

Registries Convergence

Also Known As Converged Registries Solution (CRS)

Supplemental to New Service Request # 20100406

Business Requirements Change Document



March 2014

Revision History

Note: The revision history cycle begins once changes or enhancements are requested after the Business Requirements Document has been baselined.

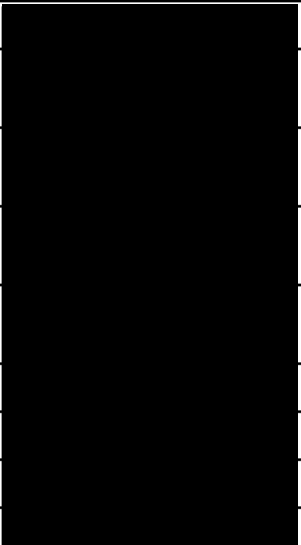
Date	Description	Author
03/27/14	Initial Kick-off BRCD Discussion Call	
04/03/14	Review/Discussion/Update of Functional Requirements through OWNR 4.2	
04/10/14	Review/Discussion/Update of Functional Requirements through OWNR 6.2	
04/17/14	Review/Discussion/Update of Non-Functional Requirements	
04/24/14	Review/Discussion/Update of Non-Functional Requirements	
04/25/14	Update on final draft	
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04/30/14	Business Owner Approval	

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1. Purpose

The Business Requirements Change Document (BRCD) is authored by the business community for the purpose of capturing, describing, and documenting expanded business needs that are supplemental to the business requirements documentation associated with New Service Request (NSR)# 20100406. [REDACTED]

The intended audience for this document is the Office of Information and Technology (OIT). For a comprehensive analysis of this work effort, please refer to the Business Requirements Document (BRD) and/or other BRCD deliverables in [Appendix A](#).

2. Description of Change

Veterans Health Administration (VHA) initiated this BRCD in order to enhance its definition and requirements for a common registry framework. VHA expects data to be shared among registries, new registries created rapidly (one calendar month or less), and with greatly reduced implementation and sustainment costs. The Converged Registries Solution (CRS) hosted data will accurately reflect a patient's data from the respective data source systems. New data created through individual registries will be shareable, when appropriate, among all registries on CRS and made available for export to the Corporate Data Warehouse (CDW) for additional analysis and use by VHA Research.

3. Requirements

All business needs and owner requirements identified for this request are included in the table below. The Action column indicates whether the business need/requirement is Unchanged (from the original BRD), New, Revised, or Deleted. Revised business needs/requirements will be displayed along with the original text. Deleted business needs/requirements will be displayed with a single line drawn through the text (~~text~~).

3.1. Business Needs/Owner Requirements

ReqPro Tag BN/OWNR Number	Action	Business Need (BN)/Owner (OWNR) Requirement	OWNR Priority*
NEED1555 BN 1	New	Adhere to the Enterprise Level requirements as specifically addressed in Appendix D of this document.	High

ReqPro Tag BN/OWNER Number	Action	Business Need (BN)/Owner (OWNER) Requirement	OWNER Priority*
NEED/ARCH BN 2	Revised	<u>Original:</u> Need a permanent long-term IT solution for Registries Convergence, including acquisition and storage of data. <u>Revised:</u> Need a permanent long-term IT solution for Registries Convergence, including acquisition and storage of data in a relational data structure.	High
OWNER 2.1	Unchanged	Provide a dedicated platform/architecture at the enterprise level (including hardware).	High
OWNER 2.2	Unchanged	Provide a single front-end online transaction processing and reporting application framework for multiple specific registries.	High
OWNER 2.2.1	Unchanged	Allow the front-end online transaction processing application to accommodate the unique requirements of each registry.	High
OWNER 2.2.2	Unchanged	Provide a user interface specific to the needs of each Registry.	High
OWNER 2.3	Revised	<u>Original:</u> Provide a back-end database system for multiple specific registries; data will come from multiple Department of Veterans Affairs (VA) and non-VA sources. <u>Revised:</u> Provide a back-end database system for multiple specific registries; data will come from multiple VA and non-VA sources and provide accommodations for future data sources.	High
OWNER 2.3.1	Revised	<u>Original:</u> Allow back-end database system to accommodate the unique data requirements of each individual registry. <u>Revised:</u> Allow back-end relational database system to accommodate the unique data requirements of each individual registry.	High

ReqPro Tag BN/OWNER Number	Action	Business Need (BN)/Owner (OWNER) Requirement	OWNER Priority*
OWNER 2.3.1.1	New	Unique data requirements, such as disease cohorts, will include all patient data regardless of age or gender.	High
OWNER 2.4	Unchanged	Allow each registry to share as much common demographic, clinical, administrative, business, and other data as possible to minimize duplicate data entry, extraction, and storage.	High
OWNER 2.5	Unchanged	Provide ability for system to push data from the registries database back to VA enterprise databases and repositories as determined by future needs [such as the Corporate Data Warehouse (CDW)].	High
OWNER 2.5.1	Unchanged	Create a table of patients with registry flags so the table can be imported into the CDW Master Patient Table.	High
NEED/ARCH BN3	Unchanged	Need ongoing sustainment of the Registries Convergence solution platform/architecture to support Veterans Health Administration (VHA) needs.	High
OWNER 3.1	Unchanged	Provide ongoing Information Technology (IT) operational support for Registries Convergence to maintain currency with required components such as system/data interfaces, tables, and codes.	High
OWNER 3.2	Unchanged	Provide IT infrastructure/database and other necessary support when new patient registries are added to Registries Convergence.	High
NEED/ARCH BN4	Unchanged	Need for Registries Convergence to support VA/VHA enterprise level endeavors.	High
OWNER 4.1	Unchanged	Provide IT support to align/consolidate Registries Convergence with the enterprise level Repository effort, such as the CDW.	High
OWNER 4.1.2	Unchanged	Allow individual users to query registry Structured Query Language (SQL) tables with the registries functioning as data marts - accessed with the approval of the data owners.	High
OWNER 4.2	Unchanged	Provide IT support to align Registries Convergence with enterprise level Data Standardization efforts.	High

ReqPro Tag BN/OWNER Number	Action	Business Need (BN)/Owner (OWNER) Requirement	OWNER Priority*
OWNER 4.2.1	Revised	<p><u>Original:</u> Registries Convergence shall subscribe to Standard Data Services (SDS) within Standards and Terminology Services (STS) for regular monthly updates of non-clinical standardized data.</p> <p><u>Revised:</u> Registries Convergence shall obtain standard terminology services from CDW for daily updates of clinical and non-clinical standardized data.</p>	High
OWNER 4.3	Revised	<p><u>Original:</u> Provide IT support to align Registries Convergence with enterprise level Data Quality efforts.</p> <p><u>Revised:</u> Provide IT support to align Registries Convergence with enterprise level Data Quality (data referential integrity, metadata, data standardization) efforts.</p>	High
OWNER 4.4	Unchanged	Provide IT support to align Registries Convergence with Enterprise level requirements.	High
NEED/ARCH BN5	Revised	<p><u>Original:</u> Need a common tool set for retrieval, exporting, querying, analysis, display, and reporting from the specific registries within Registries Convergence for internal and external entities.</p> <p><u>Revised:</u> Need common services for retrieval, exporting, querying, analysis, display, and reporting from the specific registries within Registries Convergence for internal and external entities.</p>	High
OWNER 5.1	Revised	<p><u>Original:</u> Provide common tool set for data analysis, both clinical and administrative analysis applications.</p> <p><u>Revised:</u> Provide common services for data analysis, both clinical and administrative analysis applications.</p>	High

ReqPro Tag BN/OWNER Number	Action	Business Need (BN)/Owner (OWNER) Requirement	OWNER Priority*
OWNER 5.2	Revised	<p><u>Original:</u> Provide single tool set for aggregating, trending, and reporting data. This may be at a national level as well as sub levels [i.e., Veterans Integrated Service Network (VISN), facility] along with longitudinal as well as patient centric views; this must meet the needs of each specific registry.</p> <p><u>Revised:</u> Provide common services for aggregating, trending, and reporting data to allow for customization for each registry. This may be at a national level as well as sub levels [i.e., Veterans Integrated Service Network (VISN), facility] along with longitudinal as well as patient centric views.</p>	High
OWNER 5.3	Revised	<p><u>Original:</u> Provide standardized reports from each individual registry utilizing the common tool set.</p> <p><u>Revised:</u> Provide standardized reports from each individual registry utilizing common services.</p>	High
OWNER 5.4	Revised	<p><u>Original:</u> Provide ad hoc reporting capabilities from each individual registry utilizing the common tool set; the tool set must be available to registries users.</p> <p><u>Revised:</u> Provide ad hoc reporting capabilities from each individual registry utilizing the common services.</p>	High
OWNER 5.5	Revised	<p><u>Original:</u> Provide a uniform interface that provides a generic interface for accessing all resources.</p> <p><u>Revised:</u> Need for a host of authentication services based on enterprise standards.</p>	High

ReqPro Tag BN/OWNER Number	Action	Business Need (BN)/Owner (OWNER) Requirement	OWNER Priority*
NEED/ARCH BN6	Revised	<u>Original:</u> Need support to provide interoperability of data with external business partners such as DoD. <u>Revised:</u> Need to support exchange of data with external business partners.	High
OWNER 6.1	Unchanged	Provide the ability to receive/store data from external business partners such as DoD.	High
OWNER 6.2	Deleted	Provide the ability to support interoperability exchange of data with external business partners such as DoD.	

*All listed requirements are needed by the business community. The Priority is merely a mechanism to suggest a sense of urgency and order to the technical community if the requirements are to be parsed into phases. The order of importance begins with those that are designated as **High** priority.

3.2. Non-Functional Requirements

ReqPro Tag	Action	Non-Functional Requirements (NONF) Category
		System Performance Reporting Requirements (Note: Each system developed by VA OIT <u>must</u> comply with the following mandatory requirements.)
NONF2811	NEW	Include instrumentation to measure all performance metrics specified in the Non-Functional Requirements section of the BRD. At a minimum, systems will have the ability to measure reporting requirements for Responsiveness, Capacity, and Availability as defined in the non-functional requirements section of this document.
NONF2812	NEW	Make the performance measurements available to the IT Performance Dashboard to enable display of "actual" system metrics to customers and IT staff.
		Operational Environment Requirements
	NEW	System response times and page load times shall be consistent with My HealtheVet standards.
	NEW	Maintenance, including maintenance of externally developed software incorporated into the CRS application(s), shall be scheduled outside of scheduled business hours (7am-8pm ET Monday through Friday).

ReqPro Tag	Action	Non-Functional Requirements (NONF) Category
NONF1608	NEW	Information about response time degradation resulting from unscheduled system outages and other events that degrade system functionality and/or performance shall be disseminated to the user community within 30 minutes of the occurrence. The notification shall include the information described in the current Automated Notification Reporting (ANR) template maintained by the VA Service Desk. The specific business impact must be noted in order for OIT to provide accurate data in the service impact notice of the ANR.
NONF1609	NEW	Provide a real-time monitoring solution to report agreed/identified critical system performance parameters.
	NEW	Through visual representation, such as red light/green light/yellow light, during high usage or reporting periods, provide real time monitoring solutions to indicate for users, optimal times for reporting.
NONF2820	NEW	Critical business performance parameters shall be identified, e.g., transaction speed, response time for screen display/refresh, data retrieval, etc. in a manner that data capture can occur to support metric reporting and support the OIT performance dashboard display. If no such performance metrics are required or provided there will be no program specific Service Level Agreements (SLA) created, nor shall there be any active/real time monitoring through the OIT Performance Dashboard to provide the business owners any performance metrics.
NONF1610	NEW	Notification of scheduled maintenance periods that require the service to be offline or that may degrade system performance shall be disseminated to the business user community a minimum of 48 hours prior to the scheduled event.
		Documentation Requirements
NONF1612	NEW	A technical training curriculum shall be developed and delivered to all levels of staff users.
NONF1613	N/A	The training curriculum developed by the Program Office shall state the expected task completion time for primary and secondary users.
NONF2228	N/A	User manuals and training tools shall be developed. If they already exist, updates shall be made, as necessary, to them and they shall be delivered to all levels of users.
	NEW	IT will provide the level of documentation required to support the system and maintain operations and continuity. Documentation shall represent minimal programmatic and lifecycle operations support documentation artifacts as defined by VA standards in ProPath and as required by the VA Enterprise System Engineering Lifecycle and Release Management office for sustained operations, maintenance, and support [REDACTED] prior to approval by any VA change control board and release into production.
		Implementation Requirements
	N/A	Technical Help Desk support for the application shall be provided for users to obtain assistance with _____.

ReqPro Tag	Action	Non-Functional Requirements (NONF) Category						
NONF1614	NEW	The IT solution shall be designed to comply with the applicable approved Enterprise SLAs.						
	N/A	The implementation must be complete by _____.						
		Data Protection/Back-up/Archive Requirements						
NONF1615		<p>Data protection measures, such as back-up intervals and redundancy shall be consistent with systems categorized as routine (30 day restoration), mission essential (72 hour restoration), or mission critical (12 hour restoration). Business owners are required to state the mission criticality of the IT services required in order to assist the planners and developers in determining best strategies for engineering an IT solution to meet their business objectives/needs. The business owner needs to state the criticality of the data and the impact to the business during a service disruption so appropriate technologies can be considered.</p> <table border="1"> <thead> <tr> <th><i>Classification</i></th><th><i>Recovery Time Objective</i></th><th><i>Recovery Point Objective</i></th></tr> </thead> <tbody> <tr> <td>Routine</td><td>30 day restoration</td><td>Last backup (backups should be done daily).</td></tr> </tbody> </table>	<i>Classification</i>	<i>Recovery Time Objective</i>	<i>Recovery Point Objective</i>	Routine	30 day restoration	Last backup (backups should be done daily).
<i>Classification</i>	<i>Recovery Time Objective</i>	<i>Recovery Point Objective</i>						
Routine	30 day restoration	Last backup (backups should be done daily).						
		Data Quality/Assurance Requirements						
NONF2229	NEW	A monitoring process shall be provided to ensure that data is accurate and up-to-date and provides accurate alerts for malfunctions while minimizing false alarms.						
		User Access/Security Requirements						
NONF1617	NEW	Ensure the proposed solution meets all VHA Security, Privacy, and Identity Management requirements including VA Handbook 6500 (see Appendix D).						

3.2.1. User Access Levels

INDIVIDUAL REGISTRIES WILL DEVELOP THEIR OWN PRIMARY & SECONDARY USER ACCESS LEVELS.

The table below defines the different levels of user access to the Converged Registries Solution application:

Name	Name of Application	Access
Primary Registry Users	Converged Registries Solution	Read/Write access
Generic/Help Desk Support	Converged Registries Solution	View access only
Secondary Registry Users	Converged Registries Solution	View access only
System Administrators	Converged Registries Solution	Full Control

3.2.2. Performance, Capacity, and Availability Requirements

Managing registries data at the enterprise level supports growth in performance, capacity, and availability for multiple patient Registries utilizing the single Registries Convergence platform. The ability to predict growth in performance, capacity, and availability is vital to VHA's mission. VHA understands data is an enterprise asset and a strategic resource supporting the delivery of high quality innovative healthcare.

It is also important to be cognizant of future registries (as yet undetermined) which will utilize this enterprise platform.

3.2.2.1. Performance

Action	Performance Criteria
	If this is a system modification, how many users does the current system support?
Revised	During the peak period between 11am Eastern Standard Time (EST) and 5pm EST the current system supports approximately 100 concurrent users but has the capacity to support several thousand logged-on users.
	How many users will the new system (or system modification) support?
Revised	The system will support an additional 1000 logged-on users per existing and new registries (with 100 concurrent users).
	What is the predicted annual growth in the number of system users?
Revised	As new patient Registries are adopted into CRS, the platform can expect a growth of approximately 1000 new users per additional Registry added in a fiscal year.

3.2.2.2. Capacity

Action	Capacity Criteria
	What is the predicted size (average) of a typical business transaction?
Unchanged	By using a common platform the overall size of the database and applications have been reduced by maintaining common data elements such as patient demographics in a central repository. An example of a typical business transaction for a registry using the Converged Registries platform for the Embedded Fragment Registry comprises processing of a referral for a single patient. Each referral may contain thirty-two different health factors. Each Health Factor contains a string of approximately thirty to forty words and each may contain up to 250 characters. Based on the average transaction for the Embedded Fragments Registry, each transaction will contain approximately 800 words. Since the other Registries operate on a similar basis and referrals are generated for each, it can be inferred that this will be a typical transaction for each of the other registries. From the approximated word count, OIT would be able to calculate the required storage capacity.
	What is the predicted number of transactions per hour (day, or other time period)?
Revised	While the system programmatically generates referrals for each of the Registries in Registries Convergence, it is up to users of each Registry to complete workflows to finalize processing of each transaction. The current rate for this processing is 100 completed referral or transactions per hour, per registry.
	Is the transaction profile expected to change (grow) over time?
Revised	The transaction profile will expand and grow as more registries are added.
	What is the process for planning/adjusting capacity?

Revised	<p>The OIT Registries Program has contracted with the Austin Information Technology Center (AITC) for hardware and database support to include System Administrators and Database Administrators. The AITC System Administrators and Database Administrators continually monitor system resources, database size, error logs, and transactions logs to ensure that critical limits are not reached. Alarms and email messaging is setup on Extract, Transform, Load (ETL) processes so that if failures occur the Database Administrator and OIT Registries Program staff are notified and able to immediately check the error logs to resolve any issues. The amount of time to implement changes or increase capacity should be established with AITC for alarms and system failures based off level of effort.</p> <p>An early review (within first three months of activation) of usage levels will be conducted for each new registry added to the CRS.</p> <p>Owners of new registries added to the CRS will provide number of expected users/usage.</p>
	Does the update require a surge capacity that would be different from the base application?
Revised	<p>The reporting component for most registries could require greater usage at end of quarter and end of fiscal year however it is expected that this processing is completed in a manner to minimize the impact on the CRS as a whole.</p>

3.2.2.3. Availability

Action	Availability Criteria
	Describe when the envisioned system will need to be available (business hours only, weekends, holidays, etc.) to support the business.
Unchanged	<p>CRS requires ongoing IT operational system-level support.</p> <ul style="list-style-type: none"> • Formal agreement between the AITC and OIT Registries Program to support operations • Security Accreditation and Certification • System Availability is 7am to 8pm EST, M-F excluding holidays. • Service Desk Response Time: 1 Hour • Backups: Daily Incremental • Maintenance Window: 4 hours scheduled monthly • Business Continuity Level: Routine Support

3.2.3. Usability Requirements

User Experience encompasses the entire interaction between the user and the system. This includes direct interaction with the system as well as other interactions, understanding, awareness, perceptions, beliefs, feelings, and actions that result from that interaction. One key component of the user experience is the usability of the system. Improving usability over the prior version is a key requirement for the Converged Registries Solutions. The International Organization for Standardization (ISO) defines usability as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use” (1998).

In order for the Converged Registries Solution to support a good user experience for users who interact with data through individual registries, the system’s ability to generate individual

registries must meet the requirements outlined in this section. These involve attributes of the application as well as the process that is required to achieve them. VA expects that individual registries developed shall meet all the usability requirements listed below and realizes that no business users shall interact directly with the CRS, VA's registry framework or platform. To clarify, user interaction is only through an individual registry such as the Embedded Fragments Registry.

In order to improve usability of VA-developed or purchased applications, the following actions are required:

- In accordance with the Office of the National Coordinator for Health Information Technology's (ONCHIT) Meaningful Use (MU) Stage 2 final ruling, employ an industry recognized User Centered Design (UCD) process. The methods for UCD are well defined in documents and requirements such as ISO 9241-11, ISO 13407, ISO 16982, National Institute of Standards and Technology Interagency Report (NISTIR) 7741, ISO/International Electrochemical Commission (IEC) 62366, and ISO 9241-210. Developers will choose their UCD approach; one or more specific UCD processes will not be prescribed.
- Adhere to an industry recognized User Interface (UI) Best Practices Guideline or Style Guide. For example, first follow UI guidelines for the development platform. In instances where platform guidelines are not available, adhere to VA's Best Practices Guidelines/Style Guide.
- Inform requirements and designs with detailed human factors work products that have been/will be completed for the specific project. Examples of specific human factors activities might include heuristic evaluations, site visits, interviews, application-specific design guides, and usability testing on existing systems or prototypes.

A sound UCD and development process based on human factors should include the following activities:

- Understanding of the users, the users' tasks, and the users' environments
- Review of similar or competitive systems to inform requirements and design
- Heuristic evaluation of prior versions, prototypes, or baseline applications, if applicable
- Iterative design and formative usability testing (formative usability testing is used to discover usability problems during the design and development process)
- User risk analysis
- Summative validation usability testing (summative usability testing is used to quantify and validate usability of a product with measures of effectiveness, efficiency, user perceptions, etc.)

To demonstrate high usability, the application should be:

- Intuitive and easy to learn with minimal training
- Effective by allowing users to successfully complete tasks
- Efficient by allowing users to complete their work in a manner consistent with clinical practice and workflow
- Perceived to have high usability, as demonstrated by appropriate survey measures

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

The system must be reliable and enable user trust by providing:

- Stable and reliable performance
- Accurate data
- Display of all data that is available in native or interfaced systems and intended to be available in the application
- Accessible information related to the source of data

The application should include a modern Graphical User Interface (GUI) that allows the user to view data from multiple sources and include:

- Integrated display of structured and unstructured data
- Rich data visualization and graphical display of data
- Ability to switch between tabular and graphical data views
- Ability to interact with displayed data to obtain additional details related to the data and source of the data
- User customizable components and settings

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

- Fast, Google-like, Lucene search functionality with auto-complete and real-time display of matched results during typing
- Search history

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

- Filtering of data tables, lists, and grids
- Filtering of search results

The application design should be modified to:

- Address the specific findings from a human factors heuristic evaluation conducted on the prior version of the application
- Address the specific findings reported from field use of the prior version
- Address the specific findings reported from usability testing of the prior version or relevant prototypes

The application design should be modified to address the following UI guidelines provided in the table below, as applicable:

ReqPro Tag	Action	Usability/User Interface Requirements
NONF2661	New	Left align content in table cells to facilitate quick visual scan.
NONF2662	New	Left align text for column headers to facilitate visual scan and make columns and content appear more organized.

ReqPro Tag	Action	Usability/User Interface Requirements
NONF2663	New	Use mixed case instead of all caps whenever possible (e.g., dropdown list items, table data, table headers, hyperlinks, tab names). Limit the use of "all caps" throughout the application.
NONF2664	New	Simplify button labels. Re-label buttons to reflect standard terminology that is common in web interfaces and other applications (e.g., "Cancel"). Emphasize the action being performed in the most succinct way possible. Minimize redundancy in text/terminology that is used to convey the same action.
NONF2665	New	Left align page/section titles to anchor titles in consistent locations regardless of window sizing.
NONF2666	New	Labels for fields should be left aligned to facilitate quick visual scan and make forms and field groupings appear more organized.
NONF2667	New	Avoid using acronyms or abbreviations unless (a) they are widely understood/well known or (b) there is very limited space to display the full meaning. This supports naïve user understanding. If limited space results in using a non-common acronym/abbreviation, ensure it is specified within "Help" and/or as a tooltip.
NONF2668	New	Use colors such as red and green only for status driven content. Avoid using red for text/content, links, button labels, etc. This will reduce risk for user error, improve link discoverability, and facilitate understanding of differences in navigation/actions/content. It will also help users to isolate important status information (using red, green, etc.) from other less important information when viewing and processing information provided to them on a page.
NONF2669	New	Provide visual separation between the navigation space and the main content area.
NONF2670	New	Add field level validation and notification of missing information on the same page without launching a new window or navigating to another page.
NONF2671	New	Make all text hyperlinks appear consistent in style.
NONF2672	New	Make drop-down selection box widths appropriate for content and visual appeal.
NONF2673	New	Use standard and always visible radio buttons for "Yes/No" options instead of requiring the user to click in a drop down box and then click to select the "Yes" or "No" option.
NONF2674	New	Use standard date and time selection widgets. Where date and time are selected/picked from a standard widget, also provide direct data entry to support keyboard navigation. Enable field level validation immediately upon entry. Include instructional format text within the field entry box.
NONF2675	New	Provide standard sort behavior and visual indications on columns in all tables.
NONF2676	New	Define and adhere to a standard model for use and design of controls, buttons, hyperlinks, and navigation elements.

ReqPro Tag	Action	Usability/User Interface Requirements
NONF2677	New	Ensure that text is sized to be readable (for example, by using the 007 Rule to assure text size is readable for users with 20/40 vision. The formula: Text height = .007 * distance between eyes and screen).
NONF2678	New	Place common navigation elements in consistent locations.
NONF2679	New	Place critical information "above the fold" (i.e., in the top portion of the screen that is immediately viewable).
NONF2680	New	Use consistent screen flow models, elements, and terms to support similar workflows.
NONF2681	New	Use consistently named buttons when actions are the same (e.g., Add vs. Save vs. Submit).
NONF2682	New	Enable users to print views from where they are in the interface. Avoid requiring the user to "run a report" in order to print something that is viewable on the screen.
NONF2683	New	Provide field entry tool tips at the field location. Ensure consistency across the application in field labels, formats, location of tooltips, and tool tip text.
NONF2684	New	Provide visual indication of required fields.
NONF2685	New	Display field labels in close proximity to entry elements.
NONF2686	New	Use consistent elements to filter data.
NONF2687	New	Use consistent elements to sort data.
NONF2688	New	Use a consistent model for display, layout, and grouping of data entry fields.
NONF2689	New	Provide alternate row shading in lengthy tables of data, form elements, etc.
NONF2690	New	Ensure that icons are recognized by users.
NONF2691	New	Provide some "white space" between status icons in report views, white board views, etc.
NONF2692	New	Auto-populate default values in entry/selection fields when possible and appropriate.
NONF2693	New	Visually differentiate status icons from clickable icons, when appropriate.
NONF2694	New	Define and support the appropriate user tab sequence through fields in forms in order to support keyboard navigation when entering data in forms.
NONF2695	New	Define and adhere to standard action button placement on screens, forms, etc.
NONF2696	New	Visually distinguish the primary action button on a page.
NONF2697	New	Consistently use screen elements, action elements, workflow sequences within/across screens, language, etc.

ReqPro Tag	Action	Usability/User Interface Requirements
NONF2698	New	Provide error messages in user-centric language with specific instructions on the meaning of the error and how to recover from it. Use error messages and method of display consistently across the interface.
NONF2699	New	Provide context-specific Help.
NONF2700	New	Do not use the term "sex" or any like abbreviations of that to represent gender.

3.3. Known Interfaces

Registries Convergence shall support receiving, storing, and exchanging data with external business partners such as DoD. This will include supporting standardization of the data between and among these external databases whenever possible. Additionally, the system shall provide the ability to distinguish non-VA originated data such as a DoD source from VA originated data.

Several of the Registries within Registries Convergence (CRS) have dependencies and interfaces with the DoD. The VA Eye Injury Data Store currently has a requirement to send data to the DoD and the number of transactions transferred to the DoD will increase as Vision Center of Excellence abstractors begin to complete the referrals. Additionally, the Embedded Fragment Registry has a DoD component. The requirement is to interface with the DoD in order to import DoD fragment analysis data into the Embedded Fragment Registry. The Embedded Fragment Registry is planning to also receive data from Veterans Tracking Application (VTA). In addition, critical components of the Convergence platform are the data extracts from the CDW. As more content is added to the CDW it is expected the number and size of these extracts will grow.

Name of Application	Description-of current application	Interface Type	Existing Functionality	Deliverables
Master Veteran Index (MVI)	Source of VA person identity information	Automated	No	Demographic information will be automatically incorporated
Corporate Database Warehouse(CDW)	Health, reference, and patient demographic data from the VA's electronic health record	Automated	Yes	Determine which patients should be included on the various registries, obtain health data, obtain other data found in the warehouse. Send data back to the CDW from CRS for additional analysis and in support of VHA Research.

VistA	VA's Electronic Health Record	Automated	Yes	Obtain lab data from VistA instances. To the extent possible, CDW shall be considered the primary source of health data and interfaces for obtaining data from other sources than CDW will be evaluated annually to determine if the source may be changed to CDW. Write data back to VistA, for instance an unsigned progress note.
Other Sources	External Sources with Pertinent Data	Automated	Yes	Obtain data from other data sources necessary for the success of individual registries.

3.4. Other Considerations

No change from original BRD.

4. Business Risks and Mitigation

The VA IT Project Risk Management Risk Log Table is located here:

Business Risks	Mitigation
The original BRD sought to develop a common platform to host registry data and individual registry user interfaces (experiences). This BRCD seeks to clarify what that means which is to ensure VHA may have a robust registry solution capable of adding registries to the platform in a rapid and low cost solution. The risk is that the technical implementation will not meet this requirement.	Ensure OIT staff understand the business goals and can therefore ensure the development teams deliver the required solution.

Appendix A References

- VA Handbook 6500 – Information Security Program
[REDACTED]
- New Service Request (NSR) # 20100406 Registries Convergence.
[REDACTED] [n](#) [REDACTED]

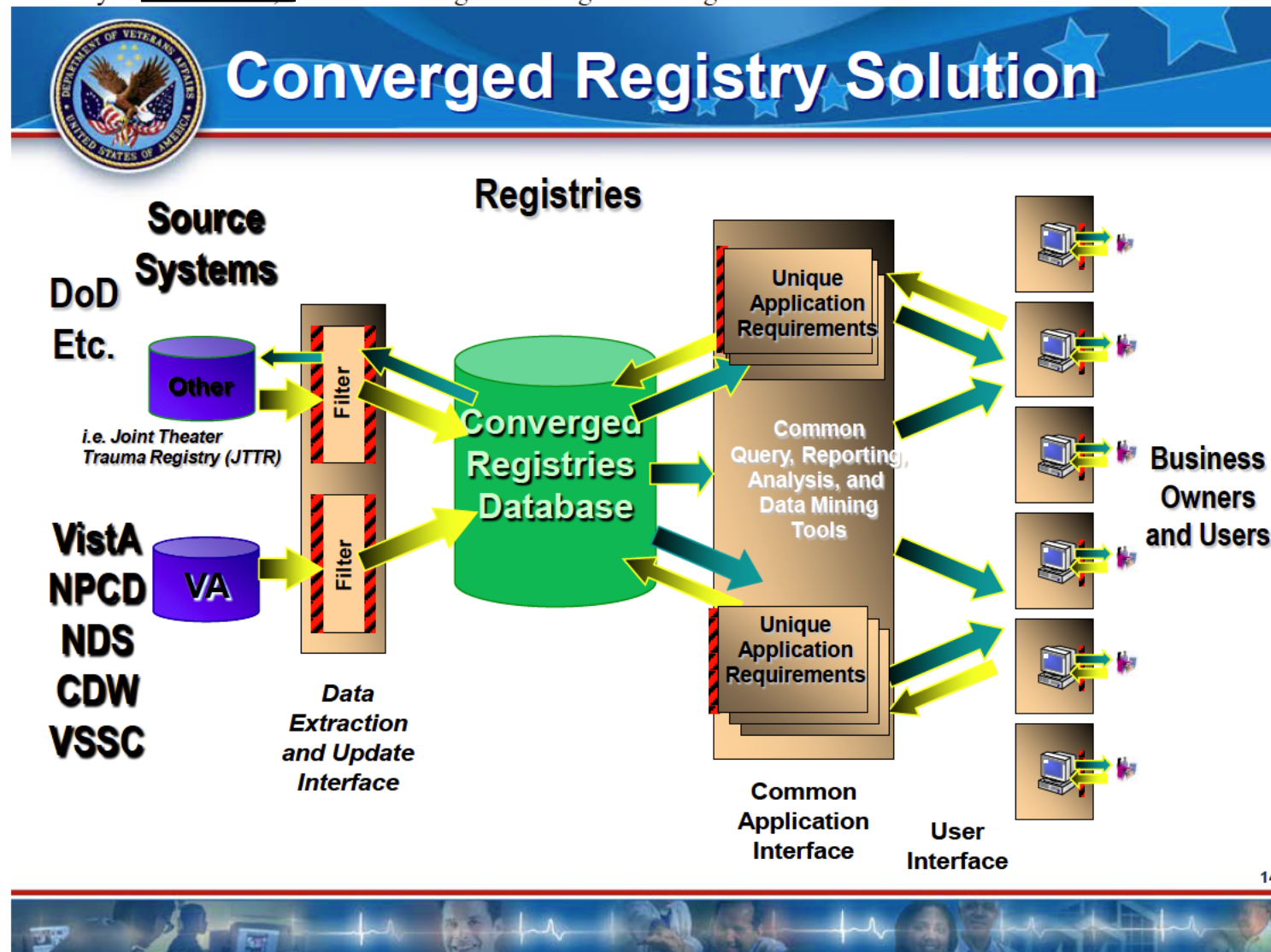
- Business Requirements Document for NSR 20100406



20100406 Registries
Convergence BRDPost'

Appendix B Models

Courtesy of [REDACTED] DI&T OED Registries Program Manager – To Be Model



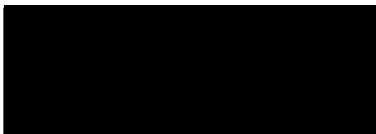
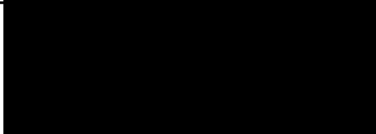
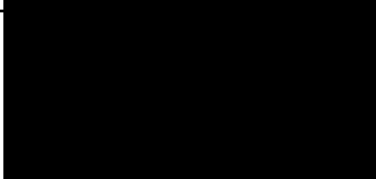
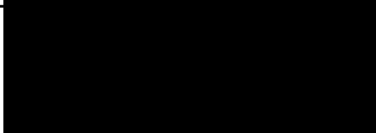
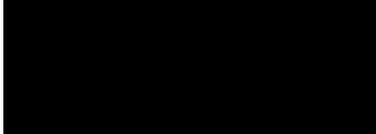
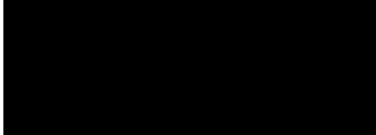
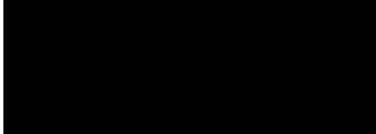

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Appendix C Stakeholders, Users, and Workgroups

Stakeholders

Type of Stakeholder	Description	Responsibilities
Endorser	• [REDACTED]	Endorsed this request. Provides strategic direction to the program. Elicits executive support and funding. Monitors the progress and time lines.
Business Owner(s)/Program Office(s)	• [REDACTED] • [REDACTED]	Provide final approval of BRD with sign-off authority. Provide strategic direction to the program. Elicit executive support and funding. Monitor the progress and time lines.
Requester	• [REDACTED]	Submitted request. Submits business requirements. Monitors progress of request. Contributes to BRD development.
Business Subject Matter Expert(s) (SME)	• [REDACTED] • [REDACTED] • [REDACTED] • [REDACTED] • [REDACTED] • [REDACTED] • [REDACTED] • [REDACTED]	Provide background on current system and processes. Describe features of current systems, including known problems. Identify features of enhancement.

Stakeholder Support Team (BRCD Development)

Type of Stakeholder	Description	Responsibilities
Information Security SME	• 	Responsible for ensuring the operational security posture is maintained, determining Assessment and Authorization (A&A) requirements.
Health Care Security Requirements SME	• 	Responsible for determining the security requirements for the request.
Service Coordination SME(s)	• 	Responsible for ensuring all aspects of non-functional requirements have been accurately recorded for this request.
Health Systems Portfolio Management Staff	<ul style="list-style-type: none"> •  •  •  •  •  	Serve as the liaison between the Program Office (Business Owner) and Product Development throughout the lifecycle.

Appendix D 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.

For the Enterprise-level Requirements listed below, CRS shall obtain standard terms through the CDW. CDW obtains data directly from VistA which is interfaced with the Standard Terminology Service. Requirements ENTR103 and ENTR104 are not directly applicable to CRS.

ReqPro Tag	Requirement Type	Description
ENTR99	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.
ENTR95	508 Compliance	All Section 508 requirements will be adhered to. Compliance with Section 508 will be determined by fully meeting the applicable requirements as set forth in the VHA Section 508 checklists (1194.21, 1194.22, 1194.24, 1194.31 and 1194.41) located at: http://www.ehealth.va.gov/508/resources_508.html or as otherwise specified. Checkpoints will be established to ensure that accessibility is incorporated from the earliest possible design or acquisition phase and successfully implemented throughout the project.
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.

ReqPro Tag	Requirement Type	Description
ENTR103	Terminology Services	Application/services shall reference the Standard Data Services (SDS) as the authoritative source to access non-clinical reference terminology.
ENTR104	Terminology Services	Application/Services shall use the VA Enterprise Terminology Services (VETS) as the authoritative source to access clinical reference terminology.
ENTR105	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.
ENTR106	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 E Acronyms and Abbreviations

OIT Master Glossary:

Term	Definition
A&A	Assessment and Authorization
ADR	Administrative Data Repository
AITC	Austin Information Technology Center
ANR	Automated Notification Reporting
BN	Business Need
BRCD	Business Requirements Change Document
BRD	Business Requirements Document
CARF	Commission on Accreditation of Rehabilitation Facilities
CCD	Continuity of Care Document
CCHIT	Certification Commission of Health Information Technology
CDS	Clinical Data Service
CDW	Corporate Data Warehouse
CPRS	Computerized Patient Record System
DAMA	Data Management Association International
DAMA-DMBOK	Data Management Association International – Data Management Book of Knowledge
DoD	Department of Defense
DU	Depleted Uranium
DSS	Decision Support System
EDES	Emergency Department Encounter Summary
EFR	Embedded Fragment Registry
ERR	Enterprise Requirements Repository
EST	Eastern Standard Time
ETL	Extract Transform Load
FIPS	Federal Information Processing Standard
FY	Fiscal Year
GUI	Graphical User Interface
HDI	Health Data & Informatics
HDR	Health Data Repository
HIM	Health Information Management
HITSP	Health Information Technology Standards Panel

Term	Definition
HL7	Health Level Seven
IEC	International Electrochemical Commission
IHE	Integrating the Healthcare Enterprise
ISO	International Organization for Standardization
IT	Information Technology
MPI	Master Patient Index
MU	Meaningful Use
NDS	National Data Service
NHIN	Nationwide Health Information Network
NIST	National Institute of Standards and Technology
NISTIR	National Institute of Standards and Technology Interagency Report
NONF	Non-Functional Requirement
NPCD	National Patient Care Database
NSR	New Service Request
O	Optional
OBS	Organizational Breakdown Structure
OED	Office of Enterprise Development
OIT	Office of Information and Technology
ONCHIT	Office of the National Coordinator for Health Information Technology
OND	Operation New Dawn
OWNR	Owner Requirement
PMAS	Program Management Accountability System
PSIS	Person Service Identity Management
R	Required
RDM	Requirements Development and Management
RDW	Regional Data Warehouse
SDS	Standard Data Services
SLA	Service Level Agreement
SME	Subject Matter Expert
SQA	Software Quality Assurance
SQL	Standard Query Language
STS	Standards & Terminology Services
TBI	Traumatic Brain Injury

Term	Definition
TEFSC	Toxic Embedded Fragment Surveillance Center
UCD	User Centered Design
UI	User Interface
VA	Department of Veterans Affairs
VAMC	VA Medical Center
VETS	VA Enterprise Terminology Services
VHA	Veterans Health Administration
VHIM	VHA Health Information Model
VINCI	VA Informatics and Computing Infrastructure
VIREC	VA Information Resource Center
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture
VSSC	VHA Support Service Center
VTA	Veterans Tracking Application



Appendix F Approval Signatures

The business requirements defined in this document supplement BRD 20100406. They are detailed at a level necessary to meet the strategic goals and operational plans of the Office of Informatics and Analytics Program Office as defined in the BRD. Any elaboration to these requirements will be done in more detailed artifacts.

Business Owner

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.

Signed:



 Director, HIG, OIA, VHA	Date
	

Subject: Approve: ACTION: Approval of BRCD for NSR 20100406 Converged Registries Solution


Business Owner


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.

Signed:

 , Director, NDS, HIG, OIA, VHA	Date
	

Subject: ACTION: Approval of BRCD for Converged Registries Solutions
Importance: High


I approve this BRCD for release. Thank you for all your work on this.



Business Liaison

Signifies appropriate identification and engagement of necessary stakeholders and the confirmation and commitment to quality assurance and communication of business requirements to meet stakeholder expectations.

Signed:

[REDACTED], Health Enterprise Systems Manager, HDS, AIM, OIA, VHA Date

[REDACTED]
Subject: Approve: ACTION: Approval of BRCD for NSR 20100406 Converged Registries Solution

Office of Information and Technology

Indicates agreement that the requirements have been received, are clear, understandable, and are documented sufficiently to facilitate project planning when the project is approved and funded. It is understood that negotiations may need to occur with the business during project planning as a result of technical reviews and feasibility.

Signed:

[REDACTED] IT Program Manager, PD, OIT Date

Include approval message attachments [HERE](#)