

Disability Exam Results Storage

**Health Data Repository (HDR)
Requirements Elaboration Document
Version 1.0**



December 2012

Revision History

Date	Revision	Description	Author
04/05/2012	1.0	Initial Draft	Mike Davis, Zach Fain, Nan Pellone, Tom Gilmore
4/16/2012	2.0	Second Draft	Mike Davis, Zach Fain, Nan Pellone, Tom Gilmore
4/25/2012	3.0	Third Draft	Joshua Lawton-Belous
4/30/2012	4.0	Fourth Draft	Joshua Lawton-Belous
5/1/2012	5.0	Fifth Draft	Joshua Lawton-Belous
11/2/2012	6.0	Sixth Draft	Dusty Jackson, Daniel Eckroad
12/7/2012	7.0	Seventh Draft	Daniel Eckroad

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1. Purpose

The Requirements Elaboration Document (RED) is authored by the business community for the purpose of elaborating on the business needs of the customer/business owner as previously stated in the Business Requirements Document (BRD). The RED provides insight into the AS IS and TO BE business area, identifying stakeholders and profiling primary and secondary user communities. It identifies what capabilities the stakeholders and the target users need and why these needs exist, providing a focused overview of the request requirements, constraints, and Information Technology (IT) options considered. This document does not state the development methodology. The intended audience for this document is the business stakeholders and OIT.

2. Overview

The Virtual Lifetime Electronic Record (VLER) Enterprise Program Management Office (EPMO), in partnership with the Office of Disability and Medical Assessment (DMA) of the Veterans Health Administration (VHA), the Compensation Service of the Veterans Benefits Administration (VBA), and the Pension and Fiduciary (PF) Service of the VBA, requests the creation of a Disability Benefits Questionnaire (DBQ) Service Gateway to meet immediate, mid-term and long-term identified business needs for a more streamlined, efficient, paperless, and Veteran-centric disability compensation claims process.

The purpose of the DBQ Service Gateway is to improve the Department of Veterans Affairs' (VA) ability to perform timely and accurate claim adjudication. VHA and VBA are working together to accelerate and streamline the disability claims adjudication process by enhancing its capability to collect the required medical evidence to adjudicate a claim.

Currently, VA lacks a clinical workflow system that universally assists healthcare professionals in providing quality, timely and complete medical evaluations while simultaneously generating that medical evidence directly from the clinician to the Regional Offices for claims processing. Providing real-time access to a system that guides VA and non-VA clinicians through a highly customizable clinical protocol, based on the Veterans/Servicemembers' (SM) claimed conditions, along with a way to automatically submit focused information to the adjudicator will not only streamline the disability claims process but permits VA to utilize resources efficiently. This centralized clinical workflow infrastructure provides controls for implementing more cost-effective workload management strategies and flexibility to support future changes based on VA's Schedule for Rating Disabilities. VA also lacks an enterprise-aware DBQ exam repository to house all incoming disability exam results from a variety of internal and external providers and sources.

Although the DBQ Service Gateway is intended to support the performance and management of all disability medical evaluations, it is also expected to assist in other disability medical evaluation-related processes, to include: requesting and scheduling examinations, assigning examiners, referring examiners and the referred work between VA and contractors. The referred work between VA and contractors includes contractor billing, and utilization of the Veterans Benefits Management System (VBMS). Additionally, private treating clinicians may use the service to submit DBQs, the new VA medical form. The DBQ Service Gateway will also support dynamic auto-population of medical data already of record.

The DBQ Exam Solution will leverage the Health Data Repository (HDR) as the results backend, thus leveraging the Repositories Program that currently provides nationalized, patient-centric longitudinal health data for patient-care consuming applications for VA. Its continuing service will help ensure that administrative and clinical decisions are made based on multiple information sources available for each Veteran/patient rather than from a single source of data.

3. Customer and Primary Stakeholders

The primary stakeholders for this request Joe Paiva, Executive Director of the VLER Major Initiative. The additional stakeholders are: Dr. Gerald Cross, Chief Officer of DMA for VHA; David McLenachen, Director of PF Service for VBA; Thomas Murphy, Director of the Compensation Service for VBA; and Veterans Relationship Management (VRM) Major Initiative, and the Veterans Benefits Management System (VBMS) Major Initiative.

4. Scope

The scope is limited to defining the backend repository requirements for the storage and retrieval of Exam Results and DBQ data and does not include requirements related to exam management and content management capabilities, which are unavailable from Health Data Repository (HDR). The VLER Core BRD (signed by Executive Director, VLER on November 7, 2012) identifies multiple backend, infrastructure, and interface requirements (referred to as epic stories), including references to the requirements contained in this document. The requirements further support those contained in the master DBQ Service Gateway BRD (Work Effort Unique Identifying #20111209).

5. Goals, Objectives and Outcome Measures

The scope of this RED is limited to providing the business requirements of the DBQ Exam Solution within the Repositories program. The business requirements in this document define the foundation of the expected implementation of the DBQ exam solution repository. As current and future requirements are identified, the associated requirements may be expanded.

6. Proposed DBQ Objectives

The DBQ Exam Solution and DBQ Service Gateway are business driven and will leverage numerous principles and subject matter experts from programs within the VA.

7. Requirements

This document defines the DBQ Exam Solution backend repository requirements for the processing of DBQ exam results. Refer to Disability Benefits Questionnaires (DBQs) Service Gateway BRD (Work Effort Unique Identifying #20111209) for a more robust set of requirements for the overall solution.

7.1. Business Needs/ Owner Requirements

Table 1. General Requirements

Number	Requirement
GEN.1	Adhere to the Enterprise Level requirements within the Enterprise Requirements Management (ERM) Repository and as specifically addressed in Appendix E of this document
GEN.2	Data must be stored in a manner that allows for changes to Exam Results data and or DBQ format and or content without requiring a release of a new repository version.
GEN.3	The data must be accessible via the VLER Data Access Service (DAS).
GEN.4	The DBQ/Exam results are stored in HDR.
GEN.5	The metadata of a data item may be retrieved using the unique identifier for the item (refer to Appendix B sample logical and physical data dictionaries).
GEN.6	A data item may include patients that are not VistA Integrated (commonly called a legacy patient). The identity index for a legacy patient is SSN.
GEN.7	The preferred identity index for a VistA Integrated patient is the Integration Control Number (ICN), and the Electronic Data Interchange Personal Identifier (EDIPI) if it is available to query and/or store.
GEN.8	Patients may be identified by a vendor supplied index (commonly called a vendor Data File Number (DFN)).
GEN.9	Exam Data may be identified by a VA facility supplied index (commonly called a vendor DFN or vendor Medical Record Number (MRN)).
GEN.10	DBQ/Exam results can be retrieved
GEN.21	A data item may update the data currently stored in the database. The information that can be updated is defined in the section that defines the data item.
GEN.12	Provide the ability to perform queries/searches within the HDR via the VLER DAS on medical information provided by Veteran/SM, requests for medical assessment, (e.g., search by Claimant identifiers, search for all evaluations of a request, specific data elements only vs. an entire request or evaluation).
GEN.13	The HDR acts as the system of records and authoritative source for DBQ exam results data.
GEN.14	The HDR shall provide the ability to facilitate reviews of DBQ exam data originating from a source by flagging exam statuses as PENDING – UNDER REVIEW, APPROVED, and REJECTED.

7.1.1. Performance Requirements

Table 2 Performance Requirements

How many users will the new system (or system modification) support?
The system /architecture shall support two thousand (2,000) concurrent web-based (external) users without system degradation and thirty thousand (30,000) internal (VA users) without

system degradation. NOTE: This capacity should be scalable to meet growing needs.

What is the predicted annual growth in the number of system users?

An estimated 300,000 Servicemembers will be separating from service each year over the next 3 years, and nearly all of them will be eligible for benefits. As a result, concurrent users will increase. Internal VA users will likely increase as new claims are filed by this larger Veteran population.

7.1.2. Capacity Requirements

Table 3 Capacity Requirements

What is the predicted size (average) of a typical business transaction?

For a single DBQ, as an encrypted PDF, the file would be 859 kb. XML would only be 28 kb in encrypted format. Approximately 2000 words per DBQ template, not counting completed forms/fields. Also consider that all completed DBQs are grouped and sent as a batch.

What is the predicted number of transactions per hour (day, or other time period)?

100,000 claims per month is the predicted number of transactions. Every complete transaction would, at the minimum, interface with the VLER DAS and VBMS to exchange data.

Is the transaction profile expected to change (grow) over time?

Yes. This will be a function of numbers of new users as well as increased transactions from existing users. The current requirement is to support 100,000 new claims each month. This represents a 20% growth over the previous year; a higher growth factor is expected next year. Secondary factors include growth of claims based on legislative, economic, and policy decisions.

What are the dependencies, interactions, and interfaces with other systems?

VRM – hosting user interface application
VLER – supporting data sharing infrastructure
VBMS – consuming rating engine to enable paperless rating
CAPRI – current CP workflow application
CPRS – Veteran data storage
VTA – current Veteran Tracking application used in claims processes for IDES
Other systems across VHA/VBA/DoD/External (e.g. VERIS for contracted exams)

What is the process for planning/adjusting capacity?

- 1) Monitor resource usage through traffic logs
- 2) Set threshold of 70% capacity, with an alarm for resource usage above that threshold; ensure these thresholds include load balancing during peak hours
- 3) On alarm, enact process for procuring additional resources, with built-in dollar amounts for each tera/gigabyte of additional memory needed.
- 4) In the event of excessive resource use during peak hours, use the hot site as fail over

Capacity Planning Group within Service Delivery and Engineering (SDE)

Reference the ProPath process

7.1.3. Availability Requirements

Table 4 Availability Requirements

Describe when the envisioned system will need to be available (business hours only, weekends, holidays, etc) to support the business.
<p>Service Level Agreement (SLA) 99.9% excluding pre-defined maintenance schedules. Potential hours of usage are 24 hours, 7 days a week, due to users situated worldwide across all time zones.</p> <p>% uptime for web portal – SLA 99.9%, where total hours the DBQ Service Gateways URL is available divided by the total hours in the performance period, less scheduled maintenance and security shutdowns. This applies to both the frontend and backend of the DBQ Service Gateway.</p>

7.2. Known Interfaces

This is the business community’s best understanding of known interfaces and may not be a comprehensive listing. All required interfaces will be stated as Business Needs in [Section 7.1](#).

Table 5 Known Interfaces

<u>Name</u>	<u>Description</u>	<u>Interface Type</u>	<u>Responsibilities</u>	<u>Deliverables</u>
VLER DAS	Virtual Lifetime Electronic Record – Data Access Service	Automated	Serves as an information broker of Veteran data for the VA, DoD, Federal Partners and Private partners.	Initial capabilities will enable the sharing of computable data from completed DBQs to be accessed by approved systems throughout the VA, DoD, and SSA for the purposes of compensation and pension adjudication.

8. Other Considerations

8.1. Assumptions

This RED assumes that the Repositories program will be capable of fulfilling the requirements stated above.

8.2. Dependencies

Refer to Disability Benefits Questionnaires (DBQs) Service Gateway BRD (Work Effort Unique Identifying #20111209) for dependencies.

8.3. Constraints

Design constraints for the DBQ exam solution are based on the enterprise VA Technical Reference Model and Standards. Repositories Profile (TRM/SP), which is a guide for the use of tools and coding languages, including operating systems, database servers, and application servers. The Office of Enterprise Development (OED) ProPath process provides guidelines for software development. Any variations will be approved by the appropriate waiver.

8.4. Business Risks and Mitigation

Refer to Disability Benefits Questionnaires (DBQs) Service Gateway BRD (Work Effort Unique Identifying #20111209) for business risks and mitigation.

Appendix A. References

Refer to Disability Benefits Questionnaires (DBQs) Service Gateway BRD (Work Effort Unique Identifying #20111209) for references.

Appendix B. Data Dictionary and Sample XML Schemas



Appendix C. Stakeholders, Primary/Secondary Users, and Workgroups

Refer to Disability Benefits Questionnaires (DBQs) Service Gateway BRD (Work Effort Unique Identifying #20111209) for stakeholders..

Appendix D. Conceptual Models



Appendix E. Enterprise Requirements

Below is a subset of Enterprise-level Requirements that are of particular interest to the business community. These requirements MUST be addressed within each project resulting from this work effort. If OIT cannot address these Enterprise-level requirements, the Business Owners responsible for each area MUST be engaged in any waiver discussions prior to any decisions being made. This section is not meant to be a comprehensive list of all Enterprise-level requirements that may apply to this work effort and should not preclude the technical community from reviewing all Enterprise-level requirements, and identifying others that should apply to this work effort as well.

Enterprise-level requirements are contained in the VA Enterprise Requirements Management (ERM) Repository. To contact the ERM program personnel, gain access to the ERM repository and to obtain the comprehensive allocation of Enterprise-level requirements for the project development iteration, contact [VA OIT OED SE Enterprise Requirements Management](mailto:VA_OIT_OED_SE_Enterprise_Requirements_Management). ([mailto:VHA 10P7B Service Coordination SRM Team](mailto:VHA_10P7B_Service_Coordination_SRM_Team))

ReqPro Tag	Requirement Type	Description
ENTR25	Security	<p>All VA security requirements will be adhered to. Based on Federal Information Processing Standard (FIPS) 199 and National Institute of Standards and Technology (NIST) SP 800-60, recommended Security Categorization is High.</p> <p>The Security Categorization will drive the initial set of minimal security controls required for the information system. Minimum security control requirements are addressed in NIST SP 800-53 and VA Handbook 6500, Appendix D.</p>
ENTR10	Privacy	All VA Privacy requirements will be adhered to. Efforts that involve the collection and maintenance of individually identifiable information must be covered by a Privacy Act system of records notice.
ENTR7	Executive Order	All executive order requirements will be adhered to.
ENTR8	Identity Management	All Enterprise Identity Management requirements will be adhered to. These requirements are applicable to any application that adds, updates, or performs lookups on persons.
ENTR991	Terminology Services	Application/services shall reference the Standard Data Services (SDS) as the authoritative source to access non-clinical reference terminology.
ENTR1092	Terminology Services	Application/Services shall use the VA Enterprise Terminology Services (VETS) as the authoritative source to access clinical reference terminology.
ENTR1847	Terminology Services	Applications recording the assessments and care delivered in response to an Emergency Department visit shall conform to standards defined by the VHA-endorsed version of C 28 – Health Information Technology Standards Panel (HITSP) Emergency Care Summary Document Using Integrating the Healthcare Enterprise (IHE) Emergency Department Encounter Summary (EDES) Component.
ENTR1848	Terminology Services	Applications exchanging data summarizing a patient's medical status shall conform to standards defined by the VHA-endorsed version of C 32 – HITSP Summary Documents Using Health Level Seven (HL7) Continuity of Care Document (CCD) Component.

Appendix F. Acronyms and Abbreviations

OIT Master Glossary:

http://vaww.oed.wss.va.gov/process/Library/master_glossary/masterglossary.htm

Term	Definition
AITC	Austin Information Technology Center
ANR	Automated Notification Reporting
AO	Agent Orange
BA	Business Architecture
BDD	Benefits Delivery at Discharge
BHIE	Bidirectional Health Information Exchange
BIRLS	Beneficiary Identification Records Locator Service
BN	Business Need
BRD	Business Requirements Document
CA	Certification and Accreditation
CAPRI	Compensation and Pension Record Interchange
CCD	Continuity of Care Document
CCOW	Clinical Context Object Workgroup
CDW	Corporate Data Warehouse
COOP	Continuity of Operations
CP	Compensation & Pension
CPF	Compensation, Pension and Fiduciary
CPRS	Computerized Patient Record System
CPS	Compensation and Pension Services
CPU	Compensation Pension Unit
CRM	Customer Relationship Management
DBQ	Disability Benefits Questionnaire
DMA	Office of Disability and Medical Assessment
DoD	Department of Defense

Term	Definition
DRO	Decision Review Officer
EDES	Emergency Department Encounter Summary
HER	Electronic Health Record
EPMO	Enterprise Program Management Office
ERM	Enterprise Requirements Management
FHIE	Federal Health Information Exchange
FIPS	Federal Information Processing Standard
FTE	Full Time Equivalent
HAS	Health Administrative Specialist
HDR	Health Data Repository
H-ESM	Health Enterprise Systems Manager
HFE	Human Factors Engineering
HIM	Health Information Management
HITSP	Health Information Technology Standards Panel
HL7	Health Level Seven
HPS	Health Provider Systems
HTML	Hypertext Markup Language
IAM	Identity and Access Management
IDES	Integrated Disability Evaluation System
IHE	Integrating the Healthcare Enterprise
IT	Information Technology
IWQ	Integrated Work Queue
LGY	Loan Guaranty Service
LOINC	Logical Observation Identifiers, Names, and Codes
NIST	National Institute of Standards and Technology
NSR	New Service Request
NTRT	New Term Rapid Turnaround
NwHIN	Nationwide Health Information Network
OBPI	Office of Business Process Integration
OIT	Office of Information and Technology
OM	Operations and Maintenance
OS	Operating System
OSP	Office of Strategic Planning
OWNER	Owner Requirement
PDAS	Principal Deputy Assistant Secretary
PF	Pension and Fiduciary
PII	Personally Identifiable Information

Term	Definition
PIM	Privacy and Identity Management
PM	Project Manager
PMAS	Program Management Accountability System
RAEM	Requirements Analysis and Engineering Management
RED	Requirements Elaboration Document
REE	Registration, Eligibility and Enrollment
RPO	Recovery Point Objective
RTO	Recovery Time Objective
RVSR	Ratings Veterans Service Representative
SDE	Service Delivery and Engineering
SDS	Standard Data Services
SLA	Service Level Agreement
SM	Service Member
SMART	Structured Module for Analytic and Report Templates
SME	Subject Matter Expert
SNN	Social Security Number
SNOMED CT	Systematized Nomenclature of Medicine Clinical Terms
SQL	Structured Query Language
STR	Service Treatment Records
STS	Standards and Terminology Services
SVR	Standard Voice Recognition
UAT	User Acceptance Testing
VA	Department of Veterans Affairs
VASRD	VA Schedule for Rating Disabilities
VBA	Veterans Benefits Administration
VBMS	Veterans Benefits Management System
VETS	VA Enterprise Terminology Services
VHA	Veterans Health Administration
VistA	Veterans Health Information Systems and Technology Architecture
VLER	Virtual Lifetime Electronic Record
VPN	Virtual Private Network
VR&E	Vocational Rehabilitation and Employment
VRM	Veterans Relationship Management
VSR	Veterans Service Representative
VTA	Veterans Tracking Application
XML	Extensible Markup Language

Attachment A. Reviews and Approval

The requirements defined in this document are the high level business requirements necessary to meet the strategic goals and operational plans of the VHA DMA, VBA Compensation Pension and Fiduciary Services, and VLER Program Offices. Further elaboration to these requirements will be done in more detailed artifacts.

Business Owner VA

Signifies that the customer approves the documented requirements, that they adequately represent the customers desired needs, and that the customer agrees with the defined scope.

X

Joe Paiva
VLER Executive Director