

**OFFICE OF
VA ENTERPRISE
ARCHITECTURE**

VA EA Vision and Strategy

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1 Executive Summary

The Department of Veterans Affairs (VA) is transforming 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 to support decision makers.

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.

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 transformation objectives and 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. This approach has required a fundamental change in the way VA plans, governs, develops, and implements its enterprise architecture. VA considers the VA EA as the foundation of its VA EA Program and evolves it based on the eight basic elements identified in the CAF that must be present in an agency EA program – governance, principles, method, tools, standards, use, reporting, and audit – and the strategic drivers that affect its content.

To date, substantial work has been accomplished toward achieving the VA EA vision of being the authoritative reference for the requisite integrated strategic, business, and technology information used to make informed decisions across the Department.

The VA EA has been gaining ground in transitioning to an integrated set of information derived from independently developed architectures within VA. These architectures provide quality service for specific portions of VA. Expanding the integrated information pertinent to Veterans interests across organizational or functional boundaries and presenting a VA “enterprise view” is the continuing task of the VA EA. Additionally, the VA EA will provide a cohesive set of tools to maximize utilization of the integrated information by a wide VA customer base.

Crucial to success is the stakeholder. Collaborative engagement is required to define an effective and informative VA EA and transition to its useful application. Stakeholders will be involved throughout the lifecycle of the architecture: participating in the governance process, applying its principles, and supplying requirements that drive content development. Through strategic planning, investment management, and solution design processes, stakeholders will use the VA EA content to

¹ “The Common Approach to Federal Enterprise Architecture,” Office of Management and Budget, May 2, 2012, 5, <https://www.whitehouse.gov/omb/e-gov/FEA>.

inform the decisions that will enable VA to achieve its integrated objectives. The VA EA Program Communications Plan will help inform stakeholders about the VA EA and its capabilities.

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.

As VA continues its transformation to improve support to the nation’s Veterans, it must support and advance the strategic goals and objectives of the Department of Veterans Affairs 2014–2020 Strategic Plan. These goals and objectives should directly impact VA EA content 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 2014–2020 Strategic Plan to make better informed decisions. A more detailed description of the relationships between objectives, the questions that can be asked, and how architecture can be used to answer the questions is included in Appendix E: Transformational, Regulatory, Policy, and Directive Drivers.

The VA EA is evolving into an efficient and integrated architecture that can support VA strategic goals and objectives. Aligning strategic direction with operations, technology, and data that is methodically structured, aggregated, and managed will enable the VA EA to deliver the right information to decision-makers at the right time and enable VA in providing 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 top layer identifies the types of information: strategic, business, and technical. The middle layer depicts how the information is organized and stored within the VA EA. The bottom layer illustrates some of the potential products (artifacts) from the integrated information and areas where they may be applied.

² Ibid., 26.

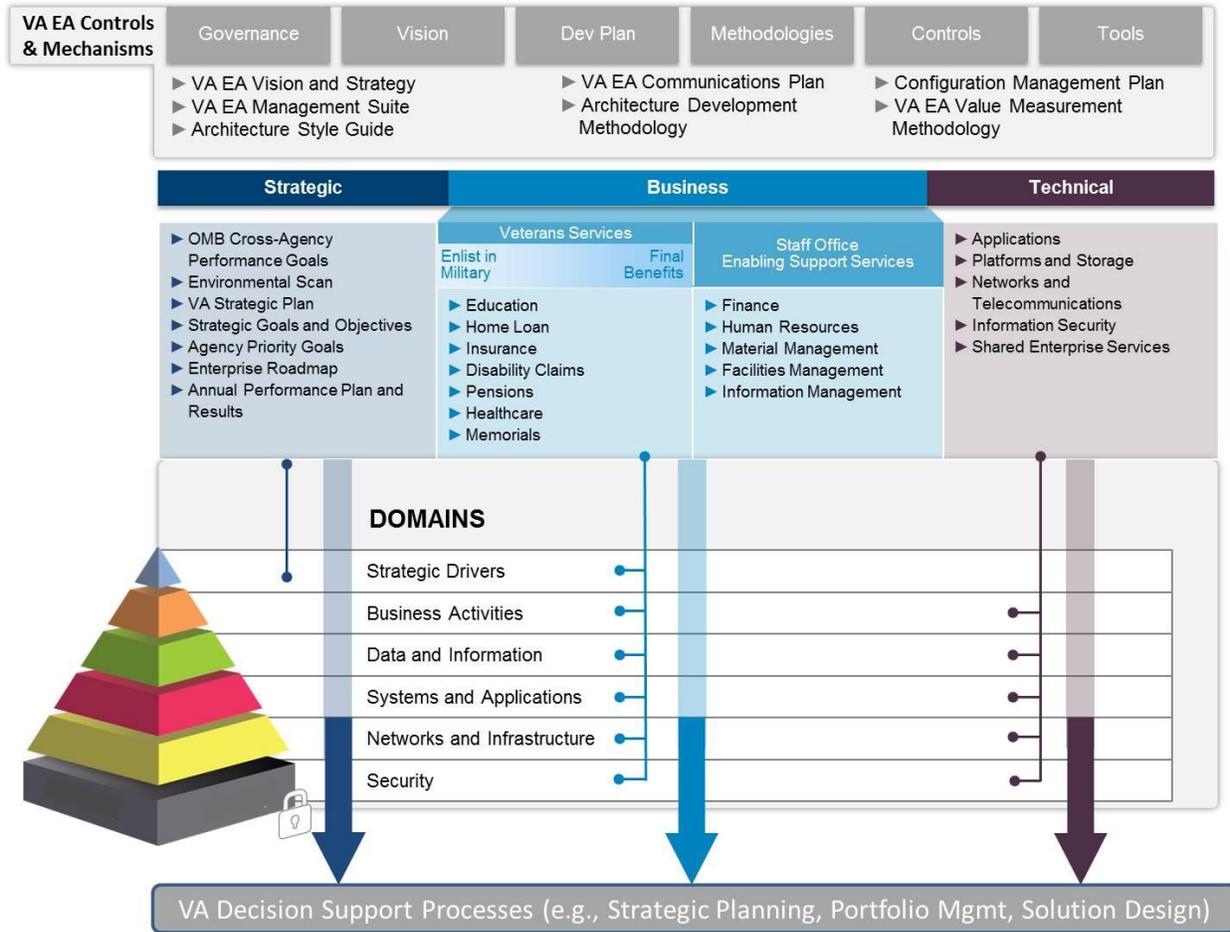


Figure 2-1: VA EA Scope

The CAF identifies six subarchitecture domains that “delineate the types of analysis and modeling necessary for an architecture to meet stakeholder requirements.”³ VA has incorporated this domain concept into 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, and security perspectives to inform VA decision-making.

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 priorities the VA has identified that require enterprise-wide changes in underlying strategy and processes. Legislative mandates establish the statutory basis for building and using the VA EA. Lastly, policies and directives provide guidance in several areas ranging from EA frameworks to methods for assessing EA maturity. All these drivers will be revisited continuously during the evolution of the VA EA. Appendix E: Transformational, Regulatory, Policy, and Directive Drivers lists several of the strategic plans, legislative mandates, and policies that affect VA EA.

³ Ibid.

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 an enterprise view of the VA to those who make decisions that effect change within VA business 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 and management of the Department. Together, these organizations 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. By using VA EA-enabling components such as a development environment and tools, analyses, and data management, this information is integrated and federated into an enterprise view in various formats for VA use.

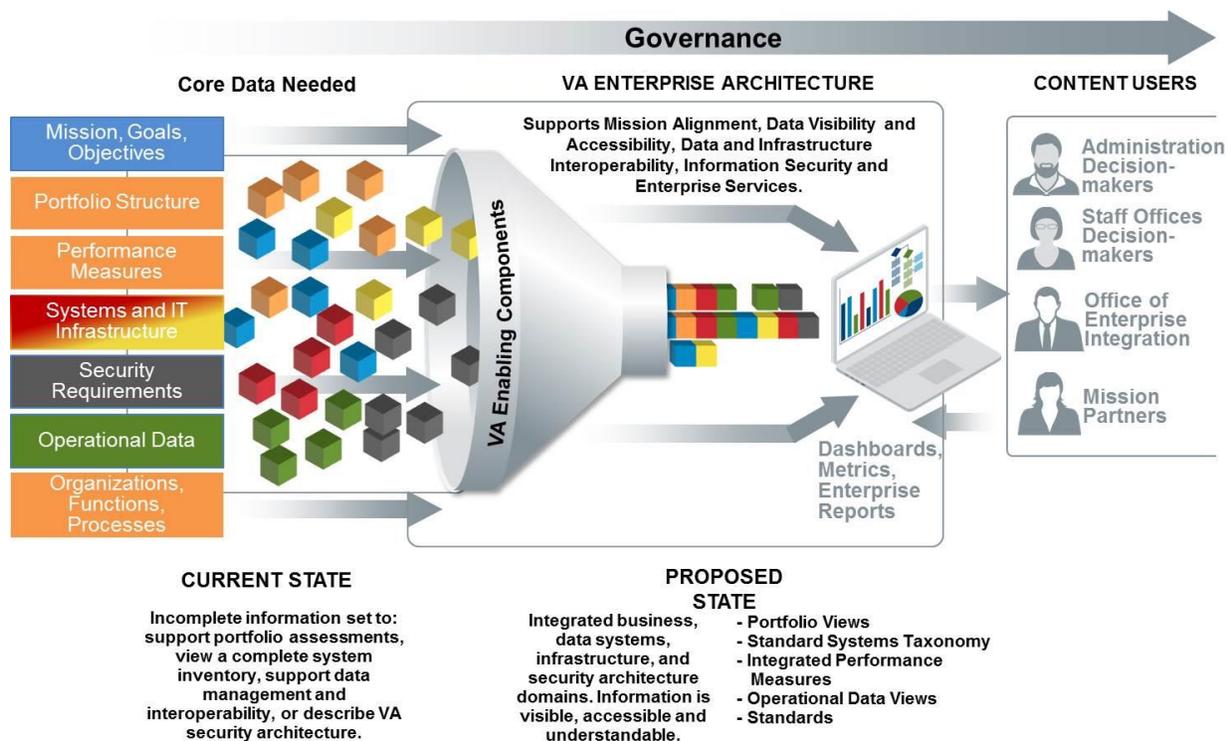


Figure 2-2: Vision for VA EA

2.2 Principles

All VA IT investments are subject to six VA Global Principles that support transformation and improve IT support for the VA mission. Additionally, development and use of the VA EA is guided by six outcome-based principles applied within the VA EA End-to-End (E2E) Process, which is documented in the VA EA Architecture Development Methodology (ADM). The VA Global Principles apply equally to the development and use of the VA EA. The VA EA Guiding Principles (see Section 2.2.2) support the VA Global Principles (see Section 2.2.1).

2.2.1 VA Global Principles

1. **Mission Alignment** – VA processes, information, and systems are conceived, designed, operated, and managed to address the Veteran-centric mission needs of the Department.
2. **Asset Visibility and Accessibility** – VA Service, Data, and Application Assets are visible, accessible, available, understandable, and trusted by all authorized users (including unanticipated users).
3. **Data Interoperability** – VA Information is made interoperable through data standardization, including the identification, designation, and utilization of authoritative sources.
4. **Infrastructure Interoperability** – VA IT Infrastructure is made interoperable through definition and enforcement of standards, interface profiles, and implementation guidance.
5. **Information Security** – VA provides a secure network, IT environment, and security controls for the storage and collaborative sharing of information assets (e.g., information, services) with Veterans, their families, and other partners. These include (among others) Federal agencies, third-party service providers, academia, researchers, and businesses.
6. **Enterprise Services** – VA solutions are built as common services using enterprise standards where similar business use cases exist.

2.2.2 VA EA Guiding Principles

1. **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. Entities and their relationships that drive changes to the VA EA are identified for each question. These entities can span the strategic, business, data, systems, infrastructure, and security domains.
2. **Enterprise Perspective** – Through integration and federation of Administration- and Staff Office-approved data, the VA EA depicts the relationships among VA's various parts. Entities across VA align and adhere to a common language and structure through the VA Enterprise Architecture Repository (VEAR) Logical Data Model and are related to other entities that all align to a business need. This enables business users to see their particular needs within the context of the larger VA and encourages reuse.
3. **Tool Agnostic** – Architecture information is shareable across VA at the enterprise, segment, and solution levels independent of the modeling tools with which it was created.

2.3 Purpose

The purpose of this document is to provide a description of the future direction of the VA EA.⁴ 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.

⁴ Other lower-level details describing the tactical operations for VA EA governance, configuration management, value and performance measures/metrics (Enterprise Architecture Management Maturity Framework [EAMMF]) to gauge effectiveness of the VA EA will be contained in other documents (e.g., Configuration Management Plan, ADM, VA EA Architecture Style Guide [ASG]).

Stakeholders 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 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 reference⁵

VA recognizes the four outcomes proposed by CAF as consistent with addressing the drivers identified in Appendix E: Transformational, Regulatory, Policy, and Directive Drivers, and has adopted them as goals to evolve the VA EA. These drivers consist of transformational needs, 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 the VA's vision and how the VA EA can describe it in terms understandable to the entire Department. To achieve transformation, additional focus on the target or future architecture for VA is required. Analyzing a target architecture against VA's current baseline enables development of a transition plan to establish and track progress toward the target state.

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

Table 3-1: VA EA Goals and Outcomes

Goal 1: Support Improved Service Delivery
<p>VA has been moving to an IT shared services strategy that results in a more secure, robust, reliable, rapidly scalable, efficient, and interoperable infrastructure to support seamless service delivery. The VA EA will identify the needed connectivity and computing capabilities that allow all users to access, share, and act on information required to accomplish the mission.</p> <p>An example of VA EA support is identifying all the capabilities mapped to a function that contains a service, their current interfaces, data they process, and the opportunity to improve service outcomes by adding a new interface.</p>
Goal 2: Support Functional Integration/Interoperability
<p>VA data, systems, technology, and IT services are contributors to capabilities that provide 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) for the way they "fit within the enterprise" and the requisite standards that enable interoperability.</p> <p>An example of VA EA support is to assist in establishing the metadata and standards for common Veteran data.</p>

⁵ Common Approach to Federal Enterprise Architecture, 5.

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 planning and investment management. The VA EA's ability to discover 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 that map to a business function and then working with business stakeholders to identify 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 end users. It must also contain information on and enable discovery of information assurance requirements and security controls mandated by appropriate Federal guidance.

An example of VA EA support is engagement of the Administrations in integrating their business functions into the VA Business Reference Model (BRM) so that the VA BRM can be used as a reference for common business functions across the Department.

The VA EA Team understands that the key to achieving these outcomes is to have the right information available, accessible, visible, and understandable to the appropriate decision-makers. Therefore, the Team has adopted a question-based, data-centric approach to focus its efforts for developing and using the VA EA.

This approach is founded on asking the right questions (i.e., the questions most relevant to VA business and IT stakeholders for their specific business need) 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.

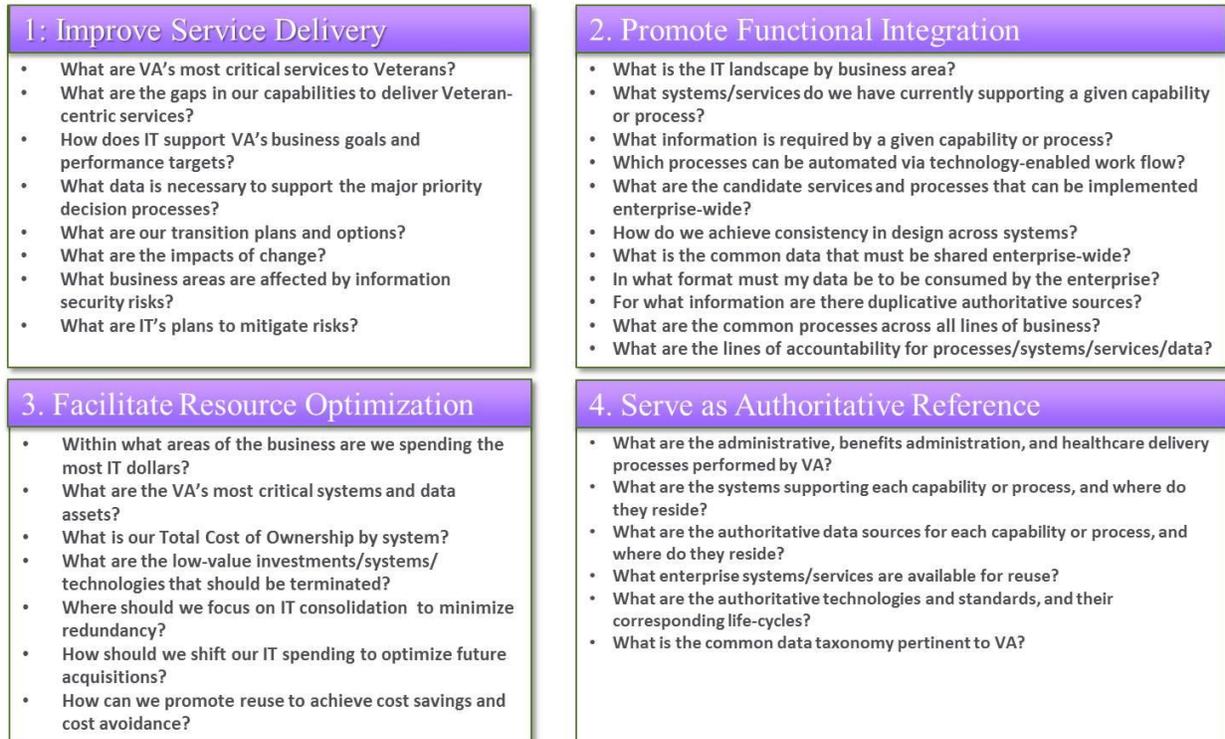


Figure 3-1: Outcomes/Goals Supported by Use of VA EA

When the VA EA E2E Process documented in the VA EA ADM is initiated in response to a business need, questions are drawn from Figure 3-1; additional ones are created as necessary to fully address the business need. New questions are mapped to the VA EA Goals and the appropriate driver as indicated in Appendix E: Transformational, Regulatory, Policy, and Directive Drivers. Appendix E provides the approach for mapping questions to strategic drivers and VA EA Goals as an aid in prioritizing requirements.

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 compose an EA program. They are depicted in Figure 4-1.



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 transformational objectives. Figure 4-2 depicts the entities and their relationships.

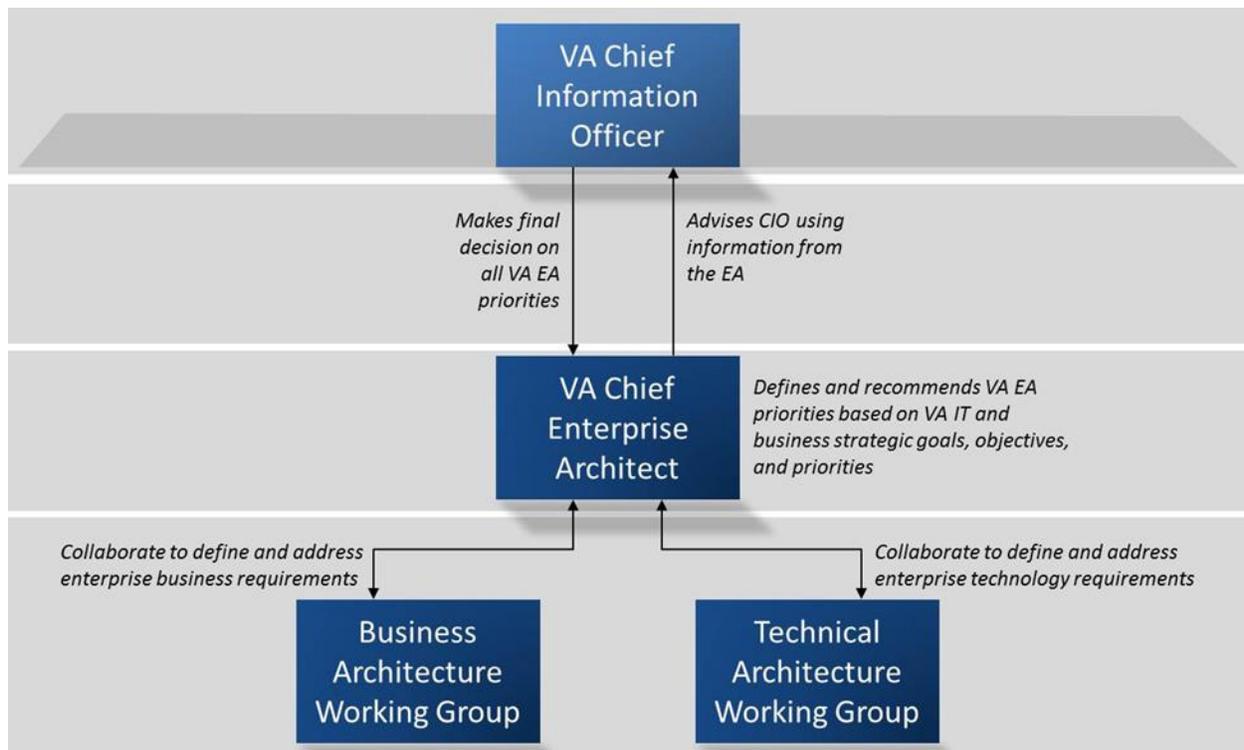


Figure 4-2: Governance Structure for VA EA

As mentioned previously herein, the VA EA should provide an enterprise-wide view to those who make decisions that effect change within the VA business and/or IT environments. VA EA services and products support the Department’s business and operational visions, missions, and goals and provide information useful to VA’s Capital Planning and Investment Control (CPIC) processes. They also help ensure alignment of technologies with strategic priorities and the elimination of redundancy, thus providing invaluable support to portfolio management.

The VA EA is under the leadership of the VA Chief Enterprise Architect who:

- Leads the program on behalf of the Chief Information Officer (CIO) and serves as an advisor to the CIO and VA leadership
- Collaborates with IT and business leaders to identify and establish priorities and methodologies for EA development and use, and identifies and integrates information assets from across the Department with the VA EA
- Owns the overall framework for the VA EA, including standards, policies, and rules for the EA development methodology, tools, and repository that ensures:
 - The integrity of EA products and their consistent evolution and alignment in support of VA’s strategic direction
 - Establishment and maintenance of rules and standards to be implemented in support of VA EA development

- Information required to support the aforementioned VA decision processes is visible, accessible, and understandable through the EA
- Provides the best possible information and guidance to IT projects and stakeholders, and assists in ensuring that programs, initiatives, and supporting systems development efforts are properly aligned with VA strategic goals and objectives and program/business unit requirements.⁶

The Chief Enterprise Architect also maintains the VEAR, ensuring EA tools and information required to support analyses and VA decision processes are visible, available, accessible, and understandable to stakeholders across the Department.

VA EA is a federated decision support tool established to meet the needs of the enterprise and facilitate the accomplishment of the Department and CIO's strategic agendas. Thus, the governance of the VA EA must involve stakeholders and business decision-makers from across VA. Representatives who participate in governance forums must have the authority to represent their respective organization's interests and make decisions on their organization's behalf.

Currently, two VA EA governance bodies exist:

- **Business Architecture Working Group (BAWG)** is the successor to both the Enterprise Architecture Council and Enterprise Architecture Working Group. As a working-level entity, it assists in the tactical execution of the VA EA development lifecycle. The BAWG is led by the Director of EA; members are functional architects, planners, process managers, and other business representatives from across VA. It serves as a forum to communicate enterprise data and information needs, and outlines the requisite actions to collect that data and make it visible, accessible, and understandable.
- **Technical Architecture Working Group (TAWG)** provides a forum to identify, communicate, develop, and govern technical requirements and policies related to hardware, software, and infrastructure that support VA enterprise needs. The TAWG, chaired by the VA EA Lead Technical Architect (Office of Information and Technology [OI&T]/Architecture, Strategy, and Design/EA), includes members that represent program development, infrastructure delivery, and security requirements for the enterprise. It promulgates VA's Enterprise Technical Architecture compliance requirements.

The BAWG and TAWG are tactical or execution-level governance entities. A strategic level of governance exists that impacts the direction of the VA EA. This level identifies and defines the enterprise-level priorities to which the BAWG and TAWG respond. Governance entities operating at this level comprise Senior Executive Service-level membership responsible for charting the strategic direction for VA business and IT operations. An example of a strategic governance entity that impacts the direction of the VA EA is the Data Governance Council (DGC).

The DGC is a VA governance body chaired by the Deputy Assistant Secretary, Data Governance and Analysis. It was established to guide the enforcement of VA data standards and data governance policy for every IT project and business process initiative. It enforces data standards, provides

⁶ "VA Directive 6051, Enterprise Architecture," Department of Veterans Affairs, April 8, 2016, http://www.va.gov/digitalstrategy/docs/VA_Directive_6051.pdf.

common data processes, and manages authoritative sources of master data for VA. 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 Program work closely together to support VA enterprise data management and governance.

4.2 Principles

The six VA Global Principles (see Section 2.2.1: VA Global Principles) represent the criteria against which potential investment and architectural decisions are weighed.⁷ Six guiding principles are oriented toward architecture management, use, and consistency (see Section 2.2.2: VA EA Guiding Principles). All these principles support VA's drive to adopt enterprise 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 capital planning, portfolio management, and the Veteran-focused Integration Process (VIP).

4.3 Method

To achieve a federated VA EA environment, VA will develop and manage the VA EA using development and governance processes that apply to participating and contributing organizations, as illustrated in Figure 4-3. VA's Administrations and Staff Offices own and are responsible for all EA content, including all business rules and other criteria by which programs and investments are evaluated and held accountable. As the integrated VA EA tool environment is rolled out, the Administrations and Staff Offices will be able to directly maintain or add content to their respective architectures using VA standards and tools that automatically feed and update the overall VA EA.

⁷ These same principles are used to determine the current and future VA EA methods and technologies that are part of the VA EA tool suite.

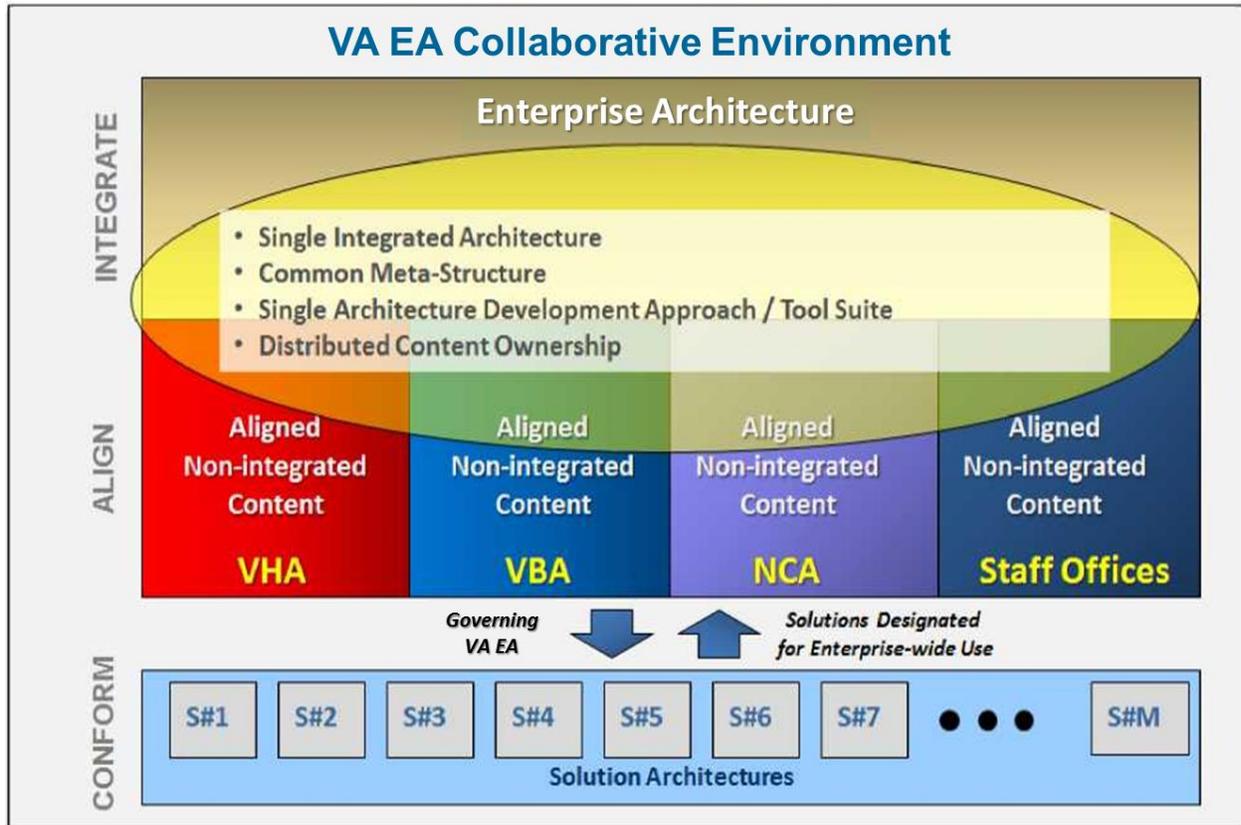


Figure 4-3: Conceptual Federated VA EA Environment

The method includes development and governance components necessary to ensure the VA EA is consistently developed to support the evolving business and IT needs of VA. The development component clearly defines roles and responsibilities of the Office of Enterprise Architecture (OEA) and Chief Enterprise Architect, which is essential to shepherding the data integration process.

Organized into two directorates – (1) EA, and (2) Strategy, Planning, and Accountability – the OEA has broad responsibility for IT strategy and transformation leadership, developing the VA EA to meet stakeholder needs, and ensuring appropriate use across the Department. These two directorates execute the work in support of the Chief Enterprise Architect responsibilities as outlined in Section 4.1: Governance.

The OEA is responsible for working with Administrations and Staff Offices to ensure necessary and appropriate EA content is developed and populated by the various EA stakeholders. The OEA is also accountable for identifying inconsistencies, gaps, overlaps, and redundancies in content, and then working with EA stakeholders to resolve them.

Different releases of the VA EA will be built incrementally using the build cycle, as depicted in Figure 4-4, and guided by the ADM. The establishment of the VA EA framework and collaborative VA EA information environment are prerequisites for implementation of the build cycle described below. The framework provides standards and meta-structure that will be used to integrate VA EA data, models, and products; the collaborative VA EA information environment provides the common methods and tools that will be used to develop the EA content and artifacts.

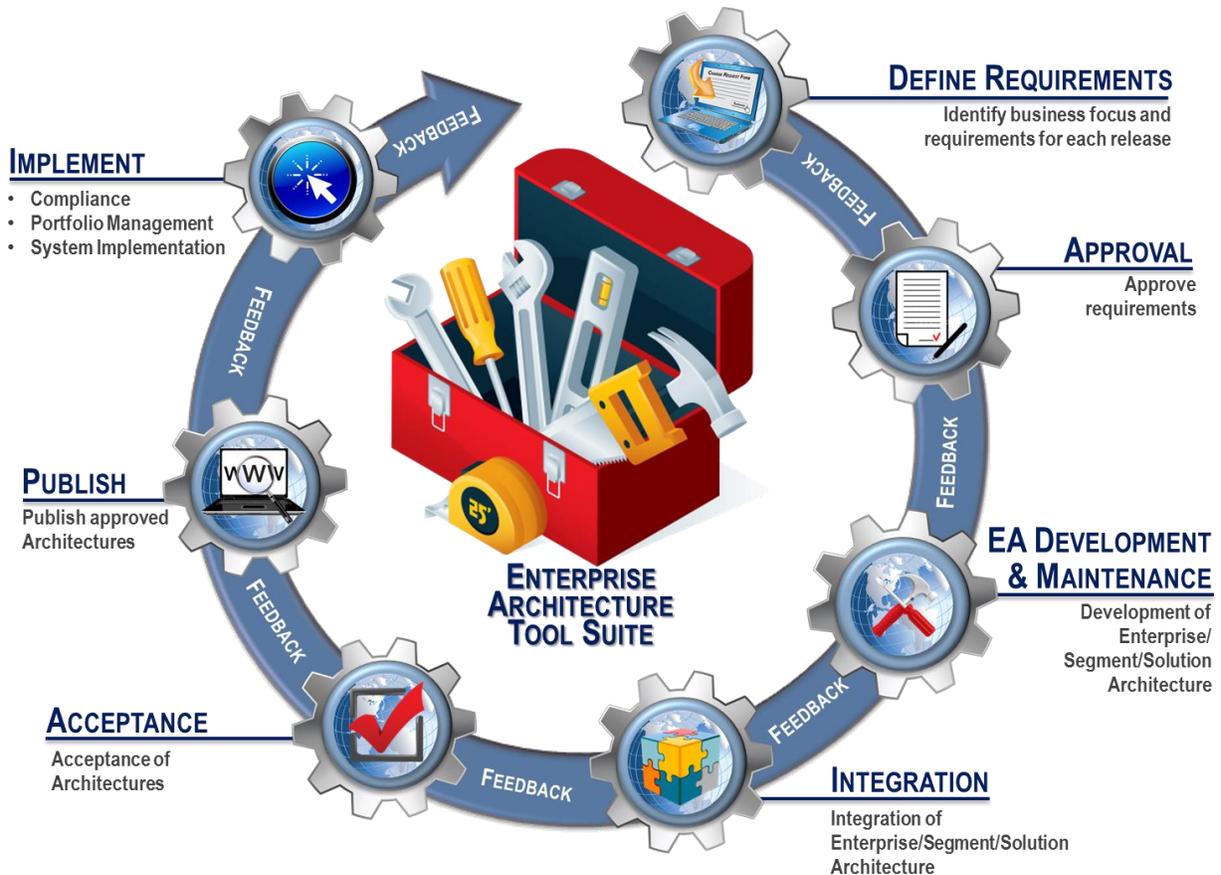


Figure 4-4: VA EA Build Cycle

The build approach 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., workforce skills, availability of required subject matter experts, budgets, timeframe).⁸ Although the build approach is sequential in nature, it does not prevent concurrent build cycles. For example, definition of the requirements for subsequent releases should begin (and work possibly started) while the current release is either still being developed or under review for acceptance and eventual publication. This implementation method enables VA EA to be developed in the most efficient way possible.

⁸ For more details on the development approach, refer to the VA EA ADM.

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 be data-centric to meet stakeholder needs for reports and data analytics in support of planning and decision-making. Therefore, the VA EA technology environment must comprise a suite of tools that provides multiple capabilities offering various methods of data entry, data manipulation, data storage, reporting, and visualization.

VA EA principles will continue to be used to guide the selection of tools for the technology suite (known as the VA EA Management Suite [VEAMS]), the implementation of VEAR, and the evolution of both to support the VA EA Program.

The tools must enable linkage of business and technology data with strategic, budget, acquisition, and VIP 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. Figure 4-5 provides an overview of the planned EA toolset capabilities (components), and how they will be used to develop, maintain, and publish the VA EA by collecting data and information, integrating it with other authoritative sources, and providing the results to the enterprise through web-accessible portals.

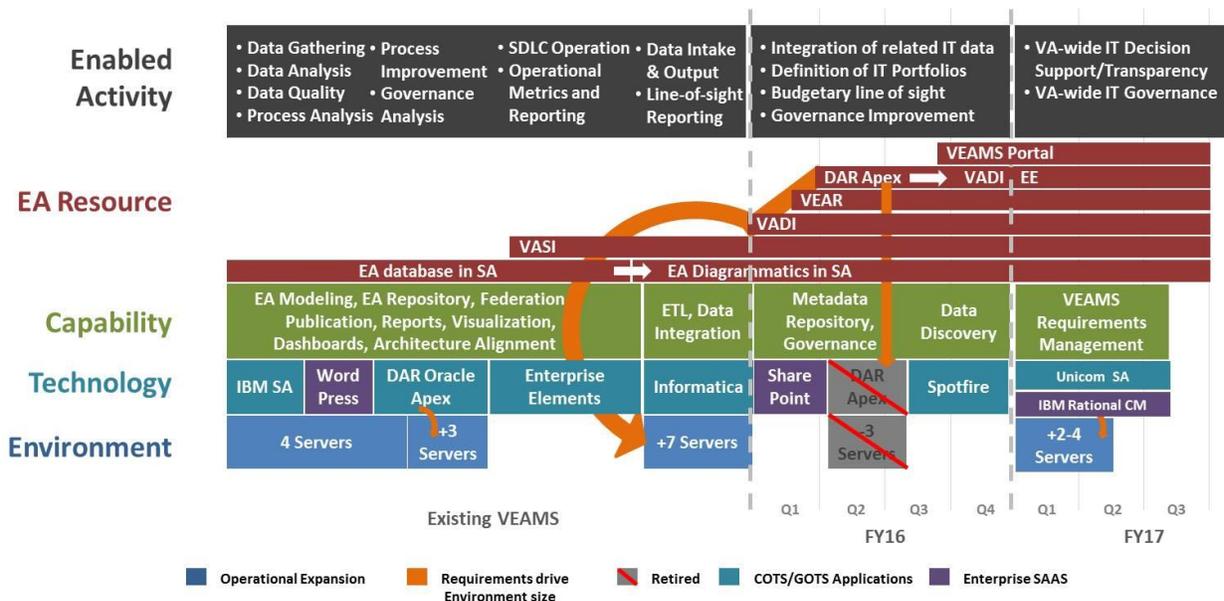


Figure 4-5: VEAMS Capability Implementation Plan

The tools currently installed within VEAMS are considered the “As-Is” state. They facilitate the current maturity of the EA while defining how and where the EA can be used. As VEAMS capabilities progress, they will support and contribute to EA maturity, and new and more effective uses of the EA will become possible. These future VEAMS capabilities are referred to as the “To-Be” state. Proceeding to the next degree of EA maturity will, in turn, require new VEAMS tools, components, and/or capabilities. Each time new items are installed and are functioning, they become the “As-Is” state for VEAMS, and the cycle restarts, as Figure 4-6 illustrates.



Figure 4-6: 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 tool suite (e.g., Business Process Modeling Notation). Other standards are used when applying the EA content within the VA's decision processes (e.g., data and interface standards).

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
- Business and systems rules definition/description
- System interface descriptions
- Overarching frameworks (e.g., The Open Group Architecture Framework) for guiding VA EA core products and content

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
- Web services standards
- Standard system interfaces
- Standard service interfaces
- Infrastructure 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, the Institute of Electrical and Electronics Engineers, the International Organization for Standardization, and the World Wide Web Consortium. Standards deemed required within the VA environment will be housed and managed through the VA EA Technical Reference Model (TRM), and enforced through established governance processes.

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 and within OI&T. Identifying specific uses and understanding the changes required for decision-makers to use the VA EA appropriately will be critical to its success. As part of the VA EA strategy, an EA Program Communications Plan will be employed to publish messages that will increase awareness and understanding of the VA EA and impart more information on how stakeholders can use its content in the course of performing their duties.

The question-based approach for identifying and defining content for the VA EA emphasizes the involvement of the stakeholders and end users 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 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 standards ensure system interoperability across programs and segments?	Where should we focus on IT consolidation to minimize redundancy?	How do the benefits of information systems map to VA goals?
Investment and Portfolio Management	What capabilities can be leveraged to fulfill portfolio gaps?	What portfolios will be affected if a system is retired?	How many systems perform the same functionality?	What strategic objective(s) does the investment support?
Solution Design and VIP	How is the outcome of affected business processes measured?	What enterprise standards must be met? What interface standards are needed?	What capabilities are supported by this acquisition and have similar use cases? What IT services are available for reuse?	Is the acquisition included in the Enterprise Transition Plan? What business function is supported by the capability?

Strategic Planning has the greatest potential for value through use of VA EA content. Investment and Portfolio Management can use VA EA information to support the myriad decisions made as part of the investment planning and programming processes. VIP is a performance-based and more agile project management discipline mandated by the VA CIO for solution delivery projects. Its products are consumed within the Investment Management process and are akin to the system development lifecycle. Capturing the VIP information within the VA EA environment enables VA to extend the line-of-sight from strategy to solution design, which is also one of the desired uses of the architecture.

Finally, the question-based approach to EA, in conjunction with the data-centric focus, emphasizes that VA must ensure implementation of the appropriate security controls with respect to its systems and data. This underscores the need for investments entering VIP to have enterprise security requirements “baked in” and reflected in the VA EA through role-based security models and information assurance attributes. For more detailed discussions and additional uses, see Appendix D: Supplemental Information on Uses.

The intended use of the VA EA drives both the content and the technical capabilities used to store, manage, and visualize the content. As Table 4-2 shows, VA understands that 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 uses prioritized by VA leadership in coordination with the Administration and Staff Office stakeholders. 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,⁹ 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/Goals Supported by Use of VA EA) and make informed decisions in support of cost and budget planning, change management, operations management, performance management, risk management, and workforce management. Table 4-2 provides details.

Table 4-2: Potential VA EA Business Reports

Report Type	Description
Cost/Budget Analysis	Aligns financial data with systems information to track expenditures and prioritize budget allocations.
Change Management Analysis	Visualized line-of-sight from requirements through solutions supports impact analyses of business and IT decisions.
Operations Management Analysis	Linkage of Enterprise Configuration Management Database to system inventory and financial data contributes to operational oversight.
Performance Analysis	Integration of performance measures and linkage to processes and systems enables identification of problem areas that may warrant focus and investment.
Workforce Management Analysis	Definition of target business and IT environments will yield requirements for the target workforce and contribute to Human Capital Planning.

4.8 Audit

VA EA takes a holistic view of strategic IT and business planning and IT operations, and bases its approach to EA audits on the Government Accountability Office (GAO) Enterprise Architecture Management Maturity Framework (EAMMF), the OMB Federal Enterprise Architecture, as well as 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 4-3.

⁹ Microsoft and SharePoint are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Table 4-3: 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 recent 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. The OEA will focus on achieving a set of EAMMF core elements (CE) 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.

The OEA 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. The OEA 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 strategic goals and objectives by enabling the effective communication and management of people, technology, and processes. 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.

The development and use of a strategic information asset base such as the VA EA is integral to VA's ability to both capture and make available the information required to support its integrated objectives. VA recognizes that for the VA EA to realize its vision, it must have a strategy for improvement across the CAF's eight basic elements for evolving an EA program that ranges from governance to tools to the ways in which the content is reported and used, and program success measured.

Intended uses of the VA EA are to guide the identification and definition of information captured as VA EA content. 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 systems information, form an invaluable resource across the strategic, business, data and information, systems and applications, networks and infrastructure, and security perspectives to inform VA decision-making for strategic planning, investment management, and solution design within the Department of Veteran Affairs.

Appendix A Acronyms and Abbreviations

Acronym	Definition
ADM	Architecture Development Methodology
ASG	Architecture Style Guide
BAWG	Business Architecture Working Group
BRM	Business Reference Model
CAF	Common Approach to Federal Enterprise Architecture
CE	Core Element
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIO	Chief Information Officer
CPIC	Capital Planning and Investment Control
DAR	Data Architecture Repository
DGC	Data Governance Council
E2E	End-to-End
EA	Enterprise Architecture
EAMMF	Enterprise Architecture Management Maturity Framework
EE	Enterprise Elements
FY	Fiscal Year
GAO	Government Accountability Office
HIPAA	Health Insurance Portability and Accountability Act of 1996
HISP	Health Information Service Provider
IS	Information System[s]
IT	Information Technology
NCA	National Cemetery Administration
OEA	Office of Enterprise Architecture
OIT, OI&T	Office of Information and Technology
OMB	Office of Management and Budget
PIV	Personal Identity Verification
SA	System Architect (IBM/Unicom)
SMART	Specific, Measurable, Achievable, Results-oriented, and Time-limited
TAWG	Technical Architecture Working Group
TRM	Technical Reference Manual
U.S.C.	U.S. Code
VA	Department of Veterans Affairs
VADI	VA Data Inventory
VASI	VA Systems Inventory
VBA	Veterans Benefits Administration
VEAMS	VA EA Management System
VEAR	VA Enterprise Architecture Repository
VHA	Veterans Health Administration
VIP	Veteran-focused Integration Process

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 (CEQ) 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
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

Term	Definition	Source
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," May 2, 2012, https://www.whitehouse.gov/omb/e-gov/FEA ; <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"
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
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

Term	Definition	Source
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
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; 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

Term	Definition	Source
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
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

Term	Definition	Source
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
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
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
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
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
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	A working combination of hardware, software, and data communications devices.	VA Directive 6508, 10/15/2014
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

Term	Definition	Source
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://www.whitehouse.gov/omb/e-gov/FEA>.
- “Department of Veterans Affairs FY2014-2020 VA Strategic Plan.” Department of Veterans Affairs. February 2016. <http://www.va.gov/performance/>.
- “VA Directive 6051, Department of Veterans Affairs (VA) Enterprise Architecture (EA),” Department of Veterans Affairs. April 8, 2016. http://www1.va.gov/vapubs/search_action.cfm?dType=1.
- VA EA Architecture Development Methodology (ADM). April 18, 2016. http://vaww.ea.oit.va.gov/wp-content/uploads/2016/04S/1003AE_VA_EA_Architecture_Development_Methodology_20160418.pdf.
- VA EA Architecture Style Guide (ASG). April 28, 2016. http://vaww.ea.oit.va.gov/wp-content/uploads/2016/04/1003AF_VA_EA_Architecture_Style_Guide_20160428.pdf.
- VA EA Configuration Management Plan. September 30, 2015. <https://vaww.oit.esp.va.gov/sites/OneVaEa/Deliverables/Forms/AllItems.aspx?RootFolder=%2Fsites%2FOneVaEa%2FDeliverables%2FArchitecture%20Deliverables%2FMethodology%20Deliverables%2F0003AB%20VA%20EA%20Configuration%20Management%20Plan>.
- VA EA Program Communications Plan (Draft). August 12, 2016.
- VA EA Requirements Management Plan. September 21, 2015. <https://vaww.oit.esp.va.gov/sites/OneVaEa/Deliverables/Forms/AllItems.aspx?RootFolder=%2Fsites%2FOneVaEa%2FDeliverables%2FArchitecture%20Deliverables%2FMethodology%20Deliverables%2F0003AA%20EA%20Requirements%20Plan>.

Appendix D Supplemental Information on Uses

D1 Inform Portfolio/Investment Management

The VA EA will guide and inform investment decisions to achieve improved mission and business performance. The VA EA will be a knowledge base that is used to capture the data and information that represents the existing VA assets, resources, and operational investments. The VA EA knowledge base will support follow-on analysis and decision-making. From an investment management perspective, four areas will be supported by the VA EA:

1. The VA EA can be used to describe and provide a knowledge context in which proposed initiative requirements can be captured, further elaborated on, evaluated, and validated with respect to their “fit” and alignment with VA requirements and strategic objectives.
2. Analysis of baseline and target VA EA products can evaluate the adequacy of the baseline (“As-Is”) systems and processes to provide the capabilities described in the target (“To-Be”) EA. Similar analysis can also be performed relative to funded and unfunded initiatives for providing the desired capabilities. The resulting recommendations (i.e., terminations, new initiatives, redirection for current initiatives—including both material and non-material solutions) provide a well-described, justifiable, and defensible business case for investment. Investments may span the entire scope of the enterprise (e.g., hardware, software, research and development, business processes, and facilities).
3. For those initiatives that are funded to address capability gaps, the VA EA is an information and data source that can be used to inform decision-makers of the details of the acquisition, the dependencies between solutions, and the anticipated future states of the enterprise. A well-structured EA will enable analysis to help eliminate duplicative efforts and support sound budget execution.
4. Through the relationship established between systems and functions, an analysis can be performed to identify potential redundancies and duplication within the systems. This simple analysis can save time by enabling analysts to focus on a particular function that appears to be duplicative in many systems. By the same token, the “system to function relationship” can reveal functions that no current system is performing. In an environment of limited resources for acquisition, both types of information are important to investment managers.

Success in these areas is dependent on establishing a culture that views acquisition, management, and retirement of investments in terms of strategic enterprise value, capability performance, gap severity, risk, and financial efficiency. Through federated efforts across the enterprise, VA will become an organization that optimizes the value of investments by managing their contributions as part of capability-based portfolios.

D2 Inform Project Management

VIP is a performance-based project management discipline that is mandated by the VA CIO for all product delivery projects. All VA IT projects that introduce new functionality or enhance existing capabilities within current systems in VA are considered to be delivering products. All development projects and those infrastructure projects that provide new capability fall under the management

discipline of VIP. The VA EA can support the VIP by providing valuable information that can be used as input to the Project Charter. The VA EA can also serve as a source for requirements to be documented within the Business Requirements Document. After the appropriate systems and services information have been integrated and linked to the BRM, the VA EA can be used to support the Program/Project planning by providing information that can be used to develop the Acquisition Strategy Plan. When fully operational, the VA EA environment will make the information produced in support of the VIP available and accessible to VA stakeholders.

D3 Support Strategic Planning

The strategic planning process at VA follows standard best practices in government and industry, and encompasses activities such as defining the mission and objectives of the Department, performing an internal and external environmental analysis, defining strategies and goals, implementing the strategy, and monitoring performance of goals and objectives. VA EA can provide significant support in several stages of the strategic planning process, thus becoming a valuable tool used to help realize the goals and strategic objectives outlined in VA strategic directives such as the Quadrennial Strategic Planning Process. Stages of the strategic planning process are described as follows:

- Environmental analysis, which may include the following techniques:
 - Internal analysis of the enterprise
 - Political, Economic, Social, and Technological [factors] Analysis. Before beginning the strategic planning process, it is very important that an organization consider its environment.
 - Strengths, Weaknesses, Opportunities, and Threats analysis. The main objective of this tool is to analyze internal strategic factors, strengths, and weaknesses attributed to the organization, and external factors beyond control of the organization such as opportunities and threats.
 - Balanced Scorecards, which create a systematic framework for strategic planning.
 - Scenario planning, which analyzes the most salient use cases for the organization.
- Strategy definition. Based on the previous activities, the enterprise matches strengths to opportunities and addresses its weaknesses and external threats to develop a strategic plan. This plan may have additional detail added by different levels within the enterprise.
- Strategy Implementation. The selected strategy is implemented by means of programs, projects, budgets, processes, and procedures. To support strategy implementation, VA EA supports the development of enterprise, segment, and solution architectures that contribute to operationalizing the strategy. This is achieved by providing a common taxonomy to describe the business functions being implemented for comparative analysis to avoid duplication among programs and initiatives.
- Evaluation and monitoring. The successful implementation of the strategy can only be accomplished by monitoring progress against goals and making adjustments and course corrections when necessary. The VA EA can contribute to the development of performance metrics and key performance indicators, definition of target values, and capture of performance measurements.

D4 Inform Solution Design

As the VA EA products materialize and are adequately defined, stakeholders can leverage them to measure, analyze, and conduct capability and integration analyses. These activities and associated informational products will give VA the appropriate level of programmatic detail to create clarity for decision-makers and inherently reduce risk. Capability evolution and risk assessments will allow VA to determine whether a specific capability provides a measurable improvement, understand whether the benefits of an iterative development process can overcome the costs associated with deployment of new capabilities and systems, and teach new operational concepts. Capability specifications and partnerships with stakeholders will serve as key sources for the initial capability evaluations and risk assessments. Concurrently, these capability and risk assessments fuel architecture-based interoperability and integration analysis, experimentation, and capability evolution management analysis.

D5 Inform IT Acquisition

The VA EA is already related to VA's TRM, which contains the technical standards to which systems must adhere. The TRM can also be used as a guidepost for vendors doing business with VA, providing them with the standards approved for use.

The VA Chief Enterprise Architect will work with the appropriate stakeholders to define and document a target business and systems environment as part of the VA EA. In doing so, the VA EA can help the Department further leverage its EA to procure better solutions and services through:

- Support for VA's IT Portfolio Management processes (as described in Section 4.6: Use)
- Development of a Transition Roadmap to drive the alignment of acquisitions to approved goals and timelines
- Use of information about the target architecture to provide input to analyses of alternatives as well as acquisition plans
- Communication of VA's enterprise architecture objectives to both internal and external stakeholders, including vendors

As the VA EA matures, the level of collaboration and coordination with the IT Acquisition function is expected to increase. The end goal is to eventually have enterprise architects and acquisition officers jointly refine the architecture information to be used as input for acquisitions.

Appendix E Transformational, Regulatory, Policy, and Directive Drivers

Table E-1: Architecture Drivers lists the different drivers of enterprise architecture within VA. The drivers are grouped into three categories: transformational needs, legislative mandates, and policies and directives.

Table E-1: Architecture Drivers

Driver Type	Examples
<p>Transformational Needs</p> <p>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 FY2014–2020 Strategic Plan • VA’s IT Strategic Plan FY2010–2014 • Veterans Health Administration Health Information Strategic Plan (HISP), Version 1.1, July 2011 • VBA Under Secretary for Benefits Strategic Plan: 2009–2014 • NCA FY2011–FY2015 Strategic Plan <p>Some of the plans listed above (e.g., HISP) will be updated in the near future. The VA EA will respond accordingly to these updates.</p>
<p>Legislative Mandates</p> <p>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)</p> <p>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 E-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 E-2: Business Need Questions Mapped to Strategic Drivers and VA EA Goals

Architecture Drivers	VA EA Goals			
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?