Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army

Date: March 2019

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 5: System

PE 0605030A I Joint Tactical Network Center (JTNC)

Development & Demonstration (SDD)

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	15.242	15.869	15.882	-	15.882	5.833	5.835	5.490	5.847	Continuing	Continuing
EA8: Joint Tactical Networking Center	-	15.242	15.869	15.882	-	15.882	5.833	5.835	5.490	5.847	Continuing	Continuing

Note

Army

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. Fiscal Year (FY) 2018 to FY 2020 funding reflects the full JTNC requirement with the consolidated funding from the other Services, while FY 2021 and beyond reflects the Army one-third portion of total program RDT&E funds. Out-year funding is programmed in PE 0605030A by the Army, PE 0605030N by the Navy and PE 0605030F by the Air Force. Prior to submission of the President's Budget, the funding is consolidated in PE 0605030A for execution.

A. Mission Description and Budget Item Justification

The JTNC is responsible for ensuring interoperable, secure, and affordable waveform and wireless communications by recommending standards, conducting compliance and certification analyses in accordance with Department of Defense (DoD) policies, and maintaining a DoD Waveform Information Repository (IR). The JTNC provides: (1) DoD Waveform IR management and configuration control, (2) DoD waveform standards and Software Communications Architecture (SCA), (3) technical analyses of DoD and industry Waveform IR products, and (4) serves as Technical Advisor to the JTNC Board of Directors (BoD).

This mission is executed in conjunction with other government agencies to include the National Security Agency (NSA), the Joint Interoperability Test Command (JITC), National Telecommunication and Information Administration (NTIA), the Services, as well as industry partners. 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.

The Joint Tactical Networking Center supports the Army's Network Modernization Strategy Line of Effort (LOE).

PE 0605030A: Joint Tactical Network Center (JTNC)

Page 1 of 10

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 5: System

Development & Demonstration (SDD)

PE 0605030A / Joint Tactical Network Center (JTNC)

Date: March 2019

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
					
Previous President's Budget	15.877	15.889	5.723	-	5.723
Current President's Budget	15.242	15.869	15.882	-	15.882
Total Adjustments	-0.635	-0.020	10.159	-	10.159
 Congressional General Reductions 	-0.013	-0.020			
 Congressional Directed Reductions 	-	-			
 Congressional Rescissions 	-	-			
 Congressional Adds 	-	-			
 Congressional Directed Transfers 	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-0.622	-			
 Adjustments to Budget Years 	-	-	10.159	-	10.159

Change Summary Explanation

PE 0605030A: Joint Tactical Network Center (JTNC)

FY 2020 - Net increase of \$10.159 million is the result of funding realignment from Navy PE 0605030N and Air Force PR 0605030F to Army PE 0605030A as part of the Joint Budget Strategy.

Exhibit R-2A, RDT&E Project Ju	ustification	: PB 2020 A	rmy							Date: Marc	ch 2019		
Appropriation/Budget Activity 2040 / 5	• • • • • • • • • • • • • • • • • • • •							Name) work		Number/Name) nt Tactical Networking Center			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
EA8: Joint Tactical Networking Center	-	15.242	15.869	15.882	-	15.882	5.833	5.835	5.490	5.847	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. Fiscal Year (FY) 2018 to FY 2020 funding reflects the full JTNC requirement with the consolidated funding from the other Services, while FY 2021 and beyond reflects the Army one-third portion of total program RDT&E funds. Out-year funding is programmed in PE 0605030A by the Army, PE 0605030N by the Navy and PE 0605030F by the Air Force. Prior to submission of the President's Budget, the funding is consolidated in PE 0605030A for execution.

A. Mission Description and Budget Item Justification

The JTNC is responsible for ensuring interoperable, secure, and affordable waveform and wireless communications by recommending standards, conducting compliance and certification analyses in accordance with Department of Defense (DoD) policies, and maintaining a DoD Waveform Information Repository (IR). The JTNC provides: (1) DoD Waveform IR management and configuration control, (2) DoD waveform standards and Software Communications Architecture (SCA), (3) technical analyses of DoD and industry Waveform IR products, and (4) serves as Technical Advisor to the JTNC Board of Directors (BoD).

This mission is executed in conjunction with other government agencies to include the National Security Agency (NSA), the Joint Interoperability Test Command (JITC), National Telecommunication and Information Administration (NTIA), the Services, as well as industry partners. 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).

The Joint Tactical Networking Center supports the Army's Network Modernization Strategy Line of Effort (LOE).

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
Title: DoD Waveform IR Support, Waveform Standards Evolution and Compliance & Certification Analysis	15.242	15.869	15.882
Description: Joint Tactical Networking Center (JTNC) aligns with the JTNC BoD, USD(AT&L), DoD Chief Information Officer (CIO), Joint Staff, the Services, and other key stakeholders for those JTNC chartered processes that ensure interoperable, secure, and cost effective waveform and wireless communications. The JTNC: (1) Facilitates the reuse of waveform and wireless communications and fosters product capability improvements by making government owned waveform and wireless communications products available to developers, (2) provides open architecture DoD Waveform Standards in support of service, multiservice, and coalition forces, (3) provides compliance and certification recommendations on wireless communications			

PE 0605030A: Joint Tactical Network Center (JTNC) UNCLASSIFIED

Army Page 3 of 10 R-1 Line #146

	ONOLAGGII ILD			
Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date	March 2019	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605030A / Joint Tactical Network Center (JTNC)	Project (Numbe EA8 / Joint Taction		Center
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
products in support of service, multiservice, and coalition forces. The Network Modernization Strategy Line of Effort 1A - Unified Network.	Joint Tactical Networking Center supports the Army's			
FY 2019 Plans: The JTNC will conduct waveform analyses of the following waveform artifact availability) to include: Commercial (Harris) - Advanced Network User Objective System (MUOS) v3.1.5.2, Link 16 Engineering Releast Radio for North Atlantic Treaty Organization (NATO) (SATURN) and JTNC will continue collecting relevant software, technical documentar Waveforms listed in the DoD Communication Waveform Inventory. The Defense (DoD) Waveform Information Repository (IR) capability and promulgation. The JTNC will continue to evolve DoD Waveform Standard-use. The JTNC will support export requests and analyses of productive analysis of Board of Directors approved waveforms in accommentation.	orking Wideband Waveform (ANW2); DoD (Navy) - Motose 0G (ER0G), Second-Generation Anti-Jam Tactical Uthe Joint Waveform (formally Uniform MEECN Mode). Ition, cataloging and inducting other DoD Communication He JTNC will continue to enhance the Department of Software Communications Architecture (SCA) evolution dards to facilitate common development, interoperability acts for exportability.	HF Γhe on n and		
Management Plan. Continue collecting relevant software, technical de Communication Waveforms listed in the DoD Communication Waveforms apability and approved Standards promulgation.				
Continue the development of the tactical communications vendor prooff-the-shelf (COTS) and non-developmental item (NDI) tactical communications to facilitate common development, interoperability and redelivery of capabilities to warfighters. Continue to conduct technical wastandards. Continue to support export requests and analyses of productions of the software waveforms based on government controlled open architecture networking environment.	munication products. Continue to evolve DoD Waveforn use, reducing product development time and facilitating waveform and software artifact analyses against publish lucts for exportability. Continue to certify secure, reusals	n faster ned ole		
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2019 accounts for SBIR / STTR Transfer (\$0.582). FY 2019 to FY programmatic requirements.	2020 decrease of \$0.013 is consistent with anticipated	I		
	Accomplishments/Planned Programs Sub	ototals 15.24	2 15.869	

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

N/A

Army

PE 0605030A: Joint Tactical Network Center (JTNC)

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army			Date: March 2019
1		- 3 (umber/Name) Tactical Networking Center

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

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. Army funding in FY 2021 and beyond reflects only approximately one-third of total funding. Other funding is as follows (PB20 locked positions):

Navy RDTE: 0605030N, 3077. FY 2021 = 4,644 // FY 2022 = 4,741 // FY 2023 = 4,835 // FY 2024 = 4,932 Air Force RDTE: 0605030F, 655068. FY 2021 = 5,737 // FY 2022 = 5,852 // FY 2023 = 5,969 // FY 2024 = 6,088

Due to Joint Funding Strategy, there is no prior year funding for JTNC in the other Service lines. Prior to the year of execution, the JTNC funding is consolidated in Army PE 0605030A for execution. In accordance with the Joint Tactical Networking Center Charter updated and re-validated on 29 March 2016, the JTNC will remain under a Joint Budget Strategy funded by the three MILDEPs.

D. Acquisition Strategy

Joint Tactical Networking Center is classified as a Joint Support Program to Acquisition, Technology & Logistics (AT&L), DoD Chief Information Officer (CIO), and the Services. JTNC core functions as defined in the JTNC Acquisition Decision Memorandum and Charter signed on 20 January 2014 and revalidated on 29 March 2016 include: Department of Defense (DoD) Waveform Information Repository (IR) management and configuration control, DoD Waveform Standards and Software Communications Architecture (SCA), technical analyses of Government Program of Record (POR) and Industry COTS and NDI Waveform products. The services derived from these core functions reinforce an acquisition environment which ensures that interoperable, secure, and affordable joint tactical waveforms and wireless communications applications can operate in a variety of hardware transport solutions.

The FY2020 Budget supports continued development/maturation of the DoD Waveform 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), and continue development of the Capabilities Characterization and Tactical Communications Marketplace (CC & TCM).

E. Performance Metrics

N/A

Army

PE 0605030A: Joint Tactical Network Center (JTNC)

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army

Date: March 2019

Appropriation/Budget Activity R-1 Program Element (Number/Name) Project (Number/Name)

2040 / 5

PE 0605030A / Joint Tactical Network
Center (JTNC)

605030A I Joint Tactical Network EA8 I Joint Tactical Networking Center

Management Servic	es (\$ in M	illions)		FY 2	2018	FY 2	2019		2020 Ise	FY 2	2020 CO	FY 2020 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	Total Cost	Target Value of Contract
Program Management Support	Various	Multiple Contract Awards : Various	6.645	0.276	Dec 2017	0.210	Oct 2018	0.180	Oct 2019	-		0.180	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	G2 Software Systems : San Diego, CA	2.010	0.947	Dec 2017	0.831	Nov 2018	0.384	Nov 2019	-		0.384	Continuing	Continuing	Continuing
Program Management Support	Allot	Aberdeen Proving Grounds : Aberdeen. MD	0.684	0.173	Nov 2017	0.255	Oct 2018	0.105	Oct 2019	-		0.105	Continuing	Continuing	Continuing
FY 2019 SBIR / STTR Transfer	TBD	TBD : TBD	-	-		0.072	Oct 2018	-		-		-	Continuing	Continuing	Continuing
Program Management Support	MIPR	SSC PACIFIC : San Diego, CA	0.364	-		-		-		-		-	0.000	0.364	0.364
Program Management Support	FFRDC	MITRE : McLean, VA	0.058	-		-		-		-		-	0.000	0.058	0.058
		Subtotal	9.761	1.396		1.368		0.669		-		0.669	Continuing	Continuing	N/A

Product Developme	nt (\$ in Mi	llions)		FY 2	2018	FY 2	2019	FY 2 Ba		FY 2	2020 CO	FY 2020 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	Total Cost	Target Value of Contract
JTNC Product Development Support	MIPR	SSC PACIFIC : San Diego, CA	3.207	0.822	Dec 2017	0.572	Nov 2018	0.399	Oct 2019	-		0.399	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	G2 Software Systems : San Diego, CA	5.595	2.742	Nov 2017	2.875	Oct 2018	2.485	Nov 2019	-		2.485	Continuing	Continuing	Continuing
JTNC Product Development Support	MIPR	SSC ATLANTIC : Charleston, SC	-	0.053	Dec 2017	0.151	Oct 2018	2.974	Oct 2019	-		2.974	Continuing	Continuing	Continuing
JTNC Product Development Support	MIPR	Various : Aberdeen. MD	-	1.147	Oct 2017	1.097	Oct 2018	0.294	Nov 2019	-		0.294	Continuing	Continuing	Continuing
JTNC Product Development	C/CPFF	Booz Allen Hamilton : San Diego, CA	1.184	-		-		-		-		-	0.000	1.184	1.184

PE 0605030A: Joint Tactical Network Center (JTNC) Army

UNCLASSIFIED
Page 6 of 10

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0605030A / Joint Tactical Network

Center (JTNC)

Date: March 2019

Project (Number/Name)

EA8 I Joint Tactical Networking Center

Product Developme	nt (\$ in Mi	llions)		FY 2	2018	FY 2	2019	FY 2	2020 ise	FY 2020 OCO		FY 2020 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
JTNC Product Development - Other	Allot	Aberdeen Proving Grounds : Aberdeen, MD	0.382	-		-		-		-		-	0.000	0.382	0.382
Joint Tactical Networks (JTN) Legacy Development - MIPR	MIPR	Various : Various	19.868	-		-		-		-		-	0.000	19.868	19.868
Joint Tactical Networks (JTN) Legacy Development - Contracts	C/CPIF	Various : Various	24.890	-		-		-		-		-	0.000	24.890	24.890
		Subtotal	55.126	4.764		4.695		6.152		-		6.152	Continuing	Continuing	N/A

Support (\$ in Millior	ıs)			FY 2	2018	FY 2	2019	FY 2 Ba		FY 2		FY 2020 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	Total Cost	Target Value of Contract
JTNC Engineering/ Technical Support	C/CPFF	G2 Software Systems : San Diego, CA	4.494	0.973	Dec 2017	0.771	Oct 2018	0.716	Nov 2019	-		0.716	Continuing	Continuing	Continuinç
JTNC Engineering/ Technical Support	FFRDC	MITRE Corporation : McLean, VA	0.667	0.159	Nov 2017	0.151	Oct 2018	0.157	Oct 2019	-		0.157	Continuing	Continuing	Continuing
JTNC Engineering/ Technical Support	MIPR	Aberdeen Proving Grounds : Aberdeen, MD	1.284	0.741	Nov 2017	0.758	Oct 2018	0.209	Nov 2019	-		0.209	Continuing	Continuing	, Continuinç
JTNC Engineering/ Technical Support	MIPR	SSC PACIFIC : San Diego, CA	1.234	0.605	Oct 2017	0.706	Nov 2018	0.357	Oct 2019	-		0.357	Continuing	Continuing	Continuin
JTNC Engineering/ Technical Support	MIPR	Various : San Diego, CA	-	0.877	Nov 2017	0.785	Nov 2018	1.340	Nov 2019	-		1.340	Continuing	Continuing	Continuin
FY 2019 SBIR / STTR Transfer	TBD	TBD : TBD	-	-		0.510	Oct 2018	-		-		-	Continuing	Continuing	Continuin
JTNC Engineering/ Technical Support	C/CPFF	Booz Allen Hamilton : San Diego	14.965	-		-		-		-		-	0.000	14.965	14.965
		Subtotal	22.644	3.355		3.681		2.779		-		2.779	Continuing	Continuing	N/A

PE 0605030A: Joint Tactical Network Center (JTNC) Army

UNCLASSIFIED Page 7 of 10

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)
PE 0605030A / Joint Tactical Network
Center (JTNC)

Page: March 2019

R-1 Program Element (Number/Name)
PE 0605030A / Joint Tactical Network
Center (JTNC)

Test and Evaluation (\$ in Milli	ons)		FY 2	2018	FY 2	2019		2020 ise		2020 CO	FY 2020 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	Total Cost	Target Value of Contract
Development/Test & Evaluation	MIPR	SSC PACIFIC : San Diego, CA	4.027	1.377	Dec 2017	2.027	Oct 2018	1.905	Oct 2019	-		1.905	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	G2 Software Systems 01 : San Diego, CA	1.924	4.034	Dec 2017	3.647	Oct 2018	3.259	Nov 2019	-		3.259	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	JITC/Multiple Awards : Various	1.196	0.144	Nov 2017	0.171	Oct 2018	0.675	Nov 2019	-		0.675	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	Booz Allen Hamilton - NSA : Ft. Meade, MD	-	-		0.280	Dec 2018	0.443	Nov 2019	-		0.443	Continuing	Continuing	Continuing
Development/Test & Evaluation	MIPR	National Security Agency : Ft. Meade, MD	0.603	0.172	Oct 2017	-		-		-		-	0.000	0.775	0.775
Development/Test & Evaluation	C/CPFF	G2 Software Systems 04 : San Diego, CA	5.078	-		-		-		-		-	0.000	5.078	5.078
Development/Test & Evaluation	MIPR	SSC ATLANTIC : Charleston, SC	0.160	-		-		-		-		-	0.000	0.160	0.160
Development/Test & Evaluation	C/CPFF	Booz Allen Hamilton : San Diego, CA	1.242	-		-		-		-		-	0.000	1.242	1.242
		Subtotal	14.230	5.727		6.125		6.282		-		6.282	Continuing	Continuing	N/A
															Toward

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	101.761	15.242	15.869	15.882	-	15.882	Continuing	Continuing	N/A

Remarks

PE 0605030A: Joint Tactical Network Center (JTNC) Army

UNCLASSIFIED
Page 8 of 10

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0605030A / Joint Tactical Network
Center (JTNC)

Page 19

Project (Number/Name)
EA8 / Joint Tactical Networking Center

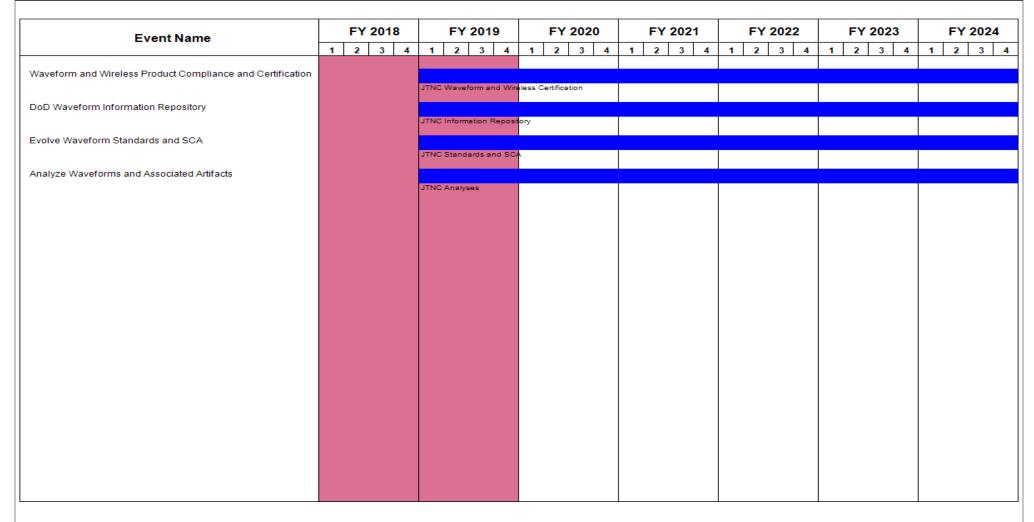


Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army		Date: March 2019
11 1	 - 3 (umber/Name) t Tactical Networking Center

Schedule Details

		art	End	
Events	Quarter	Year	Quarter	Year
Waveform and Wireless Product Compliance and Certification	1	2019	4	2024
DoD Waveform Information Repository	1	2019	4	2024
Evolve Waveform Standards and SCA	1	2019	4	2024
Analyze Waveforms and Associated Artifacts	1	2019	4	2024