

Department of Veterans Affairs (VA)
Independent Verification and Validation (IV&V) Services
Financial Management Business Transformation (FMBT) Program
Request for Information (RFI)

1. Introduction

This RFI is issued for information and planning purposes only and does not constitute a solicitation nor does it restrict the government as to the ultimate acquisition approach. In accordance with Federal Acquisition Regulation (FAR) 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract.

The purpose of this RFI is to identify qualified vendors, who are able to meet VA requirements for Independent Verification and Validation (IV&V) services. Any contract/order that might be awarded based on information received or derived from this market research will be the outcome of the competitive process. The purpose of this RFI is to obtain market information on capable sources of supply, industry best practices, and input specific to the information provided. The Government is not responsible for any cost incurred by industry in furnishing this information. All costs associated with responding to this RFI will be solely at the interested vendor's expense. Not responding to this RFI does not preclude participation in any future Request for Proposal (RFP), if any is issued. Any information submitted by respondents to this RFI is strictly voluntary. All submissions will become Government property and will not be returned. Interested vendors are responsible for adequately marking proprietary, restricted or competition sensitive information contained in their response.

2. RFI Response Instructions

NOTE: The capability package must be clear, concise, and complete. VA is under no obligation to provide feedback to the company, or to contact the company for clarification of any information submitted in response to this RFI.

Provide the following information:

(A) Provide Company Information:

- 1) Company Name
- 2) CAGE/DUNS Number under which the company is registered in SAM/VetBiz.gov
- 3) Company Address
- 4) Point of contact name
- 5) Telephone number
- 6) Email address
- 7) For small business concerns, indicate whether at least 50 percent of the total amount paid by the Government will be paid to firms that are similarly situated.

(B) Brief summary describing your company's technical approach to meeting the requirements, to include;

1. List any existing contracting vehicles that you would recommend for that this requirement be solicited against?
2. Does the draft outline provide sufficient detail to describe the technical and functional requirements that encompass the requirement? If "NO", please provide your technical and functional comments/recommendations/questions on elements of the draft outline that may contribute to a more accurate proposal submission and efficient, cost effective effort.
3. Can you meet limitations of subcontracting and perform at least 50 percent of the services between yourself as prime and similar situated entities?
4. Do you have the knowledge, skills, and abilities, and subject matter expertise to develop verification and validation risk and assessment criteria for similar systems to iFAMS, software, and hardware ensuring consistency with the Institute of Electrical and Electronics Engineers (IEEE) verification and validation standards and compliance with applicable law and policy?

Responses to this RFI shall be submitted electronically by **10:00 AM Eastern Standard Time, July 9, 2018** via email the Technology Acquisition Center (TAC) point of contact Contract Specialist, Amy Schmalzigan, Amy.Schmalzigan@va.gov.

WARNING: Please do not wait until the last minute to submit your responses! To avoid submission of late responses, we recommend the transmission of your response file 24 hours prior to the required response due date and time. Please be advised that timeliness is determined by the date and time an Offeror's response is received by the Government not when an Offeror attempted transmission. Offerors are encouraged to review and ensure that sufficient bandwidth is available on their end of the transmission.

All responsible sources may submit a response in accordance with the following:

All proprietary/company confidential material shall be clearly marked on every page that contains such.

Service Disabled Veteran Owned Small Businesses (SDVOSB) and Veteran Owned Small Businesses (VOSB) must indicate whether at least 50% of the cost incurred would be expended for prime employees or employees of other eligible SDVOSB/VOSB firms. This should also include the prime planned percentage and if under 50%, the

names of the potential team members that may be used to fulfill the 50% SDVOSB/VOSB requirement.

No more than 15 pages (excluding transmittal page)

VA will not be able to grant any extensions to this RFI.

BACKGROUND

The Department of Veterans Affairs (VA) Office of Information and Technology (OIT) mission is to provide benefits and services to Veterans of the United States. In meeting these goals, OIT strives to provide high quality, effective, and efficient Information Technology (IT) services to VA components that are ultimately responsible for providing services to our nation's Veterans.

The Financial Management Business Transformation (FMBT) program vision is to provide VA with a modern financial and acquisition management solution with transformative business processes and capabilities that enable VA to meet its goals and objectives in compliance with financial management legislation and directives. The FMBT effort will increase the transparency, accuracy, timeliness and reliability of financial information resulting in improved fiscal accountability to American tax payers and will offer a significant opportunity to improve care and services to our Veterans.

Through the FMBT program, VA is working to implement an enterprise-wide financial and acquisitions management system and integrated solution, known as the Integrated Financial and Acquisitions Management System (iFAMS), which will enable VA to improve service to Veterans, increase innovation, and enhance data integrity. The iFAMS solution includes Momentum® a commercial Enterprise Resource Planning (ERP) system developed by CGI Federal Incorporated.

On March 25, 2013, the Office of Management and Budget (OMB) issued Memorandum 13-08, *Improving Financial Systems through Shared Services*, directing all executive agencies to use a shared services solution for future modernizations of core accounting or mixed systems. The General Services Administration's Unified Shared Services Management (USSM) Office, in coordination with OMB, provided oversight. On September 19, 2016, VA selected the United States Department of Agriculture (USDA) as its Federal Shared Service Provider (FSSP) to guide VA's migration to an integrated financial and acquisition management solution, and the program moved into the Engagement Phase of the USSM Modernization and Migration Management (M3) framework.

On December 5, 2017, USDA officially notified VA that they would no longer serve as FSSP to VA in support of FMBT. As a result, USDA was phased out as the FSSP, and VA has been solely managing the FMBT program since January 2018. VA has transitioned from the use of the M3 framework required by USSM to the use of Veteran-focused Integration Process (VIP) for the implementation of this program. VIP is required for all VA internal IT modernization projects. Significant effort was made to ensure that all deliverables completed as part of the M3 playbook were leveraged for the VIP process; VIP is being tailored to align with a Software as a Service (SaaS) project.

VA will migrate to the Momentum commercial cloud solution, configured for VA as iFAMS, allowing VA to leverage CGI's SaaS model. VA will gain increased operational efficiency, productivity, agility, and flexibility from a modern ERP cloud solution. The

new cloud solution will also provide additional security, storage, and scalability. By implementing Momentum Acquisitions, VA is getting real-time integration with financials through a single, consolidated system

The FMBT program continues to operate on schedule and is executing and meeting deliverables. FMBT is meeting the FY 2018 goals and milestones set forth in our Integrated Master Schedule and will conclude the program's Engagement Phase in September 2018 as originally planned; this will mark the completion of Business Process Reengineering, Target State Ecosystem determination, and development of the Lifecycle Cost Estimate, as well as establish firm timelines for future program phases.

The FMBT is adopting the Agile framework for project management with its SaaS provider to improve cross-work stream collaboration and focus on delivering business value sooner. The Agile framework focuses on implementing highest priority requirements first and is specifically tailored for FMBT to help deliver iFAMS in small increments while continually engaging the customer.

The iFAMS deployment schedule is organized into a series of implementation rollouts known as *implementation waves*. In May 2017, VA determined that FMBT could accelerate the existing program schedule by planning a limited-scope initiative, designated Implementation Wave 1, to pilot specific budget formulation capabilities of iFAMS while more complicated program activities were still concluding. After almost a year of collaborative preparation, the Wave 1 - Budget Formulation environment was successfully launched on March 26, 2018, as planned, and is accessible to a group of approximately 120 users across all VA Administrations and Staff Offices. Preparations for the Payments Module (Grants) and National Cemetery Administration iFAMS implementation wave began ahead of schedule in Q3 FY 2018.

In addition to adopting an agile framework and tailoring VA's VIP framework for a SAAS solution, the FMBT must meet other stakeholder requirements for high-level project plans and roadmaps depicting risks and dependencies throughout the project. The project will also be employing effective communications with stakeholder analysis, assessing workforce readiness, developing core competency training, risk management, updating VA financial policies, internal control process and documents.

VA has many financial systems related to Veterans' support including the Financial Management System (FMS). VA is upgrading FMS under its FMBT program. Currently this work is being conducted by the FMBT program under OIT. The program includes integrating multiple other systems and applications that currently interface or are interoperable with FMS in the current environment.

VA OIT has the requirement to obtain Independent Verification and Validation (IV&V) services for the FMBT program including today's best practices being used commercially and in government to further enable VA's efforts to transform its current financial environment into a better, more efficient and effective one.

The OIT Office of Quality, Privacy and Risk is independent of the OIT organizations and VA business customer organizations responsible for the FMBT program execution and delivery of FMBT products and services. The Deputy CIO of Quality, Privacy and Risk

is the Executive Sponsor for FMBT IV&V. FMBT IV&V Plan defines the recommended V&V activities to support the FMBT program. Additionally, the plan considers that VA OIT will also be responsible for meeting the VIP requirements including documentation and activities outlined within the VA's VIP guide. Throughout the FMBT program the IV&V Plan will be reviewed and revised based on the ongoing planning, development and delivery of other program deliverables. The IV&V Plan is a living document, periodically being revised as knowledge accumulates about the characteristics of the system, the software, and the problem areas in the system.

1.0 APPLICABLE DOCUMENTS

The Contractor shall comply with the following documents, in addition to the documents in Paragraph 2.0 in the Performance Work Statement (PWS), in the performance of this effort:

- VA FMBT IV&V Plan, June 01, 2018 | Version 1.0

2.0 SCOPE OF WORK

The Contractor shall perform IV&V services. Verification & Validation (V&V) is an extension of program management and system engineering that employs a rigorous methodology to identify objective data and conclusions to provide feedback about quality, performance, and schedule to stakeholders. V&V is performed in parallel with all life cycle stages, not at conclusion. In the context of this plan the term "life cycle" is used in reference to the evolution of a system, product, service, project or other human-made entity from conception through retirement (IEEE Std. 12207:2008).

The contractor is expected to work with the government team on coordination and scheduling of IV&V tasks and work to complete agreed upon IV&V tasks contained in the latest approved FMBT IV&V Integrated Master Schedule. The government team is Systems Quality Assurance Service (SQAS), under the Office of Quality, Privacy and Risk (QPR) within OIT.

2.1 APPLICABILITY

This effort is within the scope of the following listed paragraphs of the PWS:

- 3.9 Development Methodologies
- 4.1 Program Management, Strategy, Enterprise Architecture and Planning Support
- 4.2 Systems/Software Engineering
- 4.4 Test & Evaluation (T&E)
- 4.5 Independent Verification and Validation (IV&V)

2.2 ORDER TYPE

The effort shall be proposed on a Firm Fixed Price (FFP) basis. Travel shall be cost reimbursable.

3.0 PERFORMANCE DETAILS

3.1 PERFORMANCE PERIOD

The period of performance (PoP) shall 12 months with three (3) 12month option periods to be exercised at the Government's discretion. This PWS contains Optional Tasks which may be exercised any time within in the Base or Option Periods.

3.2 PLACE OF PERFORMANCE

IV&V activities will be worked at both a government facility and contractor facility.

Work shall be performed in VA facilities at the FMBT Program office located at 470 and 490 L'Enfant Plaza, Washington; D.C. Six (6) seats are available primarily for the program manager, functional lead, technical lead and technical team members.

Various IV&V activities included in this effort can be performed at contractor facilities. The IV&V contractors may need to rotate to VA facilities based on program activities.

3.3 TRAVEL OR SPECIAL REQUIREMENTS

Travel shall be Cost Reimbursable with a not to exceed ceiling on travel expenses per year.

Travel is on a cost reimbursable, no fee basis and shall be in accordance with the Federal Travel Regulations and required advance concurrence by the Contracting Officer Representative (COR). All travel expenses shall be substantiated with back up documentation at the time of invoicing. The Contractor shall provide cost estimates with each travel request to the COR. Each Contractor invoice must include copies of all receipts that support the travel costs claimed in the invoice. Contractor travel within the local commuting area of 50-miles will not be reimbursed. Travel performed for personal convenience and daily travel to and from work at the Contractor's facility will not be reimbursed.

The Government anticipates travel to perform the tasks associated with the effort, as well as to attend program-related meetings or conferences throughout the PoP. The total estimated number of trips in support of the program related meetings for this effort is approximately one (1) trip per year to Austin, TX for 2 persons for 4 days in duration. (Travel to Austin, TX is for Base Year plus each exercised Option Year).

3.4 CONTRACT MANAGEMENT

All requirements of Sections 7.0 and 8.0 of the PWS apply to this effort. This shall be addressed in the Contractor's Progress, Status and Management Report as set forth in the contract.

3.5 GOVERNMENT FURNISHED PROPERTY

The Government has determined that remote access solutions involving Citrix Access Gateway (CAG) have proven to be an unsatisfactory access method to complete the tasks on this specific TO. The Government also understands that GFE is limited to Contractors requiring direct access to the network to: access development environments; install, configure and run TRM-approved software and tools (e.g., Oracle, Fortify, Eclipse, SoapUI, WebLogic, LoadRunner, etc.); upload/download/ manipulate code, run scripts, apply patches, etc.; configure and change system settings; check logs, troubleshoot/debug, and test/QA.

Based on the Government assessment of remote access solutions and the requirements of this TO, the Government estimates that the following GFE will be required by this TO:

A quantity of six (6) standard laptops will be provided as GFE

The Government will not provide IT accessories including but not limited to Mobile Wi-Fi hotspots/wireless access points, additional or specialized keyboards or mice, laptop bags, extra charging cables, extra PIV readers, peripheral devices, additional RAM, etc. The Contractor is responsible for providing these types of IT accessories in support of the TO as necessary and any VA installation required for these IT accessories shall be coordinated with the COR.

3.6 SECURITY AND PRIVACY

All requirements in Section 6.0 of the PWS apply to this effort. Specific TO requirements relating to Addendum B, Section B4.0 paragraphs j and k supersede the corresponding PWS paragraphs, and are as follows,

- j. The vendor shall notify VA within 24 hours of the discovery or disclosure of successful exploits of the vulnerability which can compromise the security of the Systems (including the confidentiality or integrity of its data and operations, or the availability of the system). Such issues shall be remediated as quickly as is practical, but in no event longer than ___TBD___ days.
- k. When the Security Fixes involve installing third party patches (such as Microsoft OS patches or Adobe Acrobat), the vendor will provide written notice to VA that the patch has been validated as not affecting the Systems within 10 working days. When the vendor is responsible for operations or maintenance of the Systems, they shall apply the Security Fixes within ___TBD___ days.

All requirements in Section 6.0 of the PWS apply. Addendum B requirements have been tailored to reflect the security and privacy requirements.

It has been determined that protected health information may be disclosed or accessed and a signed Business Associate Agreement (BAA) shall be required. The Contractor shall adhere to the requirements set forth within the BAA, referenced in Section D of the Request for Task Execution Plan (RTEP) and shall comply with VA Directive 6066.

3.6.1 POSITION/TASK RISK DESIGNATION LEVEL(S)

The position sensitivity and the level of background investigation commensurate with the required level of access for the following tasks within the PWS are:

Position Sensitivity and Background Investigation Requirements by Task

The position sensitivity and the level of background investigation commensurate with the required level of access for the following tasks within the PWS are:

Position Sensitivity and Background Investigation Requirements by Task

Task Number	Tier1 / Low Risk	Tier 2 / Moderate Risk	Tier 4 / High Risk
5.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Tasks identified above and the resulting Position Sensitivity and Background Investigation requirements identify, in effect, the Background Investigation requirements for Contractor individuals, based upon the tasks the particular Contractor individual will be working. The submitted Contractor Staff Roster must indicate the required Background Investigation Level for each Contractor individual based upon the tasks the Contractor individual will be working, in accordance with their submitted proposal.

3.7 KEY PERSONNEL

The Government expects competent, productive, and qualified IT professionals to be assigned to the project team. These individuals must have expertise in the Agile development methodology, Subject matter expertise and knowledge of financial management and acquisitions business transformation, and expert knowledge related to SaaS delivery model adoption.

The Contractor shall identify the key roles critical to successful accomplishment of the work to be performed under this effort. In addition, the Contractor shall identify the

qualifications, capabilities and experience of the personnel identified to assume such roles. At a minimum, this shall include the following:

The Government requires a Momentum expert, with functional and technical knowledge of the application including experience with large, complex Momentum implementations. The staff should also have experience with Momentum functional and technical systems testing.

The Government also requires a Rational Quality Manager and Solutions expert with a certification as an IBM Certified Specialist – Rational Quality Manager and IBM Certified Solutions Expert – Collaborative Lifecycle Management. This Rational Quality Manager and Solutions expert must have at least three (3) years of experience on a development project. These individuals must have expertise in the Rational Jazz Suite tools, specifically, DOORS Next Generation, Team Concert and Quality Manager.

The Contractor shall provide the titles, and a description of the duties of key personnel to be assigned. The Contractor agrees that Key Personnel shall not be removed diverted or replaced from the effort unless the replacement is necessitated by illness, death, or termination of employment. Contractor shall notify the Contracting Officer in writing in the event that Key Personnel is being replaced. The Contractor shall demonstrate in writing that the proposed replacement personnel are of at least substantially equal ability and qualifications as the individuals originally proposed for that position. It is expected that substitution or replacement of any Key Personnel will not occur within the first 90 calendar days after award.

4.0 FMBT IV&V SPECIFIC TASKS AND DELIVERABLES

4.1 FMBT IV&V PROJECT MANAGEMENT

4.1.1 FMBT IV&V CONTRACTOR PROJECT MANAGEMENT PLAN

The Contractor shall deliver a Contractor Project Management Plan (CPMP) that lays out the Contractor's approach, timeline and tools to be used in execution of this effort. The CPMP should take the form of both a narrative and graphic format that displays the schedule, milestones, risks and resource support. The CPMP shall also include how the Contractor shall coordinate and execute planned, routine, and ad hoc data collection reporting requests as identified within the PWS. The initial baseline CPMP shall be concurred upon and updated in accordance with Section B. The Contractor shall update and maintain the VA Program Manager (PM) approved CPMP throughout the PoP.

The contractor is expected to work with the government team on completion of agreed upon IV&V tasks, coordination and scheduling of IV&V tasks. The government team is SQAS, under the Office of Quality, Privacy and Risk (QPR) within OIT.

The contractor shall work with the government team to develop and maintain an IV&V Integrated Master Schedule and Work Breakdown Structure (FMBT IV&V IMS/WBS). The FMBT IV&V IMS/WBS shall be developed in Microsoft Project 2010. The initial baseline IV&V IMS/WBS shall be concurred upon and updated in accordance with Section B.. The contractor shall update and maintain the VA PM approved FMBT IV&V IMS/WBS throughout the PoP.

Deliverable:

- A. Contractor Project Management Plan
- B. FMBT IV&V Integrated Master Schedule and Work Breakdown Structure

4.1.2 FMBT IV&V REPORTING REQUIREMENTS

4.1.2.1 FMBT IV&V WEEKLY PROGRESS REPORTS

The Contractor shall provide the COR with Weekly Progress Reports in electronic form in a format that follows the Monthly Status Report. The weekly report shall include the latest status information on key accomplishments, deliverables, and planned activities for the coming week, issues and risk areas identified and any proposed risk mitigation actions that are recommended for the FMBT program since the last weekly report.

Deliverable:

- A. FMBT IV&V Weekly Progress Reports

4.1.2.2 STAFFING/RESOURCE PLANNING

The Contractor shall deliver a Staffing/Resource Plan to the Government for approval. The Contractor shall identify any known technology resource requirements and provide the materials that are needed.. The Contractor shall identify, secure, and utilize the minimum levels of staff, with optimal skill sets, that are required to support this effort. The Staffing/Resource Plan shall include an analysis of current and projected resource needs to meet the requirements.

Deliverable:

- A. Staffing/Resource Plan

4.1.2.3 PRIVACY TRAINING

The Contractor shall submit TMS training certificates of completion for VA Privacy and Information Security Awareness training, and provide signed copies of the Contractor Rules of Behavior in accordance with Section 9, Training, from Appendix C of the VA Handbook 6500.6, "Contract Security".

Deliverables:

- A. VA Privacy and Information Security Awareness Training Certificate
- B. Signed Contractor Rules of Behavior

4.1.3 FMBT IV&V TECHNICAL KICKOFF MEETING

The Contractor shall hold a technical kickoff meeting within 10 days after award. The Contractor shall present, for review and approval by the Government, the details of the intended approach, work plan, and project schedule for each effort. The Contractor shall specify dates, locations (can be virtual), agenda (shall be provided to all attendees at least five (5) calendar days prior to the meeting), and meeting minutes (shall be provided to all attendees within three (3) calendar days after the meeting). The Contractor shall invite the Contracting Officer (CO), Contract Specialist (CS), COR, and the VA PM.

4.2 FMBT IV&V SERVICES AND STANDARDS

Throughout the FMBT program the FMBT IV&V Plan will be reviewed and revised based on the ongoing planning, development and delivery of software and other program deliverables. The IV&V Plan is a living document, periodically being revised as knowledge accumulates about the characteristics of the system, the software, and the problem areas in the system.

The Government Accountability Office (GAO) has recognized Institute of Electrical and Electronics Engineers (IEEE) Standards in its published reports. The FMBT IV&V Plan was developed by the government based on, but not limited to, IEEE Standards to encompass the full breath of IV&V activities potentially performed for the program. The selection and execution of the IV&V tasks is expected to be applied based on program risk and the program schedule. The IV&V tasks may need to be tailored to the program execution methodology, the program deliverables, or the program implementation approach. The contractor shall utilize its understanding of the barriers, challenges and risks related to large scale ERP implementations of Momentum Financial Management applications.

The contractor shall develop verification and validation risk and assessment criteria for FMBT systems, software, and hardware ensuring consistency with IEEE verification and validation standards and compliance with applicable law and policy.

This plan is intended to be a comprehensive integrated IV&V plan tailored to meet the needs of the VA FMBT program and to comply with the IV&V requirements defined in IEEE Standard 1012. While tailored to include areas beyond systems engineering, such as, organizational change management, it is based on industry best practice guidance, including Project Management Institute (PMI), Guide to the Project Management Body of Knowledge (PMBOK) and Capability Maturity Model Integration (CMMI), and was developed in accordance with the following Institute of Electrical and Electronics Engineers (IEEE) Standards:

- IEEE Std. 1012-2012: System and Software Verification and Validation

- IEEE Std. 1012-2016: System and Software Verification and Validation
- IEEE Std. 730-2014: Software Quality Assurance Processes
- IEEE Std. 1028-2008: Software Reviews and Audits

IEEE Standard 1012 applies to systems, software, and hardware being developed, maintained, or reused (legacy, commercial off-the-shelf (COTS), non-developmental items). The standard does not assign the responsibility for performing the verification and validation tasks to any specific organization. The analysis, evaluation, and test activities may be performed by multiple organizations; however, the methods and purpose will differ for each organization's functional objectives. This plan is intended to establish the framework for on-going integrated planning efforts and refinement of the FMBT VA IV&V approach.

IV&V provides an independent, objective assessment to the quality of program management and systems engineering products and processes.

Verification: Confirmation by examination and provisions of objective evidence that specified requirements have been fulfilled.

Validation: Confirmation by examination and provisions of objective evidence that the particular requirements for a specific intended use are fulfilled.

IV&V utilizes a variety of V&V methods in the planning and execution of IV&V activities. The IV&V techniques and methods include, product/technical reviews, evaluation, review, inspection, walkthrough, interviews and observation. The IV&V team will provide recommendations for process or document improvements, including suggestions for increased efficiency and effectiveness. The IV&V team will provide comprehensive deliverables including various analysis and assessment reports.

4.2.1 QUALITY ASSURANCE PROCESS REVIEWS

The contractor shall perform Quality Assurance (QA) Process Reviews on program management and systems engineering processes as outlined in the FMBT IV&V Plan. The review timing may be specified such as quarterly or on an as needed basis aligned with sprint or implementation waves. The IV&V Risk Management, Change Management and Governance Process Reviews will be conducted on a quarterly basis. A process review may incorporate a product review of the related program management or systems engineering plan or related documentation. The following processes fall into this area of review; Requirements Management, Business Process Re-engineering, Change Management, Configuration Management, Risk, Issue and Lessons Learned Management, Data Management, Data Migration Management, Deliverable Management, FMBT Governance and Managerial reviews.

All QA Process Review Reports shall include applicable completed process checklists as appendices within the various QA process review reports.

While conducting QA Process Reviews, Product Reviews may occur as part of a process review. For planning purposes, updates to FMBT program documentation that will require IV&V Product Reviews are estimated at the following frequency:

1. Requirements Management Plan, 1 per year;
2. Configuration Management Plan, 2 per year;
3. Risk Management Plan, 2 per year;
4. Data Governance Model and Data Cleansing Plan, 2 in Base Period
 - a. One per Option Period exercised
5. Data Conversion Strategy, Data Conversion Plan, Data Migration Plan, 2 in Base Period;
6. Data Conversion Test Plan, 2 in FY19
 - a. One per Option Period exercised
7. Deliverable Management Plan, 4 per year
8. Governance Management Plan, 2 per year.

The list of documents above is a projection based on FMBT program schedules and does not reflect all documents that will be subject to the IV&V process and incorporated into the FMBT IV&V Integrated Master Schedule for planning and execution.

Deliverables:

- A. IV&V Requirements Process Review Report
- B. IV&V BPR Process Review Report
- C. IV&V Change Management Process Review Report
- D. IV&V Configuration Management Review Report
- E. IV&V Risk Management Process Review Report
- F. IV&V Data Management Process Review Report
- G. IV&V Data Verification Report
- H. IV&V Data Migration Process Review Report
- I. IV&V Document Management Review Report
- J. IV&V Governance Process Review Report
- K. IV&V Managerial Review Report

4.2.2 COMMON IV&V ACTIVITIES

Common IV&V activities include assessments associated with the oversight and evaluation of the overarching program management processes. The contractor shall perform assessments in the following areas; project planning, budget/cost assessment, schedule management assessment, Organizational Change Management (OCM) assessment and performance assessment.

Assessments will be completed bi-annually.

Deliverables:

- A. IV&V Program Planning Strategy Assessment
- B. IV&V Program Budget Assessment
- C. IV&V Schedule Management Assessment
- D. IV&V OCM Assessment
- E. IV&V Performance Assessment

4.2.3 SYSTEMS VERIFICATION AND VALIDATION

System and software IV&V tasks and activities are used to determine the completeness, accuracy and traceability of products from other systems and software engineering processes. System and software tasks that focus on a related set of products can be executed together depending on the product state. System IV&V activities focus on the verification that the technical solution meets the stakeholder technical requirements.

Certain System IV&V activities and output may be combined into one report depending on the implementation stage; such as Stakeholder and Requirements Evaluation, Traceability Analysis and Criticality Analysis.

Certain System IV&V activities may be combined with related software IV&V activities.

The contractor shall develop verification and validation risk and assessment criteria for systems, software, and hardware ensuring consistency with IEEE verification and validation standards and compliance with applicable law and policy.

The following System IV&V activities are anticipated to align with business process implementation, estimated at 11 per year:

1. Stakeholder Requirement Evaluation
2. Requirements Evaluation
3. Traceability Analysis (Requirements)
4. Criticality Analysis
5. Hazard Analysis
6. Security Analysis
7. Risk Analysis
8. Design Evaluation
9. Implementation Assessment
10. Operations Procedure Evaluation

The following System IV&V activities are anticipated to align with interface implementation, estimated at 25 per year throughout the PoP.

The following system IV&V activities are estimated at twice per year throughout the PoP:

1. Traceability Analysis (Architecture).

The following system IV&V activity is estimated to be completed monthly per year:

1. Develop V&V risk and assessment criteria for iFAMS system.

- Optional Tasks for System IV&V activities for up to 15 additional Interface Implementations is anticipated (See PWS para. 5.3.1).

- Interface Analysis Requirements (3)
- Interface Analysis Architecture (10)

4.2.3.1 SYSTEM IV&V ACTIVITIES

The contractor shall perform the following System IV&V activities:

1. Stakeholder Requirements Evaluation
2. Requirements Evaluation
3. Interface Analysis Requirements
4. Traceability Analysis Requirements
5. Criticality Analysis
6. Hazard Analysis
7. Security Analysis
8. Risk Analysis
9. Design Evaluation
10. Interface Analysis Architecture
11. Traceability Analysis Architecture
12. Implementation Assessment
13. Operating Procedure Evaluation
14. Develop iFAMS Verification and Validation Risk and Assessment Criteria

All SYSTEM IV&V deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V QA Requirements Evaluation Report with completed checklists
- B. IV&V System Requirements Evaluation Report with completed checklists
- C. IV&V Interface Analysis Report
- D. IV&V Traceability Analysis Report
- E. IV&V Criticality Analysis Report
- F. IV&V Hazard Analysis Report

- G. IV&V Security Analysis Report
- H. IV&V Risk Analysis Report
- I. iFAMS Verification and Validation Risk and Assessment Criteria Report

4.2.3.2 SYSTEM ARCHITECTURE DESIGN V&V ACTIVITIES

The contractor shall perform the following System Architecture Design V&V activities:

- 1. IV&V Design Evaluation Architecture with completed checklists
- 2. IV&V Interface Evaluation Architecture
- 3. IV&V Traceability Analysis Architecture

All SYSTEM ARCHITECTURE DESIGN deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V System Architecture Design Assessment with checklists

4.2.3.3 SYSTEM IMPLEMENTATION V&V ACTIVITIES:

The contractor shall perform the following System Implementation V&V activity:

- 1. IV&V Implementation Assessment

All SYSTEM IMPLEMENTATION deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Implementation Assessment Report

4.2.3.4 SYSTEM OPERATIONS V&V ACTIVITIES:

The contractor shall perform the following System Operations V&V activity:

- 1. IV&V Operations Procedure Evaluation

All SYSTEM OPERATIONS deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Operations Procedures Evaluation Report

4.2.4 SOFTWARE VERIFICATION AND VALIDATION

Software IV&V activities focus on verification that the functionality of the system meets and fulfills the functional requirements. V&V evaluates the software in a systems context, relative to all system elements of hardware, users, and other software. Like systems engineering, it uses a structured approach to analyze and test the software against all system functions and all hardware, user, and other software interfaces. Certain Software IV&V activities and output may be combined into one report depending on the implementation stage; such as Stakeholder and Requirements Evaluation, Traceability Analysis and Criticality Analysis. Repeated activities in the requirements, design and construction phases may be executed together depending on the implementation stage and inputs available.

Certain System IV&V activities may be combined with related Software IV&V activities.

The contractor shall develop verification and validation risk and assessment criteria for systems, software, and hardware ensuring consistency with IEEE verification and validation standards and compliance with applicable law and policy.

4.2.4.1 SOFTWARE IV&V ACTIVITIES ALIGNED WITH BUSINESS PROCESS IMPLEMENTATION.

The following Software IV&V activities are anticipated to align with business process implementation, estimated at 11 per year:

1. Concept Documentation Evaluation
2. HW/SW/User Requirements Allocation Analysis
3. Requirements Evaluation
4. Traceability Analysis (Requirements, Design, Configuration)
5. Security Analysis
6. Risk Analysis
7. Configuration/source code documentation evaluation.

4.2.4.2 SOFTWARE IV&V ACTIVITIES ALIGNED WITH INTERFACE IMPLEMENTATIONS

The following Software IV&V activities are anticipated to align with interface implementations, estimated at 25 per year throughout the PoP:

1. Interface Analysis Requirements
2. Interface Analysis Design
3. Interface Analysis Configuration

For the PoP, Optional Tasks for Software IV&V activities for up to 15 additional Interface Implementations is anticipated (See PWS para. 5.3.2).

- a. The following software IV&V activities are estimated to be completed monthly per year:
 1. Criticality Analysis
 2. Hazard Analysis
 3. Design Evaluation
 4. Develop V&V risk and assessment criteria for iFAMS system.
- b. The following Software IV&V activities are estimated to be completed 4 times per year:
 1. Operating Procedures Evaluation.

4.2.4.3 SOFTWARE REQUIREMENTS:

The contractor shall perform the following software IV&V activities:

1. Concept documentation evaluation
2. Hardware/software/user Requirements Allocation Analysis
3. Criticality Analysis (Requirements, Design, Configuration)
4. Hazard Analysis
5. Requirements Evaluation
6. Interface Analysis (Requirements, Design, Configuration)
7. Traceability Analysis (Requirements, Design, Configuration)
8. Security Analysis (Requirement, Design)
9. Risk Analysis
10. Configuration/source code documentation evaluation

All SOFTWARE REQUIREMENTS deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Concept Documentation Evaluation Report
- B. IV&V HW/SW/User Requirements Allocation Analysis Report
- C. IV&V Criticality Analysis Report
- D. IV&V Hazard Analysis Report
- E. IV&V Requirements Evaluation Report
- F. IV&V Interface Analysis Report
- G. IV&V Traceability Analysis Report
- H. IV&V Security Analysis Report
- I. IV&V Risk Analysis Report
- J. iFAMS Verification and Validation Risk and Assessment Criteria
- K. IV&V Configuration/Source Code Evaluation Report

4.2.4.4 SOFTWARE DESIGN:

The contractor shall perform the following software IV&V activities:

1. Design Evaluation

2. Interface Analysis
3. Traceability Analysis

All SOFTWARE DESIGN deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Software Design Assessment Report
- B. IV&V Interface Analysis Report
- C. IV&V Traceability Analysis Report

4.2.4.5 SOFTWARE CONSTRUCTION:

The contractor shall perform the following software IV&V activities:

1. Configuration/Source Code Evaluation
2. Interface Analysis
3. Installation Configuration Audit
4. Installation Verification/Checkout

All SOFTWARE CONSTRUCTION deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Configuration/source code Evaluation Report
- B. IV&V Interface Analysis Report
- C. IV&V Traceability Analysis Report
- D. IV&V Installation Configuration Audit Report
- E. IV&V Installation Verification Report

4.2.4.6 SOFTWARE OPERATION:

The contractor shall perform the following Software IV&V activities:

- a) Operating Procedures Evaluation

All SOFTWARE OPERATION deliverables shall include applicable completed process checklists as appendices within the deliverable reports.

Deliverables:

- A. IV&V Operations Procedures Evaluation Report

4.2.5 HARDWARE/CLOUD INFRASTRUCTURE (CI) VERIFICATION AND VALIDATION PROCESS

The iFAMS system will be hosted in the VA's enterprise cloud environment. The VA Enterprise cloud is comprised of two FedRAMP High Impact solutions. VA's OIT Information Technology Operations (ITOPS) Office manages the VA Enterprise cloud infrastructure.

The purpose of the Hardware and Cloud Infrastructure (CI) Verification and Validation process is to provide objective evidence for whether outcomes achieve the following:

Verification

- a) Conform to requirements (e.g., for correctness, completeness, consistency, and accuracy) for all activities during each life cycle process.
- b) Satisfy the standards, practices, and conventions during life cycle processes.
- c) Successfully complete each life cycle activity and satisfy all the criteria for initiating succeeding life cycle activities (i.e., the product is built correctly)

Validation

- a) Satisfy requirements allocated to the products at the end of each life cycle activity.
- b) Solve the right problem (e.g., correctly model physical laws, implement business rules, and use the proper system assumptions).
- c) Satisfy intended use and user needs in the operational environment (i.e., the correct product is built).

Outcomes

As a result of successful implementation of the Hardware and cloud infrastructure Verification and Validation process:

- a) Verification and Validation Risk and Assessment Criteria is developed.
- b) The hardware and cloud infrastructure and each of its components are evaluated for requirements satisfaction based on assigned integrity levels.

- c) Objective evidence is developed to determine whether the hardware and cloud infrastructure and each of its components conform to requirements and satisfy all the criteria for each successive life cycle activity.
- d) The system of interest (hardware) and cloud infrastructure and all components of the system of interest are assigned integrity levels that are maintained and reevaluated throughout the life cycle of the system.
- e) The hardware and cloud infrastructure and each of its components are evaluated for requirements satisfaction based on assigned integrity levels.
- f) The hardware and cloud infrastructure and each of its components are evaluated for satisfaction of allocated system requirements and of intended use and user needs based on assigned integrity levels.
- g) Objective evidence is developed to determine whether the hardware and each of its components satisfy all system requirements allocated to hardware and cloud infrastructure and meet intended use and user needs.

IV&V activities and tasks for the Hardware/CI Verification and Validation process as applied to the hardware life cycle processes may be derived from criteria and tasks within the Hardware V&V processes listed below. However, not all of the following Hardware V&V processes may be applicable or in scope for the FMBT Hardware and Cloud Infrastructure IV&V effort. These include:

- a) Hardware/CI Concept V&V
- b) Hardware/CI Requirements V&V
- c) Hardware/CI Design V&V
- d) Hardware/CI Fabrication V&V
- e) Hardware/CI Integration Test V&V
- f) Hardware/CI Qualification Test V&V
- g) Hardware/CI Acceptance Test V&V
- h) Hardware/CI Transition V&V
- i) Hardware/CI Operation V&V
- j) Hardware/CI Maintenance V&V
- k) Hardware/CI Disposal V&V

The contractor shall:

1. Develop verification and validation risk and assessment criteria for iFAMS hardware and cloud infrastructure ensuring consistency with IEEE Standard 1012-2016 verification and validation standards and compliance with applicable law and policy.

2. Plan and implement the Hardware and cloud infrastructure Verification and Validation process.
3. Perform Hardware/Cloud Infrastructure Verification and Validation Assessments.
4. Become familiar with the requirements, functionality, performance, scalability, interoperability, reliability, etc. of the infrastructure solution under consideration.
5. Engage with technical stakeholders as needed.
6. Evaluate iFAMS cloud infrastructure concepts, requirements, designs, testing plans, integration plans and procedures.
7. Review iFAMS hardware and cloud infrastructure testing results.
8. Witness applicable government or contractor testing of iFAMS infrastructure, including implementation and integration with VA networks and systems to the extent necessary to most efficiently verify and validate fulfillment of FMBT non-functional requirements.
9. Evaluate iFAMS hardware/cloud infrastructure computing capacity (memory, processing speed, storage, etc.).
10. Assess iFAMS hardware/cloud infrastructure critical factors such as: scalability; feasibility; interoperability; ease of integration/interoperability; sustainability; reliability; availability; performance; consistency with VA strategic direction; compliance with VA security, privacy, and accessibility standards; lifecycle cost.
11. Assess non-functional requirements and verify and validate requirements are satisfied.
12. Assess non-functional defect criticality and their assignment to the backlog.
13. Identify technical risks to VA throughout the process.

Deliverables:

- A. iFAMS Hardware and Cloud Infrastructure IV&V Assessment Reports
- B. iFAMS Verification and Validation Risk and Assessment Criteria Reports

4.2.6 INDEPENDENT TEST AND EVALUATION

An objective of the IV&V Test Approach is to select the verification and validation analysis and testing technique to most effectively detect the system and software

problems. IV&V activities focus on all level of testing including; Unit, Integration, System, User Acceptance, Performance, Data Conversion, Smoke, Regression, Security, and Section 508. All test plans and test plan elements (test design, test case, test script, test procedure, test execution) will be verified by IV&V to confirm each conforms to project defined purpose, format, content included in the USSM test plan template and compared against IEEE Std. 829 for System and Software Test documentation best practice. The FMBT IV&V Plan system and software test approach section incorporates IEEE Standard 1012, software IV&V activities related to software integration, qualification and acceptance testing. IV&V activities may include independent assessments of test management, defect management, release management processes and deliverables.

All system and software IV&V testing activities align with iFAMS releases estimated at 12 per year throughout the PoP.

The contractor shall perform:

1. Witness applicable government or contractor testing of FMBT system, software and hardware, including implementation and integration with VA networks and systems to the extent necessary to efficiently fulfill the requirements of the VA.
2. Review files and data
3. Receive data files for inspection, analysis and to be used as input into comparison and automated verification processes.
4. Review, cross-check, map and verify data and processing results within the configured application.
5. Create and execute queries to support verification and validation
6. Engage with business and technical stakeholders as needed.
7. Evaluate development or configuration approach; integration plans and procedures; interfaces; and test plan, test design, test case, test procedures, and test execution results.
8. Assess defects.
9. Verify test plans, cases, design, scripts, and execution.
10. Conduct planned IV&V testing for integrity level 3 and level 4 or analyzes the results of testing if conducted by another organization.
11. Review test plans (and design, cases, procedures) and analyzes results of tests for integrity level 2.
12. Test Readiness Review
13. Implementation Readiness Assessment

Deliverables:

- A. IV&V Assessment reports related to Test Scripts, Test Execution outputs, Defect management

- B. IV&V Assessment reports related to Test Management, Defect Management and Release Management
- C. Test Readiness Review Report
- D. IV&V Implementation Readiness Assessment
- E. IV&V Software Component Test Plan
- F. IV&V Systems Integration Test Plan
- G. IV&V Software Integration Test Plan
- H. IV&V System Qualification Test Plan
- I. IV&V System Acceptance Test Plan
- J. IV&V Software Acceptance Test Plan
- K. IV&V Test Plan
- L. IV&V Test Procedures
- M. IV&V Test Cases
- N. IV&V Test scripts
- O. IV&V Test Execution Results Report

4.2.7 INDEPENDENT INTERFACE VERIFICATION AND VALIDATION

Verification & Validation inclusive of interfaces and the disposition of VA legacy systems is crucial to the overall performance of the VA's Financial Management System. The IV&V team will conduct VA Legacy System Verification & Validation Disposition Assessments for all identified VA legacy systems within potential scope of FMBT to determine the accuracy as well as stakeholder concurrence of each disposition identified by FMBT. The IV&V team will perform a technical review of interface documentation. IV&V will verify the coverage & execution results as well as the recording and status of Errors/Defects at all levels of testing. IV&V will inspect and review the integrity of File and Data transfers and exchanges.

All interface IV&V activities align with interface implementations, estimated at 25 per year throughout the PoP.

For the PoP, Optional Tasks for Independent Interface IV&V activities for up to 15 additional Interface Implementations is anticipated (See PWS para. 5.3.3).

The contractor shall perform/conduct the following interface IV&V activities:

1. Legacy System Disposition Assessment
2. Documentation Assessment
3. Product Reviews, interface documents
4. Interface Test Coverage and Execution Assessment
5. File Level Assessment
6. Data Level Assessment

Deliverables:

- A. IV&V Legacy System Disposition Assessment Report
- B. Completed IV&V Legacy System Stakeholder Agreement
- C. Interfacing Documentation Assessment Report
- D. Interfacing Product Review Report
- E. Interface Test Coverage and Test Execution Assessment Report
- F. Interface Defect Assessment Report
- G. Interface File Transfer Assessment Report
- H. Interface Data Transfer Assessment Report

4.2.8 INDEPENDENT DATA VERIFICATION AND VALIDATION

Verification & Validation of the data conversion and data migration is crucial to the overall accuracy, functionality, and audit-readiness and reporting of the VA's Financial Management systems and processes.

All data IV&V activities align with anticipated data sources, estimated at 40 per year.

The contractor shall perform the following data IV&V activities:

- 1. Data Conversion Assessment
- 2. Data Conversion Requirements and Design Assessment
- 3. Data Conversion Validation

Deliverables:

- A. IV&V Conversion Assessment
- B. IV&V Data Conversion Requirements and Design Assessment
- C. IV&V Data Conversion Validation Report

4.2.9 IV&V PRODUCT REVIEWS

Product reviews determine whether FMBT deliverables are consistent with and satisfy relevant standards, policies and guidelines. For program planning documents with associated strategies, the review will include verification of the strategy-specific goals and objectives. The current distributed list of program strategy documents includes: Business Process Re-engineering, Business Intelligence Reporting, Transformation Change Management, Data Management, and Data Migration.

The contractor shall perform product reviews on program and project deliverables.

Key Product Reviews are estimated at the following frequency throughout the PoP:

1. Requirements Management Plan, 1 per year;
2. Configuration Management Plan, 2 per year;
3. Risk Management Plan, 2 per year;
4. Data Governance Model and Data Cleansing Plan, 2 in FY19,
 - a. (Option Periods)1 in FY20 – 22;
5. Data Conversion Strategy, Data Conversion Plan, Data Migration Plan, 2 in Base Period - FY19;
6. Data Conversion Test Plan, 2 in Base Period - FY19
 - a. (Option Periods) 1 per FY20 -22;
7. Deliverable Management Plan, 4 per year;
8. Governance Management Plan, 2 per year.

IV&V product reviews are **estimated** at 25 per year.

Deliverables:

- A. IV&V Product Review Reports using the program's accepted format

4.3 OPTIONAL TASKS FOR ADDITIONAL FMBT IV&V INTERFACE IMPLEMENTATIONS

4.3.1 SYSTEMS IV&V – OPTIONAL TASK 2 (PWS para. 5.2.3.1.3 and 5.2.3.1.10)

4.3.1.1 BASE PERIOD (FY 19)

Optional Task for System IV&V activities for up to 15 additional Interface Implementations priced individually following PWS para. 5.2.3).

4.3.1.2 OPTION PERIOD 1 (FY 20)

Optional Task for System IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.1.3 OPTION PERIOD 2 (FY 21)

Optional Task for System IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.1.4 OPTION PERIOD 3 (FY 22)

Optional Task for System IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.2 SOFTWARE IV&V – OPTIONAL TASK 3 (PWS para. 5.2.4.2.1, 5.2.4.2.2 and 5.2.4.2.3)

4.3.2.1 BASE PERIOD (FY 19)

Optional Task for Software IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.2.2 OPTION PERIOD 1 (FY 20)

Optional Task for Software IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.2.3 OPTION PERIOD 2 (FY 21)

Optional Task for Software IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.2.4 OPTION PERIOD 3 (FY 22)

Optional Task for Software IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.3 INDEPENDENT INTERFACE IV&V – OPTIONAL TASK 4 (PWS para. 5.2.7)

4.3.3.1 BASE PERIOD (FY 19)

Optional Task for Independent Interface IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.3.2 OPTION PERIOD 1 (FY 20)

Optional Task for Independent Interface IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.3.3 OPTION PERIOD 2 (FY 21)

Optional Task for Independent Interface IV&V activities for up to 15 additional Interface Implementations priced individually.

4.3.3.4 OPTION PERIOD 3 (FY 22)

Optional Task for Independent Interface IV&V activities for up to 15 additional Interface Implementations priced individually.

4.4 TRANSITION AND ORIENTATION SUPPORT - OPTIONAL TASK 5

The period of performance of this Optional task shall be (30 days. The Contractor shall develop and deliver a Phase-Out Transition Plan in the event that all or part of the tasks are terminated or completely transitioned to the Government or a new Contractor assumes the responsibilities at the end of the period of performance. The Contractor shall submit details for the Phase-Out portion of the Transition Plan, and execute the Phase-Out Transition Plan upon Government approval. The Transition Plan may be exercised by the Government anytime during the base and/or Option period. The Contractor shall implement the Transition Plan and provide 30 days of transition support. The Contractor shall provide Subject Matter Expertise (SME) support to affect the requisite knowledge transfer in accordance with the resulting Transition Plan and schedule.

Deliverables:

- A. Phase-Out Transition Plan