1. **GENERAL:**

1.1. **Description of Services/Introduction:** The Contractor shall utilize proprietary data as needed to provide engineering, software programming, source code writing, and program management services and products to maintain and advance the Universal Armament Interface (UAI) as specified in this Performance Work Statement (PWS). Performance shall include analysis of requests for change in the areas of platform-store logical interfaces, mission planning systems’ proprietary software interoperability & launch acceptability region algorithms. The product of the analysis shall be published Universal Armament Interface changes, certification compliance plans, mission planning software and development & test software to enable certification compliance across all elements of UAI. The Contractor shall possess or obtain, without cost to the Government, extensive, detailed, current working knowledge of operational weapon systems compliant with UAI & planning for UAI compliance.

1.2. **Background:** UAI was initially developed by the United States Air Force (USAF) in 2004 and now defines a standardized specification and method of integrating MIL-STD-1760, AS5725 Miniature Mission Store Interface (MMSI) and AS5726 Interface for Micro Munitions (IMM) guided weapons independent of aircraft Operational Flight Program (OFP) update cycles. The primary components of UAI include Interface Control Documents (ICD), Certification Compliance Plans (CCP), Certification Tool (CT) software, Launch Acceptability Region (LAR) documents, tools and processes and Mission Planning software and UAI governance processes that allow and support integrations at a fraction of legacy costs and schedules. UAI increases weapon system capability and interoperability through standard interfaces and streamlines the weapon integration process.

1.3. **Objectives:** The Contractor shall produce a comprehensive and consistent body of software products and technical specifications that maintain backward compatibility for existing operational weapon systems now compliant with UAI. At the same time, UAI operational software, certification compliance software tools, technical specifications, certification compliance & test plans, must continually advance to effectively incorporate new or expanding weapons system capabilities.

1.4. **Scope:** The Contractor shall perform software design & development, testing & formal qualification of weapon system requirements, technical & engineering analysis & generation of logical interface specifications. The Contractor shall utilize proprietary data as needed in order to develop compatibility standards. The Contractor shall perform configuration control & management of all software & technical documents. The Contractor shall possess or obtain Proprietary Data Agreements (PDA) with weapon system producers to acquire detailed knowledge of weapon system interfaces for incorporation into UAI. These PDAs are essential to standardize rules of engagement and gain participation in specification development where weapon system producers retain data rights to technical specifications of their products. The Contractor will utilize its proprietary data to complete Super Joint Interface Control Working Group (SJCIWG) secretariat functions.
1.5. **Period of Performance:** The period of performance shall be for one (1) Base Year of 12 months and four (4) 12-month option years. The Period of Performance reads as follows:

- Base Year
- Option Year I
- Option Year II
- Option Year III
- Option Year IV

1.6. **General Information**

1.6.1. **Quality Control:** The Contractor shall develop & maintain an effective quality control program (QCP) to ensure work effort and product development is performed in accordance with this PWS. The Government shall evaluate the Contractor’s performance under this contract in accordance with the Quality Assurance Surveillance Plan (QASP.) This plan is primarily focused on what the Government must do to ensure that the Contractor has performed in accordance with the performance standards. The QASP defines how the performance standards will be applied, the frequency of surveillance, and the minimum acceptable defect rate(s).

1.6.2. **Place of Performance:** The work effort under this contract will be performed at a contractor’s facility, government facility, or a place designated by the Government as essential to conduct UAI business. Domestic and international travel will be consistent with prior contract periods of performance.

1.6.3. **Physical Security:** The Contractor shall be responsible for safeguarding all Government equipment, information & property provided for Contractor use.

1.6.4. **Post Award Conference/Periodic Progress Meetings:** The Contractor agrees to attend any post award conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation Subpart 42.5. The Contracting Officer, Contracting Officers Representative (COR), and other Government personnel, as appropriate, may meet periodically with the Contractor to review and report the Contractor's performance. During the periodic meetings, the Government Contracting Officer will provide analysis of the Contractor's performance and the Contractor will communicate to the Government any issues with meeting contractual tasks. Appropriate action shall be taken to resolve outstanding issues.

1.6.5. **Contracting Officer Representative (COR):** The (COR) will be identified by a separate letter 30 days after contract award. The COR monitors all technical aspects of the contract and assists in contract administration. The COR is authorized to perform the following functions: assure that the Contractor performs the technical requirements of the contract; perform inspections necessary in connection with contract performance; maintain written & oral communications with the Contractor concerning technical aspects of the contract; issue written interpretations of technical requirements, including Government drawings, designs, specifications; monitor Contractor's performance & notifies both the Contracting Officer & Contractor of any deficiencies; coordinate availability of government furnished property, & provide site entry of Contractor personnel. A letter of designation issued to the COR, a copy of which is sent to the Contractor, states the responsibilities & limitations of the COR, especially with regard to changes in cost or price, estimates or changes in delivery dates. The COR is not authorized to change any of the terms & conditions of the resulting order.
1.6.6. **Data Rights**: The Government has unlimited rights to all documents/material produced under this contract. All documents & materials, to include the source codes of any software, produced under this contract shall be Government owned & are the property of the Government with all rights & privileges of ownership/copyright belonging exclusively to the Government. All materials supplied to the Government shall be the sole property of the Government & may not be used for any other purpose. This right does not abrogate any other Government rights.

**PART 2**

**ACRONYMS**

2. **ACRONYMS:**

- **AECA**: Arms Export Control Act
- **CC**: Common Component
- **CCP**: Certification Compliance Plan
- **COD**: Correction of Deficiency
- **COR**: Contracting Officer Representative
- **COTS**: Commercial-Off-the-Shelf
- **CSCI**: Computer System Configuration Item
- **CS**: Carriage System
- **CT**: Certification Tool
- **FFP**: Firm Fixed Price
- **FQT**: Formal Qualification Test
- **GFE**: Government Furnished Equipment
- **ICD**: Interface Control Document
- **ICN**: Interface Change Notice
- **ICP**: Interface Control Plan
- **IMM**: Interface for Micro Munitions
- **IPP**: Integrated Project Plan
- **ITAR**: International Traffic in Arms Regulation
- **JMPS**: Joint Mission Planning System
- **KO**: Contracting Officer
- **LAR**: Launch Acceptability Region
- **MMSI**: Miniature Munitions Store Interface
- **MP**: Mission Planning
- **PDA**: Proprietary Data Agreement
- **PRS**: Performance Requirements Summary
- **PS**: Platform Store
- **PWS**: Performance Work Statement
- **QA**: Quality Assurance
- **QAP**: Quality Assurance Program
- **QASP**: Quality Assurance Surveillance Plan
- **QC**: Quality Control
- **QCP**: Quality Control Program
- **RD**: Requirements Document
- **RFC**: Request for Change
- **SIL**: System Integration Lab
PART 3
GOVERNMENT FURNISHED PROPERTY, EQUIPMENT, & SERVICES

3. **GOVERNMENT FURNISHED ITEMS & SERVICES:**

3.1. Equipment: The Government will provide the USG-owned UAI certification tools in order to perform the required services on this PWS.

3.2. Latest version of the Joint Mission Planning System (JMPS) Framework & necessary software development tools.

PART 4
CONTRACTOR FURNISHED ITEMS & SERVICES

4. **CONTRACTOR FURNISHED ITEMS & RESPONSIBILITIES:**

4.1. **General:** The Contractor shall furnish all supplies, equipment, facilities & services required to perform work under this contract that are not listed under Section 3 of this PWS.

4.2. **Secret Facility Clearance:** The Contractor shall possess & maintain a SECRET facility clearance from the Defense Security Service. The Contractor’s employees, performing work in support of this contract shall have been granted a SECRET security clearance from the Defense Industrial Security Clearance Office.

4.3. **UAI Web Site:** The Contractor shall provide & maintain a Government-accessible UAI web site to meet the requirements of this PWS and in accordance with the following specifications:

4.3.1. Establish and maintain infrastructure (i.e., servers, software, etc.) to support the Program Office, Industry Team, UAI SJICWG and SIL Certification Tool Users sites in accordance with the Interface Control Process.

4.3.2. All data, to include government, industry team, foreign and program-specific (e.g., annexes, supplements, etc.) on the sites shall be limited to non-proprietary, non-competition sensitive and unclassified information.
4.3.3. Foreign data shall be “firewalled” or stored separately from US-only data by a separate web-site instance (e.g., URL) such that each country could have a unique, consolidated site.

4.3.4. Site shall support audit controls to capture transfer of data.

4.3.5. Access to the site(s) shall:
   1. Follow a username and password access control with the passwords using Microsoft strong password rules or certificate.
   2. Incorporate file and list access controls to support the Interface Control Process.
   3. Document the access controls in an exportable file that can be made available for review. This document shall capture user and document / list access controls. Audits with respect to the document shall be performed twice a year.

PART 5
SPECIFIC TASKS

5. Specific Tasks:

5.1. UAI Certification Tool Tasks

5.1.1. MP Certification Tool (MPCT): The Contractor shall:

5.1.1.1. Provide MP software engineering design & computer program code for the MPCT software in response to approved Interface Change Notices (ICN) to the Mission Planning (MP) ICD & MP CCP, authorized Corrections of Deficiencies (CODs) resulting from anomalies/recommendations reported by the MPCT users, changes to Joint Mission Planning System (JMPS) framework, & changes to the UAI Common Component (CC).

5.1.1.2. Perform the systems analysis design & programming tasks necessary to integrate the UAI MPCT software with the JMPS Framework and other known frameworks, including but not limited to web services.

5.1.1.3. Perform analysis design & computer programming integration of the UAI MPCT with newly developed platform Unique Planning Components (UPCs), newly developed weapon UPCs, & the UAI CC.

5.1.1.4. Perform testing & system level integration of the MPCT with the newly developed UPCs & the UAI CC & resolve questions & anomalies that arise in compliance tests of the newly developed UPCs & the UAI CC to certify they are compliant with the UAI MP ICD.

5.1.2. System Integration Laboratory (SIL) CT Universal Store Simulator (USS): The Contractor shall:

5.1.2.1. Provide USS software engineering, design, programming & testing.

5.1.2.2. Provide integration training & support of the USS software with implementing programs.
5.1.2.3. Analyze, design & generate technical specifications to incorporate Platform/Store ICNs (to PS ICD & PS CCP) into the USS System Requirements Specification (SRS) & Algorithm Description Documents.

5.1.2.4. Analyze, design & generate computer program code to incorporate Platform/Store ICNs (to PS ICD & PS CCP) into the USS software.

5.1.2.5. Analyze, design & generate computer program code fixes for software defects that prevent an implementing program from utilizing the UAI SIL Cert Tool USS.

5.1.2.6. Release fixes (as required) on a limited basis as a Computer System Configuration Items (CSCI) engineering release.

5.1.2.7. Perform testing & Formal Qualification Tests (FQT) as necessary to deliver USS CSCI. The FQT will incorporate all current engineering releases & all ICNs system released prior to a cut-off date as coordinated with the Program Office.

5.1.2.8. Provide the USS in usable condition as a test asset to be interoperable with the UPS.

5.1.2.9. Maintain the User Manual addendum on USS setup & use of store profiles of various configurations for unique platform PS CCP testing, USS/Carriage System (CS) integration in Platform & CS SILs.

5.1.2.10. Deliver source code, an installable, executable file, & a Version Description Document (VDD) to the UAI Program Office for Formal Qualification Test (FQT) & Engineering releases of the USS CSCI.

5.1.2.11. Maintain the status of Government Furnished Equipment (GFE) & report status annually.

5.1.3. **SIL CT Universal Platform Simulator (UPS):** The Contractor shall:

5.1.3.1. Provide integration training & support of the UPS software with implementing programs.

5.1.3.2. Analyze, design & generate technical specifications to incorporate Platform/Store ICNs (to PS ICD & PS CCP) into the UPS SRS.

5.1.3.3. Incorporation of UPS SRS changes into the UPS CSCI, Variable Management Tool (VMT) & UPS Script Files.

5.1.3.4. Perform testing & Formal Qualification Test as necessary to deliver UPS CSCI, VMT & UPS Script File updates. All ICNs system released prior to a cut-off date as coordinated with the Program Office will be incorporated into the version of the UPS included in the FQT.

5.1.3.5. Maintain the Variable Management Tool (VMT).
5.1.3.6. Incorporate any fixes for software defects that prevent an implementing program from utilizing the UAI SIL Cert Tool into the UPS.

5.1.3.7. Deliver source code, an installable executable & a VDD with each release of the UPS.

5.1.3.8. Maintain the status of GFE & report on the status annually.

5.1.4. The Contractor shall maintain CT Fault Reporting & Monitoring processes.

5.2. UAI Common Component (UAI CC)

5.2.1. Main Software Development: The Contractor shall:

5.2.1.1. Implement software changes corresponding to changes to the UAI MP ICD, including new capabilities, maintenance & fixes or improvements. Perform Formal Qualification Testing (FQT) & deliver software releases.

5.2.1.2. Develop & maintain software compatibility & interoperability with all operating system and MP frameworks.

5.2.1.3. Generate & test program code to fix any software defects that prevent an implementing program from utilizing UAI CC.


5.2.1.5. Comply with the latest JMPS Business Rules (JBR) & JMPS Technical Rules (JTR).

5.2.1.6. Implement Security Packs, Patches, &/or Hot Fixes. Ensure during development that all COTS operating systems, applications, & utilities are updated to the appropriate service packs, security patches, &/or hot fixes as directed by the Government or duly designated representative. Provide documentation recording all service packs, patches, &/or hot fixes installed on target system during development.

5.2.2. XML Data Utility: The Contractor Shall:

5.2.2.1. Maintain the automated tool that updates the necessary XML documents from Military Standard 3014 (MIL-STD-3014) for UAI CC MiDEF development & provide the data to fielded versions of the UAI CC when MIL-STD-3014 is updated.

5.2.2.1.1. Implement & provide changes to the UAI CC XML documents when MIL-STD-3014 changes are received.
5.2.2.1.2. Provide updates to fielded releases to replace Class Code data files when MIL-STD-3014 is updated.

5.2.3. **Technical Assistance:** The Contractor shall:

5.2.3.1. Provide technical assistance to programs implementing UAI & the UAI SJICWG, including technical interchanges via onsite meetings, email, & telephone conferences.

5.2.3.2. Conduct integration tests against JMPS framework updates, as required, to support Platform & Store Unique Planning Component (UPC) development.

5.2.3.3. Establish & maintain effective interaction with other JMPS developers & the Systems Engineering & Integration Team (SEIT).

5.2.3.4. Advise Government sustainers on potential impacts to fielded software of future JMPS Framework security patches.

5.2.3.5. Provide UAI technical expertise to the: Component Interface Control Working Group (CICWG), Deficiency Review Boards (DRB), Interface Control Working Group (ICWG), Enterprise Program Management Reviews (MPER/MPLPR), Component Test Working Groups, Security & Information Assurance Requirements Management Team, Security Working Group, Joint Requirements Board, Systems Engineering & Integration Contract Integration, Verification, Validation, & Evaluation Integrated Product Team (SEIC IVV&E IPT), the NATO Industrial Advisories Group (NIAG), & other technical entities.

5.2.3.6. Perform UAI MP ICD technical expertise, including reviewing proposed changes to the UAI MP ICD & CCP during ICN development & after ICNs are distributed for review.

5.2.3.7. Participate in the UAI MP ICD, CCP, & ICP revision review cycles.

5.2.4. **UAI CC Studies:** The Contractor shall:

5.2.4.1. Participate in meetings & telecons to provide technical expertise for developing JMPS independence in UAI & developing software programming for multiple Mission Planning operating system frameworks – e.g. PGMPS Re-Architecture & NATO Industrial Advisory Group (NIAG) Study Group (SG) 191.

5.2.4.2. Further develop prototype of Web Services for a proof-of-concept demonstration to provide compatibility & interoperability for integration with JSF Partner Nation & non-JMPS users.

5.2.4.3. Develop Technical Assistance Agreements (TAAs), as required, to facilitate software integration & demonstrations according to State Department requirements.
5.2.5. **Systems Engineering**: The Contractor shall:

5.2.5.1. Generate and maintain a Software Requirements Specification (SRS).

5.2.5.2. Perform Technical Analysis & Oversight, Issue Resolution, & participate in Technical Interchange Meetings.

5.2.5.3. Produce a Requirements Traceability Matrix (RTM) & track requirements implementation, ensure traceability, & produce a Requirement Statistics Report.

5.2.6. **Software Engineering**: The Contractor shall:

5.2.6.1. Perform the tasks necessary to develop & implement the UAI CC software as designated by this PWS.

5.2.6.2. Develop, update, & perform Unit Tests & Unit Test descriptions.

5.2.6.3. Perform requirements analysis, software design, development, integration, documentation, test, performance, delivery, & maintenance required to meet requirements identified in the UAI MP ICD.

5.2.6.4. Implement software changes corresponding to UAI MP ICD changes, migrate & regression-test the UAI CC software onto updated Mission Planning Frameworks, investigate & process defects, implement changes to the UAI CC XML documents when MIL-STD-3014 changes are received, & provide updates to fielded releases when MIL-STD-3014 is updated.

5.2.6.5. Maintain the set of interface libraries that conform to the UAI MP ICD. These interface libraries enable two-way communication between the Platform & Store UPCs.

5.2.7. **System Test & Evaluation**: The Contractor shall:

5.2.7.1. Develop a Software Test Plan, System Test Description, & Software Test Report.

5.2.7.2. Perform system testing & develop scripts as required to test software.

5.2.7.3. Maintain a software repository, build scripts, installation tools, & produce release builds.

5.2.8. **UAI CC Program Management**: The Contractor shall:

5.2.8.1. Perform schedule, cost, & performance management, & risk identification, mitigation & control; maintain a schedule & develop a Monthly Status Report.
5.2.8.2. Maintain an Integrated Project Plan (IPP) throughout the period of performance of the program. The IPP shall establish the framework that will be used to manage schedule, cost, & performance. The IPP shall identify the types of metrics required & how they can be used to facilitate analysis of the overall program status to determine when corrective actions are required.

5.2.9. **Product Assurance:** The Contractor shall:

5.2.9.1. Maintain a Configuration Management Plan & perform software configuration management activities that include incorporating changes into baselines, generating software configuration management reports, & releasing products.

5.2.9.2. Maintain a Systems & Software Quality Assurance (SSQA) Plan & perform SSQA activities that include review of software activities & audits of designated software work products.

5.2.9.3. Maintain development, build, & test computer environments.

5.3. **Systems Engineering Tasks**

5.3.1. The Contractor shall provide systems engineering & weapon system technical expertise & products to the UAI program office. To perform these tasks the Contractor shall:

5.3.1.1. Apply detailed weapon system knowledge and specific UAI technical expertise at international meetings as requested by the UAI Program Office.

5.3.1.2. Leverage weapon system knowledge and UAI technical expertise to provide the UAI Program Office a technical roadmap suitable for developing a ten year plan for enhancements to UAI on a prioritized basis according to weapon system requirements & capabilities.

5.3.2. The Contractor shall perform the UAI Super Joint Interface Control Working Group (SJICWG) Secretariat function & technical support for the UAI Program Office in accordance with the UAI Interface Control Plan (UAI ICP-R02). To perform this task the Contractor shall:

5.3.2.1. Attend up to two (2) UAI SJICWG meetings annually.

5.3.2.2. Assess & analyze Requests for Change (RFCs) for technical impact to the ICD & workload estimate to convert the RFCs to Interface Change Notices (ICNs).

5.3.2.3. Generate ICNs that are consistent with current ICDs & are compatible/interoperable with current & planned UAI capabilities in aircraft & weapons.

5.3.2.4. Review & assess detailed weapon system UAI document submissions to advise on compliance with UAI ICDs.
5.3.2.5. Generate & maintain a working draft of the current revision to the Platform-Store ICD (PSICD) & Certification Compliance Plan (CCP), Mission Planning ICD (MPICD) & CCP, Launch Acceptability Region (LAR) documents and tools to incorporate system released ICNs.

5.3.2.6. The Contractor shall review/update the:
- UAI LAR Tool Set User Manual,
- UAI SIL CT & MPCT System Specifications,
- UAI SIL CT & MPCT User Manuals for each FQT, &
- USS, UPS, & MPCT Software Requirements Specifications (SRS)

5.3.2.7. Perform UAI SJICWG Secretariat responsibilities as specified in section 4.5.2 of the UAI ICP-R02.

5.4. Program Management Tasks

The Contractor shall:

5.4.1. Perform technical & administrative planning, coordinating, controlling, & approving actions required to accomplish the PWS objectives.

5.4.1.1. Provide the services & products required to develop & maintain a planning & control system which encompasses program scheduling, technical progress, & cost reporting.

5.4.1.2. Perform integrated management tasks for Contract Data Requirements List (CDRL) delivery & generate metrics to confirm tasks contained in this PWS are complete.

5.4.2. Perform tasks associated with establishing future performance periods of this contract.

5.4.3. Travel to support Program Management Reviews (PMR) & other meetings based on Government request.

5.4.4. Report cumulative expenditures on an informal basis, at quarterly PMRs, individually for each of these areas: UAI Certification Tool software, UAI Mission Planning Common Component software, systems engineering & program management.

5.4.5. Support international cooperative activities by participating in international meetings, executing export licenses, and entering into TAAs and PDAs.