222	2.256	0.000	2.256	8.732	8.950	9.135	9.465	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Joint Tactical Networking Center (JTNC) is funded using a Joint budget strategy. Each Military Department (MILDEP) budgets for approximately one-third of the total program RDT&E requirements for joint efforts. FY24 and beyond is programmed in PE 0605030F by the Air Force, PE 0605030A by the Army and PE 0605030N by the Navy.

A. Mission Description and Budget Item Justification

The Joint Tactical Networking Center (JTNC) is chartered to enable the Department of Defense (DoD)'s rapid identification, characterization, procurement, fielding, and sustainment of modular, innovative tactical communications products that ensure secure, interoperable, and resilient Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities. The JTNC provides technical expertise to facilitate tactical communications management, innovation, and standardization. The JTNC: (1) maintains a cyber-hardened DoD Information Repository (IR), (2) provides Technical Analyses/Capability Characterizations on tactical communications products, (3) provides Open Systems Architecture Standards, (4) provides exportability analysis and licensing reviews, and (5) serves as Technical Advisor to the Communications, Command, and Control Leadership Board (C3LB) and Tactical Communications Senior Steering Group (TCSSG).

JTNC mission is executed in coordination with key government stakeholders to include: C3LB, TCSSG, Communications Technologies and Waveforms Working Group (CTWWG), Resiliency Sub-Working Group (RSWG), the Department of Defense (DoD) Chief Information Officer (CIO), Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), Joint Staff J6 (JS J6), The Under Secretary of Defense for Research and Engineering, abbreviated USD(R&E), and the Services. Particular attention is paid to ensuring that interagency work is collaborative and eliminates duplicative capability. The JTNC enables a common software baseline that is hardware agnostic leading to increased competition for Software Defined Radios (SDR).

Current JTNC directed requirements, outlined by the C3LB, consist of the CTWWG, Joint All-Domain Command and Control (JADC2) support, development/maturation of the DoD IR framework & Cloud migration, and development of the Joint Communications Marketplace (JCM) to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09. Through collaboration with USD R&E (INSS) and industry partners, JTNC is in the process of capturing information on resilient waveform technologies and portfolio products. The ultimate goal is to expedite market research activities by collecting, analyzing, and making data available in support of emerging Government waveform acquisitions. The JTNC and JITC co-chair the High-Frequency Interoperability and Architecture Sub-Working Group (HF I&A SWG) to resolve HF 3G and 4G interoperability issues, thus facilitating next-generation HF systems. The JTNC HF team is also pathfinding for a new tactical MIL-STD to provide more resilient communications. Additionally, the JTNC is engaged in the analysis of software artifacts involving high assurance devices, such as software defined radios ported with specific waveforms to support National Security Agency (NSA) efforts. The JTNC participates in Standards-related activities such as the Interface Control

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Working Group (ICWG) and has been collaborating with the Army on the development of C4ISR/Electronic Warfare Modular Open Suite of Standards (CMOSS) specifications. Finally, the JTNC continues evolving its Waveform Assessment and Milestone Review (WASMR) and Capability Characterization processes.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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	2.222	8.521	0.000	8.521
Current President's Budget	0.000	2.222	2.256	0.000	2.256
Total Adjustments	0.000	0.000	-6.265	0.000	-6.265
• 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	0.000	0.000			
• Funds transferred to Army PE 0605030A in accordance with Joint funding strategy	0.000	0.000	-6.265	0.000	-6.265

Change Summary Explanation

Not a new start program. Balance in FY22 through FY24 is attributed to a realignment from Air Force (PE 0605030F) to Army (0605030A) as per the Joint Budget Strategy outlined in the JTNC Tri-Military Department Resource Plan. FY24 and beyond reflects the Air Force one-third share of program funding.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Title: Joint Tactical Networking Center (JTNC)	0.000	2.222	2.256
Description: Joint Tactical Networking Center (JTNC) aligns with the Communications, Command, and Control Leadership Board (C3LB), DoD Chief Information Officer (CIO), Joint Staff, the Services, and other key stakeholders for those JTNC chartered processes that ensure secure, interoperable, and resilient tactical communications. The JTNC provides technical expertise to facilitate tactical communications management, innovation, and standardization. The JTNC: (1) maintains a cyber-hardened DoD Information Repository (IR), (2) provides Technical Analyses/Capability Characterizations on tactical communications products, (3) provides Open Systems Architecture Standards, (4) provides exportability analysis and licensing reviews, and (5) serves as Technical Advisor to the Communications, Command, and Control Leadership Board (C3LB) and Tactical Communications Senior Steering Group (TCSSG).			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p><i>FY 2023 Plans:</i> JTNC continued to serve as Chair of the Communications Waveforms and Technologies Working Group (CTWWG), supporting both TCSSG and C3LB efforts towards managing Joint warfighter challenges and fielding tactical communications solutions. JTNC continued technical analysis efforts for C3LB approved waveforms, in accordance with Service priorities and the FY 2023 JTNC Management Plan. The JTNC continued to support both the Services and Principal Staff Assistant (DoD CIO) in oversight of Lead Service activities as Technical Advisor, assisting in the identification and resolution of cross-service networking disconnects. The JTNC remained engaged in Joint All Domain Command and Control (JADC2) Operational Planning Teams/ systems engineering support across the Services. The JTNC, through the efforts of the CTWWG's Resiliency Sub-Working Group, coordinated and socialized resiliency terminology, processes, and support resources to design, test, compare, and field tactical radio products most capable of mitigating adversary detection, interception, geolocation, and jamming threats. The JTNC continued managing and maintaining the DoD Information Repository (IR), providing controlled access for proprietary and nonproprietary waveforms and associated tactical communications products. The JTNC enhanced DoD IR capabilities by evolving framework compliance and Cloud migration.</p> <p>The JTNC continued Joint Communications Marketplace (JCM) development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09. The JTNC managed evolution of the JCM to provide value-added collaborative environment tools, enabling Government and Industry to share information on innovative technologies and DoD capability gaps leading to rapid acquisition efforts to meet warfighter needs. JCM capabilities/communities continued to support PEO C3T and Network Cross-Functional Team (N-CFT) requirements for Industry engagement, TEMs, whitepaper submission and evaluation, and follow-on contract efforts. The JTNC continued development of tactical communications vendor product capability characterizations for commercial off-the-shelf (COTS) and non-developmental item (NDI) tactical communication products. The JTNC continued to evolve DoD Waveform Standards to facilitate common development, interoperability and re-use, reducing product development time and facilitating faster delivery of capabilities to warfighters. Focused efforts leveraged emerging Spectrum activities and facilitated deployment of the Modular Radio Architecture (MRA). Finally, the JTNC continued to support export requests and analyses of products for exportability.</p> <p><i>FY 2024 Plans:</i> JTNC will continue to serve as Chair of the Communications Waveforms and Technologies Working Group (CTWWG), supporting both TCSSG and C3LB efforts towards managing Joint warfighter challenges and fielding tactical communications solutions. JTNC will continue technical analysis efforts for C3LB approved waveforms, in accordance with Service priorities and the FY 2024 JTNC Management Plan. The JTNC will continue to support both the Services and Principal Staff Assistant (DoD CIO) in oversight of Lead Service activities as Technical Advisor, assisting in the identification and resolution of cross-service networking disconnects. The JTNC will remain engaged in Joint All Domain Command and Control (JADC2) Operational Planning Teams/ systems engineering support across the Services. The JTNC, through the efforts of the CTWWG's Resiliency Sub-Working Group, will</p>			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>coordinate and socialize resiliency terminology, processes, and support resources to design, test, compare, and field tactical radio products most capable of mitigating adversary detection, interception, geolocation, and jamming threats. The JTNC will continue managing and maintaining the DoD Information Repository (IR), providing controlled access for proprietary and nonproprietary waveforms and associated tactical communications products. The JTNC will enhance DoD IR capabilities by evolving framework compliance and Cloud migration.</p> <p>The JTNC will continue Joint Communications Marketplace (JCM) development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09. The JTNC will manage evolution of the JCM to provide value-added collaborative environment tools, enabling Government and Industry to share information on innovative technologies and DoD capability gaps leading to rapid acquisition efforts to meet warfighter needs. JCM capabilities/communities will continue to support PEO C3T and Network Cross-Functional Team (N-CFT) requirements for Industry engagement, Technical Exchange Meetings (TEMs), whitepaper submission and evaluation, and contract efforts. The JTNC will continue development of tactical communications vendor product capability characterizations for commercial off-the-shelf (COTS) and non-developmental item (NDI) tactical communication products. The JTNC will continue to evolve DoD Waveform Standards to facilitate common development, interoperability and re-use, reducing product development time and facilitating faster delivery of capabilities to warfighters. Focused efforts will leverage emerging Spectrum activities and facilitate deployment of the Modular Radio Architecture (MRA). Finally, the JTNC will continue to support export requests and analyses of products for exportability.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> FY24 represents the Air Force-only share of JTNC funding. Delta between FY23 and FY24 is due to Joint-funding consolidation from Air Force, (PE 0605030F), and Navy (PE 0605030N) into Army (PE 0605030A).</p>			
Accomplishments/Planned Programs Subtotals	0.000	2.222	2.256

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

N/A

Remarks

The Joint Tactical Networking Center is funded by all the Services. The Joint Funding Strategy requires each of the three Service Military Departments (MILDEPs) to budget for one-third of the total program approved requirement. As per the Joint Budget Strategy outlined in the JTNC Tri-Military Department Resource Plan, FY22 and FY23 Air Force PE 0605030F and Navy PE 0605030N have been realigned to Army PE 0605030A for execution.

E. Acquisition Strategy

The Joint Tactical Networking Center (JTNC) is a Joint support program to the Services, the DoD Chief Information Officer (CIO), the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), and USD Research and Engineering (USD(R&E)). JTNC core functions as defined in the JTNC Acquisition Decision Memorandum and Charter signed on 20 January 2014 and revalidated on 13 September 2019 include execution in the following areas: Information Repository,

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Technical Analysis, Open Systems Architecture Standards, Exportability Analysis and Licensing Review, and Technical Advisor to the C3LB. The services derived from these core functions reinforce an acquisition environment which ensures that interoperable, secure, and resilient joint tactical waveforms and wireless communications applications can operate in a variety of hardware transport solutions.

The FY 2024 Budget supports continued development/maturation of the DoD IR, analysis of directed software and artifacts, support of the National Security Agency (NSA) Commercial Communications Security (COMSEC) Evaluation Program (CCEP), JTNC Standards Interface Control Working Group (ICWG), the Capabilities Characterization and Joint Communications Marketplace (CC & JCM). The FY 2024 budget supports the Lead Service Initiative where JTNC will serve as a technical advisor and source of engineering and analytic resources in the conduct of Joint enterprise-level systems engineering and analysis and support DoD CIO. The FY 2024 budget supports the continued management of Joint warfighter challenges and solutions as assigned by the TCSSG. The FY 2024 budget supports Modular Radio Architecture (MRA) work, where JTNC will lead development and promulgation of a framework containing a collection of DoD standards and a description or architecture of how to use these to compose or control a communications system. The MRA defines how to implement a communications system or radio on select platforms.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605030F / Joint Tactical Network Center (JTNC)	Project (Number/Name) 655068 / Joint Tactical Radio System (JTRS)
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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			
JTNC Engineering/ Technical Support, Test and Evaluation, Product Development Support and Program Management	C/Various	G2SS, NIWC PAC/ LANT, APG : CA	-	0.000	Dec 2021	2.222	Oct 2022	2.256	Oct 2023	-		2.256	Continuing	Continuing	-
Subtotal			-	0.000		2.222		2.256		-		2.256	Continuing	Continuing	N/A

Remarks
Not a new start program. FY22 through FY24 funding programmed to Army PE 0605030A via PDM as per the Joint Budget Strategy outlined in the JTNC Tri-Military Department Resource Plan.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000	2.222	2.256	-	2.256	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
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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

JTNC - Compliance and Certification	
Waveform and Wireless Product Compliance and Certification	
JTNC - Information Repository	
DoD Waveform Information Repository	
JTNC - Standards	
Evolve Waveform Standards and SCA	
JTNC - Analysis	
Analyze Waveforms and Associated Artifacts	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>JTNC - Compliance and Certification</i>				
Waveform and Wireless Product Compliance and Certification	1	2022	4	2028
<i>JTNC - Information Repository</i>				
DoD Waveform Information Repository	1	2022	4	2028
<i>JTNC - Standards</i>				
Evolve Waveform Standards and SCA	1	2022	4	2028
<i>JTNC - Analysis</i>				
Analyze Waveforms and Associated Artifacts	1	2022	4	2028