VA ELECTRONIC HEALTH RECORD MODERNIZATION (EHRM) SYSTEM
PERFORMANCE WORK STATEMENT (PWS)
DEPARTMENT OF VETERANS AFFAIRS

Office of Electronic Health Record Modernization (OEHRM)

EHRM IOC Data Migration and Enterprise Interface Development

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Contents

1.0   BACKGROUND

The mission of the Department of Veterans Affairs (VA) is to provide benefits and services to Veterans of the United States. In meeting these goals, VA strives to provide high quality, effective, and efficient Information Technology (IT) services to those responsible for providing care to the Veterans at the point-of-care as well as throughout all the points of the Veterans' health care in an effective, timely and compassionate manner. VA depends on Information Management/Information Technology (IM/IT) systems to meet mission goals.

On June 1, 2017, the Secretary of the VA signed a Determination and Findings that, through a public interest exception, permitted the sole source procurement of the Cerner Corporation's (Cerner) Electronic Health Record (EHR) system being deployed by the Department of Defense (DoD) as well as related services for deployment and transition across the VA enterprise in a manner that meets VA needs. Procurement of a single common system across VA and DoD shall achieve VA's goal of seamless care for Veterans by facilitating the transition of active duty military members to VA and improving their timely access to the highest quality of care.

Under this task order, Cerner shall provide data migration, registries, reports and interfaces in support of IOC.

For purposes of this Performance Work Statement (PWS), the VA EHR solution will be referred to as the VA Electronic Health Record Modernization (EHRM) System.

2.0   APPLICABLE DOCUMENTS

The documents in Paragraph 3.0 in the EHRM Basic PWS apply to the performance of this effort, there are no additional referenced documents.

3.0   SCOPE OF WORK

The Contractor shall provide analysis, planning, requirements refinement, design, development, testing and deployment services for the VA EHRM IOC solution. These services include:
   a. Project management
   b. Data migration
   c. Registries
   d. Reporting
   e. Interface planning, development, testing and deployment
   f. Additional technical support as required
   g. HealtheIntent licensing and support

3.1   APPLICABILITY

This Task Order (TO) PWS is within the scope of paragraphs 5.1 Project Management, 5.5.3 EHRM and VA System Integration, 5.5.8 Test and Evaluation, 5.6.11 Test and

Evaluation – Deployment, and 5.9 Analysis and Migration of Legacy Data of the EHRM Basic PWS.

3.2   ORDER TYPE

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

4.0   PERFORMANCE DETAILS

4.1   PERFORMANCE PERIOD

The period of performance (PoP) shall be 12 months from the date of award, with one 12-month option period and four optional tasks that can be exercised during the base and option period.

4.2   PLACE OF PERFORMANCE

Efforts under this TO shall be performed both in Contractor facilities, as well as VA facilities. Program meetings may also be held at VA Central Office, some of which may require in person attendance. Project management activities that occur at the enterprise level shall be performed at Contractor facilities.

4.3   TRAVEL OR SPECIAL REQUIREMENTS

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 Contractor shall include all estimated travel costs in the firm-fixed price line items. These costs will not be directly reimbursed by the Government.

The total estimated number of trips for this effort shall be proposed by the Contractor. Anticipated locations include, but are not limited to, Washington, DC and Veterans Integrated Service Network (VISN) 20 IOC site locations. The Contractor shall review travel under this TO on a quarterly basis. Based on this quarterly review, the Contractor shall inform VA of project risks related to travel.

4.4   CONTRACT MANAGEMENT

All requirements of Section 9.0 of the EHRM Basic PWS apply to this effort. This TO shall be addressed in the Contractor's Monthly Progress Report as set forth in the EHRM Basic contract.

4.5   GOVERNMENT FURNISHED PROPERTY

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

Standard laptops: 2
Developer laptops: 35

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.

4.6   SECURITY AND PRIVACY

All requirements in Section 7.0 of the EHRM Basic PWS apply to this effort.

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 of the BAA executed between OEHRM and Cerner Corporation; and shall comply with VA Directive 6066 and VHA Handbook 1605.05.

4.6.1 POSITION/TASK RISK DESIGNATION LEVEL(S)

The position sensitivity and the level of background investigation commensurate with the required level of access for all PWS tasks is Tier3/Non-Critical Sensitive in accordance with Section 8.6 of the EHRM Basic PWS.

The Tier3/Non-Critical Sensitive 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.

5.0   SPECIFIC TASKS AND DELIVERABLES

The Contractor shall perform the following:

5.1   PROJECT MANAGEMENT

5.1.1 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 TO. 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 of the TO. The Contractor shall update and maintain the VA Program Manager (PM) approved CPMP throughout the PoP.

The CPMP timeline and schedule shall include Cerner as well as VA dependencies for data migration and interface development.

 Deliverable:
> A. Contractor Project Management Plan

5.1.2 REPORTING REQUIREMENTS

The Contractor shall provide a Monthly Progress Report in accordance with Section 9.6.1.1 of the EHRM Basic PWS.

Deliverable:
> A. Monthly Progress Report

5.1.3 TECHNICAL KICKOFF MEETING

The Contractor shall hold a technical kickoff meeting within 10 days after TO 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 calendar days prior to the meeting), and meeting minutes (shall be provided to all attendees within three calendar days after the meeting). The Contractor shall invite the Contracting Officer (CO), Contract Specialist (CS), COR, VA PM, VA CTO, and VA CMO, at a minimum.

5.1.4 COORDINATION WITH EHRM IOC DEPLOYMENT TEAM

The Contractor shall coordinate scheduling and go-live activities with the EHRM IOC deployment team to ensure all stakeholders are informed of risks, timelines, and go-live tasks required. The Contractor shall provide monthly status updates focused on IOC deployment go-live activities to ensure effective communication between the relevant task order teams.

5.2 DATA MIGRATION

The Contractor shall execute the IOC Data Migrations defined in the Data Migration Plan developed under PWS paragraph 5.4.2 of the EHRM Project Management, Planning, Strategy and Pre-IOC TO. The Data Migration Plan is updated monthly by

the Contractor as required by the PM Task Order. Additional data migrations added to the plan throughout the PoP of this TO may be coordinated with VA using Optional Task 5.6 below.

5.2.1 DATA MIGRATION ANALYSIS

The Contractor shall create Detailed Data Migration Requirements for implementation of the data migrations identified in the Data Migration Plan developed in TO1. The Contractor shall reference Attachment A: VA Data Migration Plan. This is a living plan that reflects joint VA/Cerner data migration and synchronization strategies and architectures.

Data migration requirements identified in the TO1 Data Migration Plan may include items such as:

Enterprise Migrations:
   a. VistA clinical data (initially 15 data domains into HealtheIntent (HeI))

Local Migrations for the IOC Sites:
   a. Data migration of clinical domains from HeI to Millennium
   b. VistA Imaging diagnostic and non-diagnostic images into Cerner's Vendor Neutral Archive (VNA) including support for the transition to the EHRM VNA for imaging:

      a. DICOM and non-DICOM images and image artifacts from each VISN or site VistA Imaging storage system into the EHRM VNA prior to the time of deployment of each VISN or site.
      b. Availability of EHRM generated images for viewing at VistA sites via industry standard integration with Central VistA Imaging Exchange.
   c. Specialty images migrated from other sources

Other Potential Migrations:
   a. Revenue cycle
   b. 50 long term care facilities currently running on Cerner
   c. Dental Data
   d. Other data migrations required to support specialty functions: (e.g., Inbound eRx hub reject analytical data that may need to be available in HeI)
   e. Other VistA clinical domains (beyond 15 initial domains)
   f. Other data sources from VA and external to VA (e.g. CMS Medicare data)
   g. Analysis of imaging migration requirements, and assessment of the lifecycle and totality of images that need to be transferred.

For each data migration the Contractor shall:

a. Perform data requirements management and analysis to include working with VA to define data use cases; requirements for data integrity, data quality/validation, performance, sustainability;

b. Refine the overall Data Migration Plan developed in TO1 for each migration to create Detailed Data Migration Requirements Documentation including:

  1. System Design Document
  2. Interface Control Document (ICD) of Vx130 Cache to HeI data for bulk loads and maintenance feeds
  3. Data Architectures, to include identifying the data that will be migrated from HeI to Millennium and ICD for HeI to Millennium data ingestion.
  4. Interface Control Document for VX130 data store and maintenance feeds into HeI data ingestion to support data validation activities

  5. Interface Control Document for HeI into Millennium data ingestion to support data validation activities

c. Analyze performance engineering requirements to determine network load, and infrastructure resources required to handle each data migration

d. Develop and manage the System Design Document (SDD).

Deliverable:

    A. Data Migration Document

5.2.2 DATA TRANSFORMATION AND TERMINOLOGY MAPPING

The Contractor shall perform data transformation and terminology mapping for the data domains to be migrated into HeI.

a. The Contractor shall analyze the VA-provided format of the raw data feed from VistA through the VX-130 process to the VX130 data store to create data transformations into the internal HeI data model. The Contractor shall analyze and document any data transformations occurring between HeI and Millennium. These transformations shall be documented in a Data Transformation Document provided to VA for approval before final implementation.

b. For those domains that included coded terminology data that needs normalization, the Contractor will map the VA-provided codes into the standards used in HeI. When the source data includes VA proprietary or non-standard codes the contractor will attempt to map to standards. The recommended mappings will be provided to VA in a Terminology Mapping Report for VA approval before implementation. The Terminology Mapping Report shall include a list of proprietary codes for which there is not enough information in the feed to determine a standard code mapping for VA to recommend a mapping or determine that the item will not be mapped to a standard code.

Deliverables:

    A. Data Transformation Document

    B. Terminology Mapping Report

5.2.3 PROVIDE, CONFIGURE AND MAINTAIN HEALTHEINTENT SOFTWARE SOLUTIONS

The Contractor shall provide initial HeI licenses for 12 months. The Contractor shall provide HeI configuration and support services required for IOC requirements in the RTM and successful execution of TO 004 PWS throughout the PoP of the base and option periods of this TO. The Contractor shall:

    a. Configure, deploy and implement HeI solutions (e.g.HealtheEDW, HealtheRegistries, HealtheDataLab, etc.)

    b. Maintain all necessary HeI solutions

Deliverables:

    A. HealtheIntent License

5.2.4 DATA MIGRATION SYSTEM SUPPORT AND TUNING (Optional Task)

The Contractor shall provide Systems Administration, Storage Administration, Network Administration, Cache Systems Management, Cache Programming, Data Quality Analyst, and Technical Writers to support for and augment the existing Data Migration Team and data migration activities. Systems Administration support shall include implementation and maintenance of the Data Migration systems at both the VA (Austin) and Cerner (Kansas City) locations. Storage Administration support shall include storage setup, maintenance, and tuning to assure optimal performance of the storage subsystem. Network Administration support shall include support and tuning of the network subsystem to assure optimal performance and cybersecurity conformance. Cache Systems Management shall include maintenance and support of the VISTA Cache Shadows. Cache Programming support shall include data domain buildout and maintenance of the VX-130 system and subsystems. Data Quality Analyst shall include monitoring data quality from Vista to Vista Shadow to VX-130. Technical Writers shall include creating key documents and diagrams for the VX-130 process and implementation.

The Contractor shall document status, risks and issues in the Monthly Progress Report.

Deliverables:

    A. Data Migration System Support and Tuning

5.2.5 DATA MIGRATION DEVELOPMENT, TESTING, AND DEPLOYMENT

The Contractor shall make all necessary configuration changes to HeI, Millennium, Cerner's VNA, and VA systems to support data migration. The Contractor shall process the incoming data load provided by the VA as defined by the ICDs, including any required transformation and normalization. The Contractor shall work with the VA to coordinate data migration testing and deployment. The Contractor shall develop initial data migration load routines as well as recurrent routines to refresh migrated data. The Contractor shall validate the quantity and content of each data domain migrated to the feed provided by the VA with appropriate transformation and normalization applied.

The Contractor shall:
   a. Provide the encrypted portable storage required to transport data from VA as required.
   b. Provide security appropriate for transfer of data from VA to Cerner.
   c. Develop a Data Migration Test Plan and approach tailored to each migration to be addressed within the scope of this TO. The Data Migration Test Plan shall be integrated into the overall Contractor Master Test Plan with input and concurrence from the VA EHRM Test Lead.
   d. Develop Testing Artifacts such as test scenarios, test cases, test data and test results to execute and report on data migration testing activities. Work with VA Test & Evaluation to define methodology to test the integrity of each data migration including the transformations from VA to HeI and methodology to test the integrity of data migration from HeI to Millennium.
   e. Provide support for execution of VA Test & Evaluation, acceptance and data integrity and validation testing including defect/issue process, assistance in troubleshooting/triaging, jointly troubleshooting issues, and responding to findings from test activities.
   f. Conduct system performance monitoring to ensure scalability, reliability and availability of the data architecture. The goal is assessing performance of the migration activity from the VA boundary to HeI.
   g. Execute data migration into both non-production (Millennium, only) and production environment
   h. Test and validate data migration in both non-production (Millennium, only) and production environment.
   i. Develop the Data Migration Deployment Guide Including back-out and rollback procedures.

For IOC sites, the Contractor shall conduct a Pre-Go-Live Review with data migration stakeholders outlining the enterprise-wide and site-specific data migration pre-deployment activities, and the tasks, responsibilities and support required from VA during go-live and in accordance with the VA-approved Deployment Plan. The site-

specific data migration pre-deployment activities will align with the VA-approved Deployment Plan. Following the Review, the Contractor shall obtain official VA Go-Live Authorization by obtaining approvals from the key stakeholders including:
  a. VA Test Lead
  b. Site Clinical Lead – for site-specific data migrations
  c. Enterprise Clinical Lead – for enterprise data migrations

Upon successful migration of the initial data load, the Contractor shall support an ongoing data ingestion to refresh data to HealtheIntent. Additionally, the Contractor shall maintain an ongoing data feed of syndicated data back to VA CDW. Data feeds and ingestions should be near real-time and in no case to exceed a four-hour lag.

Deliverables:
  A. Data Migration Testing update to the Contract Master Test Plan
  B. Testing Artifacts
  C. Data Migration Deployment Guide

5.2.6 DATA SHARING ENVIRONMENT

The Contractor shall develop a VA-DoD Data Sharing Environment Strategy Document. The sharing environment would provide data exchange space for both VA and DoD on a Cerner platform and enable access over the joint MedCOI network. File types to be exchanged would include text files and database backups.

Deliverables:
  A. VA-DoD Data Sharing Environment Strategy Document

5.2.7 DATA MIGRATION REQUIREMENTS ANALYSIS

The Contractor shall analyze requirements for additional migrations required in support of deployment. Data migration analysis topics will include such items as:

  a. scanned documents
  b. dental data
  c. syndication
  d. utilization of migrated data including multimedia not identified for use by existing Millennium workflows
  e. vet centers
  f. telehealth
  g. data migration and integration of Patient Generated Data (PGD)/Helix/Genomic data from Connected Health/Mobile Application Environment (MAE)
  h. migrations supporting registries
  i. migrations supporting reports

j. additional HealtheIntent data sources (such as Claims, Data Access Service (DAS), Patient Generated Data (PGD), MyHealtheVet, etc.)
k. imaging
    i. local deployment site imaging
    ii. dental
    iii. ECG
    iv. Opthalmology

Requirements analysis shall provide Requirements Definition Documentation in detail sufficient to support execution of each additional migration as required in optional task 5.6 or in future task orders. As requirements are fine-tuned and scoped, VA will determine the timing and feasibility of initiating execution. The Contractor shall include execution plans in the Requirements Definition Documentation for those items identified for implementation.

Deliverable:

    A. Data Migration Requirements Definition Documentation

5.2.8 TRANSFER OF VA DATA (OPTIONAL TASK)

The Contractor shall support and provide the physical transfer of VA data, via portable encryption devices ("CPEDs"), from VA facility to Cerner Data Center. The Contractor shall:

a. Provide portable encryption devices sufficient to accommodate VistA enterprise data transfer as well as imaging transfer required in support of IOC.
b. Configure devices to receive data transfer.
c. Secure physical transport of CPEDs from specific VA location/Data Center to Cerner Data Center(s).
d. Transfer data from CPEDs to Cerner Data Center environment.
e. Provide Cerner secured storage of CPED devices for future VA use under this program.
f. The CPEDs will be used for both Structured, Unstructured, and Image data migrations. For each migration, the CPEDs will be wiped clean and reused. Once the various migrations take place, and at the agreement and direction of the EHRM Program, the media will be disposed of per requirements in NIST 800-88, or current standard.

5.3   REGISTRIES

5.3.1 REQUIREMENTS REFINEMENT FOR COMMERCIALLY-AVAILABLE REGISTRIES FOR IOC

The Contractor shall create a Detailed Registry Plan, Requirements and Timeline document for implementation of the Contractor's commercially available registries selected by the VA for IOC. The commercially available registries shall be identified in the TO1 Data Migration Plan and approved by VA. The Data Migration Plan is updated monthly by the Contractor as required by the PM Task Order. Additional registry requirements added to the plan throughout the PoP of this TO may be approved with VA using Optional Task 5.6 below.

Registry requirements identified in TO1 may include items such as**:**

Cerner Standard Commercially Available Registries Applicable to VA:

The Contractor shall provide standard commercially available registries applicable to VA from the current Cerner listing which includes: asthma, atrial fibrillation, back pain, chronic kidney disease, chronic obstructed pulmonary disease (COPD),depression, diabetes, heart failure, hyperlipidemia, hypertension, ischemic vascular disease (IVD) and coronary artery disease (CAD), pediatric asthma, pediatric cardiomyopathy, pediatric diabetes, pediatric epilepsy, rheumatoid arthritis, adult wellness, Maternity Wellness, pediatric wellness, and senior wellness. For each Cerner standard commercially available registry included in the Data Migration Plan, the Contractor shall provide the VA access to the commercial registry requirements. The Contractor shall work with VA to document and complete prerequisites, establish a validation strategy, and establish an implementation timeline. Items shall be documented in a Detailed Registry Migration Plan, Requirements and Timeline document. Upon concurrence by VA, the plan shall be implemented to provide VA access to commercial registries for IOC.

Deliverable:
      A. Detailed Registry Migration Plan, Requirements and Timeline Document
      B. Access to Commercial registries for IOC

5.3.2 REGISTRY REQUIREMENTS ANALYSIS

The Contractor shall analyze requirements for additional registries required in support of deployment. Registry analysis topics will include such items as:

      a. VA enterprise registries
      b. Local registries

Requirements analysis shall provide Requirements Definition Documentation in detail sufficient to support execution of each additional registry as required in future task orders. As requirements are fine-tuned and scoped, VA will determine the timing and feasibility of initiating execution. The Contractor shall include execution plans in the Requirements Definition Documentation for those items identified for implementation.

Deliverable:

A. Registry Requirements Definition Documentation

5.4   REPORTS

5.4.1 REQUIREMENTS REFINEMENT FOR COMMERCIALLY-AVAILABLE REPORTS FOR IOC

The Contractor shall create a Detailed Reporting Migration Plan, Requirements and Timeline for implementation of the IOC reporting components of the TO1 Data Migration Plan in coordination with VA. The Data Migration Plan is updated monthly by the Contractor as required by the PM Task Order. Additional report requirements added to the plan throughout the PoP of this TO may be approved with VA using Optional Task 5.6 below.

Reporting requirements identified in TO1 may include items such as**:**

Cerner Standard Commercially Available Reports Applicable to VA:

For each Cerner standard commercially, available report included in the Data Migration Plan for IOC, the Contractor shall work with VA to document and complete prerequisites for report deployment and identify data requirements which includes data collection in source systems. The Contractor shall:

a.   Provide standard commercially available reports supporting the commercial registries included in IOC.
b.   Provide standard commercially available analytics content packages (Practice Management, Readmissions, and Population Discovery) and localization of the reports within those packages as coordinated with VA in the Data Migration Plan for IOC.
c.   Enable HeI reporting capabilities (e.g. Tableau, BusinessObjects) for the IOC site; provide training for VA on reporting tools for the IOC staff.

Deliverable:
A.   Commercially available reports
B.   Reporting tool training plan and schedule

5.4.2 REPORT REQUIREMENTS ANALYSIS

The Contractor shall analyze requirements for additional reports required in support of deployment. Report analysis topics will include such items as:

     a. Commercial reports
     b. VA enterprise reports
     c. VA local reports

Requirements analysis shall provide Requirements Definition Documentation in detail sufficient to support execution of each additional report as required in future task orders. As requirements are fine-tuned and scoped, VA will determine the timing and feasibility of initiating execution. The Contractor shall include execution plans in the Requirements Definition Documentation for those items identified for implementation.

Deliverable:

     A. Report Requirements Definition Documentation

5.5 INTERFACE PLANNING, DEVELOPMENT, TESTING, AND DEPLOYMENT

The Contractor shall execute the EHRM and VA System Integration Plan (Integration Plan) developed under PWS paragraph 5.4.3 of the EHRM Project Management, Planning, Strategy and Pre-IOC Build (PM) Task Order. The Integration Plan is updated monthly by the Contractor as required by the PM Task Order. Additional integrations added to the plan throughout the PoP of this TO may be approved with VA using Optional Task 5.6 below. The Contractor shall adhere to the VA VIP for Major Programs - Interface Development Guide for all interface development activities and deliverables.

The Contractor shall utilize VA-approved toolsets and repositories for managing project execution details and for the management, storage and delivery of all project artifacts for interface work executed by Cerner on VA side legacy systems and for overall EHRM requirements management, using approved VIP templates as defined in VA VIP for Major Programs – Interface Development Guide.

If the toolsets/repositories required by VA change during the PoP of this project, VA will provide Contractor access to the updated toolsets/repositories and the Contractor shall utilize the updated toolsets/repositories for management, storage and delivery of project artifacts. Artifact migration to a new toolset throughout the PoP of this TO may be coordinated with VA using Optional Task 5.6 below.

5.5.1 INTERFACE PLANNING REFINEMENT AND ANALYSIS
The Contractor shall refine the high level interface requirements identified in the Integration Plan developed in TO1 to provide detailed requirements for each interface to

be developed in a Detailed Interface Requirements Document. The Contractor shall provide an Interface Development Schedule including interface design, development, testing, configuration, and deployment tasks and timelines to VA for review and approval. Interface development requirements identified in TO1 may include items such as:

a. **Updating / Replacing/ Creating Interfaces from Cerner to VistA or other VA-owned applications, external or internal support systems:** VistA interfaces including but not limited to: audiology systems, eligibility and enrollment, fugitive/felon program (FFP), homeless program, identity, labs, logistics and supply management, nutrition, occupational health, pharmacy, quality and safety, referrals, scheduling, reporting and registries, telehealth, time and attendance, travel, user provisioning, revenue cycle, medical records, radiology, oncology, and all other relevant VA-owned system integration points identified in concert with VA. These interfaces include **CMOPs:** batch processes in Millennium (via configurable timing) to release prescription dispense transactions to CMOPs. The Contractor shall construct these transactions to conform to appropriate HL7 message formats. The Contractor shall enable bi-directional communications that enable filling status updates to be pushed to Millennium and to enable a workflow for resolution of rejections by CMOP.

b. **Commercial Systems Integration:** technical support to VA and appropriate VA Contractors for integrations of EHRM with commercial software systems (e.g., commercial radiology systems, commercial PACS), point of care devices, Laboratory robotic lines).

c. **Community Care:** clinical information exchange with community care partners leveraging the Health Information Exchanges (HIE) and collaborative organization solutions, including CommonWell, CareQuality and eHealth Exchange.

d. **Medical Devices:** interfaces for various classes of medical devices and associated systems. For example, audiology devices including Quality Audiology and Speech Analysis and Reporting (QUASAR), picture archiving and communication systems (PACS), radiology devices, and others. Interface development may be required for non-approved medical devices. For such devices, the Contractor shall work with the VA to obtain approval for the device through the Contractor's standard medical device certification process, which may include necessary remediation of issues to support a successful integration, prior to commencing interface development activities.

e. **Mobile Apps/Mobile Devices:** analyze interface requirements for various classes of mobile applications and devices to include mobile electronic documentation, mobile scheduling, and other applications and mobile devices to support integration capability with EHRM interfaces. This may include exposing API endpoints on the appropriate Cerner systems, as well as potential changes

of VA mobile apps if needed to take advantage of the endpoints and/or providing support to VA mobile apps sustainment teams, if needed, to assist in utilizing EHRM interface endpoints.

    f.   All information exchange related to a referral will maintain the unique referral identifier. The unique identifier will be included in the C-CDA and/or other location as designated by the government in compliance with the standards associated with the exchange

As part of Interface planning and analysis, the Contractor shall review and validate the Detailed Interface Requirements Document prior to the start of each new development. The Contractor shall work with VA to validate the detailed requirements. The Contractor shall maintain the project backlog, continuously, for each interface development, in every release and throughout the life of the period of performance. The Contractor shall provide:

a. Interface Planning sessions, facilitated by the Contractor, that outline the intent of the build. The Contractor shall update the resulting Detailed Interface Requirements Document
b. Identification of the requirements to be completed within the interface development cycle, the agreement of acceptance criteria of the interface, and readiness to begin development.
c. Success criteria for the features within the interface development in coordination with VA.

The Detailed Interface Control Document shall include:
a. Interface Data Requirements
b. Required changes in user interfaces, including wireframes, if applicable
c. Required modifications to VA systems, if any
d. Success Criteria
e. Identified Dependencies

Deliverables

A. Detailed Interface Control Document
B. Interface Development Schedule

5.5.2 INTERFACE DESIGN, DEVELOPMENT, TESTING, AND DEPLOYMENT

The Contractor shall design, develop, test, and deploy enterprise and local IOC site interfaces using repeatable, agile software and system engineering processes. Enterprise and local interfaces are expected to be added and deleted over time to reflect evolving VA and federal reporting requirements. The Contractor shall adjust interface development activities accordingly.

The Contractor shall:

a. Ensure any locally developed or externally created engineering artifacts are provided to the VA in a timely manner.

b. Ensure all source code for changes to the VA system(s) is posted to the VA-approved repository.

c. Coordinate with all integration stakeholders (i.e., source system owners, EHRM program architects, etc.) to identify and/or establish appropriate governance inclusive of a formal configuration/change control board (CCB). Through this governance venue the Contractor shall perform planning for each integration to include coordinating with source system owners to determine optimal integration timelines and to establish any required service level agreements, connection agreements, etc.

d. Produce all required engineering and engineering management artifacts in support of each integration effort (e.g., interface control documents (ICDs), system design documents (SDDs), etc.). These artifacts shall adhere to published VA document format and content standards and comply to Section 508 requirements.

e. The Contractor shall provide test execution as outlined in the Contractor Master Test Plan and support additional testing methods required to meet VA criteria.

f. Provide support for execution of VA Test & Evaluation (TE) testing including defect/issue process, assistance in troubleshooting/triaging, jointly troubleshooting issues that appear to be non-production environment related and responding to findings from test activities and provide artifacts to VA EHRM TE outlined in the TE Project Plan including but not limited to interface control documents, test scripts, and test cases.

g. Provide Software Code Quality Checking scans of new code for non-Cerner, VA systems to meet VA requirements. The Contractor shall provide the scanning results reports for each SCQC tools used such as HPE Fortify, WebInspect, Sonar Cube, Findbugs, Dependency Check (OWASP), CAST, or tools of equivalent functionality used by the Contractor within their SCQC program. Remediation Plans documenting the remediation plan of action for critical and high-severity findings shall be provided. The Contractor shall support the security, accessibility, performance, technical standards, architectural compliance, user acceptance and initial operational capability tests, audits, and reviews. Security scanning is done by multiple methods and is done multiple times throughout the course of a project with methods such as infiltration testing (WASA), code analysis tools (Fortify), etc.

Across all integration efforts, the Contractor shall perform a set of common activities to include: 1) conducting a detailed assessment of the technical requirements, 2) identifying standard and/or specialized security and privacy requirements, 3) analyzing

and characterizing data interchange requirements and, 4) monitoring performance and scalability goals.

The Contractor shall modify VA legacy systems as required to integrate with EHRM provided that VA will collaborate with the Contractor to share knowledge of the VA legacy systems to integrate with EHRM. In addition, the Contractor shall provide technical expertise to VA and its Contractors to support integration with EHRM Commercial software as required. Note that site-specific system interface and legacy system modification may be required as site review requirements are identified. VA will provide access to VA's enterprise InterSystems HealthShare licenses, and any other VA-required middleware, as needed, for development of EHRM/VistA interfaces.

The Contractor shall provide interface testing. Tests include steps for nominal and off-nominal interface conditions, minimum and maximum data content, and error handling as outlined in the respective ICD. Data will be verified on each end of the interface to confirm that the correct data is transmitted from EHRM and the data received by EHRM is stored and displayed correctly as part of contractor testing. Data verification will be automated wherever possible. Finally, the Contractor shall provide VA the ability to audit interface traffic that occurs during the execution of a test case provided the request provides sufficient notice for audit setup.

For any new code or code modifications to VA systems by the Contractor, the Contractor shall provide the software build/package including source code and required documentation for release within VA and use the VA approved tool/software code repository.

For such modifications to VA legacy systems, the Contractor shall create, maintain, and provide supporting VIP technical documentation including:
    a. Interface Design Documentation:
        1) System block diagrams
        2) Allocation analysis
        3) External interface block diagrams
        4) Interface block diagrams
    b. Interface definition documentation
    c. Interface requirements specifications:
        1) Interface Requirements Document (IRD)
        2) Requirements Traceability Matrix (RTM)
    d. Interface architecture artifacts:
        1) Information Exchange Matrix (IEM)
        2) Interface Control Document (ICD)
        3) Software Design Document
        4) Operational/System/Data and Information Viewpoint (OV/SV/DIV) models;
    e. Interface Testing:
        a. Test scenarios
        b. RTM updated with test results

      c. Final test report
- f. System Testing for modifications to VA Legacy systems
    - a. Test scenarios
    - b. RTM updated with test results
    - c. Final test report
- g. Release Checklist and related release documentation
- h. Interface scripts or code shall be versioned, associated with a Release, and documented in Version Description Documents

To the extent applicable, the Contractor shall provide non-commercial and Open Source Software (OSS) source code to support the configuration, integration, custom development, test, software management, training, deployment, and end-user usage of custom developed components of EHRM.

For the IOC sites, the Contractor shall conduct a Pre-Go-Live Review with interface stakeholders outlining the enterprise-wide and site-specific interface pre-deployment activities, and the tasks, responsibilities and support required from VA during go-live and in accordance with the VA-approved Deployment Plan. The site-specific interface pre-deployment activities will align with the VA-approved Deployment Plan. Following the Review, the Contractor shall obtain official VA Go-Live Authorization by obtaining approvals from the key stakeholders including:

      a) VA Test Lead
      b) Site Clinical Lead – for site-specific interfaces
      c) Enterprise Clinical Lead – for enterprise interfaces

Upon completion of the first product build release and each subsequent release the Contractor shall provide sustainment, defect management support and coordination throughout the PoP of this TO. Continued support of all interface code developed will be required in following Sustainment TOs.

Deliverables:

- A. VA VIP for Major Programs – Interface Development Guide Technical Documentation
- B. Testing Artifacts

5.5.3 INTERFACE REQUIREMENTS ANALYSIS

The Contractor shall analyze requirements for additional interfaces required in support of deployment. Interface analysis topics will include such items as:

      a. Development work outside the Cerner system boundary in support of interfaces touching VA-owned systems including attendant VA system

> modification (Consolidated Mail Outpatient Pharmacy (CMOP),
> Laboratory Electronic Data Interchange (LEDI), etc.)
>
> b. Enterprise interfaces requiring additional detail
> c. Local interfaces
> d. Integration with MAE / clarification of interface vs. API endpoint approaches

Requirements analysis shall provide Requirements Definition Documentation in detail sufficient to support execution of each additional interface as required in future task orders. As requirements are fine-tuned and scoped, VA will determine the timing and feasibility of initiating execution. The Contractor shall include execution plans in the Requirements Definition Documentation for those items identified for implementation.

Deliverable:

A. Interface Requirements Definition Documentation

5.6   ADDITIONAL TECHNICAL SUPPORT (OPTIONAL TASK)

Throughout the PoP, there may be additional data migrations, registries, reports, or interfaces identified requiring analysis, design, development, testing, release and/or deployment. This additional technical support may be required within the overall PWS PoP to include the base and option period. This optional task may be exercised multiple times during the base and option period up to the established CLIN ceiling.

VA may exercise the optional task upon written notification from the Contracting Officer. This option may be utilized to obtain tasks as described in PWS sections 5.2 through 5.5. VA will provide a description of the required functionality. The Contractor shall provide VA with a written proposal detailing the requirements, approach, resources and price utilizing the negotiated ID/IQ labor categories and rates from. VA will perform an analysis to determine if the approach and technical and price proposed are reasonable. The price for each optional task shall be negotiated on a FFP basis prior to each exercise of the optional task.

5.7   HEALTHEINTENT LICENSE RENEWAL (OPTIONAL TASK)

The Contractor shall renew licensing for the HeI solutions to support the IOC requirements and successful execution of TO 0004 PWS for a period of 12 months.

5.8   OPTION PERIOD 1

The Contractor shall continue development and sustainment of all ongoing data migration, report, registry and interface tasks above.

The Contractor shall continue HeI data refresh routines as described in PWS task 5.2.4.

6.0   GENERAL REQUIREMENTS

6.1   PERFORMANCE METRICS

The table below defines the Performance Standards and Acceptable Levels of Performance associated with this effort. The Government may also utilize the commercially available and VA-specific Key Performance Indicators (KPIs) and Service Level Agreements (SLAs) defined at the ID/IQ level to measure performance under this TO, as applicable.

Performance Objective	Performance Standard	Acceptable Levels of Performance
A. Technical / Quality of Product or Service	1. Shows understanding of requirements 2. Efficient and effective in meeting requirements 3. Meets technical needs and mission requirements 4. Provides quality services/products 5. Meets performance thresholds/metrics defined in applicable Service Level Agreements	Satisfactory or higher
B. Project Milestones and Schedule	1. Quick response capability 2. Products completed, reviewed, delivered in accordance with the established schedule 3. Notifies customer in advance of potential problems	Satisfactory or higher
C. Price & Staffing	1. Currency of expertise and staffing levels appropriate 2. Personnel possess necessary knowledge, skills and abilities to perform tasks	Satisfactory or higher

Performance Objective	Performance Standard	Acceptable Levels of Performance
D. Management	1. Integration and coordination of all activities to execute effort	Satisfactory or higher

The COR will utilize a QASP throughout the life of the TO to ensure that the Contractor is performing the services required by this PWS in an acceptable level of performance. The Government reserves the right to alter or change the QASP at its own discretion. A Performance Based Service Assessment will be used by the COR in accordance with the QASP to assess Contractor performance.

6.2   SECTION 508 –INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) STANDARDS

All requirements in Sections 8.10, including subparagraphs, of the EHRM Basic PWS apply to this effort. Deliverable requirements are further defined in the following subparagraphs. The Contractor shall comply with the technical standards at: https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh/final-rule/single-file-version

6.2.1 REPRESENTATION OF CONFORMANCE

The Contractor shall provide a Section 508 Subject Matter Expert lead for VA EHRM 508 resources to work with. The Contractor shall adhere to the VA-approved Section 508 Test and Delivery Plan and Section 508 Accessibility Roadmap delivered under TO 0002. The Contractor shall update the Government Product Accessibility Template (GPAT) and/or Voluntary Product Accessibility Template (VPAT) previously delivered to indicate the level of Section 508 conformance as updates are made to its products and/or services to ensure and sustain 508 compliance.

The Contractor shall work closely with VA Section 508 representatives to verify Section 508 conformance of its products and/or services.

6.2.2 ACCEPTANCE AND ACCEPTANCE TESTING

The Contractor shall provide Final Section 508 Compliance Test Results. The Section 508 Test Results shall include a GPAT/VPAT Conformance Statement validating conformance to Section 508 Refresh Success Criteria and Conformance Requirements for already-developed ICT deliverables.

The Final Section 508 Test Results shall be reviewed and approved by VA Section 508 representatives to validate conformance to Section 508 Refresh Success Criteria and Conformance Requirements for ICT deliverables.

For software development for VA interfaces/systems, the Contractor shall prepare and submit a Section 508 Conformance Validation Package with content as outlined in VA Process Asset Library, Software Development Product Build process map.

The Section 508 Conformance Validation Package shall be reviewed and approved by VA Section 508 representatives to validate conformance to Section 508 Refresh Success Criteria and Conformance Requirements for ICT deliverables.

Automated test tools, manual techniques, and checklists are used in the VA Section 508 compliance assessment.

Deliverable:
A. Final Section 508 Compliance Test Results
B. Section 508 Compliance Validation Package

6.3   SHIPMENT OF HARDWARE OR EQUIPMENT

Not applicable.

6.4   ENTERPRISE AND IT FRAMEWORK

Not applicable.

6.5   ORGANIZATIONAL CONFLICT OF INTEREST

All functions related to Acquisition Support shall be on an advisory basis only. Please be advised that since the awardee of this Task Order will provide systems engineering, technical direction, specifications, work statements, and evaluation services, some restrictions on future activities of the awardee may be required in accordance with FAR 9.5 and the clause entitled, Organizational Conflict of Interest, found in Section H of the EHRM basic contract. The Contractor and its employees, as appropriate, shall adhere to the corporate-level Non-Disclosure Agreement signed under TO 0001.

CONTRACTOR EMPLOYEE
PERSONAL FINANCIAL INTEREST/PROTECTION OF SENSITIVE INFORMATION
AGREEMENT

This Agreement refers to Contract/Order _____ entered into
between the Department of Veterans Affairs and _____ (Contractor).

As an employee of the aforementioned Contractor, I understand that in connection with
my involvement in the support of the above-referenced Contract/Order, I may receive or
have access to certain "sensitive information" relating to said Contract/Order, and/or
may be called upon to perform services which could have a potential impact on the
financial interests of other companies, businesses or corporate entities. I hereby agree
that I will not discuss or otherwise disclose (except as may be legally or contractually
required) any such "sensitive information" maintained by the Department of Veterans
Affairs or by others on behalf of the Department of Veterans Affairs, to any person,
including personnel in my own organization, not authorized to receive such information.

"Sensitive information" includes:

> (a) Information provided to the Contractor or the Government that would be
>   competitively useful on current or future related procurements; or

> (b) Is considered source selection information or bid and proposal information as
>   defined in FAR 2.101, and FAR 3.104-4; or

> (c) Contains (1) information about a Contractor's pricing, rates, costs, schedule,
>   or contract performance; or (2) the Government's analysis of that information;
>   or

> (d) Program information relating to current or estimated budgets, schedules or
>   other financial information relating to the program office; or

> (e) Is properly marked as source selection information or any similar markings.

Should "sensitive information" be provided to me under this Contract/Order, I agree not
to discuss or disclose such information with/to any individual not authorized to receive
such information.   If there is any uncertainty as to whether the disclosed information
comprises "sensitive information", I will request my employer to request a determination
in writing from the Department of Veterans Affairs Contracting Officer as to the need to
protect this information from disclosure.

I will promptly notify my employer if, during my participation in the subject
Contract/Order, I am assigned any duties that could affect the interests of a company,
business or corporate entity in which either I, my spouse or minor children, or any
member of my immediate family/household has a personal financial interest. "Financial
interest" is defined as compensation for employment in the form of wages, salaries,

commissions, professional fees, or fees for business referrals, or any financial investments in the business in the form of direct stocks or bond ownership, or partnership interest (excluding non-directed retirement or other mutual fund investments). In the event that, at a later date, I acquire actual knowledge of such an interest or my employer becomes involved in proposing for a solicitation resulting from the work under this Contract/Order, as either an offeror, an advisor to an offeror, or as a Subcontractor to an offeror, I will promptly notify my employer. I understand this may disqualify me from any further involvement with this Contract/Order, as agreed upon between the Department of Veterans Affairs and my company.

Among the possible consequences, I understand that violation of any of the above conditions/requirements may result in my immediate disqualification or termination from working on this Contract/Order pending legal and contractual review.

I further understand and agree that all Confidential, Proprietary and/or Sensitive Information shall be retained, disseminated, released, and destroyed in accordance with the requirements of law and applicable Federal or Department of Veterans Affairs directives, regulations, instructions, policies and guidance.

This Agreement shall be interpreted under and in conformance with the laws of the United States.

I agree to the Terms of this Agreement and certify that I have read and understand the above Agreement. I further certify that the statements made herein are true and correct.

_____
_____
Signature and Date   Company

_____
_____
Printed Name   Phone Number