Department of Veterans Affairs

Enterprise Health Management Platform (eHMP)
Increment 2

Requirements Specification Document



October, 2014

Version 1.6

Revision History

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1. Introduction

The Veterans Administration (VA) is developing a new clinical data services engine, called VistA Exchange, as part of the Enterprise Health Management Platform (eHMP) project within VistA Evolution. The eHMP project is a multi-year effort to evolve a modern, service-oriented Enterprise Health Application Platform. This platform includes VistA Exchange, the eHMP Clinical Practice Environment (CPE), as well as clinical knowledge enrichment and decision support services. VistA Exchange is the clinical data services engine, federating clinical data from a variety of VA and DoD sources into an Enterprise Virtual Patient Record (eVPR). The eHMP CPE framework will incorporate capabilities currently provided by JLV and hi2 Health Management Platform (HMP). eHMP CPE will eventually replace the Computerized Patient Record System (CPRS) as VA's primary point of care application. eHMP version 1.1 is the initial product supporting a user interface. By leveraging and integrating elements of the JLV, HMP, and Integrated Electronic Health Record (iEHR) Service-oriented Architecture (SOA)/Enterprise Service Bus (ESB) projects, VA can deliver all required capabilities under the two-part National Defense Authorization Act (NDAA) implementation directive[1], with deployment to production in December, 2014. VA will also fulfill Meaningful Use (MU) Stage 2 requirements in the course of developing NDAA directed Generation 3 health IT capabilities.

1.1. Purpose

This document identifies the product features being delivered in the production releases of the Health Management Platform (HMP) and provides traceability between product features and the business needs documented in the VistA Evolution User Experience Business Requirements Document (BRD), the Health Management Extended Version Business Requirements Document, and the Health Information Exchange Viewer Business Requirements Document. This project will use Agile development techniques to produce next generation Health Information Technology (HIT) prototypes that support the health care team, business stakeholders, veterans and their families. The Agile approach to software development is designed to explore, discover, and implement best practices. eHMP's implementation of Agile methodologies means that detailed project requirements are not defined at the start of a release as is the VA's traditional methodology. Instead, detailed requirements are represented in user stories, authored and developed during each sprint cycle of a release. User stories are delivered throughout the course of a release and are authored in collaboration with the product owners. The eHMP project utilizes the Agile development methodology; in doing so, the specifications gathering process results in the creation of:

- Epics
- Features
- User Stories

In order to efficiently document all of the project's specification processes, artifacts are referenced that serve as a compilation of all Agile stories. At the feature level, acceptance criteria are traceable to the Requirements Traceability Matrix (RTM) referenced in this document. This allows the Requirements Specification Document (RSD) to serve as a living document and route the reader to the appropriate eHMP project specification documentation stories.

1.2. Scope

The eHMP project will introduce expanded capabilities and modernize existing features of the VA VistA EHR system. The eHMP project is a multi-year effort to evolve a modern, service-oriented enterprise Health Application Platform. This platform includes VistA Exchange, the eHMP Clinical Practice Environment (CPE), and specific clinical knowledge enrichment and decision support services. VistA Exchange is the clinical data services engine, federating clinical data from a variety of VA and

[1] 2014 NDAA Sec. 713 (b)

Department of Defense (DoD) sources into an Enterprise Virtual Patient Record (eVPR).The eHMP CPE framework will incorporate capabilities currently provided by the JLV and the hi2 HMP. eHMP CPE will eventually replace the Computerized Patient Record System (CPRS) as VA's primary point of care application. eHMP Services components will span all application layers, including presentation, business and core services, and data access. The eHMP project will produce epics (capabilities) supportive of the VistA 4 Product [see the VistA 4 Product Roadmap] that relate to the core clinical user experience.

The first increment of the eHMP project established an initial User Interface (UI) for the CPE to be connected to VistA Exchange (developed, tested and installed under the UX project). The eHMP UI will include JLV functionality that allows access to DoD data.

1.3. References

The following documents were either used in the creation of this RSD or are referenced to avoid having to maintain identical information in two locations:

- VEPEO_UX_Core BRD
- eHMP System Design Document (SDD) v2.0
- eHMP Prioritized Backlog
- Acceptance Criteria Plan Milestone 1, Increment 1
- Acceptance Criteria Plan, Milestone 1, increment 2
- eHMP Requirements Traceability Matrix
- Health Management Platform_HMP_ExtendedVersion BRD
- DFA-JLV_Milestone 1_Requirements Specification Document
- RequirementsSpecificationDocumentHMPEVv1.2_204152014

2. Overall Description

Web-based modules are being built that will shape the following three platforms:

1. Healthcare team-facing:
    - Browser-based, healthcare-team user-interface modules
    - Workflow driven, role-based activity systems
    - Knowledge-driven, context-based decision support
    - Team-based, multi-patient-care environment
2. Patient-facing:
    - Meaningful patient use, population reach, and value
    - Patient participation in health and healthcare
    - Interoperability of data between the patient and the care teams
3. System-facing:
    - Support of evidence-based care across populations
    - Feedback to clinicians for panel management
    - Population and epidemiology-like studies
    - System performance measures real-time visibility

This project will be considered successful when an authorized user is able to achieve the following: Specifically in VistA:

1. Log in and review a longitudinal view of a patient's record, to include the 14 clinical domains from VA and DoD sources listed below:
    - Laboratory Results
    - Inpatient Medications
    - Outpatient Medications
    - Vitals
    - Demographics/basic information
    - Allergies
    - Radiology Reports
    - Clinical Documentation (Notes)
    - Problem List
    - Anatomic Pathology
    - Discharge Summary
    - Orders
    - Consults
    - Immunizations
2. Use the eHMP Graphic User Interface (GUI) to search for and select a patient in the user's local VistA instance, another local VistA instance, or in the DoD Clinical Data Repository (CDR).
3. Search for a text string in a patient's stored clinical documentation using a particular word, phrase, or string of text.

2.1. Accessibility Specifications

The user interface framework is standards-based and will comply with Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), and it will also comply with Clinical Context Object Workgroup (CCOW) standards. The Veterans Health Administration (VHA) recognizes that these are enterprise, cross-cutting legal requirements for all Electronic and Information Technology (IT) products. To ensure that these requirements are met, they

are addressed through the Enterprise-level requirements maintained by VHA Health IT, Software Engineering and Integration, and Enterprise Requirements Management.

2.2. Business Rules Specification

Business rules are documented in the User Stories.

2.3. Design Constraints Specification

Design Constraints are documented in the System Design Document (SDD), Section 1.7.

2.4. Disaster Recovery Specification

The Disaster Recovery Plan for the planned production environment is managed by the Austin Information Technology Center (AITC), as specified in the SDD.

2.5. Documentation Specifications

All documentation created to support the eHMP project will comply with existing Program Management Accountability System (PMAS) policies and utilize ProPath templates.

Additional document specification elements are listed in the RTM and can be found at:

[redacted]

The Operating Unit maintains supporting system development documentation, including:

a. Software user manuals;

b. In-house application documentation (application requirements, program documentation, specifications, and change control recommendations);

c. All vendor-supplied documentation;

d. Standard operating procedures (SOP);

e. Network diagrams, including the setup of routers and switches;

f. Software and hardware testing procedures and results;

g. System interconnection agreements;

h. Hardware replacement agreements;

i. Vendor maintenance agreements and associated maintenance records.

The specifications will be found within the eHMP Production Operations Manual (POM) which can be found on the eHMP SharePoint site

([redacted]).

2.6. Functional Specifications

The BRD user stories in scope for a given increment are maintained in the RTM and executed according to Scaled Agile Methodology (SAM). Software feature development is guided by Feature Review Board (FRB) decisions and documented in the Rally Application Lifecycle Management (ALM) tool. As additional features are reviewed and approved, they are moved to the backlog for development in subsequent increments.

Figure 2-1 identifies the features that are being developed as part of eHMP Increment 1 and Increment 2. All features are approved by the eHMP Feature Release Board (FRB). Feature details including scope and

acceptance criteria are maintained in Rally and are delivered as part of the Prioritized Agile Backlog contract deliverable.

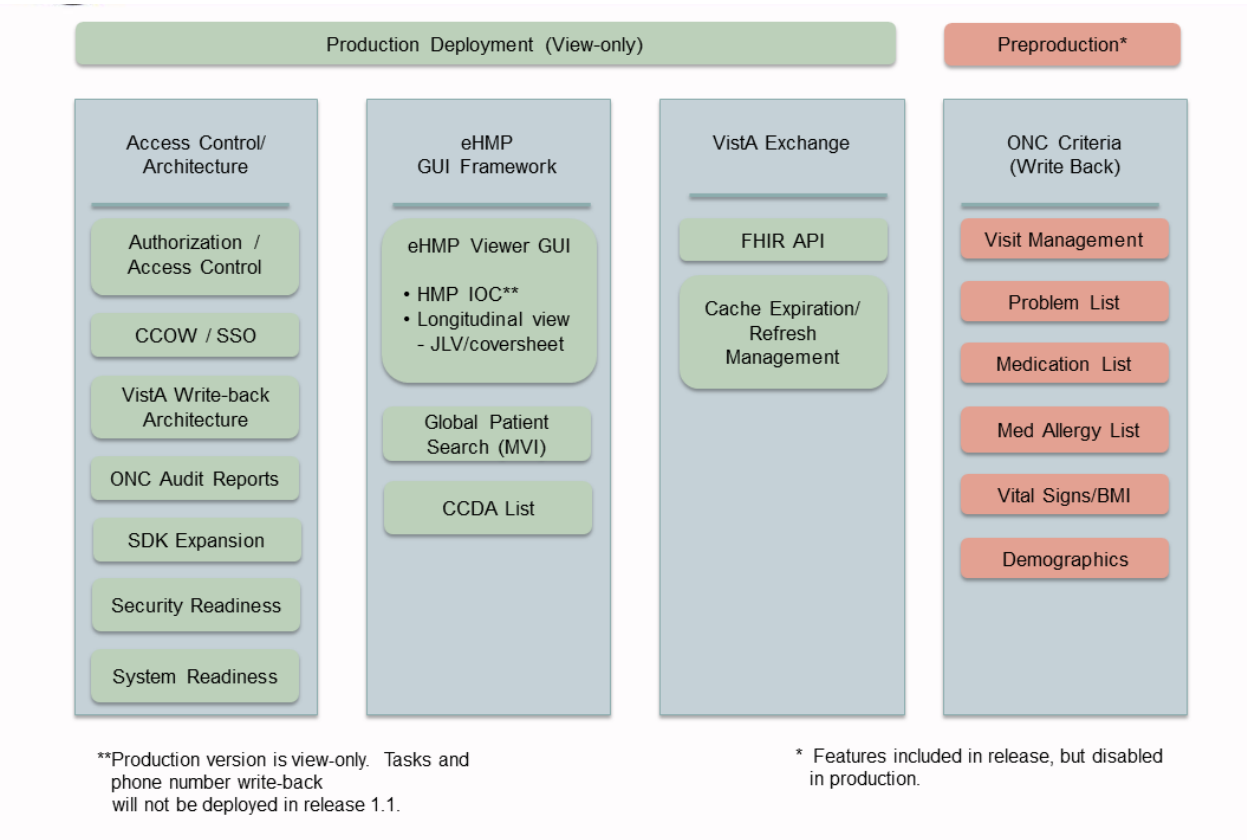


Figure 2-1 - FRB Approved features for development in eHMP Increment 1

The Feature Release Board (FRB) will approve final acceptance criteria for eHMP Increment 2 following planning in November 2014. The proposed criteria are:

1. Demonstrate eHMP meets the ONC criteria for CPOE by allowing users to enter orders for medications, laboratory, and radiology/imaging.

2. Demonstrate eHMP meets the ONC criteria for Drug-Drug/Drug-Allergy Interaction checks.

3. Demonstrate eHMP meets the ONC criteria for Drug Formulary checks.

4. Demonstrate eHMP meets the ONC criteria for Receive, Display, and Incorporate Transition of Care documents.

5. Demonstrate eHMP meets the ONC criteria for Create/Transmit Transition of Care documents.

6. Demonstrate eHMP meets the ONC criteria for Smoking Status.

7. Demonstrate eHMP meets the ONC criteria for Immunizations.

8. Demonstrate the following ONC related features in a test environment.
    - Vital Signs
    - Medication Allergy List

- Demographics
- Problem List
- Medication List

Functional Specifications are listed in the RTM and can be found at:

[redacted]

This log represents user stories the team documented to support the business needs as found in VistA Evolution's User Experience/Core BRD (February 2014).

2.7. Graphical User Interface (GUI) Specifications

The GUI specifications are listed in are listed in the RTM and can be found at:

[redacted]

2.8. Multi-divisional Specifications

These requirements are inclusive of eHMP Increments 1 and 2 to develop VistA Exchange to aggregate patient data from multiple VistA instances into a temporary cache and the eHMP CPE framework will incorporate capabilities currently provided by JLV and hi2 HMP. eHMP Increments 1 and 2 leverage VistA Exchange to achieve multi-divisional specifications.

2.9. Performance Specifications

The target processing rates for deployed initial components are listed in Table 2-1 below. Target audiences are users accessing patient data.

System	Event	Scenario	Minimum Performance Rate
VPR API	Request Patient Data	Data in Cache	95% of response under 2 seconds
VPR API	Request Patient Data	Data in Cache	85% of response under 2 seconds

Table 2-1 - Target Response Times

User Concurrency

Transactions:

Average number of transactions per hour / user = 15-40

Average number of transactions per day / user = 100-300

2.10. Quality Attributes Specification

The coding standards to which this development effort shall conform to are found in the following documents and locations:

M Programming
The Department of Veterans Affairs Programming Standards and Conventions. Revised 04/03/2007

SonarQube
http://www.sonarqube.org/

Fortify
[redacted]

HTML5
http://www.html5rocks.com/en/

JS – Marionette / Backbone
[redacted]

CSS – SASS
http://sass-lang.com/

Java
Sun/Oracle Coding Conventions (http://www.oracle.com/technetwork/java/codeconventions-150003.pdf)

Ruby
Ruby Style Guide (https://github.com/bbatsov/ruby-style-guide)

2.11. Reliability Specifications

The eHMP CPE is connected to VistA Exchange, which provides high availability (no more than 1% downtime) and performance (over 90% of requests will be served under 2 seconds).

2.12. Scope Integration

Building on previous VistA Exchange functionality which allows an extract of DoD data to be retrieved, eHMP Increment 1 presents the CPE UI inclusive of VA and DoD Patient data from VistA Exchange. VistA Exchange complements VistA capabilities by creating a single repository of patient record data, the eVPR, extracted from existing patient data that may be stored in one or more individual VistA instances.

The eHMP Version 1.1 will be deployed and made accessible to a select group of users at the facility. This version provides an integrated, longitudinal patient information viewer, incorporating the clinical data from VistA Exchange, and presented in a manner consistent with the current JLV and HMP applications into a single, consolidated view. The actual presentation of information is unique to eHMP, but covers the current information of both systems.
Updates to VistA data will not occur with version 1.1. The eHMP 1.1 version provides read-only capability.
Version 1.1 will provide the ability to search for patients in the local VistA, as well as an enterprise-wide patient search via the Master Veteran Index (MVI).
C32 documents available from the VLER will be presented

2.13. Security Specifications

This project complies with all required VA security policy and NIST guidance, including the VA 6500 handbook and NIST 800-37. Vista UX will be classified as a FISMA ”High,” since it processes PII and PHI data. Accordingly, all applicable security controls from NIST 800-53 are reviewed to ensure security is implemented early in the Systems Development Lifecycle (SDLC) and includes items such as authorization, auditing, and encryption of data both in transit and at rest. The System Security Plan (SSP) and Risk Assessment (RA) that is in place was created by the VA RiskVision Governance, Risk and

Compliance (GRC) tool. All other document related to Assessment and Authorization (A&A) and required by the Authorization to Operate (ATO) process will be completed and stored in RiskVision. The system will meet requirements specified in the Security Addendum of the Performance Work Statement (PWS).

VA requires that Operating Units (Program Managers, Project Managers, Analysts) ensure that adequate documentation for VA information systems and their constituent components is maintained, protected when required, and distributed to authorized personnel. Office of Information Technology (OIT) system managers and the OIT Chief/ CIO, in conjunction with the Information Security Officer (ISO), must ensure that sufficient documentation is developed and maintained to formalize security and operational procedures for the Operating Unit's information systems.

The minimum VA requirements for System Documentation with regard to security are as follows:

- System documentation must contain descriptions of the system hardware, software, policies, standards, procedures, and approvals related to the system life cycle, and must formalize the system's security controls.
- VA requires that Operating Units ensure sufficient documentation exists to provide an operating reference for effective use of hardware and software, and that formal security and operational procedures are documented, including the adequate completion of Certification and Accreditation (C&A) processes. Documentation must include, but is not limited to, all documentation of the security planning, the C&A process, and the configuration management of the hardware and software associated with the system.

Additionally, Fortify will be utilized to support assess some code quality/vulnerability aspects specifically around security. This will leverage Static Code Analyzer to scan source code, identify root causes of software security vulnerabilities early in the SDLC and correlates and prioritizes results—giving line–of–code guidance for closing gaps in security. This process educates developers in secure coding practices while they work bringing together development and security teams together to find and fix security issues.

2.14. System Features

System Features are found within the VistA Evolution User Experience/Core RTM found at:

[redacted]

.

2.15. Usability Specifications

eHMP uses a User Centered Design workgroup to generate innovative ideas for improving the user experience, and to address the sometimes vast differences in software proficiency across the user community.. Although the focus will change as developers move from one deliverable increment to the next, the workgroup will coordinate with developers and the user community to formulate a consistent set of initial training and continuing education methodologies. Usability specifications are a byproduct this effort.

Developers create intuitive, veteran-centric, and healthcare team-driven clinical UI modules based upon and incorporating recommendations from the workgroup.

Usability Specifications are found within the VistA Evolution User Experience/Core RTM found at:

[redacted]

3. Applicable Standards

The following references represent the applicable standards for eHMP:

Executive Order 13410-Promoting Quality and Efficient Health Care in Federal Government Administered or Sponsored Health Care Programs, *Federal Register*, Monday August 28, 2006. http://edocket.access.gpo.gov/2006/pdf/06-7220.pdf

Veterans Affairs for Purposes of Defining Data Sharing Between the Departments. [redacted]

Nationwide Health Information Network (NHIN) Production Interface Specifications. http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__nhin_resources/1194

HITSP Summary Documents Using HL7 Using Continuity of Care Document (CCD) Component, HITSP/C32, July 8, 2009, version 2.5. http://www.hitsp.org/Handlers/HitspFileServer.aspx?FileGuid=e1b99525-a1a5-48f6-a958-4b2fc6d7a5c7

National Institute of Standards and Technology (NIST) FIPS Publications. http://csrc.nist.gov/publications/PubsFIPS.html

VA Policy on Mobile Devices and Mobile Applications. [redacted]

VA Section508
http://www.section508.va.gov/index.asp

Identity Management (IdM)

All Enterprise IdM will be adhered to. VHA recognizes that these are Enterprise requirements for all developed electronic and IT products. These requirements are applicable to any application that adds, edits, or performs lookups on persons (patients, practitioners, employees, IT users) to systems within the VHA. To ensure that these requirements are met, they are addressed through the Enterprise-level requirements maintained by VHA Health IT, Software Engineering & Integration, and Enterprise Requirements Management.

Health Insurance Portability and Accountability Act (HIPAA) Compliance
The system shall comply with the HIPAA.

Health Level Seven (HL7) Messaging
The HL7 (VistA Messaging) package assists M-based applications conduct HL7 transactions. It enables the facilities to create, transmit, and receive HL7 messages over a variety of transport layers.

Security Requirements
Security Specifications are detailed in Section 2.13 of this RSD.

Privacy Requirements
All VA Privacy requirements will be adhered to.

Executive Order Requirements
All executive order requirements will be adhered to.

4. Interfaces

This is the business community's best understanding of known interfaces and may not be a comprehensive listing. All required interfaces will be researched and documented.

The system will be leveraging existing VistA interfaces and Remote Procedure Calls (RPCs). New RPCs will be built to support web-based development and data exchange. The approach to retrieving data from VistA will be based on a Simple Object Access Protocol (SOAP) Web Service interface to invoke eHMP RPCs. The Web Service API supporting both the VPR and FHIR formats is the interface for consuming applications and is detailed in the System Design Document (SDD).

4.1. Vista software applications

The CPRS Graphic User Interface (GUI) and eHMP CPE application interface with several, including but not limited to:

Outpatient Pharmacy - The Outpatient Pharmacy package provides a way to manage the medication regimen of veterans seen in the outpatient clinics and to monitor and manage the workload and costs in the Outpatient Pharmacy.

Inpatient Pharmacy - The Inpatient Medications package provides a method of management, dispensing, and administration of inpatient drugs within the hospital. Inpatient Medications combines clinical and patient information that allows each medical center to enter orders for patients, dispense medications by means of Pick Lists, print labels, create Medication Administration Records (MARs), and create Management Reports.

Laboratory - The Laboratory module is part of the VistA software, which automates the manual procedures used in the following laboratory areas: Ordering of tests and procedures, collection and accessioning of specimens, processing and analysis, review and verification of results, reporting or results, analysis and reporting of quality control data.

VistA Imaging - Captures clinical images, scanned documents, motion images, and other non-textual data files and makes them part of the patient's electronic medical record.

BCMA - A VistA module designed to provide electronic validation and documentation of medication administration, reduce medication misadventures, provide an online patient medication record, and promote a safer inpatient care environment.

Alerts – Notification system with the EHR.

Clinical Reminders - Reminders assist clinical decision-making and also improve documentation and follow-up, by allowing providers to easily view when certain tests or evaluations were performed and to track and document when care has been delivered.

VistAWeb - An intranet web application used to review remote patient information found in VistA, BHIE (DoD), the Health Data Repository (HDR) databases, and the Nationwide Health Information Network (NHIN).

Remote Data View - An application access within CPRS that also allows you to view local and remote data on patients.

CWAD - Crises, Warnings, Allergies/Adverse Reactions, and Directives. These are displayed on the Cover Sheet of a patient's computerized record.

TIU - Text Integration Utilities; a package for document handling, that includes Consults, Discharge Summary, and Progress Notes, and other document types such as surgical pathology reports.

Patient Look-Up – Allows the user to search the EHR for a patient's name and record.

ASU - Authorization/Subscription Utility, a VistA application (initially released with TIU) that allows VAMCs to assign privileges such as who can do what in ordering, signing, releasing orders, etc.

Health Factors - A computerized component that captures patient information that for which no standard code exists, such as Family History of Alcohol Abuse, Lifetime Non-smoker, No Risk Factors for Hepatitis C, etc.

4.2. Logical system interfaces in the data federation project

Threshold

- JLV App Server to jMeadows
- jMeadows to VistA Data Services
- jMeadows to MVI
- jMeadows to DMDC
- jMeadows to DoD Connector Adaptor
- jMeadows to BHIE Connector Adaptor
- CDW to CIIF Terminology Repository (capability built into jMeadows)
- DoD HDD to CIIF Terminology Repository (capability built into jMeadows)

Objective

- JLV App Server to Data Management Service
- Data Management Service to CIIF Terminology Service
- Data Management Service to VistA Data Services
- Data Management Service to MVI
- Data Management Service to DMDC
- Data Management Service to Access Management Services
- Data Management Service to CDR
- CDW to CIIF Terminology Repository
- DoD HDD to CIIF Terminology Repository

4.3. Future Interfaces

Connectivity with NwHIN/ VLER, AITC, and repositories/registries is a future goal. Connectivity with CDW and VINCI is being explored.

The impact to these downstream systems and associated interfaces is unknown at this time and will be evaluated during the Agile development process.

4.4. Communications Interfaces

eHMP uses VistA Exchange interfaces described in Section 4.3.

4.5. Hardware Interfaces

The program is set up within the VA's EO cloud environment, please refer to Section 3 of the eHMP SDD for hardware configurations.

4.6. Software Interfaces

Software Interfaces provides communications amongst eHMP system's components.

- Mapping and Standardization
- DoD Terminology Mapping
- VA New Terminology Mapping Requirements
- VA Terminology Mapping Editor
- CIIF Terminology Service
- Data Management Service

The Software Interfaces applicable for this increment are described in the table below.

ID	Name	Description	Interface
1	eHMP	Web application that will consume the web service API provided by VistA Exchange	eHMP consumes VistA Exchange Patient Record Web Service API
2	Joint Legacy Viewer (JLV)	JLV is a web application that provides a read-only interface for patient data from DoD and VA	Within eHMP, JLV functionality will utilize the VistA Exchange Patient Record Web Service API
3	VistA	VistA Exchange retrieves data from VistA for a given patient using Remote Procedure Call (RPC) interfaces.	VistA Exchange consumes VistA RPC services.
4	DoD Adaptor	DoD patient domain data	VistA Exchange will retrieve DoD Patient domain data from the DoD Adaptor using JMeadows
5	Master Veteran Index (MVI)	VistA Exchange utilizes MVI for lookup of a patient by traits (attended search) and utilized MVI for lookup of identifiers (get Corresponding IDs)	VistA Exchange will invoke MVI

Table 4-1 - Software Interfaces

4.7. User Interfaces

The eHMP CPE establishes an initial UI incorporating capabilities currently provided by JLV and the hi2 Health Management Platform. In order to support the access and display of DoD and other externally sourced patient data, a dedicated JLV functionality (the same as DoD's JLV view) will be available in the UI for this increment. eHMP CPE will eventually replace the Computerized Patient Record System (CPRS) as VA's primary point of care application.

5. Legal, Copyright, and Other Notices

The specific details regarding legal, copyright, and other notices are still under development for eHMP code which is released to VA production. eHMP code that is released to OSEHRA will contain legal copyright and other notices are is pertinent to OSEHRA. This project shall follow VHA's Release of Information (ROI) regulations when patient information is requested from VistA**.**

6. Purchased Components

eHMP leverages VistA Exchange, which uses the InterSystems Cache database which is currently under a VA enterprise license agreement.

7. Defect Source (TOP 5)

The classification and triage of defects within a system includes the examination of the severity of the defect and its impact to the user. Severity is assigned from the perspective of the end user, and is a measure of how great the impact is on the user's ability to complete the documented actions within the system. As eHMP is currently in development, no production defects can be recorded. As eHMP is released into production, Remedy ticket information will be used to graph and manage defect sources.

8. User Class Characteristics

Intended users of this product consist of DoD and VA health care clinicians, care coordinators, benefits adjudicators, and other staff for multiple existing and emerging purposes, including disability claims processing, and the treatment and care of active duty and retired service personnel. See Section 2.15 "Usability Specifications" for further information.

9. Estimation

The detailed requirements of eHMP Increment 2 will be planned during our Potentially Shippable Increment (PSI) Planning session which concludes on 11/13/2014. During PSI Planning each candidate feature is broken into user stories to meet their acceptance criteria. The resulting user stories are estimated according to size and complexity to define feature scope. The resulting features will be submitted to the Feature Review Board (FRB) on 11/17/2014. The approved, scoped features will be submitted to the VA Office of Information and Technology (OIT) Product Development (PD) Process, Performance, and Oversight (PPO) Project Estimation Support team for Function Point Analysis.

10. Approval Signatures

REVIEW DATE: November 7, 2014

SCRIBE: [redacted] [redacted]

[redacted] Date

Project Manager, Integrated Project Team (IPT) Chair

[redacted] Date

Business Sponsor

[redacted] Date

IT Product Manager

Appendices

Appendix A - Acronym List and Glossary

Term	Meaning
A&A	Assessment and Authorization
ACID	Atomicity, Consistency, Isolation, Durability
AITC	Austin Information Technology Center
API	Application Programming Interface
ASCII	American Standard Code for Information Interchange
ASM	ASM Research
BHIE	Bidirectional Health Exchange
BSON	Binary JSON
CDA	Clinical Document Architecture
CDS	Clinical Data Service
CDW	Corporate Data Warehouse
CEM	Clinical Element Model
CHDR	Clinical Health Data Repository
CIIF	Common Imagery Interoperability Facilities
CLIN	Contract Line Item Number
CPMP	Contractor Project Management Plan
CPRS	Computerized Patient Record System
DAO	Data Access Object
DAS	Data Access Service
DB	Database
DBMS	Database Management System
DFN	Data File Number
DICOM	Digital Imaging and Communications in Medicine
DMZ	Demilitarized Zone
DoD	Department of Defense
EDE	Enterprise Development Environment
EHR	Electronic Health Record
EO	Enterprise Operations
eHMP	Enterprise Health Management Platform
eVPR	Enterprise Virtual Patient Record
FHIM	Federal Health Information Model
FHIR	Fast Healthcare Interoperability Resources
FIPS	Federal Information Processing Standards
GUI	Graphical User Interface
HDR	Health Data Repository
Hi2	Health Informatics Initiative
HITSP	Healthcare Information Technology Standards Panel

Term	Meaning
HL7	Health Level Seven International
HMP	Health Management Platform
HTTP	Hyptertext Transfer Protocol
ICN	Integration Control Number
iEHR	Integrated Electronic Health Record
JAR	Java Archive
JDS	JSON Data Store
JLV	Joint Legacy Viewer
JSON	JavaScript Object Notation
JVM	Java Virtual Machine
LOINC	Logical Observation Identifiers Names and Codes
MBI	Moderate Risk Background Investigation
MDHT	Model Driven Health Tools
MDWS	Medical Domain Web Services
MVI	Master Veteran Index
MU	Meaningful Use
NDAA	National Defense Authorization Act
NIEM	National Information Exchange Model
NwHIN	Nationwide Health Information Network
OHT	Open Health Tools
OIT	Office of Information Technology
ONC	Office of National Coordinator
OSEHRA	Open Source Electronic Health Record Agent
PB	Petabyte
PHI	Personal Health Information
PII	Personally Identifiable Information
PITC	Philadelphia Information Technology Center
PDF	Portable Document Format
PMAS	Project Management Accountability System
PSI	Potentially Shippable Increment
QA	Quality Assurance
RDF	Resource Description Framework
REST	Representational State Transfer
RHEL	Red Hat Enterprise Linux
RPC	Remote Procedure Call
SAM	Scaled Agile Methodology
SAN	Storage Area Network
SDD	System Design Document
SNOMED	Systematized Nomenclature of Medicine
SOR	System of Record
TCP/IP	Transmission Control Protocol/Internet Protocol
TRM	Technical Reference Manual
UAT	User Acceptance Testing

Term	Meaning
URL	Uniform Resource Locator
UX	User Experience
VA	Department of Veterans Affairs
VDEF	VistA Data Extraction Framework
VHA	Veterans Health Administration
VistA	Veterans Health Information Systems and Technology Architecture
VLER	Veteran Lifetime Electronic Record
VM	Virtual Machine
VPR	Virtual Patient Record
WAR	Web Application Archive
W3C	World Wide Web Consortium
XML	Extensible Markup Language