



*"Serving Those Who Served"*

# Mapping Business Processes for Washington State's Interagency Veteran Programs

## Project Deliverables:

# Business Process Management Requirements

**Washington State**

**Department of Veterans Affairs**

Submitted by:

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## About This Document

### Naming of Author

As we've done in many documents, for brevity we'll refer to our company, Frontier Strategies, Inc., as "Frontier" and will refer to ourselves in the first rather than the third person (i.e. "we").

### References within this Document

We have strived to minimize the cross-references within this document so readers won't have to forward- and back-reference content, which can be cumbersome.

### Appendices

We have made extensive use of appendices, some of which are required information for the deliverable, while others simply augment the findings and recommendations within. All others are optional.

### Audience

The primary audience for this report and recommendations are the Washington State Department of Veterans Affairs (WDVA) management team stakeholders for the *Mapping Business Processes for Washington State's Interagency Veteran Programs* project (herein "project").

The secondary audience are both DSHS and HCA management, staff and other entities having an interest in the topics presented in this document and who may have an interest resulting from this project's tie-in and funding via the CAHBI Interlocal Agreement and the SAMHSA grant which has partially funded this project.

Any tertiary audience is at the careful discretion of these stakeholders.

### Acknowledgement

Many people contributed their knowledge, wisdom and advice in the development of this document, its findings and recommendations. It would be far less substantial, and credible, without their help and, in many cases, the documents they maintain or produce.

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We regret if we've omitted anyone.

## **Corrections**

All errors, omissions or clarifications should be directed to the author and/or Steve Gill, WDVA, at [steveg@dva.wa.gov](mailto:steveg@dva.wa.gov), or 360-725-2235.

## **Revision History**

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Summary of Changes</b>	<b>Notes</b>
1	9/15/2015	D. Drislane	Original	

## **Related Documents**

The following documents are listed as reference material and are not germane to this document. For access to these documents, please contact the author (email [ddrislane@frontier-strategies.com](mailto:ddrislane@frontier-strategies.com)), or please contact Steve Gill, WDVA, at [steveg@dva.wa.gov](mailto:steveg@dva.wa.gov), or 360-725-2235.

No.	Document File Name	Version	Date	Description
1	305E-14-127_Contr_DSHS Data Sharing - New for Dec 2014.PDF	N/A	12/9/2014	Interagency data sharing agreement between WDVA and DSHS.
2	WDVA DVA-HCA DVA-DSHS Data Exchange Report v5.PDF	5	8/26/2015	Deliverable 2. Report detailing the data exchange or delivery between two sets of parties: WDVA and DSHS; and WDVA and HCA.
3	WDVA_REQS_PACKAGE_V10.xlsx	10	9/10/2015	Comprehensive project requirements package. It is an Excel workbook. It contains the Stakeholder Requests and Atomic Requirements presented in this report.
4	WDVA Federal Authoritative Data Report v2.PDF	2	8/24/2015	Deliverable 3. Report cataloging all data owned and sourced by federal authorities utilized in the business operations of WDVA.
5	WDVA Veteran Homeless Programs Assessment and Recommendations v1.docx	1	8/31/2015	Deliverable 4. Report cataloging the 80 current state (as-is) business processes that comprise the current state of both Veteran Services and BHS business operations at WDVA.
6	WDVA Data Infrastructure and Crosswalk Report v1.docx	1	8/31/2015	Deliverables 5 and 6. Report cataloging the as-is and to-be: data dictionaries and data crosswalk, including business entities models.
7	WDVA Process Assessment and Recommendations v1.docx	1	9/15/2015	Deliverable 7. As-Is and To-Be business processes documented; including assessment and recommendations.
8	Implementation Recommendations and Plan v1.docx	1	9/15/2015	Deliverable 9. Detailed implementation recommendations for a successful phased deployment and rollout of a future EVCMS solution.
9	(Reserved for future use.)			
10	(Reserved for future use.)			
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## 1. INTRODUCTION

### 1.1. Document Provenance

This document represents a formal deliverable of the *Mapping Business Processes for Washington State's Interagency Veteran Programs* project. It is one of nine total project deliverables:

- Detailed Work Plan and Schedule
- DVA-HCA DVA-DSHS Data Exchange Report
- Federal Authoritative Data Report
- Veteran Homeless Programs Assessment and Recommendations
- Data Infrastructure Report
- Crosswalk Report
- Process Assessment and Recommendations
- **Business Process Management Requirements (this document)**
- Implementation Recommendations and Plan

### 1.2. Purpose

The purpose of this document is as follows:

- To catalog the future state (to-be) stakeholder requests and atomic requirements in support of procuring an Enterprise Veterans Case Management System (EVCMS).
- To describe our approach to requirements elicitation and requirements refactoring.

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## 2. OVERVIEW OF REQUIREMENTS ELICITATION APPROACH

### 2.1. Introduction

The next two sections, 2.1.1 and 2.1.2, originally appeared in slightly different form in Related Document 5 on page 8, *WDVA Veteran Homeless Programs Assessment and Recommendations v1.docx*. Since they are brief sections, they are reused here as part of the discussion on our approach.

#### 2.1.1. Scope of Requirements Elicitation

One contractual obligation of this project was to, among 8 other tasks, elicit stakeholder business requirements for the following programs operating within the WDVA's Veterans Services (VS) and Behavioral Health Services (BHS) organizations:

- Behavioral Health Services (PTSD, Military War Trauma, and others)
- CABHI/BRIDGES
- Claims Quality Assurance
- Clark County Incarcerated Veterans Reintegration Services (IVRS)
- Homeless Veterans Reintegration Project (HVRP)
- King County Homeless and Incarcerated Services
- Military Transition Council (MTC)
- Rural Veterans Coordination Pilot (RVCP)
- Service Center
- Statewide Incarcerated Veterans Program (IVP)
- Thurston County IVRS
- Traumatic Brain Injury (TBI)
- Transitional Housing Services Program (THSP, Building 9)
- Transitional Warrior Program (TWP)
- Vet Corps
- Veterans Conservation Corps (VCC)
- Veterans Estate Management Program (VEMP)
- Veterans Innovations Program (VIP)

Additionally, other operational areas were documented:

- DD214 Database
- DSHS Enhancement Data Sharing
- Health Care Authority Data Sharing

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## 2.1.2. General Approach

### 2.1.2.1. Overview

As we originally reported in Related Document 5, *WDVA Veteran Homeless Programs Assessment and Recommendations v1.docx*, current state (as-is) business processes were elicited over the span of three weeks in June 2015. All fifteen program teams were convened—most of them separately—for 120- to 180-minute interview and capture sessions. While conducting these sessions, we also probed frequently for *pain points* and *business requirements* for the new system. Pain Points are the types of things that keep one up at night, or at the least, make work cumbersome or frustrating. Business Requirements state a need of the organization or stakeholder that must be satisfied to accomplish one or more goals of the organization.<sup>1</sup> Another definition we use in our training is: *A Business Requirement is a statement that expresses a business desire for a particular behavior or characteristic of a targeted solution.*

Business Requirements can also be stated to erase or remove a Pain Point. In our analysis approach we identify general business requirements as *Stakeholder Requests*. A *Stakeholder Request* has essentially the same meaning of a business requirement noted above, but we also add a finer distinction: *A statement of need written by someone who is empowered to request new business capabilities.*

Altogether, the teams identified 52 business requirements, which after de-duplication, amounted to 28 unique business requirements. In our experience working in past engagements of similar scope and complexity, it's not unusual to elicit from stakeholders well over 100 business requirements, and sometime close to 200 requirements.

As we originally discussed in *WDVA Veteran Homeless Programs Assessment and Recommendations*, WDVA is rather unique in the sense that there is no legacy client- or case-management system from which to derive lessons learned (including pain points and user frustrations) and to serve as a font of new business requirements. Behavioral Health Services and Veterans Services' business processes are largely manual in nature with modest support from two rather limited software tools: MS Word and MS Excel. Because of this, it's entirely understood and acceptable that the teams were limited in their perspective and in identifying the spectrum of business needs for a future EVCMS. One can hardly know what to ask for if the tools in use today are a far cry from what may be useful tomorrow.

As with the business process modeling effort, the bulk of requirements elicitation was directly from the interview and capture sessions. Other sources included:

- Intake Forms
- Applications
- Follow-Up Notes and Outcomes
- Program Reports

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<sup>1</sup> There are literally hundreds of business books and white papers available that define business requirements, requirements elicitation, requirements management and other requirements practices. We choose to keep things simple for the purposes of this report.

- Other documents

In summary, 512 requirements were elicited, identified or refactored. They are contained in Table 1 on page 19.

### 2.1.2.2. Analyzing and Refactoring Stakeholder Requests into Atomic Requirements

As we explained in our response to the RFP for this project, we have a proven method called Requirements Refactoring that enables us to analyze and describe highly detailed system requirements and other requirement types that are mandatory to accurately and comprehensively construct a technical Request for Proposal. In this deliverable, requirements will be described and characterized using up to eleven distinct requirement types (in alphabetical order) collectively called *atomic requirements*. An *atomic requirement* is a statement that can be traced to an at least one specification element that satisfies the requirement. It is rarely able to be refactored into a more simple statement.

In refactoring, we had the following atomic requirements at our disposal:

- Business Policy Requirement;
- Deployment Requirement;
- Entity Attribute Requirement;
- Environmental Requirement;
- Functional Requirement;
- Operational Requirement;
- Performance Requirement;
- Reliability Requirement;
- Rollout Requirement;
- System Interface Requirement;
- Usability Requirement.

Projects usually don't have all eleven requirement types—indeed this project only features five types.

It is important to discern between these types of requirements for one valuable reason: If you are using these as the backbone of an RFP, the responding vendors will be forced to elaborate their fulfillment of each requirement in specific terms. For example, in “fulfilling” a Functional Requirement, the vendor may describe a specific feature or capability of its product; whereas in “fulfilling,” say, a System Interface Requirement, the vendor will have to specifically document a web service, a message dialogue, or another scheme that will allow its application to communicate, for example, with a claims management system. By its nature, each detailed requirement type has a different way of being met.

Most Stakeholder Requests require additional analysis if they can be useful to the team that implements a solution in Phase III (whether it's software development; new product migration; integration—all require sound and specific detailed requirements).

Requirements Refactoring is the process of analyzing and possibly re-expressing Stakeholder Requests so they are of higher quality without losing the original intent of the business. Refactoring also helps remove issues that are problematic with Stakeholder Requests. Refactored, atomic requirements help:

- Provide context.
- Remove ambiguity.
- Remove duplication.
- Make it objective.
- Make it measurable for testing.

Refactored, atomic requirements are expressed using 11 different types. Figure 1 on page 13 shows the various atomic requirement types that may be used. Each type, by their nature, is of a different context and as an implementer, or a tester, you would satisfy, or realize, each requirement differently.

Note: It's our experience that many of our clients have differing views on requirements elicitation, analysis and management. For this reason, we have included our understanding and how we practice requirements management as a whole, complete with examples. For a detailed explanation, including definition of the requirement types illustrated in Figure 1, please see Appendix A on page 58.



Figure 1: Stakeholder requests can be refactored into a variety of more detailed, atomic requirement types.

### 2.1.2.3. Identifying Additional Requirements

The first pass set of stakeholder-defined business requirements (52 requirements) was clearly deficient in terms of specifying complete requirements—including *atomic requirements*—for an enterprise-level solution that is EVCMS. From experience in specifying related enterprise-level applications, there were a number of requirements we identified that needed to be stated, proposed, vetted by stakeholders, prioritized and categorized. Fifteen additional Stakeholder Requests were identified. These were refactored into 137 additional atomic requirements (refactoring is discussed in the next section).

### 2.1.2.4. Business Entities as Requirements

We then wished to capture all unique future state business entities contained in the 7 business entity models:

- To-Be WDVA Detailed Business Entity Model 1 of 6 – Client Identity Perspective
- To-Be WDVA Detailed Business Entity Model 2 of 6 – Client Program Participation Perspective
- To-Be WDVA Detailed Business Entity Model 3 of 6 – Program Design and Management Perspective
- To-Be WDVA Detailed Business Entity Model 4 of 6 – Provider Identity Perspective
- To-Be WDVA Detailed Business Entity Model 5 of 6 – Provider Services Perspective
- To-Be WDVA Detailed Business Entity Model 6 of 6 – Project Management Perspective
- To-Be Certificate of Discharge (DD214 and DD215) Business Entity Model

We captured these entities as *Entity Attribute Requirements*. An *Entity Attribute Requirement* is a kind of atomic requirement that captures a piece of business information that needs to be retained. Entity Attribute Requirements can either name a business entity or attributes of that business entity. (See Section 4.3 in Related Document 6, *WDVA Data Infrastructure and Crosswalk Report v2.docx*, for more information on business entities and attributes.)

In total, there were 88 Entity Attribute Requirements, which correspond to the number of unique Business Entities in the seven future state Business Entity Models.

Related Document 6, *WDVA Data Infrastructure and Crosswalk Report v1.docx*, presents in significant detail the Business Entity Models noted above, and the approach used to produce them.

### 2.1.2.5. Business Entity Relationships (Associations) as Requirements

We then wished to capture the business entity relationships that are so apparent in the seven future state Business Entity Models. These are the actual relationships and their multiplicities between each of two entities as shown by the lines drawn between each, called *associations*. Figure 2 illustrates numerous associations. For example, the *Client* business entity has an association with the *Incarceration* business entity. “Reading” from the *Client* business entity, *Client* has a zero-to-many association with *Incarceration*, meaning, a given client may have zero or more periods of incarceration.



- Business Information – 195 requirements
- Dashboard – 7 requirements
- Data Integrity – 13 requirements
- Deployment – 3 requirements
- External Interfaces – 2 requirements
- General Querying – 21 requirements
- General Reporting – 9 requirements
- Mobile Devices – 2 requirements
- Presentation – 6 requirements
- Reports – 22 requirements
- Search – 12 requirements
- Sharing Information – 6 requirements
- System Capability – 22 requirements
- User Capability – 110 requirements
- User Experience – 17 requirements
- Workflow – 7 requirements

#### **2.1.2.7. Requirements by Requirement Type**

As was mentioned above, only five of the possible twelve total requirement types (Stakeholder Request plus eleven atomic requirement types) were identified. These are:

- Stakeholder Requests – 45 requirements
- Deployment Requirements – 5 requirements
- Entity Attribute Requirements – 88 requirements
- Functional Requirements – 373 requirements
- System Interface Requirements – 1 requirement

#### **2.1.2.8. Requirement by Desired Implementation Phase**

We also decided to slot each atomic requirement into one of three phases: 1, 2, and 3.

This initiative was taken in order to attempt to partition sets of requirements that we did not require to be implemented in the first phase of implementation. In essence, we have defined a short, medium and long term of phasing that the successful vendor may use in order to deliver sets of features and functionality of the solution.

Because we can't know the extent and complexity of the solutions that will be proposed by vendors, we are not (at this time) defining the length of time, or time partitions, of each phase, only that they are considered separate. Vendors will be free to propose moving delivery of features in one phase to an earlier phase.

Requirements by implementation phase are<sup>2</sup>:

- Implementation Phase 1 – 393 requirements
- Implementation Phase 2 – 39 requirements
- Implementation Phase 3 – 36 requirements

### 2.1.2.9. Scoring

For the next project phase, Vendor Selection, respondents to the Request for Proposal (RFP) will be required to directly address their company’s ability to meet each atomic requirement.<sup>3</sup> Each of the responses will be scored once the vendors submit proposals. In responding to each atomic requirement, the respondent must select one and only one value that best fits their ability to meet, or *realize*, the requirement.

Figure 3 illustrates the range of responses available to respondents (or *offerors*).

There is a scoring algorithm defined that will help WDVA score the responses of vendors to the requirements in total. It is not made available here at this time, but will be made available subsequent to vendor selection and contract execution.

Offeror_Requirement_Disposition	Description
SF	Standard Functionality - Requirement is already realized with current product offering.
SF+CV	Standard Functionality plus Customization Paid for By Vendor
SF+CC	Standard Functionality plus Customization Paid for By Client
CV	Feature not present and must be customized. Customization Paid for By Vendor (requirement is not currently realized by current product offering)
CC	Feature not present and must be customized. Customization Paid for By Client (requirement is not currently realized by current product offering)
AR	Feature not present and must be customized. Alternate Recommendation - Cannot fulfill requirement as stated, however, alternate recommendation offered.
NR	Not Realizable - Cannot fulfill requirement as stated, no alternate recommendation offered.

Figure 3: RFP respondent’s choice of response in meeting each requirement.

<sup>2</sup> Only the atomic requirements were assigned an implementation phase. This explains why the total does not add up to 512 requirements.

<sup>3</sup> The Stakeholder Requests were all refactored into atomic requirements and they will not be scored.

### **3. STAKEHOLDER REQUESTS AND ATOMIC REQUIREMENTS**

Beginning on page 19, Table 1 documents this report's Stakeholder Requests (business requirements) and their traced Atomic Requirements.

Table 1: Future State (To-Be) Business and Technical Requirements

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R1	<i>Business Information</i>	<i>DSHS</i>	<i>Need more information on the spouse and dependents. (PARIS gives some, but not all).</i>	<i>Stakeholder Request</i>		<i>High</i>		
R2	Business Information	DSHS	User can create Person records that are for a veteran's spouse and dependents and relate those to the veteran's Person record.	Functional	1	High	R1	
R3	<i>Sharing Information</i>	<i>DSHS</i>	<i>Ability for DSHS Client Registry to request (on demand) a client's DD214 from the EVCMS.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R4	Sharing Information	DSHS	Solution can accept a message from an external system requesting Certificate of Discharge information for a specific Client.	Functional	1	Nice to Have	R3	
R5	<i>Sharing Information</i>	<i>DSHS</i>	<i>Ability for the EVCMS to send DSHS Client Registry all DD214s since the last send.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R6	Sharing Information	DSHS	Solution can send a message to an external system all Certificate of Discharge information since the last send date.	Functional	1	Nice to Have	R5	
R7	<i>Business Information</i>	<i>WDVA</i>	<i>Have DD214 rendered as an XML file.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R8	Business Information	WDVA	Solution can render the Certificate of Discharge file as an XML file.	Functional	1	Nice to Have	R7	
R9	<i>Business Information</i>	<i>Veteran Services</i>	<i>Ability to store electronic claims in EVCMS as a file or document.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R10	Business Information	Veteran Services	Solution can upload a file and associate it with a Person.	Functional	1	High	R9	
R11	<i>Business Information</i>	<i>WDVA</i>	<i>Ability to import claim information from an external source.</i>	<i>Stakeholder Request</i>		<i>Medium</i>		
R12	Business Information	WDVA	Solution can import claim data from an external source. <b>Note:</b> External sources identified include Veteran Service Organizations under contract with WDVA who are using the following pre-approved (by the U.S. Dept. of Veterans Affairs) claims management applications: VetraSpec, BeneVets, VetPro (Panoramic), and IronData.	Functional	2	Medium	R11	
R13	<i>Sharing Information</i>	<i>Service Center</i>	<i>Ability to import DD214 into EVCMS.</i>	<i>Stakeholder Request</i>		<i>High</i>		

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R14	Sharing Information	Service Center	Solution can import Certificate of Discharge from an external source. Import data is formatted in CSV format.	Functional	1	High	R13	
R15	<b>Business Information</b>	<b>Behavioral Health Services</b>	<b>Must be able to enter and store a client's identity without using name (client is anonymous in PTSD).</b>	<b>Stakeholder Request</b>		<b>High</b>		
R16	Business Information	Behavioral Health Services	Solution can store a client's identity without using name.	Functional	1	High	R15	
R17	<b>Business Information</b>	<b>Vet Corps</b>	<b>Ability to capture and store electronic signature for documents, including contracts.</b>	<b>Stakeholder Request</b>		<b>Nice to Have</b>		
R18	Business Information	Vet Corps	Solution can capture and store electronic signature for documents.	Functional	3	Nice to Have	R17	
R19	<b>Business Information</b>	<b>Vet Corps</b>	<b>Ability to track referral sources to program participation outcomes.</b>	<b>Stakeholder Request</b>		<b>Medium</b>		
R20	Business Information	Vet Corps	Solution can associate referral sources to program participation outcomes.	Functional	1	Medium	R19	
R21	<b>Business Information</b>	<b>Claims Quality Assurance</b>	<b>Ability to track the progress of a claim.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R22	Business Information	Claims Quality Assurance	Solution can persist claim status and milestone dates. (E.g. Date VA Claim Filed; Date Filed for Increase; Service-Related Indicator; Issues Submitted Indicator; Claims Rated Indicator; Issues Rated Indicator; Date Rated; Date Application Completed; Date Application Awarded; Award Granted Indicator; Award Percentage; Backpayment Amount; Benefit Monthly Amount; Effective Date)	Functional	1	High	R21	
R23	<b>Business Information</b>	<b>Behavioral Health Services</b>	<b>Ability for a client to complete the OQ45 electronically and for this information to be stored in the EVCMS.</b>	<b>Stakeholder Request</b>		<b>Low</b>		
R24	Business Information	Behavioral Health Services	Solution can create a form and enable user to complete the form and persist information from form. <b>Note:</b> This would apply to internal WDVA users as well as external users, such as professional providers and veterans.	Functional	3	Low	R23	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R25	<i>Business Information</i>	<i>Behavioral Health Services</i>	<i>Ability to print the electronic OQ45 that is to be stored in the EVCMS.</i>	<i>Stakeholder Request</i>		<i>Medium</i>		
R26	Business Information	Behavioral Health Services	Solution can render an electronic form in its original format and print it. <b>Note:</b> The target form would be designed in Adobe.	Functional	3	Medium	R25	
R27	<i>Business Information</i>	<i>Behavioral Health Services</i>	<i>Provide a contractor portal in EVCMS.</i>	<i>Stakeholder Request</i>		<i>Medium</i>		
R28	Business Information	Behavioral Health Services	Solution will allow non-WDVA users to be defined and given access. Note: This includes WDVA Provider Professionals rendering services to veterans, and also veterans.	Functional	1	Medium	R27	
R29	<i>User Capability</i>	<i>Behavioral Health Services</i>	<i>View A19 content by provider.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R30	User Capability	Behavioral Health Services	Solution enables a Professional Provider to enter Session, Billing and Transaction information	Functional	2	High	R29	
R31	<i>Business Information</i>	<i>Financial, Transition and Homeless Reintegration Services</i>	<i>Ability to have two or more WDVA staff collaborate on a single client (i.e. share case notes).</i>	<i>Stakeholder Request</i>		<i>High</i>		
R32	Business Information	Financial, Transition and Homeless Reintegration Services	Solution can allow more than one user to enter Case Notes on a single Client.	Functional	1	High	R31	
R33	<i>External Interfaces</i>	<i>WDVA</i>	<i>Solution can import and/or communicate with external systems.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>	<i>R11</i>	
R34	External Interfaces	WDVA	Solution can communicate with WDVA's Traumatic Brain Injury (TBI) Mobile Application. <b>Note:</b> This application is in the specification stage and has not yet been implemented. Therefore, specific request and response specifications, including information exchanged, have yet to be developed.	System Interface	2	Nice to Have	R33	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R35	Mobile Devices	WDVA	Solution is also deployed as a mobile application on Apple iPhone.	Deployment	1	High	R33	
R36	Mobile Devices	WDVA	Solution is also deployed as a mobile application on Android devices.	Deployment	2	Medium	R33	
R37	<i>User Capability</i>	<i>Behavioral Health Services</i>	<i>Automated reminder to WDVA accounting, based on criteria, that they have billed client (i.e. King County).</i>	<i>Stakeholder Request</i>		<i>Medium</i>		
R38	User Capability	Behavioral Health Services	User can create, update and delete a notification.	Functional	1	Medium	R37	
R39	User Capability	Behavioral Health Services	User can specify a data and time to execute a notification.	Functional	1	Medium	R37	
R40	User Capability	Behavioral Health Services	User can specify one or more recipients to receive a notification.	Functional	1	Medium	R37	
R41	User Capability	Behavioral Health Services	User can specify recurrence of a notification.	Functional	1	Medium	R37	
R42	User Capability	Behavioral Health Services	User can assign a priority to a notification.	Functional	1	Medium	R37	
R43	System Capability	Behavioral Health Services	Solution can broadcast a notification to all users.	Functional	1	Medium	R37	
R44	System Capability	Behavioral Health Services	Solution can associate a notification with one or more Persons.	Functional	1	Medium	R37	
R45	System Capability	Behavioral Health Services	Solution can store recipients as internal EVCMS users or as email addresses.	Functional	1	Medium	R37	
R46	User Capability	Behavioral Health Services	User can define criteria for executing a notification. (Example: Ability to define and set notifications and reminders based on other criteria such as if a new note or comment is added to a client record.)	Functional	1	Nice to Have	R37	
R47	<i>System Capability</i>	<i>WDVA</i>	<i>Ability to preserve the DD214 in its original data and block format.</i>	<i>Stakeholder Request</i>		<i>High</i>		

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R48	System Capability	WDVA	Solution can persist the Certificate of Discharge data in its original format and structure.	Functional	1	High	R47	
R49	<b>System Capability</b>	<b>WDVA</b>	<b>Ability to render the DD214 as it appears in hardcopy for users to view.</b>	<b>Stakeholder Request</b>	<b>2</b>	<b>Medium</b>		
R50	System Capability	WDVA	Duplicate. See Trace To IDs. This remains because Stakeholder Request is significant.		2	Medium	R49	R26
R51	<b>System Capability</b>	<b>WDVA</b>	<b>Migrate existing DD214 records in present SQL database into new system.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R52	System Capability	WDVA	Solution can migrate existing WDVA Certificate of Discharge records in legacy SQL database into new system.	Functional	1	High	R51	
R53	System Capability	WDVA	Solution can migrate legacy WDVA Certificate of Discharge imaged Adobe PDF documents and associate with Client (i.e. veteran).	Functional	1	High	R51	
R54	<b>System Capability</b>	<b>Homeless Veterans Reintegration Project (HVRP)</b>	<b>Ability to present a unified application for all programs for all common data, with separate sections that are program specific.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R55	System Capability	Homeless Veterans Reintegration Project (HVRP)	Solution can support a common application form and then link add-on forms by Program type.	Functional	1	High	R54	
R56	<b>System Capability</b>	<b>Financial, Transition and Homeless Reintegration Services</b>	<b>Ability for a client to complete a program application online using an easy, wizard-like interface.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R57	System Capability	Financial, Transition and Homeless Reintegration Services	Solution can implement wizard metaphor for data entry. <b>Note:</b> Some veterans that will use the solution are not computer savvy or may have disabilities that may prevent them from successfully completing a longer form.	Functional	2	High	R56	
R58	<b>System Capability</b>	<b>WDVA</b>	<b>Transactions in EVCMS should be timestamped for creation, deletion and each</b>	<b>Stakeholder Request</b>		<b>High</b>		

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
			<i>update and associated to the user performing the transaction.</i>					
R59	System Capability	WDVA	Solution will timestamp and capture user for all create, update and delete operations.	Functional	1	High	R58	
R60	<i>User Capability</i>	<i>Service Center</i>	<i>Ability to associate a client with a Veteran Benefits Specialist (VBS). (Client has preference working with a specific VBS.)</i>	<i>Stakeholder Request</i>		<i>High</i>		
R61	User Capability	Service Center	User can associate one Person with another Person.	Functional	1	High	R60	
R62	<i>System Capability</i>	<i>Service Center</i>	<i>Ability to have an external party request new DD214 data.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R63	System Capability	Service Center	Solution can export data in CSV format.	Functional	3	High	R62	
R64	<i>System Capability</i>	<i>Transitional Housing Services Program</i>	<i>Ability to self-populate an application form if client is known to the system already.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R65	System Capability	Transitional Housing Services Program	Solution can self-populate an application form if Client is known to the system.	Functional	1	High	R64	
R66	<i>User Capability</i>	<i>Transitional Housing Services Program</i>	<i>Ability to view a client's status and the programs he/she is participating in.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R67	User Capability	Transitional Housing Services Program	User can view a Client's detail and all Programs Client is enrolled in.	Functional	1	High	R66	
R68	<i>System Capability</i>	<i>Behavioral Health Services</i>	<i>Ability to generate the A19 from data stored in EVCMS.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R69	System Capability	Behavioral Health Services	System can export Professional Provider billing and services information into a pre-formatted Excel worksheet.	Functional	1	Nice to Have	R68	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R70	<i>User Capability</i>	<i>King County Homeless and Incarcerated Services</i>	<i>Ability to associate a service provisioned item, such as a gift card, with a client (when it is issued).</i>	<i>Stakeholder Request</i>		<i>High</i>		
R71	User Capability	King County Homeless and Incarcerated Services	User can associate a service Provisioned Item, such as a gift card, with a Client (when it is issued).	Functional	1	High	R70	
R72	<i>User Capability</i>	<i>WDVA</i>	<i>Must treat the Certificate of Discharge as the authoritative source of discharge information for a Client.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R73	User Capability	WDVA	Only authorized users may create, update or delete Certificate of Discharge information.	Functional	1	High	R72	
R74	<i>Workflow</i>	<i>WDVA</i>	<i>Solution can support basic workflow capabilities for Clients participating in a Program.</i>	<i>Stakeholder Request</i>		<i>Nice to Have</i>		
R75	Workflow	WDVA	Solution can enable an authorized user to define a workflow process (e.g. steps, priority, criteria to progress, routing).	Functional	1	Nice to Have	R74	
R76	Workflow	WDVA	Solution can support a workflow queue metaphor that can be accessed to one or more users. <b>Note:</b> WDVA receives many referrals of Clients from external (and important) sources, such as other agency executives, the Governor's office, and legislators.	Functional	1	High	R74	
R77	Workflow	WDVA	Authorized user can assign work to him or herself or to others.	Functional	1	Nice to Have	R74	
R78	Workflow	WDVA	Solution can support workflow criteria that determines if work progresses to next step (criteria, signature, approval, etc.).	Functional	1	Nice to Have	R74	
R79	Workflow	WDVA	Solution can support workflow criteria that will issue a notification to a solution user.	Functional	1	Nice to Have	R74	

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							1	2
R80	Workflow	WDVA	Solution can support workflow criteria that will issue a notification to a Microsoft Outlook email account.	Functional	1	Nice to Have	R74	
R81	<b>Deployment</b>	<b>WDVA</b>	<b><i>Solution must be deployed as a web application off-site from WDVA.</i></b>	<b>Stakeholder Request</b>				
R82	Deployment	WDVA	Solution must be deployed as a Software-as-a-Service (SaaS), Subscription-as-a-Service; or Platform-as-a-Service (PaaS). <b>Note:</b> No part of the software or hardware solution will reside on State of Washington assets.	Deployment	1	High	R81	
R83	Deployment	WDVA	All relevant hardware to deploy the solution must be managed and housed externally from the State of Washington's facilities.	Deployment	1	High	R81	
R84	<b>Data Integrity</b>	<b>WDVA</b>	<b><i>User experience should provide enhanced capabilities to maintain data quality and ease-of-use.</i></b>	<b>Stakeholder Request</b>		<b>High</b>		
R85	Data Integrity	WDVA	Validate mailing address for legitimacy using USPS validation (or equivalent).	Functional	3	Nice to Have	R84	
R86	Data Integrity	WDVA	Solution supports field validation based on field datatype.	Functional	1	High	R84	
R87	Data Integrity	WDVA	Solution supports form validation.	Functional	1	High	R84	
R88	Data Integrity	WDVA	Solution can spell check free text fields.	Functional	1	Low	R84	
R89	Data Integrity	WDVA	Solution supports a list box (i.e. drop-down) field type where user can select just one value.	Functional	1	High	R84	
R90	Data Integrity	WDVA	Solution supports a list box (i.e. combination box) field type where user can select more than one value.	Functional	1	High	R84	
R91	User Experience	WDVA	When presented with a list box of values for a field, user can type characters for the intended value; solution will scroll to first occurrence of the character string entered by the user.	Functional	3	Low	R84	
R92	Data Integrity	WDVA	Where numerical fields are present that act as addends, solution will perform the addition and render the sum of the addends.	Functional	1	Nice to Have	R84	
R93	Data Integrity	WDVA	Where numerical fields are present that act as multiplicands and multipliers, solution will perform the multiplication and render the product.	Functional	1	Nice to Have	R84	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R94	Data Integrity	WDVA	Where numerical fields are present that act as quotient and divisor, solution will perform the division and render the dividend, and if applicable, the remainder.	Functional	1	Nice to Have	R84	
R95	User Experience	WDVA	If field or form validation yields errors, solution will inform user immediately after submission.	Functional	1	High	R84	
R96	User Experience	WDVA	If data or business information validation yields no errors, solution will display success notification to user.	Functional	1	Nice to Have	R84	
R97	User Experience	WDVA	Online forms should closely resemble, within reason and design aesthetics, the equivalent hardcopy form.	Functional	1	Nice to Have	R84	
R98	User Experience	WDVA	Case Notes and Client Meeting/Contact should be displayed most recent data first.	Functional	1	Medium	R84	
R99	User Experience	WDVA	Solution supports context-based help for form.	Functional	2	Low	R84	
R100	User Experience	WDVA	Solution supports field-based help.	Functional	1	Medium	R84	
R101	Data Integrity	WDVA	Solution provides automated mechanism for validating Tax ID Number.	Functional	3	Nice to Have	R84	
R102	Data Integrity	WDVA	To reduce duplication of records, solution must be able pattern recognize (or fuzzy search) Organization name, Person's Name (i.e. Client Identity, Professional Provider Identity, Case Manager Identity, Program Manager Identity) and post notice to the user if this entry has already been made; if yes, provide mechanism for user to choose that record (or instance).	Functional	2	Nice to Have	R84	
R103	User Experience	WDVA	All users should be able to adjust the presentation font size of pages and forms.	Functional	1	Nice to Have	R84	
R104	User Experience	WDVA	All users should be able to modify color scheme to enhance readability of pages and forms.	Functional	1	Low	R84	
R105	User Experience	WDVA	Solution should support a page navigation theme that prohibits display of pages and forms that a user cannot create, update or delete (read only privileges are exempt).	Functional	1	High	R84	

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							1	2
R106	User Experience	WDVA	Solution will allow printing of web pages and forms on demand.	Functional	1	High	R84	
R107	User Experience	WDVA	Solution permits any user completing a form to save it prior to completion and return to it in the same user session or a future session.	Functional	1	Medium	R84	
R108	User Experience	WDVA	Solution will notify user of pending session timeout and accept acknowledgement that user wishes to extend session.	Functional	1	High	R84	
R109	User Experience	WDVA	Solution supports auto-tabbing when mandatory-fill fields are completed.  Note: Mandatory-fill field would be a telephone number; an Organization name field is not. Field validation rule would apply to former.	Functional	1	High	R84	
R110	User Experience	WDVA	Upon display of a page or form, system should apply cursor focus to first field in tab order of a form. Note: User should not have to "click into the field" to begin data entry.	Functional	1	Medium	R84	
R111	User Experience	WDVA	System must support "confirmation on delete" for certain types of business information, such as Person, Program, etc.	Functional	1	High	R84	
R112	User Experience	WDVA	Presentation of web forms should minimize whole form horizontal scrolling.	Functional	1	Medium	R84	
R113	Data Integrity	WDVA	Authorized user can assign "confirmation on delete" to one or more business entities.	Functional	1	Nice to Have	R84	
R114	User Capability	WDVA	Solution can support "forgot my password" management.	Functional	1	High	R84	
R115	User Capability	WDVA	Solution can support "forgot my username (or ID)" management.	Functional	1	High	R84	
R116	User Capability	WDVA	Any user can view what database connection they are using (i.e. production; staging; test; development).	Functional	1	Low	R84	
R117	User Capability	WDVA	Any user can view what application instance they are using (i.e. production; staging; test; development). This includes viewing exact version number (i.e. build ID).	Functional	1	Low	R84	

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							1	2
R118	<i>Search</i>	<i>WDVA</i>	<i>Solution must provide flexible search capabilities.</i>	<i>Stakeholder Request</i>				
R119	Search	WDVA	User can search on the following Client-related business information: Person ID; Client Name; Gender Type; Race Type; Employment Status Type; Education Level Type; Homeless Indicator; Marital Status Type; Military Status Type; Current Living Situation Type; Military History Era Type; Program Name.	Functional	1	High	R118	
R120	Search	WDVA	User can search on the following Provider Professional-related business information: Person ID; Client Name; Consumed Service Name.	Functional	1	High	R118	
R121	Search	WDVA	User can search on the following Case Manager-related business information: Person ID; Client Name; Program ID; Consumed Program Name.	Functional	1	High	R118	
R122	Search	WDVA	User can search on the following Program Manager-related business information: Person ID; Client Name; Program ID; Consumed Program Name.	Functional	1	High	R118	
R123	Search	WDVA	Solution features an ad hoc "quick search"-like singular field that user can enter any relevant data (client name, program name, etc.) and execute a search.	Functional	1	Nice to Have	R118	
R124	Search	WDVA	User can modify search results content (add or remove columns of data).	Functional	1	High	R118	
R125	Search	WDVA	User can sort search results by column (ascending and descending).	Functional	1	High	R118	
R126	Search	WDVA	User can access detailed Client information from search results: Client Identity Perspective and Client Program Participation Perspective.	Functional	1	High	R118	
R127	Search	WDVA	User can access detailed Program information from search results: Program Design and Management Perspective; and Clients associated with that program (past and current).	Functional	1	High	R118	
R128	Search	WDVA	User can access detailed Professional Provider information from search results: Provider Identity Perspective and Provider Services Perspective.	Functional	1	High	R118	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R129	Search	WDVA	User can access detailed Case Manager information from search results: Clients serving.	Functional	1	High	R118	
R130	<b>Presentation</b>	<b>WDVA</b>	<b><i>Solution must be capable of presenting information in a limited number of web pages (i.e. too much navigation by clicking is not user friendly).</i></b>	<b>Stakeholder Request</b>				
R131	Presentation	WDVA	User can view all client information in Client Identity Perspective on single web form. [We are not precluding the use of presentation design features that may collapse lists or hide detail.]	Functional	1	Nice to Have	R130	
R132	Presentation	WDVA	User can view all client information in Client Program Participation Perspective on a single web form. [We are not precluding the use of presentation design features that may collapse lists or hide detail.]	Functional	1	Nice to Have	R130	
R133	Presentation	WDVA	User can view all program design information in Program Design and Management Perspective on no more than four web forms. [We are not precluding the use of presentation design features that may collapse lists or hide detail.]	Functional	1	Nice to Have	R130	
R134	Presentation	WDVA	User can view all professional provider information in Provider Identity Perspective on a single web form. [We are not precluding the use of presentation design features that may collapse lists or hide detail.]	Functional	1	Nice to Have	R130	
R135	Presentation	WDVA	User can view all professional provider billing information in Provider Services Perspective on no more than four web forms. [We are not precluding the use of presentation design features that may collapse lists or hide detail.]	Functional	1	Nice to Have	R130	
R136	<b>General Reporting</b>	<b>WDVA</b>	<b><i>Solution must provide robust and comprehensive reporting capabilities.</i></b>	<b>Stakeholder Request</b>				
R137	General Reporting	WDVA	Solution must provide the capability to schedule reports for automatic generation.	Functional	2	Medium	R136	
R138	General Reporting	WDVA	Solution must provide the ability to restrict access to reports by role.	Functional	1	Medium	R136	

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							1	2
R139	General Reporting	WDVA	Solution must provide the ability to export report results to a variety of file types, including but not limited to: Excel workbooks (types: .xls; .xlsx; .csv), Word documents (types: .doc; .docx), and portable document format files (type: .pdf).	Functional	1	High	R136	
R140	General Reporting	WDVA	Solution must provide the ability to preview reports before printing.	Functional	1	High	R136	
R141	General Reporting	WDVA	Solution must provide predefined standard reports for WDVA users.	Functional	1	High	R136	
R142	General Reporting	WDVA	Solution must allow for characterizing reports by one or more keywords (i.e. Month End Report; Bi-Weekly).	Functional	1	Medium	R136	
R143	General Reporting	WDVA	Solution must have the ability for a user to select (or search for) one or more standard reports based on one or more keywords.	Functional	1	Low	R136	
R144	General Reporting	WDVA	Solution must provide the ability to modify and save standard reports without impacting the original standard report.	Functional	1	High	R136	
R145	<b>General Querying</b>	<b>WDVA</b>	<b>Solution must provide robust and comprehensive querying capabilities.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R146	General Querying	WDVA	Solution must provide standard as well as ad hoc querying capability to the solution's full database based on user security roles.	Functional	1	High	R145	
R147	General Querying	WDVA	Solution must be capable of allowing multiple users to run a query or generate a report simultaneously.	Functional	1	High	R145	
R148	General Querying	WDVA	Solution must allow a user to copy selected portions of displayed query results and paste into other applications outside the solution.	Functional	1	High	R145	
R149	General Querying	WDVA	Solution must provide the ability to save or export query results and evoke the application for a variety of file types, including but not limited to, Excel workbooks (types: .xls; .xlsx; .csv), Word documents (types: .doc; .docx), and portable document format files (type: .pdf).	Functional	1	High	R145	
R150	General Querying	WDVA	Solution must provide the ability to save and update query criteria.	Functional	1	High	R145	

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							1	2
R151	General Querying	WDVA	Solution must provide the ability to perform range searches using dates and numbers as parameters.	Functional	1	High	R145	
R152	General Querying	WDVA	Solution must provide the capability to perform Boolean searches.	Functional	1	High	R145	
R153	General Querying	WDVA	Solution must prompt the user when unusually large results are expected from a query.	Functional	1	High	R145	
R154	General Querying	WDVA	Solution must not allow sensitive data to be queried, nor displayed on queries based on access control.	Functional	1	High	R145	
R155	General Querying	WDVA	Solution must provide the ability to print both standard and ad hoc query (search) criteria.	Functional	1	High	R145	
R156	General Querying	WDVA	Solution should provide the ability to sort/resort the data elements returned in the results.	Functional	1	Nice to Have	R145	
R157	General Querying	WDVA	Solution should provide the capability for the user to share a saved query with other users within the application.	Functional	1	Nice to Have	R145	
R158	General Querying	WDVA	Solution should include the capability for the user to save, modify, and delete queries created by that user	Functional	1	Nice to Have	R145	
R159	General Querying	WDVA	Solution should provide options for formatting of the display of query results on the screen. For example, results rendered in a table, a graph, and formatted layout.	Functional	1	Nice to Have	R145	
R160	General Querying	WDVA	Solution should provide the ability to refine (narrow down or expand) the results returned by drilling up and drilling down using a pre-defined hierarchical category or a category tree.	Functional	1	Nice to Have	R145	
R161	General Querying	WDVA	Solution should provide the ability to refine or narrow the results list by conducting another query on the first results list returned (i.e. a query within a query).	Functional	1	Nice to Have	R145	
R162	General Querying	WDVA	Solution should provide the ability to apply further query criteria to the results of a search, and then re-search using updated criteria.	Functional	1	Nice to Have	R145	
R163	General Querying	WDVA	User can produce ad hoc reports (build reports from scratch).	Functional	1	Nice to Have	R145	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R164	General Querying	WDVA	User can share standard and ad hoc reports among other users.	Functional	1	Nice to Have	R145	
R165	General Querying	WDVA	User can copy a report to begin designing a new report.	Functional	1	Nice to Have	R145	
R166	<b>Reports</b>	<b>WDVA</b>	<b>Ability to provide standard reports that authorized users can access.</b>	<b>Stakeholder Request</b>				
R167	Reports	WDVA	All Clients, pivoting by Program.	Functional	1	High	R166	
R168	Reports	WDVA	For user-specified Program, all clients enrolled.	Functional	1	High	R166	
R169	Reports	WDVA	For user-specified Client, all Programs currently enrolled.	Functional	1	High	R166	
R170	Reports	WDVA	For user-specified Client, all Programs previously enrolled.	Functional	1	High	R166	
R171	Reports	WDVA	For user-specified Professional Provider and Month/Year, all billable hours for each current Client.	Functional	1	High	R166	
R172	Reports	WDVA	Transitional Housing Services Program Grant and Per Diem Program Report (Start Date, End Date (Quarter), Number of Clients, Aggregate Outcome Goal, Aggregate Outcome Measurement, Percent of Goal)	Functional	1	High	R166	
R173	Reports	WDVA	Thurston IVP Status Report (Client ID, Other ID, Consumed Service.Description, Program Client Assessment Factor.Assessment Factor Name, Program Client Assessment Factor.Assessment Factor Outcome, Program Client Assessment Factor.Comments)	Functional	2	High	R166	
R174	Reports	WDVA	Behavioral Health Services King County Uniques Report	Functional	1	High	R166	
R175	Reports	WDVA	Behavioral Health Service King County Human Services Client Profile Report.	Functional	1	High	R166	
R176	Reports	WDVA	Behavioral Health Service King County Human Services Outcomes Report.	Functional	1	High	R166	
R177	Reports	WDVA	Behavioral Health Service King County Human Services - Services and Activities Report.	Functional	1	High	R166	
R178	Reports	WDVA	Quarterly HVRP sent to DOL-VETS. Participant Worksheet Only.	Functional	1	High	R166	
R179	Reports	WDVA	CABHI BRIDGES Workbook	Functional	1	High	R166	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R180	Reports	WDVA	Service Center eBenefits Letters Sent	Functional	1	High	R166	
R181	Reports	WDVA	Service Center CSO Referral Report	Functional	1	High	R166	
R182	Reports	WDVA	Service Center Department of Licensing Report	Functional	1	High	R166	
R183	Reports	WDVA	Number of Veterans Served on a Specific Date or Date Range	Functional	1	High	R166	
R184	Reports	WDVA	Number of Veterans Housed in Building 9 on a Specific Date or Date Range	Functional	1	High	R166	
R185	Reports	WDVA	Number of Veterans Served in King County on a Specific Date or Date Range	Functional	1	High	R166	
R186	Reports	WDVA	Number of Veterans Served in WDVA's Three Service Centers (Olympia, Retsil, and Seattle) on a Specific Date or Date Range	Functional	1	High	R166	
R187	Reports	WDVA	Number of Veterans Active in a Specific Program on a Specific Date or Date Range	Functional	1	High	R166	
R188	<b>Dashboard</b>	<b>WDVA</b>	<b>Solution must provide minimal dashboard capabilities for executive and program management users to view.</b>	<b>Stakeholder Request</b>		<b>High</b>		
R189	Dashboard	WDVA	Solution must provide a flexible dashboard builder to customize dashboards for specific users.	Functional	1	High	R188	
R190	Dashboard	WDVA	Solution must support at a minimum the following dashboard display formats: Table; message list (i.e. blogs and statuses); bar chart; pie chart; scatter chart	Functional	1	High	R188	
R191	Dashboard	WDVA	Dashboard content is rendered by execution of standard report or defined query.	Functional	1	High	R188	
R192	Dashboard	WDVA	Solution must support flexible refresh rates for dashboard content.	Functional	1	High	R188	
R193	Dashboard	WDVA	Authorized user can define dashboard content refresh rate with refresh rates settable at the following intervals (at a minimum): in real-time (near continuous); each minute; each hour; each day; each week.	Functional	1	High	R188	
R194	Dashboard	WDVA	Solution must support dashboard capabilities in their mobile deployment.	Deployment	1	Medium	R188	
R195	<b>Access Control</b>	<b>WDVA</b>	<b>Solution must possess flexible user access control capabilities.</b>	<b>Stakeholder Request</b>				
R196	Access Control	WDVA	Solution must provide for different access control based on access need.	Functional	1	Medium	R195	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R197	Access Control	WDVA	Solution must provide for the capability to define groups of users, based on a category of access need.	Functional	1	Medium	R195	
R198	Access Control	WDVA	Solution must have a security structure that addresses individual user access	Functional	1	Medium	R195	
R199	Access Control	WDVA	Solution must have a security structure that addresses users' access based on assignment to a specific group or role.	Functional	1	Medium	R195	
R200	Access Control	WDVA	Solution must have a security structure that addresses the ability to associate one or more rights to a role.	Functional	1	Medium	R195	
R201	Access Control	WDVA	Solution must have a security structure that addresses the ability to associate a right that either permits or denies access to various modules and/or windows (i.e. screens) within the application.	Functional	1	Medium	R195	
R202	Access Control	WDVA	Solution must require a logon and password in order to access the system.	Functional	1	High	R195	
R203	Access Control	WDVA	Solution must provide for management (i.e. create, update, delete) of user roles and the rights associated with user roles.	Functional	1	High	R195	
R204	Access Control	WDVA	Solution must provide reporting of user roles, users with access, and applicable settings.	Functional	1	High	R195	
R205	<b>Application Management</b>	<b>WDVA</b>	<b>System must be able to enable WDVA personnel to control system resources as needed.</b>	<b>Stakeholder Request</b>				
R206	Application Management	WDVA	Ability to add a new user, modify an existing, and remove (or disable) existing users.	Functional	1	High	R205	
R207	Application Management	WDVA	Authorized user can permanently delete selected data from database.	Functional	1	Medium	R205	
R208	Application Management	WDVA	Authorized user can select and change the status of records so they are not permanently deleted.  Note: Required for legal matters where records may need to be preserved beyond the data retention policies.	Functional	1	Nice to Have	R205	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R209	Application Management	WDVA	User can create and modify forms and documents (i.e. invoices, statements, letters of communication, etc.).  Note: Must not rely on solution vendor to provide this service.	Functional	1	Nice to Have	R205	
R210	Application Management	WDVA	Authorized user can specify the number of concurrent users of a specific role that may be concurrently logged on to system.	Functional	1	Medium	R205	
R211	Application Management	WDVA	Authorized user can specify times that users of a specific role may access system and not access system.	Functional	1	Medium	R205	
R212	Application Management	WDVA	Authorized user can view past history of user activity (audit trail): when logged on; session length; applications used; transactions executed (with timestamp).	Functional	1	Medium	R205	
R213	Application Management	WDVA	Any user that is not revoked can define and reset his/her password.	Functional	1	Medium	R205	
R214	Application Management	WDVA	Authorized internal user can set the minimum password length and character requirements.	Functional	1	Medium	R205	
R215	Application Management	WDVA	Any user that is not revoked can define and reset security questions that authenticate the user in lieu of a password.	Functional	1	Medium	R205	
R216	Application Management	WDVA	An authorized internal user can view changes made to a user's roles and rights.	Functional	1	Medium	R205	
R217	Application Management	WDVA	Authorized internal user can view current users that are logged on (internal/external).	Functional	1	Medium	R205	
R218	Application Management	WDVA	Help forms can be made extensible (changed/enhanced) by WDVA.  Note: Copyrighted material should not be an obstacle to fulfilling this requirement.	Functional	1	Nice to Have	R205	
R219	Application Management	WDVA	Authorized user can define the maximum number of days a form (i.e. dirty web page) that has been saved (but is incomplete) will be persisted before being purged by the system.	Functional	1	Nice to Have	R205	
R220	Application Management	WDVA	Authorized user can define the maximum number of minutes that an idle user session will expire.	Functional	1	Medium	R205	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R221	<i>Business Information</i>	WDVA	<i>Ability to persist WDVA's key business information (business entities) and their attributes (entity attributes). [NOTE: See Notes column for associate business entity model that contains the attributes.]</i>	<i>Stakeholder Request</i>		<i>High</i>		
R222	Business Information	WDVA	Persist the following business entity and its entity attributes: Actual Program Eligibility.	Entity Attribute	1	High	R221	
R223	Business Information	WDVA	Persist the following business entity and its entity attributes: Actual Program Eligibility Criterion.	Entity Attribute	1	High	R221	
R224	Business Information	WDVA	Persist the following business entity and its entity attributes: Application Intake Summary.	Entity Attribute	1	High	R221	
R225	Business Information	WDVA	Persist the following business entity and its entity attributes: Assessed Need.	Entity Attribute	1	High	R221	
R226	Business Information	WDVA	Persist the following business entity and its entity attributes: Award.	Entity Attribute	1	High	R221	
R227	Business Information	WDVA	Persist the following business entity and its entity attributes: Benefit.	Entity Attribute	1	High	R221	
R228	Business Information	WDVA	Persist the following business entity and its entity attributes: Benefit and Entitlement Summary.	Entity Attribute	1	High	R221	
R229	Business Information	WDVA	Persist the following business entity and its entity attributes: Billable Item.	Entity Attribute	2	High	R221	
R230	Business Information	WDVA	Persist the following business entity and its entity attributes: Calendar Event.	Entity Attribute	3	High	R221	
R231	Business Information	WDVA	Persist the following business entity and its entity attributes: Case Manager (generalized up to Person).	Entity Attribute	1	High	R221	
R232	Business Information	WDVA	Persist the following business entity and its entity attributes: Case Note.	Entity Attribute	1	High	R221	
R233	Business Information	WDVA	Persist the following business entity and its entity attributes: Certificate of Discharge.	Entity Attribute	1	High	R221	
R234	Business Information	WDVA	Persist the following business entity and its entity attributes: Client (generalized up to Person).	Entity Attribute	1	High	R221	
R235	Business Information	WDVA	Persist the following business entity and its entity attributes: Client Meeting/Contact.	Entity Attribute	1	High	R221	
R236	Business Information	WDVA	Persist the following business entity and its entity attributes: Communication.	Entity Attribute	1	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R237	Business Information	WDVA	Persist the following business entity and its entity attributes: Consumed Program.	Entity Attribute	1	High	R221	
R238	Business Information	WDVA	Persist the following business entity and its entity attributes: Consumed Service.	Entity Attribute	1	High	R221	
R239	Business Information	WDVA	Persist the following business entity and its entity attributes: Contact Info.	Entity Attribute	1	High	R221	
R240	Business Information	WDVA	Persist the following business entity and its entity attributes: Contract.	Entity Attribute	2	High	R221	
R241	Business Information	WDVA	Persist the following business entity and its entity attributes: Criterion Join (Association Class).	Entity Attribute	1	High	R221	
R242	Business Information	WDVA	Persist the following business entity and its entity attributes: Education Institution.	Entity Attribute	1	High	R221	
R243	Business Information	WDVA	Persist the following business entity and its entity attributes: Employment History.	Entity Attribute	1	High	R221	
R244	Business Information	WDVA	Persist the following business entity and its entity attributes: Entity.	Entity Attribute	1	High	R221	
R245	Business Information	WDVA	Persist the following business entity and its entity attributes: Geographical Service Area.	Entity Attribute	2	High	R221	
R246	Business Information	WDVA	Persist the following business entity and its entity attributes: Housing.	Entity Attribute	1	High	R221	
R247	Business Information	WDVA	Persist the following business entity and its entity attributes: Identity.	Entity Attribute	1	High	R221	
R248	Business Information	WDVA	Persist the following business entity and its entity attributes: Import Export Record.	Entity Attribute	1	High	R221	
R249	Business Information	WDVA	Persist the following business entity and its entity attributes: Incarceration.	Entity Attribute	1	High	R221	
R250	Business Information	WDVA	Persist the following business entity and its entity attributes: Income Expense.	Entity Attribute	1	High	R221	
R251	Business Information	WDVA	Persist the following business entity and its entity attributes: Income or Expense Item.	Entity Attribute	1	High	R221	
R252	Business Information	WDVA	Persist the following business entity and its entity attributes: Invoice (Voucher).	Entity Attribute	2	High	R221	
R253	Business Information	WDVA	Persist the following business entity and its entity attributes: Job.	Entity Attribute	1	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R254	Business Information	WDVA	Persist the following business entity and its entity attributes: Labor Item.	Entity Attribute	3	High	R221	
R255	Business Information	WDVA	Persist the following business entity and its entity attributes: Labor Person (Association Class).	Entity Attribute	3	High	R221	
R256	Business Information	WDVA	Persist the following business entity and its entity attributes: Legal.	Entity Attribute	1	High	R221	
R257	Business Information	WDVA	Persist the following business entity and its entity attributes: Location.	Entity Attribute	1	High	R221	
R258	Business Information	WDVA	Persist the following business entity and its entity attributes: Material Item.	Entity Attribute	3	High	R221	
R259	Business Information	WDVA	Persist the following business entity and its entity attributes: Military Campaign.	Entity Attribute	1	High	R221	
R260	Business Information	WDVA	Persist the following business entity and its entity attributes: Military Education.	Entity Attribute	1	High	R221	
R261	Business Information	WDVA	Persist the following business entity and its entity attributes: Military Occupational Specialty.	Entity Attribute	1	High	R221	
R262	Business Information	WDVA	Persist the following business entity and its entity attributes: Org to Person (association class).	Entity Attribute	1	High	R221	
R263	Business Information	WDVA	Persist the following business entity and its entity attributes: Organization.	Entity Attribute	1	High	R221	
R264	Business Information	WDVA	Persist the following business entity and its entity attributes: Period of Military Service.	Entity Attribute	1	High	R221	
R265	Business Information	WDVA	Persist the following business entity and its entity attributes: Permission.	Entity Attribute	1	High	R221	
R266	Business Information	WDVA	Persist the following business entity and its entity attributes: Person.	Entity Attribute	1	High	R221	
R267	Business Information	WDVA	Persist the following business entity and its entity attributes: Person Material Donation (Association Class).	Entity Attribute	3	High	R221	
R268	Business Information	WDVA	Persist the following business entity and its entity attributes: Person to Person (association class).	Entity Attribute	1	High	R221	
R269	Business Information	WDVA	Persist the following business entity and its entity attributes: Post-Program Client Stipulation.	Entity Attribute	1	High	R221	
R270	Business Information	WDVA	Persist the following business entity and its entity attributes: Post-Program Client Stipulations.	Entity Attribute	1	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R271	Business Information	WDVA	Persist the following business entity and its entity attributes: Program.	Entity Attribute	1	High	R221	
R272	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Assessment Factor.	Entity Attribute	1	High	R221	
R273	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Assessment Response Value.	Entity Attribute	1	High	R221	
R274	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Client Assessment Factor.	Entity Attribute	1	High	R221	
R275	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Client Milestone.	Entity Attribute	1	High	R221	
R276	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Client Outcome.	Entity Attribute	1	High	R221	
R277	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Cost Item.	Entity Attribute	1	High	R221	
R278	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Document.	Entity Attribute	1	High	R221	
R279	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Eligibility.	Entity Attribute	1	High	R221	
R280	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Eligibility Criterion.	Entity Attribute	1	High	R221	
R281	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Funding Cycle.	Entity Attribute	1	High	R221	
R282	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Funding Source.	Entity Attribute	1	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R283	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Funding Stipulation.	Entity Attribute	1	High	R221	
R284	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Manager (generalized up to Person).	Entity Attribute	1	High	R221	
R285	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Milestone.	Entity Attribute	1	High	R221	
R286	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Outcome.	Entity Attribute	1	High	R221	
R287	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Pre-Eligibility Consideration.	Entity Attribute	1	High	R221	
R288	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Pre-Eligibility Evaluation.	Entity Attribute	1	High	R221	
R289	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Procedure.	Entity Attribute	1	High	R221	
R290	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Procedure Step.	Entity Attribute	1	High	R221	
R291	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Required Resource.	Entity Attribute	1	High	R221	
R292	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Service.	Entity Attribute	1	High	R221	
R293	Business Information	WDVA	Persist the following business entity and its entity attributes: Program Service Summary.	Entity Attribute	1	High	R221	
R294	Business Information	WDVA	Persist the following business entity and its entity attributes: Project.	Entity Attribute	3	High	R221	
R295	Business Information	WDVA	Persist the following business entity and its entity attributes: Project Phase.	Entity Attribute	3	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R296	Business Information	WDVA	Persist the following business entity and its entity attributes: Project Phase Goal.	Entity Attribute	3	High	R221	
R297	Business Information	WDVA	Persist the following business entity and its entity attributes: Project Task.	Entity Attribute	3	High	R221	
R298	Business Information	WDVA	Persist the following business entity and its entity attributes: Provider Professional.	Entity Attribute	2	High	R221	
R299	Business Information	WDVA	Persist the following business entity and its entity attributes: Provisioned Item.	Entity Attribute	1	High	R221	
R300	Business Information	WDVA	Persist the following business entity and its entity attributes: Qualified Service Offering.	Entity Attribute	2	High	R221	
R301	Business Information	WDVA	Persist the following business entity and its entity attributes: Record of Service.	Entity Attribute	1	High	R221	
R302	Business Information	WDVA	Persist the following business entity and its entity attributes: Referral.	Entity Attribute	1	High	R221	
R303	Business Information	WDVA	Persist the following business entity and its entity attributes: Remark.	Entity Attribute	1	High	R221	
R304	Business Information	WDVA	Persist the following business entity and its entity attributes: Resource Applied For.	Entity Attribute	1	High	R221	
R305	Business Information	WDVA	Persist the following business entity and its entity attributes: Service Award.	Entity Attribute	1	High	R221	
R306	Business Information	WDVA	Persist the following business entity and its entity attributes: Session.	Entity Attribute	2	High	R221	
R307	Business Information	WDVA	Persist the following business entity and its entity attributes: Transaction Item.	Entity Attribute	2	High	R221	
R308	Business Information	WDVA	Persist the following business entity and its entity attributes: Unique Person.	Entity Attribute	1	High	R221	
R309	Business Information	WDVA	Persist the following business entity and its entity attributes: Vendor Information.	Entity Attribute	2	High	R221	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
<b>R310</b>	<b>Business Information</b>	<b>WDVA</b>	<b>Ability to support WDVA's key business information relationships. Please reference the following business entity models: 1) Diagram 22: To-Be WDVA Detailed Business Entity Model 1 of 6 – Client Identity Perspective2) Diagram 23: To-Be WDVA Detailed Business Entity Model 2 of 6 – Client Program Participation Perspective3) Diagram 24: To-Be WDVA Detailed Business Entity Model 3 of 6 – Program Design and Management Perspective4) Diagram 25: To-Be WDVA Detailed Business Entity Model 4 of 6 – Provider Identity Perspective5) Diagram 26: To-Be WDVA Detailed Business Entity Model 5 of 6 – Provider Services Perspective6) Diagram 27: To-Be WDVA Detailed Business Entity Model 6 of 6 – Project Management Perspective</b>	<b>Stakeholder Request</b>		<b>High</b>		
<b>R311</b>	Business Information	WDVA	Persist Client as a kind of Person.	Functional	1	High	R310	
<b>R312</b>	Business Information	WDVA	Persist Provider Professional as a kind of Person.	Functional	2	High	R310	
<b>R313</b>	Business Information	WDVA	Persist Case Manager as a kind of Person.	Functional	1	High	R310	
<b>R314</b>	Business Information	WDVA	Persist Program Manager as a kind of Person.	Functional	1	High	R310	
<b>R315</b>	Business Information	WDVA	Associate one Person with zero to many of another Person. (Recursive referencing.)	Functional	1	High	R310	
<b>R316</b>	Business Information	WDVA	Characterize the association of one Person with another Person by the following attributes: Start Date; End Date; Preference Indicator; and Relationship Type.	Functional	1	High	R310	
<b>R317</b>	Business Information	WDVA	Characterize the association of one Organization with a Person by the following attributes: Start Date; End Date.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R318	Business Information	WDVA	Associate Person with zero to many Identity.	Functional	1	High	R310	
R319	Business Information	WDVA	Associate Client with zero to many Location.	Functional	1	High	R310	
R320	Business Information	WDVA	Associate Client with zero to many Contact Info.	Functional	1	High	R310	
R321	Business Information	WDVA	Associate Client with zero or one Employment History.	Functional	1	High	R310	
R322	Business Information	WDVA	Associate Client with zero to many Permission.	Functional	1	High	R310	
R323	Business Information	WDVA	Associate Client with zero to many Education Institution.	Functional	1	High	R310	
R324	Business Information	WDVA	Associate Client with one Benefit and Entitlement Summary.	Functional	1	High	R310	
R325	Business Information	WDVA	Associate Client with zero to many Housing.	Functional	1	High	R310	
R326	Business Information	WDVA	Associate Client with one Income Expense.	Functional	1	High	R310	
R327	Business Information	WDVA	Associate Client with one Legal.	Functional	1	High	R310	
R328	Business Information	WDVA	Associate Client with zero to many Incarceration.	Functional	1	High	R310	
R329	Business Information	WDVA	Associate Client with zero to many Period of Military Service.	Functional	1	High	R310	
R330	Business Information	WDVA	Associate Employment History with zero to many Job.	Functional	1	High	R310	
R331	Business Information	WDVA	Associate Organization with zero to many Job.	Functional	1	High	R310	
R332	Business Information	WDVA	Associate Organization with zero to many Benefit.	Functional	1	High	R310	
R333	Business Information	WDVA	Associate Benefit and Entitlement Summary with zero to many Benefit.	Functional	1	High	R310	
R334	Business Information	WDVA	Associate Period of Military Service with zero to many Military Campaign.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R335	Business Information	WDVA	Associate Period of Military Service with zero to many Award.	Functional	1	High	R310	
R336	Business Information	WDVA	Associate Period of Military Service with zero to many Military Occupational Specialty.	Functional	1	High	R310	
R337	Business Information	WDVA	Associate Application Intake Summary with one Client.	Functional	1	High	R310	
R338	Business Information	WDVA	Associate Application Intake Summary with one Program.	Functional	1	High	R310	
R339	Business Information	WDVA	Associate Client with zero to many Referral.	Functional	1	High	R310	
R340	Business Information	WDVA	Associate Client with zero to many Program.	Functional	1	High	R310	
R341	Business Information	WDVA	Associate Client with zero to many Program Pre-Eligibility Evaluation.	Functional	1	High	R310	
R342	Business Information	WDVA	Associate Program with zero to many Program Pre-Eligibility Evaluation.	Functional	1	High	R310	
R343	Business Information	WDVA	Associate Program with zero to many Actual Program Eligibility.	Functional	1	High	R310	
R344	Business Information	WDVA	Associate Client with zero to many Assessed Need.	Functional	1	High	R310	
R345	Business Information	WDVA	Associate Client with zero to many Resource Applied For.	Functional	1	High	R310	
R346	Business Information	WDVA	Associate Client with zero to many Case Note.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R347	Business Information	WDVA	Associate Client with zero to many Client Meeting/Contact.	Functional	1	High	R310	
R348	Business Information	WDVA	Associate Client with zero to many Consumed Program.	Functional	1	High	R310	
R349	Business Information	WDVA	Associate Organization with zero to many Referral.	Functional	1	High	R310	
R350	Business Information	WDVA	Associate Program Pre-Eligibility Evaluation with zero to many Program Pre-Eligibility Consideration.	Functional	1	High	R310	
R351	Business Information	WDVA	Associate Actual Program Eligibility with zero to many Actual Program Eligibility Criterion.	Functional	1	High	R310	
R352	Business Information	WDVA	Associate Consumed Program with zero to many Consumed Service.	Functional	1	High	R310	
R353	Business Information	WDVA	Associate Consumed Program with zero to many Client Meeting/Contact.	Functional	1	High	R310	
R354	Business Information	WDVA	Associate Consumed Program with zero to many Program Client Assessment Factor.	Functional	1	High	R310	
R355	Business Information	WDVA	Associate Consumed Program with zero to many Program Client Milestone.	Functional	1	High	R310	
R356	Business Information	WDVA	Associate Consumed Program with zero to many Program Client Outcome.	Functional	1	High	R310	
R357	Business Information	WDVA	Associate Consumed Program with one Post-Program Client Stipulations.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R358	Business Information	WDVA	Associate Consumed Program with zero to many Case Manager.	Functional	1	High	R310	
R359	Business Information	WDVA	Associate Consumed Service with zero to many Provider Professional.	Functional	2	High	R310	
R360	Business Information	WDVA	Associate Consumed Service with zero to many Provisioned Item.	Functional	1	High	R310	
R361	Business Information	WDVA	Associate Post-Program Client Stipulations with zero to many Post-Program Client Stipulation.	Functional	1	High	R310	
R362	Business Information	WDVA	Associate Program Manager with zero to many Program.	Functional	1	High	R310	
R363	Business Information	WDVA	Associate Program with zero to many Program Required Resource.	Functional	1	High	R310	
R364	Business Information	WDVA	Associate Program with zero to many Program Service Summary.	Functional	1	High	R310	
R365	Business Information	WDVA	Associate Program with zero to many Program Document.	Functional	1	High	R310	
R366	Business Information	WDVA	Associate Program with zero to many Program Procedure.	Functional	1	High	R310	
R367	Business Information	WDVA	Associate Program with zero to many Program Funding Cycle.	Functional	1	High	R310	
R368	Business Information	WDVA	Associate Program with zero to many Program Pre-Eligibility Evaluation.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R369	Business Information	WDVA	Associate Program with zero to many Program Pre-Eligibility.	Functional	1	High	R310	
R370	Business Information	WDVA	Associate Program Service Summary with zero to many Program Service.	Functional	1	High	R310	
R371	Business Information	WDVA	Associate Program Document with zero to many Program Procedure Step.	Functional	1	High	R310	
R372	Business Information	WDVA	Associate Program Procedure with zero to many Program Procedure Step.	Functional	1	High	R310	
R373	Business Information	WDVA	Associate Program Procedure Step with zero to many Program Assessment Factor.	Functional	1	High	R310	
R374	Business Information	WDVA	Associate Program Assessment Factor with zero to many Program Assessment Response Value.	Functional	1	High	R310	
R375	Business Information	WDVA	Associate Program Procedure Step with zero to many Program Milestone.	Functional	1	High	R310	
R376	Business Information	WDVA	Associate Program Procedure Step with zero to many Program Outcome.	Functional	1	High	R310	
R377	Business Information	WDVA	Associate Program Funding Cycle with zero to many Program Funding Source.	Functional	1	High	R310	
R378	Business Information	WDVA	Associate Organization with zero to many Program Funding Source.	Functional	1	High	R310	
R379	Business Information	WDVA	Associate Program Funding Source with zero to many Program Funding Stipulation.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R380	Business Information	WDVA	Associate Program Funding Cycle with zero to many Program Cost Item.	Functional	1	High	R310	
R381	Business Information	WDVA	Associate Program Pre-Eligibility Evaluation with zero to many Program Pre-Eligibility Consideration.	Functional	1	High	R310	
R382	Business Information	WDVA	Associate Program Eligibility with zero to many Program Eligibility Criterion.	Functional	1	High	R310	
R383	Business Information	WDVA	Associate Program Eligibility Criterion with another Program Eligibility Criterion. (Recursive referencing.)	Functional	1	High	R310	
R384	Business Information	WDVA	Characterize the association of one Program Eligibility Criterion with another Program Eligibility Criterion by the following attributes: AND; OR.	Functional	1	High	R310	
R385	Business Information	WDVA	Associate Organization with zero to many Program Cost Item.	Functional	1	High	R310	
R386	Business Information	WDVA	Associate one Organization with one Vendor Information.	Functional	2	High	R310	
R387	Business Information	WDVA	Associate one Provider Professional with one Vendor Information.	Functional	2	High	R310	
R388	Business Information	WDVA	Associate one Provider Professional with zero to many Contract.	Functional	2	High	R310	
R389	Business Information	WDVA	Associate one Provider Professional with zero to many Geographical Service Area.	Functional	2	High	R310	
R390	Business Information	WDVA	Associate one Provider Professional with zero to many Qualified Service Offering.	Functional	2	High	R310	
R391	Business Information	WDVA	Associate Contract with zero to many Invoice (Voucher).	Functional	2	High	R310	
R392	Business Information	WDVA	Associate Invoice (Voucher) with zero to many Session.	Functional	2	High	R310	
R393	Business Information	WDVA	Associate Invoice (Voucher) with zero to many Transaction Item.	Functional	2	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R394	Business Information	WDVA	Associate Invoice (Voucher) with zero to many Billable Item.	Functional	2	High	R310	
R395	Business Information	WDVA	Associate Project with zero to many Calendar Event.	Functional	3	High	R310	
R396	Business Information	WDVA	Associate Project with zero to many Project Phase.	Functional	3	High	R310	
R397	Business Information	WDVA	Associate Project Phase with zero to many Project Goal.	Functional	3	High	R310	
R398	Business Information	WDVA	Associate Project Phase with zero to many Project Task.	Functional	3	High	R310	
R399	Business Information	WDVA	Associate Project Task with zero to many Labor Item.	Functional	3	High	R310	
R400	Business Information	WDVA	Associate Project Task with zero to many Material Item.	Functional	3	High	R310	
R401	Business Information	WDVA	Associate Labor Item with zero to many Person.	Functional	3	High	R310	
R402	Business Information	WDVA	Characterize the association of one Labor Item with Person by the following attributes: Role; Labor Rate.	Functional	3	High	R310	
R403	Business Information	WDVA	Associate Material Item with zero to many Person.	Functional	3	High	R310	
R404	Business Information	WDVA	Characterize the association of one Material Item with Person by the following attributes: Role; Donated Amount.	Functional	3	High	R310	
R405	Business Information	WDVA	Associate Unique Person with zero to many Certificate of Discharge.	Functional	1	High	R310	
R406	Business Information	WDVA	Associate Certificate of Discharge with zero to many Location.	Functional	1	High	R310	
R407	Business Information	WDVA	Associate Certificate of Discharge with zero to many Military Occupational Specialty.	Functional	1	High	R310	
R408	Business Information	WDVA	Associate Certificate of Discharge with zero to many Remark.	Functional	1	High	R310	
R409	Business Information	WDVA	Associate Certificate of Discharge with zero to many Military Education.	Functional	1	High	R310	
R410	Business Information	WDVA	Associate Certificate of Discharge with zero to many Military Campaign.	Functional	1	High	R310	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R411	Business Information	WDVA	Associate Certificate of Discharge with zero to many Communication.	Functional	1	High	R310	
R412	Business Information	WDVA	Associate Certificate of Discharge with one to many Record of Service	Functional	1	High	R310	
R413	Business Information	WDVA	Associate Certificate of Discharge with zero to many Service Award.	Functional	1	High	R310	
R414	Business Information	WDVA	Associate Certificate of Discharge with zero to many Import Export Record.	Functional	1	High	R310	
R415	Business Information	WDVA	Associate one Certificate of Discharge with another Certificate of Discharge. (A veteran may receive a DD214, and then later on, corrections or additions in the form of a DD215. Both are "Certificates of Discharge", but one must be related to the other.)	Functional	1	High	R310	
R416	<i>User Capability</i>	<i>WDVA</i>	<i>Ability for authorized users to create, update and delete key business information (business entities) and their attributes (entity attributes) and associations.</i>	<i>Stakeholder Request</i>		<i>High</i>		
R417	User Capability	WDVA	Ability to update an Actual Program Eligibility.	Functional	1	High	R416	
R418	User Capability	WDVA	Ability to update an Actual Program Eligibility Criterion.	Functional	1	High	R416	
R419	User Capability	WDVA	Ability to create, update and delete an Application Intake Summary.	Functional	1	High	R416	
R420	User Capability	WDVA	Ability to create, update and delete an Assessed Need.	Functional	1	High	R416	
R421	User Capability	WDVA	Ability to create, update and delete an Award.	Functional	1	High	R416	
R422	User Capability	WDVA	Ability to create, update and delete a Benefit.	Functional	1	High	R416	
R423	User Capability	WDVA	Ability to create, update and delete a Benefit and Entitlement Summary.	Functional	1	High	R416	
R424	User Capability	WDVA	Ability to create, update and delete a Billable Item.	Functional	2	High	R416	
R425	User Capability	WDVA	Ability to create, update and delete a Calendar Event.	Functional	3	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R426	User Capability	WDVA	Ability to create, update and delete a Case Manager (generalized up to Person).	Functional	1	High	R416	
R427	User Capability	WDVA	Ability to create, update and delete a Case Note.	Functional	1	High	R416	
R428	User Capability	WDVA	Ability to create, update and delete a Certificate of Discharge.	Functional	1	High	R416	
R429	User Capability	WDVA	Ability to create, update and delete a Client (generalized up to Person)...	Functional	1	High	R416	
R430	User Capability	WDVA	Ability to create, update and delete a Client Meeting/Contact.	Functional	1	High	R416	
R431	User Capability	WDVA	Ability to create, update and delete a Communication.	Functional	1	High	R416	
R432	User Capability	WDVA	Ability to create, update and delete a Consumed Program.	Functional	1	High	R416	
R433	User Capability	WDVA	Ability to create, update and delete a Consumed Service.	Functional	1	High	R416	
R434	User Capability	WDVA	Ability to create, update and delete a Contact Info.	Functional	1	High	R416	
R435	User Capability	WDVA	Ability to create, update and delete a Contract.	Functional	2	High	R416	
R436	User Capability	WDVA	Ability to create, update and delete a Criterion Join (Association Class).	Functional	1	High	R416	
R437	User Capability	WDVA	Ability to create, update and delete an Education Institution.	Functional	1	High	R416	
R438	User Capability	WDVA	Ability to create, update and delete the Employment History of a client.	Functional	1	High	R416	
R439	User Capability	WDVA	Ability to create, update and delete a Provider Professional's Geographical Service Area.	Functional	2	High	R416	
R440	User Capability	WDVA	Ability to create, update and delete a Client's Housing history.	Functional	1	High	R416	
R441	User Capability	WDVA	Ability to create, update and delete a Person's Identity.	Functional	1	High	R416	
R442	User Capability	WDVA	Ability to create, update and delete an Import Export Record.	Functional	1	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R443	User Capability	WDVA	Ability to create, update and delete a Client's Incarceration.	Functional	1	High	R416	
R444	User Capability	WDVA	Ability to create, update and delete a Client's Income Expense.	Functional	1	High	R416	
R445	User Capability	WDVA	Ability to create, update and delete a Client's Income or Expense Item.	Functional	1	High	R416	
R446	User Capability	WDVA	Ability to create, update and delete a Provider Professional's Invoice (Voucher).	Functional	2	High	R416	
R447	User Capability	WDVA	Ability to create, update and delete a Client's Job.	Functional	1	High	R416	
R448	User Capability	WDVA	Ability to create, update and delete a Project's Labor Item.	Functional	3	High	R416	
R449	User Capability	WDVA	Ability to update a Project's Labor Person (Association Class).	Functional	3	High	R416	
R450	User Capability	WDVA	Ability to create, update and delete a Client's Legal.	Functional	1	High	R416	
R451	User Capability	WDVA	Ability to create, update and delete a Location.	Functional	1	High	R416	
R452	User Capability	WDVA	Ability to create, update and delete a Project's Material Item.	Functional	3	High	R416	
R453	User Capability	WDVA	Ability to create, update and delete a Military Campaign for a given Certificate of Discharge.	Functional	1	High	R416	
R454	User Capability	WDVA	Ability to create, update and delete a Military Education for a given Certificate of Discharge.	Functional	1	High	R416	
R455	User Capability	WDVA	Ability to create, update and delete a Military Occupational Specialty for a given Certificate of Discharge.	Functional	1	High	R416	
R456	User Capability	WDVA	Ability to update an Org to Person (association class).	Functional	1	High	R416	
R457	User Capability	WDVA	Ability to create, update and delete an Organization.	Functional	1	High	R416	
R458	User Capability	WDVA	Ability to view Period of Military Service.	Functional	1	High	R416	
R459	User Capability	WDVA	Ability to create, update and delete a Client's Permission.	Functional	1	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R460	User Capability	WDVA	Ability to create, update and delete a Person.	Functional	1	High	R416	
R461	User Capability	WDVA	Ability to update a Person Material Donation (Association Class).	Functional	3	High	R416	
R462	User Capability	WDVA	Ability to update a Person to Person (association class).	Functional	1	High	R416	
R463	User Capability	WDVA	Ability to create, update and delete a Post-Program Client Stipulation.	Functional	1	High	R416	
R464	User Capability	WDVA	Ability to create, update and delete a Post-Program Client Stipulations.	Functional	1	High	R416	
R465	User Capability	WDVA	Ability to create, update and delete a Program.	Functional	1	High	R416	
R466	User Capability	WDVA	Ability to create, update and delete a Program Assessment Factor.	Functional	1	High	R416	
R467	User Capability	WDVA	Ability to create, update and delete a Program Assessment Response Value.	Functional	1	High	R416	
R468	User Capability	WDVA	Ability to create, update and delete a Program Client Assessment Factor.	Functional	1	High	R416	
R469	User Capability	WDVA	Ability to create, update and delete a Program Client Milestone.	Functional	1	High	R416	
R470	User Capability	WDVA	Ability to create, update and delete a Program Client Outcome.	Functional	1	High	R416	
R471	User Capability	WDVA	Ability to create, update and delete a Program Cost Item.	Functional	1	High	R416	
R472	User Capability	WDVA	Ability to create, update and delete a Program Document.	Functional	1	High	R416	
R473	User Capability	WDVA	Ability to create, update and delete a Program Eligibility for a defined Program.	Functional	1	High	R416	
R474	User Capability	WDVA	Ability to create, update and delete a Program Eligibility Criterion for a defined Program.	Functional	1	High	R416	
R475	User Capability	WDVA	Ability to update a Client's actual Program Eligibility.	Functional	1	High	R416	
R476	User Capability	WDVA	Ability to update a Client's actual Program Eligibility Criterion.	Functional	1	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R477	User Capability	WDVA	Ability to create, update and delete a Program Funding Cycle.	Functional	1	High	R416	
R478	User Capability	WDVA	Ability to create, update and delete a Program Funding Source.	Functional	1	High	R416	
R479	User Capability	WDVA	Ability to create, update and delete a Program Funding Stipulation.	Functional	1	High	R416	
R480	User Capability	WDVA	Ability to create, update and delete a Program Manager.	Functional	1	High	R416	
R481	User Capability	WDVA	Ability to create, update and delete a Program Milestone.	Functional	1	High	R416	
R482	User Capability	WDVA	Ability to create, update and delete a Program Outcome.	Functional	1	High	R416	
R483	User Capability	WDVA	Ability to create, update and delete a Program Pre-Eligibility Consideration for a defined Program.	Functional	1	High	R416	
R484	User Capability	WDVA	Ability to create, update and delete a Program Pre-Eligibility Evaluation for a defined Program.	Functional	1	High	R416	
R485	User Capability	WDVA	Ability to update a Client's actual Pre-Eligibility Consideration for a defined Program.	Functional	1	High	R416	
R486	User Capability	WDVA	Ability to update a Client's actual Pre-Eligibility Evaluation for a defined Program.	Functional	1	High	R416	
R487	User Capability	WDVA	Ability to create, update and delete a Client's Pre-Eligibility Consideration not associated with any one Program.	Functional	1	High	R416	
R488	User Capability	WDVA	Ability to create, update and delete a Client's Pre-Eligibility Evaluation not associated with any one Program.	Functional	1	High	R416	
R489	User Capability	WDVA	Ability to create, update and delete a Program Procedure.	Functional	1	High	R416	
R490	User Capability	WDVA	Ability to create, update and delete a Program Procedure Step.	Functional	1	High	R416	
R491	User Capability	WDVA	Ability to create, update and delete a Program Required Resource.	Functional	1	High	R416	
R492	User Capability	WDVA	Ability to create, update and delete a Program Service.	Functional	1	High	R416	
R493	User Capability	WDVA	Ability to create, update and delete a Program Service Summary.	Functional	1	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R494	User Capability	WDVA	Ability to create, update and delete a Project.	Functional	3	High	R416	
R495	User Capability	WDVA	Ability to create, update and delete a Project Phase.	Functional	3	High	R416	
R496	User Capability	WDVA	Ability to create, update and delete a Project Phase Goal.	Functional	3	High	R416	
R497	User Capability	WDVA	Ability to create, update and delete a Project Task.	Functional	2	High	R416	
R498	User Capability	WDVA	Ability to create, update and delete a Provider Professional.	Functional	1	High	R416	
R499	User Capability	WDVA	Ability to create, update and delete a Provisioned Item.	Functional	1	High	R416	
R500	User Capability	WDVA	Ability to create, update and delete a Qualified Service Offering.	Functional	2	High	R416	
R501	User Capability	WDVA	Ability to create, update and delete a Record of Service for a given Certificate of Discharge.	Functional	1	High	R416	
R502	User Capability	WDVA	Ability to create, update and delete a Client Referral.	Functional	1	High	R416	
R503	User Capability	WDVA	Ability to create, update and delete a Remark for a given Certificate of Discharge.	Functional	1	High	R416	
R504	User Capability	WDVA	Ability to create, update and delete a Resource Applied For.	Functional	1	High	R416	
R505	User Capability	WDVA	Ability to create, update and delete a Service Award for a given Certificate of Discharge.	Functional	1	High	R416	
R506	User Capability	WDVA	Ability to create, update and delete a Session.	Functional	2	High	R416	
R507	User Capability	WDVA	Ability to create, update and delete a Transaction Item.	Functional	2	High	R416	
R508	User Capability	WDVA	Ability to create, update and delete a Unique Person.	Functional	1	High	R416	
R509	User Capability	WDVA	Ability to create, update and delete an Organization's Vendor Information.	Functional	2	High	R416	
R510	User Capability	WDVA	Ability to associate one Person with one or more other Persons, including Start Date, End Date.	Functional	1	High	R416	

ID	Affinity	Business Area	Requirement Statement	Requirement Type	Desired Phase	Priority	Trace To IDs	
							1	2
R511	User Capability	WDVA	Ability to associate one Organization with one or more Persons, including Start Date, End Date, and Role Type.	Functional	1	High	R416	
R512	User Capability	WDVA	Ability to associate one Labor Item with one or more Persons, including Role and Labor Rate.	Functional	3	High	R416	
R513	User Capability	WDVA	Ability to associate one Material Item with one or more Persons, including Role and Donated Amount.	Functional	3	High	R416	

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## APPENDIX A. REQUIREMENTS REFACTORIZING AND ATOMIC REQUIREMENTS

Note: Examples below are from the insurance and car rental industry, but can apply to any business problem, including this project.

### Defined

Next to project management, requirements management and all of its variant practices is probably the most published topic in IT. A simple search of the term *business requirements* at a popular online book seller's web site yields over 3,800 matches.

We'll advance one definition knowing there are many equally good definitions available:

*A Business Requirement is a statement that expresses a business desire for a particular behavior or characteristic of a targeted solution.*

In this definition, *behavior* and *characteristics* have to do with how a system works or functions, or what features or qualities it possesses. The *targeted solution*, of course, is the system you will be either building (from scratch) or enhancing. Examples of typical business requirements might be:

The customer should be able to choose a car type when renting.

With each rental the system should determine if the customer has reached the next loyalty level.

The solution should be accessible from anywhere on the intranet.

The system will charge the customer's credit card at the time of return.

The examples above are general purpose requirements that lack certain qualities. For this reason, we can further classify business requirements into narrower categories where we can then refine the definitions. As you'll see, we do this to accomplish four goals:

- To re-express—a process called *refactoring*— requirements into more meaningful form that can be further expressed, or *elaborated*, through analysis.
- To better show linkage to downstream (or lower, more detailed) solution specification elements, from which a design can begin.
- To provide a traceability system that can link downstream solution specification elements with requirements.
- To help with the overall testability of the solution.

This may seem baffling at this point but the next few sections should help explain this in further detail.

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## The Two Worlds of Requirements

Requirements are powerful devices in specifying an idea and concept. That is probably why there are so many books written on the topic. However, requirements can also be highly variable, speculative, ambiguous and subjective. This has more to do with human and language challenges than anything else.

First, humans play a significant role in the quality of a business requirement. Two people studying a business problem and the likely solution to that problem (i.e. software application) may perceive or conceive the problem in different ways. For example, they may both agree that sluggish claims processing is the primary business problem at hand but both may express that problem in different ways, and if these two people are responsible for writing business requirements for a new claims management system, variance in the requirements are highly likely. One person, say, Michelle, may write:

```
"The system should prioritize claims based
on date, type, region and other factors."
```

while Michelle's colleague, Peter, may write the following:

```
"The system should keep track of each
claim handler's work queue and work
status."
```

While these two statements may be totally different features, Michelle and Peter may have written both with the idea of solving the sluggishness of the current environment. Both business stakeholders, Michelle and Peter, agree on the problem (sluggish claims processing) but both internalize how to express it differently. This is human nature and it is behavior that can't be avoided.

Second, the English language for all its power and elegance is fraught with ambiguity (English professors and linguistics researchers have a field day with modern English). Expressing business requirements for a software application—even the simplest of applications—can often result in statements that are misleading, ambiguous, redundant and downright confusing.

It's for these two reasons that we seek to categorize written requirements into two classes: Monolithic Requirements and Atomic Requirements. A *Monolithic Requirement* is a requirement that is not sufficiently broken down (i.e. refactored) or simplified such that it can be represented by a single solution specification element. An *Atomic Requirement* is a requirement that can be traced to an at least one specification element that satisfies the requirement. We'll see why this is important in the next section.

## Monolithic Requirements and Refactoring

The definition for Monolithic Requirement is stated above. There are typically two types of Monolithic Requirement:

- **Stakeholder Request** — a requirement written by someone who is empowered to request new business capabilities.
- **Functional Flow** — A requirement that captures a behavior of the automation solution either in terms of the "user experience" or in terms of the "business work" that is to be performed.

We use Stakeholder Requests to capture the voice of the customer. They are literally what the stakeholders—customers, industry experts—are saying they want in a new or enhanced system. Examples of Stakeholder Requests are like the following:

“System must be able to rent different car types to qualified customers.”

or

“System must keep track of the renter during the rental period.”

Though Stakeholder Requests are usually expressed in written form, they are often insufficient from which to specify or build a system. Stakeholder requirements are not typically designed to express the business solution, just the vision and what high level capabilities are needed. Because of this Stakeholder Requests are usually in need of refactoring to accomplish the following goals called *Soundness Checks*:

- **Provide Context** — where and in what situation (business, user experience, etc.) the requirement will be satisfied or utilized.
- **Remove Ambiguity** — Requirement is 100% unique and understandable by all-consuming parties / requirements.
- **Remove Duplication** — there are no other requirements which infer or explain the same concept.
- **Make Measurable** — the requirement is written in such a manner that a test can be developed and executed to measure if the system meets or fails to meet the requirement.
- **Make Objective** — the requirement is able to be: described, counted, imitated, observable, without emotion and/or bias. Tested.

Some Functional Flows are considered monolithic (i.e. they can't be represented by a single solution specification element) because they are broad descriptions of how a user might interact with a system. A *Use Case* is an example of a Functional Flow. Depending on the approach to notation, Functional Flows can be narrative, organized in columnar form using steps, or graphical. The following example is a use case narrative describing a customer's experience renting a car:

Start of flow.

The user specifies the destination, dates of rental and type of rental car desired. The system checks the rental inventory for the requested car type at the location and dates specified and, finding there is a car available for rent, reserves it. The system prompts the user for a discount code or company code. The user specifies a discount code. The system prompts the user to verify the reservation information. The user confirms the information. The system creates a reservation.

End of flow.

It is easy to see for the use case narrative above that it would be difficult to apply the five Soundness Checks. In the passage there are probably more than a two dozen requirements of behavior but it is cumbersome to pinpoint even one. And though this use case narrative serves a good purpose—highlighting a business scenario where a customer will use the new system (booking a reservation), it falls short of being a quality business requirement. Significant refactoring is required to identify the Atomic Requirements that would help develop the solution specification elements.

Functional Flows are sometimes used directly rather than being fully factored. In this case it is important to make sure that the functional flows map directly to a single specification element. This can be the case if the functional flow is written so that it is purely a "usage scenario" written as text where a "Usage Scenario" specification element can be directly mapped to it.

## Atomic Requirements

The definition for Atomic Requirement is stated above. There are many more Atomic Requirement types than there are Monolithic Requirements for the reason that by design the goal of Atomic Requirements is to simply and specify the context of the requirement such that it can be traced to a single specification element that satisfies the requirement. As such there are twelve Atomic Requirements:

- **Business Policy Requirement** — A statement that specifies a mandated behavior or practice of a company or organization. Example:

`"A vehicle rental agreement cannot be consummated without presentment of the customer's valid driver's license."`

- **Deployment Requirement** — A statement that specifies how the new system or application will be launched from a software and/or hardware perspective.

`"Each physical site requires a separate domain controller."`

- **Entity Attribute Requirement** — captures a piece of business information that needs to be retained. Examples:

`"Rental Agreement Number"`

`"Car Type with fixed domain of values: Passenger, Light Truck, SUV and Truck."`

`"Name During Rental"`

`"Street Address During Rental"`

`"Phone Number During Rental"`

- **Environmental Requirement** — Captures information about the required physical location where certain behaviors must be performed. This information may relate to where individuals performing task work will be located, or where automation components will be located. NOTE: If there are special circumstances surrounding the work environment, these should be captured here. These include: restricted access to rooms where either business or IT operational work will be performed; environmental degradation issues (noisy, dirt, poor visibility, etc.). Example:

"The system must be able to be administered while the server it is operating on is physically inaccessible."

- **Functional Requirement** — captures the business or task behavior of the solution targeted by the project. User visible behavior includes actions which the user interface will allow users to perform, the information that they can be presented with and the manner in which user-based authority mediates these. Business behavior includes anything that impacts a business entity or otherwise accomplishes "business work." Examples:
  - User visible behavior:
    - "User can request and view a list of past rentals for the selected customer."
    - "User must be enter name, address and phone number where renter will be staying while renting."
    - "User must be able to view name, address and phone number where renter will be staying while renting."
    - "User can search for available vehicles of a specified car type."
  - Business behavior:
    - "When user reserves car, system will reserve car from general inventory."
- **Guidance Requirement** — Provides educational information and/or general statements that are not quantifiable but may suggest a heuristic to be used within a project. Guidance cannot be mapped directly to a specification element. Because of this, "Requirement Tactics" that represent "Supporting Tactics" for addressing the Guidance, should be identified. Example:
  - Example of Guidance:
    - "The system's user interface will conform to the Corporate Style Guide, Section B."
  - Example of Supporting Requirement Tactic:
    - "Gain possession of this standards document; meet with standards group to clarify Section B; add task in project plan to have testing team validate that all Section B standards are met in UI."
- **Operational Requirement** — Captures behaviors that define how a solution is maintained or supported outside the business value chain that the solution directly supports. Example:
  - "It must be possible for the flow of claims into the legal review system to be halted and restarted during the course of a regular business day without the loss of any pending work."

- **Performance Requirement** — captures the constraints upon the speed, throughput, efficiency, accuracy, response time, startup time and resource usage of the business automation solution.

Examples:

"1,000 customers must be able to access the website simultaneously."

"Display of product types should take less than 5 seconds."

"Transition from Login action to display of Home Page should be no more than 7 seconds."

- **Reliability Requirement** — Captures constraints that relate to system availability, system recoverability (including disaster recovery as well as recovery for point failures). Example:

"The customer service reception clerk's handheld instrument must be able to withstand typical usage patterns (30 vehicle returns per hour peak; 160 per shift; three shifts per day; six days per week) with no more than 1 failure per year per 1000 units."

- **Rollout Requirement** — Captures behavior that must be accommodated when initial or new business capabilities are being made available that impact how end users of the business automation solution perform. Example:

"Rental agents should refer to Passenger Vehicle Rental Guidelines version 3 for advice on using new Reservation screens."

- **System Interface Requirement** — captures an architectural constraint that a particular system interface (either existing or that will be provided during the course of the associated project) will be mandated to be used in a particular situation. Examples:

"The system must obtain driver data from the DriverChek system."

"Customer addresses are geo-validated using Unites States Postal Service's web service."

- **Usability Requirement** — captures how the business automation solution should expose actions (for the end user to perform) and how it displays information to these end-users. Examples:

"Add Customer UI must display all valid Discount Types adjacent to Customer Number."

"Help should be available on every UI screen and in a consistent location (position)."

## Tracing Atomic Requirements to Monolithic Requirements

Atomic Requirements are usually identified after analysis of Stakeholder Requests and in some instances Functional Flows in the manner of Use Cases (both Monolithic Requirements). This type of analysis and subsequent rewriting of requirements is, as we stated above, requirements refactoring. Since we have refactored new Atomic Requirements from Monolithic Requirements, it makes sense to trace from Atomic to Monolithic.<sup>4</sup> This is to say that a given Functional Requirement will trace to a given Stakeholder Request.

Figure 4 shows the results of a requirements refactoring exercise that a business analyst might take when confronted with a Stakeholder Request as illustrated. There are five Atomic Requirements that have been identified: two Functional Requirements and three Entity Attribute Requirements.

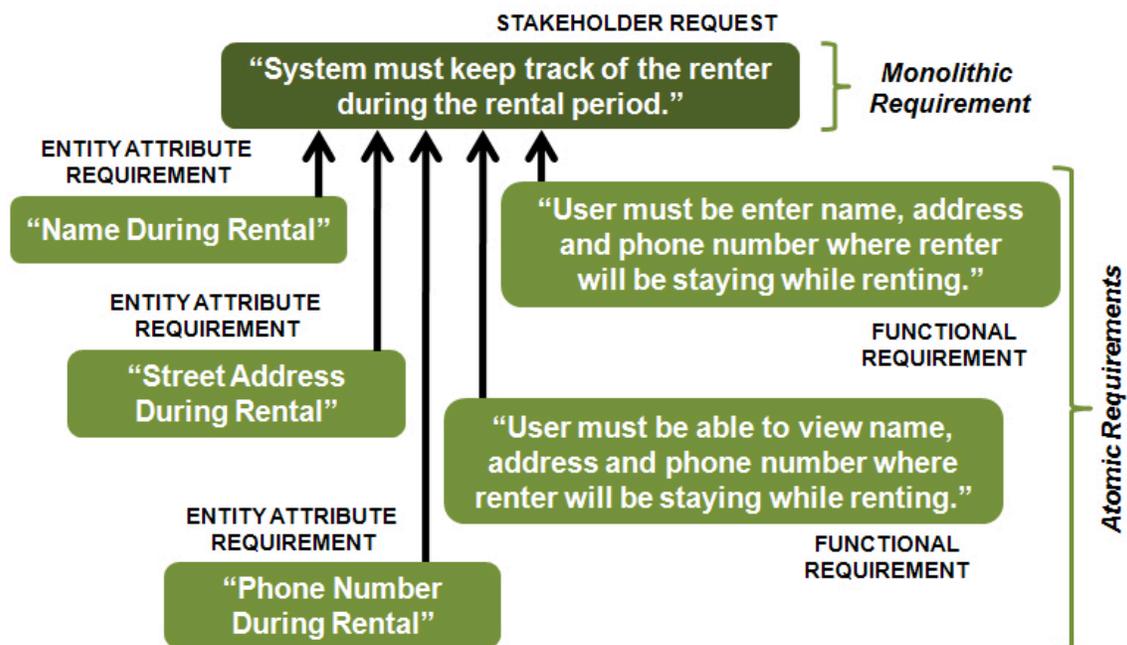


Figure 4 Atomic Requirements typically trace to Monolithic Requirements such as Stakeholder Requests since they are usually (but not always) the product of requirements refactoring.

## Reasons to Use

Refactoring requirements makes common sense because most requirements that are part of a software project, an upgrade project, an integration project almost always have specific requirements, like Rollout Requirement, Deployment Requirement and Reliability Requirement. And more often than not, projects almost always change business behavior. Even if all of your Stakeholder Requests ultimately get refactored into only one atomic requirements—Functional Requirements, say—it’s worth the exercise to see if you’re not missing anything and your eliminating risk.

<sup>4</sup> **A note about traceability in general.** This topic is far broader than what is discussed here. Traceability is not only linking one analysis element to another, it is usually a business case (or should be!) that extends to other areas of the project and software development life-cycle (SDLC) infrastructure, including processes, standards, etc. These are deliberately not discussed in this Technique Guide.

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