

VA ENTERPRISE DESIGN PATTERNS INTEROPERABILITY AND DATA SHARING ENTERPRISE DATA ANALYTICS



Office of Technology Strategies (TS)
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EXECUTIVE SUMMARY

Scope

The Department of Veterans Affairs' (VA) patchwork of analytics capabilities does not adequately meet the data needs of its changing operational environment or its burgeoning enterprise-level programs and services. VA's emerging data needs are driven by two trends: Implementation of new technologies that generate novel types of data (e.g., NoSQL data) which are not compatible with traditional SQL-based analytics solutions; and MyVA and VA Enterprise Architecture (EA) initiatives driving a sea change in favor of shared resources, enterprise-level programs, and more centralized management. The goal of this Enterprise Design Pattern (EDP) is to establish the architectural principles, guidelines, and constraints regarding a VA enterprise "big data" capability that will meet this demand and maximize the value of VA's business intelligence.

Business Need

VA's traditional approach to analytics is based on the data needs of individual Administrations, offices, projects, and lines of business (LOB) using structured query language (SQL)-based database management systems (DBMS). Most of VA's analytics capabilities and warehouses are artifacts of that approach. Both the approach and environment are at odds with MyVA's emphasis on shared services, standardization, and holistic enterprise management.

Approach

The enhanced analytics capabilities proposed in this EDP support more efficient and effective service delivery to Veterans and beneficiaries. These capabilities will also support VA

organizational goals and missions that rely on cross-cutting data collection and sharing. Many organizations within VA recognize that meeting their emerging data needs require not only new technologies, but an entirely different approach to managing analytics. They also recognize that they cannot make the necessary changes without leadership and direction from the VA enterprise level. This Enterprise Design Pattern addresses VA's current analytics gaps and anticipated needs by addressing the following considerations: VA enterprise roles and responsibilities for analytics governance, policy, standards, training, provisioning, and management; Policy and governance framework for analytics, particularly data sharing in a "circle of trust" model; Guidelines for integrating existing analytics silos and operational systems with the VA Analytic Ecosystem; And evaluating, selecting, and using analytics technologies, to include advanced analytics capabilities (e.g., predictive analytics, machine learning).

These capabilities will align VA's analytic environment with its technological, strategic, and operational landscape, partly by serving as the analytics portion of a future "data backbone." VA will also be better able to respond to changing technological needs and opportunities, and allow every-one in the Department to fully leverage newly deployed analytics capabilities.

[Enterprise Design Patterns](#) (EDPs) are developed by TS 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.