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

Office of Electronic Health Record Modernization (OEHRM)

EHRM Technical Baseline Design and 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 former Secretary of 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.

Cerner shall provide a comprehensive EHR solution and services as specifically defined in the EHRM Basic contract. Under this task order (TO), Cerner shall provide support by designing and developing VA-specific technical frameworks required for VA to enable successful IOC deployment.

For purposes of this Performance Work Statement (PWS), the VA EHR solution shall 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. In addition, the following document also applies to this TO:

1. Most current version of the document titled, "USVA_DC Forward Deployed Servers.xlsx"

3.0   SCOPE OF WORK

The Contractor shall provide technical baseline analysis, design and development services for the VA EHRM solution. These tasks include:

a. Project Management
b. Adherence to Enterprise Technical Plans and Strategies
c. Technical Training Plans and Materials
d. Requirements Analysis
e. Health Information Exchange (HIE) / Veteran Health Information Exchange (VHIE) Modification

    f.   Forward-deployed Hardware
    g.   VA-Specific Functionality Integration
    h.   Additional Technical Support

3.1 APPLICABILITY

This Task Order (TO) effort PWS is within the scope of paragraph 5.5, "VA Enterprise EHRM Baseline Preparation," 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 three 3-month option periods and three (3) optional tasks.

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 under this effort to support program-related meetings and IOC technical baseline activities throughout the period of performance (PoP). Include all estimated travel costs in your 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.

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

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:

1. 20 of developer-grade laptops

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 personal identity verification (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 Contracting Officer's Representative (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 8.7 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

The Contractor shall provide a single Point of Contact for management of all project tasks, with individual subject matter experts assigned to each individual task. The Contractor shall include a Communications Plan in the CPMP to cover overall and individual POC communications as well as issue escalation procedures.

For each major work element described in this task order, Cerner will provide the following documents as deliverables: requirements, architecture (OV-1, SvcV-1, SV-1), development views, schedule/POAMs, and decision package for EHRM governance approval. Integration and design will not proceed without requirements deliverable to document to OEHRM, and formal ATP.

Cerner will provide formal decision packages to the governance board compliant with the OEHRM Governance and decision process as required, to include:
• EHRM Decision document & Validation of VIP compliance
• Schedule/milestones/ POA&Ms
• Requirements document
• Architecture views as appropriate to support decision document

Contractor shall provide a schedule for milestones and deliverables within 3 weeks of award of task order.

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

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 30 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, and the VA PM.

5.1.4 IOC GO-LIVE COORDINATION

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 TO teams.

5.2 ADHERENCE TO ENTERPRISE TECHNICAL PLANS AND STRATEGIES

As applicable for the requirements in this Task Order, the Contractor shall adhere to the strategies and plans developed under the EHRM Project Management, Planning, Strategy and Pre-IOC Task Order (PM TO1).

    a. PM TO 1 paragraph 5.3.3: EHRM Training Strategy
    b. PM TO 1 paragraph 5.4.1: Architecture Management Plan (includes VistA sunsetting/deprecation)
    c. PM TO 1 paragraph 5.4.4: Identity and Access Management Plan
    d. PM TO 1 paragraph 5.4.5: Application Program Interface (API) Plan
    e. PM TO 1 paragraph 5.4.6: Inventory Management Plan
    f. PM TO 1 paragraph 5.4.8: Technical Requirements Management Plan
    g. PM TO1 paragraph 5.4.9: Configuration Management Plan
    h. PM TO1 paragraph 5.4.10: Master Test Plan
    i. PM TO1 paragraph 5.4.11: Data Management Plan
    j. PM TO1 paragraph 5.4.12: Cybersecurity Management Plan
    k. PM TO1 paragraph 5.4.13: Implementation Management Plan

These Plans and Strategies are updated by the Contractor in accordance with (IAW) Section B.2 of the PM TO. Additional activities added to these Plans and Strategies

throughout the PoP of this TO may be coordinated with VA using Optional Task 5.9 below as required.

The Contractor shall follow the VA VIP process in the development of the following capabilities; specifically, the Contractor shall provide the following VA VIP documents/artifacts as appropriate to each task or provide a rationale as to why these artifacts are not required to support the development and delivery of those perspective capabilities.

• Interface Design Document(s)
• Interface Architecture Artifacts (OV/SV/SvcV/DIV)
• Interface Testing Plan
• Interface Test Scenarios and Contractor Integration and Developmental Test Reports
• Interface scripts/code Version Description Documentation (VDD)

5.3 TECHNICAL TRAINING DELIVERY

The Contractor shall deliver training to the Technology and Integration Office and VA-identified advanced users on the following areas of Cerner architecture:

a. Medical Record Navigation and Functionality – The Contractor shall train VA resources on how to navigate the computerized medical record and articulate basic functionality
b. Data Identification – The Contractor shall train VA resources on how to identify related data and present the data for review by a caregiver
c. Basic Architecture – The Contractor shall train VA resources on how to understand the basic architecture of the Cerner EHRM solution
d. Data Collection – The Contractor shall train VA resources on how to review data collection methods and current trends in electronic clinical medical records. The training shall also include a review of the forms used to clarify terminology
e. Orderables – The Contractor shall train VA resources to be conversant on orderables. The Contractor's training shall yield an understanding of the synonyms associated with different user types (ex. Lanoxin as Digoxin, etc.)
f. Term Definition – The Contractor shall train VA resources on the definitions for alias pools, order types, and order catalogs

The Contractor shall deliver archivable and reusable high-level Reference Guides to allow future VA SME reference.

Deliverable:

A. Reference Guides

5.4   REQUIREMENTS ANALYSIS FOR IOC

The Contractor shall analyze requirements for technical baseline topics required in support of IOC deployment. Requirements analysis shall provide detailed Requirements Definition Documentation; sufficient to support execution of each additional technical baseline topic as required in future TOs. 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. These topics will include such items as:

5.4.1 VIRTUAL CARE

The Contractor shall build on Virtual Care Council discussions and gap analyses to fine-tune the technical approach to Virtual Care requirements for IOC sites to ensure that IOC deployment does not negatively impact existing VA virtual care capabilities. The goal is to ensure that there is no disruption of the user experience or loss of Virtual Care functionality for patients receiving care at IOC facilities or for other VA patients.

Virtual Care is defined as products and services offered by VA, to provide care delivery remotely and to support patients in the management of their own health. These technologies include, Telehealth Store and Forward, Telehealth Home Monitoring, Video Telehealth, VA's patient portal (My HealtheVet), Mobile health applications that connect to VA data systems, Contact /Call Centers, and telehealth in the patient home, in-patient hospital and outpatient clinic.

The Contractor analysis shall, in coordination with VA, include:

a. Identification and analysis of all virtual care capabilities currently in use at IOC sites. Consult with facility, VISN, and enterprise telehealth coordinators to create the inventory of virtual care capabilities, as needed. Identify internal and inter-facility virtual care capabilities that are in use.
b. Building on Clinical Council analyses, create a detailed analysis of Cerner's capability to provide comparable virtual care functionality at IOC go-live and the technical approach to achieving that continuity.
c. Analysis of alternatives to remediate potential gaps in functionality
d. Analysis and identification of data interface, data migration, syndication, interface development, Application Program Interface (API) development or other activities required to continue current levels of virtual care capabilities.
e. Specific detail on the requirements and implementation approach required to provide comparable virtual care capabilities at IOC sites. For example, MyHealtheVet capabilities include, but are not limited to, the following:
    a. Secure messaging – patient communication with primary care teams. Note that some patients at IOC sites will have messages from care teams at non-IOC (i.e. VistA) sites

b. Prescriptions: Functionality to initiate a prescription refill, number of remaining refills, medication information such as dosage, instructions, and expiration dates, images of medications and tracking numbers for medications that are shipped from CMOPs

c. Scheduling and viewing of appointments (including face-to-face, vide and community care). Note that some patients at IOC sites will have appointments at non-IOC sites

d. Blue Button medical record download

e. Patient Self-Entered data to include codified data and free text entered data

f. Analysis of potential for Cerner APIs to enable VA Virtual Care applications to integrate data from Cerner systems into existing VA Virtual Care products and vice versa, allowing Virtual Care products to support both IOC patients and patients whose facilities have not migrated.

g. Determination of which, if any, VA Virtual Care applications could be updated to use the Cerner HealtheIntent data backend for all VA patients at IOC

h. Determination of which, if any, Virtual Care applications could be migrated to Cerner-powered solutions for all VA patients at IOC

i. Determine the required data flow from VA to Cerner and from Cerner to VA to ensure that complete virtual care patient data is viewable across VA and Cerner sites.

Deliverable:

A. Virtual Care Requirements Definition Documentation

5.4.2 VA/CERNER LIVE BI-DIRECTIONAL HELP DESK INTERFACE

The Contractor analysis shall include:

a. Definition of data transfer, timing, and status update requirements between VA and Cerner.

b. Approach to enable ability to reopen help desk tickets and to communicate that information through the bi-directional interface.

c. Requirements definition of development, interfaces, data migration and any other tasks required to synchronize VA and Cerner EHRM help desks.

Note that ticket interface with Cerner may be with current VA ServiceNow help desk system or a future system.

Deliverable:

A. VA/Cerner Live Bi-Directional Help Desk Interface Requirements Definition Documentation

5.4.3 EMPLOYEE HEALTH/OCCUPATIONAL HEALTH

The Contractor analysis shall include:

a. Analysis of functionality and systems supporting employee/occupational health at each IOC site.
b. Requirements definition of tasks, interfaces, data migration, employee registries, identity/access management and other tasks required to replicate existing functionality when VistA support is shut down at IOC.

Deliverable:

A. Employee Health/Occupational Health Requirements Definition Documentation

5.4.4 VETERAN CENTER REQUIREMENTS FOR IOC AND FUTURE DEPLOYMENTS

The Contractor analysis shall include:

a. Analysis of current capabilities
b. Analysis and requirements definition of work required to replace current support systems with EHRM including data migration, interfaces, development, infrastructure upgrades and other items required for a workable solution.
c. Estimate of timelines and costs for replacement
d. Analysis of enterprise deployment strategy vs. VISN by VISN rollout.

Deliverable:

A. Veteran Center Requirements for IOC and Future Deployments Definition Documentation

5.4.5 REVENUE CYCLE REQUIREMENTS FOR IOC SITES

The Contractor analysis shall include:
a. Identification of revenue cycle gaps between VA requirements and Cerner commercial modules.
b. Identification of data interface, syndication, interface development, API development or other activities required to continue current levels of revenue cycle capabilities.
c. A revenue cycle solution plan including a systems engineering view of all Cerner and external components comprising revenue cycle processing at VA. The plan shall include the allocation of revenue cycle work across all involved task orders

including Project Management, Data Migration, Functional Baseline, Technical Baseline, Deployment and future task orders to ensure that all efforts related to revenue cycle are identified in task orders with sufficient time to complete by IOC go-live. The plan shall include identification of a revenue cycle solution manager to monitor all activities from the Cerner side to ensure a complete solution.

d. Proposed timelines and methodologies for resolving each gap including testing and training on any revised activities in advance of IOC go-live.

Deliverable:

A. Revenue Cycle for IOC Requirements Definition Documentation

5.4.6 DATA EXCHANGE WITH FEDERAL, STATE AND LOCAL REGISTRIES

The Contractor analysis shall include:

a. Identification of existing IOC site data exchange requirements with federal state and local registries.
b. Identification of data interface, syndication, interface development, API development or other activities required to continue current levels of data exchange.
c. Proposed timelines and methodologies for addressing each data exchange requirement including testing and training on any revised activities in advance of IOC go-live.

Deliverable:

A. Data Exchange with Federal, State, and Local Registries Requirements Definition Documentation

5.4.7 HISP INTEGRATION

The Contractor analysis shall include:

a. Integration of Cerner's HISP into VA Third Party applications in support of direct messaging capabilities.

Deliverable:

A. HISP Integration Requirements Definition Documentation

5.5   HELP DESK INTERFACE DEVELOPMENT AND TESTING

Upon VA review and approval of Help Desk interface requirements created in task 5.4, the Contractor shall create a real time bi-directional help desk interface solution

between Cerner helpdesk tools and VA's help desk to allow VA help desk operations to interface with Cerner. The help desk interface shall include a detailed process to illustrate an end-to-end tracking of a ticket from initiation to close-out by either party. The help desk interface shall enable and execute a secure, bi-directional ticket establishment, and resolution and reporting process.

The Contractor shall develop and test help desk 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 provide a development schedule for VA approval and follow the VA VIP process in the development of the following capabilities; specifically, the Contractor shall provide the following VA VIP documents/artifacts as appropriate to each task or provide a rationale as to why these artifacts are not required to support the development and delivery of those perspective capabilities.

• Interface Design Document(s)
• Interface Architecture Artifacts (OV/SV/SvcV/DIV)
• Interface Testing Plan
• Interface Test Scenarios and Contractor Integration and Developmental Test Reports
• Interface scripts/code Version Description Documentation (VDD)

The Contractor shall:

a. Ensure any locally developed or externally created engineering artifacts are provided to VA per the agreed upon schedule noted above
b. Ensure all source code for changes to the VA system(s) are 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 help desk integration efforts, the Contractor shall perform a set of common activities to include the following:

a. Conducting a detailed assessment of the technical requirements
b. Identifying standard and/or specialized security and privacy requirements
c. Analyzing and characterizing data interchange requirements
d. Monitoring performance and scalability goals

The Contractor shall obtain permission from VA to modify VA legacy help desk 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. VA will provide access to VA's help desk solutions for development of help desk interfaces, as necessary.

The Contractor shall provide help desk interface testing. Tests shall include the following:

a. Incident Resolved
   i. Create a New Ticket
   ii. Assign a Cerner Ticket
   iii. Add a Cerner Activity
   iv. Add a VA Activity
   v. Change Status to, "In Progress"
   vi. Change Status to, "Pending Client/Action Required"
   vii. Change Priority
   viii. Change (General)
   ix. Resolve the Ticket
b. Delete Ticket
c. Delete/Cancel a Duplicate Ticket
d. Close/Transfer a Ticket

e. Close a Ticket per No Client Response
f. VA/Cerner Closes Ticket
g. Convert to Change Ticket
h. Cancel Incident

Additional test cases shall be identified as needed to provide requirements coverage based on the Help Desk Interface Requirements document and Interface Control Document. The tests shall 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
    i. System block diagrams
    ii. Allocation analysis
    iii. External interface block diagrams
    iv. Interface block diagrams
b. Interface Definition Documentation
c. Interface Requirements Specifications
    i. Interface Requirements Document (IRD)
    ii. Requirements Traceability Matrix (RTM)
d. Interface Architecture Artifacts
    i. Information Exchange Matrix (IEM)
    ii. Interface Control Document (ICD)
    iii. Software Design Document
    iv. Operational/System/Data and Information Viewpoint (OV/SV/DIV) models
e. Interface Testing
    i. Test scenarios
    ii. RTM updated with test results
    iii. Final test report
f. System Testing for modifications to VA Legacy systems
    i. Test scenarios
    ii. RTM updated with test results
    iii. 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

The Contractor shall conduct a Pre-Release Review with help desk interface stakeholders outlining the help desk interface pre-deployment activities, and the tasks, responsibilities and support required from VA before go-live and in accordance with the VA-approved Deployment Plan. The help desk interface-specific pre-deployment activities will align with the VA-approved Deployment Plan.

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 help desk interface code developed will be required in following Operations TOs.

Deliverables:

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

5.6   HIE/VHIE MODIFICATION

The Contractor shall provide a national Health Information Exchange solution to allow providers to query, find, access use and send standards based, consumable Veteran health information so VA providers and community partners have access to complete Veteran health records. The Contractor shall provide a development timeline and milestones for VA review prior to initiation of any development activities.

5.6.1 IOC INTEGRATION

To prepare for IOC, the Contractor shall execute all work required to perform the following by IOC:

a. Integrate the HIE solution with the Master Veteran Index (MVI) for to accurately identify and validate Veteran identities
b. Assess requirements for integration with VistA terminology services, Enrollment System Redesign (ESR), DAS etc. (i.e. other current VHIE legacy interfaces beyond MVI).
c. Solution shall be able to receive Consent Status (Opt-In/Opt-Out) for personal health information sharing (PHI) from a third-party system.
d. The Contractor shall address migrating all external connections so that all external partners are using solution at IOC.

The Contractor shall deploy and host an HIE gateway outside the DoD/VA secure EHR enclave. This HIE component will be utilized for migrating external partner connections

prior to IOC, as well as providing a single connection to the HIE within the government enclave.

The Contractor shall prioritize the ability to process:

VA Initiated (Outbound) Pre-Fetch (i.e. Initiate PD to all Partners Prior to All Scheduled Inpatient/Outpatient Visit):
a. Patient Discovery – 7,048,535/month – 29,369/hour
b. Document Queries – 7,048,535/month (Sequoia Hub should be in place 1 to 1 DQ to PD) – 29,369/hour
c. Documents Retrieved – 2,838,276/month – 11,826/hour

VA Initiated (Outbound) at EHR Patient Lookup (Real- time PD as an Alternative to Prefetch):
a. Patient Discovery – 1,369,155/month – 5,705/hour
b. Document Queries – 984,425/month – 4,102/hour
c. Documents Retrieved – 187,567/month – 782/hour

Partner Initiated Query (Inbound):
a. Patient Discovery – 40,455,052/month – 168,563/hour
b. Document Queries – 4,661,899/month – 19,425/hour
c. Documents Retrieved – 4,661,899/month – 19,425/hour

e. The Contractor shall provide the results of the monthly status demonstrations to VA in a IOC Integration Status Report.
f. Solution shall be able to receive Consolidated Clinical Document Architectures (CDA: CCDA, C32, C62) from a third-party system
g. Provide connectivity to approximately two hundred eHealth Exchange partner, Veteran Data Integration and Federation (VDIF)via point-to-point connections and/ or via the eHealth Exchange Hub.
h. Enable connectivity to Carequality through CommonWell connection at IOC. If VA chooses to connect to Carequality through eHX HUB, Cerner shall make the connection to the eHX HUB and eHealth Exchange HUB will be responsible for connectivity to Carequality."
i. Cerner shall plan to support (out-of-box, not as in-house customization/coding) the CDA document requirements in the CommonWell, Carequality Concise Consolidated CDA: Deploying Encounter Summary CDA Documents with Clinical Notes Implementation Guide dated May 2018 [including, but not limited to, the Section Time Range Observation (2.16.840.1.113883.10.20.22.4.201:2016-06-01)]
j. Assist VA in a policy analysis to assess CommonWell and CareQuality compliance with VA privacy and security requirements
k. Complete an analysis of VA external partner data quality needs and integration with Diameter Health or other data quality tool integration

l. Provide a parsed data viewing option to be embedded in JLV (discrete data domains: meds, problems, allergies, labs, procedures, immunizations, vitals, demographics, consult notes, discharge summaries, progress notes)
m. Provide an aggregated, deduplicated CCDA/CCD combining all external partner data to a third-party data parsing service/solution,
n. Provide a document of the Cerner default deduplication rules applied on each CDA document section for the creation of the aggregated CDA documents in business appropriate language - not code-level, or XSLT type notation (e.g.: For Encounters section, encounters with same "ABC" and same "DEF" will be considered duplicates. Cerner product will select <criteria > as the entry to populate into the aggregated CDA document)
o. Install, configure, and maintain all relevant hardware to enable HIE functionality
p. Provide business access to reporting capabilities for review of transactions, volumes, performance monitoring, business office trouble shooting and real-time monitoring capabilities etc. as defined by VA.
q. Provide auditing for all HIE requests and reporting for disclosure
r. Analysis of CDA storage options before HealtheIntent
s. Honor partner inbound query for document parameters (e.g. CDA date filters, document types, format codes, etc.)
t. Provide access to end to end partner integration and VA systems testing environment (e.g. VDIF to Cerner)

The Contractor shall provide status of all pre-IOC activities in a monthly Pre-IOC Integration Status Report.

Deliverable:

A: Pre-IOC Integration Status Report

5.6.2 INTEGRATION REQUIRED BY IOC

By IOC Go-Live, the Contractor shall complete the following:

a. Connect the HIE to CommonWell, Carequality through CommonWell (or eHX Hub), and Millennium
b. Provide the capability for accurate external HIE Partner Patient Matching and provide to Commonwell
c. Analyze approach to access CommonWell data for VistA users
d. Provide CDA redisclosure disclaimer language accordance with 42CFR-7332 and CUI, "Confidentiality of Certain Medical Records" Language to be determined by VHA Privacy
e. Begin Analysis of strategy for implementation of HL7 standards for discrete data labeling (Data Segmentation for Privacy) for future implementation in accordance with federal policy.
f. Aggregate and deduplicate data from all sources connected to the HIE including Millennium data, Vista and Community Partners as designed by VA

g. Complete analysis and implement template and document types needed to support specific partner use cases to meet needs of SSA, VBA, Walgreens

h. Complete an analysis to replace the VDIF CDA creation functionality with HealtheIntent VistA-migrated data

5.6.3 DIRECT MESSAGING

The Contractor shall provide a direct messaging portal for non-VA providers to send and receive messages to VA providers on VistA or Cerner. The Contractor's direct messaging portal shall initially support at least 50 partner licenses to be identified by VA. The Contractor shall be able to provide direct secure messaging embedded in the EMR by IOC.

Deliverable:
 A. Direct Messaging Portal

5.6.4 OTHER INTEROPERABILITY SOLUTIONS REQUIRED FOR IOC (OPTIONAL TASK)

By IOC, the Contractor shall complete the following interoperability activities to enable the HIE solution:

a. PDMP – WA
   i. The Contractor shall provide access to WA State PDMP data

b. Ignite API Infrastructure
   i. The Contractor shall implement EHR's Open API infrastructure to enable application access to electronic medical record (EMR) data using a standards-based API.
   ii. The Contractor shall provide an analysis of connecting JLV to consume Ignite FHIR APIs for discrete data view of entered Millennium, legacy and partner data to be viewed in existing JLV widgets-

c. Immunization Registry Reporting
   i. The Contractor shall implement connectivity to the State of Washington's Immunization Registry (WAIIA) for Immunization Registry Reporting.

d. Immunization Registry Query
   i. The Contractor shall implement connectivity to the State of Washington's Immunization Registry (WAIIS) for Immunization Registry Query capabilities in order to see and import the State of Washington's Immunization data

e. Interactive Care Plans:

      i.   The Contractor shall complete analysis for Interactive Care Plans at IOC with Community Care, VA clinicians, and Interoperability teams to determine use cases and implementation plans

  f. HUB Orders and Results:
      i.   The Contractor shall complete an analysis with Community Care to determine if business processes will align with solution functionality of HUB Orders and Results. This functionality shall provide VA with the ability to receive orders electronically from community partners and send back results via Health Level-7 (HL7) standards.

  g. Cerner Notify:
      i.   The Contractor shall complete an analysis with Community Care to determine VA IOC use case for notifications to be sent to PCPs in the community when a Veteran is seen at a Millennium converted VA site.
      ii.   Document submission specifications for retail pharmacy

Deliverable:
  A. Community Care Analysis Results

5.7   FORWARD-DEPLOYED HARDWARE

The Contractor shall provide all necessary forward-deployed equipment, software, and peripherals to support the Cerner EHRM solution at each IOC facility. As part of this support, the Contractor shall provide the purchase, shipment, moving services, installation, configuration, management, monitoring, and maintenance of all forward-deployed equipment. The Contractor shall be responsible for shipment of all forward-deployed hardware to the VAMC dock, and internal moving of all forward-deployed hardware from the VAMC dock to the VAMC controlled area. The Contractor shall coordinate shipping and moving events with the Technology and Integration Office (TIO) Deployment Lead or VA designee. The Contractor shall provide maintenance services including warranty and required replacement of equipment. The Contractor shall coordinate with VA-identified POCs for key event notification and resolution. The Contractor shall include a bill of materials of all forward-deployed equipment prior to shipment for VA review and approval. The Contractor shall provide a solution that minimizes the amount of power, space, cooling, floor support, and network connections that are required to be provided by VA. The Contractor shall leverage virtualization technology as much as possible. The Contractor shall work with VA cybersecurity in order to certify the forward deployed hardware with an authority to operate to include provisions for remote contractor management.

The Contractor shall provide:

  a. A detailed Physical and Logical design of the forward-deployed equipment that will remain consistent across all locations

b. A detailed Logistics Management Plan on how equipment will be delivered, where they will be configured, shipped to forward location, and final installation at the forward-deployed location
c. A forward-deployed equipment solution that allows for the separation of both permanent and temporary equipment with minimal disruption
d. A Design and Logistics Management Plan of the temporary equipment that will be shipped and reused at future locations. The Contractor shall provide the packing and shipment of all temporary equipment to all its future locations.
e. The VA-specific LAN network connecting information and requirements back to VA. These requirements shall include Port Channel, Size, Quantity, Cable Type, Connector Type, etc.
f. Specific power configuration needed to support the permanent and temporary equipment in the forward-deployed equipment
g. The ability to adjust configuration to a specific location by providing a partial or augmented design with VA PM approval
h. Fiber and fiber connection into the VA core switch. VA will connect Cerner switches to VA core using Cerner-provided fiber.

Additionally, for IOC, the Contractor shall provide:

a. Two redundant top of the rack mounted switches to support the components in each rack. Cerner should not assume the racks are physically next to each other. Each switch will have a connection to both VA LAN Cores @ 10GbE. VA requires:
   A. 8 ea. X2-10GB-SR
   B. 8 ea. 75' multi-mode fiber w/ SC connectors on the VA side and Cerner to determine the connector that attached to their equipment.
b. The delivery and placement of the populated rack in the Datacenter without damaging the facility (floors, walls, etc.) or data center during the transport and install is Cerner's responsibility. (acceptance of delivery will be in the datacenter)

c. For Spokane:
   1. Server Rack – NEMA 12k rack - GL840N12-2442-SS
   2. PDU APC units AP8632

   3. The plug on the end of the APC AP8632 PUD should be 5-15 30 amp power connections
   4. UPS should not be included in either rack

d. For Seattle:
   1. Do not hard wire for the 10K UPS, VA will provide plug type after award.

Forward deployed hardware requirements incorporated from the Technical Execution Plan include the following:

Cerner will provide specific forward-deployed equipment and software to support the Cerner EHRM solution within each facility data center, to include planning, procurement, configuration, management, monitoring, and maintenance of the forward-deployed equipment specified by VA in the Task Order. Cerner will provide both temporary and permanent equipment.

Physical and Logical Design
Cerner will develop and propose to the VA a physical and logical design of the forward-deployed equipment that will remain consistent in its approach across all locations. While each location will inevitably have varied equipment requirements, space constraints, and network capabilities, Cerner will utilize a consistent model and approach in designing each location's forward deployment equipment placement and configuration.

Cerner will utilize our commercial best practices, including a maximum use of virtualization tools, to develop the proposed detailed Physical and Logical design of the forward-deployed equipment for each location. Based on information available to Cerner at that time, Cerner will model and propose a solution that minimizes the amount of power, space, cooling, floor support, and network connections that are required to be provided by VA for a successful implementation.

Cerner will provide the VA with a questionnaire related to all information needed regarding LAN network connectivity and other specifications. Cerner will review this information with VA points of contact to fully vet the site-based requirements. Based on information provided to Cerner, Cerner will provide the VA-specific LAN network connecting information and requirements for each site back to VA. These requirements will include details such as port channels, size, quantity, cable type, connector type, and other relevant network connecting information and requirements. Cerner will provide specific WAN and bandwidth requirements related to forward-deployed equipment. Cerner will also assess and provide to VA the specific power configuration needed to support the permanent and temporary equipment and will provide to VA the ability to adjust configuration for a specific location by providing a partial or augmented design. Final submittal of the approved design will be no later than 30 days after task order award for the IOC sites. Forward-deployed hardware design will be included in CSR report for waves after the IOC sites.

Logistics Management
Cerner will propose a bill of materials of all forward-deployed equipment for VA to review. Upon VA confirmation, Cerner will purchase the required items and arrange shipment of hardware and other equipment. Prior to shipment at each site, Cerner will provide a final bill of materials of all forward-deployed equipment for VA informational purposes within an agreed upon timeframe. Cerner will coordinate shipment of all forward-deployed hardware with the Technology and Integration Office (TIO) Deployment Lead or VA designee.

Prior to executing the logistical elements of hardware delivery and installation, Cerner will provide VA with a detailed Logistics Management Plan which will identify how equipment will be delivered, where it will be configured, how and when it will be shipped to forward location, and how it will be installed in the forward-deployed location. Equipment placement will be coordinated with the local VAMC.

Cerner will provide both permanent and temporary equipment. Cerner's forward-deployed equipment solution will allow for the separation of permanent and temporary equipment with minimal disruption. Cerner will develop and execute a design and logistics Management Plan of the temporary equipment that will be shipped to and reused at future locations and will execute the packing and shipment of all temporary equipment to future VA locations.

Technology

Cerner will support the following technology as part of this Task Order hardware based on the requirements known at this time. New requirements uncovered during the PoP of this TO will be accommodated upon concurrence by VA using optional task 5.9:

Permanent Technology:
- Cardio Imaging Pre-Processing Servers
- Print Servers
- Equipment Enclosures
- Network Switches
- UPS

Temporary Technology:
- Image Conversion (temporary), including;
    - Diagnostic
    - Documents
    - Non-DICOM Imaging

Maintenance and Operations

Cerner understands its responsibility for providing appropriate warranties for the temporary and permanent equipment. The level of service delivery and the subsequent level of warranty coverage has been established under Task Order 0003; Cerner will provide warranties sufficient to meet the Service Level Agreements (SLAs) set forth under Task Order 0003.

Cerner requires and assumes connectivity to all tools, repositories, and features of the EHRM environment within the Cerner data centers in Kansas City to maintain forward-deployed systems in a manner consistent with and required by the DOD CSSP and Authority to Operate. Additional requirements, planning and/or configuration activities required will be addressed accommodated upon concurrence by VA using optional task 5.9.

EHRM Technical Baseline Design and Development
TAC Number: TAC-19-48787

For the below tables, the following key applies:

- R – Responsible
- A – Accountable
- C – Consulted
- I – Informed

No.	Table 1: Forward-Deployed Technology Development	Cerner Role	VA Role
1.1	Furnish equipment required to support Forward-Deployed Technologies	A/R	I
1.2	Software licensing for Forward-Deployed Technologies, including OS and layered software	A/R	I
1.3	Initial configuration of OS and layered software	A/R	I
1.4	IP Address allocation for forward-sites	C	A/R
1.5	Furnish ports and protocols list for operations and maintenance	A/R	C
1.6	IP routing and access control list maintenance	C	A/R
1.7	Physical space allocation in access and environment-controlled area	I	A/R
1.8	Cooling suitable for equipment being furnished	I	A/R
1.9	Power suitable for equipment being furnished	I	A/R
1.10	Package equipment for shipment	A/R	I
1.11	Ship equipment from Cerner to forward site	A/R	C
1.12	Receiving shipment at forward site	A/R	C
1.13	Physical placement in controlled area	A/R	C
1.14	Provide fiber suitable to connect forward-deployed equipment to VA network infrastructure	A/R	C
1.15	Logical network connection configuration between contractor-provided switches and VA network infrastructure	A/R	C
1.16	Route provided fiber and execute physical network connection between contractor-provided switches and VA network infrastructure	C	A/R
1.17	Power connection to commercial power	C	A/R
1.18	*Final on-site OS and software configuration	A/R	I
1.19	*Patch management	A/R	I
1.20	Suitability of architecture for proposed purpose	A/R	C

Table 1: Forward-Deployed Technology Development

No.	Table 2: Forward-Deployed Technology Maintenance and Monitoring	Cerner Role	VA Role
2.1	*Continuing OS and Software Configuration	A/R	I
2.2	*OS and Software Maintenance	A/R	I

No.	Table 2: Forward-Deployed Technology Maintenance and Monitoring	Cerner Role	VA Role
2.3	*Ongoing provided network equipment configuration and maintenance	A/R	C
2.3	Hardware maintenance, including warranty replacement	A/R	I
2.4	*Patch management	A/R	I
2.5	*Monitoring	A/R	I

Table 2: Forward-Deployed Technology Maintenance and Monitoring

No.	Table 3: Forward-Deployed Conversion Technology Responsibilities	Cerner Role	VA Role
3.1	Removal of forward-deployed conversion technology equipment	A/R	C
3.2	Packaging of equipment	A/R	I
3.3	Shipment of equipment	A/R	I

Table 3: Forward-Deployed Conversion Technology Responsibilities

* Maintenance and management of the system as proposed will leverage existing commercial toolsets and processes for Incident, Change, and Problem Management as outlined in the IDOQ PWS.

Cyber Security
Cerner will coordinate with VA Cyber Security team an assessment of the forward deployed architecture to be included as part of the IOC site ATO. The assessment will be based upon the requirements of the DOD CSSP and ATO requirements. Cerner will work with VA Cyber Security to define a timeline and the applicable security controls related to the forward deployed hardware, solutions, and services, 90 days post contract award based on the finalized design.

Where applicable, the VA will coordinate with the Authorizing Authority of the EHR System ATO to obtain the necessary ATC to connect all solutions hosted on the forward deployed hardware. Cerner will provide all support and technical documentation in these efforts specific to those security controls under Cerner's control.

Onsite Presence (Support)
In order for Cerner to support monitoring, maintenance, and cyber requirements as discussed in the previous subsection, there is a need for onsite support resources to be available to support those activities. The onsite resource would help ensure the forward deployed systems are available for the necessary build events, validation events, migration activities, etc. They will help provide onsite troubleshooting and other activities that may not be possible remotely. The onsite resource will coordinate activities with local and project resources to ensure their activities are visible and provide a weekly report of those activities.

Onsite Presence only applies to the VAMC(s) where Forward-Deployed Hardware is required. These resources would provide onsite support for the forward-deployed hardware from the time servers are deployed and up to 90 days post go-live. These activities are limited to the support of the OS and deployed applications on the forward deployed hardware.

Deliverable:
   A. Forward-Deployed Hardware
   B. Forward Deployed Hardware Plans

5.8   VA-SPECIFIC FUNCTIONALITY INTEGRATION

The Contractor shall develop, integrate, and test VA-specific functionality required prior to IOC. The Contractor shall provide a development schedule for VA approval and follow the VA VIP process in the development of the following capabilities; specifically, the Contractor shall provide VA VIP documents/artifacts as appropriate to each task or provide a rationale as to why these artifacts are not required to support the development and delivery of those capabilities.

The Contractor shall provide an identity management solution incorporating new development work created in this TO as well as interfaces created under other task orders to create a comprehensive, integrated, testable identity management solution. Interfaces included in the solution set to be provided under other task orders include MVI, ESR, Vet360, SSOe and SSOi. Other interface requirements may be identified as development and testing progresses and will be assigned to additional task orders as required. The Contractor IAM solution owner shall monitor and validate that all required elements comprising the solution are identified and included in a development timeline supporting IOC go-live. The Contractor IAM solution owner shall communicate overall solution status, timelines, risks, and issues with VA stakeholders on a regular basis.

5.8.1 IDENTITY AND ACCESS MANAGEMENT

The Contractor shall provide identity management and access management services that include analysis, architecture, engineering, development, testing, implementation, operational support and enhancements as necessary. All testing shall be coordinated with additional EHRM testing teams, the VA Identity and Access Management (IAM) team and DoD teams or components as necessary. All system integrations and Assessment and Authorization (A&A) activities shall be coordinated with the EHR Security Team as well as necessary VA and DoD components. All system implementations or updates must be documented as necessary to support the VIP project management processes as well as any necessary documentation updates for A&A.

The EHR shall provide the ability to produce Audit and Utilization Reports that provide sufficient information to understand the system usage, management of user authorization assignments, and necessary security information. These reports shall include, but are not limited to, the number of unique EHR users, total EHR users, peak usage, unauthorized attempts, unique self-service users, total self-service users, date and time of last authentication, and information related to VIP patients, Roles, Confidentiality Levels and usage, etc.

5.8.1.1 PATIENT IDENTITY MANAGEMENT

The Contractor shall provide identity management for all individuals that have a patient record in the EHR. This includes multiple classes of patients including veterans, active duty DoD personnel, VA employee health consumers, and other private individuals that have different types of associations to VA. The integration of the VA Master Veteran Index (MVI) is covered under a separate Task Order; however, specific Use Cases managing patient identity functionality have been agreed to and fully documented or are in draft state. All Use Cases have been, or are currently being worked in conjunction with Cerner, various groups in VA and DoD DMDC. Each area has a representative identified as having signatory responsibility for Patient Identity Use Case approval. All Use Cases previously agreed to in writing, require re-approval of all signatories (or their designee) to modify. The Contractor shall implement all Approved Patient Identity Use Cases.

The following Use Cases are currently fully approved:

a. Search/Retrieve for Person Initiated by JEHR Use Case
b. Implicit Add Use Case
c. VA Proxy Add (to JEHR) Use Case
d. Updates to Patient Identity from JEHR Use Case
e. Deliver of Person Identity from MVI to DEERS Use Case
f. Deliver of Person Identity from DEERS to MVI Use Case
g. JEHR Add of VA Person to MVI Use Case
h. Notification of Change to JEHR from DEERS on Patients Use Case

The following Use Cases are currently under development and are required for IOC:

a. MVI Toolkit Remote Data View from JEHR Use Case
b. JEHR Supports VHIC Use Case
c. JEHR Supports Entry/Edits of Inpatient Date of Deaths Use Case
d. JEHR Supports Entry/Edits of Non-Inpatient Date of Deaths Use Case
e. JEHR Supports Ability to Remove Date of Death Use Case
f. JEHR Consumes and Displays Date of Death Use Case
g. JEHR Supports Date of Death Activity Checks Use Case
h. Support for Mismatch
i. Support for Unlink
j. Support for Link/Merge

    k. Patient Identity for Imaging

In addition to the Patient Identity Use Cases above, the Contractor shall perform an analysis to develop a contingency solution between HealtheIntent and Millennium related to Patient Identity. During a DMDC downtime, the Contractor's Millennium solution shall be configured to utilize a temporary identifier to add patients. This temporary identifier would not be known to HealtheIntent and could not be utilized to retrieve previous health records. The contingency solution shall ensure during a DMDC downtime event, any VA patient presenting for care with health data existing in HealtheIntent will continue to be known and the previous health information made available to users in Millennium.

Deliverable:

    A. Patient Identity HealtheIntent/Millennium Contingency Analysis

5.8.1.2 INTERNAL USER ACCOUNT MANAGEMENT

5.8.1.2.1 AUTHENTICATION

The Contractor shall provide all activities to support VA end user authentication. The authentication methods shall support VA-approved credentials which include two-factor smart cards, elevated privilege authentication tokens, and VA active directory credentials.

Internal User Authentication methodologies required for IOC implementation are as follows:

    a. Support for VA Single Sign On Internal (SSOi) User Sessions (integration covered under different Task Order)
    b. Direct PKI Authentication - The EHRM solution shall support direct PKI authentication to those applications hosted in Government Core, which are the Citrix-served core EHR applications.
    c. Elevated Privilege (token) Authentication
    d. Re-Authentication or Digital Signature (for use on transactions i.e. Orders)

The Contractor shall:

    a. Create and bind a Cerner user account to VA-approved credentials and VA-approved user identifiers
    b. Implement a solution that support VA approved smart card/PKI and VA approved SSO Federation integration
    c. Ensure users with smart card credentials from both VA and DoD are bound and authenticated to their appropriate Cerner account and corresponding permissions

d. Provide the ability to unbind and re-bind a credential to a user if an error in initial binding is uncovered, or other identified need
e. Provide the ability to maintain user context, patient context and encounter context during an authenticated session.
f. Provide auditing to support tracking of user specific logon, logoff, date/time of last authentication, applications accessed, and transactions enacted during their authenticated session.

The Contractor shall conduct an analysis of the potential VA use of the iAccess/Tap and Go functionality. The analysis shall include the potential use cases, security requirements, workstation requirements and limitations, RFI requirements, smart card usage, hardware requirements, implementation challenges, DoD lessons learned and suggested implementation and associated cost estimate and timeline.

The Contractor shall conduct an analysis of the potential to provide an emergency non-two factor authentication methodology for use when 1) SSOi is unavailable AND 2) the user does not have their VA smart card for use in authentication. The analysis shall include security requirements, implementation challenges, suggested implementation and associated cost estimates and timeline.

Deliverables:

A. iAccess/Tap and Go Analysis
B. Emergency Access Non-Two Factor Analysis

5.8.1.2.2 AUTHORIZATION

The Contractor shall:

a. Implement authorization technology in such a way to ensure the proper credentials are utilized to conduct the proper type of business (i.e. the user is not attempting to use a self-service credential to perform EHR work, or a EHR credential to conduct self-service functionality).
b. Provide the ability to restrict special flagged patient records (VIP; Vet Center; Employee Health, Congressional Mandated Legislation) to only be accessed by designated users. For example, data entered at Vet Centers should be accessible only to authorized Vet Center care providers; with provision for break-the-glass access for designated authorized providers at VAMCs.
c. Provide the ability to restrict the view-ability of portions of the patient record (i.e. Military Sexual Trauma patients) so that only those authorized by role-based access (i.e. Vet Center staff) to view the restricted portions of the record are aware it exists (i.e. not shown as grayed out, not shown in look-ups or lists, etc.).
d. Conduct an analysis of the EHR User Personal Patient Record Restriction. This analysis shall include the ability to restrict any EHR user from the ability to access or modify their own EHR record. The analysis shall include the options

considered, standards followed, implementation suggestion, and associated estimated costs and timelines.

Deliverable:
A. EHR User Personal Patient Record Restriction Analysis

5.8.1.2.3 AUTOMATED PROVISIONING (OPTIONAL TASK)

The Contractor shall provide a manual provisioning process that includes the ability to create, modify, update, delete, and deactivate users and their associated permissions. The process shall also account for the need to update user attributes such as a name change, misspelling, other corrections, etc.

The Contractor shall conduct an analysis of Automated Provisioning that includes the integration with the VA Provisioning System. The analysis shall include the options considered, standards followed, implementation suggestion, and associated estimated costs and timelines. The analysis shall include the ability to receive an automated request for user creation, update, and deactivation, along with user permission assignment, additions, deletions, deactivations, and other corrections. The analysis shall also include the ability to receive automated updates related to user attributes such as name, location, etc. and track all changes to end users and accounts to form an audit trail.

Deliverable:

   A. Automated Provisioning Analysis

5.8.1.3 SELF -SERVICE IDENTITY AND USER MANAGEMENT

The Contractor shall support integration with VA enterprise Single Sign-On External (SSOe) service (covered under different Task Order). In addition to normal self-service use cases, the Contractor's solution shall enable the ability for self-service users to act on behalf of a patient.

The Contractor shall provide a Proxy User Analysis that will include a suggested implementation for VA to provide capabilities to "proxy" self-service users such as Veteran Service Officers (VSO's), powers of attorney, guardians, delegates, etc. The analysis shall include documentation of VA use cases, the tracking of patient to proxy relationship, the number of tools/applications impacted (i.e. Millennium, HealtheIntent, HealtheLife, CommonWell, etc.), options considered for implementation, suggested implementation, and associated costs and timeline. In addition, the analysis shall indicate where joint implementation with DoD is either suggested or mandatory.

Deliverable:

A. Proxy User Analysis

5.8.1.4 NON-PERSON ENTITY ACCESS

The Contractor shall provide non-person entity access including:

a. Non-Person Entity Authentication
    a. The Contractor shall provide a mechanism to authenticate system to system transactions for patient record data. (i.e. FHIR, Clinical APIs, HL7 with bi-mutual PKI authentication).

b. Non-Person Entity Authorization
    a. The Contractor shall provide a mechanism to enforce authorization on system to system transactions for accessing patient record data. The mechanism shall allow for only authorized data (i.e. full, partial, single domain, single element patient record data) to be returned to requesting system.

5.8.2 TESTING OF VA-SPECIFIC FUNCTIONALITY

The Contractor shall:

a. Provide new development testing processes documentation which includes but is not limited to, areas of test design, test traceability, test execution (white box testing, black box testing, regression testing as applicable), and the tools used. For new development that is part of the Generally Available (GA) set of software solutions, VA may request the ability to verify projects to ensure that they are consistent with ISO and FDA certifications.
b. Execute Contractor Master Test and Evaluation Plan conducting the tests and evaluations as described for those products/requirements that are contained within this TO and execute according to the Contractor IP processes the testing for the contractor intellectual property projects required to meet the VA functional and non-functional requirements.
c. Provide support for the VA Test and Evaluation including items such as participation in test and evaluations defects/issues resolution process, assistance in troubleshooting/triaging, jointly troubleshooting issues that appear to be development/test environment related, responding to findings from test & evaluation activities.
d. Conduct system performance testing and monitoring to ensure scalability, reliability and availability of the data architecture. Performance Testing shall be conducted through a Qualification by Similarity (QBS) Report.
e. Test and validate development projects in both non-production and production environments as applicable and as outlined in the Master Test Plan.

f. Schedule iterative IP development progress reviews with VA EHRM to ensure new solution feature development is on track to meet VA unique requirements.
g. Provide integrated (with infrastructure) end-to-end testing.

5.9   ADDITIONAL TECHNICAL SUPPORT (OPTIONAL TASK)

Throughout the PoP, there may be additional technical baseline activities identified requiring forward-deployed hardware, 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 all option periods. This optional task may be exercised multiple times during the base and all option periods up to the established CLIN ceiling.

VA may exercise the optional task upon written notification from the Contracting Officer. This optional task may be utilized to obtain tasks as described in PWS sections 5.2 through 5.8. 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 shall be negotiated on a FFP basis prior to each exercise of the optional task.

5.10   OPTION PERIODS

Per the discretion of VA, an option period may be exercised up to three (3) times to continue the following activities:

a. Section 5.1, "Project Management"
  a. Section 5.1.1
  b. Section 5.1.2
  c. Section 5.1.4

b. Section 5.2, "Adherence of Enterprise Technical Plans and Strategies"

c.   HIE/VHIE connection fees as described in PWS section 5.6.1

d. Sustainment Activities associated with the following:
  a. Section 5.5, "Help Desk Interface Development and Testing"
  b. Section 5.7, "Forward-Deployed Hardware"

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. Staffing	1. Currency of expertise and staffing levels appropriate 2. Personnel possess necessary knowledge, skills and abilities to perform tasks	Satisfactory or higher
D. Invoicing	1. Invoices are current, accurate, and complete	Satisfactory or higher
E. 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 0001. The Contractor shall update the Government Product Accessibility Template (GPAT) and/or Voluntary Product Accessibility Template (VPAT) delivered under TO 0001 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 for ICT Deliverables
   B. Section 508 Compliance Validation Package for ICT Deliverables

6.3   SHIPMENT OF HARDWARE OR EQUIPMENT

Inspection: Destination
Acceptance: Destination
Free on Board (FOB): Destination

Ship To and Mark For:

Primary		Alternate	
Name:		Name:	
Address:		Address:	
Voice:		Voice:	
Email:		Email:	

Special Shipping Instructions:

Prior to shipping, Contractor shall notify Site POCs, by phone followed by email, of all incoming deliveries including line-by-line details for review of requirements. Contractor shall not make any changes to the delivery schedule at the request of Site POC.

Contractors shall coordinate deliveries with Site POCs before shipment of Forward-Deployed hardware to ensure sites have adequate storage space.

All shipments, either single or multiple container deliveries, shall bear the VA IFCAP Purchase Order number on external shipping labels and associated manifests or packing lists. In the case of multiple container deliveries, a statement readable near the VA IFCAP PO number shall indicate total number of containers for the complete shipment (e.g. "Package 1 of 2"), clearly readable on manifests and external shipping labels.

Packing Slips/Labels and Lists shall also include the following:

IFCAP PO #: _____ (e.g., 166-E11234 (the IFCAP PO number is located in block #20 of the SF 1449))
Project Description: (e.g. Tier I Lifecycle Refresh)

Total number of Containers: Package ___ of ___. (e.g., Package <u>1</u> of <u>3</u>)

6.4   ENTERPRISE AND IT FRAMEWORK

The Level of Assurance (LOA) requirement, in reference to the HSPD-12 Identity and Access Management PIV requirements set forth in the second paragraph of Section 8.3 of the EHRM Basic PWS, are LOA-2, LOA-3, and LOA-4 for this specific TO. Due to the various activities in this TO, the Contractor shall seek the appropriate LOA approval from OIS and the VA PM.

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.

6.6   DELIVERABLES

The Contractor shall provide deliverables for Government review and acceptance IAW with Section B.2 of the Task Order. The Contractor shall incorporate Government feedback provided via the OEHRM Deliverables review process into Task Order deliverables as applicable. Feedback shall be incorporated in either the resubmission or next required submission of the deliverable based upon the timeframe in which it is provided by the Government. For Government feedback requiring additional discussion and/or clarification, the Contractor shall coordinate language updates with VA to resolve and finalize revisions to the affected deliverable. The Contractor shall appropriately mark and date deliverables to maintain version control using the following format: TO Number – CLIN Number Formal Deliverable Title – Deliverable Due Date IAW Section B.2– Version X.X. The Contractor shall annotate major (initial submission) and minor (resubmission) deliverable releases using a numerical system (e.g. Initial submission: TO 0001 – 0001AA Contractor Project Management Plan - August 2018 – Version 1.0; Resubmission: TO 0001 – 0001AA Contractor Project Management Plan – August 2018 – Version 1.1). Resubmitted deliverables shall maintain the original due date defined in Section B.2 of the TO. The Contractor shall provide discrete deliverables in separate email submissions. Email submissions shall include the Contract/Task Order numbers and corresponding deliverable CLIN number. The Contractor shall track updates in both major and minor deliverable releases in an agreed upon format, such that the Government can identify and review language revisions for acceptance.

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

Notes to the Contracting Officer

TYPE OF CONTRACT

☒ Firm Fixed Price

SCHEDULE FOR DELIVERABLES

Note: Days used in the table below refer to calendar days unless otherwise stated. Deliverables with due dates falling on a weekend or holiday shall be submitted the following Government work day after the weekend or holiday**.**

Task	Deliverable ID	Deliverable Description
5.1.1	A	**Contractor Project Management Plan** Due 45 days ARO and updated monthly thereafter. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.1.2	A	**Monthly Progress Report** Due 45 days ARO and updated monthly thereafter. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.3	A	**Reference Guides** Due 90 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.1	A	**Virtual Care Requirements Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.2	A	**VA/Cerner Live Bi-Directional Help Desk Interface Requirements Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination

5.4.3	A	**Employee Health/Occupational Health Requirements Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.4	A	**Veteran Center Requirements for IOC and Future Deployments Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.5	A	**Revenue Cycle for IOC Requirements Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.6	A	**Data Exchange with Federal, State, and Local Registries Requirements Definition Documentation** Due 100 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.4.7	A	**HISP Integration Requirements Definition Documentation** Due 120 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.5	A	**VA VIP for Major Programs – Help Desk Interface Development Guide Technical Documentation** Due 180 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.5	B	**Testing Artifacts** Due 270 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination

5.6.1	A	**Pre-IOC Integration Status Report** Due on the 15th day of every month. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.6.3	A	**Direct Messaging Portal** Due 270 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.6.4	A	**Community Care Analysis Results (Optional Task 2)** Due 120 days after option exercise. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.7	A	**Forward-Deployed Hardware** Due 120 days ARO. Electronic submission of list to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.7	B	**Forward Deployed Hardware Plans** Due 30 days ARO. Electronic submission of list to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.8.1.1	A	**Patient Identity HealtheIntent/Millennium Contingency Analysis** Due 60 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.8.1.2.1	A	**iAccess/Tap and Go Analysis** Due 90 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.8.1.2.1	B	**Emergency Access Non-Two Factor Analysis** Due 60 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables.

		Inspection: destination Acceptance: destination
5.8.1.2.2	A	**EHR User Personal Patient Record Restriction Analysis** Due 60 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.8.1.2.3	A	**Automated Provisioning Analysis (Optional Task 3)** Due 120 days after option exercise. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
5.8.1.3	A	**Proxy User Analysis** Due 120 days ARO. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
6.2.2	A	**Final Section 508 Compliance Test Results** Due upon delivery of ICT deliverable. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination
6.2.2	B	**Section 508 Compliance Validation Package** Due upon delivery of ICT deliverable. Electronic submission to: VA PM, COR, CO, CS and OEHRMDeliverables. Inspection: destination Acceptance: destination

POINTS OF CONTACT

VA PROGRAM MANAGER

The VA Program Manager for this effort is:
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CONTRACTING OFFICER'S REPRESENTATIVE (COR)

The Lead COR for this effort is:
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CONTRACTING OFFICER'S REPRESENTATIVE (COR)

The Deputy COR for this effort is:
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Email: Christopher.Clark@va.gov
Phone: 330-541-2568

BUDGET POINT OF CONTACT

The Budget Point of Contact for this effort is:
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