



Interagency Program Office Program Management Support IPO iEHR Volume 1 SOE Roadmap & CoE ConOps 10312013



IPO PM Support

Department of Defense / Department of Veterans Affairs Interagency Program Office

Document Number: Volume 1: Service Oriented Enterprise (SOE) Roadmap & Center of Excellence (CoE) Concept of Operations
Release/Revision Status: Version 1.3
Release/Revision Date: October 31, 2013
File Name: IPO_iEHR_Volume_1_SOE_Roadmap_and_CoE_ConOps_10312013.doc

Unclassified

This document is a compilation of IPO iEHR Service Oriented Enterprise Roadmap and maturity activities as well as a discussion of the Center of Excellence its functions and activities. This document is divided into three parts: Part 1 discusses the Roadmap, while Part 2 discusses the Center of Excellence and Part 3 discusses the Communication Plan.

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Record of Changes

Date	Authors	Version	Change Reference
03/15/2013	Dr. Arunava Chatterjee	1.0	Initial Version
05/15/2013	Dr. Arunava Chatterjee Raju Prasannappa Gail Maestas	1.1	Merged Communication Plan
06/06/2013	Raju Prasannappa	1.2	Removed the signature page
9/04/2013	Raju Prasannappa Gail Maestas	1.3	Format changed to meet IPO guidelines Updated charts Updated communication plan

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PART 1 SOE ROADMAP

1-1. Introduction

The Department of Defense (DoD) and Department of Veterans Affairs (VA) integrated Electronic Health Record (iEHR) initiative is in the process of making Service Oriented Architecture (SOA) its primary architectural paradigm. Throughout this document “iEHR” will be used to represent the current initiative.

In defining the complete implementation, the SOA Suite Integrated Project Team (IPT) has decided to create three subsections of the SOA across the enterprise:

- **Service Oriented Enterprise (SOE)** – The SOE implies a consistent, enterprise-wide approach to service orientation, including necessary organizational structures, and enterprise roadmap. This document covers the implementation of the SOE.
- **Service Oriented Architecture (SOA)** – The SOA implies an implementation of the SOA Paradigm to include policies and practices for the governance of services. The SOA is covered in a separate volume – Volume 2.
- **Service Oriented Infrastructure (SOI)** – The SOI implies the hardware, network, virtualized servers, and operating systems necessary to enable the SOA. The SOI is covered in a separate volume – Volume 3.

This volume focuses on the SOE, its approach to enterprise maturity, its approach to communication plans, and core components necessary for SOE. A target maturity level is defined for the enterprise and gaps between the current state and the target state are considered. Steps are defined to migrate the iEHR towards the target maturity level. Among the steps necessary to achieve a mature SOE, a Center of Excellence (CoE) and an Enterprise Repository is suggested.

This document should be considered a living document and subject to modification and refinement based on input from stakeholders.

It should be noted that the As-Is states are based on a gap analysis study that was conducted at Military Health System (MHS)[1], referred to as *MHS Study* in this document. In addition to As-Is states, other conclusions from the MHS Study were used as a starting basis for assessment in this document. Although a similar assessment in VA would provide value, no formal assessment of VA’s Open Group Service Integration Maturity Model (OSIMM) levels is available for inclusion and reference. In lieu of a formal VA study, while general assessment of VA’s SOA maturity level appears to be comparable to the MHS study results, reconciling MHS Maturity, VA Maturity, and iEHR Maturity is a non-trivial undertaking. The interpretations in this document are meant to provide guidance for iEHR activities based on MHS Study. It is within the purview of each organization to determine the extent to which this guidance is applicable.

A summary of the MHS Study (from its Executive Summary) is provided below to help describe the study and its conclusions:

The Military Health System (MHS) has undertaken the transition to a SOE. In order to enable the MHS to move towards a SOE, an AS-IS assessment was recently conducted to discover the current state of SOA initiatives across the MHS using the OSIMM scale of 1-7 with 7 representing the most mature and 1 representing the least mature. The MHS ranked between 1 and 2, indicating that the organization is in the early stages of migrating to SOA. It was determined that an ultimate maturity level of 5 on the OSIMM scale was a reasonable level for MHS, as this maturity level allows the enterprise to support composition of services through technologies such as Business Process Management Engines, clearly defined and repeatable SOA practices, and an overall SOA culture. While a maturity level of 5 is the ultimate goal, an initial level of 4 is planned at the end of the first iteration. To facilitate the transition, a Gap Analysis between the current state and the target state was conducted, and a set of constructs and activities were defined (via a Roadmap) to move the MHS towards the target maturity level. This document discusses the Gap Analysis and the resulting Roadmap.

1-2. Purpose

The purpose of this document is to define a roadmap that can be coupled with a well-defined process for managing execution that enables the iEHR to establish a mature SOE. It is intended to provide a collection of steps and components towards this goal.

1-3. Scope

This document discusses the following topics:

1. A notional discussion of the gaps between the current state of the SOE and its target maturity level in accordance with the OSIMM.
2. Recommendations regarding a SOE organizational structure.
3. Use of an Enterprise Repository as an authoritative source for information such as metadata, policies, transformation models, data reference models, business rules, and service documentation.

1-4. Target Audience

The intended audience of this volume is: the divisions within the Office of the Chief Information Officer (OCIO), TRICARE Management Activity (TMA), the Interagency Program Office (IPO), the Office of the Chief Technology Officer (OCTO), the Service Military Medical departments, the VA Office of Information (OI) Architecture Strategy and Design (ASD) and Service Delivery and Engineering (SDE), and other iEHR stakeholders, as appropriate. This SOE strategy document is intended to be refined in a collaborative manner with input from all stakeholders.

1-5. Goals

The iEHR's ultimate goal is to transition VA and DOD common functionality to a structure that is more adaptive and responsive to mission needs. In achieving the stated goal, the iEHR has selected SOA as the architecture of choice for implementation throughout the enterprise. If the iEHR were to be implemented using current functionality from the DoD and VA, it would leverage application-centric functionality with numerous silos of activity, all proceeding down differing paths of architecture and implementation. The purpose of the SOE, SOA, and SOI is to significantly reduce these silos and create an environment with the potential for seamless information sharing. The consequence of this is the increased likelihood of responding to changing mission needs in both an efficient and effective manner. While the previous statement provides a notional sense of moving to a SOE, it can be concretized by defining the intended goals of the SOE as follows:

- **Improved Mission Focus** – SOE will reduce duplication and allow more resources to be directed towards fulfilling mission needs
- **Increased Agility** – SOE introduces business and Information Technology (IT) alignment; consequently, executive decisions can be implemented more quickly
- **Enhanced Collaboration and Interoperability** – Enterprise-wide practices and policies introduced by the SOE will allow consistent data sharing with a minimum investment in addressing interoperability issues

By addressing these goals through the execution of this strategy, the iEHR is transitioned to a stable SOE that will evolve the enterprise to a steady state where a service oriented culture is the norm.

These goals correspond to OSIMM levels of four (4) and above as indicated in Figure 1. A level 4 maturity is consistent with an emerging SOA, i.e. the organization has established some level of governance, service-based development is being used, and services are deployed. In achieving a level 4, the prior maturity levels must also be satisfied. That is, level 4 maturity is inclusive of levels two (2) and three (3). The OSIMM maturity levels and its implications are discussed in Section 1-7.

1-6. Success Factors

Given the number of SOEs that have been implemented in industry and government, several critical factors have been identified that yield short-term and long-term benefits in executing the Roadmap:

- **Mentor and Train** – Organizations new to service orientation require a reference for best SOA practices.
- **Identify Executive SOE Champions** – Champions must be willing to overcome political and technical hurdles in driving the SOE transformation forward.
- **Incentivize Adoption** – Promote adoption and compliance by providing incentives to the organization.
- **Prioritize Pain Points** – Identify and prioritize areas of greatest difficulty in the organization; identify those areas in the domain that can yield the highest return on investment (ROI).
- **Start Small** – For organizations new to service orientation, select projects that will enable business and technology teams to build SOA skills.
- **Establish a CoE** – A CoE acts as the focal point for guidance and best practices in implementing a SOE and provides an environment for collaboration and cooperation among iEHR constituents.
- **Establish Governance** – Launch in key supporting areas such as Enterprise Architecture (EA) and Enterprise Information Management (EIM).
- **Communications** – Communicating plans, goals, messages and achievements will drive instantiation of SOE across stakeholders (See Appendix C).

1-7. The Open Group Service Integration Maturity Model

The OSIMM established by The Open Group is a mechanism to understand the level of an organization’s maturity with regards to SOA. It defines seven dimensions that categorize an organization’s functions and provides seven levels of maturity that can be ascribed to each dimension. Each dimension is briefly discussed as follows. A comprehensive discussion is provided in the OSIMM document [2]. Figure 1 shows the OSIMM roadmap. Following the discussion of each dimension, the current state of the iEHR is described in terms of its maturity levels. The characteristics necessary to achieve the target maturity level are also discussed.

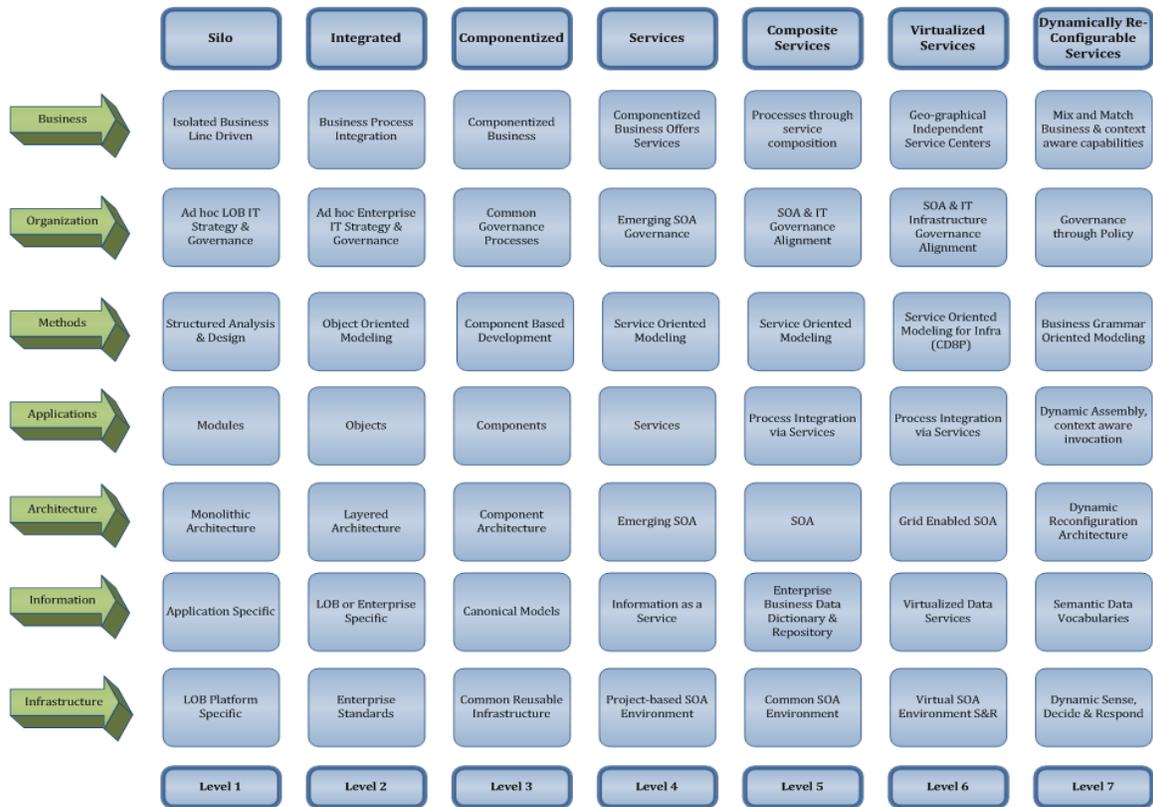


Figure 1 – The OSIMM Roadmap Indicating Seven Functional Areas and Seven Maturity Levels

1-7.1 Methods

The Business dimension focuses on the organization’s current business practices, policies and how business processes are designed, structured, implemented, and executed.

The iEHR current Business maturity level is assessed as Level 3 “Componentized Business.” The characteristics of this maturity level are described in Table 1.

Table 1 – As-Is Maturity Level – Business

Assessed Maturity Level: 3	
OSIMM Maturity Attributes	iEHR Characteristics
Cross-Organizational	Spans DoD and VA
Some formal EA constructs exist	The iEHR has an EA group for both technology and business and is in the process of increasing coordination efforts
The organization’s business drivers are documented as cross-organizational business objectives	The iEHR’s primary governance structure is a collection of Service-oriented, subject-specific and functionally-

	driven governance boards which serve as aspects of the iEHR organizational structure
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At this maturity level, the enterprise has some formal Enterprise Architecture (EA) constructs, with business drivers documented as cross-organizational business objectives. The goal of the Business dimension is to reach Level 4 maturity, “Componentized Business Offers Services.” This level is indicated by OSIMM as formal definition and documentation of the iEHR’s business drivers and processes. To attain Business Level 4 of the OSIMM model, the following maturity attributes need to be achieved:

- **Business Componentization** – Enterprise-wide implementation of componentized business (providing and consuming service), thus allowing the iEHR organization to be viewed more as a service intermediary to other organizations within the enterprise or external to the enterprise participating in the value chain. The transformation to service intermediary will reduce duplication of functionality across DoD and VA, thereby increasing the speed to market through the reuse of services available in the iEHR.
- **Aligning Business Strategy to Technology Implementation** – Formal use of EA for the iEHR organization. The key requirements, principles, and models that describe the enterprise and enable its evolution have been created, communicated, and are improving. The technology implementation will have alignment to CIO strategy.
- **Investment Prioritization** – The iEHR organization’s business drivers are documented as elements of the enterprise mission and business architecture.

1-7.2 Organization & Governance

The Organization and Governance dimension focuses on the structure and design of the organization itself and the necessary measures of organizational effectiveness with respect to SOE and SOA governance.

Table 2 – As-Is Maturity Level – Organization and Governance

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
A vision or strategy for the adoption of SOA has yet to be formalized. No IT-business governance processes for SOA services have yet been implemented.	While SOA initiatives exist in DoD and VA, minimal governance processes currently exist in the iEHR that align with SOA initiatives across the enterprise
Nonexistent cross-organizational (Line of Business) coordination of services (SOA)	iEHR currently does not have services (SOA) that are utilized across the DoD and VA.
Little to No SOA Training	iEHR currently has a notional plan for SOA Suite training through Harris.

The iEHR enterprise is currently at Level 1 maturity, though indications from VA and MHS suggest it is currently evolving into Level 2, for the Organization and Governance dimension due to business strategy and governance for SOA being in an ad hoc/evolving phase. This level is indicated by OSIMM as formal use of service and SOA governance across the [joint] organization to develop, deploy, and manage business and IT services (SOA solutions). In order to attain Level 4 maturity, the following maturity attributes need to be achieved:

- **Enterprise Governance** – Enterprise-wide implementation of emerging SOA governance structure, including formal uses of emerging SOA governance across the organization to develop, deploy, and manage business and IT services (SOA solutions). The SOA governance structure will align with iEHR CIO governance and its future strategy.
- **SOA Strategy and Investment Prioritization** – A formal enterprise-wide SOA strategy and vision is defined, published, and agreed to by the business units across the iEHR organization.
- **SOE Governance** – A formal SOE governance process and structure has been documented and is functioning among most business units.

- **Organizational Skills and Knowledge** – SOA training programs have been tailored for both IT and business unit needs, and are producing SOA skills in both the IT and business unit areas.

1-7.3 Methods

The Methods dimension is focused on the organization’s maturity around the Software Development Lifecycle such as the use of requirements management, design methodologies and techniques, as well as tools for designing solutions.

Table 3 – As-Is Maturity Level - Methods

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
No currently implemented formal use of SOA design and implementation methodology	Modeling and architecture activities are yet to be established at the service level in a cross-organizational manner
IT and business employees have minimal understanding of the implementation of business processes as services	Although a service catalog and service repository initiative has been started, iEHR has not fully implemented a common service repository

The enterprise currently exists at Level 1 maturity for the Methods dimension. The goal remains for the enterprise to reach Level 4 maturity, “Service Oriented Modeling,” which is indicated by OSIMM as formal use of an SOA architectural design, construction, and deployment methodology for the implementation of services. Methods of software design will move from individual system analysis towards modeling and design of software based on services. To attain Level 4 maturity, the following maturity attributes need to be achieved:

- **Responsive and Agile Business Systems** – iEHR enterprise-wide implementation of service oriented modeling practices, including formal use of a SOA architectural design methodology for the design, implementation, and deployment of services. Further, it is possible to define the services in terms of specifications that unambiguously define the operations performed by the service, thus permitting the construction of a catalog of services. Again, iEHR will be able to reuse the services generated through modeling practice and attain rapid deployment of functionality.
- **Unified Development Process** – SOA methods and practices have been implemented across the iEHR enterprise, although not all organizations follow a unified approach.

1-7.4 Application

The Application dimension focuses on application style, structuring of the application, and uniform use of best practices and patterns, including enterprise schemas and service models.

Table 4 – As-Is Maturity Level - Application

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
Application architectures and topologies are monolithic and lack integration between other systems across the enterprise	This attribute is exemplified by the various interoperability challenges currently being faced by the iEHR
The use of web services or other SOA constructs are not yet established	Web services and other SOA constructs are yet to be utilized

The enterprise is currently at Level 1 maturity for the Applications dimension. At this level, the enterprise does not use web services or other SOA concepts, and the application architectures and topologies are monolithic and do not integrate with other systems in the enterprise. The goal remains for the enterprise to reach Level 4, “Services.” This level is indicated by OSIMM as application architectures that are designed and implemented using SOA principles and development practices that utilize constructs such

as loose-coupling, separation of concerns, and employ the use of service-enabled technologies such as XML, web services, service bus, service registries, and virtualization. Applications will move from individual modules created for specific business functions to services that can be reused depending on the business process. To attain Level 4 maturity, the following maturity attributes need to be achieved:

- **Reuse** – The iEHR enterprise-wide implementation of services that are designed and implemented using SOA principles and development practices. Services reduce the need (and cost) of redeveloping the same functionality for multiple systems by the provision of reusable services which will allow greater speed to market for iEHR.
- **Scalable Architecture** – Service components of application architectures employ SOA patterns such as separation of concerns between logical and physical layers of the presentation and business logic.
- **Interoperability** – Service integration is achieved using an Enterprise Service Bus (ESB) in some, but not all, business units.

1-7.5 Architecture

The focus of the Architecture dimension is on the enterprise-wide structure of the architecture which includes topology, integration techniques, EA decisions, standards and policies, and services adoption level.

Table 5 – As-Is Maturity Level - Architecture

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
Little to no SOA methods or practices have been established to design service components	While iEHR has made efforts to move toward SOA currently there are no shared services in place

The enterprise currently stands at Level 1 maturity, “Monolithic Architecture,” for the Architecture dimension. At this level, SOA methods or SOA practices are not apparent. The goal remains reaching Level 4 maturity which establishes an “Emerging SOA” environment. This level is indicated by OSIMM as service components designed using formal SOA methods, principles, patterns, frameworks, or techniques. The architecture framework needs to move from monolithic architecture, which is based on individual applications and how they interact without an SOA perspective, to an emerging SOA architecture permitting the construction of systems based on services. To attain Architecture Level 4 maturity on the OSIMM model, the following maturity attributes need to be achieved:

- **Future Enterprise Adaptability** – iEHR enterprise-wide implementation of emerging SOA architecture. Application architectures are designed and implemented using SOA principles and development practices. The combination of IT and service architectures permits the construction of systems based upon these services, operating across the Office of the Chief Information Officer (OCIO) within the broader iEHR organization.
- **Technology Governance** – Formal SOA methods and practices are employed across the iEHR enterprise supported by a formal governance process.
- **Pattern Based Design** – Applications and services are designed using formal SOA principles and patterns.

1-7.6 Information

The information dimension’s focus is on how information is structured and modeled, the method of access to enterprise data, and data transformation capabilities.

Table 6 – As-Is Maturity Level - Information

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
Information is replicated and redundant	Data is not available on demand, which increases the likeliness of information being replicated and redundant
Conceptual enterprise information model is absent	With the exception of Health Layer 7 (HL7), the iEHR requires a model which defines how information is structured across the enterprise

The enterprise is currently at Level 1 maturity, “Application Specific,” for the Information dimension. Information regarding the enterprise at this level is replicated and redundant, and a conceptual enterprise information model is absent. The goal remains to reach Level 4 maturity, establishing “Information as a Service” for the enterprise. This level is indicated by OSIMM as having an information architecture supporting a master data model that implements a common business data vocabulary. Information and Data must evolve from being application-specific and siloes to data being available as a service to subscribers with enterprise standards to interpret this data (semantically) into business information. To attain Information Level 4 maturity on the OSIMM model, the following maturity attributes need to be achieved:

- **On-Demand Data Availability** – The iEHR enterprise-wide implementation of data services within the iEHR information domain. Offer access to iEHR data in a controlled and timely manner which reduces inconsistencies in the data within systems that access and update the data.
- **Semantic Dictionary** – Multiple business units within iEHR are using metadata relationships.
- **Semantic Interoperability** – Business data vocabularies are standardized across business units and process areas.
- **Data Sharing** – Business data can be shared across business units and with business partners in a consistent manner. Interfaces are defined using common message data vocabularies.

1-7.7 Infrastructure

The Infrastructure and Management dimension is focused on the organization’s service management, IT operations, IT management, and IT administration.

Table 7 – As-Is Maturity Level – Infrastructure and Management

Assessed Maturity Level: 1	
OSIMM Maturity Attributes	iEHR Characteristics
Little or no operating support is in place for the deployment of services	Although the iEHR has started to implement infrastructure for the deployment of shared services, operations in support of these services has just started.

The enterprise is currently at Level 1 maturity, “Line of Business Platform Specific,” for the Infrastructure dimension, though some attributes of Level 2 has already been achieved at the VA. The enterprise at this level has minimal operating support for the deployment of services. The goal is to reach Level 4 maturity which establishes a “Project-based SOA Environment.” This level is indicated by OSIMM as having an IT infrastructure supporting non-functional and operational requirements and service level agreements (SLAs) needed to operate an SOA environment. Infrastructure needs to move from being platform-specific (per each line of business) to developing projects based on the SOA environment. To attain Infrastructure Level 4 maturity on the OSIMM model, the following maturity attributes must be achieved:

- **Common Enterprise Infrastructure** – iEHR enterprise-wide implementation of projects based on the SOA environment, utilizing a common, reusable infrastructure defined and consumed in terms of infrastructure resource standards and common infrastructure SLAs. The investment of effort in service identification, specification, developing, testing, and deploying a service is repaid when new systems require the same service as the cost of infrastructure and maintenance of common functionality is reduced. Additionally, the expansion, consumption, and planning of

computing environment infrastructure is efficiently managed through standardized and dynamic infrastructure resource provisioning.

- **Distributed Identity Management** – Operating environment supports iEHR enterprise-wide service deployment of services. Identities of distributed users across departmental, organizational, and enterprise boundaries can be administered and managed.
- **High Availability and Fault Tolerance** – Managed by assigning responsibilities for SLAs to segments of the organization.

1-8. Initiatives

Given the current state and target state of the iEHR enterprise, in order to move forward to achieve the target goals, a CoE is proposed and an associated Enterprise Repository is proposed. The CoE provides a focal point for business and technology to align initiatives in order to meet business needs.

This section provides discussion of the SOE Roadmap initiatives and their impact on iEHR’s migration from its current maturity level towards its target maturity state. Table 8 below provides a short definition of the initiatives. The CoE is described in detail in SOE Volume III: SOI Governance. The Enterprise Repository is discussed below.

Table 8 – Proposed Initiatives

Initiative	Definition
CoE – SOA Governance	The CoE serves as the focal point for the transition to the target maturity level. A CoE provides a strong foundation for SOA implementation by officially acknowledging SOA to the enterprise. Further, it creates an iEHR team to determine the best strategy to implement SOA into the enterprise and establishes an environment of cooperation and coordination. See reference [3].
Enterprise Repository	The Enterprise Repository is a central location capturing metadata, policies, transformation models, data reference models, business rules, and service documentation. The repository serves as the single source for information-related SOA implementations and assists with governance by processing the enterprise analytics required for decision making. See Section 8 for a detailed description of the Enterprise Repository.

The initiatives described in Table 8 enable the target maturity levels as described in Table 9. External dependencies to achieve Level 4 maturity are also discussed.

Table 9 – Proposed Initiative Dependencies

Dimension	TO-BE Maturity Level	Description	SOE Roadmap Initiative Dependency	External Dependency
Business	4	Business Architecture is defined for the enterprise. EA practices and governance activities are formalized and are used throughout the iEHR. The iEHR business objectives are part of the enterprise metamodel and maintained in the Enterprise Repository.	Enterprise Repository	EA practices well-defined and Enterprise Governance in place
Organization and Governance	4	Organizational changes and governance activities are applied consistently across the enterprise. The SOE strategy has been defined and approved by stakeholders. The CoE has established a formal SOA governance process and structure that is utilized by organizations at the iEHR. Governance processes are maintained in the Enterprise Repository and accessible	CoE , Enterprise Repository	Funding realignment to support organizational change, training activities, and innovation initiatives to help streamline the processes that feed the iEHR governance structure for rapid assessment, acceptance, and delivery of innovative solutions

Dimension	TO-BE Maturity Level	Description	SOE Roadmap Initiative Dependency	External Dependency
		through a portal for reference and review. Mentoring and training programs have been established and leveraged by Divisions and Project Management Offices (PMOs) in the iEHR program.		
Method	4	Service modeling and development policies have been defined for the enterprise by the CoE. The policies are in the process of being implemented uniformly across the DoD and VA.	CoE, Enterprise Repository	Process established to ensure stakeholder buy-in and adherence to established policies; distributed development processes and policies ensuring streamlined software development Innovation lifecycle process to facilitate rapid adoption of innovative technologies into the enterprise
Application	4	The CoE has established application development practices. SOA patterns and components are in place to build applications while maintaining principles such as separation of concerns. A SOA Suite has been deployed in the production environment. The Suite is in the process of being leveraged by all organizations for all applications.	CoE, Enterprise Repository	A stable and governed SOI, meaning that the hardware, software, and communications necessary to create service-based functionality incorporates policies and practices that are followed; distributed development streamlines application development throughout the enterprise; innovation assessment processes ensure application development adheres to SOE strategy
Architecture	4	A Reference Architecture has been established for the enterprise. Best practices and governance such as patterns for enterprise integration have been established. Applications and services are reusing existing assets.	CoE	Distributed development propagates best practice and alignment with MHS and VA architecture and components through leveraging repeatable processes, toolkits and quality assurance; innovation assessment criteria ensure new product and system alignment with EA.
Information	4	Information architecture and Enterprise Information Management (EIM) have been instituted across the iEHR. Metadata is being leveraged by SOA Initiatives. Business vocabularies and a Common Message Model have been established such that data can be shared between organizations within the iEHR as well as with partners.	CoE Enterprise Repository	The enterprise establishment of well-defined information governance practices in place, including authoritative sources and a canonical representation of the data and data stewardship.

Dimension	TO-BE Maturity Level	Description	SOE Roadmap Initiative Dependency	External Dependency
Infrastructure and Management	4	Infrastructure follows an enterprise-wide set of practices and policies such that service deployment and operations meet non-functional requirements. Necessary supporting systems such as authoritative Role Based Access Control (RBAC) and Attribute Based Access Control (ABAC) are in place and in use across the enterprise.	CoE	A stable and governed SOI, indicating that policies and practices exist around hardware, software, and communications that are leveraged in maintaining the SOI; distributed development guidelines proliferate best practices and alignment with technical architecture requirements through leveraging repeatable processes, toolkits and quality assurance.

1-8.1 SOE CoE

The SOE CoE is described in detail in SOE Volume III: SOI Governance.

1-8.2 Enterprise Repository

The Enterprise Repository is fundamentally an enabler for SOE processes. Its primary purpose is to maintain a variety of information such as metadata, policies, transformation models, data reference models, business rules, and service documentation.

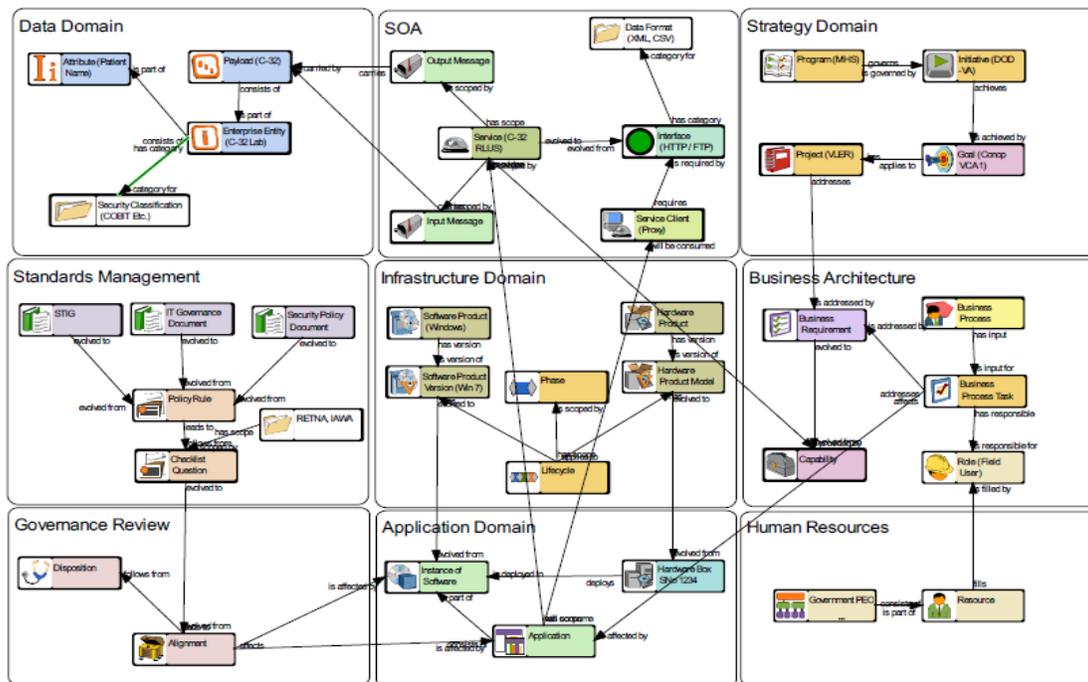


Figure 2 – Connection through One Common Metamodel

As a central location for business processes, policies, Service Level Agreements (SLAs), architecture and portfolios, an Enterprise Repository will assist iEHR in moving from its current maturity level to the target maturity level. For the iEHR dimensions to graduate to Level 4 maturity, the enterprise will need to become more adaptive and responsive through maintenance of defined business architecture, governance activities and processes, business objectives, and metadata.

The various IPTs (e.g. SOA Suite, Architecture and Standards, Data) will be responsible for constructing a metamodel that would be utilized to model the various domains that currently exist in the enterprise. A sample of this is shown in Figure 2 which is a view into a sample metamodel. Through this type of linkage, the repository will allow the navigation of transitive relationships to understand the impact of changes in strategy to the low level application and infrastructure.

Dependencies

- CoE
- External tools which the Enterprise Repository will interact with to gather data must be maintained and available

1-9. Conclusion

This document has described a mechanism to establish and mature the iEHR SOE using a maturity model and a proposed set of initiatives. The target state estimation is based on creating an emergent SOA. In later stages, the SOA should achieve a maturity of Level 5 “Composite Services.” The activities by which to achieve Level 4 and Level 5 are the CoE and the Enterprise Repository. Both of these have been proposed to the IPO.

It should be noted that the SOA Suite IPT does not manage all seven dimensions or maturity levels, but looks to other IPTs to enable the target maturity level. In particular the SOA Suite IPT is involved in the following areas of the maturity model highlighted in red.



Figure 3 – CoE and Enterprise Repository

1-10. References to Part 1

1. MHS SOE Roadmap v1.2.docx. Military Health Systems. 2011.
2. The Open Group Service Integration Maturity Model. Open Group. 2009.
3. iEHR CoE Directive. SOA Suite IPT. 2012.

PART 2 SOE COE CONCEPT OF OPERATIONS

2-1. Introduction

The DoD and VA iEHR initiative is in the process of making SOA its primary architectural paradigm. Throughout this document “iEHR” will be used to represent the current initiative.

In defining the complete implementation, the SOA Suite IPT has identified four subsections of the SOA across the enterprise each which will be described under a separate volume

- **SOE Roadmap** – In order to provide overarching guidance to the development of the SOE, the OSIMM has been leveraged to understand the current state and define the future states of the SOE as it evolves.
- **SOE** – The SOE implies a consistent, enterprise-wide approach to service orientation, including necessary organizational structures and processes. This document covers the implementation of the SOE.
- **SOA** – The SOA implies an implementation of the SOA Paradigm to include policies and practices for the governance of services. The SOA is covered in Volume 2.
- **SOI** – The SOI implies the hardware, network, virtualized servers, and operating systems necessary to enable the SOA. The SOI is covered in Volume 3.

This volume focuses on the SOE, its policies and operations. These policies and operations are defined and executed by the SOE CoE. CoE structure, functions, processes and artifacts are defined in the remainder of this document.

This document should be considered a living document and subject to modification and refinement based on input from stakeholders and lessons learned.

2-2. Purpose

The purpose of this document is to define the activities of the SOE CoE and the artifacts, roles, and dependencies associated with those activities.

2-3. Scope

This document discusses the following topics:

1. The Functions of the CoE
2. CoE Establishment and Organization
3. CoE Roles and Responsibilities

2-4. Target Audience

The intended audience of this volume is: the divisions within the OCIO, TMA, the IPO, the OCTO, the Service Military Medical departments, the VA OI ASD and SDE, and other iEHR stakeholders, as appropriate. This SOE strategy document is intended to be refined in a collaborative manner with input from all stakeholders.

2-5. Functions of the CoE

The SOE CoE is an organization with enterprise-wide visibility intended to coordinate SOA initiatives within the IPO and is foundational to the success of SOA due to its ability to harmonize the needs of business and technical constituents at both MHS and VA. The CoE at the IPO is comprised of business and technical representatives from stakeholders representing IPO, MHS, and VA. This is intended to make the CoE responsive to issues involving the iEHR SOA that crosses MHS and VA boundaries. Major functions of the CoE include:

Table 10 – Functions of the CoE

ID	Title	Function
5.1	Policies, Processes, and Standards	Define organizations, roles, standards, policies, procedures, enforcement mechanism, SOA governance processes, and guidelines for SOA
5.2	Training and Education	Provide mentoring and guidance on SOA to disseminate policies, procedures, and guidelines
5.3	Specialized Solutions	Provide the guidance to develop solutions for novel or unusual integration issues
5.4	Enterprise-wide Requirements	Identify cross-enterprise requirements and develop corresponding solutions
5.5	Compliance Reviews	Review SOA initiatives for compliance and remediation with policies/procedures/ guidelines. Enforce service reuse and interoperability
5.6	Technology Management	Monitor the technology landscape regarding SOA to provide direction to the iEHR IPO
5.7	Toolkits	Develop and maintain Software “Toolkits” and a SOA Reference Architecture
5.8	Balance Scorecard	Define and maintain a CoE-balanced Scorecard (cost, efficiency and effectiveness)
5.9	Service Portfolio	Establish and Maintain SOA Portfolio
5.10	Architecture Standards	Develop and Maintain a SOA Blueprint
5.11	Organizational Changes	Define and Execute Organizational Change Management
5.12	CoE Assessment	Establish CoE Assessment Process

- Policies, Processes, Standards** – A comprehensive set of policies and standards need to be developed to promote a more collaborative culture based on reuse and information sharing. In order to avoid architectural fragmentation and promote reuse, the CoE shall establish a basis for directing and guiding SOA initiatives to adhere to a collaborative culture. This effort should occur in congruence with the Department of Defense Architecture Framework (DODAF). Among the activities that require policies, processes, and standards are:
- Service Lifecycle Management** – Service lifecycle management is the process of governing a service from inception through development, testing, deployment, operations, and retirement service lifecycle management includes facets such as versioning, maintenance of the repository and registry, and the service publication process.
- Design Time Policies** – Design time policies introduce constraints on how services are to be designed and developed, including guidance for component structure, schema format, and service design patterns to follow.
- Runtime Policies** – Runtime policies introduce service management while the service is in the running system and includes guidance for security management, transaction management, and reliable messaging.
- Common Services Harvesting** – Services developed to address a particular business case may be candidates for common services. A process will be defined regarding how the service will be adjusted to meet common services standards, how checks will be required, and how the service will be introduced into the common services repository.

2-5.1 Activities

Participate in project reviews to understand the policies required at the IPO:

- Adopt best practices from the industry to be utilized at the IPO
- Create policies that guide the implementation and governance of SOA
- Create guidelines documents and, where possible, utilize governance documents for implementing accelerators (e.g. SDKs, and Sample Implementations)
- Conduct document reviews and incorporate feedback through governance structures (e.g., TRB)
- Publish and manage policies, guidelines, and best practices

2-5.1.1 Artifacts

- SOE Volume II: SOA Governance
- SOE Volume III: SOI Governance

2-5.1.2 Dependencies

- Collaboration and acceptance by IPO stakeholders
- Enterprise Repository
- Service Registry

2-5.2 Training and Education

As has been stated, the IPO is migrating from an application-centric enterprise to a service-centric enterprise. As such, the constituent organizations will require assistance in adopting SOA approaches and creating a culture where service orientation is the norm. To facilitate this, the CoE shall work with MHS, VA and IPO Integrated Product Teams (IPT) to implement SOA in conformance with SOE best practices. Additionally, the CoE shall provide ongoing education on SOA.

2-5.2.1 Activities

- **Prioritize Training Areas** – The CoE shall leverage the As-Is analysis and conduct stakeholder interviews to identify training areas that are priority for the IPO
- **Establish a Training Plan** – The training plan shall define methods for training at the IPO such as off-sites, brown bag sessions, or online training
- **Execute the Training Strategy** – Conduct activities defined in the Training Strategy to disseminate SOE-related training
- **Create Training Materials** – Documentation such as a reference manuals, guides, and online courses shall be established
- Establish a feedback mechanism to assess training strategy effectiveness

2-5.2.2 Artifacts

- Learning Plan

-
- Learning Materials
 - Learning strategy effectiveness reviews

2-5.2.3 Dependencies

- Enterprise Repository
- Collaboration and acceptance by IPO stakeholders

2-5.3 Specialized Solutions

From time to time unusual or novel integration scenarios may arise. Under these circumstances, the CoE Architects and Engineers can assist in developing a specialized solution for that scenario.

2-5.3.1 Activities

- Conduct Analysis of Alternatives of the solution space.
- Provide Architectural Guidance in developing the solution
- Analyze solution impact on the SOA and downstream systems.

2-5.3.2 Artifacts

- Analysis of Alternatives Report
- Implementation and Operations Guidelines
- Impact Analysis Report

2-5.3.3 Dependencies

- Collaboration from Integration Teams
- Requirements Analysis

2-5.4 Enterprise-wide Requirements

A key point in developing the IPO SOA is that the IPO must provide solutions that lead to interoperability between MHS and VA. SOE CoE will be responsible for identifying and providing common enterprise-wide requirements as the IPO, MHS, and VA business needs change. The CoE will periodically review business needs and determine common requirements for both MHS and VA that can be delivered through the IPO SOA.

2-5.4.1 Activities

- Review MHS and VA business needs
- Engage stakeholders to develop requirements
- Provide a high-level solution to meet the requirements

2-5.4.2 Artifacts

- Business Case Justification
- System Requirements Specification
- High level System Design Document
- Risk and Cost Analysis

2-5.4.3 Dependencies

- Collaboration with MHS, DoD and IPO Stakeholders

2-5.5 Compliance Reviews

The project review process is intended to maintain consistency across SOA initiatives. As SOA projects are undertaken, the CoE will conduct reviews for compliance with CoE policies, standards, and guidelines, ensuring interoperability, maintainability, and reliability of services and service-based applications.

2-5.5.1 Activities

- **Establish Project Review Criteria** – Reviewing all initiatives at the IPO requires a large staff and potentially multiple review boards at different levels of the organization. In order to address a meaningful subset of initiatives, the CoE shall work with the IPO to establish a set of criteria for project review(s).
- **Establish Project Review Checkpoints** – In order to conduct project reviews, checkpoints along the project lifecycle must be established. During these periods, the CoE, in collaboration with the IPO will review project compliance with policies and procedures.
- **Define Review Process** – The review process establishes a series of tasks to assess projects for compliance.
- **Conduct Reviews** – As SOA initiatives are undertaken, the project will be checked against review criteria and reviewed as necessary. Risks will be assessed for waiver requests, as appropriate.

2-5.5.2 Artifacts

- Project Review Criteria
- Compliance Review Process

2-5.5.3 Dependencies

- Coordination with Integration Teams
- Scheduling and Staff Availability for Compliance Reviews

2-5.6 Technology Management

In order to proactively address changing technologies in the market, the CoE shall continuously manage the lifecycle of various enterprise SOA assets. CoE shall work with IPO, MHS and VA to manage the lifecycle of SOA assets while understanding its impacts to the enterprise application suite and interactions with external partners.

2-5.6.1 Activities

- Collect and document current SOA assets in the organization.
- Proactively collect future needs of the organization for various enterprise SOA asset needs.
- Link enterprise SOA assets to business-specific components for impact analysis.
- Decide on the lifecycle decision for the SOA asset (Inception, Design, Development, Testing, Deployment, Operation, Deprecation, and Retirement).
- Publish and manage SOA asset repository along with its lifecycle.
- Create business analytics and reports from an operations and maintenance perspective.

2-5.6.2 Artifacts

- SOA asset portfolio and lifecycle
- Prioritized List of upcoming technology changes

2-5.6.3 Dependencies

- Enterprise Repository
- Collaboration and acceptance by stakeholders

2-5.7 Toolkits

Toolkits provide a means to accelerate SOA adoption and implementation to maintain consistency across the enterprise. This function of the CoE will be responsible for consuming the policies, guidelines, and best practices provided by the standards function as well as for constructing accelerators that will foster voluntary compliance. The CoE shall work with other CoEs, such as the MHS and VA CoEs, to create toolkits that enable the IPO to migrate to its target maturity goals while remaining aligned with business plans. An example of a toolkit relevant to the IPO is the SOA System Development Kit (SDK).

As the IPO matures towards a SOE, services will be implemented by various providers to expose data, business logic, and human workflows. Every service is composed of both business-agnostic components (security, audit trail, transaction monitoring, etc.) and business-specific components. To accelerate the implementation of services, a service framework could be constructed to encapsulate most of the business-agnostic components and expose it as framework, leaving only the business logic to be implemented. SDKs would be the resulting frameworks that will be utilized by various organizations to implement the services.

2-5.7.1 Activities

- Analyze best practices, guidelines, and policies to be implemented as a framework.

-
- Analyze integration components (e.g., CA Application Performance Manager (APM), CA Introscope) to be implemented as framework.
 - Identify, define, develop, and share through a collaboration environment the necessary toolkits.
 - Create work estimate for toolkits.
 - Conduct training and other necessary organizational change management strategies for migrating the IPO to use the framework.
 - Obtain user feedback and lessons learned to manage and refine toolkits.

2-5.7.2 Artifacts

- SDKs and supporting documentation.

2-5.7.3 Dependencies

- Other CoEs, such as the MHS SOE Governance Center (SOEGC) or the VA Enterprise Shared Services Working Group (ESSWG).
- Collaboration with project specific integration teams.
- Collaboration and acceptance by stakeholders.

2-5.8 Balanced Scorecard

A Balanced Scorecard is a strategic performance management tool to monitor activities and their consequences. The CoE shall establish a SOE Balance Scorecard and link it to the IPO Balanced Scorecard from a SOE perspective. The Balanced Scorecard will address the effectiveness of:

- Interoperability
- Business Processes
- SOE Management Practices
- Service Development
- Service Security
- Service Governance, Compliance and Audit

2-5.8.1 Activities

- Understand strategic direction of the IPO.
- Identify implications to financial and customer perspective based on strategic direction.
- Identify business processes from the processes perspective as they link to the customer and financial perspective.
- Identify lead indicators for initiatives in various perspective and their respective targets.
- Measures lag indicators to ensure that the objective is being met for the initiatives identified.
- Maintain and publish the SOE Scorecard.

2-5.8.2 Artifacts

- Balanced Scorecard
- Balanced Scorecard Dashboard
- Monthly Report

2-5.8.3 Dependencies

- Coordination with IPO balanced scorecards
- Collaboration and acceptance by IPO stakeholders
- Enterprise Repository

2-5.9 Service Portfolio

A SOA Portfolio is an inventory of services with detailed information pertaining to the interaction and information exchange among services and applications. A SOA Portfolio serves as the first step towards reuse where services are published to a common repository, becoming visible to the enterprise. In addition to detailing the interchange among services and applications, the SOA Portfolio maintains architecture and technology information. Because of the type of information maintained within the Portfolio, coordination between the CoE, Portfolio Management (PM) and EA is necessary.

2-5.9.1 Activities

- Participate in project reviews.
- Identify services to be created and append to the service portfolio.
- Relate service portfolio to the application portfolio to understand service prioritization.
- Identify owners and consumers for the service based on service lifecycle management process.
- Publish and manage the list of services through the common service repository.
- Manage the service lifecycle based on portfolio prioritization and service replacements.

2-5.9.2 Artifacts

- Services Catalog

2-5.9.3 Dependencies

- Enterprise Repository
- Collaboration and acceptance by IPO stakeholders
- Service Owners
- Application Inventory
- EA (including Technology Inventory)

2-5.10 Architecture Standards

Architecture blueprints are reference architectures that are utilized as baselines for implementation and prioritization of toolkits in the enterprise. The reference architectures incorporate both a standards portion and an execution portion. A properly envisioned (and implemented) reference architecture drives down the total cost of ownership (TCO) and enterprise risk by providing a clear direction and institutionalizing the knowledge currently present in the minds of enterprise architects. Reference architectures describe a number of aspects of a SOA, including:

- Interaction of services to provide workflow.
- Implementation of services to access packaged applications and legacy systems.
- Management of authentication and authorization for service usage.
- Relationship between service-enabling technologies such as an ESB with security and data repositories.

2-5.10.1 Activities

- Understand enterprise risk for generative architectures and design patterns such as the SOA.
- Create reference architectures for the given purpose and propose accelerators to be produced.

2-5.10.2 Artifacts

- **SOA Blueprint** – A blueprint for defining SOA implementations including patterns for implementation.
- **SOA Reference Implementation** – A reference implementation of the blueprint to provide an executable representation of the blueprint.

2-5.10.3 Dependencies

- Collaboration and acceptance by IPO stakeholders.

2-5.11 Organizational Changes

In order for the IPO to migrate to a SOE, a structured methodical approach must be in place to ensure that the organization is moving forward along the correct trajectory. Consequently, the CoE shall identify areas where organizational change is required and provide guidance as needed. To effectively introduce these changes, the CoE will need to define and execute the following:

2-5.11.1 Activities

- **Establish Communications Strategy** – A formal communications strategy shall be established to guide the development and communication of key concepts from the SOA concerning its overall purpose and utility to the stakeholder community. The corresponding Communications Plan will establish specific approaches and activities to enhance knowledge, understanding, and acceptance of the SOA.
- **Establish Configuration and Change Management Strategy** – Complex intercommunication requires holistic configuration and change management. To accomplish a structured, methodical organizational management process, a Configuration and Change Management Strategy shall be

developed to provide a comprehensive approach for facilitating change in the complex, distributed environment of the enterprise. The associated Plan will detail the scope of the management effort, define the management strategy, and provide a detailed work plan for delivering these configuration and change activities across the clinical and non-clinical systems.

2-5.11.2 Artifacts

- Communication Plan
- Configuration and Change Management Plan

2-5.11.3 Dependencies

- Enterprise Repository
- Collaboration and acceptance by IPO stakeholders

2-5.12 CoE Assessment

Periodically, the CoE itself must review its procedures in order to ensure that it is an effective contributor to the SOE initiative. This activity will require a feedback loop where contributors to the body and SOA initiative leads respond to the practices of the CoE. The CoE portal can be leveraged as a survey site for feedback. Activities in support of the CoE Assessment Process are identified as follows:

2-5.12.1 Activities

- **Create a process to assess the effectiveness of the CoE through Balanced Scorecard** – The CoE shall establish a process to review inputs from participants and contributors and identify reasonable changes to the CoE.
- **Create a mechanism for participant feedback** – The CoE shall establish a mechanism, such as a questionnaire, that will be available to participants and contributors to provide comments and suggestions to the CoE.

2-5.12.2 Artifacts

- CoE Assessment Plan
- Participant Questionnaire

2-5.12.3 Dependencies

- Enterprise Repository
- Collaboration and acceptance by IPO stakeholders

2-6. CoE Structure and Duration

The CoE Charter contains the structure and provides guidance as to how the CoE relates to other organizational bodies.

2-6.1 Establishment and Organization

The SOE CoE will be a standing organization that shall remain in existence until IPO leadership determines it is no longer required. Figure 4 **Error! Reference source not found.** illustrates the organizational structure for the SOE CoE.

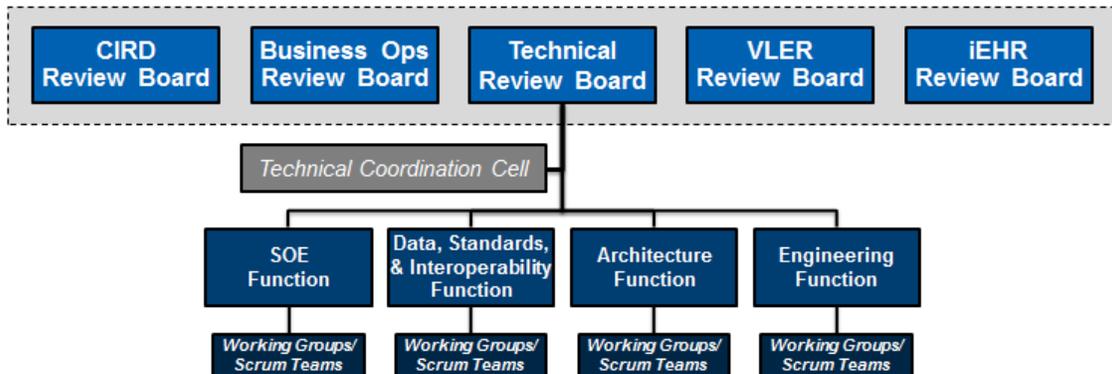


Figure 4 – SOE Coordination with other IPO organizations

The SOE CoE exists at the discretion of the IPO. Figure 5 – SOE CoE illustrates the organizational structure for the SOE CoE along with the connections to external organizations. The primary method of intake to the SOE process is via the CIRD, iEHR PM or VLER Health PM to the SOE CoE Business Working Group. IPO Technical Directorate, IPO Program Managers and others will support the Technical Working Group with matrixed resources.

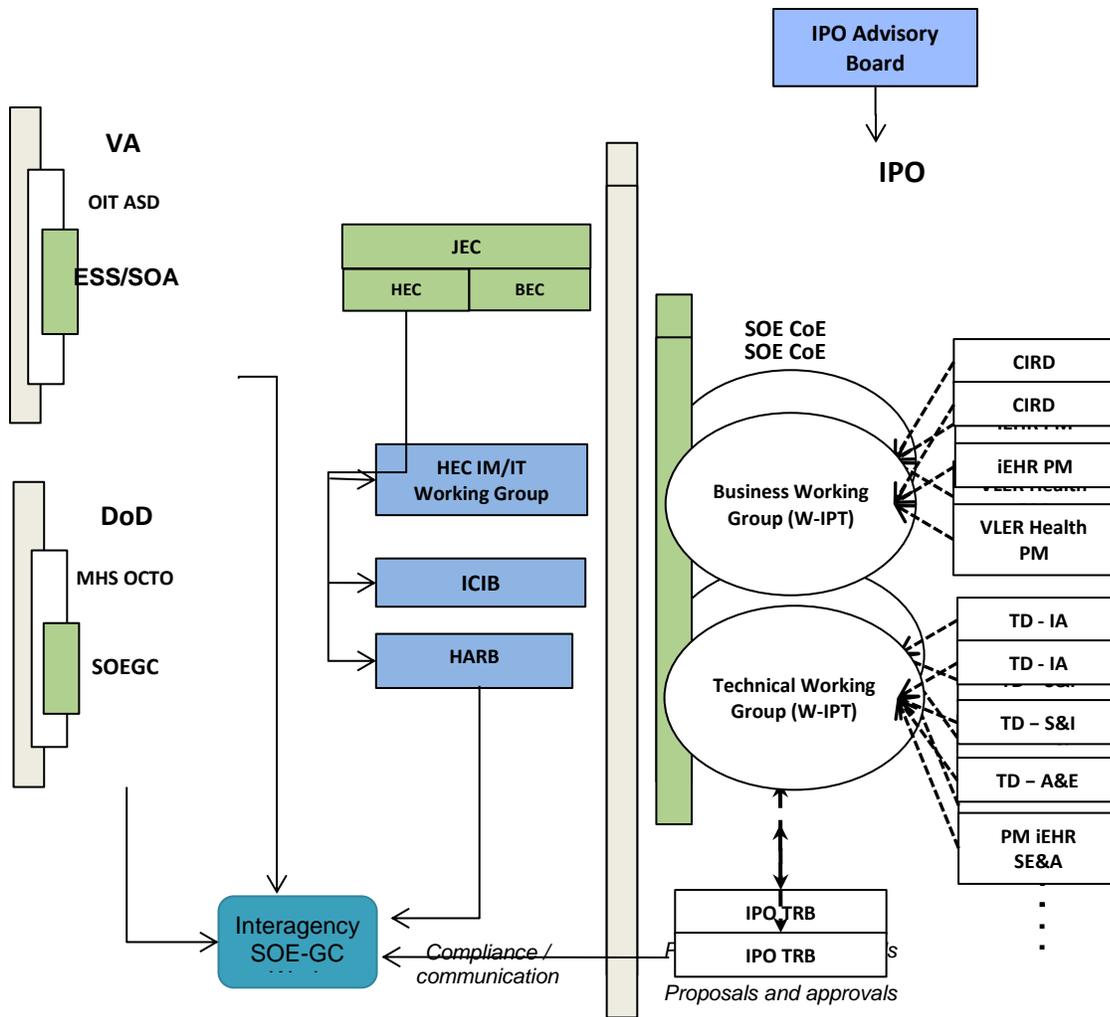


Figure 5 – SOE CoE

The SOE CoE functions as an IPO advisory and resource center supported by the Technical Directorate of the IPO and receiving support from a variety of matrixed personnel supporting the business and technical functions of the SOE CoE. It is led by the SOE CoE Co-Chairs and provides services for, and support to, IPO activities. It assists in all matters involving the SOE, including identifying issues with recommended solutions, proposing the future state technical architecture, proposing technical standards, and recommending approval to fund major infrastructure initiatives. The SOE CoE has two sub-components structured as working groups or scrum teams focusing on the business and technical aspects of SOE Governance.

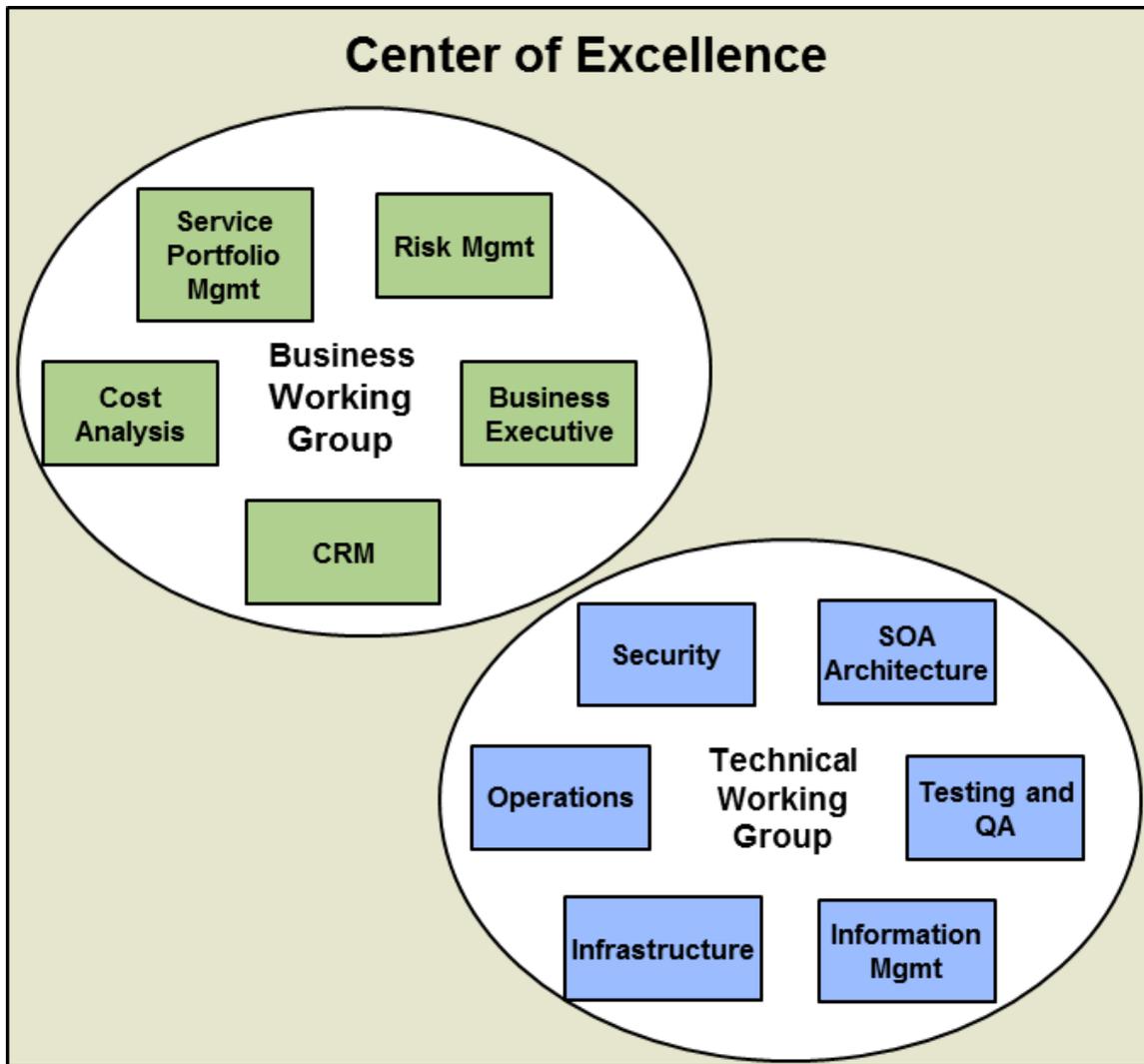


Figure 6 – Structure of the iEHR CoE

The IEHR CoE is an iEHR IPO Advisory and Resource Center managed by the SOA Suite PM. It assists in all matters involving the iEHR SOA, including identifying issues with recommended solutions, proposing the future state technical architecture, proposing technical standards, and recommending approval to fund major infrastructure initiatives.

The iEHR CoE shall be chartered to work in collaboration with the other IPO organizations as the iEHR SOA Governance, Management and Implementation Resource Center, with standing roles in iEHR SOA Definition, Governance, Implementation and Support. The IEHR CoE charter shall be reviewed annually or as necessary for updates and improvement.

2-6.2 The Business Working Group

The Business Working Group is responsible for all non-technical activities of the CoE. This is to include:

- **Solution Portfolio Management** – Solution Portfolio Management analyzes business services and their contribution to the Solution Portfolio. It makes recommendations regarding the efficiency and effectiveness of the service portfolio to include optimization of reuse, adding, upgrading and retiring services.

-
- **Costing Analysis** – Costing Analysis reviews any proposed additions, or alterations to the SOA and its Services to determine the financial impact on Total Cost of Ownership (TCO) and Return on Investment (ROI).
 - **Risk Analysis** – Risk Analysis reviews any proposed additions or alterations to the SOA and its Services to determine the impact on Business Stability and Agility.
 - **Customer Relationship Management** – Customer Relationship Management engages Service Consumers and End Users in order for the SOA to respond to business needs. It also informs Consumers and End Users of changes to the SOA and its Services.
 - **iEHR Executive Representation** – iEHR Executive Representation engages iEHR Executive Bodies such as the Healthcare Architecture Review Board (HARB), Interagency Clinical Informatics Board (ICIB) or the Interagency Program Office (IPO) Advisory Board to respond to executive decisions. It additionally submits proposals on behalf of the CoE.

2-6.3 The Technical Working Group

The Technical Working Group is responsible for all governance and guidance activities associated with implementing, maintaining, and altering the iEHR SOA.

- **Security** – The Security Sub-group is responsible for ensuring the SOA and its Services comply with MHS,VA as well as Department of Defense and Federal security requirements
- **Architecture** – The Architecture Sub-group is responsible for defining architectural principles. It is also responsible for reviewing, approving, rejecting, and remediating implementations in order to ensure architecture and design compliance.
- **Information Management** – The Information Management Sub-group is the liaison with Information Management (IM). IM is responsible for defining data and semantic models, establishing information governance principles and identifying authoritative data sources. It is likewise responsible for reviewing, approving, rejecting, and remediating implementations for compliance with information management principles. The Information Management Sub-group works within the CoE to represent interests and respond to SOE CoE requests to IM.
- **Testing and Quality Assurance (QA)** – The Testing and QA Sub-group is responsible for establishing practices and procedures for testing the SOA and its Services. It defines criteria that all Services and SOA components must meet in order to be incorporated into the production system. It leverages the testing organization in order to approve, reject, or remediate implementations for compliance with testing principles.
- **Operations** – The Operations Sub-group establishes principles and guidelines associated with sustaining the SOA and its Services. It institutes processes that ensure operation principles compliance.
- **Infrastructure** – The Infrastructure Sub-group establishes principles and procedures for the implementation, upgrade, and alteration of the SOI. It is responsible for ensuring compliance to infrastructure principles.

2-6.4 Duration

The IEHR CoE shall be a standing organization that shall remain in existence until the SOA Suite IPT discontinues the organization.

2-7. CoE Membership

The CoE is a hybrid organization comprised of members that are full-time CoE staff and members that are invoked on an as needed basis.

2-7.1 Membership Responsibilities

IEHR CoE members shall:

- Attend IEHR CoE meetings
- Fully participate in IEHR CoE discussions and decisions
- Provide input on agenda items.
- Review IEHR CoE meeting minutes for accuracy

2-7.2 Voting Members (1 Vote per Role)

Table 11 – Voting Members

Role	Number of Participants	Level of Effort	Membership
SOE CoE Chair	1	As-needed	CoE Leadership
SOE CoE Vice Chair	1	As-needed	CoE Leadership
SOE CoE Business Working Group (BWG) Chair	1	As-needed	BWG, CoE Leadership
SOE CoE Technical Working Group (TWG) Chair	1	As-needed	TWG, CoE Leadership
iEHR Program Manager (PM) representative	1	As-needed	BWG, CoE Leadership
VLER Health PM representative	1	As-needed	BWG, CoE Leadership
Technical Directorate (TD) Architecture and Engineering Representative	1	As-needed	TWG, CoE Leadership
Clinical Informatics Review Directorate (CIRD) representative	1	As-needed	BWG, CoE Leadership
iEHR PM Architecture representative and Engineering Representative	1	As-needed	TWG
Business Executive	1	As-needed	BWG
SOA Champions for VA and DoD	1 VA, 1 DoD	As-needed	BWG, CoE Leadership
iEHR Infrastructure representative	1	Full-Time	TWG
iEHR Operations representative	1	Full-Time	TWG

2-7.2.1 CoE Chair

The IEHR CoE will be chaired by the person who fulfills the duties of the following position within the IPO:

- IPO SOA Suite Integrated Project Team (IPT) Director (currently, Dr. Patrick Percy – November 2012)

The Chair shall set agendas for, and preside over, meetings of the IEHR CoE, and the chair shall ensure that the actions of IEHR CoE meetings are recorded and distributed. In addition, the chair shall execute the following:

-
- Establish and communicate presentation material requirements and standards for IEHR CoE presentations and briefings.
 - Appoint a Project Coordinator (See section 2-7.3.4) to ensure IEHR CoE meeting minutes are prepared and distributed to all members. If the Project Coordinator is unable to attend a scheduled IEHR CoE meeting, an alternate Project Coordinator may be appointed based on agreement of the Chair.
 - Appoint technical working groups reporting to the IEHR CoE, as needed, to address specific standards, hardware, software, solution issues, and specific functionality issues.
 - Collect periodic feedback on the IEHR CoE process to improve its processes.
 - Seek decisions and clarification from IPO governance bodies as needed.
 - Facilitate transparent information sharing of Systems Engineering best practices to create common approaches.
 - Develop processes and procedures for communicating IEHR CoE recommendations.

2-7.2.2 SOE CoE Vice Chair

The Chair shall appoint a Vice Chair, who shall preside over IEHR CoE meetings in the Chair's absence.

2-7.2.3 SOE CoE Business Working Group (BWG) Chair

The BWG Chair shall manage the interaction between the Business User and the CoE. This role is responsible for:

- Holding periodic meetings with the Business User to understand changing business needs.
- Involve Business Analysts to manage changing Requirements.
- Involve Portfolio Management to manage potential new solutions.
- Involve risk and cost management to analyze impact of addressing new business needs.

2-7.2.4 SOE CoE Technical Working Group (TWG) Chair

The TWG chair is responsible for coordinating with the BWG chair for new solutions. Once solutions have been approved the TWG Chair is responsible for:

- Hold periodic meetings to review the status and health of SOA assets.
- Convene meetings and initiate activities for new solutions.

2-7.2.5 iEHR Program Manager Representative

The iEHR Program Manager (PM) will participate in meetings of the TWG and BWG to provide input to the CoE from a iEHR PM perspective in order to coordinate CoE activities with PM activities.

2-7.2.6 VLER Health PM Representative

The Virtual Lifetime Electronic Record (VLER) PM will participate in meetings of the TWG and BWG to provide input to the CoE from a VLER PM perspective in order to coordinate CoE activities with PM activities.

2-7.2.7 Technical Directorate Architecture and Engineering Representative

The Technical Directorate (TD) Architecture and Engineering Representative will participate in meetings of the TWG to provide input to the CoE from a TD perspective in order to coordinate CoE activities with TD activities.

2-7.2.8 Clinical Informatics Review Directorate Representative

The Clinical Informatics Review Directorate (CIRD) Representative will participate in meetings of the TWG and BWG to provide input to the CoE from a Clinical perspective in order to advise the CoE from a Health Informatics perspective.

2-7.2.9 iEHR PM Architecture Representative and Engineering Representative

The iEHR PM Architecture and Engineering Representatives will participate in meetings of the TWG to provide input to the CoE from a iEHR PM perspective in order to coordinate CoE activities with PM Architecture and Engineering activities.

2-7.2.10 Business Executive

The Business Executive represents End User and provides input into the BWG to assure business needs align with activities of the CoE.

2-7.2.11 SOA Champions for VA and DoD

The SOA CoE Champion will provide executive oversight of the SOA CoE, lend credibility to the CoE's actions, and enable it be effective within the iEHR organization.

2-7.2.12 iEHR Infrastructure Representative

The iEHR Infrastructure Representative is responsible for advising the TWG on Infrastructure Issues and concerns in the developing solutions for the iEHR.

2-7.2.13 iEHR Operations Representative

The iEHR Infrastructure Representative is responsible for advising the TWG on Operations Issues and concerns in the developing solutions for the iEHR.

Other participants may be requested to provide input to or assist the IEHR CoE as required based on the Chair's determination. Other participants may include representatives from other organizations, but are not limited to.

2-7.3 Non-Voting Members

Table 12 – Non-Voting Members

Role	Number of Participants	Level of Effort	Membership
Technical Directorate Information Assurance (IA) representative	1	As-needed	TWG
MHS SOE Governance Center representative	1	As-needed	TWG, BWG
VA Enterprise Shared Services (ESS) representative	1	As-needed	TWG, BWG
IEHR SOE CoE Project Coordinator	1	Full-Time	TWG, BWG, CoE Leadership
IEHR Solutions Portfolio Management	1	As-needed	BWG
CoE SOA Architect and Subject Matter Expert (two minimum)	2	Full-Time	TWG
CoE Information/Data Architect (two minimum)	2	Full-Time	TWG
CoE Health Informatics SMEs	2	Full-Time	BWG, TWG
CoE IT Security Architect	1	Full-Time	TWG
CoE Business and Requirements Analyst	2	Full-Time	BWG
CoE SOA Services Librarian/Registrar/Service Portfolio Management	1	Full-Time	BWG
CoE SOA Tools Administrator	1	Full-Time	TWG
IEHR Testing and QA representative	1	Full-Time	TWG
CoE Cost and Risk Manager	1	Full-Time	BWG
CoE Customer Relationship Manager/Training Coordinator	1	Full-Time	BWG, TWG
CoE Engineers	5	Full-Time	TWG

2-7.3.1 Technical Directorate Information Assurance Representative

The TD Infrastructure Assurance (IA) is responsible for advising the TWG on Information Assurance Issues and concerns in the developing solutions for the iEHR.

2-7.3.2 MHS SOE Governance Center Representative

The MHS SOE Governance Center (SOEGC) will participate in the BWG and TWG to represent MHS interests and align MHS and IPO CoE activities.

2-7.3.3 VA Enterprise Shared Services Representative

The VA Enterprise Shared Services (ESS) Representative will participate in the BWG and TWG to represent VA interests and align VA and IPO CoE activities.

2-7.3.4 iEHR SOE CoE Project Coordinator

- Arrange the meeting place and time as prescribed by the Chair.

-
- Maintain documentation of a procedure for notifying members of upcoming meetings.
 - Coordinate agendas for future meetings with the Chair and subsequently prepare and distribute to all IEHR CoE members agendas to include all supporting information a minimum of five business days prior to regularly scheduled IEHR CoE meetings.
 - Prepare and forward meeting minutes to the Chair and IEHR CoE members for approval prior to distribution.
 - Distribute meeting minutes and IEHR CoE recommendations to the IPO Advisory Board, and any meeting participants, based on approval of minutes by the voting membership.
 - Act as the timekeeper notifying the Chair when the time allotted for an agenda item has expired or is about to expire.
 - Distribute documents for review prior to the meetings
 - Other tasks as directed by the Chair

2-7.3.5 iEHR Solutions Portfolio Management

IEHR Portfolio Management Representative is a member of the BWG and represents Portfolio Management concerns in the CoE.

2-7.3.6 CoE SOA Architect

The CoE SOA Architect is part of the TWG and will provide design and architecture guidance in developing solutions on a per project basis as well as solutions being developed by the CoE.

2-7.3.7 CoE Information/Data Architect

The CoE SOA Information/Data Architect is part of the TWG and will provide design and architecture guidance in developing solutions on a per project basis as well as solutions being developed by the CoE.

2-7.3.8 CoE Health Informatics SME's

The CoE Health Informatics SMEs is part of the TWG and will provide design and architecture guidance from a clinical and health informatics perspective in developing solutions on a per project basis as well as solutions being developed by the CoE.

2-7.3.9 CoE IT Security Architect

The CoE IT Security Architect is part of the TWG and will provide design and architecture guidance from a security perspective in developing solutions on a per project basis as well as solutions being developed by the CoE.

2-7.3.10 CoE Business and Requirements Analyst

The CoE Business and Requirements Analyst is part of the BWG and will translate business needs to technical requirements for solutions development.

2-7.3.11 CoE SOA Services Librarian/Registrar/Service Portfolio Management

The CoE Service Librarian is responsible for on-boarding and maintaining of services into the Service Catalog. This role interacts with Portfolio Management in order to coordinate Service Portfolio Management with Solutions Portfolio Management.

2-7.3.12 CoE SOA Tools Administrator

The CoE Tools Administrator is responsible for the on-boarding, maintaining, and versioning, tool suites to be used by the CoE and per project integration teams. The tools administrator provides management and enforcement of tool usage by the projects and CoE.

2-7.3.13 iEHR Testing and Quality Assurance Representative

The iEHR Testing and Quality Assurance (QA) Representative(s) participate in meetings and coordinate the CoE with Testing, IV&V, and QA.

2-7.3.14 CoE Cost and Risk Manager

The CoE Cost and Risk Manager is part of the BWG and is responsible for assessing the impact of new solutions on the SOA and whether they warrant Cost and Risk analysis. This role conducts the cost and risk management on SOA solutions in addition to establishing the Cost and Risk criteria.

2-7.3.15 CoE Customer Relationship Manager

The Customer Relations Manager is responsible for managing all communications of the CoE to all entities. This role manages web sites, creates newsletters, and any informs the enterprise and partners on activities of the CoE.

2-7.3.16 CoE Engineers

CoE Engineers are responsible for developing CoE Solutions and toolkits. Additionally, they are responsible for mentoring projects. The Engineers provide guidance in implementing SOA based solutions on a per project basis.

2-8. CoE Meetings and Voting

2-8.1 Meetings

- The IEHR CoE will hold meetings once every five weeks at a time and place designated by the Chair, IEHR CoE.
- Additional IEHR CoE meetings may be scheduled at the discretion of the Chair based upon organizational needs and criticality.
- All requests to be included on the agenda must be submitted via e-mail to the Project Coordinator a minimum of three business days in advance of the regularly scheduled meetings.
- All presentation materials required must be made available to the Project Coordinator a minimum of three business days prior to the regularly scheduled meeting.
- The Chair has authority to accept or reject requests to be included on the agenda based on prioritization of requests, incomplete information or presentation materials, criticality, and program direction.
- The standing agenda of every IEHR CoE meeting shall contain the following topics:
 - New Projects to be integrated into the SOA
 - New Policies Procedures and Guidelines
 - Review of Non-compliance and Waivers
 - Informational Brief (Topic chosen by Chair)

2-8.2 Voting

- Recommendations of and decisions by the IEHR CoE are achieved through the voting process of the IEHR CoE or their designated representative.
- IEHR CoE may delegate approval authority to the Chair. Recommendations of the IEHR CoE do not constitute approval to commit resources.
- IEHR CoE voting must be conducted at scheduled meetings either in person or via teleconference. Each member must vote explicitly by stating “yes” or “no”. A majority of authorized board members must be present to constitute a quorum.
- In the event that a principal member is unable to attend, an alternate representative identified by the principal board member may exercise the voting privilege.
- If consensus cannot be achieved on a particular decision, then the majority will rule, and dissenting opinions will be documented. The chair will ensure that the vote of members is documented in the minutes indicating the majority and alternative views. If necessary, the issue, with documented votes, will be forwarded to the PMOC for decision.

2-9. Intake and Exit Processes

2-9.1 Intake

Items for consideration should be passed to the Project Coordinator using the Intake Document in Appendix A. Upon submission, the Project Coordinator will prioritize the item for action by the CoE. Items which require immediate consideration should be submitted through a voting member of the CoE. The voting member can request a change in the priority of the CoE activities and agenda for immediate action. It is ultimately the responsibility of the CoE Chair to decide on priority of activities.

2-9.2 Exit

Items will exit the CoE through one of the following processes:

- If the item is designated by the Chair as not requiring a vote it is the responsibility of the CoE Chair or delegate to consider the item closed.
- If the item is designated by the Chair as requiring a vote, the voting members will follow the process described Section 2-8.2.

Upon closing of the item, the decision of the CoE will be summarized in the CoE monthly status report as indicated below:

Sample Monthly Status Report

Date: <Date Prepared>

Preparer: <Individual Preparing this Report>

Preparer Contact Information: < phone and email of the preparer>

Distribution List: <List of Recipients of the Report>

Table 13 – Sample Monthly Status Report

Item Title	Priority	Status	Completion Date	Submitter	Comments	CoE Decision
<Title from Intake Form>	<Determined by Project Coordinator>	<Completed, Delayed, Pending, Scheduled>	<Date when item is closed>	<Point of Contact from Intake Form>	<Any additional statements or questions regarding the item>	<Decision of the CoE>

2-10. References to Part 2

1. Volume 1 Part 1 – SOE Roadmap
2. MHS SOE Roadmap
3. IPO SOE CoE Charter

PART 3 COMMUNICATION PLAN

3-1. Introduction

3-1.1 Purpose

This SOE CoE Governance Communications Plan describes the structure that will be used to communicate with, educate and inform various stakeholders on SOE governance goals and objectives, policies, processes, messages, activities and decisions. An approach, tools and vehicles, and roles/responsibilities are provided which best support the achievement of SOE CoE strategic goals and objectives.

Revisions will be made iteratively as the SOE CoE evolves. Definitions may be found in Appendix A.

3-1.2 Scope

This Communications Plan is targeted at audiences and stakeholders involved with or interested in the SOE CoE governance goals and objectives, processes, activities and milestones. This plan will not address communication activities associated with other SOA Suite groups or organizations, other governing boards, and/or the broader IPO.

3-1.3 Situation Analysis

- This Communications Plan will align with the overarching IPO Strategic Communications Plan and SOA Suite Communications Plan should one be developed at a later date.
- Implementation of the SOE is a global effort involving numerous stakeholders across organizations at many levels within each organization. Keeping internal IPO staff and external stakeholders informed with timely, accurate, understandable and consistent information will be paramount to successfully deploying SOA/SOE Suite of products and services.

3-2. Goals and Objectives

This communications plan targets the following main goals and objectives:

- **Goal 1** – Increase awareness of SOE CoE Governance strategic goals and objectives, value and accomplishments.
 - **Objective 1** – Establish ongoing communications with other governing boards (e.g., Health Architecture Review Board), groups and stakeholders who would benefit from subscribing to SOE.
 - **Objective 2** – Use diverse methods, tools and techniques to simply and accurately educate and inform stakeholders at all levels in the organization of the value and accomplishments of SOE CoE.
- **Goal 2** – Institutionalize SOE CoE Governance processes.
 - **Objective 1** – Promote streamlined SOE CoE decision making.
 - **Objective 2** – Promote collaboration and accountability.
 - **Objective 3** – Inform and educate partners on CoE governance processes.
- **Goal 3** – Improve communications with key partners and stakeholders.
 - **Objective 1** – Establish a proactive outreach program.
 - **Objective 2** – Increase stakeholder engagement at all levels of the organization.

3-2.1 Stakeholders

The primary target audiences for SOE CoE governance messages and engagement can be divided into seven categories. These categories are defined in greater detail by role and function (See Appendix B).

1. **Senior Executives (SES-level)** – DoD/VA/IPO senior executives responsible for defining and directing the overarching integrated Electronic Health Record (iEHR) mission (to include SOE CoE), approving objectives and evaluating the performance of the program (e.g., Secretary of Defense, Secretary of Veterans Affairs, Assistant Secretary of Defense for Health Affairs, Under Secretary of Veterans Health Administration, Chief Information Officers, Inspectors General).
2. **Managers and Staff** – DoD/VA/IPO managers and staff responsible for programming, planning, implementing and evaluating SOE CoE governance in support of the iEHR.
3. **Governing Forums** – DoD/VA Joint Executive Councils (JEC) and IPO governing bodies (e.g., IPO Advisory Board, Technical Review Board, Health Architecture Review Board), Integrated Product Teams (IPTs), DoD SOE Governance Council (DoD SOEGC), VA Enterprise Shared Services Governance (VA ESS) and Working Groups (WGs) which leverage SOE CoE governance in support of the iEHR.
4. **Operational Partners** – Stakeholders in DoD and VA who serve as partners in the decision-making and support SOE CoE processes.
5. **External Government Agencies** – Beneficiaries (Veterans and Service members) and members of the Executive and Legislative branches who set overall program direction and appropriate funding and monitor program performance (e.g., White House, General Accountability Office, Congressional Budget Office, Congressional Staff, Office of Management and Budget).
6. **Academia, Public and Media** – Individuals and groups who have an interest in or care significantly about SOE CoE.

-
7. **Service Provider** – Individual or group responsible for developing the service and publishing web-services into a Service Registry, so that a Service Consumer can search the Service Registry to discover services needed.
 8. **Service Consumer** – Individual or group or an application that uses a service provided by the Service Provider.
 9. **Application Developer** – Individual or group responsible for designing/implementing the iEHR services on both provider and consumer sides.

3-3. About the Plan

This Communications Plan is intended to be a “living” document and will be revised as organizational policies, processes and practices are established and matured. The SOE CoE Governance Communications Plan follows a five-phased approach beginning with a needs assessment, planning and development, implementation, measurement and continuous improvement represented in the Figure 7.

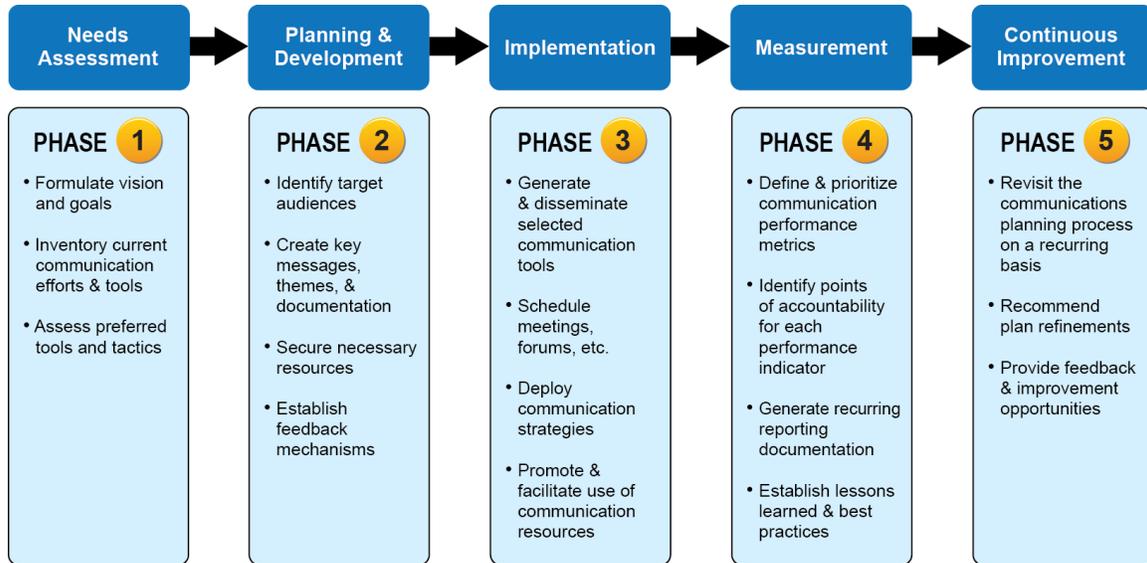


Figure 7 – Five-Phased Communication Approach

3-3.1 Phase 1: Needs Assessment

The SOA/SOE Suite Program Manager approves the goals, objectives and strategies for informing and educating stakeholders on the value, mission, processes and accomplishments of SOE CoE. A baseline inventory of existing communications efforts and tools is created. A survey tool is developed for use in determining stakeholder information requirements. The tool includes preferred means of communication and frequency. Target information is clearly delineated prior to conducting the needs assessment.

3-3.2 Phase 2: Planning and Development

Key personnel or stakeholders who are involved or should be involved in the success of the SOE CoE mission are identified. The list of stakeholders is prioritized to target implementation of strategies which will “jump start” SOE CoE governance efforts. A needs assessment is administered and results analyzed. The SOE CoE Governance Communications Plan is developed based on stakeholder feedback, mission needs, and available resources, tools and communication mediums.

During this initial phase, resources (staff and funding) will be identified to manage day-to-day communication functions of the SOE CoE. These resources, collectively called the Communications Team, are responsible to:

- Draft, execute and update the SOE CoE Governance Communications Plan:
 - Develop consistent, accurate messages and themes for different audiences.
 - Collaborate with Subject Matter Experts to develop and/or edit SOE CoE content for different audiences.

-
- Develop standard SOE CoE briefing templates, agenda, meeting minutes, information papers and other document formats ensuring alignment with IPO brand identity.
 - Draft and/or review briefings, information papers, and other SOE CoE documents for format and consistency of message.
 - Develop, publish and disseminate SOE CoE artifacts, minutes, decisions, action items, timelines, accomplishments, articles, newsletters, speeches, and frequently asked questions.
 - Design graphics, outreach materials (e.g., Tri-folds), posters which tell the story about SOE CoE.
 - Develop, update and maintain a web presence for communicating with stakeholders which aligns with the IPO Executive Secretariat strategies.
 - Store/archive SOE CoE documents in various repositories.
 - Participate in IPO Executive Secretariat hosted communications meetings (e.g., Website Coordinating Committee, Message Working Group).
 - Coordinate with IPO Executive Secretariat and Public Relations staff when preparing news releases and arranging for interviews.
 - Plan and coordinate conferences, events and exhibits regarding SOE CoE.
 - Prepare briefings and talking points for SOA/SOE Suite Program Manager when requested.
 - Create courseware and materials to provide conference and event outreach presentation training internally to IPO staff.
 - Maintain and publish a SOE CoE master calendar of events.
 - Prepare after action reports and lessons learned regarding effectiveness of communications.
 - Conduct periodic stakeholder needs assessment.
 - Ensure alignment of communication goals, objectives and strategies with the IPO Strategic Communications Plan.
 - Participate in IPO sponsored joint councils in support of messaging and other communication efforts.
 - Post and maintain the biographies of key members of the SOE CoE governing body.

The SOE CoE governance will leverage web capabilities provided by the IPO and/or TRICARE Management Activity (TMA).

3-3.3 Phase 3: Implementation

The SOE CoE Governance Communications Plan is executed according to the strategies and timelines detailed in the plan. A plans, action and milestone (POA&M) table of activities will be developed.

3-3.4 Phase 4: Measurement

The initial focus of this plan is on “communicating the successes of SOE CoE efforts, value and benefits, and educating stakeholders on governance processes.” Stakeholder buy-in and support can be easily strengthened by appropriately promoting and championing the business benefits provided. Buy-in will be measured by the percent increase in the number of SOE services requested to be developed and/or used.

3-3.5 Phase 5: Continuous Improvement

The Communications Plan will be reviewed and updated, where appropriate, at least quarterly starting in FY 13. Once SOE CoE governing structures and processes have been institutionalized, the review and update of the plan will occur twice yearly in October and March in subsequent years.

3-4. Key Messages

Rather than answering questions or allowing the recipients of the message to draw their own conclusions from bewildering information, key messages provide the ability to influence what is being said about SOE CoE governance. Key messages may evolve if changes in the organization dictate.

3-4.1 Message 1 – Accountability and Responsibility

SOE CoE governance is solely accountable and responsible for life cycle management of SOE Services within the purview of the IPO.

- Supporting facts:
 - IPO SOE CoE serves as a central governing center working in coordination with DoD and VA forums (VA ESS and DoD SOEGC).
 - IPO SOE CoE Charter was signed Ms. Mary Ann Rockey, which provides processes for interacting with this governance body.

3-4.2 Message 2 – Relationships and Stakeholder Involvement

Business and technical communities work closely together to govern, manage and meet information exchange needs.

- Supporting facts:
 - A federated SOE governance model was established which aligns IPO SOE CoE with VA ESS and DOD SOEGC. .
 - Business and Technical SOE CoE Working Groups provide business cases to the SOE CoE for adjudication and decisions.
 - Cost/Benefit Analyses are key factors used in decisions on SOE investments.

3-4.3 Message 3 – Benefits and Value

Clinicians and other users will recognize SOE CoE governance benefits and value from no longer being restrained by application access and other impediments to data.

- Supporting fact:
 - The benefits of SOA/SOE are improved data access, elimination of redundant data entry and functionality, single authentication, faster updates and reduced costs.
 - SOE CoE governance engages in streamlined and transparent processes and procedures which result in greater reuse and faster time to market.
 - SOE CoE governance enables improved data interoperability among diverse applications.

3-5. Communication Channels

3-5.1 Monthly SOA Suite IPT Meetings

The SOA/SOE Suite Program Manager will host a monthly IPT meeting. The broader IPO audience will be in attendance. Status updates on SOE CoE governance will be provided, and issues/risks discussed. Meeting minutes will be posted on the IPO Website.

3-5.2 Weekly SOE CoE Technical Working Group and Business Working Group Meetings

The chairs of the SOE CoE Technical Working Group and Business Working Group Meetings will organize and document proceedings, actions, and decisions of each meeting. The meeting minutes will be posted on the VCS website.

3-5.3 Monthly IPO Program Brief

The Communications Team will develop briefing materials for the SOA/SOE Suite PM and IPO Executive Director to present to stakeholders.

3-5.4 IPO Newsletter

The Communications Team will provide articles, accomplishments, and other information to the Executive Secretariat for inclusion in the Monthly IPO Newsletter.

3-5.5 SOE CoE Elevator Speech

The Communications Team will develop current elevator speeches which can be used by all SOE CoE team members to inform, educate and engage stakeholders.

3-5.6 Brown Bag Meeting

The Communications Team will periodically host Brown Bag meetings to educate/inform stakeholders on SOE CoE topics and other pertinent information.

3-5.7 Key Messages, Talking Points, FAQs, and Storyboards

The Communications Team will help to develop key messages, talking points and storyboards (i.e., use cases) to clearly define SOE CoE governance messages which can be used in internal and external communications to ensure consistent messaging.

3-5.8 Media, Conferences and Publications

Working closely with the SOA/SOE Program Manager and other team members, the Communications Team will collaborate with the IPO Public Affairs office to prepare and coordinate media releases, plan for conferences and exhibits, and draft articles for publication.

3-5.9 Share Point sites

- The IPO VCS (or any replacement system) website will be used to share, store working drafts, and archive official SOE CoE artifacts. The Communications Team will assist the Executive Secretariat to select a replacement web-based system. Web presence is a primary medium for communicating with key stakeholders across departments, external partners and stakeholders, Veterans and the general public. Personally identifiable information, protected personal health information, confidential or classified data and information, For Official Use Only (FOUO), and proprietary organizational information will not be posted on any IPO website.
- TMA/IPO Website (<http://www.tricare.mil/tma/ipo/ipodirector>) is the interim solution for publication of SOE CoE announcements, news articles, and other educational information for the general public. The IPO homepage “Message from the Director” is where this information can be posted. The process for gaining approval for posting to this public facing website is detailed in Appendix D.
- Harris SOE CoE SharePoint Site will be used by Harris and team to communicate and coordinate with internal members regarding SOE CoE.

3-5.10 Mail Groups

The Communications Team will distribute the SOE CoE charter, processes, progress reports to co-chairs and principals of DoD/VA JEC and other IPO governing bodies or other audiences as defined by the needs assessment.

3-6. External Communications

The Communications Team will coordinate all requests for information from external sources with the IPO Executive Secretariat. These requests include information for Congress, GAO, media, or other sources outside DoD/VA/IPO. The Communications Team will proactively reach out to interested trade journals for improved visibility; however they will do so after engaging the IPO Executive Secretariat.

3-7. Appendix A. Definitions

Center of Excellence (CoE) – A focal point for aligning business needs with technical implementation. The CoE provides a variety of functions such as defining policies, processes and standards for creating and maintaining a SOA. It also participates in the day-to-day execution of the SOA/SOI/SOE by enforcing said policies, procedures and standards.

Service Oriented Enterprise (SOE) – Organizational and managerial practices needed to enable and govern SOA across an enterprise. Collectively it includes SOI, SOA and SOE.

Service Oriented Architecture (SOA) – Body of standard design and engineering processes, tools, and best practices that leverage the modularity and compos ability of services to support business objectives.

Service Oriented Infrastructure (SOI) – A collection of functioning capability, including technology, standards, and collaborative processes that enable safe (i.e., secure and private) and efficient collaboration through the development and deployment of shared operational IT services.

3-8. Appendix B. Target Audiences

Table 14 – Target Audiences

Level	DoD	VA	IPO
Executives (SES or equivalent)	Secretary/Deputy Secretary	Secretary/Deputy Secretary	Executive Director
	Deputy Chief Management Officer	Under Secretary for Veterans Health Administration	Deputy Director
	Under Secretary of Defense for Personnel and Readiness	Deputy Under Secretary for Health for Operations and Management	Directors, iEHR Program Management Division
	Under Secretary of Defense for Acquisition, Technology and Logistics	Deputy Under Secretary for Health Policy and Services	Directors, Technical Division
	DoD Chief Information Officer	Assistant Secretary for Congressional and Legislative Affairs	
	Joint Chiefs of Staff (J6)	Assistant Secretary for Public and Intergovernmental Affairs	
	Assistant Secretary of Defense for Legislative Affairs	Assistant Secretary for Operations, Security and Preparedness	
	Assistant Secretary of Defense for Public Affairs	Assistant Secretary for Office of Information and Technology	
	DoD General Counsel	Deputy Chief Information Officer Service delivery and Engineering	
	Director Operational Testing and Evaluation	Deputy Chief Information Officer Architecture, Strategy and Design	
	Assistant Secretary of Defense for Health Affairs	Deputy Assistant Secretary for Information Security	
	Director TRICARE Management Activity	Executive Director, Virtual Lifetime Electronic Record	
	Chief Information Officer Military Health System	Directors, 21 VISNs	
	Surgeon General US Army	Directors, VA Health Facilities	
	Chief Information Officer US Army Medical Command	Director, Technology Acquisition Center	
	Surgeon General US Air Force	Director, Office of Acquisitions	
	Chief Information Officer US AF Medical	Director, DoD/VA Interagency Affairs	
	Surgeon General US Navy		
	Chief Information Officer Bureau of Medicine and Surgery		
	Commanders, Medical Treatment Facilities		
	Commanders, Medical Treatment Facilities		
	Executive Component Acquisition		
Management	Director, USAMMRA		Project Manager, IPO SOA

Level	DoD	VA	IPO
And Staff			Suite
	Director, AFMISA/AFMOA		Co-Chairs SOE CoE Business W-IPT
	Commander, NAVMISSA		Co-Chairs SOE CoE Technical W-IPT
	Chief Information Officer Medical Treatment Facilities		Director, Virtual Lifetime Electronic Record Health
	Director, MHS SOE Governance Center		Directors, Clinical Informatics Requirements Division
	IT Program Executive Officers, TMA		Leads Technical Directorate Architecture and Engineering
	Chief Technology Officer/Enterprise Architect, DoD (HA)		Leads iEHR Program Manager Architecture and Systems Engineering
	Director, Enterprise Infrastructure Division, DoD (HA)		Leads Business and Financial
	Director, Cyber-Security Division, DoD (HA)		Lead Technical Directorate Implementation Lead
	Director, Health Informatics, DoD (HA)		Lead Technical Directorate Information Assurance Lead
Governing Forums	Technical Review Board (TRB), Health Architecture Review Board (HARB), IPO Advisory Board, Health Executive Committee (HEC) Information Management/Information Technology (IM/IT), SOA/SOE Suite Integrated Project Team (IPT), Interagency Clinical Informatics Board (ICIB)		
External Entities	Congress, White House, GAO, OMB, Other Federal, State and Local Agencies		
Academia, Public, Industry and Media	Beneficiaries, general public, media Industry partners, Industry experts, and academia		
Consumers and Producers	IT Service Providers, Program Managers, Service Providers, Application Developer		

3-9. Appendix C. External Communications Process

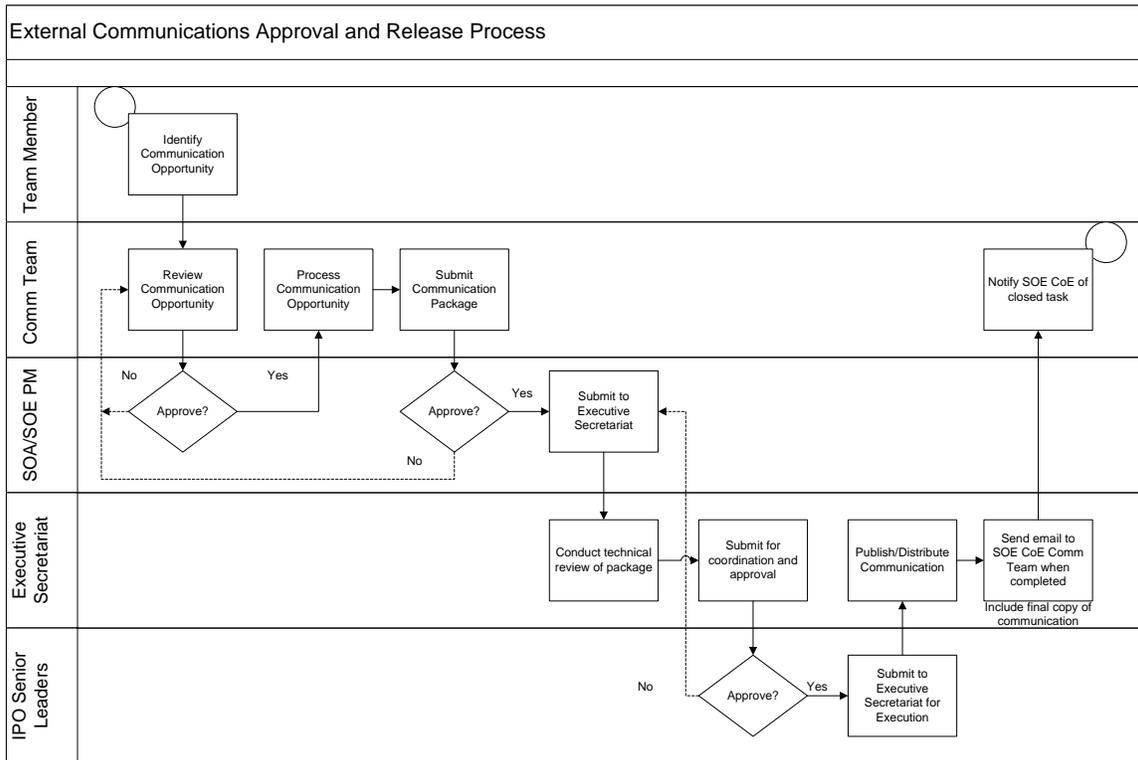


Figure 8 – External Communications Process

3-10. Appendix D. Frequently Asked Questions

1. What is SOA?

Service-Oriented Architecture (SOA) is an architectural style that supports service-orientation.

Service-orientation is a way of thinking in terms of services and service-based development and the outcomes of services. This enables an organization to organize disparate systems and functions into business services supporting specific functions that are used by an organization (e.g., Identity Management Service). SOA is the architecture of choice for supporting and enabling the vision of the integrated Electronic Health Record (iEHR). SOA allows VA and DoD to transition common functionality to a structure that is more adaptive and responsive to mission needs.

2. What are the goals of SOA?

- To significantly reduce application-centric silos and redundant functionality, thus allowing more resources to be directed towards fulfilling mission needs
- To reduce costly point-to-point interfaces
- To improve timely access to data
- To increase agility by aligning business and information technology alignment; consequently executive decisions can be implemented more quickly
- To enhance collaboration and interoperability by adopting enterprise-wide practices and policies which allow consistent data sharing with minimum investment
- To improve the ability to measure operational performance

3. What is a Service?

A *service* is a logical representation of a repeatable business activity that has a specified outcome. It is self-contained and may be composed of other services. A consumer of the service is insulated from the internal implementation details of the service.

Examples of Services: Single Sign-on Authentication, Patient Lookup, Laboratory Results.

4. What is the difference between SOA, SOE, SOI and CoE?

- Service Oriented Architecture (SOA) implies standard engineering processes, tools and best practices to support business objectives.
- Service Oriented Infrastructure (SOI) implies hardware, networks, virtualized servers, and operating systems necessary to enable SOA.
- Service Oriented Enterprise (SOE) implies a consistent, enterprise-wide approach to service orientation, including necessary organizational structures, and enterprise roadmap.
- SOA Center of Excellence (CoE) implies policies, governance and business processes used to create and maintain SOA.

5. What Services come under SOE Center of Excellence (CoE) governance?

Any Service which has been approved by the Interagency Program Office SOE CoE and Technical Review Board governing bodies.

6. What is the Enterprise Service Sub (ESB) and how does it work?

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- The ESB is the “workhorse” of the SOA architecture. It is comprised of service repositories, application frameworks, message transformation and validation capabilities, business rules engines and identity and access control services.
 - The ESB provides the capability to carry all of the traffic for applications and users, and allows for many different types of interactions. It provides a convenient tool for monitoring and predictive analysis, which allows for better up-time performance and visibility of the demands being placed on IT solutions. A good analogy is when FedEx moves packages from one place to another. It not only moves the packages, but tracks to see where the package is and monitors to see how long it takes to get from one place to another.

7. What is SOE CoE?

SOE CoE is an organization with enterprise-wide visibility intended to coordinate initiatives within the Interagency Program Office and foundational to the success of SOA due to its ability to harmonize the needs of business and technical constituents at both the Military Health System and VA. The IPO CoE is comprised of business and technical representatives from stakeholders representing IPO, MHS, and VA.

8. What are the major functions of the CoE?

- Define organizations, roles, standards, policies, procedures and enforcement mechanisms, SOA governance processes and SOA guidelines
- Provide mentoring and guidance on SOA to disseminate policies, procedures, and guidelines
- Provide the guidance to develop solutions for novel or unusual integration issues
- Identify cross-enterprise requirements and develop corresponding solutions
- Review SOA initiatives for compliance and remediation
- Monitor the technology landscape regarding SOA and provide direction to the iEHR IPO
- Develop and maintain a software “toolkit” and SOA Reference Architecture
- Define and maintain a CoE-balanced Scorecard
- Establish and maintain SOA blueprint
- Define and execute organizational change management
- Establish CoE Assessment process

9. Who is responsible and accountable for making sure the SOE CoE governance works?

The IPO iEHR CoE is an Advisory and Resource Center managed by the SOA Suite PM. The SOA Suite PM reports to the DoD and VA iEHR Program Managers, who in turn work for the IPO Executive Director.

10. What are the two SOE CoE Working Groups and what do they do?

The Business Working Group and Technical Working Group work in collaboration together to address all matters involving the SOE. The Business Working Group is responsible for Solution Portfolio Management, Cost Analysis, Risk Analysis, Customer Relations Management and iEHR Executive Representation. The Technical Working Group is responsible for all governance and guidance activities associated with implementing, maintaining, and altering the iEHR SOA.