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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport							
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	-	0.000	0.000	39.600	-	39.600	41.400	41.000	41.050	41.050	Continuing	Continuing
BT1: Interoperability	-	0.000	0.000	6.900	-	6.900	7.213	7.213	7.213	7.213	Continuing	Continuing
BT2: Command Post Mobility/ Survivability	-	0.000	0.000	7.400	-	7.400	7.736	7.736	7.736	7.736	Continuing	Continuing
BT3: Common Operating Environment (COE)	-	0.000	0.000	5.800	-	5.800	6.065	6.065	6.065	6.065	Continuing	Continuing
BT4: Network Technology Maturation Initiatives (NTMI)	-	0.000	0.000	3.200	-	3.200	3.200	3.200	3.200	3.200	Continuing	Continuing
BT5: Integrated Tactical Network/Enterprise Network	-	0.000	0.000	16.300	-	16.300	17.186	16.786	16.836	16.836	Continuing	Continuing

**Note**

Funds supporting CFT Network efforts were previously requested in program Cross Functional Team (CFT) Advanced Development & Prototyping, OSD PE 0604020A.

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

The Network Cross-Functional Team (N-CFT) narrows assigned Army capability gaps using Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities - Policy (DOTMLPF-P) enhancements to enable overmatch. The N-CFT engages in expert analysis, focused experiments, and technology demonstrations to narrow capability gaps. Subsequent to a materiel development decision, the N-CFT develops and refines capability documentation aligned with the appropriate phase of the program. The N-CFT will inform technology transitions, research and development, and user assessments, and then rapidly transition Operational Requirements into the Army Acquisition System. The N-CFT will integrate and synchronize activities across the Army, tied to Joint requirements, focused to improve speed, capability, and cost of materiel solutions to meet the Chief of Staff of the Army's (CSA's) first order principles, characteristics, and Warfighting requirements.

Unified Network Transport supports the Army's Network Modernization Strategy Line Of Effort (LOE) 1 - Unified Network; LOE 2 - Common Operating Environment (COE); LOE 3 - Interoperability; and LOE 4 - Command Post Mobility and Survivability. Funds will (1) identify and acquire technologies to address identified gaps across the Lines of Effort in the Integrated Tactical Network/Enterprise Network, Tactical Network Transport, Computing Environments, Interoperability and Command Posts, and (2) conduct demonstrations and experimental testing in lab and operational environments on the technologies. Successful solutions identified through the experimentation will be transitioned to Programs of Record for integration and fielding. Funds for experimentation will also support integration with solutions identified in the other Modernization CFT efforts to ensure their network dependencies are addressed.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army				Date: March 2019	
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	39.600	-	39.600
Total Adjustments	0.000	0.000	39.600	-	39.600
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	39.600	-	39.600
Change Summary Explanation					
N/A: FY20 New Start Program					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>				Project (Number/Name) BT1 / <i>Interoperability</i>			
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
BT1: <i>Interoperability</i>	-	0.000	0.000	6.900	-	6.900	7.213	7.213	7.213	7.213	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

This is a new start in FY20.

Project BT1 is Interoperability which supports N-CFT LOE 3

Project BT2 is Command Post Mobility/Survivability which supports N-CFT LOE 4

Project BT3 is Common Operating Environment which supports N-CFT LOE 2

Project BT4 is Network Technology Maturation Initiatives which supports N-CFT LOE 1 through 4

Project BT5 is Integrated Tactical Network/Integrated Enterprise Network which supports N-CFT LOE 1

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

LOE 3 (Interoperability) enables Unified Action Partner Interoperability through integration into the Joint Information Environment (JIE) and the Mission Partner Environment (MPE). Interoperability is the ability to routinely act together coherently, effectively and efficiently to achieve tactical, operational, and strategic objectives. Interoperability between disparate forces allows coalitions to produce greater combat power than the sum of their parts by leveraging relative strengths while mitigating relative weaknesses.

This funding is used to identify and acquire technologies to enhance or address gaps associated with LOE 3, Interoperability, solutions for experimentation that will incorporate abilities to leverage common commercial standards and/or widely recognized military interoperability standards. This funding will support demonstrations and experimentations, in a relevant operational environment, of key research and development (R&D) and science and technology (S&T) initiatives related to this effort, to include communications, information systems and information management; intelligence, surveillance and reconnaissance; intelligence fusion; digital fires; and sustainment.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
<b>Title:</b> BT1: Interoperability	-	-	6.900
<b>Description:</b> This funding is used to identify and acquire technologies to enhance or address gaps associated with LOE 3, Interoperability, solutions for experimentation that will incorporate abilities to leverage common commercial standards and/or widely recognized military interoperability standards. This funding will support demonstrations and experimentations, in a relevant operational environment, of key research and development (R&D) and science and technology (S&T) initiatives related to this effort, to include communications, information systems and information management; intelligence, surveillance and reconnaissance; intelligence fusion; digital fires; and sustainment.			
<b>FY 2020 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT1 / <i>Interoperability</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
<p>FY 20 funding initiates assessment of Unified Action Partners (UAPs) to determine levels of interoperability and integrate requirements by echelon, unit type and partner. Also, this funding initiates identifying multiple classification levels and access on Mission Partner Environment (MPE) solutions for experimentation. FY20 funding supports joint interoperability assessment during JWA 20 and DEFENDER 20. Subsequent funding support enables the Army to identify potential solutions for the following: enabling technologies to support the Army operating in an MPE; a deployed Army solution to extend episodic MPEs into the tactical network; and implementing solutions to UAP information exchange gaps (data, message and waveform Interoperability). Technologies with successful results will be transitioned in FY21-25 to a rapid acquisition initiative or into an existing PoR strategy.</p> <p><b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> N/A FY20 New Start</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		-	6.900
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army												Date: March 2019			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>				Project (Number/Name) BT1 / <i>Interoperability</i>					
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
Product Management Office Support	TBD	TBD : TBD	-	-		-		0.500		-		0.500	0.000	0.500	-
Subtotal			-	-		-		0.500		-		0.500	0.000	0.500	N/A
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
TEM	TBD	TBD : TBD	-	-		-		4.500		-		4.500	0.000	4.500	-
Subtotal			-	-		-		4.500		-		4.500	0.000	4.500	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
Interoperability Engineering and Technical Support	TBD	TBD : TBD	-	-		-		0.900		-		0.900	0.000	0.900	-
Subtotal			-	-		-		0.900		-		0.900	0.000	0.900	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
Interoperability Test and Evaluation	TBD	TBD : TBD	-	-		-		1.000		-		1.000	0.000	1.000	-
Subtotal			-	-		-		1.000		-		1.000	0.000	1.000	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		0.000		6.900		-		6.900	0.000	6.900	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army							Date: March 2019			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>		Project (Number/Name) BT1 / <i>Interoperability</i>				
	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army																Date: March 2019												
Appropriation/Budget Activity 2040 / 4									R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>								Project (Number/Name) BT1 / <i>Interoperability</i>											
Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
TEM (Technical Exchange Meeting) - Emerging Technology Projects									Capability Gap Reduction and Enhancement Development Effort																			
JWA 20									1 Joint Warfighter Assessment																			
Defender 20									2 EUCOM Exercise																			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Army			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT1 / <i>Interoperability</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
TEM (Technical Exchange Meeting) - Emerging Technology Projects	1	2020	4	2025
JWA 20	3	2020	3	2020
Defender 20	4	2020	4	2020

**Note**

TEM projects are continuous activities; N-CFT will reach out to industry partners in order to assess and demonstrate the latest emerging technologies which will reduce capability gaps and provide rapid SW/HW enhancements for PORs.



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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport				Project (Number/Name) BT2 / Command Post Mobility/Survivability			
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
BT2: Command Post Mobility/ Survivability	-	0.000	0.000	7.400	-	7.400	7.736	7.736	7.736	7.736	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note This is a new start in FY20.  Project BT1 is Interoperability which supports N-CFT LOE 3 Project BT2 is Command Post Mobility/Survivability which supports N-CFT LOE 4 Project BT3 is Common Operating Environment which supports N-CFT LOE 2 Project BT4 is Network Technology Maturation Initiatives which supports N-CFT LOE 1 through 4 Project BT5 is Integrated Tactical Network/Integrated Enterprise Network which supports N-CFT LOE 1												
A. Mission Description and Budget Item Justification LOE4, Command Posts (CPs), establishes capabilities that enable the ability to employ CPs for operations from early entry to major combat operations. This LOE includes the ability to develop and disseminate a common operating picture, conduct planning and collaboration, synchronize operations, and modify and reduce the electronic and physical signatures. Solutions to solve current issues of lengthy set-up and tear-down times, survivability, mobility, suitability and physical size are also resolved in this LOE. A key deliverable is an integrated body of requirements that meet operational needs in all aspects of CP operations.  This funding is used to identify and acquire technologies for experimentation that enhance or address gaps associated with LOE 4, Command Post, in the overall Integrated Tactical Network. The Command Post LOE will focus on developing and obtaining approval of requirements for integrated command posts, then delivering these integrated command post designs to Army units. LOE 4 addresses the operational requirement of a Deployable, Integrated, and Mobile Command Post and integrates Knowledge Management.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: BT2 Command Post Mobility and Survivability									-	-	7.400	
Description: This funding is used to identify and acquire technologies for experimentation that enhance or address gaps associated with LOE 4, Command Post, in the overall Integrated Tactical Network. The Command Post LOE will focus on developing and obtaining approval of requirements for integrated command posts, then delivering these integrated command post designs to Army units. LOE 4 addresses the operational requirement of Deployable, Integrated, and Mobile Command Post and integrates Knowledge Management.												
FY 2020 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT2 / <i>Command Post Mobility/Survivability</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
FY20 funding initiates survivable command post solutions that enable dispersed CP footprint, reduced CP EM vulnerability, and extensible CP decoys for deception. Also, subsequent funding will support experimentation that identifies potential solutions for the following: Expeditionary tactical servers, integrated roll-on/roll-off kits, automated management and monitoring software to provision and manage command post; enhanced hardware operating at multiple classification levels pending availability of cross domain solution; technology enhancements addressing gaps discovered through the delivery of CP Directed Requirement capabilities, and the development and delivery of Integrated CP Designs that provide agility, mobility, and protection. Technologies with successful results will be transitioned in FY21-25 into an existing PoR strategy for integration and fielding.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> N/A FY20 New Start			
<b>Accomplishments/Planned Programs Subtotals</b>		-	7.400
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
N/A			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army												Date: March 2019			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport				Project (Number/Name) BT2 / Command Post Mobility/Survivability					
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
Project Management Office Support	TBD	TBD : TBD	-	-		-		0.600		-		0.600	0.000	0.600	-
Subtotal			-	-		-		0.600		-		0.600	0.000	0.600	N/A
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
TEM	TBD	TBD : TBD	-	-		-		5.000		-		5.000	0.000	5.000	-
Subtotal			-	-		-		5.000		-		5.000	0.000	5.000	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
CP Engineering/Technical Support	TBD	TBD : TBD	-	-		-		1.000		-		1.000	0.000	1.000	-
Subtotal			-	-		-		1.000		-		1.000	0.000	1.000	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		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
CP Test and Evaluation	TBD	TBD : TBD	-	-		-		0.800		-		0.800	0.000	0.800	-
Subtotal			-	-		-		0.800		-		0.800	0.000	0.800	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		0.000		7.400		-		7.400	0.000	7.400	N/A
Remarks															

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

Date: March 2019

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2040 / 4

R-1 Program Element (Number/Name)
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PE 0604541A / Unified Network Transport

Project (Number/Name)	Start Date	End Date	Duration (Days)	Project Manager	Status	Notes
101	2023-01-01	2023-01-15	14	John Doe	Completed	Project completed successfully.
102	2023-01-16	2023-02-01	16	Jane Smith	In Progress	Project is currently in progress.
103	2023-02-02	2023-02-15	13	John Doe	Completed	Project completed successfully.
104	2023-02-16	2023-03-01	15	Jane Smith	In Progress	Project is currently in progress.
105	2023-03-02	2023-03-15	13	John Doe	Completed	Project completed successfully.
106	2023-03-16	2023-03-31	15	Jane Smith	In Progress	Project is currently in progress.
107	2023-04-01	2023-04-15	14	John Doe	Completed	Project completed successfully.
108	2023-04-16	2023-05-01	15	Jane Smith	In Progress	Project is currently in progress.
109	2023-05-02	2023-05-15	13	John Doe	Completed	Project completed successfully.
110	2023-05-16	2023-05-31	15	Jane Smith	In Progress	Project is currently in progress.

BT2 / Command Post Mobility/Survivability

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT2 / <i>Command Post Mobility/Survivability</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Node to Node Connectivity Solutions	3	2020	4	2022
CP Antenna Remoting	1	2020	4	2021
Integrated CP Decoy Platform	2	2020	4	2022
TEM (Technical Exchange Meeting) - Emerging Technology Projects	1	2020	4	2025

**Note**

TEM projects are continuous activities; N-CFT will reach out to industry partners in order to assess and demonstrate the latest emerging technologies which will reduce capability gaps and provide rapid SW/HW enhancements for PORs.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport				Project (Number/Name) BT3 / Common Operating Environment (COE)			
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
BT3: Common Operating Environment (COE)	-	0.000	0.000	5.800	-	5.800	6.065	6.065	6.065	6.065	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

This is a new start in FY20.

Project BT1 is Interoperability which supports N-CFT LOE 3

Project BT2 is Command Post Mobility/Survivability which supports N-CFT LOE 4

Project BT3 is Common Operating Environment which supports N-CFT LOE 2

Project BT4 is Network Technology Maturation Initiatives which supports N-CFT LOE 1 through 4

Project BT5 is Integrated Tactical Network/Integrated Enterprise Network which supports N-CFT LOE 1

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

LOE 2, Common Operating Environment (COE), creates an approved set of standards, computing technologies, integrated data and databases, common graphics and a unified set of mission command applications. It allows warfighters to adapt and configure the network as conditions change.

Funding enhances Common Operating Environment Interoperability by enabling integration into the Joint Information Environment (JIE) and the Mission Partner Environment (MPE). N-CFT COE enhancements will demonstrate a simple and intuitive single mission command suite (single common operating picture of common unified data and geospatial standards) installed, operated and maintained by soldiers, and standardized mission command applications and knowledge management capabilities that support leaders and Soldiers across echelons to enable all warfighting functions.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
<b>Title:</b> BT3 Common Operating Environment	-	-	5.800
<b>Description:</b> This funding is used to identify and acquire technologies to enhance or address gaps associated with LOE 2, Common Operating Environment, in the overall Integrated Network. This LOE creates an approved set of standards, computing technologies, integrated data and databases and common graphics and a unified set of mission command applications. It will also support collaboration using a common picture with joint and coalition mission partners. This LOE delivers an integrated body of requirements that meet operational needs. The decisive action within this LOE is informing the next version of COE in FY21.			
<b>FY 2020 Plans:</b> FY20 funding supports assessment and experimentation of potential solutions for the following: distributed computing, using cloud technologies in a tactical space, machine learning, a modular & dockable computing infrastructure, and cyber hardening through			

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<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT3 / <i>Common Operating Environment (COE)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Tactical Endpoint Security. Technologies with successful results will be transitioned in FY21/22 to a rapid acquisition initiative or into an existing PoR strategy.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> N/A FY20 New Start			
<b>Accomplishments/Planned Programs Subtotals</b>		-	5.800
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Army</b>												<b>Date: March 2019</b>			
<b>Appropriation/Budget Activity</b> 2040 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>						<b>Project (Number/Name)</b> BT3 / <i>Common Operating Environment (COE)</i>			
<b>Management Services (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Project Management Office Support	TBD	TBD : TBD	-	-		-		0.500		-		0.500	0.000	0.500	-
<b>Subtotal</b>			-	-		-		0.500		-		0.500	0.000	0.500	N/A
<b>Product Development (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TEM	TBD	TBD : TBD	-	-		-		4.000		-		4.000	0.000	4.000	-
<b>Subtotal</b>			-	-		-		4.000		-		4.000	0.000	4.000	N/A
<b>Support (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
COE Engineering/ Technical Support	TBD	TBD : TBD	-	-		-		0.500		-		0.500	0.000	0.500	-
<b>Subtotal</b>			-	-		-		0.500		-		0.500	0.000	0.500	N/A
<b>Test and Evaluation (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
COE Test and Evaluation	TBD	TBD : TBD	-	-		-		0.800		-		0.800	0.000	0.800	-
<b>Subtotal</b>			-	-		-		0.800		-		0.800	0.000	0.800	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	-		0.000		5.800		-		5.800	0.000	5.800	N/A



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army							Date: March 2019			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>			Project (Number/Name) BT3 / <i>Common Operating Environment (COE)</i>			
	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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

Date: March 2019

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2040 / 4

R-1 Program Element (Number/Name)
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PE 0604541A / Unified Network Transport

Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance	Cost Variance	Cost Performance
1	1/1/2020	1/31/2020	31	10000	10000	0	1.0	1.0	0	1.0	0	1.0
2	2/1/2020	2/28/2020	28	15000	15000	0	1.0	1.0	0	1.0	0	1.0
3	3/1/2020	3/31/2020	31	20000	20000	0	1.0	1.0	0	1.0	0	1.0
4	4/1/2020	4/30/2020	30	25000	25000	0	1.0	1.0	0	1.0	0	1.0
5	5/1/2020	5/31/2020	31	30000	30000	0	1.0	1.0	0	1.0	0	1.0
6	6/1/2020	6/30/2020	30	35000	35000	0	1.0	1.0	0	1.0	0	1.0
7	7/1/2020	7/31/2020	31	40000	40000	0	1.0	1.0	0	1.0	0	1.0
8	8/1/2020	8/31/2020	31	45000	45000	0	1.0	1.0	0	1.0	0	1.0
9	9/1/2020	9/30/2020	30	50000	50000	0	1.0	1.0	0	1.0	0	1.0
10	10/1/2020	10/31/2020	31	55000	55000	0	1.0	1.0	0	1.0	0	1.0
11	11/1/2020	11/30/2020	30	60000	60000	0	1.0	1.0	0	1.0	0	1.0
12	12/1/2020	12/31/2020	31	65000	65000	0	1.0	1.0	0	1.0	0	1.0
13	1/1/2021	1/31/2021	31	70000	70000	0	1.0	1.0	0	1.0	0	1.0
14	2/1/2021	2/28/2021	28	75000	75000	0	1.0	1.0	0	1.0	0	1.0
15	3/1/2021	3/31/2021	31	80000	80000	0	1.0	1.0	0	1.0	0	1.0
16	4/1/2021	4/30/2021	30	85000	85000	0	1.0	1.0	0	1.0	0	1.0
17	5/1/2021	5/31/2021	31	90000	90000	0	1.0	1.0	0	1.0	0	1.0
18	6/1/2021	6/30/2021	30	95000	95000	0	1.0	1.0	0	1.0	0	1.0
19	7/1/2021	7/31/2021	31	100000	100000	0	1.0	1.0	0	1.0	0	1.0
20	8/1/2021	8/31/2021	31	105000	105000	0	1.0	1.0	0	1.0	0	1.0
21	9/1/2021	9/30/2021	30	110000	110000	0	1.0	1.0	0	1.0	0	1.0
22	10/1/2021	10/31/2021	31	115000	115000	0	1.0	1.0	0	1.0	0	1.0
23	11/1/2021	11/30/2021	30	120000	120000	0	1.0	1.0	0	1.0	0	1.0
24	12/1/2021	12/31/2021	31	125000	125000	0	1.0	1.0	0	1.0	0	1.0
25	1/1/2022	1/31/2022	31	130000	130000	0	1.0	1.0	0	1.0	0	1.0
26	2/1/2022	2/28/2022	28	135000	135000	0	1.0	1.0	0	1.0	0	1.0
27	3/1/2022	3/31/2022	31	140000	140000	0	1.0	1.0	0	1.0	0	1.0
28	4/1/2022	4/30/2022	30	145000	145000	0	1.0	1.0	0	1.0	0	1.0
29	5/1/2022	5/31/2022	31	150000	150000	0	1.0	1.0	0	1.0	0	1.0
30	6/1/2022	6/30/2022	30	155000	155000	0	1.0	1.0	0	1.0	0	1.0
3												

BT3 / Common Operating Environment  
(COE)

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
GRID Tactical																												
E2E GeoINT																												
TEM (Technical Exchange Meeting) - Emerging Technology Projects																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>	Project (Number/Name) BT3 / <i>Common Operating Environment (COE)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
GRiD Tactical	1	2023	4	2024
E2E GeoINT	1	2023	4	2024
TEM (Technical Exchange Meeting) - Emerging Technology Projects	1	2020	2	2025

**Note**  
TEM projects are continuous activities; N-CFT will reach out to industry partners in order to assess and demonstrate the latest emerging technologies which will reduce capability gaps and provide rapid SW/HW enhancements for PORs.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport				Project (Number/Name) BT4 / Network Technology Maturation Initiatives (NTMI)			
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
BT4: Network Technology Maturation Initiatives (NTMI)	-	0.000	0.000	3.200	-	3.200	3.200	3.200	3.200	3.200	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note This is a new start in FY20.  Project BT1 is Interoperability which supports N-CFT LOE 3 Project BT2 is Command Post Mobility/Survivability which supports N-CFT LOE 4 Project BT3 is Common Operating Environment which supports N-CFT LOE 2 Project BT4 is Network Technology Maturation Initiatives which supports N-CFT LOE 1 through 4 Project BT5 is Integrated Tactical Network/Integrated Enterprise Network which supports N-CFT LOE 1												
A. Mission Description and Budget Item Justification This funding is used to acquire and transition DARPA and SCO RDT&E efforts. This funding will be used to evaluate and transition DARPA SHARE and SCO's LTE programs (including future OSD RDT&E initiatives and projects). In addition, this funding provides support required to conduct technical exchanges that provide opportunities to identify and acquire technologies for demonstrations, experimentations and prototyping. Funding provides engineering and programmatic support required for execution of lab-based and operational field experimentation and assessment.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: BT4: Network Technology Maturation Initiatives (NTMI)									-	-	3.200	
Description: This funding will be used to continuously identify, prioritize, mature, demonstrate, and insert emerging technologies to enhance operational capability through our Market Research and Concept Capability Development activities. Funding provides engineering and programmatic support required for execution of lab-based and field experimentation. In addition, this funding is used to acquire and transition of DARPA and SCO RDT&E efforts.												
FY 2020 Plans: This funding provides support required to identify successful solutions for transition into the tactical network through programs of record. FY20 funding supports lab-based and field experimentation of commercial solutions and solutions derived from OSD RDT&E programs (DARPA Share and SCO LTE programs).												
FY 2019 to FY 2020 Increase/Decrease Statement:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT4 / <i>Network Technology Maturation Initiatives (NTMI)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
N/A FY20 New Start			
<b>Accomplishments/Planned Programs Subtotals</b>		-	3.200
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019			
<b>Appropriation/Budget Activity</b> 2040 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>						<b>Project (Number/Name)</b> BT4 / <i>Network Technology Maturation Initiatives (NTMI)</i>			
<b>Management Services (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Project Management Office Support	TBD	TBD : TBD	-	-		-		0.250		-		0.250	0.000	0.250	-
<b>Subtotal</b>			-	-		-		0.250		-		0.250	0.000	0.250	N/A
<b>Support (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
NTMI Engineering/ Technical Support	TBD	TBD : TBD	-	-		-		2.500		-		2.500	0.000	2.500	-
<b>Subtotal</b>			-	-		-		2.500		-		2.500	0.000	2.500	N/A
<b>Test and Evaluation (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
NTMI Test and Evaluation	TBD	TBD : TBD	-	-		-		0.450		-		0.450	0.000	0.450	-
<b>Subtotal</b>			-	-		-		0.450		-		0.450	0.000	0.450	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	-		0.000		3.200		-		3.200	0.000	3.200	N/A
<b>Remarks</b>															

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

**Date:** March 2019

**Appropriation/Budget Activity**

2040 / 4

**R-1 Program Element (Number/Name)**

PE 0604541A / Unified Network Transport

Project (Number/Name)

## BT4 / Network Technology Maturation Initiatives (NTMI)

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Army			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT4 / <i>Network Technology Maturation Initiatives (NTMI)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SCO LTE Program	4	2020	4	2020
DARPA SHARE	4	2019	4	2019
TEM (Technical Exchange Meeting) - Emerging Technology Projects Support (Lab)	1	2020	4	2025



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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604541A / Unified Network Transport				Project (Number/Name) BT5 / Integrated Tactical Network/Enterprise Network			
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
BT5: Integrated Tactical Network/Enterprise Network	-	0.000	0.000	16.300	-	16.300	17.186	16.786	16.836	16.836	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note This is a new start in FY20.  Project BT1 is Interoperability which supports N-CFT LOE 3 Project BT2 is Command Post Mobility/Survivability which supports N-CFT LOE 4 Project BT3 is Common Operating Environment which supports N-CFT LOE 2 Project BT4 is Network Technology Maturation Initiatives which supports N-CFT LOE 1 through 4 Project BT5 is Integrated Tactical Network/Integrated Enterprise Network which supports N-CFT LOE 1												
A. Mission Description and Budget Item Justification Unified Network, enables a converged Mission Command Network that operates seamlessly worldwide and in any environment. This effort has three components: Integrated Tactical Network, Network Enablers and Integrated Enterprise Network. It includes the development of a standards-based network architecture that unifies enterprise and deployed network capabilities and features a unified transport layer, network operations and other enabling functions that allows integration of disparate networks. The Army network will provide resiliency through path diversity and dynamic routing to ensure tactical units can communicate in hostile environments. It will provide multiple ways to communicate and give commanders the ability to choose their communications methods and tools during operations. It fully incorporates cyber and electronic warfare capabilities that support the employment of the network as a weapon system.  This funding is used to identify and acquire technologies to enhance or address gaps associated with LOE 1, Unified Network, for experimentation and demonstration in the overall Integrated Network. The Unified Network LOE enables a converged Mission Command Network that operates seamlessly worldwide and in any environment. It will increase bandwidth and range; improve mobility and network security; and harden the network. This will require the creation of a standards-based network architecture that effectively integrates enterprise and deployed network capabilities across domains and environments, and features a unified transport layer that permits "plug and play" for specific network capabilities. LOE 1 addresses the following operational requirements: Converged Mission Command Network, Network Augmentation / Extension, and Synthetic Training Environment.  LOE 1 enhancements include Aerial Tier (WGS Ka Band Surrogate), CEMA resiliency, and cyber hardened communications.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: Project BT5: Integrated Tactical Network/Integrated Enterprise Network									-	-	16.300	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT5 / <i>Integrated Tactical Network/Enterprise Network</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
<p><b>Description:</b> This funding is used to identify and acquire technologies to enhance or address gaps associated with LOE 1, Unified Network, for experimentation and demonstration in the overall Integrated Network. The Unified Network LOE enables a converged Mission Command Network that operates seamlessly worldwide and in any environment. This will require the creation of a standards-based network architecture that effectively integrates enterprise and deployed network capabilities across domains and environments, and features a unified transport layer that permits "plug and play" for specific network capabilities. LOE 1 addresses the following operational requirements: Converged Mission Command Network, Network Augmentation / Extension, and Synthetic Training Environment.</p> <p><b>FY 2020 Plans:</b> FY20 funding supports identifying solutions for network fail-over in a contested environment to enable PACE (Primary, Alternate Contingency &amp; Emergency) and demonstrate rapid restoration capability for a denied WGS NCW tactical communications network which supports BLOS communications between Division, Brigade, Battalion and Company echelons with high altitude balloon satellite surrogates. Restoring the NCW network provides resiliency to communications, including LRPf. Also, this funding supports demonstration and acquisition plans for experimentation of potential solutions for the following: Accelerate Next Generation Tactical radio, Air to ground integration, Secure LTE capabilities for mounted/ dismounted soldiers, and Tactical Network Operations (NetOps), Cyber Electromagnetic Activities (CEMA) and Tactical Identity and Access Management (IdAM). Technology enhancements will provided Integrated Multi-Transport Capabilities, High Capacity Line of Sight Backhaul Radios, Line Of Sight Communications Range Extension, Electronic Protection of Tactical Communications, Network Gateways, Tactical NetOps Tools, Distributed Computing Tools, and High Capacity Transport for Heavy Mobile Platforms. Technologies with successful results will be transitioned in FY21-25 to a rapid acquisition initiative or into an existing PoR strategies.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> N/A FY20 New Start Program</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		-	-
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
N/A			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>	Project (Number/Name) BT5 / <i>Integrated Tactical Network/Enterprise Network</i>

**E. Performance Metrics**  
N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Army</b>												<b>Date: March 2019</b>			
<b>Appropriation/Budget Activity</b> 2040 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>						<b>Project (Number/Name)</b> BT5 / <i>Integrated Tactical Network/Enterprise Network</i>			
<b>Management Services (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Project Management Office Support	TBD	TBD : TBD	-	-		-		1.000		-		1.000	0.000	1.000	-
<b>Subtotal</b>			-	-		-		1.000		-		1.000	0.000	1.000	N/A
<b>Product Development (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TEM Development	TBD	TBD : TBD	-	-		-		10.800		-		10.800	0.000	10.800	-
<b>Subtotal</b>			-	-		-		10.800		-		10.800	0.000	10.800	N/A
<b>Support (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TEM Engineering Technical Support	TBD	TBD : TBD	-	-		-		2.000		-		2.000	0.000	2.000	-
<b>Subtotal</b>			-	-		-		2.000		-		2.000	0.000	2.000	N/A
<b>Test and Evaluation (\$ in Millions)</b>				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test and Evaluation	TBD	TBD : TBD	-	-		-		2.500		-		2.500	0.000	2.500	-
<b>Subtotal</b>			-	-		-		2.500		-		2.500	0.000	2.500	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	-		0.000		16.300		-		16.300	0.000	16.300	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army							Date: March 2019			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0604541A / <i>Unified Network Transport</i>		Project (Number/Name) BT5 / <i>Integrated Tactical Network/Enterprise Network</i>				
	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2020 Army</b>			<b>Date:</b> March 2019		
<b>Appropriation/Budget Activity</b> 2040 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>		<b>Project (Number/Name)</b> BT5 / <i>Integrated Tactical Network/Enterprise Network</i>	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Tactical IDaM									■																			
Protected Comms for MUM-T													■															
Unified NetOps													■															
Network Centric WF Resilient													■															
Next Gen HF													■															
Spectrum Obfuscation													■															
Protected SATCOM													■															
Cyber SU													■															
WGS Ka Band Surrogate																	■											
GRID Tactical																	■											
Aerial Tier Networking																					■							
TEM (Technical Exchange Meeting) - Emerging Technology Projects													■															

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Army			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604541A / <i>Unified Network Transport</i>	<b>Project (Number/Name)</b> BT5 / <i>Integrated Tactical Network/Enterprise Network</i>	

## Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tactical IDaM	1	2020	4	2020
Protected Comms for MUM-T	2	2020	4	2020
Unified NetOps	2	2020	1	2021
Network Centric WF Resilient	2	2021	4	2021
Next Gen HF	2	2021	4	2023
Spectrum Obfuscation	3	2021	4	2021
Protected SATCOM	3	2021	3	2022
Cyber SU	3	2021	1	2022
WGS Ka Band Surrogate	2	2022	1	2023
GRiD Tactical	3	2022	1	2023
Aerial Tier Networking	3	2023	4	2025
TEM (Technical Exchange Meeting) - Emerging Technology Projects	1	2020	4	2025

### Note

TEM projects are continuous activities; N-CFT will reach out to industry partners in order to assess and demonstrate the latest emerging technologies which will reduce capability gaps and provide rapid SW/HW enhancements for PORs.