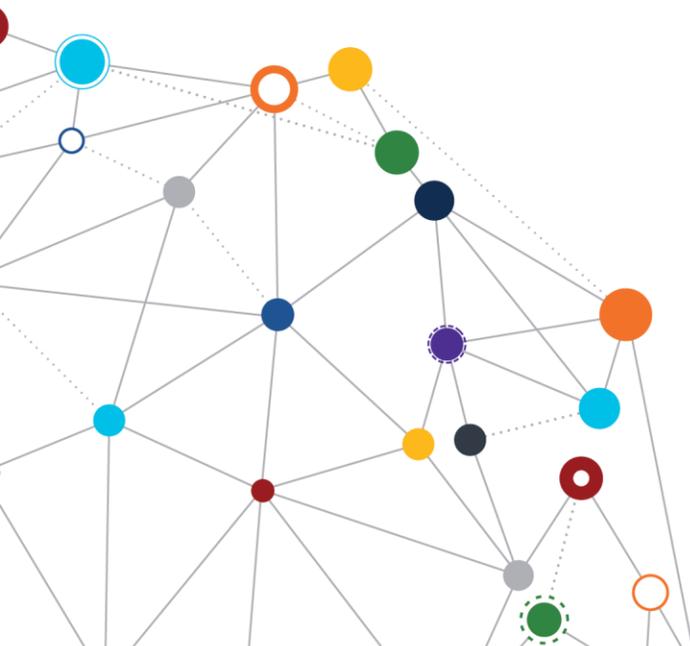




VA EA Vision and Strategy

Configuration Item: 5.3.3-1003AD-7-8-2019-134

July 8, 2019 | Enterprise Program Management Office



VA



U.S. Department of Veterans Affairs
Office of Information and Technology
Enterprise Program Management Office



Revision History

Date of Change	Team/Individual Making Change	Description of Change
September 29, 2013	VA EA Team	Initial document
September 30, 2016	VA EA Team	Tech edits and revision updates
April 20, 2018	VA EA Team	Updated to reflect latest VA and OIT strategic direction and subsequently VA EA direction in support thereof. Migrated to new deliverable template.
July 8, 2019	VA EA Team	Updated to reflect changes in OIT strategic direction as of the date of this deliverable. It is assumed that future changes will be needed to address impacts of decisions made as a result of ongoing discussions within the Demand Management Division.

Table of Contents

1	Executive Summary.....	1
2	Introduction.....	3
2.1	Vision of the VA EA	5
2.2	Purpose	6
3	VA EA Goals and Outcomes	6
4	Evolving the VA EA.....	9
4.1	Governance	10
4.2	Principles.....	11
4.2.1	VA IT Modernization Principles	12
4.2.2	VA EA Guiding Principles	13
4.3	Method	13
4.4	Tools	15
4.5	Standards	18
4.6	Use.....	19
4.7	Reporting	20
4.8	Audit	20
5	Summary	21
Appendix A	Abbreviations.....	A-1
Appendix B	Terms and Definitions	B-1
Appendix C	References	C-1
Appendix D	Transformational, Regulatory, Policy, and Directive Drivers	D-1



Table of Figures

Figure 2-1: VA EA Conceptual Overview Diagram	4
Figure 2-2: Vision for VA EA	6
Figure 3-1: Outcomes and Goals Supported by Use of VA EA	9
Figure 4-1: VA EA Eight Basic Elements	10
Figure 4-2: OIT Environment Supported by VA EA	14
Figure 4-3: VA EA ADM E2E Process	15
Figure 4-4: VEAMS Target State	16
Figure 4-5: EA and VEAMS Maturity Cycle	17

Table of Tables

Table 3-1: VA EA Goals and Outcomes	7
Table 4-1: VA EA Uses Mapped to VA EA Goals	19
Table 4-2: EAMMF Stages	21
Table D-1: Architecture Drivers	D-1
Table D-2: Business Need Questions Mapped to Strategic Drivers and VA EA Goals	D-3

1 Executive Summary

The Department of Veterans Affairs (VA) is modernizing 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.

An important part of this modernization effort 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 transformation across the department. The VA EA provides a line-of-sight needed to support informed executive-level decision-making as well as execution level processes such as development and operations (DevOps). As an authoritative reference, the VA EA provides an integrated view of the different domains of enterprise data across all levels of VA: Portfolio, Product Line and Product.

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.

According to The Common Approach to Federal Enterprise Architecture (CAF), the outcomes/goals supported by effective use of an EA are improved service delivery, functional integration, resource optimization, and authoritative reference.¹ VA continues to recognize these four outcomes as being consistent with meeting VA modernization objectives and has adopted them to shape VA EA evolution.

VA is also employing a question-based, data-centric approach to provide focus, specificity, and consistency to its effort to mature the VA EA. To date, substantial work has been accomplished toward achieving the VA EA vision of being an authoritative reference for the requisite strategic, business, and technology information used to enable transformation across the department.

The VA EA has been gaining ground in transitioning to an integrated set of information derived from independently developed architectures and other authoritative sources such as the configuration management database (CMDB) within VA. Expanding and providing access to the integrated information pertinent to Veterans' interests across organizational or functional boundaries is the continuing task of the VA EA. Additionally, the VA EA will provide a cohesive set of tools to maximize its use by a wide VA customer base.

Crucial to success is the stakeholder or customer. Collaborative engagement is required to define an effective and informative VA EA and transition to its useful application. Customers

¹ "The Common Approach to Federal Enterprise Architecture," Office of Management and Budget, May 2, 2012, 5, https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/egov_docs/common_approach_to_federal_ea.pdf.

will be involved throughout the lifecycle of the architecture: applying its principles and supplying requirements and information that drive content development and improve its use and value. Through DevOps, portfolio management and product line management processes, customers will use the VA EA content to inform the decisions and guide the solutions that will enable VA to achieve its integrated objectives.

A clear, accepted, and shared strategy for the VA EA will enable VA administrations' and staff offices' efforts to be planned and implemented in a more coordinated and integrated fashion. This document provides a complete picture of the vision, strategic goals, and steps VA will take to provide an authoritative information asset base known as the VA EA.

2 Introduction

VA is a large organization with diverse and complex missions. Currently, the VA EA aggregates and federates information about services and capabilities of the three Veterans Administrations—Veterans Health Administration (VHA), Veterans Benefits Administration (VBA), and National Cemetery Administration (NCA)—and the staff offices. This aggregation provides a holistic view of VA that is necessary to achieve the integrated objectives of the department.

The Department of Veterans Affairs 2018–2024 Strategic Plan identifies and describes goals and objectives that drive VA’s modernization efforts. These goals and objectives should directly impact VA EA direction so that the architecture is useful to decisions made to achieve VA objectives. In other words, the VA EA must describe current and future business and information technology (IT) needs with attention to the VA 2018–2024 Strategic Plan to make better informed decisions.

Aligning strategic direction with operations, technology, and data that is methodically structured, aggregated, and managed will enable the VA EA to make a comprehensive set of information available to decision-makers at the right time and enable VA to provide Veterans and their families a consistent and improved experience for accessing information and services:

Only an enterprise-wide architecture can provide an integrated view of strategic, business, and technology domains across all lines of business, services, and systems, which is critical to optimizing mission capabilities and resource utilization. At present, no other management best practice, other than EA, exists that can serve as a context for enterprise-wide planning and decision-making.²

Figure 2-1 provides a conceptual depiction of the scope of the VA EA necessary to support VA in this effort. The Veteran’s Journey displays the different phases of a Veteran’s lifecycle that must be supported by the VA’s administrations and staff offices. The administrations and staff offices provide this support through a combination of Veteran/Mission and Enabling Support services. The VA EA serves as an enabler of these services by bringing together various “domains” of data and information and making it available to decision-makers operating within the Strategic Planning, Investment and Portfolio Management, and DevOps processes.

² Ibid., 24.

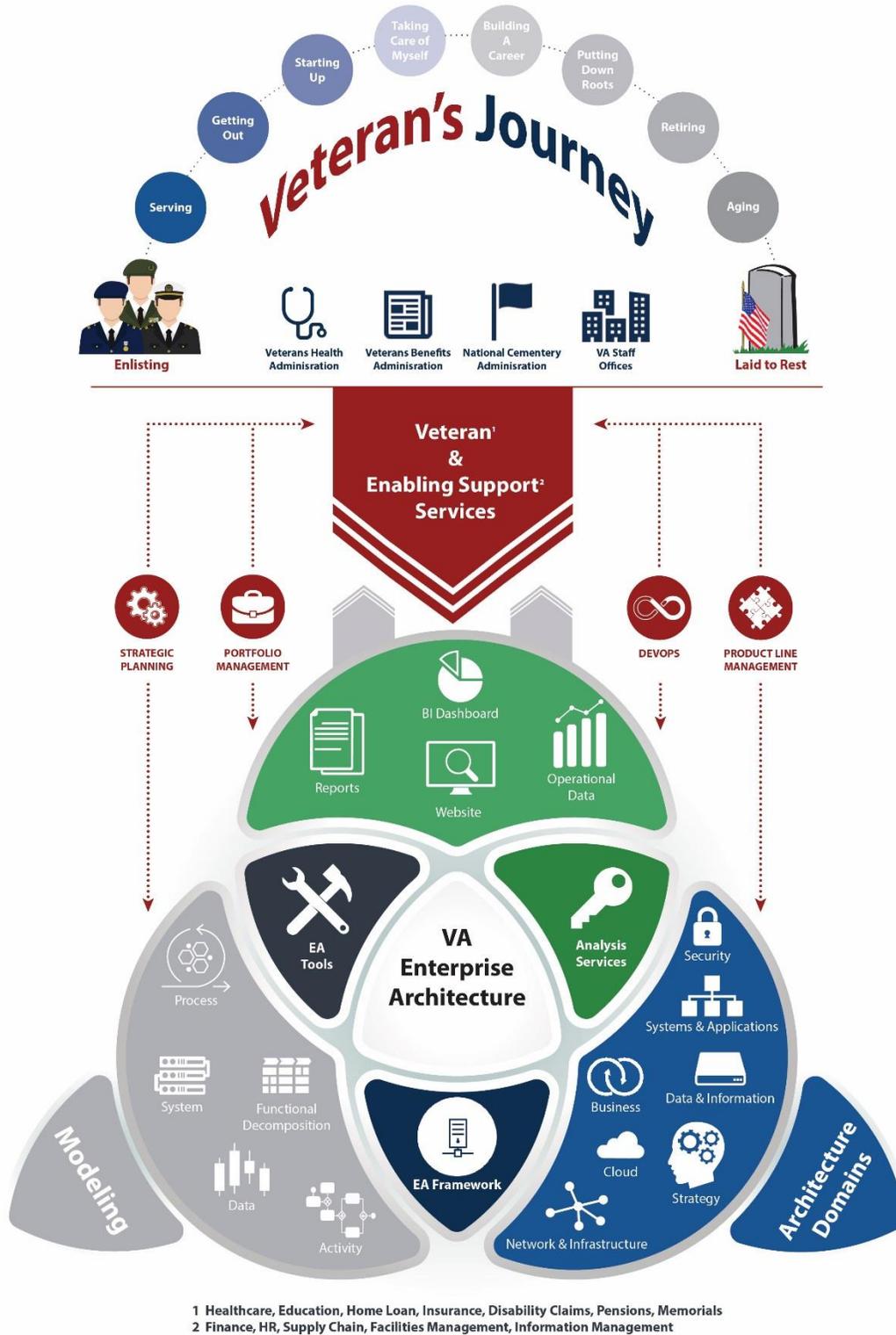


Figure 2-1: VA EA Conceptual Overview Diagram



The CAF identifies six architecture domains that “delineate the types of analysis and modeling that is necessary for an architecture to meet stakeholder requirements.”³ VA has leveraged the CAF domains and added to them a Cloud domain to help support VA’s strategic business and IT direction. This domain concept guides the structure of the VA EA for how and what information will be addressed. The data that is collected and integrated, as well as its presentation, must provide information required from the strategic, business, data and information, systems and applications, networks and infrastructure, cloud, and security perspectives to inform VA decision-making. VA EA’s tool capabilities (e.g., process modeling, data modeling, solution modeling) and analysis services enable it to integrate the various domains of data and present it in ways that are easily consumable by its end-users.

The VA EA responds to several strategic drivers that also affect its content. These drivers can be grouped into three categories: transformational needs, legislative mandates, and policies and directives. Transformational needs are business and IT priorities the VA has identified that require enterprise-wide changes in underlying strategy, processes, and technologies. Legislative mandates establish the statutory basis for building and using the VA EA. Lastly, policies and directives provide guidance in several areas ranging from enterprise information management to overall information technology strategy and methods to gauge EA maturity in support of these areas. All these drivers will be revisited continuously during the evolution of the VA EA. Appendix D: Transformational, Regulatory, Policy, and Directive Drivers lists several of the strategic plans, legislative mandates, and policies that affect VA EA.

2.1 Vision of the VA EA

The vision of the VA EA is to be the authoritative reference for the requisite integrated strategic, business, and technology information used to make informed decisions across VA. It provides information and capabilities that support transformation within VA business and/or IT environments (see Figure 2-2). This vision will be achieved through an ongoing, collaborative effort between VA’s administrations and staff offices supporting the delivery of benefits to our Veterans and management of the department. Together, these organizations provide information to document the current and desired relationships among business processes and IT, and develop business rules, standards, and decision-making criteria that support the transition to the desired state. This information is made available through various formats and mechanisms for VA use.

³ Ibid, 26.



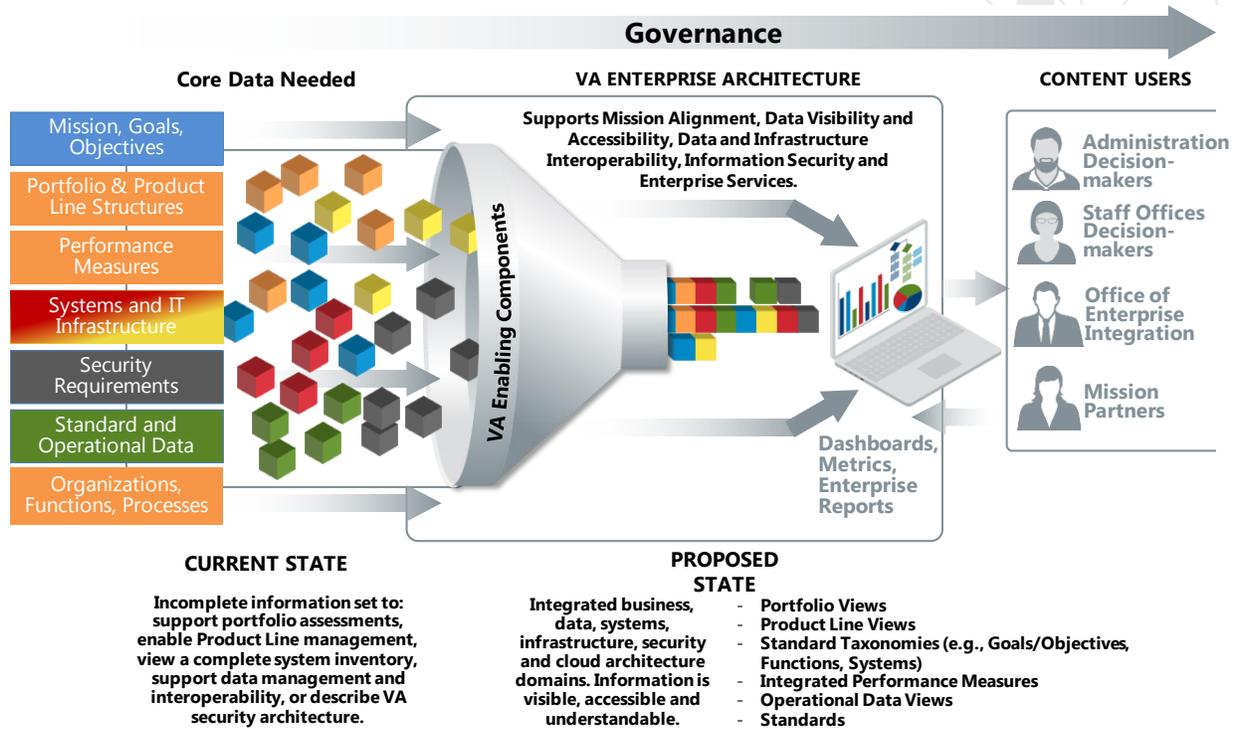


Figure 2-2: Vision for VA EA

2.2 Purpose

The purpose of this document is to provide a description of the future direction of the VA EA. This description includes the supporting principles that guide and constrain VA EA development and uses, and the goals and outcomes that drive content based on VA's changing priorities. Customers should use this document to gain an overall awareness of the high-level, enterprise-wide guiding principles for the VA EA. It can also be used as the basis for defining and developing specific implementation activities to support the VA EA.

3 VA EA Goals and Outcomes

CAF lists the following as the primary outcomes enabled by developing and using EA:

- » Service delivery
- » Functional integration
- » Resource optimization
- » Authoritative reference⁴

VA recognizes the four outcomes proposed by CAF as consistent with addressing the drivers identified in Appendix D: Transformational, Regulatory, Policy, and Directive Drivers, and has adopted them as goals to evolve the VA EA. These drivers consist of transformational needs,

⁴ Common Approach to Federal Enterprise Architecture, 5.

legislative mandates, and policies and directives. This recognition and adoption enables the VA EA to serve as a value-added enabler of these outcomes.

Much time has been spent establishing and understanding the current environment and its components from an architectural perspective. Although this work continues, attention must be turned to VA's vision and how the VA EA can support it. To achieve transformation objectives, additional focus on DevOps and reference architecture (e.g., product line and security reference architectures) within VA is required. This focus enables a more agile VA environment that is responsive to ever-changing VA needs.

Table 3-1 describes VA EA goals and outcomes, which are consistent with attaining the VA EA vision and meeting VA modernization objectives.

Table 3-1: VA EA Goals and Outcomes

Goal 1: Support Improved Service Delivery

VA has been moving to a strategy that focuses on providing better options for Veterans to get their benefits, care, and services. VA has identified four major priorities to implement the strategy: Customer Service, Mission Act Implementation, Electronic Health Record and Business Systems Transformation. The VA EA Team is structured to provide detailed support across Portfolios and supporting product lines to enable more efficient, effective, and rapid solutions to be deployed for our Veterans.

An example of VA EA support is developing detailed interface control documents (ICDs) within the Health Services portfolio. This provides invaluable information to VA's major modernization initiatives.

Goal 2: Support Functional Integration/Interoperability

VA business, data, systems, technology, and IT services are contributors to capabilities that provide customer (e.g., Veterans, employees) benefits and services. Interoperability within and across these mechanisms is paramount to the success of VA. The VA EA must capture both the context (strategic, business and technology) and the requisite standards that enable interoperability and sharing of data. Under the DevOps model, business and IT teams (i.e., developers and operations) collaborate closely, share many responsibilities, and combine their workflows to develop products or solutions that support VA's mission.

An example of VA EA support is enabling discovery of schemas and standards that leverage and constrain VA data.

Goal 3: Facilitate Resource Optimization

With the current Federal Government trend of decreasing budgets and mandating and improving service delivery, agencies are forced to find ways to do more with less. This means that government entities must implement leading practices for strategic planning and portfolio management. The VA EA's ability to inform discovery of current resources (people, data, and technology) and then assist in determining where they and their funding can best be used is critical to VA's ability to optimize its resources.

An example of VA EA support is identification of all the capabilities and systems that support a specific Portfolio and Product Line. The EA can then provide requisite information to the portfolio and product line managers to assist with discovery of value-added services and application programming interfaces (APIs), identifying candidates for reuse, and redundancies that can be eliminated.



Goal 4: Serve as Authoritative Reference

The value of information made available to VA's decision-makers is directly proportional to the quality of the information and the degree of trust the decision-makers have in it. For the VA EA to achieve its vision, it must be viewed as an authoritative reference for the information it makes available to its customers. It must also contain information on and enable discovery of authoritative sources and security controls mandated by appropriate Federal guidance.

An example of VA EA support is provision of a comprehensive VA Business Reference Model (BRM), expansion of VA metadata management capabilities and the maintenance of the VA Systems Inventory (VASI). This combination of products describes the scope of VA business, its data, and its IT system landscape, respectively. This enables the VA EA to be used in both strategic and tactical processes, thus supporting planning and DevOps processes.

The VA EA Team understands that the key to achieving these outcomes is to have an agile process whereby changes in priorities and needs can be rapidly acted upon. Therefore, the team has adopted a priority-driven, question-based, data-centric approach to direct its efforts for allocating VA EA resources.

This approach is founded on asking the right questions (i.e., the questions most relevant to VA business and IT customers for their specific business priorities) and identifying the data required to answer the questions. This data represents the information that must be captured within and visualized by the VA EA.

Figure 3-1 presents the VA EA strategic goals and outcomes and some of the associated questions that can be answered to achieve the goals. These questions are a sampling and not an exhaustive list.

<p>1. Support Improved Service Delivery</p> <ul style="list-style-type: none"> • What are VA's most critical services to Veterans? • What are the gaps in our capabilities to deliver Veteran-centric services? • How do IT products support VA's goals and performance targets? • What data is necessary to support VA's most critical services to Veterans? • What is the impact of changes to specific VA processes and services? 	<p>2. Support Functional Integration/Interoperability</p> <ul style="list-style-type: none"> • What is the IT landscape by portfolio? • What is the IT landscape by product line? • What data must be made available to enable development of specific APIs? • What data is accessible via specific APIs? • How do we achieve consistency in solution design to maximize the benefits of migrating to the cloud? • What cloud-native services should be leveraged to improve information sharing?
<p>3. Facilitate Resource Optimization</p> <ul style="list-style-type: none"> • What are the VA's most critical systems and data assets? • What are the low-value products currently in use within VA? • Which products are used most by VA customers? • What are the capacity requirements of systems migrating to the cloud? • Of the systems moving to the cloud, how much data is required to move outside the cloud? • Within which product lines are most IT requests made? 	<p>4. Serve As Authoritative Reference</p> <ul style="list-style-type: none"> • What are the authoritative data sources within a product line? • Do the authoritative sources handle sensitive data? • For what data are the sources deemed authoritative? • How does one get access to the authoritative data? For what purposes can the data be accessed? • What is the target architecture for a given product line? • What is the transformation status of all VA systems? • What are all the interfaces within and external to a product line?

Figure 3-1: Outcomes and Goals Supported by Use of VA EA

When the VA EA End-to-End (E2E) Process documented in the VA EA Architecture Development Methodology (ADM) is initiated in response to a business or IT priority, questions are identified to fully address the business need. The requisite data to answer the questions is then defined and collected. Customers are continuously communicated with to validate the data and determine the best methods for visualizing the data to support their intended uses.

4 Evolving the VA EA

For the VA EA to achieve its vision, it must mature internally in several areas while improving its outwardly focused value to the administration and staff office users of its information. According to the CAF, eight basic elements, depicted in Figure 4-1, compose an EA program.



Figure 4-1: VA EA Eight Basic Elements

The following sections describe what VA is doing to evolve the VA EA program in each element.

4.1 Governance

Governance comprises the planning, decision-making and oversight processes used by oversight entities that will determine how the VA EA is developed, verified, versioned, used and sustained. VA has identified several entities that must interact to enable the VA EA to support achievement of VA modernization objectives. Currently two groupings of governance entities exist that will impact VA EA direction: business and IT. On the business side is the Data Governance Council (DGC); on the IT side is the Office of Information and Technology (OIT) Governance Board (ITGB) and three subordinate councils: the Program and Acquisition Review Council (PARC), the Standards and Architecture Council (SAC), and the Organization & Workforce Council (OWC).

The DGC is a VA governance body co-chaired by the Deputy Assistant Secretary, Data Governance and Analytics. It was established to implement the requirements of VA Directive 6518, Enterprise Information Management (EIM), for the management of VA data. It provides a forum to share and integrate data management best practices for common and shared data across the administrations and staff offices. 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. Although the DGC is external to the VA EA governance structure, its decisions and information needs affect the direction of and content within the VA EA. The DGC and VA EA management work closely together to support VA enterprise data management and governance.

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 prioritizing, funding, designing, and implementing 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.

The ITGB and supporting councils (the PARC, SAC, and OWC) have been established to enforce the governance framework. Specifically, the SAC is tasked with managing all aspects of the 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; 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 & OIT governance framework does the following:

- » Enables VA and OIT's Strategic Plans, VA FY 2018-2024 Information Resource Management (IRM) Strategic Plan, 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.

4.2 Principles

All VA IT investments are subject to a multitude of VA IT Modernization Principles that guide transformation and improve IT support for the VA mission. The VA IT Modernization Principles (see Section 4.2.1) represent the criteria against which potential investment, architectural and

solution decisions are weighed.⁵ Additionally, development and use of the VA EA is guided by three outcome-based principles applied within the VA EA E2E Process, which is documented in the VA EA ADM. The VA EA principles are oriented toward architecture management, use, and consistency (see Section 4.2.2) in support of the IT modernization principles. The following sections list the specific IT Modernization and VA EA principles that guide and constrain VA EA evolution.

4.2.1 VA IT Modernization Principles

The VA IT Modernization Principles are summarized below:

- » **Promote Electronic Health Record (EHR) Interoperability**—EHR systems should promote open architecture and standards.
- » **Modernize EHR and other legacy systems**—Veterans Health Information Systems and Technology Architecture (VistA) and other VA legacy systems and applications will be replaced by modern commercial systems, the state-of-the-art platforms and innovative technologies.
- » **Manage Data as a Strategic Asset**—Appropriate data management policies and governance are established and enforce data quality (e.g., consuming data from authoritative data sources), data privacy, data security, consistent data access (including secondary uses of data for analytics and open data innovation), and seamless data interoperability.
- » **Promote Seamless Data Sharing**—Each authoritative data source must have a standard, well-documented API that integrating systems from across VA’s business units can access. Where appropriate these same APIs can be exposed to third parties.
- » **Migrate to the VA Enterprise Cloud (VAEC)**—VA will default to VAEC for all new development efforts and migrate applications to the VAEC over time.
- » **Improve Infrastructure by Introducing Common Platforms**—VA will seek to deliver new capabilities using common platforms in favor of creating new systems and projects to address new sets of requirements.
- » **Buy first**—VA will evaluate IT investments against business requirements and service needs with a philosophy of “buy first, then build/reuse.”
- » **Common analytics and reporting data source**—A common source of data should be used to support common analytics and reporting requirements across health care, loan guarantee, insurance, benefits, claim, corporate, enterprise, education, regulatory, statutory, and management analytics and reporting.
- » **Protect Veteran information and enhance VA’s Security Domain**—Protecting VA’s infrastructure, assets, networks, systems, and data is one of the most significant challenges our country faces in today’s Internet-based IT environment. VA must adopt modern best practices in information security to counter increasingly sophisticated threats.
- » **Provide an Excellent Digital Experience**—The department will ensure every VA service has a high-quality digital self-service equivalent.

⁵These same principles are used to determine the current and future VA EA methods and technologies that are part of the VA EA tool suite.



4.2.2 VA EA Guiding Principles

The following VA EA Guiding Principles guide the overall direction and evolution of the VA EA.

- » **Question-based**—Questions are created based on business needs with the intent that their answers will indicate that the business needs were met. Complex needs are decomposed into a hierarchy of questions that are used to plan multiple VA EA releases to meet the original needs.
- » **Data-Centric**—The questions that drive content development for the EA lead to specific data that is required to answer them. This foundation places data management at the heart of the future direction of the VA EA. Data entities and their relationships that drive changes to the VA EA are identified for each question. These entities can span the Strategic, Business, Data and Information, Systems and Applications, Network and Infrastructure, Cloud, and Security domains.
- » **Tool agnostic**—Architecture information is shareable across VA at the Portfolio, Product Line and Product levels independent of the tools with which it was created.

All these principles support VA's drive to adopt transformational approaches in developing and delivering services and capabilities to Veterans. VA will adhere to these principles when developing and using the VA EA to support strategic planning, investment management, portfolio management, and solution design.

4.3 Method

OIT has adopted several strategic concepts to enable it to meet its digital transformation goals. Product Line Management, Data Management, DevOps, Scaled Agile Framework (SAFe) and Information Technology Service Management (ITSM) are all complementary and point to a common vision of modernized IT. Figure 4-2 displays the conceptual environment within which these strategic concepts must converge.

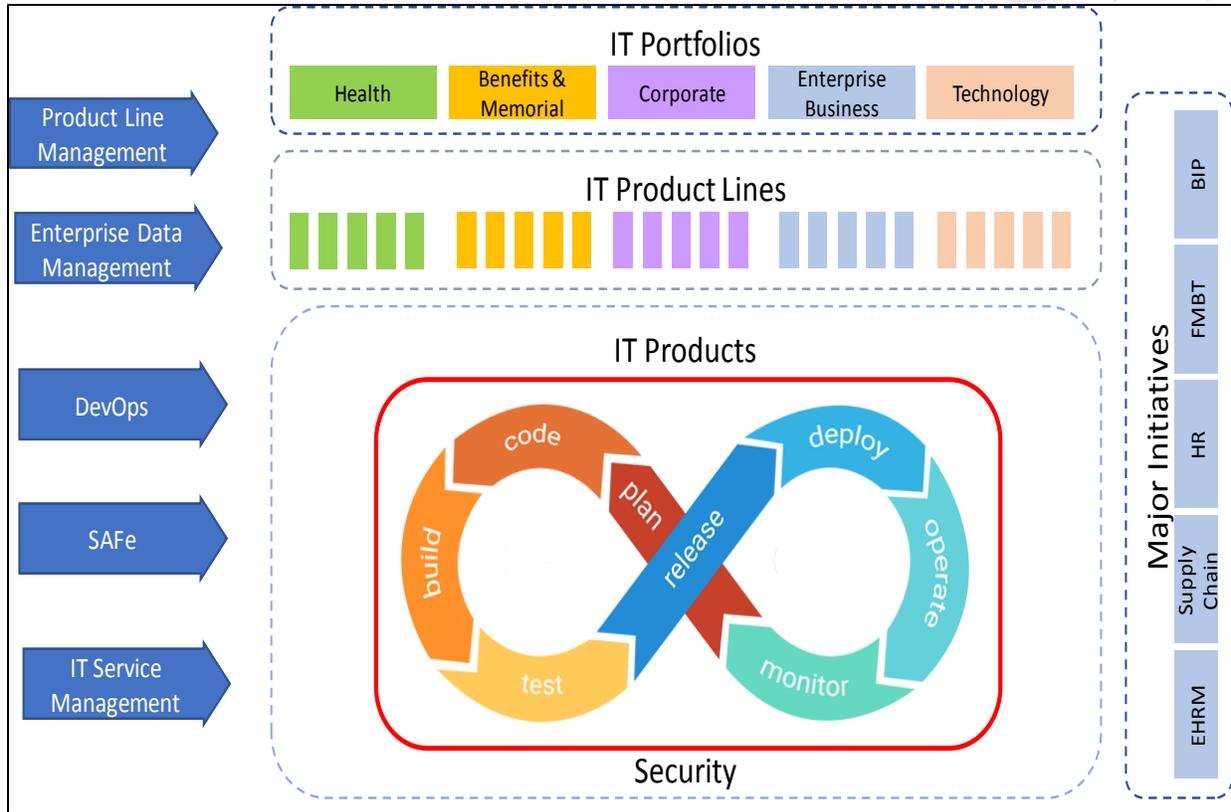


Figure 4-2: OIT Environment Supported by VA EA

The Demand Management Division’s Architecture & Engineering Service (AES) is responsible for working with the above structure to assist in moving OIT from strategic exploration to implementation of IT changes. AES resources will work within the portfolios and product lines becoming their integral partners and complementing their teams to address virtual pipelines of business priorities and needs. AES will follow a “collect and connect” mantra to identify data that may be provided through some type of export (collect) and data that resides in disparate systems or applications to which direct access is attainable (connect). This approach enables the VA EA to evolve efficiently and effectively—virtually on-demand—to provide an ever-expanding set of services and information to be used by customers to make informed decisions.

This method also supports point-in-time releases necessary for the EA to be used for conformance purposes. Various releases of the VA EA will be built incrementally using the ADM E2E process, as depicted in Figure 4-3, and detailed in the VA EA ADM document. The establishment of the above OIT environment and the VA EA framework are necessary for implementation of the ADM E2E process. The framework provides a core set of data and views, supported by a flexible metamodel, that will be used to integrate VA data and models. The OIT environment provides extended data, associated rules and capabilities that will be used to collect and connect VA data, artifacts, and data sources.



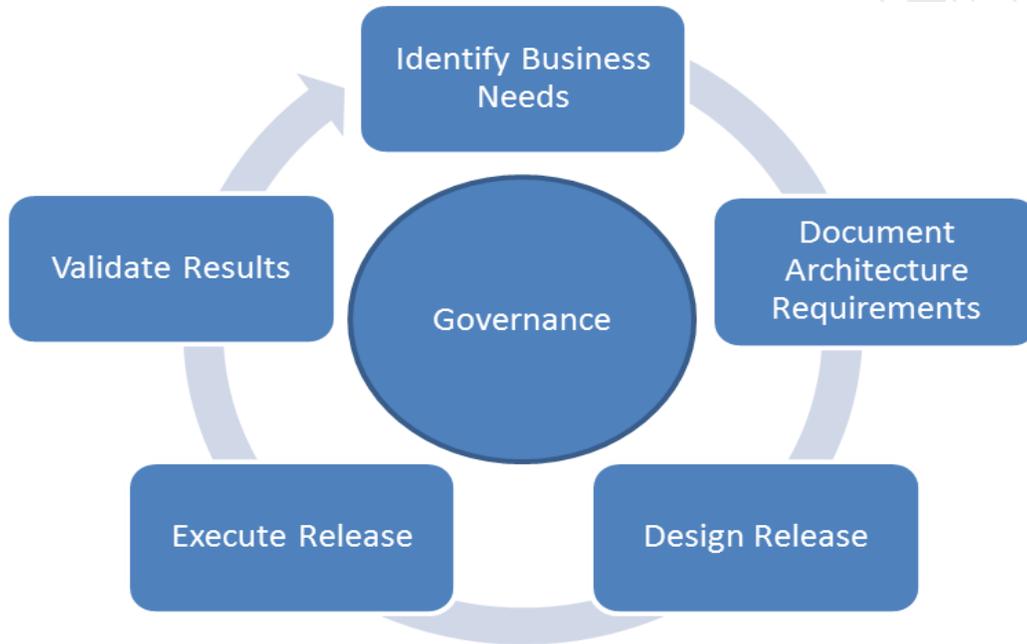


Figure 4-3: VA EA ADM E2E Process

The E2E process was founded upon best practices within both EA and solution engineering disciplines. The E2E process is structured to ensure the following are considered before expending resources building EA content: (1) stakeholder/user needs are defined and validated, and the value proposition is established; (2) critical dependencies are known and can be accommodated with acceptable risk; (3) alternatives that leverage existing VA EA content have been assessed; and (4) work can be accomplished within established constraints (e.g., requisite skills, availability of required subject matter experts, availability of technical capabilities, timeframe).⁶

This structure enables AES to follow an agile methodology to build the VA EA as well as the technical capabilities and services used to expose its data and information to VA users. Epics and user stories are used to both capture the information described in items 1 through 4 and assess the value of the resulting content and capabilities developed to address the needs described therein. This implementation method enables VA EA to be developed in the most efficient way possible.

4.4 Tools

The tools that VA selects for use within the VA EA information environment should not only develop and store content but must also meet customer needs for reports and data analytics in support of planning, solutioning and decision-making. Therefore, the VA EA technology environment must comprise a suite of tools that provides multiple capabilities offering various methods of data access, data entry, data manipulation, data storage, querying, reporting,

⁶ For more details on the development approach, refer to the VA EA ADM.

modeling, and visualization. The tools must enable linkage of business and technology data with strategic, budget, acquisition, and operational data. The ability to link this data is crucial to enabling the robust reporting and visualization capability needed to support a wide range of users.

The VA Enterprise Architecture Management Suite (VEAMS) as it currently exists represents the technology environment in VA EA. It is a collection of web-accessible applications, data, products, and tool capabilities assembled into the VA Enterprise Cloud (VAEC) environment that enables the creation, maintenance, and use of VA EA information.

As AES envisions new and more effective uses of the VA EA and charts a path toward the next level of EA maturity it will, in turn, require new VEAMS tools, components, and/or capabilities. The target state for the VEAMS is illustrated in Figure 4-4.

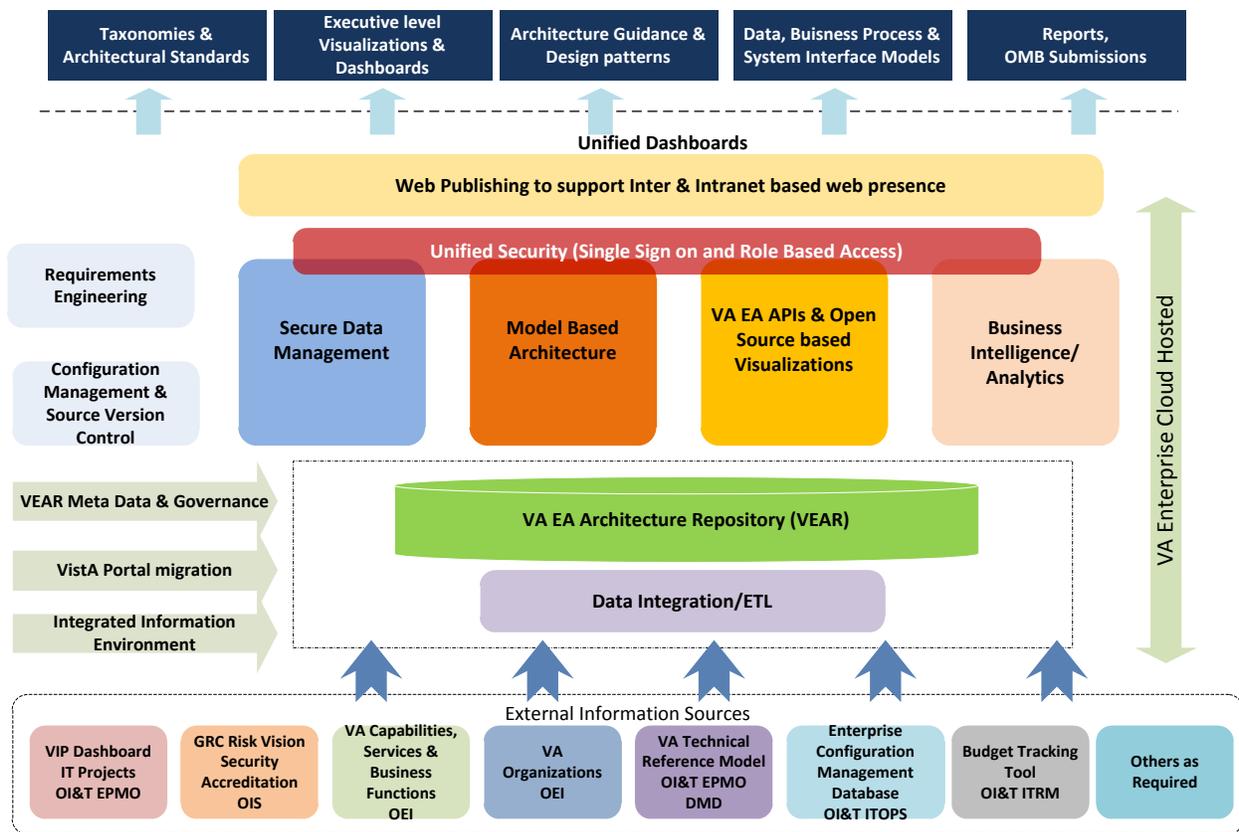


Figure 4-4: VEAMS Target State

The key principles that will continue to guide the selection of tools for VEAMS, the implementation of the VA Enterprise Architecture Repository (VEAR), and the evolution of both to support the VA EA Program include the following:

- » **Integrated information environment**—VEAMS integrated information environment will be an integrated baseline of VA EA data captured and normalized from disparate data sources. VEAMS will automate data integration, which will improve the accuracy and currency of the integrated information, and, thereby, enable the VA EA stakeholders to identify the gaps in



their information sources and establish a blueprint and operational process for future data integration.

- » **Cloud hosted**—VEAMS will align with the VA Cloud Strategy to enable delivery of VA EA data through VAEC offerings with a primary objective to move toward usage-based and rapid provisioning of the hosting infrastructure.
- » **Unified security**—VEAMS will enhance capabilities with a focus on protecting data through authentication and access control mechanisms that enable visibility and role-based access of the VA EA information, thereby paving the way for distributed data ownership of the VEAMS Information baseline.
- » **Unified dashboard**—VEAMS will consolidate and automate content aggregation from multiple data sources to provide a “single pane of glass” visibility into the VEAMS integrated information baseline. This VEAMS information baseline will also enable development of executive-level visualizations and analytics by combining data from disparate information sources.
- » **Tighter configuration management and source version control**—VEAMS will enhance current configuration management and version control capabilities to enable source and configuration controls for VA EA artifact generation by adopting software development platforms (e.g., Git) and instituting related processes around the platform.
- » **Platform consolidation**—AES will continue to work toward eliminating redundant platforms within the VA EA tools environment and migrate these capabilities onto VEAMS standard platforms.

The assessment of VEAMS tool capabilities is an ongoing activity and will be in sync with the next level of EA maturity. As new items are installed and functioning, they become the “As-Is” state for VEAMS, and the cycle of assessment restarts, as Figure 4-5 illustrates.



Figure 4-5: EA and VEAMS Maturity Cycle

4.5 Standards

Architectural standards apply to all areas of EA practice and are essential to achieving interoperability and resource optimization through common methods for analysis, design, documentation, and reporting. The VA EA views standards from a use perspective. Some standards are used to constrain how the VA EA content is created, stored, and visualized through the tools suite (e.g., Business Process Modeling Notation [BPMN]). Some standards are used when applying the EA content within the VA's decision processes (e.g., data and interface standards). Other standards are used to guide and constrain solution development efforts and the set of tools allowed to be used within those efforts.

The VA EA is being developed in a federated manner that makes it imperative that the standards for creating and storing the VA content be enforced and periodically reviewed. The following are areas where standards will be enforced to constrain VA EA content:

- » Business function modeling (i.e., functional decomposition)
- » Business process modeling
- » Logical data modeling
- » System interface descriptions
- » Overarching frameworks (e.g., Department of Defense Architecture Framework [DoDAF], The Open Group Architecture Framework [TOGAF]) for guiding VA EA core data and views

The VA EA will also contain standards to establish uniformity in the way decision processes are informed. For these purposes, the following types of standards will be identified and documented as requirements within the VA EA:

- » Data standards
- » Information security standards
- » Infrastructure standards
- » System interface standards
- » Service interface standards
- » Web services standards

The standards that are more technical in nature (e.g., those used to define web services) will be adopted from standards development organizations such as the National Institute of Science and Technology (NIST), the Institute of Electrical and Electronics Engineers (IEEE), the International Organization for Standardization (ISO), and the World Wide Web Consortium (W3C). Standards deemed required within the VA environment will be housed and managed through the OneVA Technical Reference Model (TRM).

Discussions are underway to determine management mechanisms and processes to address additional standards such as those that are identified as "standard platforms" (e.g., ServiceNow) to be used within the product lines. This document will be updated to reflect outcomes from these discussions.

4.6 Use

Use of the VA EA information, criteria, and requirements must be embedded in core processes and decisions at all levels of VA’s management and span across the administrations and staff offices to include OIT. Identifying specific uses and understanding the changes required for decision-makers to use the VA EA appropriately will be critical to its success.

The question-based approach for identifying and defining content for the VA EA emphasizes the involvement of the stakeholders and customers of the architecture because they are the sources of the questions that drive the content. It aligns well with the data-centric philosophy of VA in that specific sets of data must be identified, defined, and made available to support answering questions. Table 4-1 provides a sample of potential uses for VA EA information. Sets of data can be applied across different goals supporting multiple uses and answering questions from varied sources.

Table 4-1: VA EA Uses Mapped to VA EA Goals

VA EA Uses	Goal 1: Support Improved Service Delivery	Goal 2: Support Functional Integration/ Interoperability	Goal 3: Facilitate Resource Optimization	Goal 4: Serve as Authoritative Reference
Strategic Planning	What are VA’s most critical services to Veterans?	What cloud-native services should be used to improve information sharing?	What are VA’s most critical systems and data assets?	For what purposes will data access be allowed in the future IT environment?
Portfolio Management	What are the gaps in our capabilities to deliver Veteran-centric services?	What data must be made available to enable development of critical APIs?	What are the low-value products currently in use within VA?	What are the authoritative data sources available within each portfolio?
DevOps	How do IT products support VA’s goals and performance targets?	What data is available via specific APIs?	Which products are used most by VA customers? Within which product lines are most IT requests made?	For what data are the authoritative data sources deemed authoritative?

Strategic planning has great potential for value through use of VA EA content by leveraging the business reference model and systems inventory and their relationships to strategic goals and objectives to describe enterprise priorities. Portfolio management can use VA EA information to support the myriad decisions made as part of the investment planning and programming processes. DevOps is a discipline implemented by OIT for expedient delivery of value-added products. Capturing DevOps information within the VA EA environment enables VA to extend the line-of-sight from strategy to solution design and development, which is also one of the desired uses of the architecture.



Finally, application of the question-based approach to effect VA's vision for its security domain, emphasizes that VA must ensure implementation of the appropriate security controls with respect to its systems and data. This underscores the need for products to have enterprise security requirements "baked in" and reflected in the VA EA through role-based security models and information assurance attributes.

The intended use of the VA EA drives both the content and technical capabilities used to store, manage, and visualize the content.

As Table 4-1 shows, EA has several uses, each with its own set of questions and data required to answer them. Therefore, the VA EA will not start out being "all things to all people" but will evolve and become more robust over time and as needs are identified. It will be developed according to prioritized needs identified by VA leadership in coordination with the administration and staff office stakeholders and other customers of VA services. Developing the EA in this manner ensures that the architecture can adjust to changes in strategic direction while delivering value-added information to VA decision-makers.

4.7 Reporting

The VA EA reporting capabilities entail not only providing a repository of architecture artifacts, plans, solutions, and other information (a "pull" model) but also regular reporting on capabilities and options through the lens of the architecture delivered in a standardized manner from dashboards for overall progress and health (a "push" model). The VA EA decision support reports and data analytics will be available for viewing through a role-based portal and/or exported in various formats for presentation through other delivery mechanisms (e.g., Microsoft® SharePoint,⁷ email).

By leveraging the VA EA reporting and data analytics capabilities, stakeholders will be able to find answers to strategic and operational questions (see Figure 3-1: Outcomes and Goals Supported by Use of VA EA) and use it to support VA's transformation goals.

4.8 Audit

The AES has defined the VA EA Valuation Measurement Methodology (VMM) as its approach to gauge the value provided by the VA EA. This approach is based on the Government Accountability Office (GAO) Enterprise Architecture Management Maturity Framework (EAMMF), the Office of Management and Budget (OMB) Federal Enterprise Architecture, and other frameworks, industry best practices, and academic research. Periodic audits of an EA program will help the organization increase the completion, use, and results yielded by the program and gradually increase the maturity of the program relative to EAMMF Stages 0–6 listed in Table 4-2.

⁷ Microsoft and SharePoint are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Table 4-2: EAMMF Stages

Stage	Maturity Definition
0	Creating VA EA awareness
1	Establishing VA EA institutional commitment and direction
2	Creating the management foundation for VA EA development and use
3	Developing initial VA EA versions
4	Completing and using an initial version for target results
5	Expanding and evolving the EA and its use for institutional transformation
6	Continuously improving the EA and its use to achieve staff office optimization

A previous assessment of VA’s current EA Program validated that it has achieved a Stage 3 rating. Moving to Stage 4 will involve increasing the value of the VA EA to the department. AES will focus on achieving a set of EAMMF core elements (CEs) that address EA program performance and EA value to attain higher stages. Examples of the CEs dealing with architecture value include but are not limited to the following:

- » CE 35: EA is integral to the execution of other institutional management disciplines.
- » CE 42: Investment compliance with corporate and subordinate architectures is measured and reported.
- » CE 43: Subordinate architecture alignment with the corporate EA is measured and reported.
- » CE 53: EA is used by executive leadership to inform organization strategic planning and policy formulation.
- » CE 58: EA quality and results measurement methods are continuously improved.

AES interacts with VA leadership and VA EA stakeholders to foster greater awareness and commitment to institutionalizing the capabilities offered by the architecture into the major VA processes to enhance decision-making. AES has established the initial foundation for VA EA development and use and will report progress using the EAMMF as its guide.

5 Summary

This document reflects the overarching direction and priorities for the VA EA Program aligned to VA’s strategic priorities and best practices in the EA discipline.

VA is committed to successfully delivering the benefits and healthcare our nation’s Veterans deserve. The VA EA assists VA in achieving its transformation goals by delivering information and services as part of the portfolios and product lines. This assistance is provided by attaining the VA EA’s primary goals of improving service delivery, promoting functional integration, facilitating resource optimization, and serving as an authoritative reference of enterprise information.

Intended uses of the VA EA guide the direction of both its content and supporting resources. This emphasizes stakeholder involvement early and often within the VA EA development process. In addition, because the VA EA will respond to different types of stakeholders with



different types of uses, the development process must be flexible, repeatable, and supported by a robust tool suite that offers a wide range of capabilities.

The envisioned VA EA tool suite capabilities, when combined with VA's strategic, business, and IT information, form an invaluable resource. It provides the strategic, business, data and information, systems and applications, networks and infrastructure, and security perspectives to enable strategic planning, portfolio management, and DevOps within the Department of Veteran Affairs.

Appendix A Abbreviations

Abbreviation	Definition
ADM	Architecture Development Methodology
ADMC	Architecture & Data Management Committee
AES	Architecture & Engineering Service
API	Application Programming Interface
ASG	Architecture Style Guide
BIP	Benefits Integration Platform
BPMN	Business Process Modeling Notation
BRM	Business Reference Model
CAF	Common Approach to Federal Enterprise Architecture
CE	Core Element
CFR	Code of Federal Regulations
CIO	Chief Information Officer
CMDB	Configuration Management Database
DevOps	Development and Operations
DGC	Data Governance Council
DMD	Demand Management Division
DoDAF	Department of Defense Architecture Framework
E2E	End-to-End
EA	Enterprise Architecture
EAMMF	Enterprise Architecture Management Maturity Framework
EHR	Electronic Health Record
EPMO	Enterprise Program Management Office
ESB	Enterprise Service Bus
ETL	Extract, Transform and Load
FITARA	Federal Information Technology Acquisition Reform Act
FY	Fiscal Year
GAO	Government Accountability Office
GRC	Governance, Risk and Compliance
HIPAA	Health Insurance Portability and Accountability Act of 1996
HR	Human Resources
ICD	Interface Control Document
IEEE	Electrical and Electronics Engineers
IRM	Information Resource Management
ISO	International Organization for Standardization
IT	Information Technology
ITOPS	IT Operations and Services

Abbreviation	Definition
ITRM	IT Resource Management
ITSM	Information Technology Services Management
NCA	National Cemetery Administration
NIST	National Institute of Science and Technology
OEI	Office of Enterprise Integration
OIS	Office of Information Security
OIT	Office of Information and Technology
OMB	Office of Management and Budget
OWC	Organization & Workforce Council
PARC	Program and Acquisition Review Council
PIV	Personal Identity Verification
PLM	Product Line Management
SAC	Standards and Architecture Council
SAFe	Scaled Agile Framework
SMART	Specific, Measurable, Achievable, Results-oriented, and Time-limited
TOGAF	The Open Group Architecture Framework
TRM	Technical Reference Manual
U.S.C.	U.S. Code
VA	Department of Veterans Affairs
VAEC	VA Enterprise Cloud
VASI	VA Systems Inventory
VBA	Veterans Benefits Administration
VEAMS	VA EA Management System
VEAR	VA Enterprise Architecture Repository
VHA	Veterans Health Administration
VistA	Veterans Health Information Systems and Technology Architecture
VMM	Valuation Measurement Methodology
W3C	World Wide Web Consortium



Appendix B Terms and Definitions

Term	Definition	Source
Accessible	Users and applications post data to a “shared space.” Posting data implies that (1) descriptive information about the asset (metadata) has been provided to the Department’s enterprise architecture, which is visible to the Enterprise; and (2) the data is stored such that users and applications in the Enterprise can access it. Data assets are made available to any user or application except when limited by policy, regulation, or security.	VA Directive 6518, 2/20/2015
Acquisition	The acquiring-by contract with appropriated funds of supplies or services (including construction) by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated. Acquisition begins at the point when an agency’s needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration, and those technical and management functions directly related to the process of fulfilling agency needs by contract.	VA Directive 0058, 7/19/2013
Action	A discretionary activity proposed or taken by a Federal agency with potentially significant impacts and is synonymous with “major Federal action” defined by Council on Environmental Quality regulations (40 CFR § 1508.18). VA actions include projects, programs, plans, grants, benefits, policies, and other decisions that are subject to VA’s control and responsibility. Actions do not include activities for which VA does not exercise any discretion or control over the activity.	VA Directive 0067, 6/21/2013



Term	Definition	Source
Administration	A generic term used to identify one of the three major VA operational elements: <ul style="list-style-type: none"> • VHA • VBA • NCA When VHA, VBA, and NCA are referred to as a group, the term “Administrations” may be used.	VA Directives: 0008, 5/29/2015 0211, 10/8/2013 0212, 4/28/2014 0213, 8/26/2014 0214, 8/11/2014 6330, 2/26/2009
Architecture	The overall fundamental approach that unifies and systematically organizes the design, analysis, planning, documentation activities, components, or elements of an organization into a coherent and functional whole; their relationship to each other, the environment, and evolution.	BusinessDictionary.com, http://businessdictionary.com ; “The Common Approach to Federal Enterprise Architecture” (see Appendix C: References); <i>A Dictionary of Business and Management</i> , 5th ed., Oxford University Press, 2009; Stelzer, D., “Enterprise Architecture Principles: Literature Review and Research Directions,” in Aier, S., et al. (eds.), <i>Pre-Proceedings of the 4th Workshop on Trends in Enterprise Architecture Research</i> , 2009, 21–35
Authoritative Data Source	A managed repository of valid or trusted data that is recognized by an appropriate set of governance entities or members of a community of interest to be valid or trusted because its provenance is considered highly reliable or accurate; it supports the governance entity’s or community of interest’s business environment.	<i>Dictionary of Data Management</i> , 2nd ed., DAMA International, 2011; Westman, R., “What Constitutes an Authoritative Source?” The MITRE Corporation, 2009, http://csrc.nist.gov/news_events/privilege-management-workshop/presentations/Roger_Westman.pdf
Authoritative Reference	An integrated, consistent view of strategic goals, mission and support services, data, and enabling technologies across the entire organization, including programs, services, and systems (Enterprise Architecture context).	“Common Approach to Federal Enterprise Architecture” (see Appendix C: References)
Authorized User	A person who is granted access to information resources based on clearance, need-to-know, organization security policy, and Federal security and privacy laws.	VA Directive 6518, 2/20/2015



Term	Definition	Source
Business Partner	A non-contracted or non-VA individual, entity, company, or organization that VA communicates with in the course of doing business (e.g., Veterans Service Organizations, health insurance plans, and healthcare providers). A business associate under the HIPAA Privacy Rule is a type of business partner.	VA Directive 6609, 5/20/2011
Capability	The ability to achieve a desired effect under specified [performance] standards and conditions through combinations of ways and means [activities and resources] to perform a set of activities.	VA Directives: 6404, 2/23/2016 6518, 2/20/2015
Change Management	Change management provides standardized methods for implementing change in an IT infrastructure. Changes may also be introduced to reduce costs or improve services.	VA Directive 6004, 9/28/2009
Configuration Management	The process of identifying, controlling, verifying, and showing the relationship among all infrastructure components.	VA Directive 6004, 9/28/2009
Data	An elementary description of things, events, activities, and transactions that are recorded, classified, and stored but are not organized to convey any specific meaning. Data items can be numeric, alphabetic, figures, sounds, or images. A database consists of stored data items organized for retrieval.	VA Directive 6518, 2/20/2015
Decision-maker	An entity or individual with the authority to decide whether to proceed on a proposed action or alternative.	VA Directive 0067, 6/21/2013
Department	A generic reference to the entire Department of Veterans Affairs, which includes VA Central Office and all field facilities.	VA Directives: 0008, 5/29/2015 0211, 10/8/2013 0212, 4/28/2014 0213, 8/26/2014 0214, 8/11/2014 0215, 5/2/2016 6330, 2/26/2009
DevOps	A culture-based software engineering approach that unifies software development and software operation, and relies on collaboration between the business and the IT organizations that develop, deliver, and manage applications for that business.	OIT DevOps website: https://vawww.oit.va.gov/oit/devops/



Term	Definition	Source
Enterprise Architecture (EA)	A strategic information asset base that defines the mission, information, technologies, and transitional processes necessary to implement new technologies in response to changing mission needs. It includes a baseline, target architecture, and a sequencing plan. EA provides standards, methodologies, and guidelines that architects can reuse for their designs and plans.	“Common Approach to Federal Enterprise Architecture” (see Appendix C: References); E-Government Act of 2002
Information	Any communication or representation of knowledge such as facts or data in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms. This definition includes information that an agency disseminates from a web page but does not include the provision of hyperlinks to information that others disseminate. This definition does not include opinions, where the agency’s presentation makes it clear that what is being offered is someone’s opinion rather than fact or the agency’s views.	VA Directives: 6361, 9/2/2004 6518, 2/20/2015
Information Environment	The aggregate of the information created and used by an organization, the information architecture of the organization (models, authoritative and redundant data stores, data flows), and the governance framework, policies, and standards that ensure information is managed as an asset.	VA Directives: 6404, 2/23/2016 6518, 2/20/2015
Information Management	The planning, budgeting, manipulating, and controlling of information throughout its lifecycle.	VA Directive 6518, 2/20/2015
Information System	The entire infrastructure, organization, personnel, and components for the collection, processing, storage, transmission, display, dissemination, and disposition of information. An information system can be a general support system or a major application.	VA Directive 6004, 9/28/2009



Term	Definition	Source
Information Technology	Any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by an executive agency. For purposes of the preceding sentence, equipment is used by an executive agency if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency that (1) requires the use of such equipment, or (2) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. The term “information technology” includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. The term “information technology” does not include any equipment that is acquired by a Federal contractor incidental to a Federal contract. The term “information technology” does not include national security systems as defined in the Clinger-Cohen Act of 1996 (40 U.S.C. 1452).	VA Directive 6518, 2/20/2015
Interoperability	Allows any Federal Government facility or information system, regardless of the Personal Identity Verification (PIV) issuer, to verify a cardholder’s identity using the credentials on the PIV card.	VA Directive 0735, 10/26/2015
Performance Measurement	A systematic method for determining the responsiveness of capital assets to the Department’s needs using standards and/or milestones. This form of measurement can be used at all levels, including projects, assets, and portfolios.	VA Directive 4085, 8/7/2003
Performance Measures	Performance measures are valid and reliable metrics for evaluating the extent to which goals and objectives are achieved. The measures should be Specific, Measurable, Achievable, Results-oriented, and Time-limited (SMART).	VA Directive 6052, 4/23/2009



Term	Definition	Source
Portfolio Management	Managing capital asset holdings in such a way as to leverage an investment or combination of investments to minimize risk and maximize the cost-effectiveness and performance of VA's assets.	VA Directive 4085, 8/7/2003
Product	Any business service, IT service or IT system that is procured, developed, integrated, modified, or operated and maintained within the VA business or IT environments.	VA IT Product Line Management (PLM) Update (see Appendix C: References)
Product Line	A "functional grouping" of like Business Services (IT Systems/Products) intended to support a specific VA Capability/Function.	VA IT PLM Update (see Appendix C: References)
Program	A planned, coordinated group of projects, services, activities, procedures, and so on, often for a specific purpose or designed to meet a public need.	VA Directive 6508, 10/15/2014
Project Planning	The activity that provides reasonable estimates regarding resources, costs, and schedules. Planning activities include establishing the scope and objectives of the project; identifying and defining required staffing, roles, and responsibilities; scheduling, estimating, tracking, and monitoring; and using appropriate tools and techniques to accomplish project objectives.	VA Directive 4900, 6/8/2004
Segment	Individual elements of the enterprise describe core mission areas, and common or shared business services and enterprise services.	"Common Approach to Federal Enterprise Architecture" (see Appendix C: References)
Segment Architecture	A detailed, results-oriented architecture (baseline and target) and a transition strategy for a portion or segment of the enterprise.	"Common Approach to Federal Enterprise Architecture" (see Appendix C: References)
Service	<ul style="list-style-type: none"> • A software component participating in a service-oriented architecture that provides functionality or participates in realizing one or more capabilities. • A mechanism to enable access to a set of one or more capabilities, where the access is provided using a prescribed interface and is exercised consistent with constraints and policies as specified by the service description. 	VA Directives: 6004, 9/28/2009 6518, 2/20/2015 6551, 3/17/2016
Solution	A set of changes to the current state of an organization made to enable an organization to meet a business need, solve a problem, or take advantage of an opportunity.	<i>A Guide to the Business Analysis Body of Knowledge</i> , 3rd ed., International Institute of Business Analysis, 2015



Term	Definition	Source
Solution Architecture	A standardized method of defining and describing a system architecture designed to provide a specific solution. It includes identifying business requirements and a viable technology solution for a single enterprise architecture or a multisector or government-wide/international architecture. Solution Architecture defines a process for developing a scalable and repeatable segment architecture for a core mission area, and includes current and future views, as well as transition plans at a number of levels of scope including applications, systems, segments, enterprise, sector, and government-wide.	“Common Approach to Federal Enterprise Architecture” (see Appendix C: References)
Staff Office	<ul style="list-style-type: none"> • A generic term used to identify one of the offices included under VA Central Office. This does not refer to VHA, VBA, and NCA, nor does it refer to medical facilities, regional offices, or cemeteries. • Any of the 14 offices in the VA hierarchy that support the operations of the Department but are not part of VA’s three Administrations 	<ul style="list-style-type: none"> • VA Directives: 0008, 5/29/2015 0212, 4/28/2014 0213, 8/26/2014 mp-1, Part I, Chapter 7 0214, 8/11/2014 • VA Directive 6509, 7/30/2015
Standardization	Standardize to the maximum extent possible the types and kinds of supplies and equipment purchased, consistent with clinical and practitioner needs, facilitating best-value product through committed volume purchasing, and facilitating the delivery of high-quality healthcare.	VA Directive 7408.1, 6/9/2005
Strategic Planning	A continuous process by which IT determines direction and operational focus over the next three to five years consistent with priorities established by the Secretary of Veterans Affairs, as expressed in the Departmental Strategic Plan. There is one IT Strategic Plan; however, strategic planning involves all parts of VA Administrations and Staff Offices.	VA Directive 6052, 4/23/2009
System	An interconnected set of information resources under the same direct management control, which shares common functionality. A System normally includes hardware, software, information, data, applications, communications, and people.	VA Directive 6404, 2/23/2016



Term	Definition	Source
Understandable	Users and applications can comprehend the data, both structurally and semantically, and readily determine how the data may be used for their specific needs.	VA Directive 6518, 2/20/2015
Use	The sharing, employment, application, utilization, examination, or analysis of such information within an entity that maintains such information.	VA Directive 6066, 9/2/2014
VA Customers	Military Servicemembers, Veterans, and their beneficiaries and representatives.	VA Directive 6404, 2/23/2016
VA Mission Partners	Those with whom VA cooperates to achieve national goals, such as other departments and agencies of the U.S. Government, state and local governments, non-governmental organizations, and the private sector.	VA Directive 6518, 2/20/2015
Visible	Users and applications can discover the existence of data assets through catalogs, registries, and other search services. All data assets (intelligence, non-intelligence, raw, and processed) are advertised or “made visible” by providing metadata, which describes the asset.	VA Directive 6518, 2/20/2015



Appendix C References

- “The Common Approach to Federal Enterprise Architecture.” Office of Management and Budget, May 2, 2012.
https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/egov_docs/common_approach_to_federal_ea.pdf.
- Department of Veterans Affairs FY 2018-2024 VA Strategic Plan. Department of Veterans Affairs. Office of Enterprise Integration. February 13, 2018.
<https://www.va.gov/oei/docs/VA2018-2024strategicPlan.PDF>.
- VA Directive 6051, Department of Veterans Affairs (VA) Enterprise Architecture (EA), Department of Veterans Affairs. April 8, 2016.
http://www.va.gov/vapubs/viewPublication.asp?Pub_ID=830&FType=2.
- VA Directive 6518, Enterprise Information Management (EIM). Department of Veterans Affairs. February 20, 2015. https://www1.va.gov/vapubs/search_action.cfm?dType=1.
- VA EA Architecture Style Guide (ASG). July 13, 2017.
<https://vaww.vashare.oit.va.gov/sites/OneVaEa/Deliverables/Forms/AllItems.aspx?RootFolder=%2Fsites%2FOneVaEa%2FDeliverables%2FArchived%2FDeliverables%202014%2D2017%2FArchitecture%20Deliverables%2FMethodology%5FDeliverables%2F2003AF%5FVA%5FEA%5FArchitecture%5FStyle%5FGuide&FolderCTID=0x012000524C3A7058DCC645A9CC3FFD F83D9D51&View=%7BB7AE806E%2D9263%2D4ED1%2D9EBA%2D7CFFE7E8490A%7D>.
- VA EA Program Communications Plan. March 19, 2019.
https://vaww.vashare.oit.va.gov/sites/OneVaEa/Deliverables/Accepted%20Deliverables/Deliverables_2018-2019_OY1/VEAMS%20and%20EA%20Services%20Support/VA%20EA%20Program%20Communication%20Plan.
- VA Digital Transformation Strategy. March 22, 2019.
<https://vaww.oit.va.gov/oit/va-digital-transformation-strategy/>
- VA EA Architecture Development Methodology (ADM). May 22, 2019.
[https://vaww.vashare.oit.va.gov/sites/OneVaEa/Deliverables/Accepted%20Deliverables/Deliverables_2018-2019_OY1/Core%20EA%20Approach%20and%20Content%20Development/VA%20EA%20Architecture%20Development%20Methodology%20\(ADM\)%20Update](https://vaww.vashare.oit.va.gov/sites/OneVaEa/Deliverables/Accepted%20Deliverables/Deliverables_2018-2019_OY1/Core%20EA%20Approach%20and%20Content%20Development/VA%20EA%20Architecture%20Development%20Methodology%20(ADM)%20Update).
- VA IT Product Line Management (PLM) Update. August 27, 2019.
<https://vaww.vashare.oit.va.gov/sites/OneVaEa/ArchitectureAndEngineeringExchange/Shared%20Documents/Slide%20Decks%20from%20AE%20Exchange%20FollowUp%20Meetings/PLM%20update%20-%2008272018%20-%20FINAL.pptx>.



Appendix D Transformational, Regulatory, Policy, and Directive Drivers

Table D-1 lists the different drivers of EA within VA. The drivers are grouped into three categories: transformational needs, legislative mandates, and policies and directives.

Table D-1: Architecture Drivers

Driver Type	Examples
<p>Transformational Needs Transforming the VA requires alignment and harmonization of transformation efforts. The EA provides the organizational construct required to enable transformational change toward the achievement of common mission outcomes.</p>	<ul style="list-style-type: none"> • VA FY 2018–2024 Strategic Plan • Applicable administration strategic plans will be added in the final version of this document.
<p>Legislative Mandates Laws and regulations establish the statutory basis for building and using EA to enable enterprise transformation of federal agencies. They also contain constraints that are reflected as rules and requirements within the EA.</p>	<ul style="list-style-type: none"> • Clinger-Cohen Act of 1996 • Patient Protection and Affordable Care Act of 2010 • E-Government Act of 2002 • Health Insurance Portability and Accountability Act of 1996 (HIPAA) • Government Performance and Results Act of 1993 • Government Performance and Results Modernization Act of 2010 • HIPAA Privacy Rule (April 2003) and HIPAA Security Rule (April 2005) • Federal Information Security Management Act of 2002
<p>Policies and Directives (Internal and External) Internal policies provide guidance in several areas such as strategic planning and security. External governance organizations such as the OMB and GAO establish policy and directives that provide guidance to direct the implementation of EA within federal agencies.</p>	<ul style="list-style-type: none"> • OMB Circulars A-11, A-130, and Memorandum M-06-02 • OMB Management of Federal Information Resources, and The Common Approach to Federal Enterprise Architecture, May 2, 2012 • GAO EAMMF v2.0 • Federal CIO Council Digital Government Strategy, May 23, 2012 • VA OIT Directive relative to IT Strategic Planning, April 23, 2009 • VA Directives for Security (6212), Protected Health Information, Privacy (6600, 6507), and Section 508 • VA Information Resource Management Policies and Directives

Questions based on these drivers are created as a tool for analysis in collaborating with business customers to better understand business needs. These questions, as a part of VA EA



requirements, lead to identifying content changes to the VA EA as explained in Section 3: VA EA Goals and Outcomes. Table D-2 illustrates how these questions map to the respective drivers and VA EA goals to support prioritizing VA EA requirements. Appearance of the same or similar questions across drivers and goals underscores the integrative nature of the VA EA. These questions are provided solely as examples.

Table D-2: Business Need Questions Mapped to Strategic Drivers and VA EA Goals

Architecture Driver Type	Goal 1: Support Improved Service Delivery	Goal 2: Support Functional Integration/ Interoperability	Goal 3: Facilitate Resource Optimization	Goal 4: Serve as Authoritative Reference
Strategic Plans	What are VA’s most critical services to Veterans?	What are the common processes across all lines of business?	Where should we focus on IT consolidation to minimize redundancy?	How do the benefits of information systems map to VA goals?
Enterprise Transformational Business Needs	How are data needs identified as part of business need analysis?	How is common data discovered?	What is the mapping between systems and business functions?	What systems use master data?
Legislative Mandates for Business (e.g., Patient Protection and Affordable Care Act of 2010)	How is the outcome of impacted business processes measured?	How is data across impacted programs evaluated to determine whether it can be managed as master data?	What capabilities are impacted by this mandate and have similar use cases?	What are the confidentiality, integrity, and availability requirements for data in transactions between affected programs?
Legislative Mandates for IT (e.g., Clinger-Cohen Act of 1996)	How can IT improve the effectiveness and efficiency of a given Federal program?	How can the information collection burden on the public be reduced?	Will investment in IT systems result in shared benefit or cost with another program or organization?	How do the benefits of information systems map to VA goals?
Business Policies and Directives (e.g., VA Directive 0054—Enterprise Risk Management)	How can risk be reduced for the most critical VA services to Veterans?	How can information sharing promote better risk management?	What are the risks in standardizing processes for reuse of the resources applied to them?	What aspects of the mission are potentially impacted by a newly discovered software vulnerability?
IT Policies and Directives (e.g., VA Directive 6518—Enterprise Information Management)	Is the Compensation Benefits Process using authoritative data sources?	What standards ensure system interoperability across programs and segments?	What are the Authoritative Data Sources for an entity in the Enterprise Logical Data Model?	What decision processes require a “mash-up” of data crossing segment boundaries?

