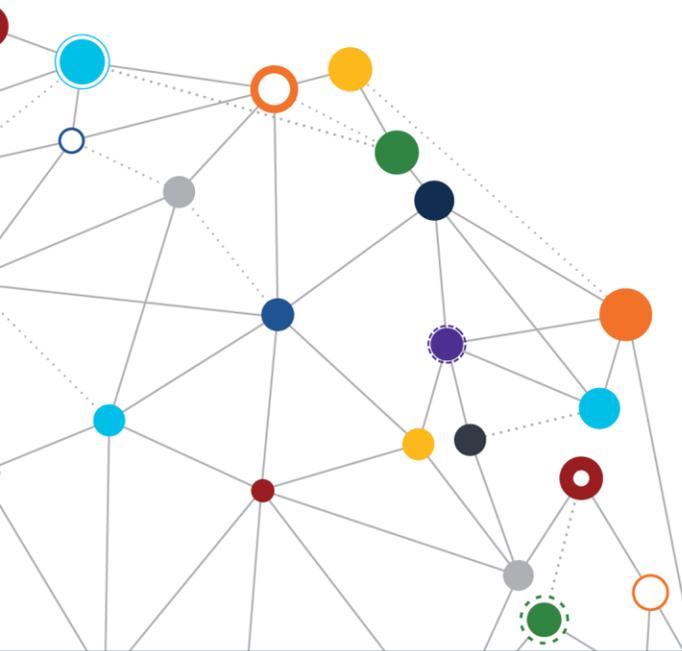




VA EA Architecture Development Methodology Update

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VA



U.S. Department of Veterans Affairs
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Revision History

Date of Change	Team/Individual Making Change	Description of Change
April 2014	OneVA EA Team	Initial Pre-Decisional Draft.
April 18, 2016	VA EA Team	Updated.
July 17, 2017	VA EA Team	Incorporated agile framework into the process. Moved individual agile section into the End-to-End Process section. Eliminated the Management Disciplines section. Incorporated parts from Requirements Management Plan, Release Procedures, Configuration Management Plan, and QA Plan into the End-to-End Process section with details going into procedures to be accessible on the VA EA website on the VA Intranet.
May 15, 2018	VA EA Team	Incorporated VA EA Configuration Management Plan and VA EA Requirements Plan as appendices. Migrated to new document deliverable template.
May 1, 2019	VA EA Team	Incorporated changes to governance bodies and to the configuration management process model, including CM roles and responsibilities and CI types.

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1 Executive Summary

The Department of Veterans Affairs (VA) is transforming in an effort to improve its support to Veterans. To achieve a level of seamless support for VA, a more efficient and better-integrated enterprise is required. The envisioned enterprise creates the alignment of strategic direction, business operations, technology, and data and is methodically designed, aggregated, and managed to deliver the right information to the right place at the right time.

At the core of this transformation is the VA Enterprise Architecture (EA). The VA EA is the strategic planning and management tool that supports operations, execution, and management accountability, and equips leadership to execute change across the Department. The VA EA provides the enterprise-level line-of-sight needed to support informed decision-making. As an authoritative reference, the VA EA provides an integrated view of the different domains of enterprise data across all levels of VA: VA-wide Enterprise, Segment, and Solution.

The combination of intent, resources, methodology, and execution aligned through the VA EA enables a VA enterprise that provides a consistent and seamless experience for accessing information and delivering improved services to U.S. Veterans and their families.

For the VA EA to support the VA mission of Veteran care, implementation of sound methodology and processes is a prerequisite. Architecture and Engineering Services (AES) developed the VA EA Architecture Development Methodology (ADM) to fill that critical need. The ADM enables the capture, integration, and presentation of high-quality data and information used across VA. The focal areas include, but are not limited to, the following:

- » Business-driven requirements process for identifying, defining, and prioritizing VA EA development efforts
- » Identification, definition, and capture of the requisite enterprise data that is visible, accessible, and understandable to and trusted by VA decision-makers
- » Change control to ensure that all new or modified data and/or technical functionality are traceable to the enterprise need that necessitates the changes
- » Quality assurance (QA) throughout the ADM to ensure consistent stakeholder involvement and the quality of the resulting information
- » A thorough, yet flexible, process to enable VA EA to respond rapidly to enterprise priorities as they arise

Another area of focus is VA EA Governance, which is essential to ensure VA EA is driven by enterprise business needs and priorities. It also is critical to enforcing VA EA use within enterprise decision processes and in assisting VA to achieve its strategic goals and objectives. The ADM approaches development and management of the VA EA from an end-to-end (E2E) perspective. This ensures that the architecture contains the right content that is responsive to customer needs and contributes to desired VA outcomes.

The ADM includes agile techniques to foster iterative and incremental delivery of content through the VA Enterprise Architecture Repository (VEAR). Iterative development allows for

shorter cycles enabling quicker customer feedback and continuous process improvement. Incremental delivery enables greater responsiveness to customer needs.

2 Introduction

The VA EA ADM is the overarching methodology for development and management of the VA EA. It incorporates aspects of multiple practices and disciplines to implement a robust, yet flexible, process for developing an EA to support VA's strategic direction.

2.1 Background

The Clinger-Cohen Act of 1996 (Public Law 104-106) and Title 40 U.S.C. §11312 require a Capital Planning and Investment Control (CPIC) process.¹ OMB A-130 requires the CPIC process to link mission needs, information, and information technology (IT) in an effective and efficient manner. This guidance requires a decision support mechanism that integrates data from the different enterprise domains—strategic, business, data and information, systems and applications, networks and infrastructure, and security—and makes the data visible, accessible, understandable, and trusted for use within VA's decision-making. EA enables enterprise decision-making through artifacts and data about entities and their relationships within and across the enterprise domains.

The specific decision-making processes that help define the scope of VA EA content include, but are not limited to:

- » CPIC
- » Strategic Planning
- » Enterprise Programming
- » IT Multi-Year Programming (MYP)
- » IT Portfolio Management (PfM)
- » Solutions Development Lifecycle (SDLC)

Data collected from all the enterprise domains, supported by a robust metamodel, enables VA EA to provide the critical support to these decision-making processes. In addition, the E2E process includes the business Stakeholders throughout, focuses on their information needs, and ensures the metamodel is populated with enterprise priority-driven data that supports VA's strategic direction.

¹ Clinger-Cohen Act of 1996, Pub. L. No. 104-106, 110 Stat. 186 (1996), https://www.treasury.gov/privacy/Documents/Clinger-Cohen_Act_of_1996.pdf; Information Technology Management, Capital Planning and Investment Control, 40 U.S.C. §11312, <https://www.gpo.gov/fdsys/granule/USCODE-2010-title40/USCODE-2010-title40-subtitleIII-chap113-subchapII-sec11312>.

2.2 Purpose

The ADM informs Stakeholders on how the VA EA is developed from an E2E perspective. The content and artifacts are expected to enable and facilitate business/technology planning and decision-making. This result is anticipated to improve business processes that have direct or indirect support to Veteran care as an outcome. The ADM enables the people in the roles described in Section 3: Roles and Responsibilities to understand what is expected of them to implement the E2E process described in Section 4: End-to-End Process for the best possible outcome to VA.

2.3 Scope

The scope of the ADM encompasses four major types of activities the Architecture Team performs during a release cycle: delivery of new functionality, modification of existing functionality, creation of new content, and modification of existing content. Delivery of new functionality and creation of new content are documented as requirements in User Story format as described in Appendix D: Requirements Management Plan. Modification of existing functionality and content are documented as change requests (CRs) and follow the format described in Appendix E: Configuration Management Plan.

The team implements a hybrid approach (waterfall and agile) in designing, developing, and updating the VA EA repository, artifacts and associated data maintained in the architecture repository. Guiding disciplines include:

- » Requirements Management (RM)
- » Configuration Management (CM)
- » Quality Assurance
- » Release Management
- » Governance

The ADM describes the high-level guidance to define and approve requirements, manage changes, perform quality reviews, manage releases, and perform executive oversight throughout the release cycle. In alignment with the ADM, Appendices D, E, and F provide the step-by-step details on how the release cycle is executed but with sufficient flexibility to retain the advantages of an agile approach.

2.4 Intended Audience

The groups listed below are the intended audience for this ADM; they oversee or contribute to VA EA evolution:

- » Business Users having business needs that may be addressed through the collection of requirements and the development and publication of content that influences mission and business outcomes. Business Users are involved in all stages of the agile ADM process.
- » Governance Bodies associated with direction and oversight of meeting VA mission needs and implementing the VA Strategic Plan.

- » VA EA Architecture Team responsible for working with functional and technical content owners to advance development of the VA EA.

After reviewing this document, each group should have a high-level understanding of the approach used to develop the VA EA and the role each plays within this approach.

3 Roles and Responsibilities

People, process, and technology are the three elements for successful organizational transformation.² This section focuses on people; Section 4: End-to-End Process focuses on process; and VA EA Management Suite (VEAMS) documentation (e.g., VEAMS Implementation Plan) focuses on technology that supports the ADM.

Table 3-1: VA EA ADM Process Roles and Responsibilities provides a high-level overview of the VA EA ADM roles and responsibilities divided into three categories: Business Users, Governance Bodies, and the VA EA Teams. Each role has designated responsibilities.

Business Owners, a role within the Business Users category, define and present business needs. The business need drives VA EA development to provide an enterprise or segment perspective that multiple Business Owners can use. From an enterprise-level perspective, Stakeholders range from Department- to segment- and solution-level personnel.

VA EA Governance is carried out within the Office of Information and Technology (OIT) governance framework. The framework includes an overarching Oversight Board; subordinate boards for architecture, acquisition and organization; and committees serving as action arms of the subordinate boards. Further details on governance framework are included in Section 5: VA EA Implementation.

The VA EA Architecture Team, in coordination with Business Owners, creates Epics and User Stories to develop EA content, artifacts, and supporting functionality. The team helps Business Owners and Stakeholders understand their ADM roles and responsibilities in terms of business outcomes and how EA content and visualizations improve those outcomes.

Section 4: End-to-End Process identifies how these roles interact with each other to achieve the outcomes sought by Business Owners.

² Sreekanth Ramakrishnan and Michael Testani, "People, Process, Technology – The Three Elements for a Successful Organizational Transformation," Institute of Industrial Engineers, <http://www.iinet2.org/Details.aspx?id=24456>.

Table 3-1: VA EA ADM Process Roles and Responsibilities: Business Users

Role	Responsibilities
Business Owner	Provides support or delivery of programs/initiatives that benefit Veterans. The VA EA Team collaborates with Business Owners in conducting E2E ADM activities that will result in achieving the best business outcome. As the primary Stakeholder, the Business Owner collaborates with other Stakeholders and the VA EA Team to maintain an enterprise perspective. Delegates of the Business Owner conduct many activities in Section 4: End-to-End Process that call out the Business Owner role.
Stakeholder	Has a business interest affected by the needs of the Business Owner. Stakeholders, Business Owners, Segment Architects, Solution Architects, and the VA EA Team collaborate to ensure that the primary need is supported and an enterprise perspective is sustained.
Segment Architect	Acts as liaison between the Business Owner and the VA EA Architecture Team. VA EA Functional Analysts work with Segment Architects to deliver an integrated enterprise solution to satisfy the business need. When a Staff Office does not have a Segment Architect, the VA EA Architecture Team fills this role.
Solution Architect	Coordinates with the Segment Architect and the VA EA Architecture Team to provide value mappings of the architecture elements and ensure they are applicable to an enterprise perspective.

Table 3-2: VA EA ADM Process Roles and Responsibilities: Governance Body

Role	Responsibilities
Standards & Architecture Council	Manages all aspects of the VA EA that address the evolution of VA's IT environment, specifically VA's IT Technical Architecture and cross-functional standards established for the betterment of OIT and VA as a whole. Also responsible for developing and maintaining IT policies, rules, standards, and all other content that depicts the current and future states of technologies and solutions within VA's IT environment.
Architecture & Data Management Committee (ADMC)	Provides recommendations for IT solutions designed and implemented by VA to enable the business and technology visions of VA.
Data Governance Council (DGC)	Guides the enforcement of VA data standards and data governance policy for every IT project and business process initiative. EA business and data architects support the DGC's data stewards. The EA Tools Team reconfigures VEAR tables (as needed) and automates loading of DGC-sponsored data artifacts into VEAR.



Table 3-3 VA EA ADM Process Roles and Responsibilities: VA EA Team

Role	Responsibilities
Requirements Lead (G ³)	<ul style="list-style-type: none"> • The primary VA EA liaison with Business Owners. This liaison function may be delegated to Domain Leads. • Approves Epics and User Stories for entry into the Change Control Log. • Performs cross-domain review to verify that “enterprise perspective” is addressed. • Approves User Stories for development within a release period.
Pillar/Domain Lead (G)	<ul style="list-style-type: none"> • Reviews Epics and User Stories to guide the development of the requisite content describing the requirements within its specific domain and the touchpoints to other domains. • Assist Requirements Lead in performing cross-domain review to verify that “enterprise perspective” is addressed. • Approves Epics and User Stories for entry into the Backlog. • Supports content development and quality review throughout the EA development lifecycle (including web and repository content). • Provides support within the collaboration forums to perform content walk-throughs.
Release Manager (C ⁴)	<ul style="list-style-type: none"> • Provides guidance for writing Epics, User Stories, and supporting detailed requirements. • Collaborates with all VA EA Team members to promote a transparent and streamlined ADM workflow that strives to improve outcomes for Veterans. • Ensures Epics, User Stories, and supporting detailed requirements are integrated and enable the development of VA EA releases. • Coordinates and facilitates design and content reviews for each VA EA release. • Ensures all requisite resources are available for and participate in all reviews. • Facilitates cross-team collaboration throughout the EA development lifecycle.
Chief Architect (C)	<ul style="list-style-type: none"> • Defines the vision for the Epics and User Stories that drive development of the VA EA. • Supports Requirements Lead to collaborate with Stakeholders to discern requirements that derive the EA. • Reviews User Stories within the wider set of User Stories in a release or backlog.
Chief Technical Architect (C)	<ul style="list-style-type: none"> • Provides senior technical advice/consultation to AES and EA Stakeholders. • Orchestrates and coordinates Epics, User Stories, and supporting detailed requirements across the technical architecture domains. • Supports Government Tools and Technical Architecture Lead to collaborate with Stakeholders to discern requirements that derive the technical components of the VA EA.

³ G means government position.

⁴ C means contractor position. All contractor responsibilities are conducted in coordination with the Project Manager.



Role	Responsibilities
Tools Lead/Team (C)	<ul style="list-style-type: none"> Responsible for managing VEAMS product design, development, testing, and implementation; defining, implementing, and managing the agile processes for the Tools Team; providing senior technical tools advice/consultation to AES and EA Stakeholders. Develops and evolves VEAMS to include developing VEAR improvements, tools updates, and VEAMS maintenance.
Functional Analyst (C)	<ul style="list-style-type: none"> Provides expertise in support of the Domain Lead to define Epics and User Stories. Participates in collaboration forums to ensure that the business perspective is addressed within the requirements and the resulting content, visualizations, and capabilities.
Architecture Team Lead (C)	<ul style="list-style-type: none"> Lead Functional Analyst for the domain. Ensures the information provided in Epics, User Stories, and resulting changes to VA EA content are appropriately developed, verified, validated, and implemented. Engages the Segment Architects and Business Owners to derive business requirements from expressed needs and considers opportunities for an enterprise solution. Communicates the value of the VA EA to Business Owners and Stakeholders.
Web Content/Comms Team (C)	<ul style="list-style-type: none"> Works with the Government, Architecture, and Tools Team Leads to provide guidance for updates to all communications platforms, insight into effective web presence and usage, and integration opportunities for cross-domain VA EA information. Updates the content on the VA EA Intranet, Internet, Pulse sites, and other communications platforms. Provides access to tools used to navigate EA. Communicates the value of the VA EA to Business Owners and Stakeholders.

4 End-to-End Process

The VA EA ADM E2E process is depicted in Figure 4-1. It starts with initial customer engagement to establish a business need and finishes with publication of approved new or updated architecture content in terms of models, diagrams, reports, and/or data. VA EA content informs and supports planning and decision-making processes. The process begins with creating an initial list of requirements that is compiled from the various domains to create a baseline Change Control Log that provides initial direction for execution of the release cycle. The process is then executed in an agile manner using iterative development and incremental delivery as described in VA's Veteran-focused Integration Process (VIP). The process is flexible and tailorable, based on characteristics of the business need.



4.1 Overarching Process

The high-level process presented in Figure 4-1 provides a view of how VA EA transforms needs into content and capability that satisfy needs in a measurable way. Each blue-shaded block in the process flow represents a subprocess further divided into process activities identified in Section 4.2: Subprocesses.

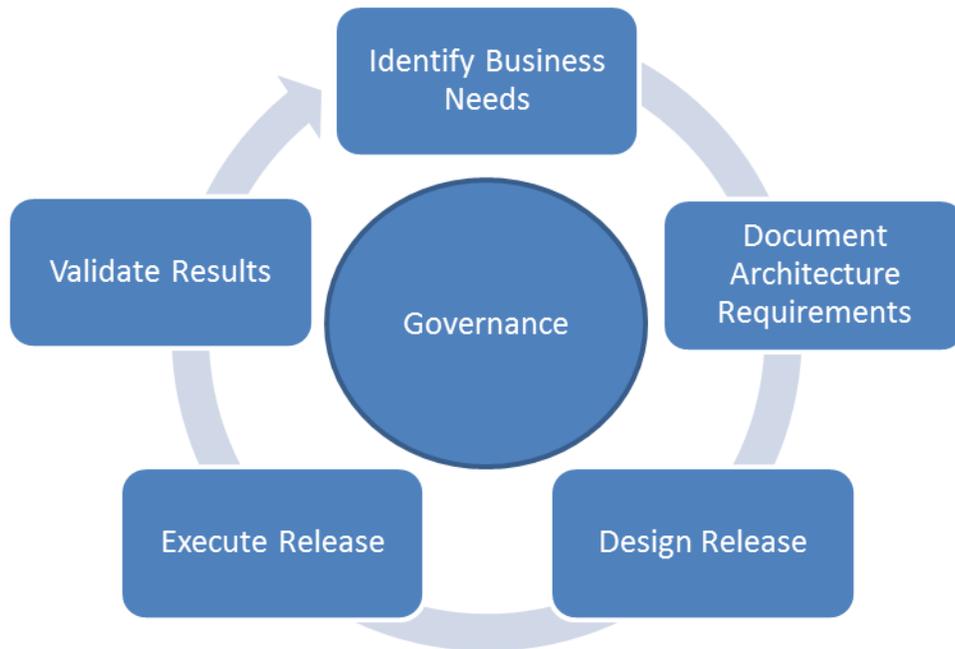


Figure 4-1: ADM E2E Process

The Business Owners or their delegates are engaged at the beginning of the process and continue to be engaged throughout the process. Members of the Architecture Team work with the Business Owner to fully understand the business need within a broader context of the VA EA. Business Owners are involved in creating Epics and User Stories and are responsible for validating that architecture changes serve their business needs. They also review the content created or modified and confirm that the models, reports, diagrams, or data fully meet the need stated in the User Stories. The “Validate Results” subprocess confirms whether the business need was met or if additional User Stories are needed in another iteration of the process.

4.2 Subprocesses

Each subprocess and its activities are described in this section. Business level activities are depicted in green, and technical-level activities are depicted in purple with a thick black border. One activity in the “Execute Release” subprocess is multicolored, which depicts collaboration between the two teams.

4.2.1 Identify Business Needs

To deliver new content and functionality, architects must first engage business owners to collect and understand business needs. This subprocess is triggered by a business or technology challenge that crosses VA segment lines. Figure 4-2 identifies the major activities within the subprocess. The paragraphs that follow define the activities.



Figure 4-2: Identify Business Needs

4.2.1.1 Activities

- » **Conduct customer dialogs, interviews, or surveys** as the primary means of collecting business needs. An analysis of business needs performed annually during the strategic planning cycle primarily focuses on evaluation of fiscal year (FY) priorities. Business needs may also be derived throughout the year based on business “pain points.” An example business need is to develop subject area models to support data discovery and reuse. Functional Analysts and Tools Team members use questions to understand and scope the need, and identify data sources to support the need. The data may be in VEAR or other services that need to be aligned to the VA EA.
- » **Review Strategic Plans (SP), Concepts of Operation (CONOPS), or other documents** as a secondary means of collecting business needs. Business needs are extracted from the VA Strategic Plan or Information Resource Management (IRM) Strategic Plan. Other documents include reports from the VA Office of Inspector General (OIG), Government Accountability Office (GAO), and OMB.

4.2.1.2 Output

The output of this subprocess is a well-scoped statement of business need and supporting Epic that enables the creation of requirements for content or artifacts that will address the business or technology need.

4.2.2 Document Architecture Requirements

This subprocess identifies the specific improvements required to address the business need. The need(s) identified in the previous step is used in drafting requirements in the form of User Stories. Figure 4-3 identifies the major activities that occur within the Document Architecture Requirements subprocess. The paragraphs that follow define the activities.



Figure 4-3: Document Architecture Requirements

4.2.2.1 Activities

- » **Define content requirements.** Business Owners, Segment Architects, and/or Solution Architects, assisted by an Architecture Team Functional Analyst, create User Stories that define the requirements to address a business need. The User Story can result in an Epic, which is a high-scope requirement that may extend beyond a single release. Epics can be decomposed into User Stories that are scoped to describe the work to be delivered within the span of a release quarter. Epics and User Stories are associated to overarching Themes that are used to encapsulate related requirements and may be written in the same format as a User Story at a higher level or contain only a statement of the business need. A Theme-Epic-User Story relation diagram is provided in Appendix D: Requirements Management Plan.
 - The scope of a User Story should be written to cover a time span that can be completed within a release period of less than 12 weeks. Each User Story is required to have associated acceptance criteria to help determine customer expectation and validate completion.
 - Further guidance regarding User Story criteria and format can be found in Appendix D: Requirements Management Plan.
- » **Integrate and prioritize requirements.** User Stories are written based on tool or content changes. They are stored and managed in their respective domain log by the contractor Domain Leads. Contractor Domain Leads prioritize Epics and User Stories within their domain logs based on strategic guidance. User Stories are submitted to Government Domain Leads for review and approval.
- » **Approve requirements list.** Government Domain Leads approve EA Epics and User Stories as legitimate requirements for entry into the domain backlog.

4.2.2.2 Output

The outputs of this subprocess are approved and prioritized Epic(s) and User Stories in the backlog that are ready to be assigned to a release. If an Epic and/or User Story is not approved, it returns to the originator for possible rewriting based on clarification of the business need.

4.2.3 Design Release

This subprocess identifies and defines the activities for designing a release. Domain Leads submit approved User Stories and Change Requests to the Release Manager for the upcoming release based on determined strategic priority. User Stories and Change Requests must meet the following criteria:

- » Every User Story or Change Request submitted to be included in a quarterly release must be ready for technical development.
- » Every User Story or Change Request submitted to be included in a quarterly release must align to one of the Workstreams listed below:
 - Portfolio/Product Line Management
 - Enterprise Data Management
 - Business Vocabulary Development
 - Metadata Management
 - Modernization Initiatives – Electronic Health Records Management (EHRM)
 - Modernization Initiatives – Financial Management Business Transformation (FMBT)
 - Modernization Initiatives – Supply Chain/Defense Medical Logistics Supply Service (DMLSS)
 - Modernization Initiatives – Benefits Integration Platform (BIP)
 - Data Governance Council (DGC) Support
 - VA Systems Inventory (VASI)
 - Network Modernization
 - Enterprise Design Patterns (EDPs)
 - Technical Reference Model (TRM)
 - Web Development
 - Training
- » Only work items that require Tools Team support will be captured in the Change Control Log.

The Release Manager compiles the User Stories and Change Requests submitted by each Domain Lead and prepares them for review and inclusion in the Change Control Log. All other ongoing work or work that does not need Tools Team support must be documented by the individual Domain Leads and provided to the contract Project Manager for reporting purposes. Figure 4-4 is a depiction of the major activities that occur within the Design Release subprocess. The paragraphs that follow define the activities.

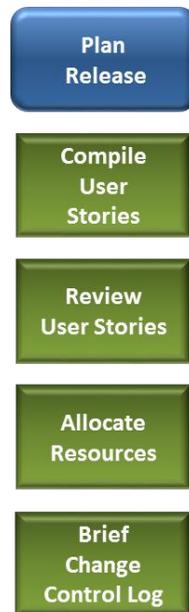


Figure 4-4: Design Release

4.2.3.1 Activities

- » **Compile User Stories.** Before the start of the upcoming release period, Domain Leads review and validate the priority of the User Stories in their backlogs. User Stories for the upcoming release(s) are submitted accordingly by each Domain Lead for inclusion in the Change Control Log. The Release Manager compiles the User Stories submitted by each Domain Lead and prepares them for review and prioritization.
- » **Review User Stories.** The Release Manager coordinates a meeting with the Tools Team Lead and Architecture Team Leads to review the compiled User Stories in the wider context of the release. The purpose of the review is to identify potential cross-domain integration points and/or dependencies, estimate level of effort, and prioritize User Stories.
- » **Allocate Resources.** Once the Change Control Log is agreed to and prioritized, resources are allocated to each User Story from the Domain Teams and/or Tools Team as needed.
- » **Brief Change Control Log.** The last activity required before executing the release involves briefing the Requirements Lead (G). The Release Manager is responsible for coordinating a meeting between the Government and Contractor Domain (Pillar) Leads, the Chief Architects, and the Tools Team Lead to brief the Change Control Log to the Requirements Lead. If the Change Control Log is approved, the team moves forward with execution of the release. If not, the team will make necessary adjustments to the Change Control Log until it is approved by the Requirements Lead.

4.2.3.2 Output

A key outcome of this subprocess is an approved Baseline Change Control Log. In following an agile approach for development, User Stories can be added to or removed from the Change Control Log as needed pending Requirements Lead approval.

4.2.4 Execute Release

To deliver new functionality or enhance existing capabilities, architects and developers work together to convert User Stories into architecture content and tool capabilities. This subprocess results in new or updated content published to the VA EA Intranet and Internet websites, or new or updated tools capabilities. It is dependent on a set of approved User Stories and their related tasks. Figure 4-5 identifies the major activities that occur within the Execute Release subprocess. Note that the multicolored shading of the “Conduct Design Review Meetings” activity depicts collaboration between business and technical teams.



Figure 4-5: Execute Release

4.2.4.1 Activities

- » **Design Solution(s).** The Domain Team collects content and designs products (data models, visualizations, reports, etc.) to either be loaded into VEAR or UNICOM® System Architect® (SA)⁵ or be linked to data stored in VEAMS.
- » **Define Tool Requirements and Acceptance Criteria.** Government Domain Lead and the Domain Team clearly define tools requirements and acceptance criteria to guide the Tools Team’s efforts in delivering new functionality or modifying the existing environment.
- » **Conduct Design Review Meetings.** Architecture, Tools, and Web Content Teams conduct group coordination of tasks within and across User Stories as a series of integrated design

⁵ UNICOM and System Architect are trademarks or registered trademarks of UNICOM Systems, Inc. in the United States or other countries or both.

meetings. This work includes consideration of dependencies and sequencing. Design approval authority is delegated to the Government Domain Lead.

- » **Develop Solution or Change.** The Tools Team develops the tools solution in the development server environment (sandbox) and releases it to the Architecture Team and Government Domain Leads for review. Once the solution is reviewed and approved, it transitions to integration testing.
- » **Test Solution or Change.** The Tools Team adds related content to the solution and conducts integration testing to address potential impacts to other areas of the repository or architecture. User Acceptance Testing is also conducted by the Domain Leads and Business Owners to verify that the solution has met the defined acceptance criteria. Content and artifacts being released are subject to QA before moving to implementation.
- » **Implement Solution.**
 - **Implement repository and model changes.** Tools implementation begins after new or updated capability is tested and approved by the Government Domain Leads and the Business Owner in the Development or Test environment. This activity applies specifically to:
 - VEAR Capability (e.g., new classes, reports, portals)
 - SA visualizationsVEAR and SA implementations occur continuously within a release cycle and are approved by Government Domain Leads.
 - **Implement website content changes.** The Web Content Team:
 - Works with the Functional Analyst to determine the end-user interface and placement for reports, diagrams, and other items in the sandbox.
 - Develops the web solution in the sandbox and releases it to the Architecture Team and Government Domain Leads for review.
 - Works with the Functional Analyst to determine the proper verbiage to add to the sandbox, and helps locate all instances of diagrams, reports, or proposed areas to place web page content. This activity may also be conducted with a Business Owner to gain agreement on such topics as page style and structure, as identified in the VA EA Architecture Style Guide (ASG), before developing the content.
 - **Conduct sandbox review.** The Requirements Lead conducts final reviews to ensure that Intranet and Internet content is ready for release. Intranet web pages are “sanitized” to remove content for internal VA use only before publication on the Internet.
 - **Obtain approval from EA leadership.** The Requirements Lead approves website content for release. Any content that is not approved returns to the Design Release subprocess for further work.
 - **Move to production.** When the Requirements Lead is satisfied with the website content and approves it, the content is made available for access within the VA network, and a subset of that content is made available for access on the VA Internet (see the Conduct sandbox review step, above). The approved web solution is periodically deployed to the Intranet and Internet (if applicable) as content and artifacts become ready for delivery through the agile process.

4.2.4.2 Output

The outputs of this subprocess are delivery of tool capability and architecture content to customers in VEAR, SA and/or publication of VA EA Intranet and Internet web pages.

4.2.5 Validate Results

This subprocess determines the effectiveness of the architecture content delivered as stated by the customer of that content. This includes the immediate use of the content in the customer's business process and a longer-term assessment of its use in improving VA mission and business outcomes. Execution of this subprocess is guided by the VA EA Valuation Measurement Methodology⁶. Figure 4-6 identifies the major activities that occur within the Validate Results subprocess.



Figure 4-6: Validate Results

4.2.5.1 Activities

- » **Poll customers.** A questionnaire is distributed to the Business Owner or designee to poll the customer and determine whether the VA EA content and/or artifacts are easy to locate, access, and use. Additionally, the questionnaire polls the customer on whether the VA EA content and/or artifacts are meaningful and meet the functional requirements in the User Story as applied to his business process. Finally, the questionnaire polls the customer on the degree to which content and/or artifacts assist in achieving mission/business outcome. The questionnaire has a designated area for customers to add comments to explain where any aspects of the content are deficient.
- » **Analyze feedback to identify business needs.** Functional Analysts collect and review the completed questionnaire and determine whether a follow-on meeting with the Business Owner, Segment Architect, and Solutions Architect is needed. The questionnaire results are used to track Epic and User Story fulfillment and performance improvement based on

⁶ VA EA Valuation Measurement Methodology Update, Department of Veterans Affairs Office of Technology, Enterprise Program Management Office, Demand Management Division, Architecture and Engineering Service. May 6, 2019. https://vaww.vashare.oit.va.gov/sites/OneVaEa/Deliverables/Accepted%20Deliverables/Deliverables_2018-2019_OY1/VEAMS%20and%20EA%20Services%20Support/VA%20EA%20Valuation%20Measurement%20Methodology%20Update.

metrics recorded in the Epic. This activity also includes analysis of the monthly VA EA Website and Stakeholder Engagement Report to understand Business Owner interaction with content on the VA EA Intranet website. (For information on this report, refer to the VA EA Service Support Operations Plan.) Questionnaire results are consolidated and presented to the Business Owner and Requirements Lead with recommendations. The need to draft a new User Story to resolve issues is a critical consideration in the recommendation.

4.2.5.2 *Output*

The immediate output of this subprocess is feedback on architecture content and tool capabilities that address a User Story to assess whether more User Stories are needed to fulfill the Epic of which it is a part. In the future, the questionnaire will be expanded to include impact of the VA EA output on VA process outcomes.

5 VA EA Implementation

As AES continues to enhance its enterprise architecture development services, ongoing emphasis is on both EA governance and federation. This section briefly describes how each discipline guides VA EA development efforts and identifies sources for more detailed information.

5.1 VA EA Governance

As an enterprise transformation enabler, the VA EA must support and therefore be guided by both business and IT governance entities. Currently, those entities include the Data Governance Council (DGC) on the business side and an OIT governance consortium on the IT side. The DGC is a VA governance body co-chaired by the business (Office of Enterprise Integration [OEI]) and IT (OIT Enterprise Program Management Office/Demand Management Division [EPMO/DMD]). The DGC creates and maintains policy, processes, and standards to ensure that VA common data and shared data are managed to provide the most integrated, efficient, and effective services possible to VA customers and internal business operations. Its decisions and information needs affect the direction of and content within the VA EA.

OIT governance aligns OIT's strategic goals, enhances the core values of OIT customer service, and promotes interoperability and standardization within OIT in support of VA strategic goals and objectives. By implementing IT governance, OIT will decrease the time required to make decisions, and facilitate collaboration among business leadership in the prioritizing, funding, designing, and implementing of IT technologies, as well as in complying with all required Federal legislations and regulatory obligations as set forth by the Federal Information Technology Acquisition Reform Act (FITARA). Through compliance with FITARA and the implementation of the OIT governance framework, OIT will foster support for enterprise transformation across OIT.

An OIT Governance Board (ITGB) and three supporting councils (Program & Acquisition Review, Standards and Architecture, and Organization & Workforce) have been established to enforce the governance framework. Specifically, the Standards and Architecture Council (SAC) has been tasked with managing all aspects of the VA EA that address the evolution of VA's IT

environment, specifically VA’s IT Technical Architecture and cross-functional standards established for the betterment of OIT and VA as a whole. It’s also responsible for developing and maintaining IT policies, rules, standards, and all other content that depicts the current and future states of technologies and solutions within VA’s IT environment.

The SAC is supported by three committees (Quality, Privacy & Risk; Architecture & Data Management; and Information Security) tasked with generating solutions and recommendations based upon the needs of the Council. Specifically, the Architecture & Data Management Committee (ADMC) provides recommendations for IT solutions designed and implemented by VA to enable the business and technology visions of VA. As such, the SAC and ADMC provide direct oversight and governance over the VA EA.

In summary, the VA and OIT governance framework does the following:

- » Enables VA and OIT’s Strategic Plans, VA FY 2018-2024 Information Resource Management (IRM) Strategic Plan, Comprehensive IT Plan (CIP), IT Roadmap, and IT Modernization.
- » Ensures all initiatives are aligned with VA’s Mission and Vision.
- » Identifies decision owners and solidifies decision rights for OIT senior leadership, enabling them to make the right decisions, at the right time, with the right Stakeholders.
- » Aligns operations, policies and procedures to increase cost savings.
- » Positions OIT to efficiently manage and execute the budget.
- » Provides sustainable support for VA’s transformation priorities.

More detailed governance guidelines are currently being developed.

5.2 VA EA Federation

Architecture federation is a framework for EA development, maintenance, and use that aligns and links separate but related architectures and data sources. Other architectures and data sources are owned by different entities; delivered in different cycles; and when linked, create a useful, expanded information base. To accomplish federation, the VA EA contains links between “like” information in its tiers and relies on commonalities in the underlying metamodels and metastructures within each tier. This federated approach to VA EA development includes implementation of tools that ensure valuable and useful information is created and made available VA-wide. VA EA Federation is illustrated in Figure 5-1.

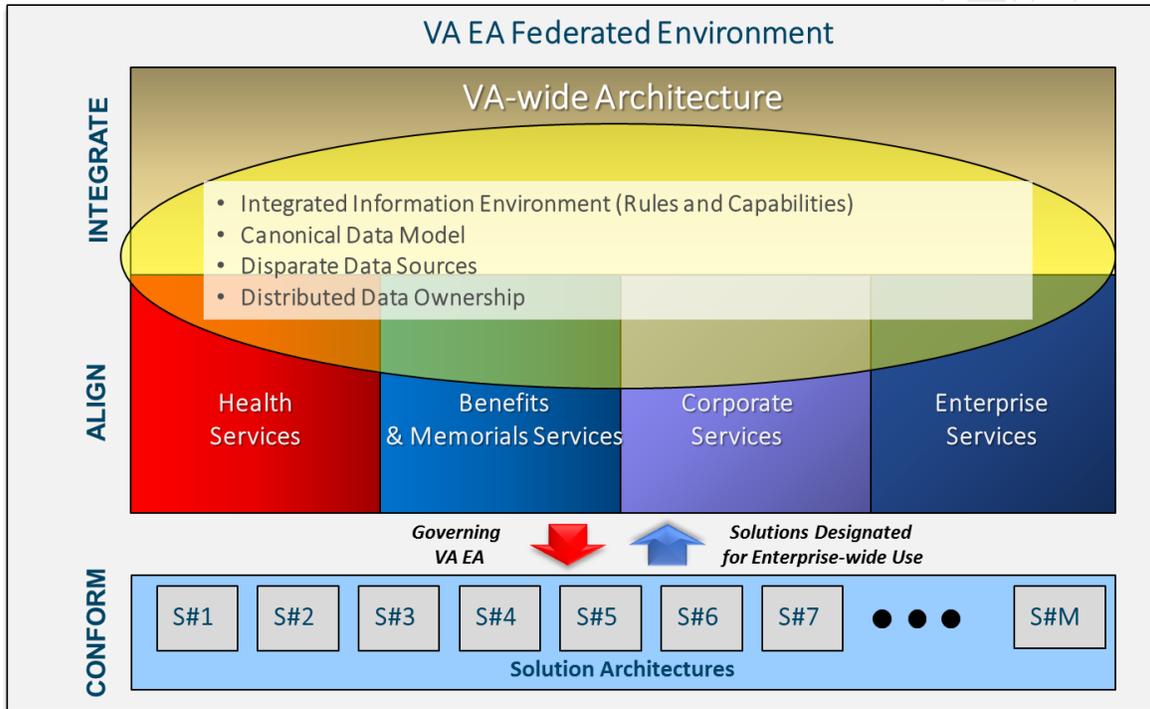


Figure 5-1: Federation of VA EA

Federation of the VA EA is enabled by aligning information in the lower-tier architecture(s) to information in the higher-tier architecture(s). Segment Architectures contain increased details, and lower-tier Solution Architectures contain implementation details. Alignment to the Enterprise tier directly from the Solution Architectures also occurs in certain areas where an Enterprise construct is aligned to services and systems within the Solution Architecture. This alignment enables enhanced decision-making by Business Owners and Stakeholders based on relevant, integrated content assembled from the Enterprise, Segment, and Solution tiers.

Aligning architectures establishes line-of-sight between them, which maximizes reuse of existing architecture content. This benefit improves VA’s ability to perform impact analysis. Alignment of links between the architectures is relatively easy to maintain, insofar as a commonality in linked architectural elements exists. Alignment is achieved in sets of parent-child relationships from Enterprise to Segment to Solution tiers. All levels are ultimately aligned to the VA Strategic Plan.

More detailed Federation guidelines are currently being developed.

6 Summary

The achievement of positive outcomes for Business Owners and ultimately Veterans is a result of applying the ADM and its subordinate methods, processes, and procedures to developing content that supports planning and decision-making at VA. The ADM provides for integration of roles within management disciplines to improve coordination of effort and the flow of



information, as well as overarching guidance for how roles and responsibilities are fulfilled within the VA EA ADM E2E process.

The ADM addresses governance and VA-wide, Segment, and Solution Architecture, and sets forth the benefits decision-makers realize through use of VA's federated architecture and its content, as well as VA EA governance. The ADM details how federation improves analysis of architecture data and provides VA with the ability to align, locate, link, and make use of related architectures to provide the information necessary to accomplish VA's Veteran-focused mission.

The adoption of agile within the ADM has already achieved improvements in efficiency and effectiveness in product development and delivery over a short time. Greater gains are expected through continuous improvement as the process matures.

Appendix A Abbreviations

Abbreviation	Definition
ADM	Architecture Development Methodology
ADMC	Architecture & Data Management Committee
AES	Architecture and Engineering Service
API	Application Program Interfaces
ASG	Architecture Style Guide
BABOK	Business Analysis Body of Knowledge
BIP	Benefits Integration Platform
C	Contractor Position
CALM	Collaborative Application Lifecycle Management (
CCB	Change Control Board
CI	Configuration Item
CIP	Comprehensive IT Plan
CM	Configuration Management
CMP	Configuration Management Plan
CONOPS	Concept of Operations
COTS	Commercial off-the-Shelf
CPIC	Capital Planning and Investment Control
CR	Change Request
DGC	Data Governance Council
DMLSS	Defense Medical Logistics Supply Service
E2E	End-to-End
EA	Enterprise Architecture
EDP	Enterprise Design Pattern
EHRM	Electronic Health Record Modernization
EPMO/DMD	Enterprise Program Management Office/Demand Management Division
FITARA	Federal Information Technology Acquisition Reform Act
FMBT	Financial Management Business Transformation
FY	Fiscal Year
G	Government Position
GAO	Government Accountability Office
ICD	Interface Control Documents
IRM	Information Resource Management
IT	Information Technology
ITGB	OIT Governance Board
MYP	Multi-Year Programming

Abbreviation	Definition
OEI	Office of Enterprise Integration
OIG	Office of Inspector General
OIT	Office of Information and Technology
OMB	Office of Management and Budget
PfM	Portfolio Management
QA	Quality Assurance
RM	Requirements Management
SA	System Architect (UNICOM)
SAC	Standards and Architecture Council
SDLC	Solution Development Lifecycle
SME	Subject Matter Expert
SP	Strategic Plan
TRM	Technical Reference Model
U.S.C.	United States Code
VA	Department of Veterans Affairs
VAAF	VA Architecture Framework
VASI	VA Systems Inventory
VEAMS	VA Enterprise Architecture Management Suite
VEAR	VA Enterprise Architecture Repository
VIP	Veteran-focused Integration Process



Appendix B Terms and Definitions

Term	Definition
Activity	A unit of work conducted within a process step.
Artifact	A VA EA model, report, or diagram described in the ASG.
Concept Graphic Diagram	High-level drawing of a target state of some aspect of VA to guide executive-level discussion and understanding.
Content	VA EA data described in the ASG.
Epic	A work item within the taxonomy of requirements that describes a business need in business language. It has the longest duration (months) and will typically be developed over more than one release. Epics are decomposed into User Stories.
Federated Architecture	Framework for enterprise architecture development, maintenance, and use that aligns, locates, and links separate but related architectures and architecture information to deliver a seamless outward appearance to users. A federated architecture approach recognizes the uniqueness and specific purpose of individual architectures, and allows for their autonomy and local governance, while enabling the enterprise to benefit from their collective content. ⁷
Release	The formal periodic publication and delivery of architecture content embedded within VA EA Intranet and Internet web pages. User Stories are allocated to a near-term release for development and publication using the ADM process.
Subprocess	One of the six high-level units of work that define the ADM E2E Process. Process steps are decomposed into activities.
Target State	Description of a part of VA at a future point in time identifying desirable features as a guide to changes needed from the present state.
Task	A work item that is the smallest unit of work within the taxonomy of requirements, is of short duration (days), and is performed by a single staff.
Theme	Groups of related User Stories. Often the User Stories contribute to a common goal or are related in some obvious way, such as all focusing on a single customer. However, while some User Stories in a Theme may be dependent on one another, they do not need to encapsulate a specific workflow or be delivered together.
User Story	A work item that addresses a business or technology need, who or what has the need, and why the need is significant. It is a unit of work within the taxonomy of requirements that is of medium duration (weeks) and is decomposed into tasks.

⁷ “Architectures Federation | The MITRE Corporation,” The MITRE Corporation, <https://www.mitre.org/publications/systems-engineering-guide/enterprise-engineering/engineering-informationintensive-enterprises/architectures-federation>.



Term	Definition
Work Item	Any of the three types of documentation identified in the Rational Collaborative Application Lifecycle Management (CALM) Suite: Epic, User Story, and Task.

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Appendix D Requirements Management Plan

The Requirements Management Plan provides critical guidance used during the architecture development methodology lifecycle. It describes the process by which enterprise priorities and needs are translated into EA requirements that drive the evolution of the VA EA. Per the Business Analysis Body of Knowledge (BABOK) v2.0, a requirement is:

- » A condition or capability needed by a Stakeholder to solve a problem or achieve an objective.
- » A condition or capability that must be met or possessed by a solution or solution component to satisfy a contract, standard, specification, or other formally imposed documents.

This appendix describes the approach whereby VA EA requirements are collected, documented, approved, and prioritized for development and subsequent publishing within a VA EA release. This appendix further details the requirements management process by identifying activities, inputs and outputs, and the roles that perform those activities.

D1 Requirements Management Overview

This section describes the requirements management approach used to document and manage the necessary information to effectively deliver services and solutions with added value to the customer, as well as the associated roles and responsibilities involved throughout the process.

D1.1 Requirements Management Approach

A hybrid requirements management approach (waterfall and agile) that leverages leading practices and tailors them to the VA EA environment is implemented to effectively and efficiently manage requirements for the VA EA. The VA EA Requirements Management Process accomplishes this approach by referencing guidance from industry leading bodies of knowledge such as the BABOK and the Scrum Alliance to develop a comprehensive process that accounts for the following tasks:

- » **Gathering requirements:** Involves transforming Stakeholder/Business Owner needs, expectations, constraints, and interfaces into documented requirements. The User Story and change request criteria defined in Appendices D and E enable requirements documentation and gathering.
- » **Analyzing and validating requirements:** Involves elaborating the requirements to create the requisite detail to ensure that the architecture truly addresses the business needs. It includes resolution of duplicative requirements and impact analysis. The only modeling done here within the VA EA requirements process would be that which corresponds to the additional detail needed for visualization, VEAMS, and website CRs. Use of User Stories, as well as Stakeholder/Business Owner reviews account for the validation portion of this task.
- » **Administering and storing requirements in a tool-based data repository:** Involves the actual storing and management of the documented requirements. The Release Manager assigns

unique IDs to completed User Stories and stores them within the requirements partition of VEAR.

- » **Enabling bidirectional traceability of requirements:** Involves leveraging the linkages within VEAR to realize the relationships between User Stories and change requests, enabling traceability.
- » **Baselining requirements:** Involves designating and storing all approved requirements. Baselines for the VA EA are established by the approval and storage of the User Stories and change requests for a particular VA EA release. In this instance, the VA EA release in combination with the associated User Stories and change requests constitutes another type of baseline.
- » **Managing changes to requirements:** Involves tracking changes to the baseline requirements, and communication with the Business Owner and governance bodies to gain approval of any changes to the baselines.
- » **Communicating to Stakeholders:** This is done throughout the process through collaborative efforts with Business Owners to define and approve any additional efforts to socialize the requirements with the extended Stakeholder base.

Section D3: Requirements Management Process describes the process that actualizes the approach.

D1.2 Roles and Responsibilities

Table D-1 identifies the roles involved in the requirements management process and provides a high-level description of their responsibilities.

Table D-1: Requirements Management Roles and Responsibilities

Role	Responsibilities
Business Owner (Primary Stakeholder)	<ul style="list-style-type: none"> • Collaborates with Functional Analysts to develop the User Stories. • Ensures the quality and availability of the business information and concurrence with the proposed VA EA change solutions. • Ensures Secondary Stakeholder participation in VA EA RM. • May also fulfill the role of the Segment Lead Architect.
Domain Lead (G)	<ul style="list-style-type: none"> • Reviews Epics and User Stories to guide the development of the requisite content describing the requirements within its specific domain and the touchpoints to other domains. • Approves Epics and User Stories for entry into the Backlog. • Supports content development and quality review throughout the EA development lifecycle (including web and repository content).
Functional Analyst	<ul style="list-style-type: none"> • Provides expertise in support of the Domain Lead to define Epics and User Stories. • Participates in collaboration forums to ensure that the business perspective is addressed within the requirements and the resulting content, visualizations, and capabilities.

D2 Requirements Documentation

A Business Owner, assisted by an Architecture Team Functional Analyst, creates a User Story that defines the requirement to address a business need. The User Story can result in an Epic that is a high-scope requirement that may extend beyond a single release. Epics can be decomposed into User Stories that are scoped to describe the work to be delivered within the span of a release quarter. Epics and User Stories are associated to overarching Themes that are used to encapsulate related requirements. They may be written in the same format as a User Story at a higher level or contain only a statement of the business need. Figure D-1 depicts the relationship between Themes, Epics, and User Stories.

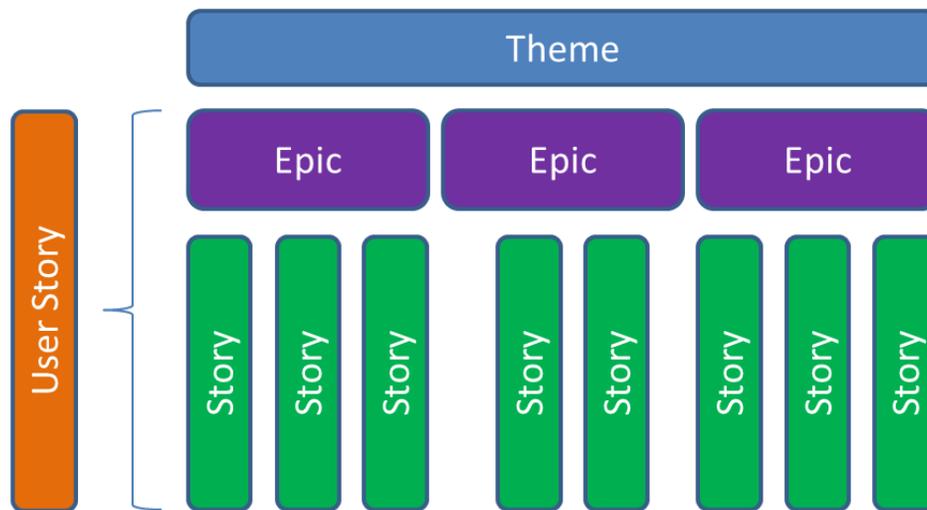


Figure D-1: Theme–User Story (Epic/User Story) Relationship Diagram

A properly written User Story captures and defines the following criteria:

- » **WHO:** The Business Owner – Typically a customer outside of VA EA to whom we are providing a service
 - Internal VA EA Government Leads are Product Owners not the Business Owners
- » **WHAT:** The product we are delivering (i.e., models, web portals, reports, etc.)
- » **WHY:** Why does the Business Owner need the product?
 - What BUSINESS value is it expected to provide?
 - What question(s) are we answering?

The correct formats for User Stories are below:

- » WHO needs WHAT in order to do what (WHY)

Or

- » In order to do what (WHY), WHO needs WHAT

The important thing is that all three key elements are captured.

User Story example:

As a (role) (organization), I need a subject area report that includes the classes, attributes, metadata, and supporting references in order to comply with the DGC requirement to support implementation of the Enterprise Information Management policy.

Acceptance Criteria:

- Maintained in VEAR
- Published on the VA EA Website
- Contains the described structure and associated data
- [Reference to any supporting documentation if available]

The scope of a User Story should be written to cover a time span that can be completed within a release period of less than 12 weeks. User Stories must meet the following criteria:

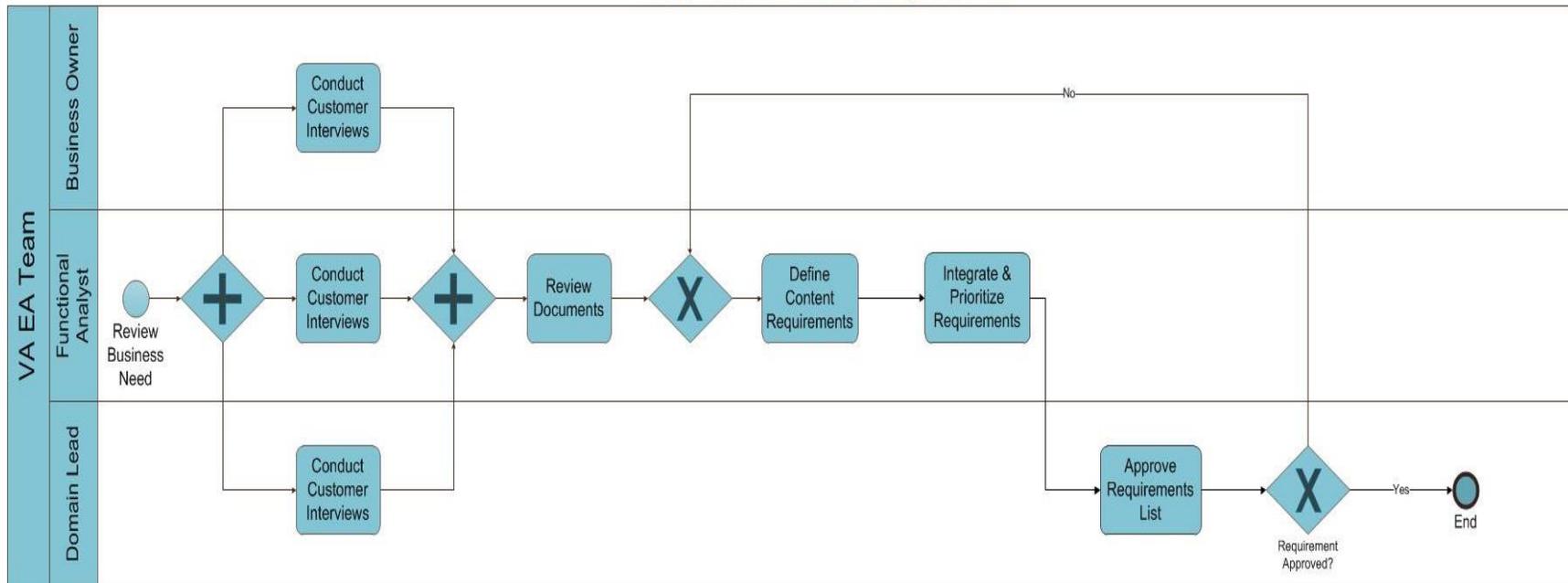
- » Every User Story submitted to be included in a quarterly release must be ready for technical development.
- » Every User Story submitted to be included in a quarterly release must align to one of the Workstreams listed below:
 - Portfolio/Product Line Management
 - Enterprise Data Management
 - Business Vocabulary Development
 - Metadata Management
 - Modernization Initiatives – Electronic Health Records Management (EHRM)
 - Modernization Initiatives – Financial Management Business Transformation (FMBT)
 - Modernization Initiatives – Supply Chain/Defense Medical Logistics Supply Service (DMLSS)
 - Modernization Initiatives – Benefits Integration Platform (BIP)
 - Data Governance Council (DGC) Support
 - VA Systems Inventory (VASI)
 - Network Modernization
 - Enterprise Design Patterns (EDPs)
 - Technical Reference Model (TRM)
 - Web Development
 - Training
- » Only work items that require Tools Team support will be captured in the Change Control Log.

Each User Story is required to have associated acceptance criteria to help determine customer expectation and validate completion.

D3 Requirements Management Process

This section provides a visual depiction of the Requirements Management Process and the associated process matrix. The process aligns with Sections 4.2.1: Identify Business Needs and 4.2.2: Document Architecture Requirements of this ADM.

D3.1 Process Diagram



D3.2 Process Matrix

Activity	Description	Performer	Input	Output
Conduct Customer Interviews	The primary means of collecting business needs. A Business Analyst and members of the Architecture Team use questions to understand and scope the need, and identify data sources to support the need.	<ul style="list-style-type: none"> Business Owner Domain Lead (G) Functional Analyst 	Business Owner input	Business need



Activity	Description	Performer	Input	Output
Review Documents	A secondary means of collecting business needs. Business needs are extracted from a new VA Strategic Plan when it is issued. Other documents include reports from VA Office of Inspector General (OIG), Government Accountability Office (GAO), and OMB.	<ul style="list-style-type: none"> Functional Analyst 	<ul style="list-style-type: none"> Strategic Plans CONOPS Associated Documents 	Business need
Define Content Requirements	A Business Owner assisted by an Architecture Team Functional Analyst creates a User Story that defines the requirement to address a business need.	<ul style="list-style-type: none"> Functional Analyst 	Business need	DRAFT requirement(s)
Integrate and Prioritize Requirements	DRAFT User Stories are stored and managed in their respective domain backlog by the contractor Domain Leads. Contractor Domain Leads prioritize Epics and User Stories within their domain logs based on strategic guidance.	<ul style="list-style-type: none"> Functional Analyst 	DRAFT requirement(s)	Prioritized DRAFT requirement(s)
Approve Requirements List	Government Domain Leads approve EA Epics and User Stories as legitimate requirements for entry into the domain backlog.	<ul style="list-style-type: none"> Domain Lead (G) 	Prioritized DRAFT requirement(s)	Approved requirement (s) (Baseline Backlog)

D4 Requirements Management Tool

The current tool used to manage requirements and solution delivery is the Request Tool hosted in the InQuisient platform. Detailed information about the tool is in the VEAMS Administrator’s Guide.



Appendix E Configuration Management Plan

The Configuration Management Plan (CMP) is a critical component of the architecture development methodology lifecycle, as it describes the overarching configuration control process by which VA EA modifications/changes, driven by enterprise priorities and needs, are tracked and managed from initial concept through publication. Required changes to existing functionality and/or content are documented as change requests (CRs) and follow the format prescribed within this appendix.

This appendix establishes configuration control guidelines and a process to maintain consistency of VA EA products throughout their lifecycle. The guidance described herein allows for the evaluation, coordination, approvals/disapprovals, and implementation of all changes to the VA EA. AES will have constant visibility into the status of all proposed VA EA changes while also having an understanding of the reasons and authority behind every action taken within the VA EA lifecycle.

E1 Configuration Management Overview

This section describes the configuration management (CM) approach used to document and manage the information required to effectively track reconfiguration of the VEAR environment and its hosted artifacts. It also defines the configuration items (CIs) AES is responsible for managing, as well as the associated roles and responsibilities involved throughout the process.

E1.1 Configuration Management Approach

This approach implements a set of interrelated activities, techniques, and a supporting tool that compose VA EA CM. The configuration management activities assure that:

- » VA EA product changes are tracked through proposal, review, and approval stages, and through formal governance, when applicable.
- » VA EA products are only changed based on approved actions, including minor corrections that do not require approval through the requirements process.
- » VA EA product development and maintenance (implementation) are consistent with the approved changes, including cross-product consistency, when applicable.
- » VA EA products and their associated record keeping are accessible, current, and accurate.

The approach improves VA staff confidence in using EA products to support accurate enterprise-level analysis, planning, and decision-making. Section E3: Configuration Management Process describes the process that actualizes the approach.

E1.2 VA EA Configuration Management Participants

» Change Control Board (CCB) Members

- VA EA Program Manager (G)
- CCB Chair (G)
- Tools Team Lead (G & C)
- Chief Architect/Engineer (C)
- Release Manager (G & C)

» VA EA Subject Matter Experts (SMEs)

- Data & Information (G & C)
- Systems & Applications Domain (G & C)
- Business & Strategy Domain (G & C)
- Network and Infrastructure (G & C)
- Security (G & C)
- Enterprise Design Patterns (G & C)
- Technical Reference Architecture (G & C)
- VEAR Engineers (C)

E1.3 Roles and Responsibilities

Several roles play a part in managing configuration change within the VA EA. Note that multiple roles may be assigned to one individual within the VA EA Team, including CM Specialist, QA Specialist, and Peer Reviewer. Thus, a single member of the VA EA Team may assume multiple roles within a VA EA development cycle. Table E-1 lists the CM Process roles and respective responsibilities within the VA EA lifecycle.

Table E-1: Change Management Roles and Responsibilities

Role	Responsibilities
Business Owner (Primary Stakeholder)	<ul style="list-style-type: none"> • Collaborates with the VA EA Team Lead to develop the change requests (CRs). • Ensures the quality and availability of the business information and concurrence with the proposed VA EA change solutions. • Ensures Secondary Stakeholder participation in VA EA CM. • May also fulfill the role of the Segment Lead Architect.
Change Control Board (CCB)	<ul style="list-style-type: none"> • Comprises the VA EA Program Manager (PM), designated VA EA CM Specialist, VA EA Architects, Tools Team Lead, Segment Architects, and Solution Architects as needed. • Reviews all CRs to ensure changes address intended requirement(s).
Release Manager	<ul style="list-style-type: none"> • Reviews and consolidates CRs for presentation to the CCB.
Program Manager / Requirements Lead (G)	<ul style="list-style-type: none"> • Serves as Chair of the CCB. • Charged with overall accountability for the quality of the VA EA products and services. • Performs initial review of CRs for enterprise impact. • Reviews and approves all CRs.

Role	Responsibilities
Domain Lead (G)	<ul style="list-style-type: none"> Serves as SME to inform the CCB regarding changes that could impact their domain. Leads the development and review of CRs and the resulting changes to the VA EA products, in collaboration with the Primary Stakeholders.
Functional Analyst	<ul style="list-style-type: none"> Performs detailed development and review of the CRs and the resulting changes to the VA EA products. Ensures that the information provided in the CR and resulting changes to the VA EA products are appropriately developed, checked, and implemented. Uses the identified objective review criteria to ensure the quality and practicality of the CRs and the resulting changes to the VA EA products.
Configuration Management Specialist	<ul style="list-style-type: none"> Serves as member of the CCB. Performs and maintains day-to-day project configuration activities. Maintains integrity of the items under configuration control. Initiates and tracks status of CIs and maintains CM-related documentation. Performs and/or complies with configuration audits.

E1.4 Configuration Items

Several products are developed and used during the VA EA lifecycle to enable successful evolution of the architecture. Some products are contractually required (e.g., this CMP) while others are created as general good management practices (e.g., meeting minutes). These products are managed as CIs. The CIs are categorized to enable strong, yet flexible CM processes. The following information identifies and describes the configuration items we manage throughout the release and configuration cycles:

- » Product – The different things produced during the VA EA lifecycle that are managed as CIs and categorized by CI Type.
 - Deliverable Product – A type of Product (e.g., VA EA release, VA EA Management Suite [VEAMS] Release, Document [CMP, ASG, Release Procedures]) that is specifically labeled as a deliverable in the Performance Work Statement (PWS), has a Contract Line Item Number (CLIN), and must follow a more rigorous QA process.
 - Work Product – A type of Product (e.g., Document, Graphic, Presentation, Report) that must be reviewed by at least one other person on the EA Team and the Government Lead for that Product but is not contractually required.
- » Configuration Item (CI) – Products that are designated for CM and treated as a single entity in the CM process.
- » Configuration Item Type – Categories of CIs that enable more thorough management and delivery of the VA EA. There are five types of VA EA CIs, listed below and defined in Table E-2:
 - Documents
 - VA EA Content
 - VA EA Visualizations
 - VA EA Website (Intra- and Internet)

- VA EA Technical Products
- » Change Request (CR) – A type of Work Product used to elaborate on the enterprise needs that outline the specific items (e.g., models, VEAMS capabilities) to be changed within the VA EA.

Table E-2: CI Types

CI Types	Configuration Items
Documents	<ul style="list-style-type: none"> • Deliverables (Note: Enterprise Design Patterns (EDPs) and Interface Control Documents (ICDs) are also deliverables) • Meeting Minutes (Work Products) • Briefings (Work Products) • <u>Enterprise Design Patterns (current state)</u> • Electronic Health Record Modernization (EHRM) Interface Control Documents (current state)
VA EA Content	<ul style="list-style-type: none"> • Subject Area Logical Data Models • Business Reference Model • <u>Mappings between Domain Products</u> • VA System Inventory (VASI) • <u>Enterprise Design Patterns (future state)</u> • EHRM Interface Control Documents (future state)
VA EA Visualizations	<ul style="list-style-type: none"> • <u>Tableau dashboards</u> • <u>Other custom products (e.g., reports)</u> • <u>Product Line Reference Architectures (future state)</u>
VA EA Website (intra- and internet)	<ul style="list-style-type: none"> • <u>Webpage narratives</u> • Webpage links
VA EA Technical Products	<ul style="list-style-type: none"> • <u>VA EA Repository (VEAR) Metamodel</u> • <u>System Architect (SA) Encyclopedias</u> • <u>VA Architecture Framework (VAAF) Views (The actual list of VAAF Views)</u> • <u>VEAR Application Program Interfaces (APIs)</u> • SA Operational Data Store

Note: Underlined items are those to be brought before the CCB.

E2 Change Request Documentation

Change Requests must meet the following criteria:

- » Every Change Request submitted to be included in a quarterly release must be ready for technical development.
- » Every Change Request submitted to be included in a quarterly release must align to one of the Workstreams listed below:
 - Portfolio/Product Line Management
 - Enterprise Data Management
 - Business Vocabulary Development

- Metadata Management
 - Modernization Initiatives – Electronic Health Records Management (EHRM)
 - Modernization Initiatives – Financial Management Business Transformation (FMBT)
 - Modernization Initiatives – Supply Chain/Defense Medical Logistics Supply Service (DMLSS)
 - Modernization Initiatives – Benefits Integration Platform (BIP)
 - Data Governance Council (DGC) Support
 - VA Systems Inventory (VASI)
 - Network Modernization
 - Enterprise Design Patterns (EDPs)
 - Technical Reference Model (TRM)
 - Web Development
 - Training
- » Only work items that require Tools Team support will be captured in the Change Control Log.

Table E-3 identifies and defines the information that must be captured to execute a change request.

Table E-3: Required Change Request Information Fields

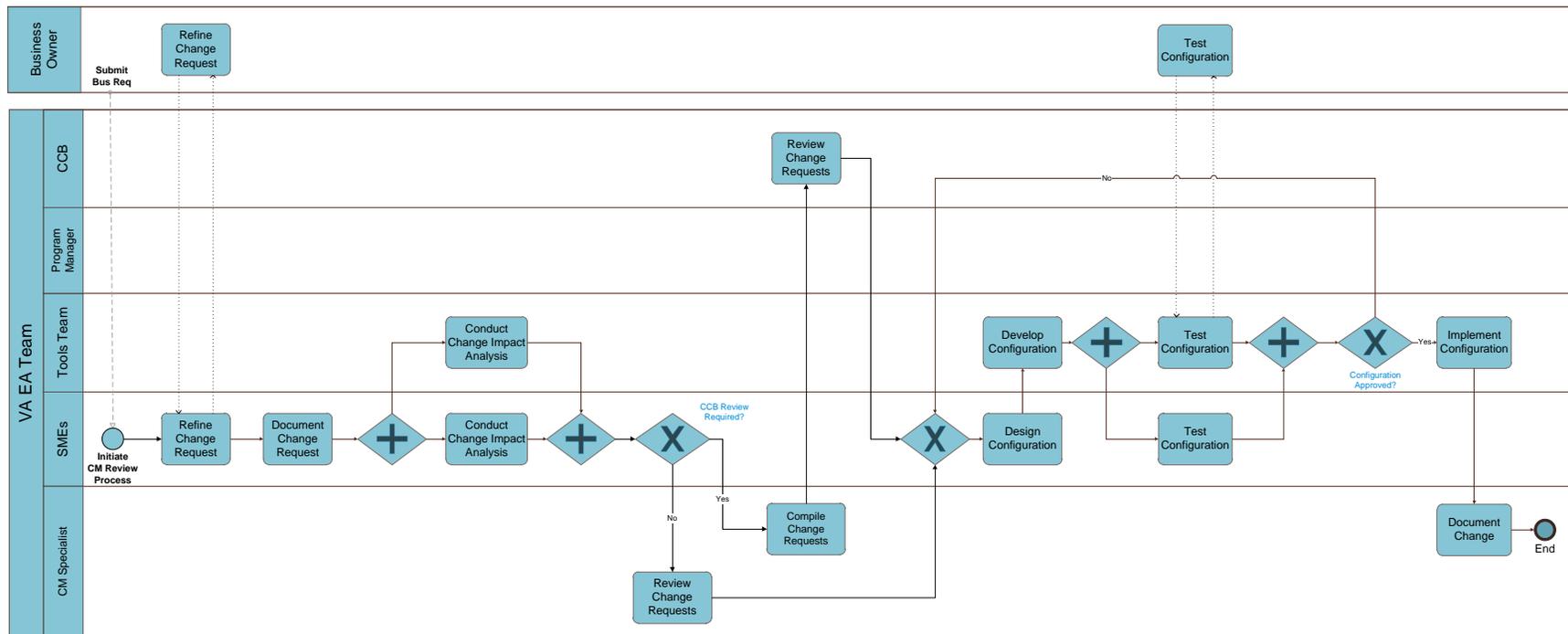
Information Field	Description
Change Request ID#	Unique identifier for the change request
Change Item Type	One of the five types identified in Section D1.3
Change Item	Name of the item that must be reconfigured
Change Description	Detailed description of the required change
Reason for Change	Business value expected to be provided by the reconfiguration
Other areas of impact	List of associated items that will be impacted by the reconfiguration
Submitted by	Person submitting the request
Approved by	Person who approves the request
Executed by	Person(s) who performs the reconfiguration

E3 Configuration Management Process

This section provides a visual depiction of the Configuration Management Process, and the associated process matrix.

E3.1 Process Diagram

Configuration Management



E3.2 Process Matrix

Activity	Description	Performer	Input	Output
Refine Change Request	AES SMEs work with the Business Owner to accurately describe the details for the required modification.	<ul style="list-style-type: none"> Business Owner Functional Analyst Domain Lead (G) 	Business Owner Input	Needed Change



Activity	Description	Performer	Input	Output
Document Change Request	The process of capturing a desired modification to a baseline product.	Functional Analyst	Needed Change	Change Request
Conduct Change Impact Analysis	An impact analysis assesses the effects that a proposed change will have on the metamodel, and/or the tools suite.	<ul style="list-style-type: none"> Functional Analyst Tools Team 	Change Request	Impact Analysis Results
Review Change Request	An initial review of the change requests is conducted by the CM Specialist to determine whether the CR needs approval of the CCB or configuration can begin without CCB approval. Any CRs that impact the metamodel and/or the tools suite are reviewed by the CCB.	<ul style="list-style-type: none"> CM Specialist CCB 	Change Request	Approved or Denied Change Request
Compile Change Requests	The CM Specialist compiles all CRs that need CCB approval and prepares them for board review.	<ul style="list-style-type: none"> CM Specialist 	Change Request	Change Request List
Design Configuration	The Domain Team collects content and designs product change (data models, visualizations, reports, etc.) to be loaded into VEAR or UNICOM® System Architect® (SA).	Functional Analyst	Approved Change Request	Configuration Design
Develop Configuration	The Tools Team makes the required configuration change in the development server environment (sandbox) and releases it to the Domain Team and Government Domain Leads for approval. The Web Content Team participates in the configuration as necessary.	Tools Team	Configuration Design	Unverified Configuration



Activity	Description	Performer	Input	Output
Test Configuration	The Tools Team ensures that each tool is ready to accept content changes. User Acceptance Testing is conducted by the Domain Leads and Business Owners to verify that the solution has meet the necessary criteria. Content and artifacts being released are subject to QA before moving to implementation. Key factors in this QA include integrity, which entails configuration, version, and access controls; status; requirements and requirements changes; and objective criteria established specific to the content or artifact.	<ul style="list-style-type: none"> • Business Owner • Domain Lead • Functional Analyst • Tools Team 	Unverified Configuration	Verified Configuration
Implement Configuration	New configuration is released in the production environment.	Tools Team	Verified Configuration	Approved Configuration
Document Change	The process of formally capturing the modification of a baseline product after it has been approved by the approving authority.	Configuration Management Specialist	Approved Change Request	Updated Change Control Log

E3.3 Configuration Management Tool

The current tool used to manage configuration change requests is the Request Tool hosted in the InQuisient platform. Detailed information about the tool can be found in the VEAMS Administrator’s Guide.



Appendix F Release Management Procedures

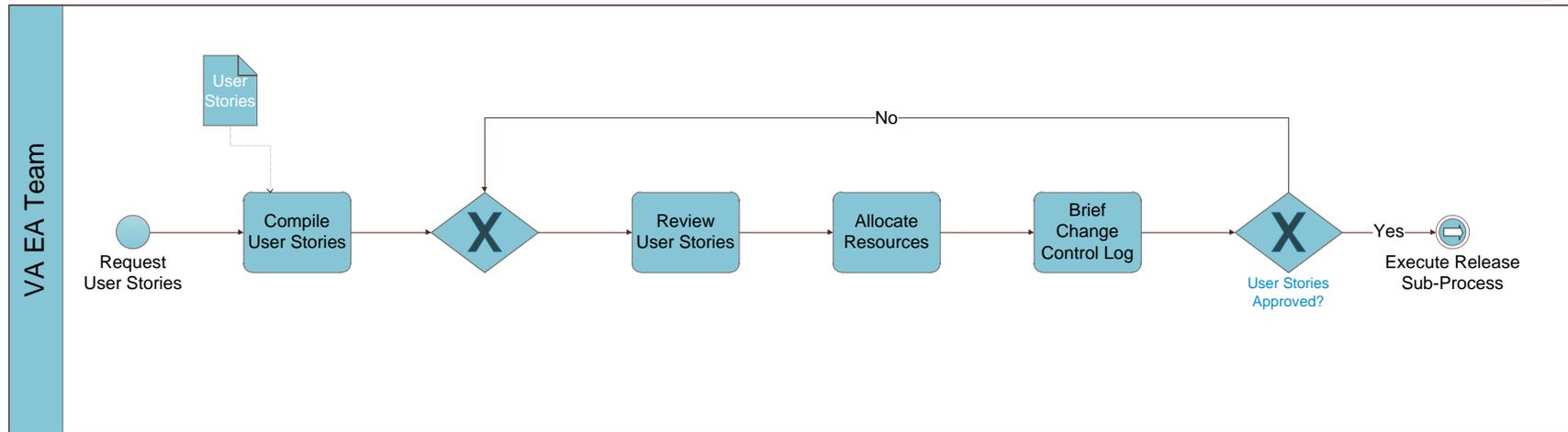
The Release Management Process has been decomposed into two subprocesses that align with Sections 4.2.3: Design Release and 4.2.4: Execute Release of this ADM.

F1 Plan Release Subprocess

The subprocess diagram and matrix in this section define how we plan for a release. Domain Leads submit approved User Stories and Change Requests to the Release Manager for the upcoming release based on determined strategic priority. User Stories and Change Requests must meet the following criteria:

- » Every User Story or Change Request submitted to be included in a quarterly release must be ready for technical development.
- » Every User Story or Change Request submitted to be included in a quarterly release must align to one of the Workstreams listed below:
 - Portfolio/Product Line Management
 - Enterprise Data Management
 - Business Vocabulary Development
 - Metadata Management
 - Modernization Initiatives – Electronic Health Records Management (EHRM)
 - Modernization Initiatives – Financial Management Business Transformation (FMBT)
 - Modernization Initiatives – Supply Chain/Defense Medical Logistics Supply Service (DMLSS)
 - Modernization Initiatives – Benefits Integration Platform (BIP)
 - Data Governance Council (DGC) Support
 - VA Systems Inventory (VASI)
 - Network Modernization
 - Enterprise Design Patterns (EDPs)
 - Technical Reference Model (TRM)
 - Web Development
 - Training
- » Only work items that require Tools Team support will be captured in the Change Control Log.

F1.1 Plan Release Subprocess Diagram



F1.2 Design Release Subprocess Matrix

Activity	Description	Performer	Input	Output
Compile User Stories	Before the start of the upcoming release period, Domain Leads review and validate the priority of the User Stories in their backlogs. User Stories for the upcoming release(s) are submitted accordingly by each Domain Lead for inclusion in the Change Control Log. The Release Manager compiles the User Stories submitted by each Domain Lead and prepares them for review and prioritization.	<ul style="list-style-type: none"> Release Manager 	User Stories from Domain Backlogs	DRAFT Change Control Log

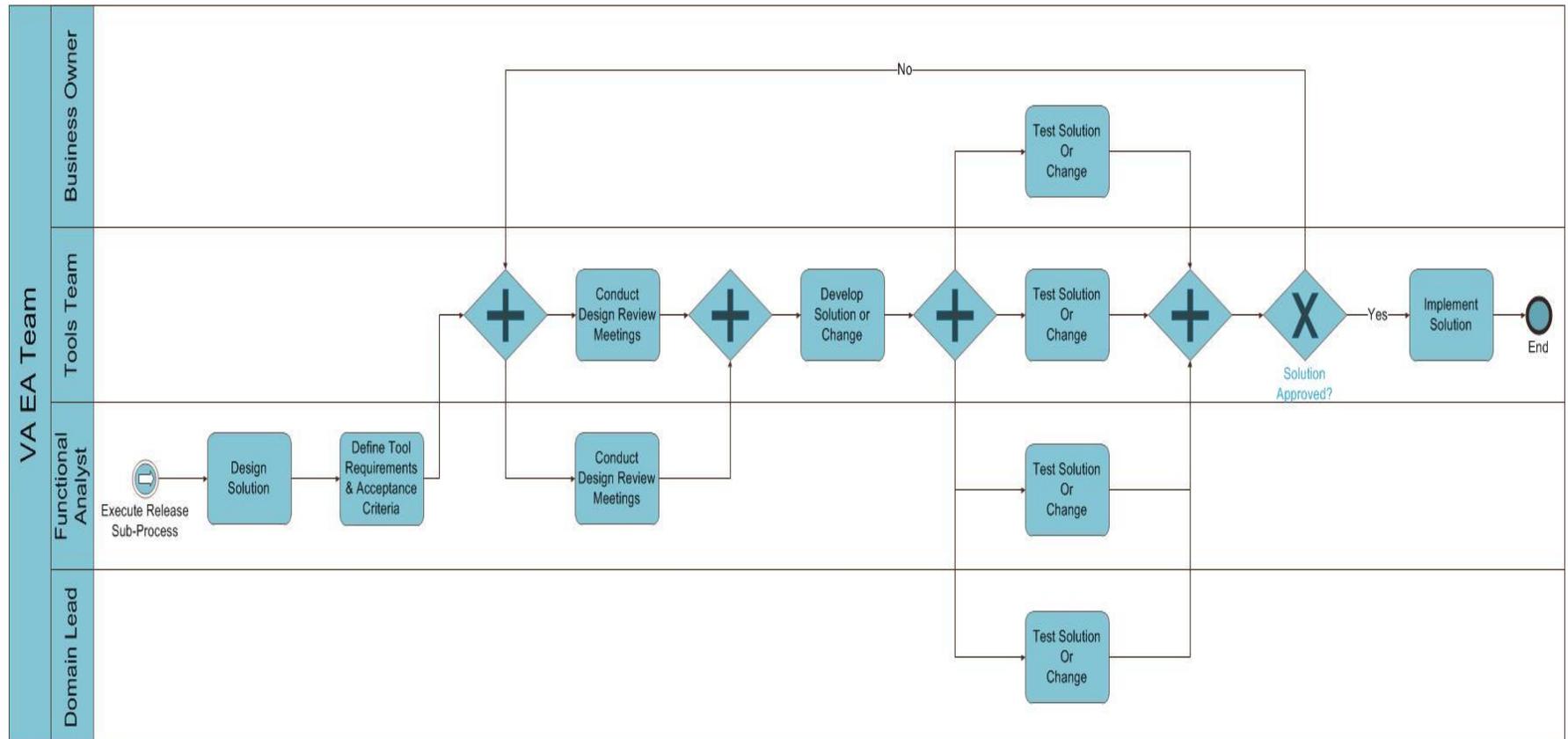
Activity	Description	Performer	Input	Output
Review User Stories	The Release Manager coordinates a meeting with the Tools Team Lead and Domain Leads to review the compiled User Stories in the wider context of the release. The purpose of the review is to identify potential cross-domain integration points and dependencies, estimate level of effort, and prioritize delivery.	<ul style="list-style-type: none"> • Release Manager • Architecture Lead/Team (C) • Tools Lead • Program Manager (C) • Governance Board 	DRAFT Change Control Log	Prioritized DRAFT Change Control Log
Allocate Resources	Once the Change Control Log is agreed to and prioritized, resources are allocated to each User Story from the Domain Teams and/or Tools Team as needed.	<ul style="list-style-type: none"> • Architecture Lead/Team (C) • Tools Lead • Release Manager 	Prioritized DRAFT Change Control Log	DRAFT Baseline Change Control Log
Brief Change Control Log	The last activity required before executing the release involves briefing the Requirements Lead (G). The Release Manager is responsible for coordinating a meeting between the Government and Contractor Domain (Pillar) Leads, the Chief Architects, and the Tools Team Lead to brief the Change Control Log to the Requirements Lead. If the Change Control Log is approved, the team moves forward with execution of the release. If not, the team will make necessary adjustments to the Change Control Log until it is approved by the Requirements Lead.	<ul style="list-style-type: none"> • Requirements Lead • Pillar/Domain Leads (G) • Release Manager • Architecture Lead/Team (C) • Tools Lead • PM (C) • Governance Board 	DRAFT Baseline Change Control Log	Approved Baseline Change Control Log



F2 Execute Release Subprocess

The subprocess diagram and matrix in this section define how we execute a release.

F2.1 Execute Release Subprocess Diagram



F2.2 Execute Release Subprocess Matrix

Activity	Description	Performer	Input	Output
Design Solution	The Domain Team collects content and designs products (data models, visualizations, reports, etc.) to either be loaded into VEAR or UNICOM® System Architect® (SA) ⁸ or be linked to data stored in VEAMS.	<ul style="list-style-type: none"> Functional Analyst 	User Story with associated business acceptance criteria	Product design with associated content
Define Tool Requirements and Acceptance Criteria	Government Domain Lead and the Domain Team clearly define tools requirements and acceptance criteria to guide the Tools Team’s efforts in delivering new functionality or modifying the existing environment.	<ul style="list-style-type: none"> Functional Analyst 	Product design with associated content	Technical Requirements and acceptance criteria
Conduct Design Review Meeting(s)	Architecture, Tools, and Web Content Teams conduct group coordination of tasks within and across User Stories as a series of integrated design meetings. This work includes consideration of dependencies and sequencing. Design approval authority is delegated to the Government Domain Lead.	<ul style="list-style-type: none"> Functional Analyst Tools Team 	<ul style="list-style-type: none"> User Story Technical Requirements Business acceptance criteria Technical acceptance criteria 	Agreed to, and understood Solution Design

⁸ UNICOM and System Architect are trademarks or registered trademarks of UNICOM Systems, Inc. in the United States or other counties or both.



Activity	Description	Performer	Input	Output
Develop Solution	The Tools Team develops the tools solution in the development server environment (sandbox) and releases it to the Architecture Team and Government Domain Leads for review. The Web Content Team develops the web solution in the sandbox and releases it to the Architecture Team and Government Domain Leads for review. Once the solution is reviewed and approved, it transitions to integration testing.	<ul style="list-style-type: none"> Tools Team 	Agreed to, and understood Solution Design	Unverified Solution
Test Solution	The Tools Team adds related content to the solution and conducts integration testing to address potential impacts to other areas of the repository or architecture. User Acceptance Testing is also conducted by the Domain Leads and Business Owners to verify that the solution has met the defined acceptance criteria. Content and artifacts being released are subject to QA before moving to implementation.	<ul style="list-style-type: none"> Business Owner Domain Lead (G & C) Functional Analyst Tools Team 	Unverified Solution	Verified Solution



Activity	Description	Performer	Input	Output
Implement Solution	<ul style="list-style-type: none"> • Implement repository and model changes. Tools implementation begins after new or updated capability is tested and approved by the Government Domain Leads and the Business Owner in the Development or Test environment. This activity applies specifically to: <ul style="list-style-type: none"> ▪ VEAR Capability (e.g., new classes, reports, portals) ▪ SA visualizations <p>VEAR and SA implementations occur continuously within a release cycle and are approved by Government Domain Leads.</p>	<ul style="list-style-type: none"> • Tools Team 	Verified Solution	Approved Solution



Activity	Description	Performer	Input	Output
Implement Solution, continued	<ul style="list-style-type: none"> • Implement website content changes. The Web Content Team works with the Functional Analyst to determine the end-user interface and placement for reports, diagrams, and other items in the sandbox. The Web Content Team also works with the Functional Analyst to determine the proper verbiage to add to the sandbox, and helps locate all instances of diagrams, reports, or proposed areas to place web page content. This activity may also be conducted with a Business Owner to gain agreement on such topics as page style and structure, as identified in the VA EA ASG, before developing the content. • Conduct sandbox review. The Requirements Lead conducts final reviews to ensure that Intranet and Internet content is ready for release. Intranet web pages are “sanitized” to remove content for internal VA use only before publication on the Internet. • Obtain approval from EA leadership. The Requirements Lead approves website content for release. Any content that is not approved returns to the Design Release subprocess for further work. 	<ul style="list-style-type: none"> • Tools Team 	Verified Solution	Approved Solution



Activity	Description	Performer	Input	Output
Implement Solution, continued	<ul style="list-style-type: none"> • Move to production. When the Requirements Lead is satisfied with the website content and approves it, the content is made available for access within the VA network, and a subset of that content is made available for access on the VA Internet (see the Conduct sandbox review step, above). The approved web solution is periodically deployed to the Intranet and Internet (if applicable) as content and artifacts become ready for delivery through the agile process. 	<ul style="list-style-type: none"> • Tools Team 	Verified Solution	Approved Solution

