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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2019 Air Force **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>					<b>R-1 Program Element (Number/Name)</b> PE 0208097F <i>I Joint Cyber Command and Control (JCC2)</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	0.000	0.000	13.000	0.000	13.000	0.000	0.000	0.000	0.000	Continuing	Continuing
676045: <i>Foundational Efforts</i>	-	0.000	0.000	13.000	0.000	13.000	0.000	0.000	0.000	0.000	Continuing	Continuing

## Note

In FY19, PE 0208097F, Joint Cyber Command and Control (JCC2) efforts were transferred from PE 0306250F, Cyber Operations Technology Development to enable Executive Agent oversight and management, and to provide adequate oversight and Service stakeholder transparency.

## A. Mission Description and Budget Item Justification

Joint Cyber Command and Control (JCC2) provides Combatant Commanders, Joint Force Commanders and Service Component Commanders with enhanced situational awareness and battle management for cyberspace operations missions and forces. Joint Cyber C2 establishes congressionally directed focal point to provide integrated Joint Cyber C2 solutions to all echelons for execution of cyberspace operations to enable and accelerate planning/collaboration between Cyber Mission Forces and Combatant Commands.

It will integrate Cyber C2 with Joint, Coalition and inter-agency C2 to enhance multi-domain operations and reduce planning time, improve decision quality and speed resulting in a shorter kill chain. Activities include, but are not limited to: Rapid prototyping, development of software/hardware systems; integration and transition of lab developed cyber capabilities to the warfighter; testing and evaluation; program management administration, studies, analysis, pilots, demonstrations, and risk reduction for emerging technologies.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver JCC2 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force				Date: February 2018	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		PE 0208097F I Joint Cyber Command and Control (JCC2)			
B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	13.000	0.000	13.000
Total Adjustments	0.000	0.000	13.000	0.000	13.000
• 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			
• Other Adjustments	0.000	0.000	13.000	0.000	13.000
<b>Change Summary Explanation</b>					
In FY19, PE 0208097F, Joint Cyber Command and Control (JCC2) efforts were transferred from PE 0306250F, Cyber Operations Technology Development to enable Executive Agent oversight and management, and to provide adequate oversight and Service stakeholder transparency.					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0208097F / Joint Cyber Command and Control (JCC2)				Project (Number/Name) 676045 / Foundational Efforts			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
676045: Foundational Efforts	-	0.000	0.000	13.000	0.000	13.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
In FY19, PE 0208097F, Joint Cyber Command and Control (JCC2) efforts were transferred from PE 0306250F, Cyber Operations Technology Development to enable Executive Agent oversight and management, and to provide adequate oversight and Service stakeholders transparency.												
A. Mission Description and Budget Item Justification												
Joint Cyber Command and Control (JCC2) provides Combatant Commanders, Joint Force Commanders and Service Component Commanders with enhanced situational awareness and battle management for cyberspace operations missions and forces. Joint Cyber C2 establishes congressionally directed focal point to provide integrated Joint Cyber C2 solutions to all echelons for execution of cyberspace operations to enable and accelerate planning/collaboration between Cyber Mission Forces and Combatant Commands.												
It will integrate Cyber C2 with Joint, Coalition and inter-agency C2 to enhance multi-domain operations and reduce planning time, improve decision quality and speed resulting in a shorter kill chain. Activities include, but are not limited to: Rapid prototyping, development of software/hardware systems; integration and transition of lab developed cyber capabilities to the warfighter; testing and evaluation; program management administration, studies, analysis, pilots, demonstrations, and risk reduction for emerging technologies.												
This program element may include necessary civilian pay expenses required to manage, execute, and deliver JCC2 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.												
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2017	FY 2018	FY 2019	
Title: Foundational Efforts									-	0.000	13.000	
Description: Foundational Efforts are program activities, at multiple operating locations, supporting operational prototyping (i.e., Development Operations) and Joint Cyber Command and Control (JCC2) baseline efforts to retain capability. Actions include system and software engineering, risk management, developmental framework management, and the execution of acquisition activities.												
FY 2018 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force		<b>Date:</b> February 2018	
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0208097F / Joint Cyber Command and Control (JCC2)	<b>Project (Number/Name)</b> 676045 / Foundational Efforts	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>
Efforts reflected in PE 0306250F, Cyber Operations Technology Development.  - Begin program office stand up. - Execute programmatic/acquisition activities. - Transition USCC prototyping to JCC2 Program Management Office. - Pilot tools that automate the sharing of cyber threat data. - Leverage select developed technologies and/or operational capabilities to deliver operational "Quick Win" capabilities.  <b>FY 2019 Plans:</b> - Continue stand up a program office. - Continue execution of acquisition activities and development of requisite documentation. - Continue piloting tools to automate the sharing of cyber threat data. - Continue actions to evaluate capabilities for data sharing of cyber threat.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> In FY19, PE 0208097F, Joint Cyber Command and Control (JCC2) efforts were transferred from PE 0306250F, Cyber Operations Technology Development to enable Executive Agent oversight and management, and to provide adequate oversight and Service stakeholder transparency.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
JCC2 is pre Material Development Decision (MDD). Current efforts include standing up a program management office (PMO), delivering "Quick Win" operational prototypes to Combatant Commanders in accordance with the recommendation of JCC2 early operational assessments (EoAs).			
<b>E. Performance Metrics</b>			
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2019 Air Force												<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0208097F / Joint Cyber Command and Control (JCC2)				<b>Project (Number/Name)</b> 676045 / Foundational Efforts				

  

<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<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>
Foundational Efforts	TBD	TBD : TBD	-	-		-		13.000		-		13.000	Continuing	Continuing	-
<b>Subtotal</b>			-	-		-		13.000		-		13.000	Continuing	Continuing	N/A

  

	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	-	-	0.000	13.000	-	13.000	Continuing	Continuing	N/A

  

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force										Date: February 2018																			
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 0208097F / Joint Cyber Command and Control (JCC2)										Project (Number/Name) 676045 / Foundational Efforts									

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Foundational Events																												
Transition USCC prototyping to PMO																												
Quick Win Dev-Ops Prototyping																												
PMO Standup																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0208097F / <i>Joint Cyber Command and Control (JCC2)</i>	<b>Project (Number/Name)</b> 676045 / <i>Foundational Efforts</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Foundational Events</i></b>				
Transition USCC prototyping to PMO	1	2019	4	2019
Quick Win Dev-Ops Prototyping	2	2019	4	2019
PMO Standup	1	2019	2	2020