

Department of Veterans Affairs

My HealtheVet Innovations Project

Blue Button Medical Images & Reports

Release 12.11

Requirements Specification Document



September 2014

Version 0.7

Revision History

Date	Revision	Description	Author
10/20/2014	0.7	Updated per TWR review and decision between SQA to remove redundant requirement in 04	[REDACTED]
10/20/14	0.6	Technical Writer Review	[REDACTED] [REDACTED]
10/20/14	0.5	Added description to requirement and removed numbers per request from technical writing team	[REDACTED]
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10/10/14	0.3	Reviewed and provided feedback on Performance sections	[REDACTED]
10/10/14	0.2	Completed initial review and updated Performance sections	[REDACTED]
09/16/14	0.1	Initial Draft	[REDACTED]

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1. Introduction

Authenticated Veterans who are VA patients with a MHV Premium account are able to access and view their most recent VA Medical Images and Reports found in their VA electronic health record (EHR) at anytime and anywhere they have Internet access. Veterans who do not have a Personal Health Record (PHR) in MHV (i.e. Veterans who are not patients) will not have access to the Blue Button feature to View/Download/Share their VA Medical Images and Reports in MHV. Authenticated Veteran patients can download VA Medical Images and Reports and save, print, copy, and share High Quality (HQ) images (also known as diagnostic images), manually or electronically, with their caregivers. HQ images require a Digital Imaging and Communications in Medicine (DICOM) viewer that will operate seamlessly within the enhancement for VA Medical Images and Reports.

1.1. Purpose

The purpose of this Requirements Specification Document (RSD) is to outline the requirements for enhancements for MHV BBMI release 12.11. The intended audience of this document includes programmers, systems analysts, user experience designers, database analysts, and testers. The requirements specified in the following sections will include both functional and non-functional requirements, as well as applicable standards, interfaces, copyrights, and purchased components.

1.2. Scope

The RSD for the 12.11 release includes following functionality for MHV Providers:

- Download Blue Button Medical Images_Reports.

1.3. References

The table below lists documents that are referenced to facilitate a greater understanding of the functionality developed for the BBMI 12.11 release:

Document Title	Location	Status
BBMI 12.11 User Story Documents	SharePoint	Waiting Approval

1.4. Acronyms and Definitions

1.4.1. Acronyms

The table below provides definitions and explanations for acronyms relevant to the content presented in this document.

Acronym	Definition
BB	Blue Button
BBMI	Blue Button Medical Images & Reports
CPRS	Computerized Patient Record System
HIM	Health Information Management
HIPAA	Health Insurance Portability and Accountability Act.
HITSP	Healthcare Information Technology Standards Panel
HL7	Health Level Seven
IdM	Identity Management
ICN	Integration Control Number
IPA	In Person Authentication
MHVON	My HealtheVet Vet Online Viewing
MPI	Master Patient Index
PHR	Personal Health Record
ROI	Release of Information
VAMC	VA Medical Center
VHA	Veterans Health Administration
VBA	Veterans Benefit Administration
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture

1.4.2. Definitions

The table below provides definitions for terms relevant to the content presented in this document and other documents that define the Blue Button Medical Images & Reports.

Term	Definition
AAL	Account Activity Log.
Account Activity History	My HealtheVet link showing historical usage for a user.
Authentication	Process needed to upgrade MHV account. There are two types of Authentication: In-Person and Online.
Blue Button	The VA Blue Button is a feature that allows the user to view, print, save, and/or download their My HealtheVet personal health record. The user may be able to access specific VA Blue Button features based on their My HealtheVet account type. The three account types available are: Basic, Advanced, and Premium.
BUC	Business Use Case — A sequence of transactions performed by a user to produce a measurable result of value; a dialog between a user and the system; a specific way of interacting with the system to accomplish a business-related goal.
CD	Compact Disc
CPRS	Computerized Patient Record System.
DICOM Image	Digital Imaging and Communications in Medicine. A diagnostic quality medical image.
DIRECT Address	Address for sending securely transmitted messaging to non-VA providers and systems who utilize the DIRECT protocol.
Disclaimer	On the Share landing page, a checkbox for the User to acknowledge that they realize they are taking responsibility for a non-VA provider obtaining their medical records.
EHR	Electronic Health Record.
GUI	Graphical User Interface.
HITSP	Health Information Technology Standards Panel.
HQ	High quality—This is a VA recommended way of designating an image as being diagnostic quality, otherwise known as a DICOM image.
HS	Health Systems.
Images/Imaging	Medical images, such as X-Ray, MRI, CT scans, etc.
Interface	A point of communication between two systems or between a user and a system (often a GUI today).
IPA	In-Person Authentication.
MHV	My HealtheVet.
MI&R	Medical Images and Reports.
NSR	New Service Request.
Non-VA Provider	A Provider outside the VA network.
NwHIN	Nationwide Health Information Network.
OHI	Office of Health Information.
PDF	Portable Document Format.
PHI/PII	Personal Health Information/Personally Identifiable Information.
Premium Account	This account is only for Veterans and/or VA Patients. It gives users the highest level of access to My HealtheVet features. To get this type of account, the user needs to go through Authentication* and have their My HealtheVet profile information (full name, Social Security Number [SSN], date of birth [DOB] and gender) linked to VA/DoD records. After a user registers, his or her account type will be displayed in the Member Login box. Those with a Premium Account will have a <i>P</i> after their name.
Provider	Medical practitioners providing healthcare services to Veterans.

Term	Definition
Syntax	The structure of a messaging element, such as DIRECT Address.
Trusted Bundle	Trust Bundles are a collection of trust anchors that meet a common set of minimum policy requirements within a Trust Community. Relying parties may include the bundles into their STA (station) implementations with confidence that each trust anchor adheres to the policies set by the Trust Community managing the bundle.
VA	Department of Veteran Affairs.
VA CCD	VA CCD stands for VA Continuity of Care Document. This contains health information that comes from your VA health record. The VA CCD makes it possible to share a summary of your VA health information with non-VA healthcare computer systems. It allows for other applications (e.g., web browsers and electronic health systems) to read a summary of your VA health information.
VHA	Veterans Health Administration.
VistA	Veterans Health Information Systems and Technology Architecture.

2. Overall Description

2.1. Accessibility Specifications

2.1.1. Section 508 Compliance Requirements

All Section 508 requirements will be adhered to. The Veterans Health Administration (VHA) recognizes that these are Enterprise cross-cutting legal requirements for all developed Electronic & Information Technology (IT). 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 Specifications

The business rules specifications are defined in the Use Case documents (BUC) and the User Stories and referenced to the relevant flows. These are definitions of constraints that directly affect how the system user stories will be carried out.

2.3. Design Constraints Specifications

Any proposed BBMI enhancement needs to meet all VA and VHA Security, Health Information Management (HIM), Privacy, and Identity Management (IdM) guidelines. BBMI will have the ability to require an end-user to affirm a dialog box containing privacy policy or HIPAA requirements prior to proceeding to steps that involve sensitive information. Front end applications will be designed to be run from a Weblogic server 10.3.2. Backend applications will be supported on Oracle 11g.

2.4. Disaster Recovery Specifications

The system will be located in the Austin Information Technology Center (AITC) and will rely on the Disaster Recovery and Concept of Operations (CONOPS) plans in place there to support systems that require continuous availability.

2.5. Documentation Specifications

All documentation created to support the BBMI 12.11 release will comply with existing Program Management Accountability System (PMAS) policies and utilize ProPath templates.

2.6. Functional Specifications

The tables below describe the business owner requirements as documented in the reference documents (BUC and User Stories). These requirements have been committed to by the sprint team for the 12.11 release.

Table 1: BBMI 12.11 Release Requirements

#	Requirement	Description Provider User Stories	Priority
1	BBMI_01.1	MHV system shall display the My Download Request page	

#	Requirement	Description Provider User Stories	Priority
	BBMI_01.1.1	MHV user selects the radio button <i>Download My VA Medical Images and Reports</i> and clicks Continue.	
	BBMI_01.1.2	MHV system shall display hyperlinks at the top of the page:	
	BBMI_01.1.3	MHV section titled VA Medical Images and Reports shall display the following: i. Text regarding Premium account upgrade and Learn more about VA Medical Images and Reports ii. Download My VA Medical Images and Reports radio button iii. Continue and Cancel buttons iv. Page footer information — Standard footer	
	BBMI_01.1.4	Blue <i>Logged on as</i> box with red Logout button and the words, “You have a Premium account” in right margin	
	BBMI_01.2	MHV system shall display the VA Medical Images and Reports Download Summary with the following components. Note: The system will display the records that are available in eVault. Therefore, the number of metadata records that exist will be displayed.	
	BBMI_01.3	MHV system shall display the populated VA Medical Images and Reports summary table, once the update is complete.	
	BBMI_01.4	MHV user shall save the file to their local computer.	
	BBMI_01.5	MHV user shall open the downloaded images using the Open/Unzip file functionality in the DICOM viewer.	
	BBMI_01.6	The DICOM viewer shall display a DICOM image(s) and associated Computerized Patient Record System (CPRS) report selected	

#	Requirement	Description Provider User Stories	Priority
	BBMI_01.7	MHV user closes the DICOM viewer	
	BBMI_01.8	MHV system returns to the Blue Button Download Summary page Note: See Appendix - B	
	BBMI_01.9	When MHV user selects the Cancel button on the My Download Request page the MHV system shall place the user on the Personal Information page	
	BBMI_01.10	When the MHV user selects the Cancel button on the VA Medical Images and Reports page the MHV system shall place the user on the My Downloads Request page	
2	BBMI_02.1	MHV user selects the radio button for Download My VA Medical Images and Reports and then selects Continue see Appendix A	
	BBMI_02.2	MHV user selects the 'Download' button on the summary table for the desired report or text layout	
3	BBMI_03.1	MHV user shall select the Blue Button Download My Data icon	
	BBMI_03.2	MHV system shall display the Personal Information page in MHV	
	BBMI_03.3	MHV user shall select the Blue Button Download My Data icon	
	BBMI_03.4	MHV system shall display the My Download Request page	
4	BBMI_04.1	MHV system shall provide the ability to sort reports displayed on the summary table in numerical ascending/descending order.	
	BBMI_04.2	MHV system shall provide the ability to sort Procedure/Test Names on the summary table in alphabetical ascending/descending order.	

#	Requirement	Description Provider User Stories	Priority
	BBMI_04.3	MHV system shall provide the ability to sort Performing Location on the summary table in alphabetical ascending/descending order.	
	BBMI_04.4	MHV system shall make the default sort of the results summary grid be by Date/Time column in reverse chronological order (most recent displayed at the top).	
5	BBMI_05.1	MHV system shall display an error message if the requested VA Medical Image and Report is unable to successfully download.	

2.7. Graphical User Interface (GUI) Specifications

BBMI will comply with VHA style guides and existing MHV requirements for cross-browser and cross platform compatibility. It will comply with the GUI Specifications as outlined in the existing My HealthVet Style Guide.

2.8. Multi-Divisional Specifications

Interoperability (Executive Order Requirements).

In keeping with the President's Executive Order: Promoting Quality and Efficient Healthcare in Federal Government Administered or Sponsored Healthcare Programs, the VHA OHI must promote quality and efficient delivery of Healthcare through the use of Healthcare IT, transparency regarding Healthcare quality and price, and incentives to promote the widespread adoption of health IT and quality of care. To support this mission to the greatest extent possible, any new IT system development or acquisition of commercial system shall:

1. Use interoperability standards recognized by the Secretary of Health and Human Services or the appropriate designated body at the time of the system update, acquisition, or implementation, in all relevant information technology systems.
2. Ensure interoperability with the Nationwide Health Information Network (NwHIN).
3. Comply with certification standards released through the Certification Commission of Health Information Technology (CCHIT).

2.9. Performance Specifications

The response time, throughput and capacity requirements for the BBMI application are similar to existing VHA applications. BBMI page transition will adhere to the current MHV standard while the required image download which converts into a zipped package and has inherent dependencies (i.e. file size, number of files, internet speed and server status). Performance requirements are inherited from the general portal performance requirements as specified in the

product supplemental specification.

2.9.1. Capacity Limits

BBMI will be able to support 225,000 user accounts. The message throughput is 350 messages per hour.

2.9.2. Degradation Mode

BBMI will be able to operate at the level of its hosting systems MHV. There is no planned degradation mode. If the host systems are running, BBMI will be running. Lack of connectivity to the database server, VistA or CVIX will completely stop function of BBMI.

2.9.3. Resource Use

BBMI will be able to operate on a shared web server and will require 32 GB of disk storage per years' worth of messages. The impact on system memory is negligible.

2.10. Quality Attributes Specifications

A suite of unit tests and repeatable system test cases will be made available as part of the SQA process.

2.11. Reliability Specifications

BBMI will have the same availability requirements as MHV. Its maintenance schedule will conform to the schedule of MHV. BBMI will track the length and number of times the system is not available if such availability is not due to scheduled maintenance windows.

Blue Button Medical Images & Reports

Outcome	Measurement
The MHV functions according to stated business requirements.	Users can access the MHV 100% of the time.
The MHV has a user-centered and user-friendly design.	70% of users will rate the usability of the MHV favorably.

The above table details the reliability specifications for MHVON.

2.12. Scope Integration

BBMI will be integrated with VistA Imaging thru MHV portal (for patients). Users will be able to leverage the download capabilities activated in their MHV account.

2.13. Security Specifications

All VA and VHA security requirements will be adhered to. The system shall comply with all applicable VA and VHA security requirements.

2.14. System Features

All interfaces will use Secure HTTP (HTTPS) or HTTP over SSL/TSL. MHV and the corresponding clients shall use simple authentication, i.e. only the server is authenticated and only the server provides a certificate to the client. The algorithmic encryption used for the SSL connection must be Federal Information Processing Standard (FIPS) Publication 140-2 compliant.

2.15. Usability Specifications

BBMI will adhere to the MHV Style Guide standards and global requirements including look and feel, browser compatibility, and other standard behavior such as paging, sorting, printing, and error messaging standards as documented in the My HealthVet Style Guide.

3. Applicable Standards

3.1.1. IdM

All Enterprise IdM will be adhered to. VHA recognizes that these are Enterprise requirements for all developed Electronic & 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.

3.1.2. Health Insurance Portability and Accountability Act (HIPAA) Compliance

The system shall comply with the HIPAA.

3.1.3. Health Level Seven (HL7) Messaging

The HL7 (VistA Messaging) package is not applicable to the Blue Button Medical Images & Reports.

4. Interfaces

MHV API shall provide a web service interface for the exchange of REST based messages via an HTTPS connection. The web service interface will be described using a WADL specification.

4.1. Communications Interfaces

BBMI communications interfaces follow a process in which MHV refreshes the BBMI data through PHR (e.g. PHR-L or PHR-R) which is considered the metadata. Once the PHR refresh is done, it will use the MHV-API to interace with CVIX and complete a download of images.

4.2. Hardware Interfaces

All existing MHV infrastructure will be leveraged. There are no hardware changes leveraged for BBMI.

4.3. Software Interfaces

4.3.1. VistA

The VistA Imaging Study and Image service interfaces provide access to patient study metadata, reports and images for patients accessible to VISA services. The VistA Imaging Service Architecture (VISA) is a service oriented architecture that provides services that provide access to VistA Imaging data. This includes access to all images stored in VistA Imaging and images made available from the DoD. The Study service is used to retrieve the list of studies for a specific patient, reports for those studies and the list of images in each study.

Within the PHR subsystem is the request for patient data to be extracted from VistA for presentation to the patient. This is implemented as an on demand asynchronous request when the patient performs a triggering event within the MHV portal.

4.3.2 CVIX

The VistA Imaging Exchange (VIX) service is an implementation of VISA that is deployed at all VA hospitals and provides site level access to images. The CVIX is an enterprise gateway implementation of VISA for accessing images from all VA hospitals.

4.3.3. Communications Interfaces

Communication between MHV and API will be through a secure web service call between MHV and CVIX. There are two types of calls, one is to retrieve the metadata and the other is to begin the download of the actual patient images. Standard HTTP error messages will be leveraged and unexpected errors will be communicated using standard browser messaging.

All MHV user interaction is via the MHV production web browser. Visual Design and Coding should adhere to standards that are defined by the My HealthVet 8.0 Style Guide.

5. Legal, Copyright, and Other Notices

BBMI shall follow VHA's Release of Information (ROI) regulations when patient information is requested from VistA.

6. Purchased Components

BBMI will operate using existing infrastructure. There are no purchased components as part of either.

6.1. Defect Source (TOP 5)

For the number of defects discovered by component, please refer MHV 12.11 Version Description Document (VDD) and the MHV 12.11 Test Evaluation Summary (TES) documents. These documents can be located at below location:

[SQA Documentation](#) link.

7. User Class Characteristics

1. Intended users of the BBMI will consist of the following:
 - a. Patient - A Veteran that has been or is presently being provided with healthcare services through the Department of Veterans Affairs (VA) and its administered entities, namely the Veterans Health Administration (VHA) and Veterans Benefit Administration (VBA).
 - b. System Administrator - The person responsible for the administration of SM at various levels. The system administrator administers SM at the facility, VISN, or National level.
2. BBMI will employ user-friendly language and meet VA Handbook 6102 standards (e.g., 7th grade reading level).

8. Estimation

N/A

A. Appendix A Use Case Specification

MHV utilizes User Stories in place of Use Cases. The user stories for BBMI 12.11 release can be found at the below SharePoint link:

[Blue Button API User Stories 01 - 05](#)

A.1. Use Case Name

This section is non-applicable to BBMI RSD.

A.2. Brief Description

This section is non-applicable to BBMI RSD.

A.3. Use Case Trigger

This section is non-applicable to BBMI RSD.

A.4. Use Case Context Diagram

This section is non-applicable to BBMI RSD.

A.5. Use Case Actors

This section is non-applicable to BBMI RSD.

A.6. Preconditions

This section is non-applicable to BBMI RSD.

A.6.1. Precondition 1

This section is non-applicable to BBMI RSD.

A.7. Basic Flow of Events

This section is non-applicable to BBMI RSD.

A.8. First Step of the Basic Flow

This section is non-applicable to BBMI RSD.

A.9. Alternative Flows

This section is non-applicable to BBMI RSD.

First Alternative Flow

This section is non-applicable to BBMI RSD.

Second Alternative Flow

This section is non-applicable to BBMI RSD.

A.10. Sub Flows

This section is non-applicable to BBMI RSD.

A.10.1. First Subflow

This section is non-applicable to BBMI RSD.

A.10.2. Second Subflow

This section is non-applicable to BBMI RSD.

A.11. Postconditions

This section is non-applicable to BBMI RSD.

Post Condition One

This section is non-applicable to BBMI RSD.

A.12. Special Specifications

This section is non-applicable to BBMI RSD.

First Special Specification

This section is non-applicable to BBMI RSD.

A.13. Extension Points

This section is non-applicable to BBMI RSD.

A.14. Name of Extension Point

This section is non-applicable to BBMI RSD.

Attachment A. Reviews and Approval


This section contains the reviews and approval signatures for the *MHV 12.11 RSD BBMI* document. The signatures below indicate agreement and acceptance of the declarations contained in this document.

REVIEW DATE:

SCRIBE:

Signed:

Date:

, Integrated Project Team (IPT) Chair / MHV Program Manager


Signed:

Date:

 Director, Veterans Health Administration, V/CHIO Business Sponsor

Signed:

Date:

 MHV I&IE Project Manager

Attachment B. Signature Verification

The Signature Verification section is used to verify and document the electronic signatures, concurrence and approval of the *My HealtheVet (MHV) 12.11 RSD BBMI*.