

VA Enterprise Design Patterns

Enterprise Architecture

Enterprise Service Oriented Architecture (SOA)



Office of Information and Technology

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EXECUTIVE SUMMARY

The Department of Veterans Affairs (VA) uses Service Oriented Architecture (SOA) to incorporate repeatable, standardized information technology (IT) functions to help project teams avoid duplicating functionality that is used elsewhere in the enterprise. SOA is an architectural approach where applications use common, vendor-independent message formats to provide services that can be discovered by other applications. These services often contain one or more functions that are designed to fit within the SOA architecture¹, rather than using large, monolithic applications or systems.

SOA provides a uniform means to offer, discover, use, and interact with capabilities to produce desired effects that are consistent with measurable preconditions and expectations. SOA components typically publish a list of interface descriptions for applications or services to incorporate. Service contracts ensure that service providers meet agreed-upon levels of service.

There are several variants of SOA. VA uses Enterprise Shared Services (ESS) to enable applications to consistently consume SOA-based resources across VA and VA external partner organizations. Cloud computing implementations could be considered an extension of this concept since they are typically service-driven and use application programming interfaces (APIs).

Policies and processes often accompany SOA. This Enterprise Design Pattern (EDP) will help VA to define those for VA. It documents the current use of SOA, its current limitations, and a future architecture for expanding the use of SOA. The document provides links to lists of existing ESS, descriptions of existing services at VA, details on an API gateway, and a roadmap for further implementation.

Enterprise Design Patterns (EDPs) are developed in coordination with internal and external subject matter experts and stakeholders. An EDP is a reusable capability guidance document that identifies best practice approaches and resources for achieving VA IT strategic objectives. The EDP Team uses industry trends and innovations; enterprise architectural standards; and guiding principles for capabilities and constraints to improve efficiency and effectiveness and define solutions to reoccurring technical problems. The EDP helps guide the design of IT systems and services by VA project teams.