

ENTERPRISE SHARED SERVICES (ESS)

VOLUME 5, ISSUE 9

OFFICE OF INFORMATION AND TECHNOLOGY (OIT)

INTRODUCTION

Currently, the [Office of Information Technology \(OIT\)](#) at the Department of Veterans Affairs (VA) serves a complex information technology (IT) infrastructure that supports approximately 325,000 VA employees nationwide. These employees oversee and facilitate VA IT product and service delivery activities to over 21 million Veterans. IT is integrated across 152 medical centers, 300 Veteran centers, 820 Community-Based Outpatient Clinics, 135 VA Community Living Centers, six Independent Output Clinics, and more. VA owns and manages most of the infrastructure that it supports. Its vast technology profile includes over 424,000 desktop computers, 69,000 laptops, 31,000 mobile devices, and 539,000 email accounts. Clearly, enterprise shared services (ESS) are a critical component in enabling this to be carried out. This Tech Insight dives into a high-level explanation of ESS, its history and reason for being, and its core functionality.

WHAT IS ESS?

The definition of ESS is a “centrally provided service with defined service levels, costs, and methods of integration that is designed to be consumed by any part of the organization with a business requirement and business need.”

ESS is synonymous with shared services and common services that represent reusable “platform architecture” components on which IT solutions are developed, deployed, and managed. ESS represents a specialization of a generic IT service as a reusable infrastructure platform that aligns to the VA IT vision. It helps improve and evolve information security, advance agile interoperability and data sharing, and reduce the total lifecycle cost of IT services. Shared services include both internal and external shared services, as well as managed service providers, such as the VA Enterprise Cloud (VAEC) general support services. Externally managed service providers, such as the United States Department of Agriculture (USDA) Financial Information System, are also integrated into the VA IT environment to support major initiatives such as the Financial Management Business Transformation (FMBT).

HISTORY OF ESS

The road to shared services began as the Reagan administration saw potential value in interagency cross-servicing shared services by initiating payroll and administrative consolidation efforts. Slow progress continued with the establishment of franchise funds authorized under the [Government Management Reform Act of 1994](#) to promote competition and reduce the cost through the establishment of self-supporting business-like entities providing common administrative services on a reimbursable basis.

In the 2000s, the Bush administration mandated [e-government initiatives](#), where common IT solutions were identified by shared services revolving around a concept known as “Lines of Business (LOB).” The [Electronic Government Act of 2002](#) looked at common business functions across government to identify opportunities to transform, streamline, and share. The [Federal Information Security Management Act \(FISMA\)](#) was signed into law as a part of the Electronic Government Act of 2002. FISMA defines a comprehensive framework to protect government information, operations, and assets against natural or man-made threats.

The long and winding road to Federal financial shared services was finally realized in 2008 with the [Department of Treasury's](#) implementation of [The Invoice Processing Platform \(IPP\)](#). The IPP is a secure, web-based service that efficiently manages government invoicing from purchase order (PO) through payment notification at no charge to Federal agencies and their vendors. [According](#) to the [Office of Management and Budget \(OMB\)](#), Federal agencies have until the end of this year (2018) to begin processing all their invoices electronically through a shared service provider.

Unfortunately, similar measurable IT shared service achievements have yet to be realized. There are several Federal agencies operating shared service platforms across Financial Management, Procurement, Asset Management, and Travel and Payroll shared services. In May 2012, when the Obama administration released the [Federal IT Shared Services Strategy](#), efforts to bring IT into the shared services umbrella were underscored, which provided agencies with guidance for identifying and operating shared services for commodity, support, and mission IT functions.

WHY ESS MATTERS

There are [two types of shared services structures](#) in the Federal Government: *intra-agency* and *interagency*. Intra-agency shared services include those which are provided within the boundaries of a specific organization such as a Federal department or agency, to that organization's internal units. Interagency shared services are those provided by one Federal organization to other Federal organizations that are outside of the provider's organizational boundaries.

Additionally, there are [three categories of shared services](#) in the Federal Government: **commodity IT**, **support**, and **mission services**. These may be delivered through cloud-based or other shared platforms. As described [in OMB Memorandum M-11-29](#), examples of commodity IT shared services opportunities include: **IT infrastructure**, such as data centers, laptops, networks; **enterprise IT services**, such as e-mail, security, identity and access management; **commodity IT**, which is asset-oriented; **support services**, such as budgeting, human resources, asset; and **mission services**, such as disaster response, national defense, and employment services.

ESS AND VA

VA continues to evolve toward a true cloud environment, and as part of the implementation of the VA Cloud First Policy (VA Directive 6517), projects will address their business needs by evaluating the best type of cloud service among provisioned service models as defined by the National Institute of Standards and Technology (NIST), such as Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), or Infrastructure-as-a-Service (IaaS). Cloud adoption is a business decision that will enhance VA's mission, services, capabilities, and enable rapid development, deployment, and operations that comply with VA Handbook 6500 security and privacy guidelines.

- SaaS is defined as the capability for consumers to run the provider's applications on a cloud infrastructure. SaaS helps get applications to market faster, creates value faster, innovates faster, and generates a flexibility to implement change.
- PaaS is a capability provided to the consumer to deploy consumer-created or acquired applications. Acquired applications are created using programming languages, libraries, services, and tools that are supported by the provider to the cloud infrastructure. To be consistent with VA Enterprise Cloud definitions, the consumer does not manage or control the underlying cloud infrastructure. This includes networks, servers, operating systems, and storage. The consumer does have control over the deployed applications and does have possible control over the configuration settings for the application-hosting environment.
- IaaS is a capability provided to the consumer to provision processing, storage, networks, and other fundamental computing resources. The consumer can deploy and run arbitrary software, including operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure. The consumer does have control over operating systems, storage, and deployed applications. The consumer may also have limited control over selecting networking components.

Shared services will promote orchestration, authentication, and authorization attribute management, and data access IT services throughout the enterprise. New business capabilities will be created rapidly and economically with increased consistency and commonality across VA.

Some of the key transitional objectives related to ESS include: Cross-organizational information and functional capabilities available through IT shared services; Common services to facilitate rapid solution assembly; Enterprise policies, procedures and practices to govern IT services identification, usage and deployment; Implementing VAEC services to support a data lake to enhance VA analytics capability; And many more.

In April 2018, the VA OIT [Office of Architecture and Engineering Service \(AES\)](#) published an [Enterprise Design Pattern \(EDP\) on Enterprise Service Oriented Architecture \(SOA\) v2](#). This document described a sampling of various ESS available within VA, with most addressing identity and access management (IAM). Additionally, in February 2018, AES published a *Shared Services Definition White Paper* which established some common definitions that can be utilized across the organization.

CONCLUSION

Currently, the majority of VA's IT environment is characterized as tightly coupled systems that lack a cohesive design and capacity-demand. In addition, numerous duplicative platforms and inefficient processes result in increased costs for Operations and Maintenance (O&M) for the enterprise. This current state of IT presents VA with significant opportunities for improving the efficiency of current infrastructure in support of successful execution of VA's mission to serve the nation's Veterans. To achieve the future "To Be" IT state of a robust, agile, interoperable infrastructure that offers connectivity, computing capability, and approaches for delivery of integrated services to Veterans, VA will need to move toward a unified IT solutions approach.

ESS as discussed in this document will enable VA to reach its IT Vision of implementing, optimizing IT Infrastructure, and standardizing IT platforms in which to support VA interoperability, agility, reuse, and governance of services, while reducing operational costs. In addition, implementing cloud computing will ensure better use of shared services, enhanced mobile accessibility, and information management. An integrated comprehensive security architecture will protect sensitive Veteran information, regardless of where, how, or when it is accessed. Continuous development of mobile technologies will ensure VA's ability to provide government information anytime, anywhere, and on any device.

TECH INSIGHT SERIES

The monthly Tech Insight series aims to help readers make better decisions and be more informed customers of OIT products and services by providing them with high-level overviews of technologies that impact or will impact VA's IT environment. Tech Insights introduce topics in an easily digestible fashion by presenting background information on the topic, clearly explaining its importance within VA, and providing recommendations for success from OIT. All Tech Insights are available [here](#).

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