



---

Department of Veterans Affairs  
FY 2013-2015 Enterprise Roadmap  
Addendum

---

Office of Information and Technology

May 29, 2015

[Page Intentionally Left Blank]

# Table of Contents

<b>Change Summary</b> .....	ii
<b>Executive Summary</b> .....	iii
<b>1. Introduction</b> .....	1
1.1 VA’s Strategic Plan .....	2
1.2 Veterans Access, Choice, and Accountability Act .....	4
1.3 Planning and Programming Requirements .....	4
<b>2. VA Enterprise Transformation</b> .....	5
2.1 MyVA Guiding Principles .....	5
2.2 MyVA Implementation .....	6
2.2.1 Veteran Experience (VE) .....	6
2.2.2 Employee Experience .....	7
2.2.3 Support Services Excellence (SSE) .....	7
2.2.4 Performance Improvements .....	8
2.2.5 Strategic Partnerships .....	9
2.2.6 Institutionalizing MyVA Vision and Principles .....	9
<b>3. IT Infrastructure Service Delivery</b> .....	11
3.1 IT Infrastructure Delivery Current Environment .....	11
3.2 IT Infrastructure Delivery Key Initiatives .....	12
<b>4. VA Enterprise Architecture (VA EA)</b> .....	19
4.1 VA EA Content and Uses .....	20
4.1.1 Strategic Architecture Domain .....	21
4.1.2 Business Architecture Domain .....	21
4.1.3 Data Architecture Domain .....	22
4.1.4 Systems Architecture Domain .....	24
4.1.5 Infrastructure Architecture Domain .....	24
4.1.6 Security Architecture Domain .....	25
4.2 VA EA Maturity .....	25
4.3 EA Program Elements .....	28
4.3.1 Governance .....	28
4.3.2 Principles .....	29
4.3.3 Method .....	29
4.3.4 Tools .....	30
4.3.5 Standards .....	31
4.3.6 Use .....	31
4.3.7 Reporting (Content) .....	31
4.3.8 Audit .....	31
<b>Appendix A: Definitions and Acronyms</b> .....	35
<b>Appendix B. References and Endnotes</b> .....	37

# Change Summary

This Addendum is to be used in combination with the previously published VA FY 2013-2015 Enterprise Roadmap ([http://www.ea.oit.va.gov/EAOIT/docs/VA\\_Enterprise\\_Roadmap\\_2\\_FINAL\\_20140409.pdf](http://www.ea.oit.va.gov/EAOIT/docs/VA_Enterprise_Roadmap_2_FINAL_20140409.pdf)). This addendum augments and updates Chapters: **One** (Introduction and VA Strategic Goals and Objectives), **Two** (Enterprise-wide Initiatives), and replaces Chapters **Five** (IT Infrastructure) and **Six** (VA Enterprise Architecture).

<b>FY2013-2015 Enterprise Roadmap</b>	<b>Addendum</b>	<b>Change Summary</b>
<b>Executive Summary</b>	<b>Executive Summary</b>	The Addendum Executive Summary augments and updates the previous summary by describing the need to implement the MyVA initiative. It also explains the rationale for the Addendum versus publishing a full Enterprise Roadmap update.
<b>Introduction</b>	<b>Introduction</b>	The Addendum augments the previous Introduction by addressing recent priority changes that are having an enterprise-wide impact; it highlights the role of technology in enabling many of the desired outcomes.
<b>Chapter 1 - VA Strategic Goals and Objectives;</b>	<b>Chapter 1 - VA Strategic Goals and Objectives and Veterans Choice and Accountability Act (VACAA)</b>	To provide context, the Addendum reiterates content from Chapter 1 of the Enterprise Roadmap – primarily the VA’s strategic goals, objectives and APGs, which have not changed. The Addendum reiterates the CIO’s priorities but moves them to Chapter 3. The Addendum identifies new statute, specifically the Veterans Access, Choice and Accountability Act (VACAA), which is an important strategic driver that will have a major impact on health care delivery-related programs. However, those impacts are not addressed in this Addendum but will be explored in the next full Enterprise Roadmap update.
<b>Chapter 2 - Enterprise-wide Initiatives</b>	<b>Chapter 2 – VA Enterprise Transformation</b>	The Roadmap identifies enterprise-wide initiatives that still exist. While several of them (i.e. Veterans Relationship Management (VRM) and Customer Data Integration (CDI)) are now incorporated into the MyVA program, their purpose and function essentially remain the same. Some of Enterprise IT Infrastructure topics originally addressed in Chapter 2 of the Enterprise Roadmap are now addressed in Chapter 3 of the Addendum (i.e. Enterprise Shared Services/Integrated Access Management, and Mobility )
<b>Chapter 3 - Health Care Delivery</b>	--	Not addressed in the Addendum
<b>Chapter 4 - Benefits Delivery</b>	--	Not addressed in the Addendum
<b>Chapter 5 - IT Infrastructure</b>	<b>Chapter 3 – IT Infrastructure Service Delivery</b>	Addendum Chapter 3 replaces Chapter 5 of the Enterprise Roadmap. It includes a description of the Agency’s current and future IT environments.
<b>Chapter 6 - The OneVA EA Program</b>	<b>Chapter 4 – VA Enterprise Architecture</b>	Addendum Chapter 4 replaces Chapter 6 in the previous Roadmap. It describes the current status of VA’s Enterprise Architecture (VA EA), its content structure, key artifacts, maturity, and near term development plans.

# Executive Summary

Recent events have strengthened and renewed the Department of Veterans Affairs' (VA) resolve to deliver world-class services to Veterans. To accelerate change and unify the workforce around a single vision, VA is implementing a new enterprise-wide transformation effort called MyVA. This initiative will drive and facilitate near-term and long-term enterprise-wide improvements that provide a way forward to regain the trust of our Veterans and the American people.

MyVA initiative requires VA employees to continually evaluate their services through the lens of our Veterans and modify underlying VA structures, processes and systems to increase efficiency and improve service delivery that puts Veterans in control of how, when, and where they wish to be served. Currently the MyVA initiative is being coordinated by the MyVA Task Force to focus on near-term high-impact changes that make it simpler for Veterans and their families to access and use VA services and ensure the best outcomes for them. As the long-term requirements and inter-dependencies become fully understood and defined, Task Force resources and responsibilities will be realigned and transitioned to other permanent entities within VA to implement and institutionalize MyVA vision and principles.

This Addendum updates the VA FY2013-2015 Enterprise Roadmap ([http://www.ea.oit.va.gov/EAOIT/docs/VA\\_Enterprise\\_Roadmap\\_2\\_FINAL\\_20140409.pdf](http://www.ea.oit.va.gov/EAOIT/docs/VA_Enterprise_Roadmap_2_FINAL_20140409.pdf)). It focuses primarily on "MyVA", which will be the largest Department-wide transformation in VA's history and will have implications across the entire enterprise at all levels. This Addendum provides both a timely update to the Office of Management and Budget (OMB) and a reference for the Agency's employees who are in the process of reevaluating, reassessing and refocusing their plans and programs from the perspective of our veterans. Since full effects of MyVA are still being assessed, it is premature to provide a full revision to the Agency's previous roadmap.

**Chapter One** of this Addendum restates the Agency's FY2014-2020 Strategic Plan objectives and Agency Priority Goals (APGs), which have not changed and remain as valid as before. **Chapter Two** describes the MyVA Task Force along with its five associated workstreams and the ongoing activities of the Administrations and Staff Offices. The MyVA Initiative is made up of five workstreams: Veterans Experience, Employee Experience, Support Services Excellence, Performance Improvement, and Strategic Partnerships. **Chapter Three** identifies current information and technology challenges, key information technology infrastructure initiatives and describes the future state vision that will support and enable MyVA objectives. **Chapter Four** describes the content, uses, maturity and Program Elements of the VA Enterprise Architecture (VA EA).

This Addendum does not identify changes or updates to Veterans Health Administration, Veterans Benefits Administration and National Cemetery Administration programs. They are being evaluated to include MyVA and Veterans Choice and Accountability Act requirements. Additionally, those organizations' programs will be updated or modified to address new requirements from the FY2018-2020 Integrated Planning and Programming Guidance and new APGs, which are expected to be published in August and October 2015, respectively. Those requirements and programmatic impacts when known will be incorporated in the next full VA Enterprise Roadmap update.

This document is produced and published by the Office of Enterprise Architecture in collaboration with the Office of Technology Strategies (both are within the Office of Information and Technology (OI&T)) and the Office of Policy and MyVA Program Office. Questions or comments may be submitted to: <http://vaww.ea.oit.va.gov/contact/>.

[Page Intentionally Left Blank]

## 1. Introduction

The Department of Veterans Affairs (VA) is committed to its mission to serve and honor America's Veterans and their families. Its core values are: Integrity, Commitment, Advocacy, Respect and Excellence (I CARE). VA delivers services and benefits to help Veterans over the continuum of their lifetimes — from the time they take their oath and enter military service, throughout their post-military lives, to their final tribute when their service is memorialized.



Every Veteran deserves to have a seamless, integrated, and responsive VA customer service experience every time.<sup>1</sup> Recent events have strengthened and renewed VA's resolve to deliver world-class services to Veterans. To accelerate change and unify the workforce around a single vision, VA is implementing a new enterprise-wide transformation initiative called MyVA. This initiative will drive both near-term and long-term enterprise-wide improvements that will provide a way forward to regain the trust of our Veterans and the American people.

MyVA requires VA employees to reevaluate their services through the lens of our Veterans and modify underlying VA structures, processes and systems to increase efficiency and improve service delivery that puts Veterans in control of how, when and where they wish to be served.

MyVA was borne out of months of outreach. Agency leaders connected with VA customers, employees, Veteran Service Organizations (VSOs), Congress and other key stakeholders to understand their perspectives and gain greater insight into their service needs. VA leadership heard many inspiring stories of heroic proportions. It also learned that customers' experiences varied across districts and service providers, and VA employees were not always empowered with the resources they needed to deliver quality customer service.

To jump start the change process, a MyVA Task Force was established in late 2014. It was chartered to focus on near-term high-impact changes that make it easier for Veterans and their families to access and use VA services and ensure the best outcomes for them. The Task Force was chartered to "provide analysis of alternatives and recommendations for reorganizing specified VA structures and processes, while providing initial planning and capability building for select functions and offices with the ultimate goal to orient all VA operations to the needs and expectations of our Veterans and beneficiaries." The Task Force is relying on available resources, while the longer-term programmatic requirements and impacts on business operations and infrastructure are still being assessed. Once the long-term requirements and interdependencies are understood and defined, Task Force resources and responsibilities will be realigned and transitioned to other more permanent entities within VA to implement and institutionalize MyVA concepts.

Technology has always played an important role in supporting the delivery of Veteran services and helping VA employees do their jobs better. Innovative use of technology can improve Veterans' experiences by providing new choices regarding when, where and how they schedule, access, and then receive services and benefits. Technology can also accelerate delivery of service outcomes and provide virtual delivery alternatives that are more convenient and more timely -- particularly for Veterans who live in remote locations or have limited mobility. Technology can also standardize processes, facilitate information sharing, improve integration, automate manual processes, reduce operational and physical infrastructure costs, empower employees, and increase job satisfaction.

VA's current IT environment is characterized by infrastructure diversity with an infusion of modern and legacy technologies. VA faces many hurdles to migrate to a more optimal information technology (IT) environment. Although IT development and delivery functions and services are centralized in the Agency, there are few enterprise shared services to reduce costs and improve standardization. There is a critical need to share and exchange information among VA service providers, commercial providers, VSOs, educational institutions, the Department of Defense (DoD), and other stakeholders, but there is limited data standardization and integration between systems. Security is a growing concern due to the significant amounts of medical and personally identifiable information that must be stored and processed. Meanwhile, the Agency's IT sustainment costs continue to rise and crowd out resources for new development.

**Value is not about IT,**  
but rather the outcomes  
desired by the people that  
IT supports

Source: Gartner, Business  
Performance is the Value of IT, CIO  
Desk Reference Chapter 14, Sep 30,  
2012

IT is not an end to itself. Its role is to support agency missions and programs and it cannot be planned or managed independently from agency missions, priorities, and program needs.<sup>2</sup> The value IT brings to VA is about the outcomes it enables – outcomes that are defined by VA's customers and service providers.<sup>3</sup> However, IT resources are not unlimited. VA has reached a point where there is a critical need for the business community to come together with VA's IT organization to collaborate on long range plans that rationalize the legacy environment and implement more modern technologies that are more effective, integrated, scalable and less costly to maintain.

This Addendum updates the VA FY2013-2015 Enterprise Roadmap. Its focus is primarily on "MyVA", which puts our Veterans in control of how, when, and where they wish to be served and measures success by the ultimate outcome for Veterans. MyVA has implications across the entire enterprise at all levels. Full effects are still being assessed and, for that reason, it is premature to provide a full revision to the Agency's previous roadmap. This Addendum provides both a timely update to the Office of Management and Budget (OMB) and a reference to the Agency and its employees who are in the process of reevaluating, reassessing and refocusing their plans and programs from the perspective of our Veterans.

## 1.1 VA's Strategic Plan

As long as the United States has had Veterans, it has felt a responsibility to provide for them. VA's mission is to fulfill President Lincoln's promise "...to care for him who shall have borne the battle, and for his widow and his orphan" and to serve and honor the men and women who are America's Veterans.

For the last 200 plus years, Veterans benefits and services were administered by separate organizations across various Departments, Bureaus, Programs, and Administrations. Eventually these functions were consolidated into a single organization, but VA is still haunted by its fragmented past, which is creating different Veteran perceptions and experiences of service quality across different geographic districts.

Every Veteran is unique, has individual needs and is entitled to personalized services. In today's connected, information-rich environment, satisfying Veteran needs is possible but not without changing many of VA's underlying communication channels, processes, systems, and data — along with access and delivery mechanisms. Until these objectives are achieved, Veterans will not see one VA focused on their needs, rather they will see many VAs.

Two years ago, VA established an aggressive agenda to transform itself into a modern 21<sup>st</sup> century organization that effectively and efficiently cares for Veterans and eligible beneficiaries and their families. Recently the Agency reviewed its long-range goals and objectives in its FY2014-2020 VA Strategic Plan to determine if they were still valid. After a close examination, senior leadership determined that they were and recommitted to them, as well as the Agency's I CARE core values. VA's strategic goals and objectives are listed in **Table 1, FY2014 - 2020 VA Strategic Plan Goals and Objectives**:

**Table 1: FY2014 - 2020 VA Strategic Plan Goals and Objectives**

Strategic Goals	Objectives	
<b>Strategic Goal 1:</b> Empower Veterans to Improve Their Well-being	1.1	Improve Veteran wellness and economic security.
	1.2	Increase customer satisfaction through improvements in benefits and services delivery, policies, procedures, and interfaces.
<b>Strategic Goal 2:</b> Enhance and Develop Trusted Partnerships	2.1	Enhance VA's partnership with DoD.
	2.2	Enhance VA's partnerships with Federal, State, Private Sector, Academic Affiliates, Veteran Service Organizations and Non-Profit organizations.
	2.3	Amplify awareness of services and benefits available to Veterans through improved communications and outreach.
<b>Strategic Goal 3:</b> Manage and Improve VA Operations and Deliver Seamless and Integrated Support	3.1	Make VA a place people want to work.
	3.2	Evolve VA IT capabilities to meet emerging customer service / empowerment expectations of both VA customers and employees.
	3.3	Build a flexible and scalable infrastructure through improved organizational design and enhanced capital planning.
	3.4	Enhance productivity and improve efficiency of the provision of Veteran Benefits and Services.
	3.5	Ensure preparedness to provide services and protect people and assets continuously and in time of crisis.

Additionally, the VA Strategic Plan identifies three Agency Priority Goals (APGs) that focus on near term outcomes related to: improving Veteran access to benefits, eliminating the disability claims backlog and eliminating Veterans homelessness. Current APGs are described in **Table 2, FY2014 - 2015 Agency Priority Goals** but will be replaced with new APGs later this year:

**Table 2: FY2014 - 2015 Agency Priority Goals**

Agency Priority Goals	
<b>Agency Priority Goal 1:</b> Improve Veteran Access to VA Benefits and Services	Improve client and stakeholder awareness of, and access to, VA benefits and health care services. By end of FY15, maximize the use of virtual service options to increase the number of claims received electronically.
<b>Agency Priority Goal 2:</b> Eliminate the Disability Claims Backlog	Improve accuracy and reduce the time it takes to complete disability benefit claims. Eliminate the disability claims backlog and process all claims within 125 days with 98% accuracy in FY15.
<b>Agency Priority Goal 3:</b> Eliminate Veteran Homelessness	In partnership with the Department of Housing and Urban Development, reduce the number of unsheltered homeless Veterans.

## **1.2 Veterans Access, Choice, and Accountability Act**

On August 7, 2014, the President and Congress enacted the Veterans Access, Choice, and Accountability Act of 2014 (VACAA), which directed the establishment of the Veterans Choice Program to improve Veteran access to healthcare.<sup>4</sup> The bill authorized the issuance of a “Veterans choice card” for certain Veterans that allowed them to receive health services outside VA’s system if they could not get an appointment within the Department’s wait time goals.<sup>5</sup> To comply with this law and improve the current implementation of VACAA, VA will need to make systemic changes to its processes and technology, which will have programmatic impacts well into the future. Those impacts will be identified in the next Enterprise Roadmap update.

## **1.3 Planning and Programming Requirements**

MyVA, VACAA, and the Department’s strategic goals and APGs comprise VA’s enterprise strategic agenda, which must be planned, programmed, budgeted and executed to achieve envisioned outcomes. Every year, program plans need to be reviewed and re-evaluated based on emerging needs. VA performs an annual environmental scan to identify new trends that provide opportunities and challenges that could affect VA’s mission and ability to achieve its strategic agenda. Insights gained from this assessment identify new requirements that are incorporated into integrated planning and programming guidance (IPPG). The next IPPG, expected to be published in the fourth quarter of FY2015, will inform FY2018-2022 multi-year programming decisions and add new requirements related to MyVA, VACAA and this Addendum.

## 2. VA Enterprise Transformation

In FY2014, the Secretary of Veterans Affairs (SecVA) announced plans to address the sometimes fragmented and disjointed services VA provides to Veterans by establishing the vision for a new initiative called MyVA that:

- 1) *Puts Veterans in control of how, when and where they wish to be served,*
- 2) *Measures success by the ultimate outcomes for Veterans, and*
- 3) *Integrates across programs and organizations to optimize productivity and efficiency*

**MyVA will drive enterprise-wide cultural and systemic changes and will, ultimately, be the largest Department-wide transformation in VA history.**

Source: Road to Veterans Day Action Review, Nov 6, 2014

MyVA will drive enterprise-wide cultural and systemic changes and will ultimately be the largest Department-wide transformation in VA history.<sup>6</sup> MyVA’s mission is to *modernize VA’s culture, processes and capabilities in order to put the needs, expectations and interests of Veterans and beneficiaries first* by:

- **Empowering employees** to deliver excellent customer service to improve the Veteran Experience
- **Improving or eliminating processes** that impede great customer service
- **Rethinking our internal structures and processes** to become more Veteran-centric and productive

In the near term, the MyVA Task Force, in partnership with the ongoing efforts of the Administrations and Staff Offices, is executing this mission and vision. The Task Force is focusing on immediate improvements our Veterans want and need. However, MyVA’s vision and principles are enduring. The initial efforts of the Task Force will be incorporated into future programs and institutionalized to rebuild trust with the American people and demonstrate VA is a responsible steward of taxpayer resources by eliminating or improving any process that makes it difficult for [VA employees] to put Veterans first.”<sup>7</sup>

### 2.1 MyVA Guiding Principles

MyVA is based on five guiding principles that closely align to VA’s Strategic goals and objectives per **Table 3, VA Strategic Goals/Objectives aligned to MyVA Guiding Principles**. Technology will play a major role in accomplishing these objectives and envisioned MyVA outcomes.

Table 3: VA Strategic Goals/Objectives aligned to MyVA Guiding Principles

VA Strategic Objective	MyVA Guiding Principles
<b>VA Strategic Objective 1.2:</b> Increase customer satisfaction through improvements in benefits and services delivery, policies, procedures, and interfaces.	<b>Guiding Principle 1:</b> Consider change through the lens of the Veteran to enhance effectiveness and efficiency from his or her perspective.
<b>VA Strategic Objective 2.2:</b> Enhance VA’s partnerships with Federal, State, Private Sector, Academic Affiliates, Veteran Service Organizations and Non-Profit organizations.	<b>Guiding Principle 2:</b> Optimize VA’s unique competencies in health care, benefits delivery, and memorial affairs, while enhancing external partnerships to support service delivery where VA is less well postured to directly deliver service.
<b>VA Strategic Objective 3.3:</b> Build a flexible and scalable infrastructure through improved organizational design and enhanced capital planning.	<p><b>Guiding Principle 3:</b> Integrate operations to improve service delivery and realize efficiencies.</p> <p><b>Guiding Principle 4:</b> Recognize the central role of VA employees in identifying challenges, crafting solutions, and ultimately delivering world-class services to Veterans.</p> <p><b>Guiding Principle 5:</b> Focus on the future in terms of Veteran needs and demographics.</p>

MyVA will ensure that Veterans have a clear understanding of VA and where to go for what they need within any VA facility. MyVA will also ensure that employees are empowered with the authority, knowledge, and tools they need to solve problems and take action; and that the products and services delivered to Veterans are integrated within the organization. **Figure 1, The MyVA Vision** illustrates the first principle, which requires VA to look at its services and practices through the lens of its customers and to see them from their perspectives.

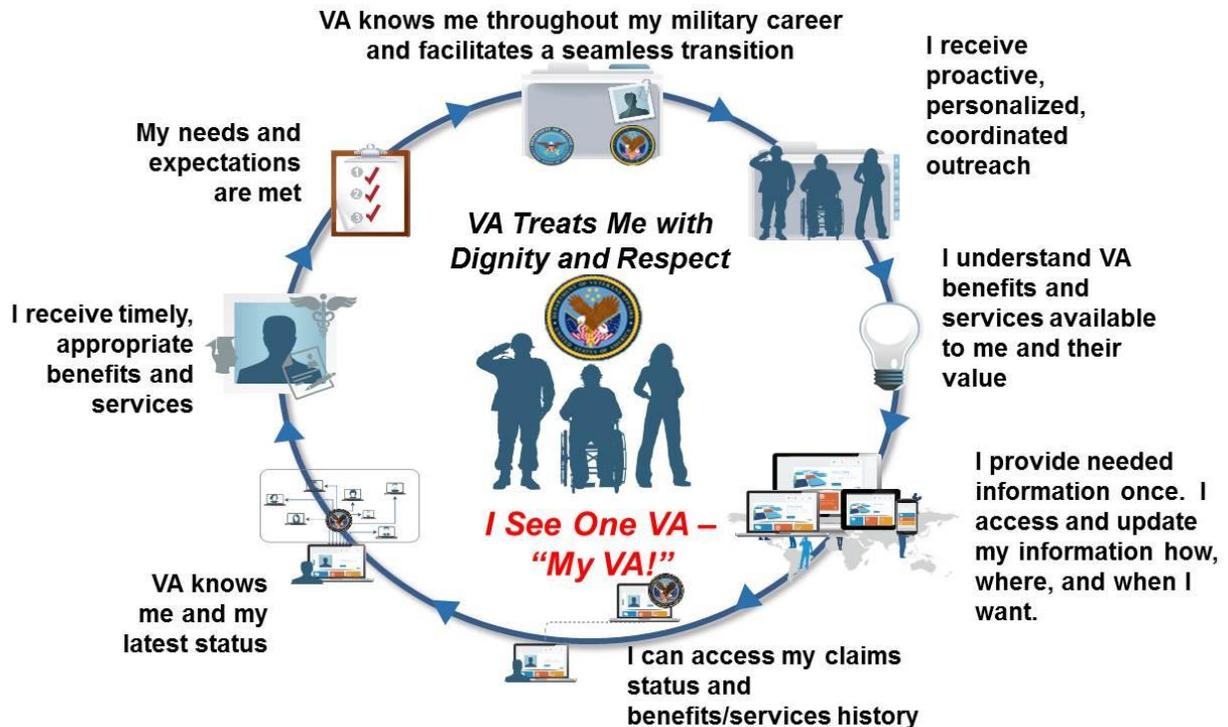


Figure 1: The MyVA Vision

## 2.2 MyVA Implementation

The MyVA Task Force has established five major focus areas, referred to as “workstreams,” that address key elements of the MyVA vision and enable VA’s strategic agenda. Each MyVA Task Force workstream is described below:

### 2.2.1 Veteran Experience (VE)



VA helps Veterans and their families transition to the next phase and throughout their lives. VA’s customers want to feel emotionally and physically safe and be served by a community of people that understands and addresses their unique circumstances and experiences. They want a simple and unified means to access and intuitively navigate the benefits and services they have earned.

The VE provides enterprise-wide management oversight of VA’s customer engagement capabilities to ensure a single face to Veterans and provide a consistent and satisfying experience. Today, Veterans access their benefits and services via nearly a thousand different 1-800 phone numbers and more than a thousand websites. The quality of services they receive can vary from district to district and across service providers.

VE incorporates the program objectives of the former Veterans Relationship Management (VRM) program, which is a multi-channel customer relationship management capability. When the VRM program is fully

implemented, it will improve the speed, accuracy, and efficiency in which information is exchanged between Veterans and VA via any communications method (phone, web, email, and social media).

VE will provide a new unified experience to address all Veterans' digital needs. In the future, customers will be able to access VA services via a single 1-800 number. Staff will be trained and empowered to deliver consistent and quality services; and customer satisfaction measures will be standardized.

To execute its strategy, the VE workstream team is organized around the following functions:

- **Insight and Design.** Understanding customers' needs and applying those insights to improve customer interfaces with people, technology and processes. This will include oversight and integration of technology systems that provide enterprise-wide customer relationship management capabilities previously associated with VRM.
- **Measurement and Performance Management.** Understanding and measuring "value" from our customers' perspective. Call center and other customer service measures will be standardized and analyzed to understand improvements needed.
- **Enterprise Access and Integration.** Providing the processes and technology needed for seamless customer experience to include the management of Common Customer Data.
- **Navigation and Advocacy.** Managing improvements to customers and stakeholder touch points to make them easier to understand and access. For example, VA will implement a single integrated website access point that leverages Identity and Access Management (IAM) as the standard access and authentication service.
- **Operations and Governance.** Enforcing operational improvements informed by the customers' point of view, such as: establishment of a cross-VA knowledge-based system; modernization of voice telephony; and expansion of customer self-service capabilities with multiple communication channels.

A key component of the Veteran Experience workstream is the implementation of the "MyVA Communities". The MyVA Communities are a network of local boards that the VE workstream team will help stand up across the country. These communities will provide a forum to **proactively** and **directly** address Veteran issues and improve the Veteran experience at the local and national levels. Members include: local and national Veteran advocacy groups; local VA officials; elected officials; local government, businesses, universities, faith-based organizations, health and social welfare groups.

### 2.2.2 Employee Experience



The Employee Experience workstream team is tasked to improve the employee experience by building a collaborative, inclusive and results-oriented culture that inspires trust and drives cultural change aligned to the MyVA vision and principles. It seeks to strengthen employee commitment to I CARE values, hold employees accountable and always put Veterans first. The

key outcomes this workstream envisions include:

- The Agency's culture is responsible, performance-oriented, and customer-satisfaction focused.
- VA attracts and retains high performing candidates.
- Employees are capable, engaged in improving Agency outcomes, have the right skills and tools, and committed to the Agency's customers and shareholders.
- VA provides clear career paths and continuous learning opportunities for employees to meet their full potential.

### 2.2.3 Support Services Excellence (SSE)



The objective of the SSE workstream is to optimize the Agency's internal core support functions (e.g. human resources, information management, information technology, finance,

acquisition, procurement and logistics) by identifying opportunities to realign internal business processes into a shared services model.

The SSE workstream team is responsible for:

- Balancing the consistency, robustness, and efficiencies of centralized capabilities with the responsiveness and agility exhibited by decentralized functions;
- Understanding where within the organization different types of decisions should be made to optimize service delivery, including functions that span the Department, not just the corporate organizations that lead them today; and
- Using the “Voice of the Customer” to guide design and implementation.

The SSE workstream team is approaching this task in three phases: (1) determining the “As Is” state of services, (2) designing the future state, and (3) developing an implementation plan to identify quick win opportunities that establish execution priorities. Additionally, the workstream team will identify and track progress and effectiveness by measuring customer satisfaction, as well as time-to-market, and any gained efficiencies such as cost savings or reduced resource requirements.

#### **2.2.4 Performance Improvements**



The Performance Improvement (PI) workstream team is developing an enterprise-wide strategy to make VA a high-performing and continuous learning organization supported by an engaged, well-prepared, and well-trained workforce with the right skills that achieves continuous improvements at all levels – from headquarters to the field. Focus areas include: knowledge management, best practice application across districts and organizations, a cascading Organizational Framework, standardized core PI goals, and leadership competencies.

This workstream will facilitate process improvements across VA by providing project management and Lean Six Sigma training support. It will establish an overarching learning framework to support performance improvements and champion innovative ideas submitted through VA’s “Idea House” and other channels. Several improvement initiatives under consideration include:

- Improving processes such as: hospital discharge procedures to improve patient outcomes and satisfaction; establish pre-need burial eligibility for Veterans while they are still alive to reduce the burden on their dependents; Veterans Crisis Line operations to provide a robust 24 x 7 capability; streamlined ear and eye care scheduling to allow direct scheduling for these appointments without the need for a referral from a Primary Care Physician; electronic distribution of reports to reduce reliance on paper; improvements to call center operations to make them more responsive to customers and less costly to operate
- VHA facility navigation (consistent signage and way finding) to make it easier for patients to find their way around
- Standardizing and documenting best practices, such as an integrated Town Hall Guide Book for VA facilities to use
- Expanding Guest Wi-Fi in all VHA facilities and clinics to Veterans and their families
- Providing resources that make employees’ jobs easier, such as developing an employee phone book

In the future, VA’s culture will be one of continuous process improvement. VA employees will embrace a lean management approach and be trained and have the information, competencies and tools they need to work more effectively and efficiently. This workstream is Veteran-centric, employee engagement-based, and strategically aligned to Veteran Experience.

## 2.2.5 Strategic Partnerships



The Strategic Partnerships workstream team is focused on improving information sharing and process and systems integration with partner organizations external to VA, while improving Veteran services and overall productivity and efficiency. This workstream is addressing both strategic and tactical partnerships -- some of which are enabled by technology -- to improve collaboration and service delivery across the enterprise. Beyond VA's established partnership with the Department of Defense (DoD), the workstream team is initially focusing on new and emerging partnerships that are not currently being managed such as the Wounded Warrior Project, State VA Directors, Los Angeles Homeless Foundation, United Services Automobile Association, and Dentists for Vets.

## 2.2.6 Institutionalizing MyVA Vision and Principles

MyVA concepts are enduring and apply to everyone at the VA. The MyVA Task Force is a catalyst that was established to jump-start the implementation of MyVA concepts by putting Veterans first and aligning all Agency resources accordingly. In 2016, new APGs will be established that reflect MyVA priorities. In the meantime, all VA organizations will continue to develop their own plans, programs, and budgets that achieve the MyVA vision, as well as the outcomes identified in current and future updates to various plans (e.g. the VA Strategic Plan, Information Resource Management Strategic Plan, Enterprise Technology Strategic Plan (ETSP) and Enterprise Roadmap).

Once the long-term requirements and inter-dependencies are fully understood and defined, Task Force resources and responsibilities will be realigned and transitioned to more permanent entities within VA to implement and institutionalize MyVA concepts.

**Figure 2, MyVA Task Force Workstream Transition** provides a notional view of how Task Force responsibilities might be transitioned to existing organizations within VA.

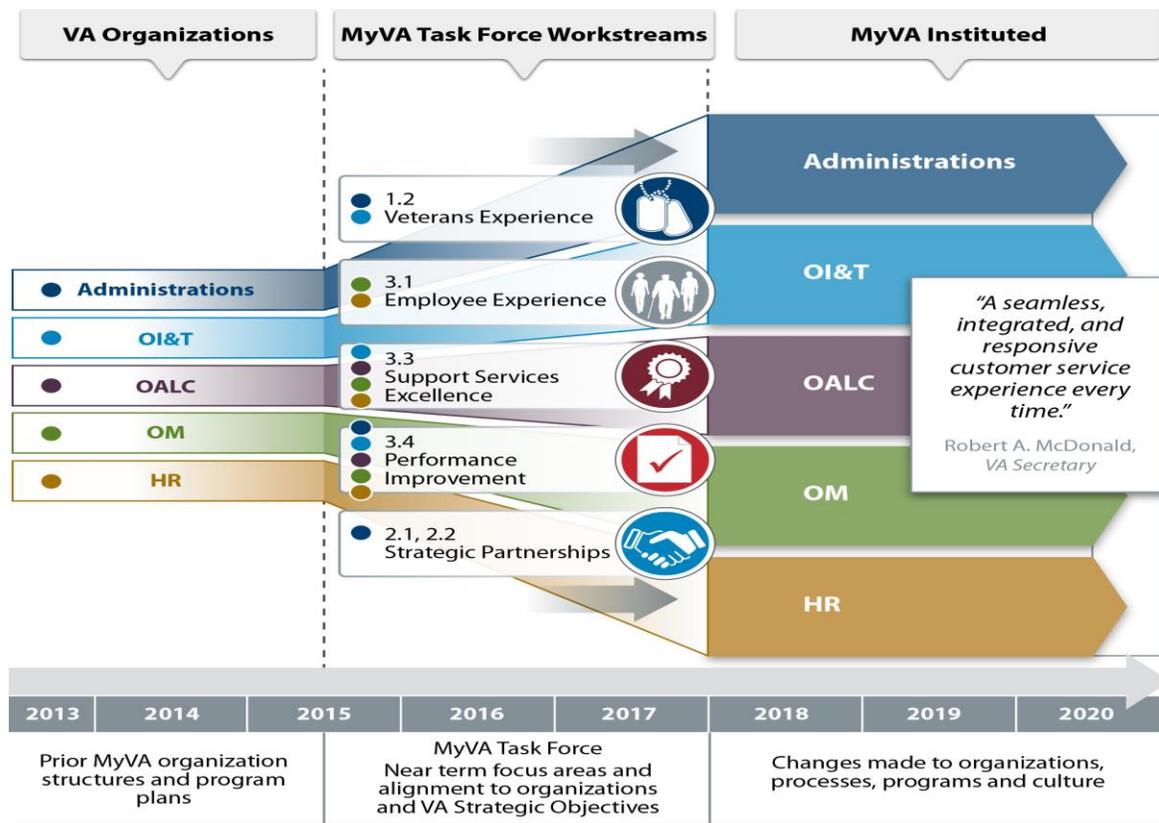


Figure 2: MyVA Task Force Workstream Transition

Current MyVA Task Force workstreams, their missions, FY2015 – 2016 goals, and alignment to the FY2014 – 2020 VA Strategic Plan are summarized in **Table 4, MyVA Workstream and VA Strategic Plan Alignment**.

**Table 4: MyVA Workstream and VA Strategic Plan Alignment**

MyVA Workstream	MyVA Workstream Mission	MyVA Workstream FY2015–2016 Goals	VA Strategic Objective Alignment
 <p><b>Veteran Experience</b></p>	<p>Supporting VA’s delivery of excellent care and benefit experiences that prioritize the perspectives and needs of our customers: Veterans, their families, supporters, and communities</p>	<ul style="list-style-type: none"> <li>■ Achieve Initial Operating Capability (IOC) for Veterans Experience team and Regional Veterans Experience offices</li> <li>■ Create IOC for a front door, unified, digital experience for VA’s websites</li> <li>■ Establish the Veteran’s identity and military service status at an enterprise level</li> <li>■ Achieve IOC for collaboration through structured forums with community Veteran leaders</li> <li>■ Establish a VA-wide customer satisfaction measurement</li> <li>■ Design and begin implementation of the “To-Be” Veteran experience</li> <li>■ Develop a menu of services for customers to understand VA benefits and services for which they may be eligible</li> </ul>	<p><b>VA Strategic Objective 1.2:</b></p> <p>Increase Customer Satisfaction through Improvements in Benefits and Services Delivery Policies, Procedures, and Interfaces</p>
 <p><b>Employee Experience</b></p>	<p>Build A collaborative, inclusive and results-oriented culture that inspires trust in order to improve the Employee Experience</p>	<ul style="list-style-type: none"> <li>■ Transform into a responsible, Performance Oriented Culture</li> <li>■ Attract and Retain High Performing Candidates</li> <li>■ Plan Career Paths and Development</li> <li>■ Engage capable employees</li> </ul>	<p><b>VA Strategic Objective 3.1:</b></p> <p>Make VA a Place People Want to Serve</p>
 <p><b>Support Services Excellence</b></p>	<p>Optimize the organization, functions and activities of VA’s core support functions that focus on delivery of world class services to VA facilities and organizations that directly serve Veterans</p>	<ul style="list-style-type: none"> <li>■ Complete analyses of existing VA support services</li> <li>■ Design “future state” capabilities</li> <li>■ ID “quick wins” for focused execution efforts</li> <li>■ Develop implementation plans for “future state” capabilities and begin execution</li> <li>■ Track progress through measurements of “effectiveness” (e.g. improved customer satisfaction, faster time-to-market, etc.) and/or gained “efficiencies” (e.g. cost savings, reduced manpower requirements)</li> </ul>	<p><b>VA Strategic Objective 3.3:</b></p> <p>Build a Flexible and Scalable Infrastructure through Improved Organizational Design and Enhanced Capital Planning</p>
 <p><b>Performance Improvement</b></p>	<p>Partner across VA to support improvement efforts, while establishing an enterprise-wide Lean strategy and network that enables a culture of continuous process and outcome improvement</p>	<ul style="list-style-type: none"> <li>■ Outline milestones, goals, and Key Performance Indicators (KPI)</li> <li>■ Develop &amp; implement staffing plan</li> <li>■ Build communication and outreach plans</li> <li>■ Establish Support Council and engage with critical partners</li> <li>■ Adopt and tailor VERC KM Platform for enterprise access to KM resources</li> <li>■ Launch two Districts</li> <li>■ Support Council will evaluate the utility of Baldrige Criteria as an outcome measure</li> </ul>	<p><b>VA Strategic Objective 1.2:</b></p> <p>Increase Customer Satisfaction through Improvements in Benefits and Services Delivery Policies, Procedures, and Interfaces</p>
 <p><b>Strategic Partnerships</b></p>	<p>Leverage resources external to the VA on an effective and consistent basis, at all levels of the Department, to improve the Veteran experience while enhancing productivity and efficiency</p>	<ul style="list-style-type: none"> <li>■ Opportunistically match external offerings to help with emerging and external Veteran needs</li> <li>■ Empower VA employees with the tools and support to engage in mutually beneficial partnerships at all levels of VA</li> <li>■ Proactively solicit and engage in partnerships</li> <li>■ Sustain, improve, and replicate established partnerships to more effectively leverage resources and serve Veterans</li> <li>■ Conduct a feasibility study to build a VA Foundation to serve as a vehicle to engage in partnerships otherwise not possible</li> </ul>	<p><b>VA Strategic Objective 2.2:</b></p> <p>Enhance VA’s Partnerships with Federal, State, Private Sector, Academic Affiliates, Veteran Service Organizations and Non-Profit Organizations</p>

### 3. IT Infrastructure Service Delivery

Nearly every aspect of the care, benefits, and services VA delivers to Veterans is directly or indirectly supported and enabled by technology. On a daily basis, Veterans interact with web based applications, call centers and telephone apps to request and schedule services, and the Agency’s workforce of approximately 325,000<sup>8</sup> VA employees relies on systems, applications, telecommunications, and a secure IT infrastructure to execute and manage the services they deliver.

VA has a nationwide technology footprint that supports facilities including: 152 Medical Centers, 300 Vet Centers, 820 Community-Based Outpatient Clinics (CBOC), 135 VA Community Living Centers, 6 Independent Output Clinics, 104 Domiciliary Residential Rehabilitation Centers, 231 National and State Cemeteries, and 56 Regional Offices.<sup>9</sup> These facilities require a sophisticated technology infrastructure that includes hardware (424,000 desktop computers, 69,000 laptops, and 31,000 mobile devices), applications, software, IT systems, data storage and processing, networks, and mobile communications.

VA is driving toward a vision whereby Veterans will have the technology and support necessary to receive seamless services and information on “any device, anywhere, anytime.”<sup>10</sup> The organization that provides VA’s technology products and services, as well as the workforce to manage, develop, protect, and maintain them, is the Office of Information and Technology (OI&T). OI&T’s mission is to develop and deliver IT solutions and provide and protect information necessary to enable excellence through client and customer service. The Executive in Charge of OI&T is also VA’s Chief Information Officer (CIO). The VA CIO ensures the Agency’s IT solutions are effective in supporting and enabling the Agency’s strategic agenda, and IT resources are optimized to achieve efficiencies that can be reinvested in mission requirements. **Table 5, CIO Strategic Priorities** details the CIO’s five priorities that guide OI&T’s activities on a daily basis.

**VA is driving toward a vision**

whereby Veterans will have the technology and support necessary to receive seamless services and information on “any device, anywhere, anytime.”

Source: Enterprise Technology Strategic Plan, February 28, 2014, p. 9

Table 5: CIO Strategic Priorities

IT Strategic Priority	Description
<b>1 Customer Service</b>	Maintain and improve OI&T’s customer relationships to address IT challenges
<b>2 Next Generation Information Security</b>	Meet the highest standards protecting sensitive Veteran or employee information
<b>3 Product Delivery</b>	Provide secure, reliable, and well-designed products to become a more agile, customer-focused, delivery organization
<b>4 Transparent Operational Metrics</b>	Develop operational metrics to measure performance and use those metrics to drive management decision-making
<b>5 Fiscal Management</b>	Meet the rising demand for IT services despite budget constraints

#### 3.1 IT Infrastructure Delivery Current Environment

VA’s current technology environment is dominated by legacy technologies with an infusion of modern technologies that do not always support the demand for new services. VA develops and maintains more than 700 IT systems.<sup>11</sup> Many were custom developed as point-to-point solutions to address very specific

business needs, rather than provide capabilities for the enterprise and are tightly coupled with their infrastructures. They could benefit from more integrated, shared services-based designs and reuse of existing IT investments to reduce sustainment costs and improve interoperability. However, engineering resources are limited and there is insufficient funding to retrofit the entire portfolio.

Although many systems and applications are web accessible, users are frequently required to enter separate log-ons and passwords resulting in a complicated and fragmented customer experience that is now being addressed by the MyVA Initiative.

VA’s workforce is highly mobile and requires remote access and collaboration capabilities to deliver services and accomplish work. Additionally, VA’s customers want different options for accessing VA services – such as connecting with VA through their cell phones and other mobile devices.

VA currently maintains most of its IT data-storage and processing infrastructure, which currently does not provide the scalability and flexibility needed to fully support mobility, interoperability, data sharing, and data analytics. Cloud technology offers these capabilities but security concerns and contracting limitations have limited its adoption at VA and other federal agencies.

Information security remains one of the Agency’s top priorities due to the large volume of sensitive data it stores and processes. On a daily basis, VA’s CIO must make difficult decisions about balancing risk and resources against business needs to provide a stable and secure infrastructure that supports the Agency’s mission. VA must protect sensitive information, systems, software, and networks from breach and intrusion, while also providing for data privacy and information security.

### 3.2 IT Infrastructure Delivery Key Initiatives

VA’s IT infrastructure is the backbone of its business operations. **Table 6, IT Infrastructure Key Initiative Summary**, identifies enterprise IT infrastructure-related programs that are critical to supporting current mission requirements. These programs/initiatives are expected to have increased importance in the MyVA envisioned future state. Additional details on these programs follow the table.

Table 6: IT Infrastructure Key Initiative Summary

Short Description	Strategic Alignment
<ul style="list-style-type: none"> <li>■ <b>Enterprise Shared Services (ESS) / Identity and Access Management (IAM)</b> – provides standardized authentication, authorization and access as a service</li> </ul>	My VA StratObj 3.2
<ul style="list-style-type: none"> <li>■ <b>Continuous Readiness in Information Security Program (CRISP)</b> – is a comprehensive agency-wide security program that addresses security training, vulnerability assessment, remediation, compliance, software, etc.</li> </ul>	MyVA StratObj 3.2
<ul style="list-style-type: none"> <li>■ <b>Mobility / Remote Access</b> – supports virtual delivery of services, use of telephone applications; remote access, and telework</li> </ul>	MyVA Access-APG StratObj 3.2
<ul style="list-style-type: none"> <li>■ <b>Unified Communications / Voice as a Service (VaaS)</b> – replaces traditional telephones with a Voice over Internet Protocol solution that is more agile and cost effective. Supports call centers, employees, telework, mobile applications, etc.</li> </ul>	MyVA StratObj 3.3

#### Enterprise Shared Services (ESS)/ Identity and Access Management (IAM)

There is broad recognition that VA needs to implement an enterprise wide services approach that moves the organization away from stove piped, system-specific solutions towards enterprise solutions that are interoperable, affordable and rapidly deployable. Currently, VA exchanges information with external partners using point-to-point interfaces creating both duplicative capabilities and multiple instances of

Veteran's data. ESS provides an alternative system design and engineering approach that promotes integration of enterprise capabilities and information, advances organizational interoperability, and increases agility through the reuse, interoperability, and governance of services across internal and external organizational and program boundaries. It uses open standards and vendor-agnostic principles to transition vertically integrated systems into reusable services and capabilities.

ESS concepts have already been tested and deployed at VA for a standard Identity and Access Management (IAM) capability that has been incorporated into several health care systems (e.g. VistA and Connected Health) and in several benefits systems (e.g. Veterans Crisis Line, eBenefits, Insurance Verification Processor). While IAM is not yet a true "Enterprise" shared service, it is currently required for new systems development and will be retrofitted into legacy systems based on available resources and highest priorities. In July 2015, the VA is hosting a summit to reach agreement among VA stakeholders regarding the Agency's strategy for implementing ESS concepts Agency-wide.

### **Continuous Readiness in Information Security Program (CRISP)**

Security is one of the CIO's top priorities due to the sensitive nature of the information stored and processed by VA's IT infrastructure. VA's secure target state is predicated upon implementing integrated, comprehensive threat-based security architecture. The Agency's security program, CRISP, ensures proper technology and policies are in place Agency-wide to ensure that Veteran information at VA offices, clinics, and hospitals is constantly secure and Veterans' identities are never put at risk. The primary objectives of CRISP are to:

- Identify, prioritize, and remediate vulnerabilities on VA information systems;
- Ensure baseline configurations and security standards are updated as new vulnerabilities are discovered and remediated;
- Ensure that only authorized software is installed on VA's network;
- Ensure software standards are continually reviewed and updated and that installed software versions comply with these standards;
- Identify, collect, analyze, and report performance metrics to measure the effectiveness of new patches;
- Conduct vulnerability management, baseline configuration maintenance, and software standards maintenance processes and propose changes to improve them;
- Ensure all personnel who access VA information systems or data have received annual security and privacy awareness training; and
- Provide mechanisms to detect and prevent intrusions.

In support of these objectives, CRISP has put into place a methodology to improve information security and manage and remediate data breaches by following documented contingency plans. Additionally, active management of all software on VA's network ensures that only authorized software, as specified in VA's Enterprise Architecture Technical Reference Model (TRM), is installed and unauthorized and unmanaged software is found and prevented from installation or execution.

### **Mobility and Remote Access**

VA has significantly expanded its remote access and mobile capabilities in recent years in response to increased demand from customers and employees. The Mobile Applications Program (MAP) office provides the Department with a mobile applications development and production environment to expand the number and quality of services provided to Veterans. The MAP effort reduces application development time, improves code quality, reduces risk to source systems, reduces application cost, and provides objective metrics regarding code quality. Mobile devices improve Veteran access to VA benefits and

healthcare services through self-service application interactions that provide access to information and the ability to execute transactions at the place and time convenient to Veterans.

Remote access to Agency systems and telecommunications has become essential to VA staff and support contractors to perform their jobs. Today, employees and contractors can work from almost any location and have access to what they need via a Virtual Private Network (VPN). OI&T has averaged around 1.2M VPN sessions monthly since the beginning of this fiscal year.

### **Unified Communications Strategy – Voice as a Service (VaaS)**

VA maintains hundreds of call centers and depends on them to connect to its customers. Additionally, VA has a distributed workforce that relies on telecommunications capabilities to collaborate and share information. The current telecommunication infrastructure, which is both digital and analog, is costly to maintain and not as effective in redirecting calls as newer technologies. The Voice as a Service (VaaS) program is VA's solution for creating a standardized, consolidated and centrally managed voice infrastructure to replace 1,300 phone systems over the next 10 years. VaaS uses Voice in the Cloud technology that easily picks up, moves, and forwards calls and gets them to the appropriate call centers and individuals. Current services include: calling in/out, voicemail, agent services such as call reporting and monitoring, training, and security. Future capabilities will include video, unified communications, chat, on-line support and contact centers. VaaS reduces costs, maximizes equipment value and enhances infrastructure oversight and control.

### **IT Infrastructure Future Environment**

VA's future technology state, as presented in the ETSP,<sup>12</sup> provides a robust and secure environment that offers VA staff the flexibility it needs to be more effective and efficient – whether providing services to Veterans, collaborating with mission partners or managing internal operations. This environment will require a robust, agile, interoperable infrastructure that provides connectivity, computing capability, and innovative and effective approaches for delivery of integrated services to Veterans. Ultimately, this vision not only will lead to more cost effective investments in technology and interfaces that are understandable to end users, but also may open new doors to opportunities for service and benefits delivery that currently do not exist.

The key attributes of the future technology environment include:

- **Information Access and Availability.** VA shall leverage technologies that support mobility and allow VA staff and Veterans to access information via a multitude of devices that may or may not be hardwired into VA's network, from any location at any time.
- **Interoperable Applications.** Enterprise and external systems shall use ESS to exchange, process and present information to improve interoperability, reduce system development costs and accelerate delivery.
- **Modern Applications.** Enterprise applications shall be built as dynamic websites that adapt to how various browsers need to translate and display information. VA shall adopt the most suitable commercial off-the-shelf and government off-the-shelf solutions.
- **Flexible and Scalable Infrastructure.** VA shall leverage technologies that provide elasticity, scalability, and cloud technologies that allow the sharing of capacity, and support mobility, data analytics, and authoritative data.
- **Secure Information and Networks.** Information shall be protected through encryption as it traverses through the network. Devices, processes and people will be authenticated at appropriate points as they move between functions and will receive different levels of authorization based on their functional role.

These attributes of the future environment will allow VA staff and Veterans to securely access information on multiple devices that may or may not be hardwired into VA's network, from any location at any time. Information will be protected through encryption as it traverses through the network. VA will leverage technologies to store data that provide elasticity, scalability, and cloud technologies to allow improved sharing of capacity. This technology vision is about providing Veterans with the technology and support they need to receive seamless services anytime, anywhere. This vision is achievable through a conscientious effort to ensure that all technology investments are aligned with this IT vision and VA's enterprise architecture.

To meet this future state, VA will need to improve how it deploys and implements several IT capabilities, including those related to mobility, security, cloud computing, shared services, and information management. This can be achieved through incremental change and alignment with policies and architectures inclusive of: VA's Strategic Plan and MyVA business drivers, the Enterprise Target Application Architecture, the OI&T Infrastructure Architecture, the Technical Reference Model (TRM), and the Information Security Architecture.

**Figure 3**, VA IT Vision Diagram and the description below depicts how information will be accessed, processed, stored, and protected in VA's future technology state.

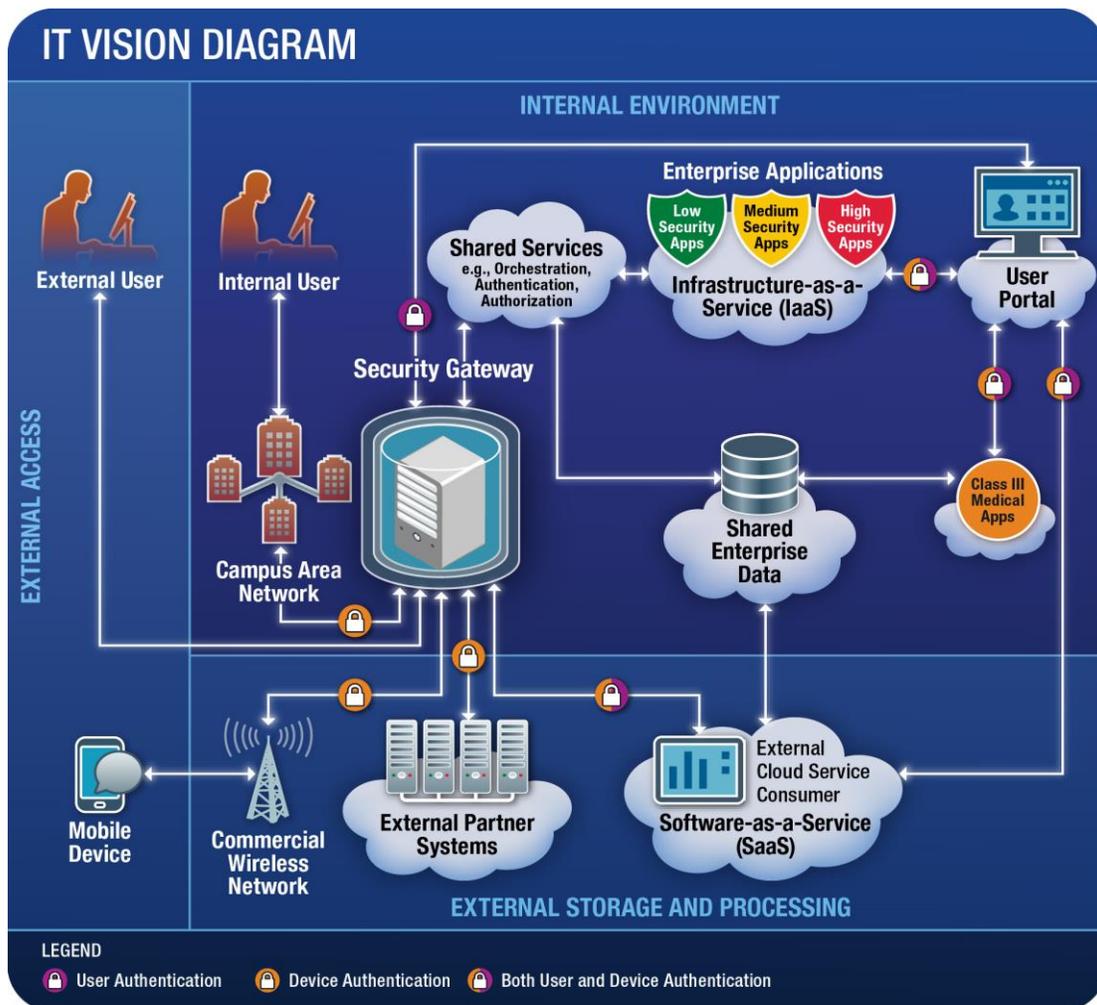


Figure 3 – VA IT Vision Diagram

**INTERNAL ACCESS:** An Internal User is any VA employee with VA issued access credentials. **Internal Users** will access enterprise resources through a robust networking infrastructure via **Campus Area Network**, where the Internal User device will be authenticated. All VA facilities nationwide will be connected to VA's network infrastructure. User identity is authenticated through **Security Gateway**, which routes an authentication request to **Enterprise Shared Services** for identity management. Once a User is authenticated, they will be able to access, via **User Portal**, applications that are provided on a cloud computing platform as an **Infrastructure-as-a-Service (IaaS)** and applications hosted on multiple platforms as **Software-as-a-Service (SaaS)** clouds. External applications hosted in an off-premises cloud environment will be fully integrated with the enterprise IT infrastructure, and monitored as if they were an on-premise hosted application. All VA internal and external users will access services and data via a single sign-on functionality. User credentials will be passed along as they traverse the VA infrastructure and will allow role-based access to services and data authorized for each user.

**EXTERNAL ACCESS:** An **External user**, defined as any user accessing public facing site over the internet, will also be able to access enterprise resources via **Security Gateway** and **Enterprise Shared Services**, where after user authentication access level permissions to enterprise data will be determined. In this case, user device will not be authenticated since External User can choose to use any device to access the portal. **External Partner Systems** will also be able to access a wide range of enterprise resources via a system-to-system exchange. All Users, both internal and external, will be able to access enterprise resources on a **Mobile Device** via protected Internet Protocol (IP) **Commercial Wireless Network** that will route the data to the Security Gateway. All VA internal and external users will access services and data via a single sign-on functionality. User credentials will be passed along as they traverse the VA infrastructure and will allow role-based access to services and data authorized for each user.

**APPLICATIONS:** There are three different enterprise applications representing different types of access. The green **Low Security Applications** are those that have access control policies, requiring a low level of authorization, meaning they do not have strict role-based requirements on who can access data. The yellow **Medium Security Applications** are those aligned to specific roles, making data available only to the roles that are allowed visibility of that data. The red **High Security Applications** control sensitive information such as Personally Identifiable Information (PII) or Personal Health Information (PHI) and manage authorization to access that information. **Class III Medical Applications** are used for medical devices within VA facilities to call on services through Federal Drug Administration. These applications depend upon other **Enterprise Shared Services** for providing business rules defining specific type of sensitive information that has role-based access.

**DEVICE & USER AUTHENTICATION:** Orange **Device Authentication locks** indicate that VA will protect its data using enterprise capabilities providing device authentication. Purple **User Authentication locks** show where authentication will be performed to confirm the identity of individuals accessing enterprise resources. In most instances, both user and device will be authenticated to minimize security issues. The future technical state will include attribute management services for conducting enterprise-wide Attribute-Based Access Control (ABAC) using current and emerging open standards. Centralized enterprise auditing services will be deployed to log service calls including all calls for PII and PHI. These services will track data access activities and exception handling, leading to an increased security posture for VA's enterprise resources.

**ENTERPRISE SHARED SERVICES & DATA:** In addition, applications will integrate with **Enterprise Shared Services (ESS)** to gain virtual access to **Shared Enterprise Data** through the use of a common set of data access services. These services will include an extensible create, read, update, delete (CRUD) service that enables both in-house or COTS (including open-source) applications to gain access to authoritative data sources via the use of an Application Programming Interface (API) that adheres to open standards, such as Representational State Transfer (REST). These APIs will provide a level of abstraction, such that they do not

need to know intimate details of the service implementation, or require physical access to databases to obtain data. ESS will also provide enterprise capabilities for data aggregation to bring together output from multiple data sources ensuring semantic harmonization, user authentication services, and orchestrating different services to support the automation of business processes and workflow across the enterprise.

[Page Intentionally Left Blank]

#### 4. VA Enterprise Architecture (VA EA)

MyVA will put VA on a new path that will improve externally facing customer services and internal support functions and processes to effectively balance exceptional Veteran-centric service with operational efficiency.<sup>13</sup>

To achieve these outcomes, the Agency requires a clear understanding of the current state of its organizations, systems, processes, capabilities, data, resources and enabling technologies. *Are they effective? Are they achieving desired outcomes? Are they redundant? Are there gaps in performance and service delivery that are causing problems and eroding customer satisfaction?*

Additionally, the Agency needs an integrated set of plans to guide its transition from its current state to its desired future state.

The VA Strategic Plan, Enterprise Technology Strategic Plan, Information Resources Management Strategic Plan, and VA Enterprise Roadmap provide the principle set of strategies, goals, plans, and technical requirements that will guide VA's transformation effort and ensure IT plays a critical role in enabling it.

The VA EA is the principle tool the Agency has to monitor and manage this transformation effort. The Government Accountability Office (GAO) states, "Effective use of a well-defined EA is a hallmark of successful organization and a basic tenet of organizational transformation and systems modernization."<sup>14</sup>

The VA Enterprise Architecture (VA EA) is established by VA Directive 6051, which describes and documents the current and desired relationships among programs, business and management processes and IT. VA's EA is an authoritative and integrated information resource that can be used to support planning, resource/investment management, system development, program management, human capital management, analyses and decisions. VA EA is well on its way to fulfilling OMB's premise of EA: "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 key to optimizing mission capabilities and resource utilization."<sup>15</sup>

VA EA content is modified and expanded as required to satisfy enterprise needs and priorities. Key Agency transformational initiatives such as MyVA, new statutes such as the Veterans Choice and Accountability Act (VACAA), and the "Renewal and Redeployment" of the FY2014 - 2020 VA Strategic Plan are establishing current VA EA development priorities. The tools used to develop, store, link, present, protect, and display EA content are all part of the VA Enterprise Architecture Management Suite (VEAMS), which will continue to evolve and based on EA users' information needs and preferences.

Developing an EA is an evolutionary endeavor that is never "complete." As the EA evolves, it is expected to contribute many benefits within the Agency, such as:

1. **Improve Service Delivery** – EA ensures that IT enables the business and mission functions to achieve optimum performance and customer satisfaction by supporting process, system and data interoperability.

#### Effective use of well-defined

Enterprise architecture (EA) is a hallmark of successful organizations and a basic tenet of organizational transformation and systems modernization

Source: GAO-10-846G EAMMF, Version 2.0

2. **Support Functional Integration/Interoperability** – EA defines across all functional domains interoperability requirements between programs, systems and services and requires a meta-context and standards to be successful.
3. **Facilitate Resource Optimization** – EA provides an authoritative reference that allows for more informed planning and decision-making for capital planning and investments. It also facilitates asset management and configuration management, which are important elements of resource optimization.
4. **Serve as an Authoritative Reference** – EA provides an integrated and consistent view of strategic goals, mission and support services, data and enabling technologies across the entire organization including programs, services and systems.

To date, VA EA content development and integration efforts have focused mostly on two outcome areas: (1) *improved service delivery* and (4) *serve as an authoritative reference*. In FY14, new content was added in three content domain areas — strategic drivers, systems and applications, and data and information. Additionally, the overall VA EA web environment was re-envisioned and reinvented. Not only is the VA EA portal the gateway to the architecture, it also tells VA’s “transformation story” by providing extracts from and links to strategic planning information from across the Agency in an easily navigable and reader-friendly format that is understandable, accessible, and useful to VA’s community at large.

In FY15 and FY16, new content will be added to the VA EA to support (3) *resource optimization*, specifically information related to programs, human resources and performance. Additionally, the systems inventory and data architecture will be expanded to (2) *support functional integration and interoperability* and will include additional business and technical data attributes and linkages—such as the alignment of systems to programs and capabilities and the addition of security-related information. This new content will help strengthen the integration between the Agency’s programming and budgeting processes and IT development processes to improve resource optimization and security at every level.

#### 4.1 VA EA Content and Uses

The information in the VA EA spans five content areas or “domains”. They are: Strategic Drivers, Business Activities, Data and Information, Systems and Applications, and Network and Infrastructure. **Figure 4, VA EA Content Domains and Their Relationships** depicts the Domain concept. Security applies to all Domains and is represented as a foundational element rather than a separate domain.

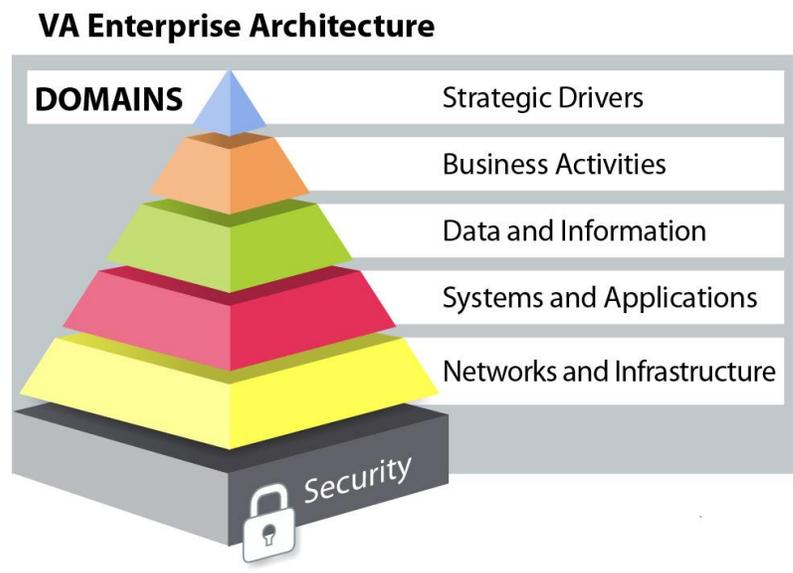


Figure 4 - VA EA Content Domains and Their Relationships

This conceptual domain framework is designed into the underlying VA EA meta-model and enables visibility and traceability of information in multiple directions (e.g. top-down, bottom-up, and across) to provide different view-points or “lines-of-sight”. When information is aligned in this manner, it is possible to explain the effect of inputs on outputs, and their impacts on desired results.<sup>16</sup> Line-of-sight information informs

decisions at all levels of the organization. For example, leadership can use EA operational information to evaluate the effectiveness of their strategic plans; and operational staff can use EA strategic outcome information to evaluate the effectiveness of their operational activities in achieving mission outcomes.

Each of these Domains is described in further detail below.

#### 4.1.1 Strategic Architecture Domain

The VA EA Strategic Architecture Domain captures information that identifies and drives the highest level outcomes needed to accomplish the Agency’s mission. VA EA’s strategic content is sourced from: specific laws, strategic policies, and regulations that affect the mission of VA; the FY2014-2020 VA Strategic Plan; VA Strategic Planning Guidance; the Annual Performance Plan (APP), etc. Information from these artifacts is incorporated into the architecture and integrated with other content to provide decision support for VA’s enterprise strategic planning process. Two key strategic artifacts contained in the VA EA Strategic Architecture Domain are described below.



- **VA Strategic Plan** – defines the Agency’s long-term strategic goals, objectives, performance goals, and outcomes, as well as shorter-range APGs. The Strategic Plan is published every four years but covers a five-year timeframe, while the APGs are updated more frequently. Strategic information from the VA Strategic Plan establishes the highest level of strategic content to which all other Agency plans, roadmaps, processes and performance measures must align to ensure unity of purpose and outcomes.
- **Strategic Information Model** – depicts the relationships between VA strategic goals, objectives, strategies, responsible organizations, and related performance measures associated with the strategies. This information is used during the Strategic Objective Annual Review (SOAR) process to evaluate the quality and effectiveness of VA’s strategic goals and objectives.

In FY15 - 16, the VA EA strategic content will remain fairly stable. However, the Strategic Information Model may be updated to include new priorities such as MyVA, updated APGs, and/or new information resulting from the annual review of the strategic objectives.

#### 4.1.2 Business Architecture Domain

VA EA Business Architecture Domain extends the Strategic Domain to describe the Agency’s organizational structures, functions, business processes, programs, and operational performance. This domain depicts what work is performed, how work is performed, who is performing it and what outcomes and outputs are being achieved. The information sources for this domain include the: Functional Organizational Manual (FOM), Programming and Budgeting Guidance, VA EA Business Reference Model (BRM) (which extends the VA Enterprise Capability Model (VAECM) to lower levels), and various business process models and business rules. Three of the key products contained in VA Business Architecture are described below.



- **FOM** – the authoritative source for VA organizational structure information. It describes organizational missions, functions, tasks of the Administrations and Staff Offices, and laws, regulations, and policies within VA. It is a core reference document that describes what is done by whom, for whom, and under what authority. It is a “living document.”
- **VAECM** – a three-level hierarchical model based on the OMB Federal Enterprise Architecture BRM that defines VA enterprise capabilities and functions. It provides a consistent and coherent way to

describe and group the categories of "work" the Department engages in to execute its mission in a way that transcends organizational boundaries, specific processes, technology, and scale of activity.

- **BRM** – includes VAECM as its top three levels and extends the model to describe business functions at levels 4 and below that are owned and defined by the Administrations and Staff Offices. It is based on OMB's FEA BRM but has been tailored to reflect the unique capabilities and functions of VA. This integrated model is used to establish a common taxonomy that can be used across the Department to support the Planning, Programming, Budgeting, and Execution process (PPBE) as well as other processes.

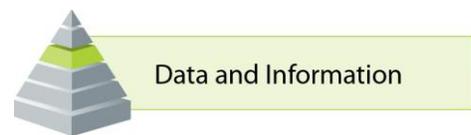
When the BRM and FOM are used together, this information can be used to enable capability and capacity analysis from a VA-wide perspective. When strategic content and business content are used together, they provide invaluable insight into whether VA's organizational structures and processes are delivering the outcomes needed and whether they are duplicative or inefficient.

In FY15 and beyond, the Agency plans to expand VA EA program and performance content to better support planning and programming processes. This will drive the development of new EA content in the business domain — specifically the addition of the Agency's programming taxonomy and key programs that comprise it. This content will be aligned to VA strategic goals and objectives and used to evaluate progress in achieving strategic outcomes to facilitate resource prioritization and decisions.

Additionally, the BRM will be expanded to provide a consistent and "complete representation and description" of all the lower level business functions performed by the Administrations and Staff Offices to support higher level enterprise functions and capabilities. Once the model is fully aligned and integrated, the Agency will be able to use the BRM for capability planning and gap analysis, and to identify potential redundancies across organizations to support organizational realignment and enterprise-services decisions.

#### 4.1.3 Data Architecture Domain

The VA EA Data Architecture Domain is essential to achieving process and system interoperability, which are at the heart of improved service delivery, functional integration and resource optimization.



The Data Architecture Domain provides a means of identifying, describing, and categorizing VA's data assets, owners, sources, business rules, and uses. This information is critical to harmonizing, standardizing, protecting, sharing and storing information. Effective data management and establishment of authoritative data sources can eliminate duplicative and/or inconsistent information, improve interoperability, lower sustainment costs, improve decision-making and reporting, and — when applied in combination with initiatives such as the CDI — can significantly improve the Veteran experience.

The data architecture, as depicted in **Figure 5, VA EA Data Architecture Framework**, comprises the conceptual, logical, and physical layers of data descriptions. Within the VA EA, there are several products in the data architecture that can be used to categorize data and enforce data standards including the: Conceptual Data Model (CDM), Enterprise Logical Data Model (ELDM), and Physical Data Model (PDM) represented by the Data Architecture Repository (DAR). The data architecture, as depicted in **Figure 5, VA EA Data Architecture Framework**, comprises the conceptual, logical, and physical layers of data descriptions that, when used together, will contribute to guiding and constraining VA investments throughout the PPBE process.

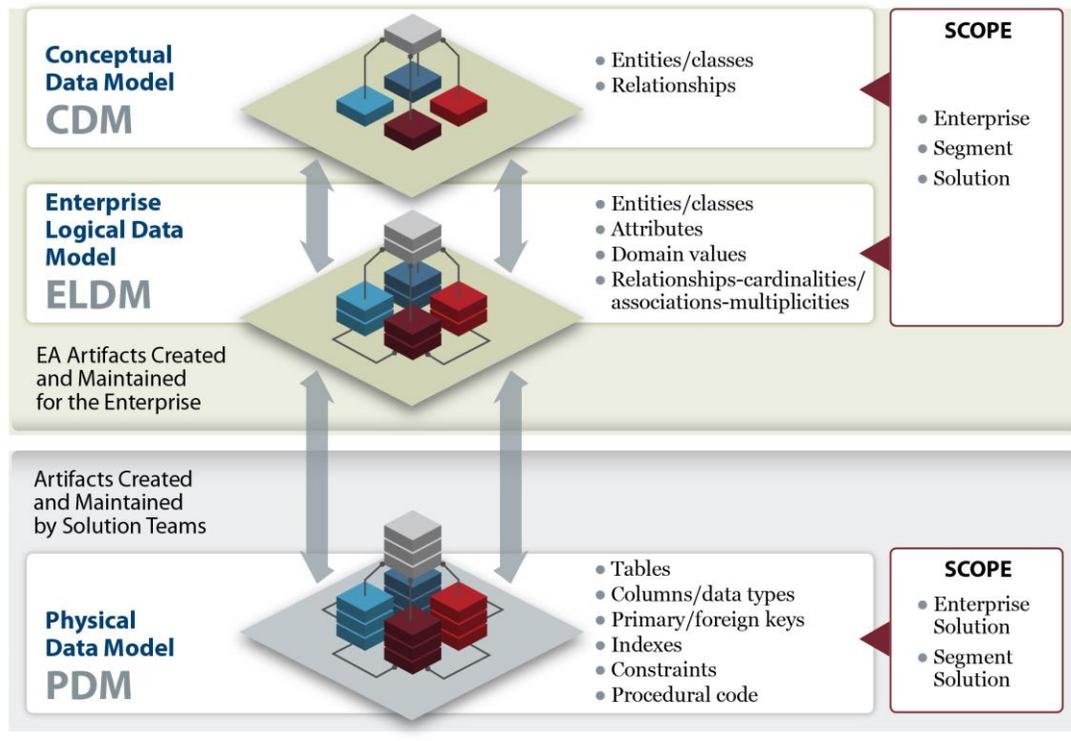


Figure 5 - VA EA Data Architecture Framework

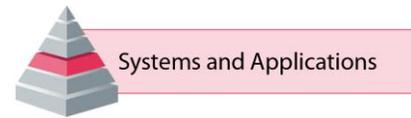
Three of the key products contained in the Data Architecture Domain are described below.

- **CDM** – contains the categorizations and definitions of the sets of data VA gathers, stores, updates, and manages in order to serve the Veteran population. The CDM indicates cross-functional uses of VA data, thus supporting identification of potential areas to improve interoperability and eliminate redundancy. The CDM at VA is incorporated into the VA EA enterprise tier.
- **ELDM** – an extension of the CDM that provides a more detailed view of the enterprise data necessary to provide improved services to Veterans and their beneficiaries. In the near-term, the ELDM will be used as a data reference model to support mapping and identification of enterprise data across the VA systems environment. The ELDM is hosted in the VA EA enterprise tier.
- **DAR** – a metadata catalog that hosts the actual database schemas in use within VA enterprise systems and services. This physical layer enables a complete description of the types of ELDM information VA requires aligned to the actual data VA is using. The PDM is defined in the VA EA solution tier.

In FY15-16, the CDM will be extended to capture the data categories and definitions of the Corporate Offices, and the ELDM will be further extended to include Administration/Corporate Office logical models. The physical layer of the data architecture currently hosted in the DAR will also be extended and enable linkages to the ELDM to provide more depth and breadth within the scope of the data architecture. This linkage between the physical and logical layers of the data architecture will allow for confirmation that the actual data used by VA systems and services is in fact consistent with business data requirements for improved integration and interoperability.

#### 4.1.4 Systems Architecture Domain

The Systems Architecture Domain describes Agency tools used to store, retrieve, transmit and manipulate data, as well as the interfaces and data exchanges between them. The content in this Domain has multiple uses and is especially useful for managing VA's IT portfolio and investments. Two of the key products contained in the Systems Architecture Domain are described below.



- **VA Systems Inventory (VASI)** – is the authoritative inventory of business-oriented systems and associated high level information to include business and technical attributes such as system name, acronym, unique ID, stakeholders, hosting location, security accreditation, critical technologies, and many others.
- **System Interface Model** – leverages the VASI to develop “As-Is” and “To-Be” representations of business-oriented systems and graphically displays the system-to-system interface relationships. These models assist stakeholders in understanding the existing architecture, identifying possible impacts and ripple effects to IT solutions, and communicating intentions more clearly.

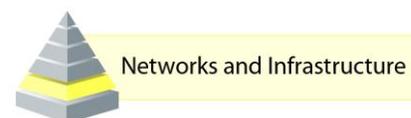
The information in this domain has many uses. When used in combination with Business Domain content, it supports transition planning and portfolio management. When linked to VA EA strategic and business information, the system architecture domain content provides insight into how technology is enabling VA strategic goals and objectives. When linked with Data Domain information, it facilitates identification of authoritative data sources and supports improvements to interoperability and the customer experience. When linked to Infrastructure and Security Domain content (described below), it facilitates infrastructure optimization, Continuity of Operations and Disaster Recovery.

The VASI is a critical component of the VA EA that helps VA: eliminate duplicative systems inventories maintained by various stakeholders with different perspectives; align IT capabilities with strategic goals and business processes; establish the relationships between systems, applications and other key information sources; and simplify agency-wide reporting. In June 2014, the Office of EA released the initial capability of the VASI web user interface portal to expand visibility of system information across the enterprise and facilitate the use of VASI to better inform VA decision makers.

For FY15-16, additional enhancements are planned for VASI that will establish greater user management roles, provide more detailed reporting and more complete system information. There will be a particular focus on the 40 premium systems — those that have the greatest impact on providing services to Veterans. The physical data schemas associated with these premium systems will describe the actual pieces of data that are housed within and passed between VA systems and will be cataloged in the DAR. Once completed, the linkage between the VASI systems and the physical data schemas will support the identification and definition of the standard information exchanges for potential enterprise shared services candidates.

#### 4.1.5 Infrastructure Architecture Domain

VA EA Infrastructure Domain pertains to the combination of hardware (e.g. servers, computers, data centers, switches, hubs, routers), software, and network resources that comprise the IT environment. In VA EA, this domain describes reusable standards and enterprise shared services, rules, guidelines, and configurations for the Enterprise technology layer. Use of this information is tightly coupled



with information from the Application/System Architecture Domain to describe the Agency’s IT landscape. The standards portion of both domains is referred to as the Enterprise Technical Architecture (ETA).

The information in the ETA is used by system developers and oversight authorities to ensure that systems, services, and infrastructure are secure, compliant, and efficiently designed using standardized tools and technologies. This portion of the architecture is constantly updated and refined as the Agency identifies and enforces new standards to drive improvements and reduce costs.

In FY15, the ETA will be updated to provide a more comprehensive view of the VA IT landscape. The EA team will work with representatives of the Architecture and Engineering Review Board (AERB) to mature the *platform and storage* and *networks and telecommunications* standards within the ETA to include design patterns and shared services to facilitate IT consolidation through reuse and simplification. Enterprise design patterns provide a generalized, vendor-agnostic template that is to be followed by solution developers to ensure standardized solutions. The increased adoption of design patterns and shared services will help the Agency transition from vertically integrated systems to reusable services and capabilities that advance organizational interoperability, increase solution design agility, reduce costs, and result in the best capabilities to meet mission requirements. Maturation of these areas will improve the value of VA EA in guiding the development and deployment of VA systems and solutions that directly impact VA’s efficiency.

Infrastructure Domain information can also be used with Business Domain content to support capital investment planning. However, this capability is not yet available at VA and will be one of the key areas for improvement in FY16 and beyond to develop an improved ability to cost IT infrastructure services.

#### 4.1.6 Security Architecture Domain

“Preparedness to provide services and protect people and assets continuously and in time of crisis” is a VA strategic objective, and “Next Generation Security” is one of the Agency CIO’s top priorities. Security is integral to VA’s mission and is a critical element of nearly every activity performed at VA. Security applies to the strategies, business processes, data, applications, systems and infrastructure. The EA will evolve to capture security standards, policies and security-related design patterns that will be developed, followed and enforced within VA business processes and during the development of IT solutions.



## 4.2 VA EA Maturity

The management of the VA EA program is maturing in parallel with the Agency’s enterprise processes. As VA decision processes evolve and decision-makers and analysts require more complete information, the demand for EA products will increase and new content will be added to the architecture.

The GAO has established an Enterprise Architecture Management Maturity Framework (EAMMF) to provide a flexible benchmark against which to plan for and measure EA program maturity.<sup>17</sup> The Framework identifies seven maturity stages (0-6). Each stage builds logically on the previous stage to provide a “roadmap” for systematically maturing and evolving an organization’s capacity to manage an EA.<sup>18</sup>

The EAMMF contains 59 core elements that can be categorized into four functional areas — Governance, Content, Use, and Measurement. These core elements are assigned to specific management maturity stages — starting with Stage 0 (*creating awareness*) and ending at Stage 6 (*continuously improving the EA and its use to achieve corporate optimization*).

**Figure 6, EAMMF at a Glance**, identifies the number of core elements in the GAO EAMMF by functional area at each stage. This view highlights that in Stages 1-3 “Governance” and “Content” development are the primary focus areas, while EA “Use” and “Measurement” tend to occur later in Stages 4-6. The degree to which each element has been met is self-scored by the Agency. Core Element scores can range from 0-3 (a score of 0 indicates “no progress”; 1-2 represents “partial progress”; and a score of 3 means that element has been “fully achieved”).

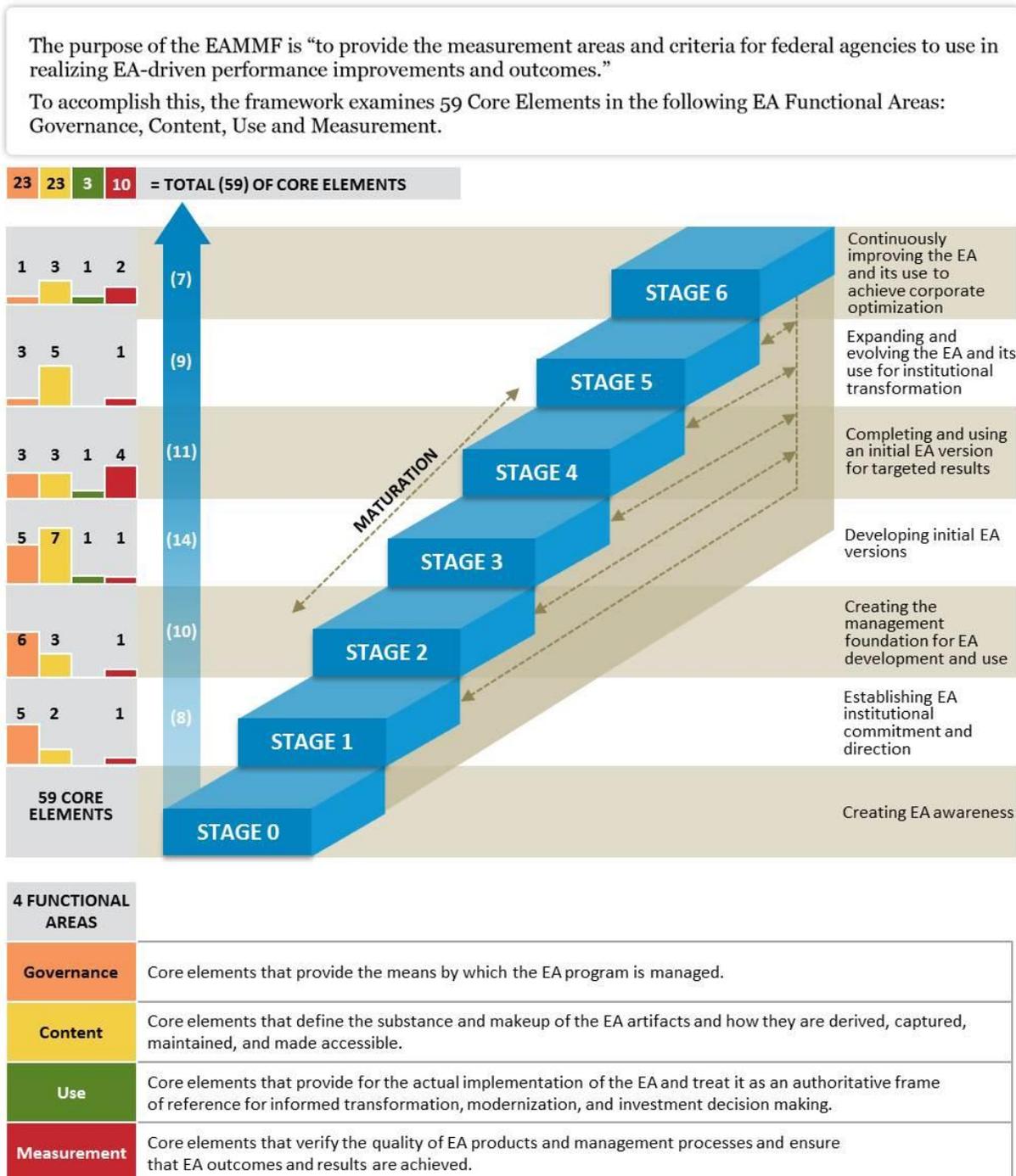
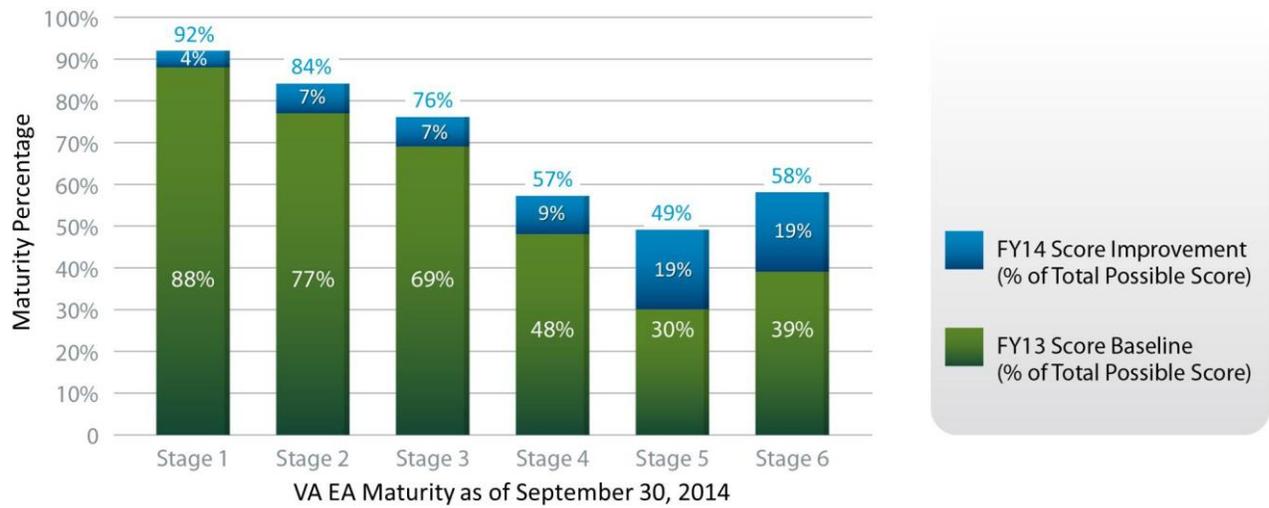


Figure 6 - EAMMF at a Glance<sup>19</sup>

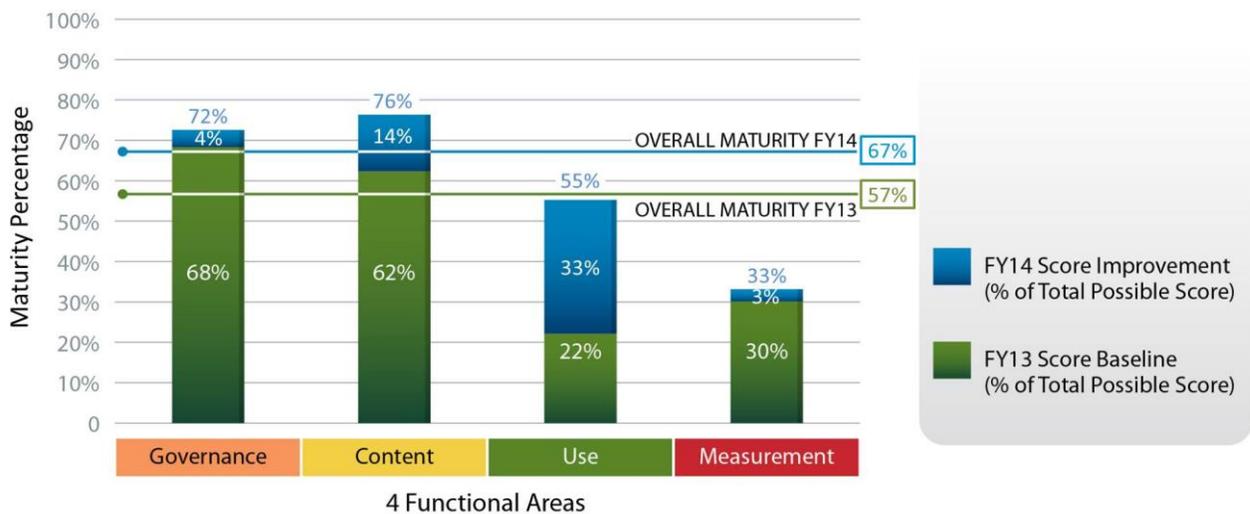
**Figure 7, VA EA Program Overall Maturity**, illustrates VA EA Program’s overall, self-assessed management maturity using the above framework. It shows that management of the VA EA program is generally operating at maturity Stage 3. However, portions of the program are more mature and have achieved “Stages 5 or 6” maturity level scores.<sup>20</sup>



**Figure 7 - VA EA Program Overall Maturity**

In the figure above, the “green” portion represents the percent of all core elements completed during FY13 that apply to that particular stage. The “blue” portion represents the maturity improvement delta that occurred during FY14. This view shows that progress in FY14 crosses all maturity stages with the greatest increases occurring at Stages 5 and 6.

**Figure 8, VA EA Score by Functional Areas**, shows the same FY13-14 information organized by the 4 Functional Areas of: Governance, Content, Use, and Measurement. This figure indicates that the VA EA program is most mature in the areas of “governance” and “content development”. It is less mature in EA “content application (use)” and “measurement of EA outcomes”. This maturity status is consistent with the overall maturity of the enterprise, which is still developing and institutionalizing its major processes, governance bodies, and mechanisms to track transformation progress.



**Figure 8 - VA EA Score by Functional Areas**

In summary, as VA strategic planning and other enterprise processes mature, so will the Agency’s transformation tools including the VA Enterprise Roadmap, VA IRM Strategic Plan and VA EA. In a sense, the maturity of these tools reflects the overall transformational capability of the Agency.

### 4.3 EA Program Elements

The EAMMF, developed by GAO, provides one framework for assessing an EA program. The Common Approach to Federal Enterprise Architecture (CAF) developed by OMB uses a similar, but slightly different taxonomy. The CAF identifies eight program element areas that all EA programs should have, which are:<sup>21</sup>



- 1) **Governance (and Federation)** – identifies the planning, decision-making, and oversight processes and groups that will determine how the EA is developed, verified, versioned, used, and sustained over time.
- 2) **Principles** – represent the criteria against which potential investment and architectural decisions are weighed. They are the “philosophies” that guide the EA Program to support strategic, business and technology needs of the Agency.
- 3) **Method** – the process used to convert enterprise and stakeholder needs into decision-grade information captured and made available through fully developed EA products.
- 4) **Tools** – the technology environment used to develop, host, deliver, store/archive and use the architecture (e.g. website, modeling tools, databases, reporting and query tools, etc.).
- 5) **Standards** – the “rules” for EA product development that are applied throughout the EA Program and are essential to achieving interoperability and resource optimization through common methods for analysis, design, documentation, and reporting.
- 6) **Use** – the ways in which EA information is used within the customer processes to support reporting, planning, decision-making and analytic activities.
- 7) **Reporting (Content Visualization)** – the way stakeholders can “see” information about what is in the architecture to support consistent reporting (e.g., reference models) as well as what’s there to support planning, decision-making, and analysis activities (e.g., performance measures).
- 8) **Audit (Maturity)** – the processes used to assess architecture quality, maturity and value to identify areas for development and/or improvement.

The VA EA program has implemented all program element areas identified in this model. Highlights are provided below.

#### 4.3.1 Governance

The Chief Architect reports directly to the VA CIO and uses his authorities and governance to balance the needs of all the stakeholders and maintain the integrity of the architectural development process.<sup>22</sup> The Chief Architect chairs the *Enterprise Architecture Council (EAC)*, which is the Senior Executive oversight body for VA EA implementation and governance. Its membership includes full representation by VA’s program, business and technology stakeholders. The EAC ensures coordination of architecture efforts, standards and initiatives across the Administrations and Staff Offices.<sup>23</sup>



The EAC is supported by the *Enterprise Architecture Working Group (EAWG)*, which serves as the “action arm” of the EAC. The EAWG implements EAC-approved guidance and facilitates coordination of architecture activities across the Administrations and Staff Offices in support of the EAC. It also serves as a

vehicle for defining and delivering architecture development methodologies, tools and standards to be used across VA.

### 4.3.2 Principles

The VA EA program is founded on six global principles that are used to guide all development efforts. The principles are listed in **Table 7, VA EA Global Principles**:



Table 7-VA EA Global Principles

Outcome Area	Business Question Examples
<b>1 Mission Alignment</b>	VA information, systems, and processes shall be conceived, designed, operated, and managed to address the Veteran-centric mission needs of VA.
<b>2 Data Visibility and Accessibility</b>	VA Application, Service, and Data Assets shall be visible, accessible, available, understandable, and trusted to all authorized users (including unanticipated users).
<b>3 Data Interoperability</b>	VA Information shall be made interoperable through data standardization, including the identification, designation, and utilization of authoritative sources.
<b>4 Infrastructure Interoperability</b>	VA IT Infrastructure shall be made interoperable through definition and enforcement of standards, interface profiles, and implementation guidance.
<b>5 Information Security</b>	VA shall provide a secure network and IT environment for collaborative sharing of information assets (information, services, etc.) with Veterans and other partners, including Federal agencies, third party service providers, academia, researchers, and businesses.
<b>6 Enterprise Services</b>	VA solutions shall utilize enterprise-wide standards, services, and approaches to deliver seamless capabilities to Veterans, facilitate IT consolidations through reuse, and simplify the use of Veteran functions.

### 4.3.3 Method

VA EA principles, published in the VA EA Vision and Strategy document, provide criteria for the processes used to identify, evaluate, prioritize and select content for development. VA EA is developed using a collaborative process. VA architects work closely with business process owners and decision-makers to understand their information needs, which are then translated into specific questions. The information required to answer these questions is used to derive specific architecture requirements. This is referred to as a “question-based data-centric approach” to architecture development.



**Table 8, Question Based Approach to Achieve Specific Outcomes**, provides examples of some questions a decision-maker might want answered in order to achieve specific outcomes. These questions could be used to derive EA content development requirements.

Table 8 - Question Based Approach to Achieve Specific Outcomes

Outcomes Area	Question Examples
1 Improve Service Delivery	<ul style="list-style-type: none"> <li>How well are we providing specific benefits (e.g. Disability, Education and Training, Vocational Rehabilitation and Employment, Home Loan Guaranty, Dependent and Survivor, Medical Treatment, Life Insurance and Burial) to our Veterans?</li> <li>Where can we improve provision of these services?</li> <li>What do we need to do to make them better?</li> </ul>
2 Promote Functional Integration	<ul style="list-style-type: none"> <li>Is the same Veteran information entered into systems in one VA facility available at other facilities?</li> <li>What is the common Veteran data that must be available to all VA service providers, facilities, systems and Veterans?</li> </ul>
3 Serve as Authoritative Reference	<ul style="list-style-type: none"> <li>What are the capabilities and associated systems that support key processes and services (e.g. disability evaluation)?</li> <li>Of the systems that support these processes/services, which are authoritative for specific Veteran data?</li> </ul>
4 Facilitate Resource Optimization	<ul style="list-style-type: none"> <li>Which programs are providing specific capabilities?</li> <li>What do they cost?</li> <li>How are they performing and what are the risks?</li> <li>Where do we have redundant capabilities and/or systems?</li> </ul>

The VA EA can be described as a collection of architectures related to each other and aligned in a manner that allows development autonomy and local governance, while also providing enterprise benefit. This approach, referred to as a federated development approach, provides maximum flexibility in populating, using, and maintaining the architecture. VA EA comprises the following:

- **VA-Wide or Enterprise Tier**—Integrated set of reference taxonomies, rules and capabilities to which the Segment and Solution layers align. This layer enables creation of the aforementioned “lines-of-sight” that enable decision-makers to view VA enterprise information from their various viewpoints.
- **Segment Tier**—Administration and Corporate Office architectures that align to and extend VA-wide/Enterprise Layer. They address: specific core mission areas; lines of business and business services.
- **Solution Tier** - This tier represents the lowest tier of the VA enterprise and is comprised of the systems and services used to support VA business function and processes.

#### 4.3.4 Tools

VEAMS is a collection of web accessible capabilities assembled into an IT environment that enables the creation, maintenance, and use of VA EA-related content and information. Recent activities such as the website redesign, integration of more robust reporting, searching, analysis and data management capabilities and deployment of an enterprise modeling capability have enhanced the value VA EA can bring to decision-makers. The VA EA tools environment will continue to evolve to provide improved support to VA’s enterprise transformation efforts. As more enterprise priorities are defined by stakeholders, additional usage and reporting requirements will be identified and drive improvements to the VA EA Tools suite/environment.



### 4.3.5 Standards

Achieving interoperability and resource optimization are but two of the desired enterprise outcomes that rely heavily on the implementation and use of standards. Architectural standards apply to all areas of the VA EA program. There are standards that will be used to constrain how the VA EA content is created, stored and visualized via the tool suite (e.g., Business Process Modeling Notation). There are also standards that are used when applying the EA content within the VA's decision processes (e.g., data and interface standards). VA EA implements standards throughout its content development and structure to support improved information sharing within and across all levels of VA. Much like the Tools element, as VA continues its transformation efforts and takes on more enterprise initiatives to achieve its transformational goals, the VA EA team will identify and integrate the requisite standards to ensure that it too evolves to enable ever-improving value to decision-makers.



### 4.3.6 Use

The use of the architecture to support decision processes is increasing over time as content increases and decision-makers realize they need better information. The AERB regularly uses the technical content in the ETA to enforce compliance during systems development and milestone review processes. VA system developers use the TRM to make sure IT products are approved for use prior to acquiring them. TRM information is used across the Agency for making informed technology decisions prior to acquisition of IT products to ensure they are approved for use.



To date, the architecture has been primarily used in the area of technical compliance. The use of VA EA to support enterprise business decisions has been limited due to the maturity and stability of many of the Agency's enterprise processes, which are still evolving.

### 4.3.7 Reporting (Content)

The first few years of the VA EA program focused primarily on developing foundational content such as the FOM, BRM, major initiative business process models and system interface models. Since then, additional content, artifacts, views, reports and repositories have been added -- particularly in the areas of strategy, business, data and systems. Their use will be further enhanced as the current tools environment is expanded to make information more accessible and consumable.



### 4.3.8 Audit

As discussed in Section 4.2, the Agency uses GAO's EAMMF to provide a flexible benchmark against which to plan for and measure VA EA program maturity.



GAO recognizes that value management is an area that is consistently less mature than other areas in most EA organizations. In fact, per GAO's EAMMF model, performance measurement is an activity that usually does not occur in EA programs until they are at Stage 3 or higher. The ability to define measures that provide evidence of the value the EA is contributing to transformational outcomes is difficult, because the EA's influence, albeit important, is indirect.

With these challenges in mind, VA has established its own approach for measuring Agency and EA progress, which augments these other frameworks. VA's model is called the VA EA Performance Measurement Framework (EAPMF).

As depicted in **Figure 9, VA EA Performance Measurement Framework** is comprised of four transformation performance maturity measurement levels as follows:

- **Level 1** – measures show the completeness, at a specific point in time, of specific architecture products that will be used to support targeted VA decision processes.
- **Level 2** – measures show the degree to which enterprise architecture content is being used in decision making processes (such as the Project Management Accountability System (PMAS)).
- **Level 3** – measures reflect the adoption of enterprise information capabilities across VA's information environment as Leading Indicators to show progress toward achieving Level 4 outcomes.
- **Level 4** – measures are collected from VA's Annual Performance Report (APR) and demonstrate a positive contribution to outcomes directly related to strategic goals, objectives, and performance goals aligned with VA Strategic Plan.

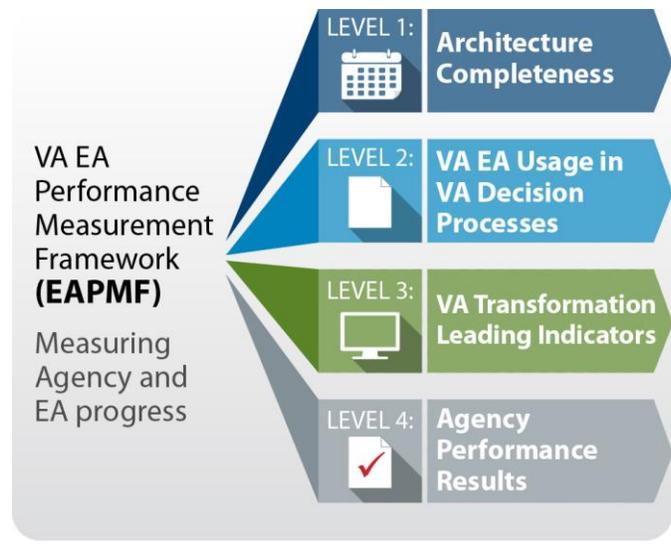


Figure 9 - VA EA Performance Measurement Framework

This Performance Framework takes into consideration varying maturity levels of all the transformational elements that must work together to achieve specific near-term results and long-term goals and objectives outlined in the VA Strategic Plan. Initial measures for levels 1 and 2 have been selected from existing measures currently maintained by Architecture, Strategy and Design (ASD). Additional measures managed by other offices will be introduced as the content in the architecture expands and VA's decision processes evolve.

### Level 1 Measure Example

*Initial Measure: Number of key systems in VASI with key attributes validated.*

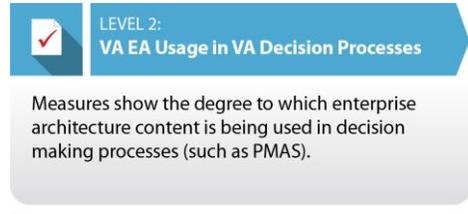
This measure was selected because the completeness of data attributes in the VASI establishes an initial baseline regarding architecture completeness for an artifact that is of key strategic value. Once mature, VASI will be used to support portfolio management, investment management, transition planning, divestiture planning and other key processes.

## Level 2 Measure Example

*Initial Measure: Number of System Design Documents (SDDs) received, reviewed and rejected by the AERB.*

This measure was selected because it demonstrates that the EA is being used by a governance process to assess EA compliance of IT development projects prior to Milestone 1 reviews. The measure also reflects that all EA compliance decisions do not always result in approval, which shows the EA has prevented development of non-compliant IT solutions. Depending on the nature of the compliance issue, a disapproval decision may reduce future rework costs, improve systems inoperability and data exchanges, prevent security problems, etc.

At the present time, no measures have been identified at Level Three that can be linked to the Level Four outcome measures reported in the Agency's APR.



LEVEL 2:  
VA EA Usage in VA Decision Processes

Measures show the degree to which enterprise architecture content is being used in decision making processes (such as PMAS).

---

[Page Intentionally Left Blank]

## Appendix A: Definitions and Acronyms

Acronym	Definition
<b>ABAC</b>	Attribute-Based Access Control
<b>AERB</b>	Architecture and Engineering Review Board
<b>APGs</b>	Agency Priority Goals
<b>API</b>	Application Programming Interface
<b>APP</b>	Annual Performance Plan
<b>APR</b>	Annual Performance Report (APR)
<b>ASD</b>	Architecture, Strategy, and Design
<b>BRM</b>	Business Reference Model
<b>CAF</b>	Common Approach to Federal Enterprise Architecture
<b>CCD</b>	Common Customer Data
<b>CDI</b>	Customer Data Integration
<b>CDM</b>	Conceptual Data Model
<b>CIO</b>	Chief Information Officer
<b>COOP</b>	Continuity of Operations
<b>CRISP</b>	Continuous Readiness in Information Security Program
<b>CRM</b>	Customer Relationship Management
<b>CRUD</b>	Create, Read, Update, Delete
<b>DAR</b>	Data Architecture Repository
<b>Department</b>	Department of Veterans Affairs
<b>DoD</b>	Department of Defense
<b>EA</b>	Enterprise Architecture
<b>EAC</b>	Enterprise Architecture Council
<b>EAMMF</b>	Enterprise Architecture Management Maturity Framework
<b>EAPMF</b>	EA Performance Measurement Framework
<b>EAWG</b>	Enterprise Architecture Working Group
<b>ELDM</b>	Enterprise Logical Data Model
<b>ESS</b>	Enterprise Shared Services
<b>ETA</b>	Enterprise Technical Architecture
<b>ETSP</b>	Enterprise Technology Strategic Plan
<b>FDA</b>	Federal Drug Administration
<b>FOM</b>	Functional Organizational Manual
<b>FY</b>	Fiscal Year
<b>GAO</b>	Government Accountability Office
<b>IaaS</b>	Infrastructure-as-a-Service
<b>IAM</b>	Identity and Access Management
<b>I CARE</b>	Integrity, Commitment, Advocacy, Respect, and Excellence
<b>IOC</b>	Initial Operating Capability
<b>IP</b>	Internet Protocol
<b>IPPG</b>	Integrated Planning and Programming Guidance
<b>IT</b>	Information Technology
<b>HR</b>	Human Resources
<b>MAP</b>	Mobile Applications Program
<b>MyVA</b>	VA's enterprise-wide cultural and systemic change effort that will ultimately be the largest department-wide transformation in VA's history

<b>Acronym</b>	<b>Definition</b>
<b>NaaS</b>	Network-as-a-Service
<b>OI&amp;T</b>	Office of Information and Technology
<b>OM</b>	Office of Management
<b>OMB</b>	Office of Management and Budget
<b>PDM</b>	Physical Data Model
<b>PI</b>	Performance Improvement
<b>PII</b>	Personally Identifiable Information
<b>PHI</b>	Personal Health Information
<b>PMAS</b>	Project Management Accountability System
<b>PPBE</b>	Planning, Programming, Budgeting, and Execution
<b>REST</b>	Representational State Transfer
<b>SaaS</b>	Software-as-a-Service
<b>SDD</b>	System Design Document
<b>SecVA</b>	Secretary of Veterans Affairs
<b>SSE</b>	Support Services Excellence
<b>StratObj</b>	Strategic Objective
<b>TRM</b>	Technical Reference Model
<b>USAA</b>	United Services Automobile Association
<b>VA</b>	Department of Veterans Affairs
<b>VaaS</b>	Voice-as-a-Service
<b>VACAA</b>	Veterans Choice and Accountability Act
<b>VA EA</b>	VA's Enterprise Architecture
<b>VASI</b>	VA Systems Inventory
<b>VE</b>	Veteran's Experience
<b>VEAMS</b>	VA Enterprise Architecture Management Suite
<b>VAECM</b>	VA Enterprise Capability Model
<b>VistA</b>	Veterans Health Information Systems and Technology Architecture
<b>VPN</b>	Virtual Private Network
<b>VRM</b>	Veterans Relationship Management
<b>VSO</b>	Veteran Service Organization

## Appendix B. References and Endnotes

---

- <sup>1</sup> VA News Release 2 Feb 2015 attributed to Secretary McDonald
- <sup>2</sup> Draft OMB A-130 Circular, Basic Assumptions, pg. 6
- <sup>3</sup> Gartner, Business Performance is the Value of IT, CIO Desk Reference Chapter 14, Sep 30, 2012
- <sup>4</sup> US Department of Veterans Affairs, Veterans Access, Choice and Accountability Act (Choice Act) Home Page, <http://vawww.va.gov/CHOICE/>, pulled Feb 19, 2015 at 3:35pm
- <sup>5</sup> US Senate Republican Policy Committee, H.R. 3230 – Veterans Access, Choice, and Accountability Act, [http://www.rpc.senate.gov/legislative-notices/hr-3230\\_veterans-access-choice-and-accountability-act](http://www.rpc.senate.gov/legislative-notices/hr-3230_veterans-access-choice-and-accountability-act)
- <sup>6</sup> <http://www.va.gov/opa/pressrel/pressrelease.cfm?id=2675>
- <sup>7</sup> <http://myva.va.gov/hi-im-bob-mcdonald-welcome-to-the-myva-webpage/> pulled Feb 19, 2015 at 1:08pm
- <sup>8</sup> 2014 Performance and Accountability Report, Part I-1, <http://www.va.gov/budget/docs/report/2014-VAparFullWeb.pdf>
- <sup>9</sup> 2014 Performance and Accountability Report, Part I-8, <http://www.va.gov/budget/docs/report/2014-VAparFullWeb.pdf>
- <sup>10</sup> Enterprise Technology Strategic Plan, February 28, 2014, pg. 9
- <sup>11</sup> US Department of Veterans Affairs, VA System Inventory (VASI) Home Page, <http://enterprise.metadata.va.gov/pls/apex/f?p=VASI:1:2670301323117939>
- <sup>12</sup> Enterprise Technology Strategic Plan, February 28, 2014, [http://www.ea.oit.va.gov/EAOIT/docs/May\\_2015-Release\\_Documents/OneVA\\_Enterprise\\_Technology\\_Strategic\\_Plan\\_Feb\\_28\\_2014\\_final1.pdf](http://www.ea.oit.va.gov/EAOIT/docs/May_2015-Release_Documents/OneVA_Enterprise_Technology_Strategic_Plan_Feb_28_2014_final1.pdf)
- <sup>13</sup> Secretary McDonald email “Message from the Secretary of Veterans Affairs – MyVA; Moving Forward into 2015, dated Nov 25, 2014
- <sup>14</sup> Organizational Transformation: A Framework for Assessing and Improving Enterprise Architecture Management, v2.0. U.S. Government Accountability Office, 10-846G, August 2010, pg. 1
- <sup>15</sup> Common Approach to Federal Enterprise Architecture, May 2012, pg. 24
- <sup>16</sup> FEA Consolidated Reference Model Document, version 2.3, Oct 2007, pg. 5
- <sup>17</sup> GAO-10-846G Organizational Transformation: A Framework for Assessing and Improving Enterprise Architecture Management (Version 2.0), August 2010
- <sup>18</sup> GAO-10-846G, Organizational Transformation: A Framework for Assessing and Improving Enterprise Architecture Management (Version 2.0), August 2010.
- <sup>19</sup> Note: Per the EAMMF policy, there are four different views that can be used to represent EA Maturity including the Functional View that was selected for this analysis, which is considered the best representation of the information for VA.
- <sup>20</sup> Based on the EA Management Maturity Framework (EAMMF) on a scale of 0-6 - with 0 being “not started” and 6 being “fully mature”
- <sup>21</sup> The Common Approach to Federal Enterprise Architecture, May 2, 2012, pg. 11
- <sup>22</sup> VA Directive 6051
- <sup>23</sup> EAC Charter signed by the CIO on 1 July 2009