**BLANKET PURCHASE AGREEMENT (BPA)**

**PERFORMANCE WORK STATEMENT (PWS)  
IRS RFQ #8298 / GSA eBuy RFQ #1696978**

**For Internal Revenue Service (IRS)**

**Enterprise Systems Testing (EST)**

**Contractor Support Services (CSS)  
14 May 2024**

# INTRODUCTION AND BACKGROUND

The Internal Revenue Service (IRS), Information Technology (IT), Enterprise Services (ES), Enterprise Systems Testing (EST), hereinafter referred to as EST, requires contractor support to perform Systems Acceptability Testing (SAT), Integration Testing, Performance Testing, and other types of testing called out in the Performance Work Statement (PWS) for this requirement, and testing-related support services including Test Automation, Test Data Management and Program Management, for a wide universe of IRS-developed tax, administrative, and financial applications and systems. SAT, integration, performance, and other types of testing ensure applications and systems are functioning as intended, are compliant with business requirements, and free of defects prior to production implementation. Thorough, comprehensive, and independent testing of these IRS-developed applications and systems contributes significantly and tangibly to providing the highest possible level of quality and accurate service to the taxpaying public and enhancing the overall taxpayer experience in direct support of the agency's strategic plan. Test Automation support facilitates the efficiency and effectiveness of testing activities by automating manual testing processes and procedures, enabling testing to be performed more rapidly, expediting review of expected results, and conserving human testing band width thereby making it possible for EST to test larger quantities of applications and systems.

The IRS has a long-standing commitment to rigorously testing application software prior to production deployment. Established in the 1960s, the IRS ‘SAT’ methodology provides an independent assessment of a System’s fitness for purpose and traditionally includes elements of User Acceptance as well as white-box and black-box approaches to functional verification and validation. More recently, IRS established the ‘Final Integration Test (FIT)’ which focuses on verification and validation of requirements that span multiple systems by creating primary source inputs (triggers) and tracing them to their final outputs. The FIT is typically conducted annually prior to the beginning of the annual tax filing season and focuses on processing threads that support the Submission Processing and Customer Service business domains at IRS. The IRS is also developing and evolving its approach to Performance Testing. The IRS expects that waterfall or incremental delivery projects will continue to be tested through these existing test methods and processes with some evolution, or continuous improvement over time. The IRS is seeking support in the planning and execution of these tests, as well as with planning for and evolving the methodologies as appropriate.

The IRS leadership is also proactively rethinking how the organization supports modern frameworks, standardization, enterprise cloud capabilities, and is seeking to use agile or iterative development methodologies for new applications. The IRS Information Technology (IT) leaders embrace a more modern, agile pace of innovation and develop new applications using an agile method to achieve an organizational shift to a more modern technological approach to application delivery. The IRS is seeking expertise to assist in adopting flexible agile methodology to deliver IT projects across the agency in critical areas.

The IRS (ES) EST within the IT organization supports the modernization of the tax processing systems. The EST organization is responsible for and supports aspects of software life cycle management, including requirements, design, development, testing, implementation, and transition to operations, as required by the IRS business capabilities associated with the business modernization initiative resulting from the implementation of Legislation.

A significant number of complex technical and business changes will require implementation. This fast and vigorous approach to development and process engineering requires the IRS to employ the strongest and most aggressive federal workforce as well as competitive vendor resources that can lead the way in supporting requirements, design, development, testing, integration, deployment, and transition to operations of the associated systems. The EST organization is accountable and/or responsible for ensuring all applicable tests are executed, defects are tracked, and test results are communicated to all stakeholders.

The nature of testing, and its incorporation early and often requires a reconsideration of the traditional test processes as well as extensive automation of tests for functionality, performance, and accessibility.

## EST Business Operational Environment

Historically, the EST program has been operating the functional testing, integration testing, and performance testing with contractual arrangements utilizing Work Requests that indicate the required work to be performed, period of performance of each project/system, contractor resources (skill mix and hours), work details, deliverables and due dates within a specific the Period of Performance. These Work Requests were changed when contractor resources required movement from one project to another based on the urgency of the needs or legislation that dictates testing. Deliverable due dates were also often changed due to late delivery of programs or testing environment issues. The intent of this BPA PWS is to issue individual Task Orders (TOs) that were previously issued as Work Requests.

# AWARD OBJECTIVES

The IRS requires contractor support to accomplish the following objectives:

1. Perform application and system testing functions and services for EST.
2. Deliver applications to production with zero defects.
3. Automate and streamline testing activities to occur earlier in delivery cycles reducing manual labor and increasing coverage.
4. Promote more efficient Test Data Management (TDM) processes to ensure application software can be validated with minimal dependency on copies of sensitive production data.
5. Help the IRS transition its current testing practices to establish and continuously improve a disciplined practice that increases delivery velocity, quality, and job satisfaction while reducing cost and risk.

The contractor shall conform to the prescribed IRS One Solution Delivery Life Cycle (OneSDLC) Development Paths for designated projects, which employ some of the key attributes of the Waterfall and Agile methodology.

The contractor should demonstrate extensive experience in enterprise-wide independent verification and validation.

The contractor shall meet or exceed key functions and responsibilities under this PWS which include, but are not limited to, the following:

1. Adhere to IRS OneSDLC Project Management.
2. Adhere to Program and System Risk Management.
3. Adhere to security, privacy, financial management, and IT standards.
4. Serve as the technical expert to review, comment, and develop multi-year work plans, associated resourcing, project objectives and program requirements.
5. Conduct planning, organizing, directing, and reviewing work of vendor staff; to include planning and carrying out vendor staff training and development.
6. Ensure that the appropriate level of skilled resources is available and assigned to maintain appropriate workflow.
7. Assign work to contractor staff based on priorities, selective consideration of the difficulty and requirements of assignments, and the capabilities of contractor employees.
8. Manage cross-system and interagency dependencies and interfaces.
9. Develop schedules and tasks for test planning, preparation, execution, and requirements validation for assigned system/project.
10. Conduct requirements analysis to include decomposing, analyzing commenting on, and achieving stability for testing against business and technical requirements.
11. Create and develop program and project work products, artifacts, and deliverables.
12. Analyze design documentation to surface gaps in clarity, completeness, and requirements coverage and to inform test case development.
13. Develop test strategy, user stories/scenarios, test cases, and associated test data.
14. Plan, execute, and monitor tests.
15. Create and develop program and project work products, artifacts and deliverables.
16. Conduct quality reviews to ensure processes and work products/deliverables adhere to IT standards.
17. Provide test lifecycle activities for projects that are complex and highly technical in nature.
18. Evaluate work products and services to ensure narrative and metrics quality, and quality of test administration functions.
19. Develop test documentation and ensure documents are placed in the designated repository.
20. Coordinate and collaborate with internal and external stakeholders to deliver professional test products and services.

The contractor shall be a partner that is well versed in IRS business and tax administration with experience in testing and integrating large-scale IT systems to assist the IRS in meeting aggressive schedules and deadlines as mandated by the legislation.

# SCOPE OF WORK AND DESCRIPTION OF TASKS

The Performance-Based requirements under this BPA are Firm Fixed Price (FFP) and Labor Hour (LH).

The contractor shall provide performance of a wide range of thorough, comprehensive, and independent testing of tax administration and other critical corporate and financial applications and systems, leveraging testing related automated tools.

The contractor shall provide technical support to evolve test methodologies as the IRS embraces agile, Acceptance Test Driven Development (ATDD), Behavior Driven Development (BDD) and continuous integration including adopting modern DevOps principles. The IRS requires Contractor personnel for planning (including analysis and recommendations of modern industry best practice), and execution to support the delivery of working software, ensuring applications/systems are working prior to delivery of production.

* + TASK 1, CONTRACT-LEVEL PROGRAM AND TASK MANAGEMENT SERVICES (FFP)
  + TASK 2, RAMP-UP KNOWLEDGE TRANSFER / TRANSITION-IN / TRANSITION-OUT (LH)
  + TASK 3, FUNCTIONAL TESTING (FFP/ LH)
  + TASK 4, INTEGRATION TESTING (INT) (FFP/ LH)
  + TASK 5, PERFORMANCE ENGINEERING AND TESTING SUPPORT (FFP/ LH)
  + TASK 6, TEST AUTOMATION SUPPORT (FFP/ LH)
  + TASK 7, TEST DATA MANAGEMENT (TDM) SUPPORT (FFP/ LH)
  + TASK 8, SURGE SUPPORT (FFP/ LH)

# TASK 1, CONTRACT-LEVEL PROGRAM AND TASK MANAGEMENT SERVICES (FFP)

The Contractor shall provide dedicated program/project management to direct the support encompassing all work that may be executed under the BPA TOs to include, but not limited to, management of project Contractor personnel; creation, monitoring and coordination of activities; project reporting; attending project related meetings; working collaboratively with the Government; assisting the Government in preparation of supporting documentation; and producing all deliverables identified under the overall contract. Program and Task Management Services will be a component of every TO that is awarded under the EST BPA. TO solicitations may require vendors to explain how the work described within this task will be performed and integrated within the other TOs issued under the BPA. Specific activities shall include, but are not limited to:

1. The Contractor shall provide contract/task management services including program management, TO -level reporting, Capability Maturity Model (CMM), managing Quality Assurance Surveillance Plan (QASP), quality assurance, ensuring adherence to all contract clauses, ensure compliance with IRS security policies, established IRS procedures and TO requirements.
2. Maintain and provide Government Furnished Property (GFP) currently and formally possessed by the contractor at the end of each Base and Optional Periods of Performance.
3. Provide Monthly Status Reports detailing accomplishments, goals for next reporting period, current and cumulative cost data, and issues and risks at the TO Level.
4. Provide Period of Performance Summary Report Schedule and conduct a bi-weekly status briefing with EST leadership on the major activities related to this PWS to include progress to date, issues, risks, resource needs, and proposed recommended actions.
5. Provide Contractor Status Reports to the COR, summarizing activities to include dated accomplishments and quantified accomplishments and IRS milestones met.
6. The Project Manager will establish a technical organization responsive to IRS managers and will direct development and execution of required performance as required by the TO.
7. The Contractor shall recommend enhancements based on industry leading practices and industry leading innovations that facilitate automation, security, performance, and capacity testing on an on-going basis.
8. The Contractor shall ensure effective and efficient delivery of technical services to accomplish the work in accordance with the defined Internal Revenue Manuals and IRS OneSDLC policies, processes, and procedures.
9. The Contractor shall ensure comprehensive planning, execution, and IRS management visibility across all project activities.
10. The Contractor shall ensure new work may promptly commence without delay.
11. The Contractor shall provide prompt administrative support for acquisition of new system accesses.
12. The Contractor will provide the Monthly Status Report (MSR), a monthly invoice, and develop plans and forecasts for task resource management at the TO and funding level to ensure timely tracking of all costs.
13. The Contractor shall track all costs at the TO and project level and provide input to the IRS’s Earned Value Management (EVM) tracking for all project-funded work.
14. The Contractor shall maintain and provide TO Organizational Chart of all contract/TO employees, both alphabetically and by TO monthly.
15. The Contractor shall provide a weekly background investigation status report to include all prospective employees. The report shall include descriptions and dates on the status of each prospective employee.
16. The Contractor management team shall participate in a Bi-weekly Program Status Review meeting, providing both written and verbal status of all TO, deliverables, issues, and staffing concerns.
17. The Contractor shall produce a Requirements Traceability Verification Test Matrix (RTVM) that will track task deliverables monthly. The Contractor shall keep this RTVM updated to include the previous month’s Deliverables.
18. The Contractor shall assist in expediting the on-boarding and separation process to include timely submission of required forms and completion of IRS mandatory training, as required.

DESIRED OUTCOME – The contractor will provide dedicated project management necessary to assist EST’s ability to plan and execute testing and plan for and evolve test methodologies. Provide effective management of all work executed under the TO. The Contractor shall provide complete and accurate Period of Performance Summary Reports, Bi-Weekly Status Reports, Monthly Status Reports, Bi-Weekly Meeting, Cost Performance Reports, and Contractor Status Reports.

## ORIENTATION BRIEFING

The contractor shall conduct Orientation Briefing activities at the TO level as follows:

Within ten (10) business days of TO award, the contractor shall conduct an Orientation Briefing for the IRS. The IRS does not desire an elaborate Orientation Briefing, nor does it expect the Contractor to expend significant resources in preparation for this Briefing. Rather, the intent of the Briefing is to initiate the communication process between the IRS and Contractor by introducing key participants, explaining their roles, reviewing communication ground rules, and assuring a common understanding of contract requirements and objectives.

The orientation briefing shall be held at the IRS facility or by an alternative method, such as teleconferencing, and both parties shall mutually agree upon the date and time. The completion of this briefing shall result in the following:

i. The Contractor and IRS personnel who will perform work under this award shall be introduced.

ii. The IRS will show the applicable facilities to the Contractor if the Contractor will be performing work at the IRS site.

iii. The IRS may provide GFP and Government-Furnished Information (GFI) to the Contractor at this time.

iv. Any issues concerning the Contractor clearances for Contractor personnel shall be discussed.

v. The Contractor shall demonstrate confirmation of their understanding of the work to be accomplished under this PWS.

vi. The Contractor shall provide the accounting period end dates to be used for the term of this award.

# TASK 2, RAMP-UP KNOWLEDGE TRANSFER / TRANSITION-IN / TRANSITION-OUT (LH)

Ramp-Up Knowledge Transfer is defined as the Contractor acquiring and understanding the necessary documentation, information, and processes related to any work in progress. This task includes meeting with the IRS Subject Matter Experts frequently to gather any tacit knowledge related to the EST tasks or programs in development. The Government shall provide detailed information on the methodologies used to perform testing and testing related support services on tax administration and other critical corporate applications and systems. The Government shall provide the Contractor with all required documentation including but not limited to Internal Revenue Manuals (IRM) governing the performance of application and system testing, as well as specific information concerning the applications and systems for which the Contractor will be required to provide support. The Government estimates this task will take approximately sixty (60) business days to complete after award.

The Contractor shall appoint a knowledge transfer manager to oversee the transfer of knowledge and ensure all areas are accounted for. If desired, this can be the Project Manager (PM) or Project Scheduler. Prior to the transfer of knowledge, the Contractor shall develop a draft Knowledge Transfer Plan (KTP) and present it to the Government within the first fifteen (15) business days after award. The KTP shall identify the Contractor resources and roles involved in the transfer process, provide a list of risks and mitigation strategies for the transfer, and contain a detailed resource balanced project schedule developed with Microsoft (MS) Project. The project schedule shall identify tasks, dependencies, deliverables, and milestones. The project schedule shall be at a sufficient level of detail to track progress on a bi-weekly basis, (i.e., all tasks will be detailed to a level such that no task has duration of more than ten (10) workdays).

The Government shall have ten (10) business days to review the draft KTP plan and provide comments to the Contractor. Government and Contractor representatives will then meet to discuss the comments after which the Contractor shall incorporate the agreed-upon changes and deliver a final KTP within five (5) business days of the Government’s feedback.

The Contractor shall meet with the IRS bi-weekly (twice a month) to discuss the progress of the knowledge transfer. The Contractor shall show an updated MS Project Schedule and discuss any risks or concerns at this time.

DESIRED OUTCOME - The Contractor shall provide a Knowledge Transfer Plan that is accepted by the Government within thirty (30) business days and successfully complete the knowledge transfer in accordance with the Plan no later than thirty (30) business days after Government acceptance of the Knowledge Transfer Plan.

## TRANSITION-IN (LH)

The Transition-In task permits for an effective transition from incumbent(s) Contractor to a new Contractor. The Government estimates this task will take approximately sixty (60) calendar days to complete from the award date. Successful transition can be defined by its capacity to maintain full continuity of operations, high productivity, and exemplary service quality. To ensure a successful, low-risk transition, the Contractor shall follow the approved Transition-In Plan submitted as part of their proposal and keep the Government fully informed of status throughout the transition-in period. During the transition-in period, the incumbent(s) is responsible for performance. This task would be worked concurrently with Task 2, Ramp-Up / Knowledge Transfer.

In addition to the transition actions in the approved Transition-In Plan, the Contractor shall perform the following activities during the transition-in period:

1. Assign personnel and submit security papers promptly to get the background investigations done quickly and gain access to IRS’s network.
2. Create a project schedule at a sufficient level of detail to track progress on a weekly basis.
3. Request access to tools and documentation.
4. Review and understand all the technical and process documentation.
5. Review and understand the existing data and system security policies in place.

In support of this task, the Contractor shall be responsible for completing the following deliverables:

| **Deliverable** | **Purpose** |
| --- | --- |
| Transition-In Checklist | The Transition-In Checklist provides a vehicle to verify completion of the necessary transition-in activities. The Transition-in Checklist shall be developed by the Contractor and shall include all necessary activities to ensure an effective transition from incumbent(s) Contractor to a new Contractor were performed. |

The Transition-In Checklist shall be signed by both, the Contractor and the COR after completion of the task.

## TRANSITION-OUT (LH)

In the final option period of the Task Order, the contractor shall provide transition-out services. The contractor shall facilitate the transition of contracted activities and services to the EST and to the incoming contractor in accordance with the Government Approved Transition-Out Plan. The transition period shall not exceed sixty (60) calendar days.

The Contractor shall:

1. Minimize transition impact to the user community.
2. Ensure no breaks in service availability.
3. Maintain existing service quality and performance levels.
4. Ensure a transparent and seamless transition.
5. Maintain support and meet delivery milestones of ongoing projects.
6. Ensure that the IT security posture during transition is maintained at current levels without creating gaps and/or vulnerabilities.

In support of this task, the Contractor shall be responsible for completing the following deliverables:

|  |  |
| --- | --- |
| **Deliverable** | **Purpose** |
| Transition-Out Plan | The Contractor shall develop, document, and provide a Transition-Out Plan no later than one hundred eighty (180) calendar days after the date of award, or earlier if directed by the Contracting Officer, and shall be updated annually. The Contractor’s Transition-Out Plan shall facilitate the accomplishment of a seamless transition from the incumbent(s) to the incoming Contractor and Cybersecurity personnel. The Contractor shall identify transition activities, schedules, and milestones for the turnover of work (e.g., operations, maintenance, engineering, training, asset management, and logistics functions) and identify how it will coordinate with the incoming contractor(s) and Cybersecurity personnel to transfer knowledge. |

# TASK 3, FUNCTIONAL TESTING (FFP/LH)

The Contractor shall provide EST with technical support to supplement federal staff in performing Functional testing which may include IT Security Related testing and Integration testing, of tax administration and other critical corporate and financial applications as described in this subsection.

Established in the 1960’s the IRS Functional Testing methodology provides an independent assessment of a System’s fitness for purpose and traditionally includes elements of User Acceptance as well as white-box and black-box approaches to functional verification and validation. Functional testing is typically focused on a single IRS application or system and may be scoped to test only the changes to that system, a subset of changes to the system, changes and some regression testing, or changes and full regression. In the case of new development all requirements are tested.

Functional testing will test the targeted system, and at least one interface test will be conducted with any system that directly interfaces with the targeted system. Interfaces may be bi-directional/real time or may consist of flat files either sent or received. The SAT test team is responsible for ensuring that the interface test is planned, conducted, and that the neighboring system confirms that data processes correctly and that data integrity is maintained.

This test type traditionally focused solely on functional requirements; however, in recent years IRS is expanding the scope to include any non-functional requirements that can be validated by the test team. Performance testing is typically not included, however, performance issues impacting the Functional testing effort are expected to be logged and tracked as defects.

The IRS will be using agile software development methodologies during Functional testing. These methodologies are characterized by incremental and iterative processes where releases are produced in close customer collaboration with a focus on test driven development, and continuous integration to deliver code and functionality. Small teams will own a feature from start to finish – regardless of how many layers of the architecture it crosses and will develop a ready-to-ship feature package. Team sizes are expected to be between five (5) to eleven (11) people, with the expectation that more teams will be added to handle new products rather than increasing the team size. As teams are added, synchronization techniques (e.g., Common Iteration / Sprint Cadences, Product Release Planning) will be used to identify dependencies and risks.

The Contractor must perform typical deliverable activities to include:

1. Participation in solution project planning, scheduling, collaboration, communication, and reporting using techniques appropriate for projects using agile methodologies.
   1. Refining acceptance criteria that drive test case development.
   2. Facilitating/ participating in customer feedback sessions to ensure solution alignment with customer needs/ requirements.
2. Designing, developing, testing, and deploying test automation utilities or scripts.
   1. Integrating with other IRS organizations and Contractors to support integration efforts as well as identifying best practices for facilitating integration for system engineering solutions. Supporting implementation and integration of engineered designs into operational systems using operational (Enterprise Operations (EOps)) processes and procedures.
   2. Coordinating and performing demonstrations and conducting unit level, system, and user testing to be performed before the conclusion of each iteration.
3. Documenting and reporting testing results using agile standards while adhering to IRS requirements relative to product quality.
4. Identifying agile test results reports that are appropriate for IRS iterative delivery projects.
5. Utilizing a test-driven development approach, as applicable, to support the incremental development of high-quality code.
6. Leveraging demonstrable, working software (specifically code to support test automation)

The Contractor may be required to provide technical support for some components of IT Security Related testing during the life of the award resulting from this PWS.

EST will:

1. Provide the Contractor with guidance, procedures, and test requirements conveyed via one or more TOs along with all other pertinent documentation required to perform this type of testing or
2. Request that the Contractor develop and submit for the Government's review and consideration one or more potential methodologies, ideas, and concepts for conducting IT Security Related testing.

The Contractor shall ensure the availability of personnel technically qualified to provide support for IT Security Related testing should EST elect to execute TOs which include this subcomponent.

EST does not anticipate performing formal Security Certification and Accreditation (C&A) or Security Testing and Evaluation (ST&E) activities.

The Contractor may also be required to perform Integration testing (also referred to as End-to-End testing) in a Systemic Processing environment to integrate, test, and accept, software components until the entire system is operational and all agreed upon requirements have been validated. The analysis and approach shall include the development of in-scope business focused scenarios. The test shall be planned and constructed to validate across an integrated platform representing most systems impacted by a given initiative or group of related changes.

DESIRED OUTCOME - The Contractor shall provide EST with technical support for the performance of Functional testing to include Interface, IT Security Related testing and Integration testing of selected systems. The technical support provided by the Contractor for this task shall meet or exceed standards for acceptable performance as to be described in task order solicitations. The Contractor will ensure that EST can fully support the agile delivery model where all testing is incorporated as early into the software delivery process as possible and automated testing is incorporated into a Continuous Integration (CI) process.

# TASK 4, FINAL INTEGRATION TESTING (FIT) (FFP/LH)

The Contractor shall provide EST with technical support for the performance of Final Integration Testing (FIT) of systems.

FIT is a formal test that treats traditional IRS Systems as sub-systems of a larger whole tax processing system and focuses on testing requirements changes that span across multiple systems. The IRS requirements process typically involves the business specifying individual changes to specific Systems and as such the overall requirement that spans multiple systems is often not captured and allocated. Typically, these are changes to support new legislative requirements and may result in changes to Tax Forms and publications.

Thus, the FIT process begins with reviewing changes to existing systems and new systems implementations that impact IRS Submission Processing and Customer Service business processes. FIT includes performing analysis of the changes primarily to systems already defined as in-scope and ensuring any new processing is exercised in the upcoming test cycle. FIT may also include threads and scenarios that support other IRS business processes; however, they are typically an integral part of completing the Submission Processing or Customer Service activity (for example some parts of Fraud Detection are included in FIT, but it is very closely tied to processing tax returns).

The FIT environment is typically refreshed annually (in July) with a copy of production data, and processing is executed following IRS cycles. The restoration of the data to the environment is followed with a series of processing steps referred to as ‘validation’ which is run in part to ensure that the restores were completed successfully. Any end-of-year close out and conversion processing is also executed in FIT because the success of that processing (which is typically changed for each annual IRS filing season) is critical to validating the updated tax processing software for the new year. The Annual FIT is performed prior to and during the beginning of the IRS filing season which is the main planned test for each year; however, FIT regularly conducts smaller focused tests or provides environment support for other test initiatives. FIT may also test production corrections based on ad-hoc requests.

The Contractor may be required to evaluate and implement automated tools and utilities designed to enhance and augment the efficiency and effectiveness of INT. EST uses various automated test support tools and utilities such as the Rational Tool Suite including Engineering Test Management (ETM) for test requirements management, test data creation, automated output review, test progress tracking, and defect tracking for specific tests.

EST will:

1. Provide the Contractor with guidance, procedures, and test requirements conveyed via one or more TOs along with all other pertinent documentation required to perform this type of specialized testing support as part of FIT testing as set forth above or
2. Request that the Contractor develop and submit for the Government's review and consideration, one or more methodologies, ideas, and concepts for leveraging and evaluating automated tools to enhance the efficiency and accuracy of FIT testing performed by EST.

Contractor shall provide qualified staff for testing support, automated tools, and utilities.

The activities included in this task also include:

1. Design and/or review and update processing threads and/or scenarios documenting tests that flow across multiple systems to validate correct functional processing of new or updated business rules.
2. Prepare a ‘Data Capture List’ to document required data-stores (flat-files, databases) and timing to be saved from production for restoration to the FIT test environment.
3. Create and/or review Business Scenarios to be validated to ensure requirements that span multiple systems correctly support the desired business results. Typically, this is done in partnership with IRS business analysts.
4. Create subsystem notebooks to document subsystem testing including UWR/requirements for the upcoming filing season, test environment, test schedule, point of contacts, issues, and action items.
5. Create subsystem analyst guides to describe the test data source, subsystem access, testing tools, test strategy, threads and requirements, input data creation, subsystem processes, Points of Contact (POCs) and lessons learned.
6. Create a daily status report detailing overall testing status with cycle processing metrics, defect summary by priority and defect status type, and a list of open and closed defects during the FIT annual execution period.

EST does not anticipate performing formal Security Certification and Accreditation (C&A) or Security Testing and Evaluation (ST&E) activities as part of its broader role as the agency's Enterprise Test Authority. Notwithstanding, EST may perform selected aspects of IT Security Related testing as part of FIT, to include testing of login procedures and permissions and access rules established by application and web interface developers, or other aspects of IT Security Related Testing as further defined in individual TOs against the FIT sub-task. IT Security Related Testing, to the extent it may be performed by EST, is compatible with the methodology for FIT testing.

DESIRED OUTCOME - The Contractor shall provide EST with technical support for the performance of the FIT of tax administration systems as set forth in this Section. The technical support provided by the Contractor for this task shall meet or exceed standards for acceptable performance as described in applicable sections of, and in the relevant attachments to, this PWS.

# TASK 5, PERFORMANCE ENGINEERING AND TESTING SUPPORT (FFP/LH)

The Contractor shall plan, manage, and conduct performance engineering and performance testing activities. IRS systems routinely have high level requirements in Service Level Agreements (SLA) and with new systems a Performance Engineering Model (PEM) is typically created which represents the overall performance requirements for a system or group of interfacing systems.

The Performance Engineering and Testing capability is growing in EST, and it becomes particularly critical that as the Enterprise Test Authority, EST promotes the running of performance testing early and often in the development life cycle. IRS believes that the performance of new systems should be baselined at a minimum at the ‘component’ level (a messaging service that is a sub-component of a larger system for example) and that in many cases an integrated or end-to-end performance test should be conducted. Many performance test efforts at IRS are exploratory, or benchmarking efforts to validate that component(s) will meet the higher-level documented requirements.

1. The contractor shall perform the deliverable activities as directed by the IRS which, shall include the following administrative and reporting requirements:
2. Performance Test Automation project planning, prioritization, scheduling, collaboration, communication, and reporting as needed to support each performance assurance initiative and/or EST Domain wide performance engineering and testing efforts.
3. Creation and configuration of component level performance test suites and scripts to be run in the IRS selected toolset (currently HP, Parasoft, and IBM Rational Performance Test (RPT)).
4. Coordinate environment/infrastructure requests to support performance test execution. The environment and infrastructure would potentially be for both the system(s) under test as well as the performance driver tools and monitoring tools.
5. Documented evaluations of existing and available performance testing and monitoring tools and approaches with recommendations for implementation based on analysis of current state and maintainability in the IRS environment.
6. Application performance monitoring and analysis using tools such as AIX thread dumps, garbage collection logs.
7. Database performance monitoring using OEM, AWR, etc. and analysis.
8. Conducting Performance validation testing to ensure that products meet applicable performance requirements at the iteration and/or release level for designated systems.
9. Conducting test iterations that include re-validation of Performance, functionality, and other critical requirements as projects come together as a release candidate relying on a shared infrastructure.

DESIRED OUTCOME – The Contractor shall plan, manage, and conduct performance engineering/performance testing activities to ensure the performance of new and updated systems prior to production deployment. The Contractor shall quantify risk to deployment based on observed performance in pre-production environments. The Contractor shall provide an application performance monitoring and analysis report, and a database performance monitoring report.

# TASK 6, TEST AUTOMATION SUPPORT (FFP/LH)

The Contractor shall provide EST with support by expanding automated testing across IRS. EST will consider a balanced approach with a centralized group providing automation framework, infrastructure, and new test automation development that is comprised of test automation specialists embedded within every test initiative to be prudent.

The Contractor shall provide test for automation support extending beyond any individual test project as well as support to EST in planning for and prioritizing automation activities across the organization.

The Contractor shall perform anticipated deliverable activities including the following administrative and reporting requirements:

1. Test Automation project planning, prioritization, scheduling, collaboration, communication and reporting as needed to support each automation initiative and/or EST Domain wide automation efforts
2. Demonstrable, working automation software that can be triggered from and return results to IRS selected test metrics tracking and reporting products (currently Rational Engineering Lifecycle Management (ELM) suite).
3. Coordinate environment/infrastructure requests to support automated test deployment to ensure automated tests can run unattended with no user intervention.
4. Documented evaluations of existing and available automation tools and approaches with recommendations for implementation. Based on analysis of current state and maintainability in the IRS environment.
5. Test automation framework(s) specifically tied to Commercial Off the Shelf (COTS) or custom tools supporting IRS test automation as well as delivery and/or maintenance of a larger framework or strategy for test automation at IRS. Documenting COTS, custom, open-source products in use as well as suggested usage model for each product and for deployment of the automation tools.
6. Ensure that accessibility and security best practices are incorporated in work products and properly documented
7. User guides and/or training materials for automation tools delivered as part of this task area.
8. Training and/or coaching on usage of automation tools and/or frameworks delivered as part of this task area.

DESIRED OUTCOME – The Contractor shall provide the EST organization with the appropriate test automation resources to increase the efficiency of test processes through automation integrated into test metrics processes to allow outward communication to plan for and manage the delivery of applications and systems.

# TASK 7, TEST DATA MANAGEMENT (TDM) SUPPORT (FFP/LH)

IRS IT currently treats the practice of Test Data Management (TDM) as a distributed process where identification, creation, and management of data required to support non- production activities is managed separately by each project team. Consistent with industry trends IRS is exploring and moving towards partial centralization of the TDM practice.

Unique terminology is used regarding data at the IRS:

1. Masked Data: Data which originated from a production source, but that has been altered by replacing any Personally Identifiable Information (PII) with alternate values.
2. Synthetic Data: Data generated based solely on the business rules and requirements surrounding the data without copying any data from production files or systems.

The term ‘sanitized’ data is generally avoided because most tax data is protected by Internal Revenue Code 6103 and every data element is considered ‘sensitive’; therefore, the traditional masking of PII is not enough to reclassify the data as unprotected or sanitized.

The logic required to mask/alter every data element while maintaining its business relevance is typically complicated enough that once it is captured the generation of completely ‘synthetic’ data is possible. The IRS recognizes that if copies of production data are considered necessary to support non-production activities altering or masking the PII data elements should be pursued to reduce the risk if the data were to be compromised.

The IRS has had some initial successes in data masking to reduce risk, as well as synthetic data generation, but is looking for support to assist with identifying further opportunities to continue the success and developing innovative solutions to strengthen TDM practices.

1. Test Data Management (TDM) support includes but is not limited to the following Deliverable Activities:
2. Creating Synthetic Data using IRS selected toolsets
3. Developing data masking and delivering masked datasets to support testing using IRS selected toolsets
4. Document, socialize and gain alignment on the vision, strategy and target state for the TDM practice at IRS
5. Develop and/or update any Synthetic data framework or data management plan documenting Data Requirements Analysis, Data Creation, Management, and Control activities.
6. Partner with project teams to capture data requirements and develop plans to provide the data to support testing.
7. Support ongoing project management for TDM activities
8. Coordinate and support processing of Synthetic Data in IRS designated environments. Currently IRS uses a loosely coupled infrastructure of SAT test environments to create what is referred to as Systemic Processing which represents many core IRS data stores and the related cyclic processing in a manner that mimics production as the basis for the evolving synthetic data repository. The performance of the simulation shall be tracked and monitored as additional entities and granularity of data is developed.
9. The expansion of the simulation engine shall be informed by Section 3.5, Task 5.2, Feed to IRS Systems. The synthetic households and businesses will need to be expanded iteratively to incorporate data points required for tax reporting. As new data points are identified for the feed to IRS systems the simulation engine will be evaluated and updated to either incorporate statistical data sources to drive creation and progression of the new data elements or a determination that the elements may be created at random could be acceptable.

DESIRED OUTCOME – The Contractor shall create Synthetic and/or Masked Data and support processing of Synthetic Data in IRS designated environments. The Contractor will document and receive buy-in from the IRS on the TDM vision, strategy and target state. The Contractor will develop and/or update any Synthetic data framework or data management plan. The Contractor will collaborate with project teams to capture data requirements and develop plans to provide test data. The Contractor will support ongoing project management for TDM activities.

# TASK 8, SURGE SUPPORT (TO BE PROVIDED) (FFP/LH):

# Optional Surge Support may be included in individual TOs. Pricing for surge will be requested at the TO level solicitation. The Option CLIN would be included in the TO award and could be exercised in the event the need exists and the funds are available. The CO may exercise the option by written notice to the contractors. Delivery of services shall continue at the same rate that like services are called for under the TO. As appropriate, after award, Labor Hour CLINs may be converted to Firm-Fixed Price CLINs through mutual agreement of both parties, based on the labor categories and rates negotiated at time of TO award.

# KEY PERSONNEL:

Key personnel (KP) shall be designated during the individual TO quotation. KP are defined as personnel: (i) identified in the quote as key individual(s) to be assigned for participation in the performance of the TO; (ii) whose resumes were submitted with the quote; or (iii) which are designated as key personnel by agreement of the Government and the Contractor during negotiations.

In the table below, the Contractor shall identify individuals considered as KP in their quoted staffing projection to fulfill the Technical/Price Quote.

Key EST Contractor Personnel:

|  |
| --- |
| **Labor Category Position or Role** |
| Information Technology Program Manager (ITPM) |

**Information Technology Program Manager (ITPM):**

Offeror shall submit one (1) resume demonstrating the personnel education and experience as follows:

Minimum Education: BA/BS degree in Information Technology (IT) related field (i.e., Computer Science) from accredited college/university. Active Project Management Professional (PMP) Certification.

Target Experience: Minimum ten (10) years of program management experience with Government Programs, in the IT space to include overseeing project managers, managing schedules and program/project tasks effectively, and collaboration with stakeholders and delivery partners. Experience should demonstrate high-level management and leadership skills applied to similar projects in size, scope, and complexity to this BPA and TOs. Experience to include working with conflict resolution, risk management, schedule, and budget controls.

Ten plus (10+) years of experience in IT or related technical disciplines. Experience leading programs based on multiple projects with proven delivery resulting in client satisfaction with at least seven plus (7+) years in related disciplines required in the PWS.

# GOVERNMENT-FURNISHED PROPERTY (GFP)

GFP (to include material, equipment, and/or information) may be provided in the performance of this award. The following GFP will be provided to the contractor:

|  |  |
| --- | --- |
| **ITEMS** | **QUANTITY** |
| Contractor Identification Badge | TBD |
| Contractor Building Access/Proximity Card | TBD |
| Desktop or Laptop Computer with Local Area Network Access | TBD |
| Office Space (Desk, Chair, Standard Office Equipment) | TBD |
| Microsoft: Word, Excel, PowerPoint, Access, Project, , and other Microsoft Office components, as required; Edge, Adobe Acrobat; applicable testing software | TBD |
| Telephone with Voice Messaging (VMS) capability (for Contractor personnel with permanent seat assignments at government facilities) | TBD |

As defined in FAR Part 45, Government property is property owned or leased by the Government which includes GFP and Contractor-acquired property (CAP). Government property is material, equipment, special tooling, special test equipment, and real property.

The Contractor shall be responsible for safeguarding all equipment, information and property provided for Contractor use. Desktop and/or Laptop computers are requested and approved on an individual basis. Equipment will be provided either directly by the designated government personnel or through a UWR to User and Network Services (UNS). The appropriate BEARS process for connectivity to the IRS systems shall be followed.

Upon completion of any resultant award, disposition of GFP shall be in accordance with FAR 52.245-1.

# GOVERNMENT-FURNISHED INFORMATION (GFI)

Government Furnished Information (GFI) may be provided in the performance of the award. Subject to IRS approval the Contractor shall utilize and support a modern, flexible and appropriate technology stack to include IaaS, PaaS, libraries, languages and other tools to ensure the successful completion of projects. The Contractor shall make the utmost effort to ensure the fastest possible application coding, deployment and scalability. Although currently Rational ELM tools (EWM, DNG/RRC, and ETM) should be used if possible; the list of preferred tools may be modified by the IRS. Summary of Tools to be used will be provided.

IRS plans to use Engineering Workflow Management as the primary software development collaboration tool for agile planning, process definition, source control, defect tracking, and build management.

GFI (to include manuals, notes, memos, instruction materials, and other information) may be provided during performance of this TO. The following GFI will be provided to the Contractor upon award.

|  |
| --- |
| **INFORMATION ITEMS** |
| Applicable Internal Revenue Manuals (IRMs) |
| Applicable process documentation, standard operating procedures, templates, exhibits, etc. |
| Other documentation and materials required to perform work under the award resulting from this PWS |

Upon completion of any resultant GSA order, disposition of GFP shall be in accordance with FAR 52.245-5.

# TRAVEL

Prior to any travel taken in support of the PWS, the Contractor shall obtain COR concurrence. Travel related expenses will be reimbursed in accordance with the Federal Travel Regulations and will be controlled by issuance of written instructions from the Government. Profit/Fee shall not be applied to travel expenses. Travel locations include the following:

1. Detroit, MI
2. Memphis, TN
3. Austin, TX
4. Dallas, TX
5. Ogden, UT
6. Martinsburg, WV

For travel, beginning and ending on the same day, the COR shall pre-approve, via email, the list of travelers. For overnight travel, the COR shall pre-approve, via email, the travel plans and anticipated costs. These pre-approval emails shall be incorporated as attachments to the BPA PWS file.

Awards contemplating travel will have a specific CLIN. Travel and per diem will be reimbursed at actual cost in accordance with the limitations set forth in FAR 31.205-46 and the General Services Administration’s Federal Travel Regulations. Profit shall not be applied to the travel costs. Local travel may be required for on-site meetings; Local travel will not be reimbursed.

Award orders contemplating travel will have a specific CLIN. Travel and per diem will be reimbursed at actual cost in accordance with the limitations set forth in FAR 31.205-46 and the General Services Administration’s Federal Travel Regulations. Profit shall not be applied to the travel costs. Local travel may be required for on-site meetings, etc.

# ACCESS TO GOVERNMENT PROPERTY AND FACILITIES

The Contractor will be allowed limited access to the government's facilities, as specified below:

1. New Carrollton Federal Building (NCFB) and other Federal Buildings or Leased space within the Washington D.C. Metro Area
2. Enterprise Computing Center-Martinsburg (ECC-MTB)
3. Enterprise Computing Center-Tennessee (ECC-MEM)
4. Detroit Computing Center
5. Ogden Development Center
6. Austin, TX – Southpark Building K (Submission Processing Center)
7. Dallas, TX – Earle Cabell Federal Building
8. Dallas, TX – Farmers Branch (Taxpayer Assistance Center)

If any of this award effort is performed at specified government facilities, the Contractor shall abide by Department of the Treasury Directive (TD) 71-10 regarding provisions for authorized entrance and exit at these facilities.

The applicable Contractor employees shall not begin working under this Award until all security forms have been properly completed and submitted. All Contractor employees shall be required to wear identification badges when working in government facilities.

# INSPECTION AND ACCEPTANCE

## INSPECTION

The Contractor shall ensure that all deliverables are clearly marked with the award number and is visible on all shipping/service documents, containers, and invoices.

Inspection shall be at the same place as performance and delivery, unless otherwise specified.

## GENERAL ACCEPTANCE CRITERIA

The general quality measures as set forth below will be applied to each work product received from the Contractor under this contract and any resulting awards.

1. Accuracy - Work products shall be accurate in presentation, technical content, and adherence to accepted elements of style.
2. Clarity - Work products shall be clear and concise; engineering terms shall be used, as appropriate. All diagrams shall be easy to understand and relevant to the supporting narrative.
3. Specifications Validity - All work products must satisfy the requirements of the Government as specified herein.
4. Format - Work products shall be submitted in hard copy (where applicable) and in media defined in the PWS. The work product format may be different in each award. Hard copy formats shall follow Department of the Treasury and IRS Directives and shall be consistent with other similar efforts. All text and diagrammatic files shall be editable by the Government.
5. Timeliness - Work products shall be submitted on or before the due date specified in the award, or submitted in accordance with a later, scheduled date determined by the CO.

As required, the Contractor shall comply with IRS Enterprise Standards, Enterprise Architecture, Cybersecurity, Internal Revenue Manual (IRM) and other IRS Governance standards.

The Contractor shall adhere to the standards contained in the following documents:

1. IRM 2.127, Testing Standards and Procedures
2. IRM 10.8.1, Information Technology (IT) Security Policy and Guidance
3. IRM 10.5.8, Privacy and Information Protection, Sensitive But Unclassified (SBU) Data Policy: Protecting SBU in Non-Production Environments