Joint Legacy Viewer-Get the Data Back (JLV-Community)

**Requirements Specification Document**



June 2015

**Version** 1.0

**Department of Veterans Affairs**

**Revision History**

Note: The revision history cycle begins once changes or enhancements are requested after the

Requirements Specification Document has been baselined.

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| June 10, 2015 | 0.1 | Initial Draft of the RSD |  |

**Artifact Rationale**

The Requirements Specification Document (RSD) records the results of the specification gathering processes carried out during the Requirements phase. The RSD is generally written by the functional analyst(s) and should provide the bulk of the information used to create the test plan and test scripts. It should be updated for each increment.

The level of detail contained in this RSD should be consistent with the size and scope of the project. It is not necessary to fill out any sections of this document that do not apply to the project. The resources necessary to create and maintain this document during the life cycle of a

large project should be acknowledged and clearly reflected in project schedules. Do not duplicate data that is already defined in another document or a section in this document; note in the section where the information can be found.

**Instructions**

This project type (highlighted, in italics) is required to complete this artifact. Exceptions are outlined where needed throughout the document.

|  |  |  |
| --- | --- | --- |
| **Activity** | **New Capability (1)** | **Feature Enhancement (2)** |
| Field Deployment (A) | Yes | Yes |
| ***Cloud/Web***  ***Deployment (B)*** | *Yes* | Yes |
| Mobile Application  (C) | Yes | Yes |

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lL V-Community

**1. Introduction**

David Waltman, Senior Advisor to the Under Secretary for Health and Dr. Theresa Cullen, Chief Medical Information Officer, are requesting solutions intended to mitigate the risk of fragmentation of care and low utilization levels of health records (e.g., consult reports)

exchanged between Department of Veterans Affairs (VA) and non-VA providers, for example: community hospitals, Third Party Administrators (TPA), vendors, and individual non-VA providers. The Veterans Access, Choice, and Accountability Act of 2014 (VACAA) (Public Law

113-146) Section 101 required VA to establish a temporary program (“the Choice Program”) to improve Veterans’ access to health care by allowing eligible Veterans to use eligible health care providers outside of the VA system (non-VA care). The launch of the Choice Program places heightened importance and responsibility on VA to more efficiently and effectively receive, store, and utilize returning consult reports and Veteran Electronic Health Record (EHR) data from non-VA providers. Regular growth of Non-VA Medical Care (NVC) over the last ten years, coupled with VACAA’s expansion in Veteran eligibility for non-VA care, demands seamless communication between all parties rendering care for our Nation’s Veterans, irrespective of whether care was rendered internal or external to VA’s provider network. In order to meet the demands of the Choice Program, solutions are needed to provide

• VA providers with access to patient information and/or health data received from non- VA providers;

• non-VA providers the ability to send medical documents and/or data to VA; and

• non-VA providers the ability to access Veterans’ EHR as authorized by the patient and on a “need to know” basis, to review existing consults/referrals, orders and/or progress reports, or other relevant health record data (e.g., Joint Legacy Viewer [JLV]).

Currently, the majority of Veterans’ administrative (e.g., NVC authorization and non-VA provider correspondence) and/or clinical documentation (e.g., NVC consult/referral radiology reports, health summaries, operative reports) exchanged between VA and non-VA providers for both NVC (purchased) and self-selected care are faxed, mailed, sent via courier, or manually uploaded and downloaded via a web portal (e.g., Patient-Centered Community Care [PC3]/TPA). When the documentation is received at VA, it is manually sorted, reviewed, uploaded, and scanned (Chief Business Office Purchased Care [CBOPC] or Health Information Management [HIM] owners) into the “Scanned Medical Record” (SMR) system of the Computerized Patient Record System (CPRS). Due to the fragmentation of the current system (multiple system interfaces needed such as the Veterans Health Information Systems Technology Architecture [VistA], Fee Basis Claims System [FBCS], CPRS, VistA Imaging, etc.) and storage/retrieval issues, the scanned clinical documentation is not readily available to the VA providers. Even though the clinical documentation is made available and the VA provider is electronically

alerted, the VA provider is, at times, not aware of the existence of SMR due to a lack of standardized processing of this incoming documentation and/or the abundance of clinical view alerts sent to the VA provider.

By providing solutions to enable automated mechanisms and secure data exchange supported by standardized policies and governance over what data is shared and when, Veterans’ EHR data could be more effectively utilized by both VA and non-VA providers for improved care coordination and continuity of care.

**1.1. Purpose**

The purpose of the Requirements Specification Document (RSD) is to document requirements for the Department of Veterans Affairs (VA) Office of Information Technology (OI&T) that are necessary to obtain Initial Operating Capability (IOC) for the Joint Legacy Viewer - Get the Data Back project in support of development to support Full Operating Capability (FOC), such as configuration changes to identical Joint Legacy Viewer-based Remote Procedure Calls (RPC) to read/write within the evolved file structure, improved user interface integrated to User Experience (UX) and the development of a data exchange using web-enabled decision support for bidirectional exchange of veteran’s medical and health information with Non-VA Providers and the Vista Evolution Electronic Health Record initiative systems. The intended audience includes project managers, business analysts, configuration managers and software developers that will be tasked with developing the project scope.

**1.2. Scope**

• This project will produce a JLV Adminstrative Module (JAM) that allows VA Referral Administrators the ability to assign Non-VA Providers with secure accounts to access JLV-Community User interfaces, patients, and patient consults for a determined period of time.

• The software product will:

o Provide Non-VA providers the ability to access Veterans’ EHR as authorized by the patient and on a “need to know” basis, to review existing consults/referrals, orders and/or progress reports, or other relevant health record data (e.g., Joint Legacy Viewer [JLV]).

o Provide Non-VA providers the ability to send medical documents and/or data to

VA.

o Provide documentation of care received outside the DoD and/or VHA Healthcare

Networks.

• The software product will not provide veterans access to their electronic health records.

• The application of the software being developed is to enhance clinical decision making support which assists Non-VA Providers with the necessary information to effectively administer patient’s care.

• Create JLV-Community in an EO Cloud environment in current VA enclaves to capitalize on shared SOA activities in that environment by:

o Improvements to increase the utility of scanned non-VA provider medical documentation results through standardization of intake processes and integration in the point of care workflow.

o Pilot project using the JLV for non-VA providers to view Veteran health records in the context of solicited care.

**1.3. References**

• JLV-Community System Design Document (SDD).docx

• JLV Community Pilot-040615-Final-DWW.pptx

• 20150715\_JLV-Community\_BRD-v2.docx

• 20150303\_VE\_Get the Data Back Non VA Provider Clinical Consults\_BRD.docx

• The project repository for JLV-GTDB project information is at: [http://vaww.oed.portal.va.gov/pm/iehr/vista\_evolution/GetDataBack/SitePages/Home.a spx](http://vaww.srv.server.domain/pm/iehr/vista_evolution/GetDataBack/SitePages/Home.aspx)

**2. Overall Description**

The Joint Legacy Viewer (JLV) - Community, herein referred to as JLV-C, is architecturally and functionally identical to the DoD/VA Joint Legacy Viewer and is a patient-centric, presentation system that pulls information from disparate health-care systems in real time for viewing in a

web browser. The web application provides the ability to view specific clinical data within patients’ longitudinal health records stored in electronic medical record systems available to the Veterans Administration (VA) and the Department of Defense (DoD). A feature of the JLV- GTDB is the addition of a standardized method for 3rd Party, Non-VA providers to submit treatment documentation to the VA for integration into the patients Electronic Health Record (EHR). As a result of directive of H. R. 3230 - Veterans Access, Choice, and Accountability Act of 2014 (VACAA2014), which was enacted to reduce the Veteran wait time for appointments by making third party provider care available, the Veterans Administration is sanctioned for the

JLV-GTDB development.

**2.1. Accessibility Specifications**

The Accessible interface features Section 508-compliant, on-screen elements, including:

• Keyboard focus

• Panels and tab panels

• Tables

• Dialogs

• Context menus

• Widgets and widget tools

**2.2. Business Rules Specification**

 **Non-VA Provider Access Rules (BR ID 7.1.6, 7.1.7)**

2.2.1.1. The provider must be entered in the JAM by the VA Referral Administrator who must provide the Non-VA Provider a Username and Password via secure communication methodology. This aligns with Business Requirement IDs 7.1.6.1,

7.1.6.2, 7.1.7.1, 7.1.7.2, 7.1.7.3, and 7.1.7.6 of the 20150715\_JLV-Community\_BRD.

2.2.1.2. Non-VA Provider will be restricted to specific patients, consults, and EHR data visibility for only a pre-determined period of time. This aligns with Business Requirement IDs 7.1.7.4 and 7.1.7.5 of the 20150715\_JLV-Community\_BRD.

2.2.1.3. Once expired the Non-VA Provider cannot access patients, consults, or any other EHR data. This aligns with Business Requirement Theme ID 7.1.7 of the

20150715\_JLV-Community\_BRD.

 **Clinical Documentation Intake from Non-VA Providers Rules**

**(BR ID 7.1.1)**

2.2.2.1. The VA health care team must be able to access patient information and/or health data received from non-VA providers and incorporate this data into an assessment of the patient's health. This aligns with Business Requirement Theme ID

7.1.1.1 of the 20150715\_JLV-Community\_BRD.

2.2.2.2. The clinician should be able to view standardized, centralized data returned from third party providers, from the patient's VA EHR, during the point of care workflow. This aligns with Business Requirement Theme ID 7.1.1.2 of the

20150715\_JLV-Community\_BRD.

2.2.2.3. The Non-VA provider must be able to send medical documents and/or data to the VA and the information accessed via the patient’s VA EHR. This aligns with Business Requirement Theme ID 7.1.1.3 of the 20150715\_JLV-Community\_BRD.

2.2.2.4. The Non-VA provider must be able to send completed consult reports to the VA and the information accessed via the patient’s VA EHR. This aligns with Business Requirement Theme ID 7.1.1.4 of the 20150715\_JLV-Community\_BRD.

2.2.2.5. The Non-VA provider must be able to view the patient's VA EHR. This aligns with Business Requirement Theme ID 7.1.1.5 of the 20150715\_JLV- Community\_BRD.

2.2.2.6. The CBOPC user must be able to convert incoming medical documentation and other health data into standardized, consumable data from disparate systems. This aligns with Business Requirement Theme ID 7.1.1.6 of the 20150715\_JLV- Community\_BRD.

 **Clinical Documentation Records Transformation Rules (BR ID**

**7.1.2)**

2.2.3.1. The CBOPC and/or Health Information Management (HIM) user must be able to manage the transformation of clinical documentation and facilitate bidirectional exchange of patient information between VA and non-VA providers. This aligns

with Business Requirement Theme ID 7.1.2.1 of the 20150715\_JLV- Community\_BRD.

2.2.3.2. The CBOPC or HIM user must be able to configure the health information summary captured for third party care and adjust what Veteran data is shared with

non-VA providers. This aligns with Business Requirement Theme ID 7.1.2.2 of the

20150715\_JLV-Community\_BRD.

2.2.3.3. The CBOPC user must be able to configure access levels for users working in the system, to ensure the system complies with VA security regulations and/or guidelines. This aligns with Business Requirement Theme ID 7.1.2.3 of the

20150715\_JLV-Community\_BRD.

2.2.3.4. The CBOPC user must be able to categorize information into metadata, identify data duplication, and generate reports for action. This aligns with Business Requirement Theme ID 7.1.2.4 of the 20150715\_JLV-Community\_BRD.

2.2.3.5. JLV-C functionality must automatically extract unique data elements/fields from incoming medical documentation and other health data for the CBOPC user. This aligns with Business Requirement Theme ID 7.1.2.5 of the 20150715\_JLV- Community\_BRD.

2.2.3.6. The CBOPC user must be able to indicate which portions or data elements from the Veteran’s EHR are available to non-VA providers and manage the date range or time limit that information will be available. This aligns with Business Requirement Theme ID 7.1.2.6 of the 20150715\_JLV-Community\_BRD.

2.2.3.7. The CBOPC user must have the ability to pull reports on extracted, unique data, select verification options, view tracking data, and conduct quality reviews (e.g., patient validation). This aligns with Business Requirement Theme ID 7.1.2.7 of the

20150715\_JLV-Community\_BRD.

 **Clinical Documentation Records Presentation Rules (BR ID**

**7.1.3)**

2.2.4.1. The VA provider must be able to manage the presentation of internal and external clinical documentation in the appropriate format(s). This aligns with Business Requirement Theme ID 7.1.3.1 of the 20150715\_JLV-Community\_BRD.

2.2.4.2. The VA provider must be able to view summarized data from one episode of care to the next for externally rendered care. This aligns with Business Requirement Theme ID 7.1.3.2 of the 20150715\_JLV-Community\_BRD.

2.2.4.3. The CBOPC user shall be able to view summarized data from one episode of care to the next for externally rendered care. This aligns with Business Requirement Theme ID 7.1.3.3 of the 20150715\_JLV-Community\_BRD.

2.2.4.4. The Non-VA provider must be able to view summarized data from one episode of care to the next for both internally and externally rendered care. This aligns with Business Requirement Theme ID 7.1.3.4 of the 20150715\_JLV- Community\_BRD.

2.2.4.5. The VA provider must be able to view documents that have been scanned and cut and paste key findings and plan elements. This aligns with Business Requirement Theme ID 7.1.3.5 of the 20150715\_JLV-Community\_BRD.

2.2.4.6. The CBOPC or HIM user must be able to view documents that have been scanned. This aligns with Business Requirement Theme ID 7.1.3.6 of the

20150715\_JLV-Community\_BRD.

2.2.4.7. The Non-VA provider must be able to view documents that have been scanned, linked to the authorized VA Patient. This aligns with Business Requirement Theme ID 7.1.3.7 of the 20150715\_JLV-Community\_BRD.

2.2.4.8. The VA provider must be able to view data that is updated automatically and continuously for both internally and externally rendered care. This aligns with Business Requirement Theme ID 7.1.3.8 of the 20150715\_JLV-Community\_BRD.

2.2.4.9. The CBOPC or HIM user must be able to view data that is updated automatically and continuously for both internally and externally rendered care. This aligns with Business Requirement Theme ID 7.1.3.9 of the 20150715\_JLV- Community\_BRD.

2.2.4.10. The VA provider must be able to search health data by title and display the information in a usable format. This aligns with Business Requirement Theme ID

7.1.3.10 of the 20150715\_JLV-Community\_BRD.

2.2.4.11. The CBOPC must be able to search health data and display the information in a usable format. This aligns with Business Requirement Theme ID 7.1.3.11 of the

20150715\_JLV-Community\_BRD.

2.2.4.12. The Non-VA provider must be able to search health data and display the information in a usable format. This aligns with Business Requirement Theme ID

7.1.3.12 of the 20150715\_JLV-Community\_BRD.

 **Authorization Notification Rules (BR ID 7.1.4)**

2.2.5.1. The Non-VA provider must be able to manage the communication of authorization notifications to identify the appropriate care for the Veteran patient assigned. This aligns with Business Requirement Theme ID 7.1.4.1 of the

20150715\_JLV-Community\_BRD.

2.2.5.2. The Non-VA provider must be able to view authorization documentation to identify the appropriate care for the Veteran patient assigned. This aligns with Business Requirement Theme ID 7.1.4.2 of the 20150715\_JLV-Community\_BRD.

 **Referral Request Rules (BR ID 7.1.5)**

2.2.6.1. The Non-VA provider must be able to review the status of a treatment plan submitted to VA. This aligns with Business Requirement Theme ID 7.1.5.1 of the

20150715\_JLV-Community\_BRD.

2.2.6.2. The Non-VA Care Coordination (NVCC) user must be able to view consult/referral requests and select from the option to approve or reject additional services. This aligns with Business Requirement Theme ID 7.1.5.2 of the

20150715\_JLV-Community\_BRD.

2.2.6.3. The NVCC user must be able to view authorization details for an approved referral request and be able to finalize authorizations. This aligns with Business Requirement Theme ID 7.1.5.3 of the 20150715\_JLV-Community\_BRD.

 **Information Assurance Rules (BR ID 7.1.8)**

2.2.7.1. The VA Referral Administrator must be able to set Limits on the Time frame of the background data available to the Non-VA provider (1 week history, 2 months history). This aligns with Business Requirement Theme ID 7.1.8.1 of the

20150715\_JLV-Community\_BRD.

2.2.7.2. VA Referral Administrator must be able specify the names of the patients assigned to the Non-VA provider. This aligns with Business Requirement Theme ID

7.1.8.2 of the 20150715\_JLV-Community\_BRD.

2.2.7.3. VA Referral administrator must be able to choose which Department is allowed to be seen by the Non-VA provider. This aligns with Business Requirement Theme ID 7.1.8.3 of the 20150715\_JLV-Community\_BRD.

2.2.7.4. VA Referral Administrator must be able to specify which consults will be assigned to the patients assigned to the Non-VA provider. This aligns with Business Requirement Theme ID 7.1.8.4 of the 20150715\_JLV-Community\_BRD.

**2.3. Design Constraints Specification**

Design must be applied against an EO cloud environment of re-engineered components derived from the VA Joint Legacy Viewer (JLV), utilizing identical code language, interfaces, data exchange processes, and graphical user interfaces (GUI).

**2.4. Disaster Recovery Specification**

Business Sponsors Business requirements do not call for Disaster Recovery on non-critical applications.

**2.5. Documentation Specifications**

• RoboHelp 11 from Adobe is an online help authoring tool used to generate the WebHelp system launched from the JLV-Community portal pages. WebHelp is an uncompiled help output type that can be viewed from web-based or desktop applications through multiple browsers and platforms.

• Feature set documentation will include:

o User Manual

o Installation Guide

o Software Code

o Test Scripts

o Test Acceptance Plan

o Test DataSet

**2.6. Functional Specifications**

• To demonstrate high usability, the application shall be:

o Intuitive and easy to learn, with minimal training

o Effective by allowing users to successfully complete tasks

o Efficient by allowing users to complete their work in a manner consistent with clinical practice and workflow

o Perceived to have high usability, as demonstrated by appropriate survey measures

o Designed to aid users in meeting task goals without being an additional burden

• The system shall be reliable and enable user trust by providing:

o Stable and reliable performance

o Accurate data

o Display of all data that is available in native or interfaced systems and intended to be available in the application

o Accessible information related to the source of data

• The application shall include a modern Graphical User Interface that allows the user to view data from multiple sources and include:

o Integrated display of structured and unstructured data

o Rich data visualization and graphical display of data

o Ability to switch between tabular and graphical data views

o Ability to interact with displayed data to obtain additional details related to the data and source of the data

o User customizable components and settings

• The application must provide for advanced and up-to-date searching, to include:

o Fast search functionality with auto-complete and real-time display of matched results during typing

o Search history

• The application must provide for advanced filtering capabilities, to include:

o Filtering of data tables, lists, and grids

o Filtering of search results

• The application design should be modified to:

o Address the specific findings from a human factors heuristic evaluation conducted on the prior version of the application

o Address the specific findings reported from field use of the prior version

o Address the specific findings reported from usability testing of the prior version or relevant prototypes

• Community Pilot Feature Set

o The JLV Administrative Module (JAM) will be developed as a JLV Provider

Portal widget available for selected JLV Referral Administrator users

o The system will allow the VA Referral Administrator to log in to JLV – JAM Administrative Module

o The system shall validate the VA Referral Administrator credentials (security protocols for Access. Authenitcation, and Authorization)

o The system shall display Provider Portal option (User Provisioning)

o The system shall provide the ability for a VA Referral Administrator to Create a

JLV Account for Community Provider.

o The system shall provide the ability for a VA Referral Administrator to Assign patients to a Community Provider.

o The system shall provide the ability for a VA Referral Administrator to Assign settings to the Comunity Provider's access to the Patients record.

o The system shall allow the Community Provider to login to the Provider Portal.

o The system will validate the provisioning for the Community Provider.

o The system shall retrieve the User profile, assigned patients, and consults.

o The system shall display Provider Portal to the Community Provider

o The system will allow the Community Provider to select one patient from a list of patients.

o The system will allow the Community Provider to select one consult from a list of consults for the patient.

o The system will display the Patient record in the Patient Portal

o The system will display the Provider selected widgets and form connections to data sources in JLV.

• Get The Data Back Future functionality

o The system will allow the Community Provider to view complete data from one appointment to the next regardless of source.

o The system will automatically update patient record from documents scanned into an Imaging system individually.

o The system shall provide the ability for documents to be converted into editable output formats (e.g., Word, Excel, and/or Text) via Optical Character Recognition (OCR) technology.

o The system shall provide the ability to search incoming data and extract data from a scanned document.

o The system will provide the ability for third party providers to send secure email to create a note into utilizing a Text Integration Utility (TIU).

• Administrative Functional Specifications

o The system shall allow ADPAC/facility Informatics POC (JLV-Community

Admin) to provision 3rd party provider to accounts in JLV.

o The system shall have the ability to assign 3rd party provider to a patient with an active consult.

o The system shall have the ability to Limit Time frame of Historical clinical data

(1 week, 2 months, 1 year).

o The system shall display a specific set of name(s) accessible by the provider

o The system shall allow VA data to be seen by provider.

o The system shall have the ability to assign Access Time frames available to provider based on active consult.

o The system shall have the ability to automatically discontinue provider access to patient record when consult is closed.

**2.7. Graphical User Interface (GUI) Specifications**

• Portals - A gateway for a web site or web application that is, or proposes to be, a major starting site for users when they get connected to the web or that users tend to visit as an anchor Document the GUI specifications.

o The JLV-Community interface has two portals: a provider portal and a patient portal. Each portal does the following:

 Pertains to a particular subject or topic.

 Includes a library of widgets.

 Provides a column-based widget layout and layout customization.

 Provides a tabular layout design and the ability to have any number of widget layouts.

• Tokens - An object that represents something else, such as another object (either physical or virtual), or an abstract concept.

o The GUI uses two types of tokens: a patient token and a record token. A patient token:

 Consists of the following:

• patient ID

• patient site code

• timestamp

 Is tied to an active session that is initiated by the provider when the provider logs in to the system.

 Is generated in Grails and encrypted. Data encryption is provided by the

Advanced Encryption Standard.

 A record token Is used to retrieve specific details.

• Widgets - An element of a GUI that displays information or provides a specific way for a user to interact with the operating system and the application. Widgets include icons,

pull-down menus, buttons, selection boxes, progress indicators, on-off checkmarks, scroll bars, windows, window edges (that allow the resizing of a window), toggle buttons, forms, and many other devices for displaying information and for inviting, accepting, and responding to user actions.

o Each widget does the following:

 Is a mini-application running on top of a larger application

 Is a generic container to which provider data or clinical data can be ported

 Contains data coming from one source; in this case, all of the data is coming from the Representational State Transfers (REST) layer

 Requires a patient token to retrieve data

• Session - initiated when an authorized user logs into the JLV-Community

o During an active session, a user has access to the following JLV-Community capabilities:

 View and edit user profiles

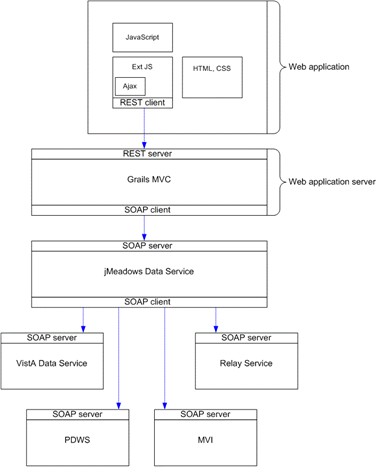
 Change onscreen user interface themes

 Search for patient records

 By default, a session will terminate after a period of inactivity.

• JLV-Community differentiates between client-side and server-side technologies in its GUI

framework.



• Data Request/Response Sequence

o The process of requesting data and the resulting response is as follows.

 A widget requests data for a clinical domain from the REST service.

 The REST service calls a corresponding Simple Access Object Protocol

(SOAP) service.

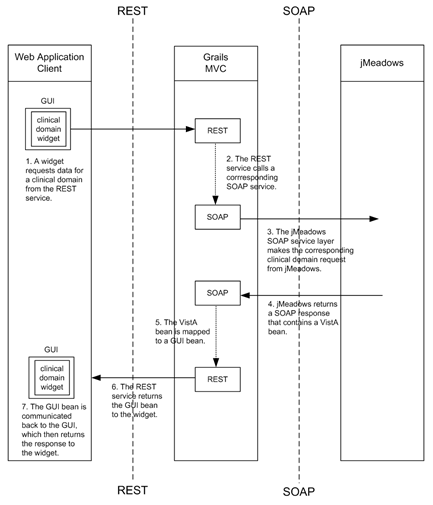
 The jMeadows SOAP service layer makes the corresponding clinical domain request from jMeadows.

 jMeadows returns a SOAP response that contains a VistA bean.

 The VistA bean is mapped to a GUI bean.

 The REST service returns the GUI bean to the widget.

 The GUI bean is communicated back to the GUI, which then returns the response to the widget.



**2.8. Multi-divisional Specifications**

• Allow multiple Non-VA Providers to perform all business and patient care functions

• Capture an audit trail of transactions

o The JLV-Community system has the ability to trace and thereby audit every action or transaction that a user executes within the JLV-Community application. JLV-Community audits are conducted using audit trails and audit logs that offer a back-end view of system use. Audit trails and logs record key activities, showing system threads of access, changes, and transactions.

o JLV-Community audits every action that a user executes within the JLV- Community application. Specific events regarding user transactions are also audited (or captured), including, but not limited to, user identification, date and time of the event, type of event, success or failure of the event, successful logons, and identity of the information system component where the event occurred. jMeadows retains this information for auditing purposes.

o Each time an attempt is made to interface with jMeadows, whether it is a service communicating or a user searching for a patient, the activity is logged and stored

in the JLV-Community Database. The purpose of this retention is for traceability; specifically, to see what calls/actions are being made, where and by whom they originated, and when they terminated.

o Each JLV-Community query for data (i.e., action) is audited, and has the user ID linked to it. Only one audit log is produced, which contains Non-VA Provider IDs and user names.

• Filter data according to a user’s assigned patients, consults, and access duration settings.

• Non-VA Provider access to patient electronic health records are limited to VA data.

**2.9. Performance Specifications**

• The system shall support a total estimated user base of 130,000 users.

• The system shall support more than 30,000 concurrent users.

• The number of transactions supported are an average of greater than 10 transactions per user per hour.

• The system is expected to scale up to 10,000 new users annually.

• As new transaction requirementss are defined and developed the system must be capable of increasing transactions supported to more than 20 new types of transactions per hour.

o Peak hours are expected to be 0700 to 2300 local time; non-peak hours 2300 to

0700 local time.

o Expected peak transaction load times are 0700 to 2300 local time; non-peak times are expected to be 2300 to 0700 local time.

• The system is expected to meet the following storage requirements:

o Clinical note might be about 2-3 pages, storage 2 kilobytes per note (estimate

624MB to 6GB per year).

Radiology images – 8–10MB/image (Radiology images can vary greatly and can be larger than 30MB/image), estimated annual storage of images cannot be determined at this time.

• The solution/infrastructure must be available 24 hours a day, 7 days a week, consistent with VistA uptime at 99.9%, exclusive of scheduled maintenance.

• The solution/infrastructure shall be available (e.g., offline) during periods of EHR

downtime.

• Scheduled down time for routine maintenance must not exceed 3 hours per week and unscheduled down-time must not exceed 3 hours per month. Scheduled down time shall be limited to off peak hours, as determined by the affected organizations..

• The system shall recover from an outage within 1-2 hours per outage and comply with the following:

o Level 1 outage <1 failures per/month o Level 2 outage <2 failures per/month o Level 3 outage < 3 failures per month

• Provider requests for Patient data transactions will process within 0.5 seconds.

• Mouse or key-based UI controls shall provide instantaneous responsiveness in less than 90 milli-seconds.

**2.10. Quality Attributes Specification**

At this time the project does not have a Quality Assurance Plan to address quality attributes.

**2.11. Reliability Specifications**

• Availability – The system will be available 99.9% of the time. Unavailability due to unplanned outages that exceed the dfined maintenance window will not exceed 8.76 hours per year and 43.8 minutes per month.

• The system will have a threshold reliability factor of 3 (99.9%) with an objective reliability factor of 4 (99.99%) for both System and Application. This supports NonFunctional Requirements ID 392353 found in the 20150715-Consolidated JLV- Community Non-VA Provider\_RTM for Presentation Demo.xlsx

**2.12. Scope Integration**

The product is independent and completely self-contained, currently.

**2.13. Security Specifications**

The following security design principles are applied to the JLV-Community system to ensure a system that follows security protocol standards for secured systems:

• **Session security:** By the use of secured unique session tokens generated using a 128-bit hash from a secure random number generator for each authenticated user, the system ensures prevention of communication session hijacking. Once the user logs out of the system, the session is immediately destroyed and the session hash can no longer be used. Also, if in some instance the sessionid were to be obtained, the user cannot paste it as part of a URL string to gain access.

• **Data Encryption:** Using SSL with TLS 1.0 ensures that all server communication is encrypted, which limits the ability to perform MITM attacks.

• **Schema Validation:** Web Services used in JLV-Community employ Schema Validation. This helps prevent Denial of Service (DoS) attacks by preventing the invocation of XML bombs.

The system also addresses the classification of sensitive information:

• **Mark sensitive (PII/PHI) information in display and output:** JLV-Community marks sensitive information, including Personal Identification Information (PII) and Protected Health Information (PHI) in all cases of display and output. As a NIPRNET- connected system, no classified information is displayed nor accessed by JLV-Community. Sensitive information is specifically marked as follows:

• **Login/Splash Screen:** A DoD security banner (inclusive of VA security notification requirements)

is displayed on the application login/splash screen.

• **Application Display Screens:** All displayed application screens include a prominent FOUO string in the page header.

• **Print:** All application print output includes a prominent FOUO string in the print header.

• **Copy/Paste:** All application data copied to the OS clipboard contains a prominent FOUO string in the clipboard data header.

**2.14. System Features**

• VA Referral Administrator JLV Administrator Module (JAM)

The JAM provides the VA Referral Adminstrators an access, authentication, and control feature to create Non-VA Provider user profiles, commonly referred to as the “White List” through a provisioning process to perform the following:

o Add Non-VA Providers

o Assign Patients to Non-VA Providers

o Assign Consults to Non-VA Providers

o Designate Non-VA Provider access longevity

• Provider Portal

Non-VA Providers users will connect from a external web-based browser, through a specific URL and pass through a firewall to ensure secure login and authentication. Additionally, load balancers will be utilized to regulate user traffic to JLV-Community. The Non-VA Provider users access a patient’s clinical data via a browser from within the site’s intranet. After logging in, the Community Provider will view the Provider Portal, which provides information specific to a clinician. The information is displayed in a consolidated collection of widgets for the corresponding clinical data types. The configuration and layout of widgets is unique for each user of the system. The Non-VA provider will have capabilities limited to assigned patients and consultations. A new widget will be added to the portal taskbar for “JAM.” When open, this widget will show the “JLV Administrative Module” in the title bar, with a single link, “Patient List“ for the pilot implementation.

o Abnormal Lab Results

o Admissions

o Appointments

o Consults Requested

o JLV Administrative Module (JAM)

o Orders Pending o Orders Resulted o References

o Unsigned Notes

• Patient Portal

The Patient Portal displays patient-centric information. From this portal, a user will have many of the same on-screen elements and capabilities of the Provider Portal, including patient selection, system status, and the ability to add or remove widgets.

o Admissions

o Allergies

o Appointments

o Clinical Reminders

o Community Health Summaries

o Consults

o Discharge/

o Essentris Notes

o Encounters

o Immunizations

o Lab Orders/ Panel Results

o Lab Results

o Inpatient Medications

o Outpatient Medications4

o Orders

o Problem List

o Procedures

o Progress Notes

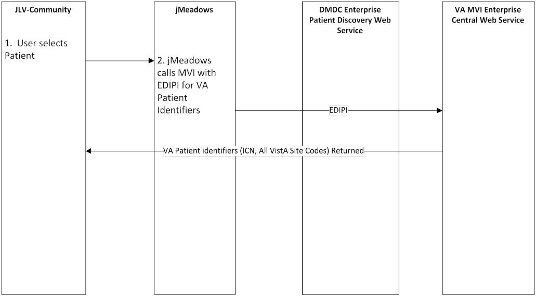
o Questionnaires and Deployment Assessments (AHLTA Only)

o Radiology Exams

o Social, Family, and Other Past Histories

o Vitals

• Patient Selection



**2.15. Usability Specifications**

User prompts and screen help shall be embedded into the system to guide use of the solution.

**3. Applicable Standards**

JLV-Community is compliant with Section 508 accessibility guidelines. Upon JLV-Community entry, the JLV-Community GUI allows the user to select as default or switch to a Section 508- compliant user interface before logging in or during an active user session.

Within JLV-Community Login pages, the Section 508-compliant interface option is accessed through the Edit Profile link provided beneath the user credential fields. Within the subsequent page, selecting the Accessible User Interface Theme option opens the accessible interface upon successful login. This selection also makes Accessible the default interface option in the user’s profile.

Once logged into the JLV-Community application, the Section 508-compliant interface option is accessed through the cog wheel icon in the top-right corner of the portal pages. In the User Configuration dialog box, selecting the Accessible User Interface Theme option changes the interface display to Accessible. This selection also makes the interface option the default option in the user’s profile.

**Note:** JLV-Community WebHelp output is configured to be Section 508-compliant in Internet

Explorer browsers.

The Accessible interface also provides an Accessible help system, linked through a button on the portal pages, which describes options and elements of the Accessible interface.

**4. Interfaces**

JLV-Community implements proper transport security in accordance with Information Assurance (IA) guidelines. The Transport Security mechanism protects the application during transport using Secure Sockets Layer (SSL) for authentication and confidentiality. Transport-layer security is provided by the transport mechanisms used to transmit information over the wire between clients and providers, thus transport-layer security relies on secure HTTP transport (HTTPS) using SSL. Transport security is a point-to-point security mechanism that can be used for authentication, message integrity, and confidentiality. When running over an SSL-protected session, the server and client can authenticate one another and negotiate an encryption algorithm and cryptographic keys before the application protocol transmits or receives its first byte of data. Security is “live” from the time it leaves the end user until it arrives at the provider (CHCS, VistA, Relay Service), as well as from the time it leaves a provider and returns to the end user.

Digital certificates are necessary when running HTTPS using SSL. Digital DoD PKI certificates

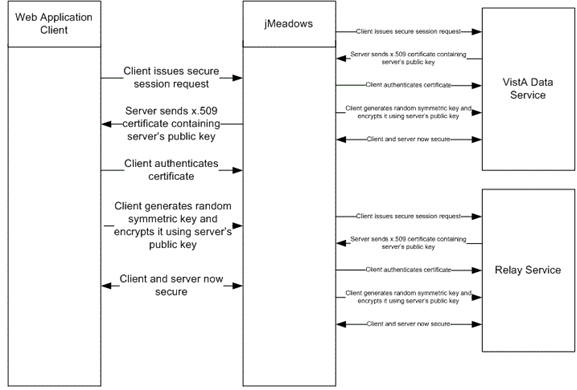
are in use with the transmission of data in JLV-Community.

**4.1. Communications Interfaces**

All communication to the VistA Data Service and the Relay Service from jMeadows, which is the main aggregate service, is through HTTPS SSL/TLS basic authentication. Before any connection to the service is made, it is required that the exchange of valid server certificates and valid service/user name and password is provided for each service.

For example, when jMeadows requests VA data from the VistA Data Service, the jMeadows server must first present the server certificate to the VistA Data Service server along with the server/user name and password. If the provided server certificate and server/user name are valid, the request for data is executed and the data is returned to jMeadows. This process occurs for each data request: jMeadows to the VistA Data Service and jMeadows to the Relay Service as shown in figure below.

**Note:** In the first Release (Pilot), JLV-Community does not expose any services for consumption. JLV-GTDB only requests data from supporting services. Therefore, JLV- Community does not require a mechanism for detecting re-submitted SOAP messages because it does not receive any incoming SOAP messages.



**4.2. Hardware Interfaces**

JLV-C will utilize the same hardware interfaces as found in the Joint Legacy Viewer and new development interfaces have not yet been determined.

**4.3. Software Interfaces**

No new software interfaces are currently needed to be purchased.

**4.4. User Interfaces**

The user interface shall consist of the URL to be entered from a web-browser to access the login GUI, from which successful login will result in connection with the application software.

**5. Legal, Copyright, and Other Notices**

N/A, this is Veterans Administration enterprise operation proprietary system.

**6. Purchased Components**

See Intakes 10529 and 10657.

**6.1. Defect Source (TOP 5)**

N/A – no defects at this time.

**7. User Class Characteristics**

• Non-VA Provider – a licensed medical physician credentialed to provide medical services to Veterans as part of the Access to Care initiative.

o Graduate of an accredited Medical school acceptable to the Veterans administration.

• VA Referral Administrator – Authorized system administrative administrator to establish user access.

o Sufficient training completed to execute the functions of the position.

o Completion of the VA Privacy and Information Security Training – certificate

o Completion of VA Health Insurance Portability and Accountability Act (HIP**AA**)

**8. Estimation**

In millions



Project Software Functional Size and Size-Based Effort and Duration Estimate

**Application**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **A** | **B** | **C** | **D** | **E** | **Total** |
| **Counted**  **Function Points** |  |  |  |  |  |  |
| **Estimated Scope**  **Growth** |  |  |  |  |  |  |
| **Estimated Size at Release** |  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Size-Based Effort Estimates** | **Labor Hours** | **Probability** |
| **Low-Effort Estimate – With indicated probability, project will consume no more than:** |  |  |
| **High-Effort Estimate – With indicated probability, project will consume no more than:** |  |  |

|  |  |  |
| --- | --- | --- |
| **Size-Based Duration Estimates** | **Work Days** | **Probability** |
| **Low-Duration Estimate – With indicated probability, project will consume no more than:** |  |  |
| **High-Duration Estimate -- With indicated probability, project will consume no more than:** |  |  |

**9. Approval Signatures**

REVIEW DATE: *July 16th , 2015*

SCRIBE: *Dave Hart*

Signed:

X

In tegrated Project Team (IPT) Ch air

X

Bu sin ess Spon sor

X

IT Program Man ager

X

Project Man ager

**Appendix**

**A. Use Case Specification**

N/A - Awaiting active state

**10. Acronym List and Glossary**

**Acronym List**

|  |  |
| --- | --- |
| **Term** | **Meaning** |
| BRD | Business Requirements Document |
| C/MU | Certification of Meaningful Use |
| CDC | Center for Disease Control |
| C-IPT | Capability-Integrated Project Teams |
| DoD | Department of Defense |
| EHR | Electronic Health Record |
| ENTR | Enterprise Requirements |
| ERR | Enterprise Requirements Repository |
| FIPS | Federal Information Processing Standard |
| GUI | Graphical User Interface |
| HIT | Health Information Technology |
| HL7 | Health Level Seven |
| iBRD | Integrated Business Requirements Document |
| IOC | Initial Operating Capability |
| IPO | Interagency Program Office |
| IT | Information Technology |
| NHIN | Nationwide Health Information Network |
| NIST | National Institute of Standards and Technology |
| nonf | Non-Functional Requirement |
| NSR | New Service Request |
| OIA IPS | Office of Information Informatics and Analytics Informatics  Patient Safety Office |
| OI&T | Office of Information and Technology |
| PCE | Patient Care Encounter |
| RDM | Requirements Development and Management |
| RED | Requirements Elaboration Document |

|  |  |
| --- | --- |
| **Term** | **Meaning** |
| REST | Representational State Transfers |
| RMR | Requirements Management Repository |
| RPC | Remote Procedure Call |
| RSD | Requirements Specifications Document |
| SDD | System Design Document |
| SLA | Service Level Agreement |
| SME | Subject Matter Expert |
| SOAP | Simple Object Access Protocol |
| UX | User Experience |
| VA | Department of Veterans Affairs |
| VDL | VHA Documentation Library |
| VHA | Veterans Health Administration |
| VistA | Veterans Health Information Systems and Technology  Architecture |

**Template Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| May 2015 | 1.5 | Reordered cover sheet to enhance  SharePoint search results | Process Management |
| December  2014 | 1.4 | Updated to conform with latest Section  508 guidelines and remediated with  Common Look Office tool | Process Management |
| May 2014 | 1.3 | Reordered cover sheet to clarify results of artifact searches | Process Management |
| May 2013 | 1.2 | Add Appendix for acronyms and glossary | Process Management |
| March 2013 | 1.1 | Formatted to current ProPath documentation standards and edited to conform with latest Alternative Text (Section 508) guidelines | Process Management |
| January 2013 | 1.0 | Initial Version | PMAS Business Office |