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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Air Force **Date:** April 2022

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	29.709	37.109	38.222	0.000	38.222	42.548	43.769	44.567	45.555	Continuing	Continuing
656060: <i>Standards Management</i>	-	29.709	37.109	38.222	0.000	38.222	42.548	43.769	44.567	45.555	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Open Architecture Management (OAM) Office (OAMO) at the Air Force Life Cycle Management Center is responsible for developing, evolving, and managing open standards. Open standards permit Department of Defense programs to reduce acquisition and life-cycle costs as well as the risks associated with development, sustainment, technology refresh, and capability upgrades of mission systems on weapon systems. The OAMO continues to manage the Open Mission Systems (OMS) and the Universal Command and Control (C2) Interface (UCI) Standards. Additionally, the OAMO will continue working activities for other standards and open architecture initiatives to transition to OAMO management/ownership.

OAMO provides funding to multiple entities, including the Air Force Research Laboratory (AFRL), the 76th Software Engineering Group (76 SWEG), defense contractors, Federally Funded Research and Development Centers, and University Affiliated Research Centers in support of standards management activities. AFRL is responsible for executing science and technology initiatives to further develop the OMS/UCI Standards. The 76 SWEG is responsible for key activities and deliverables for the OMS and UCI standards including: managing a collaborative tools environment, updating tools in the OMS/UCI Starter Kit, updating the Government critical abstraction layer, maintaining the Reference Implementation, integrating and testing the Mission Package, completing Change Package Development and Sponsorship, supporting the OMS and UCI management activities, providing support to adopting programs, and providing training and associated documentation. These entities will also be funded to support activities for other standards or open architecture initiatives to transition to OAMO management/ownership.

The OAMO will continue development/maintenance of the Government Avionics Reference Architecture (GARA), an architectural framework that includes open architecture standards and Model Based Systems Engineering (MBSE) tools to guide and aid the development or modification of avionics/mission systems.

The OAMO will execute P3I initiatives as required and include activities such as specifically targeted improvements to open standards and open architecture initiatives, coordination with other standardization efforts, enhancements (including cybersecurity, as required), and widening the applicability of the standards the OAMO is involved with.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver open standards capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F.

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.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	30.491	37.109	0.000	0.000	0.000
Current President's Budget	29.709	37.109	38.222	0.000	38.222
Total Adjustments	-0.782	0.000	38.222	0.000	38.222
• 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	-0.782	0.000			
• Other Adjustments	0.000	0.000	38.222	0.000	38.222

**Change Summary Explanation**

FY 2023 increased to standard taxes, inflationary adjustments, etc.

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY 2023 cannot be made in a relevant manner.

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Title:</b> Open Architecture Management Office	29.709	37.109	38.222
<b>Description:</b> Accomplish all industry activities that result in the annual release of the OMS and UCI standards along with the associated documentation, including training materials. Manage government activities to support the OMS and UCI Standards. Accomplish industry and government activities to support other open standards and open architecture initiatives managed by the OAMO. Conduct preplanned activities to add additional capability and evolve standards and open architecture initiatives managed and supported by the OAMO.			
<b>FY 2022 Plans:</b>			
Continue to modify and update the existing OMS and UCI Standards to widen the pool of OMS/UCI applicability, account for emerging technologies, adjust for program specific needs, and conduct targeted training. In coordination with industry partners and government agencies, complete all activities (including quarterly common governance boards) to develop annual releases of the OMS/UCI Standards. Provide government expertise to support open standards and open architecture development efforts. Work activities to advance, modify, or transition to OAMO ownership/management of other open standards and open architecture initiatives, as required. Develop starter kits, tool kits (including required updates), perform testing and integration activities, assist in the generation and maintenance of anti-tamper and cybersecurity documentation, and conduct other management and development activities, as required. Conduct P3I initiatives, such as specifically targeted improvements to the standards in			

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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>		
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>coordination with other standardization efforts. Fund efforts to develop the open architecture initiatives including the Government Avionics Reference Architecture (GARA). Fund Sensor Open Systems Architecture (SOSA) hardware initiatives.</p> <p><b>FY 2023 Plans:</b> Continue to modify and update the existing OMS and UCI Standards to increase widen the pool of OMS/UCI applicability, account for emerging technologies, adjust for program specific needs, and conduct targeted training. In coordination with industry partners and government agencies, complete all activities (including quarterly common governance boards) to develop annual releases of the OMS/UCI Standards. Provide government expertise to support open standards and open architecture development efforts. Continue development of GARA. Execute activities to enhance the applicability of open architecture standards OAMO is involved with.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY 2023 increase of \$1.113 million compare to FY 2022 was due to standard taxes, inflationary adjustment, etc.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		29.709	37.109	38.222
<b>D. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>E. Acquisition Strategy</b>				
<p>The Air Force Life Cycle Management Center's OAMO awarded a follow-on contract to continue the standards management activities conducted under a previously classified Air Force RDT&amp;E Program Element. The contract is a cost plus fixed fee (CPFF) indefinite delivery/indefinite quantity (ID/IQ) that was awarded in December 2018. The first delivery order has a period of performance of 3 years beginning 1 January 2019. A second delivery order with a one-year period of performance will be awarded in first quarter of FY2021 to cover the period 1 January 2022 through 31 December 2022, period of performance extension 1 January 2023 through 31 December 2023. An acquisition strategy is being worked to continue execution of OAMO requirements/activities once the existing ID/IQ contract ends.</p>				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force** **Date: April 2022**

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>	<b>Project (Number/Name)</b> 656060 / <i>Standards Management</i>
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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Open Architecture Collaborative Working Group - BAE Systems	SS/CPFF	BAE Systems : Nashua, NH	-	0.815	Dec 2020	1.135	Dec 2021	1.100	Dec 2022	-		1.100	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Boeing	SS/CPFF	Boeing : St. Louis, MO	-	3.223	Dec 2020	4.178	Dec 2021	3.150	Dec 2022	-		3.150	Continuing	Continuing	-
Open Architecture Collaborative Working Group - General Atomics ASI	SS/CPFF	General Atomics ASI : Poway, CA	-	1.049	Dec 2020	1.081	Dec 2021	-		-		-	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Collins Aerospace	SS/CPFF	Collins Aerospace : Westford, MA	-	1.236	Dec 2020	1.075	Dec 2021	1.100	Dec 2022	-		1.100	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Harris Corp	SS/CPFF	Harris Corp : Clifton, NJ	-	0.944	Dec 2020	1.254	Dec 2021	-		-		-	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Lockheed Martin	SS/CPFF	Lockheed Martin : Fort Worth, TX	-	4.512	Dec 2020	6.428	Dec 2021	6.192	Dec 2022	-		6.192	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Northrop Grumman	SS/CPFF	Northrop Grumman : Melbourne, FL	-	4.550	Dec 2020	5.239	Dec 2021	7.447	Dec 2022	-		7.447	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Raytheon	SS/CPFF	Raytheon : El Segundo, CA	-	1.792	Dec 2020	1.912	Dec 2021	2.633	Dec 2022	-		2.633	Continuing	Continuing	-
Open Architecture Collaborative Working Group - General Dynamics	C/CPAF	General Dynamics : Reston, VA	-	-		-		1.110	Dec 2022	-		1.110	Continuing	Continuing	-
76th Software Maintenance Group (76 SMXG) Development	PO	76 SWEG : Tinker AFB, OK	-	4.224	Dec 2020	4.506	Dec 2021	4.650	Dec 2022	-		4.650	Continuing	Continuing	-
Air Force Research Laboratory (AFRL)	MIPR	AFRL : Various	-	2.632	Dec 2020	2.334	Dec 2021	2.400	Dec 2022	-		2.400	Continuing	Continuing	-

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<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>	<b>Project (Number/Name)</b> 656060 / <i>Standards Management</i>
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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Science and Technology Initiatives															
Engineering Support (1)	MIPR	EPASS Contract: TBD : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Engineering Support (2)	MIPR	MITRE: TBD : TBD	-	1.054	Mar 2021	-		0.427	Dec 2022	-		0.427	Continuing	Continuing	-
Engineering Support (3)	MIPR	MIT-LL : TBD	-	0.247	Mar 2021	0.395	Jan 2022	0.228	Dec 2022	-		0.228	Continuing	Continuing	-
Engineering Support (4)	MIPR	GTRI : TBD	-	0.793	Mar 2021	-		-		-		-	Continuing	Continuing	-
SOSA Initiatives	C/CPFF	Existing IDIQ: TBD : TBD	-	-		2.758	Jan 2022	2.375	Dec 2022	-		2.375	Continuing	Continuing	-
Government Avionics Reference Architecture (GARA)	C/CPAF	GTRI UARC : Atlanta, GA	-	2.442	Jun 2021	4.375	Mar 2022	4.510	Dec 2022	-		4.510	Continuing	Continuing	-
<b>Subtotal</b>			-	29.513		36.670		37.322		-		37.322	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Program Management Administration	Various	OAM Program Office : Wright-Patterson AFB, OH	-	0.196	Jan 2021	0.439	Jan 2022	0.900		-		0.900	Continuing	Continuing	-
<b>Subtotal</b>			-	0.196		0.439		0.900		-		0.900	Continuing	Continuing	N/A

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
<b>Project Cost Totals</b>		-	29.709	37.109	38.222	-	38.222	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2023 Air Force		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>	<b>Project (Number/Name)</b> 656060 / <i>Standards Management</i>

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
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

<b><i>Develop and Evolve Standards</i></b>	
Quarterly Governance Boards	
FY 2021 Annual Release of OMS/UCI Standards	
FY 2022 Annual Release of OMS/UCI Standards	
FY 2023 Annual Release of OMS/UCI Standards	
FY 2024 Annual Release of OMS/UCI Standards	
FY 2025 Annual Release of OMS/UCI Standards	
FY 2026 Annual Release of OMS/UCI Standards	
FY 2021 Annual Integration Event	
FY 2022 Annual Integration Event	
FY 2023 Annual Integration Event	
FY 2024 Annual Integration Event	
FY 2025 Annual Integration Event	
FY 2026 Annual Integration Event	
FY 2022 GARA Quarterly Model Update	
FY 2022 GARA Quarterly Configuration Management Plan Updates	
FY 2022 GARA Quarterly Conformance Plan Updates	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Air Force		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605056F / <i>Open Architecture Management</i>	<b>Project (Number/Name)</b> 656060 / <i>Standards Management</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Develop and Evolve Standards</i></b>				
Quarterly Governance Boards	1	2021	4	2026
FY 2021 Annual Release of OMS/UCI Standards	1	2021	1	2021
FY 2022 Annual Release of OMS/UCI Standards	1	2022	1	2022
FY 2023 Annual Release of OMS/UCI Standards	1	2023	1	2023
FY 2024 Annual Release of OMS/UCI Standards	1	2024	1	2024
FY 2025 Annual Release of OMS/UCI Standards	1	2025	1	2025
FY 2026 Annual Release of OMS/UCI Standards	1	2026	1	2026
FY 2021 Annual Integration Event	4	2021	4	2021
FY 2022 Annual Integration Event	4	2022	4	2022
FY 2023 Annual Integration Event	4	2023	4	2023
FY 2024 Annual Integration Event	4	2024	4	2024
FY 2025 Annual Integration Event	4	2025	4	2025
FY 2026 Annual Integration Event	4	2026	4	2026
FY 2022 GARA Quarterly Model Update	1	2022	4	2026
FY 2022 GARA Quarterly Configuration Management Plan Updates	1	2022	4	2026
FY 2022 GARA Quarterly Conformance Plan Updates	1	2022	4	2026