

# VA ENTERPRISE DESIGN PATTERNS INTEROPERABILITY AND DATA SHARING ENTERPRISE DATA ACCESS



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## EXECUTIVE SUMMARY

### Scope

This increment of the Enterprise Data Access (EDA) Enterprise Design Pattern (EDP) document will expand on the concepts and constraints described in the Data-as-a-Service (DaaS) EDP by describing how they will be applied in a Department of Veterans Affairs (VA) enterprise data solution. Specifically, this document addresses interactions between middleware and different types of databases (e.g., Relational, NoSQL); aggregation and processing of information retrieved from multiple data sources of different types into a single message consumable by services/applications connected to EDA; ensuring data can be accessed and/or edited quickly (availability) while maintaining its correctness and integrity (consistency) across data sources and providing access to Veterans Information Systems and Technology Architecture (VistA) records through the VistA Integration Adapter (VIA), the future replacement for the current access service (Medical Domain Web Services or MDWS).

### Business Need

The following issues stem from fundamental, systemic problems surrounding data management and sharing at VA (and many other large organizations), which include: (1) VA does not have a complete understanding of the number of databases in the enterprise, where they are located, and a description of the data they contain; (2) central policies and standards that surround data and databases are lacking. Since siloed data stores cannot “talk” to each other, barriers to data sharing exist; (3) data silos containing the same data fields (e.g., address fields) require manual updates on an individual basis. Manual updates risk the quality of data, especially in terms of data timeliness and data accuracy; (4) there are no enterprise-wide data quality requirements or “official” definitive data records. Inconsistencies in data quality and data records are difficult

to catch and almost impossible to correct; and (5) scattered Veteran records had not been tied to a single VA-wide identity (until recently), making it difficult to obtain a unified view of Veterans across VA.

A business and technical solution that integrates and provides standardized, transparent access to VA's data stores can help address the data integration issues that are experienced by Veterans and the VA staff who serve them.

## **Approach**

VA's data layer, with EDA capability, will meet VA's current data integration needs and serve as a foundation for advanced capabilities. These capabilities include processing streaming data from wearable devices and trend analysis. The capabilities also include automatic enrollment in VA benefit programs for Servicemembers who are separating or retiring. The implementation of the EDA capability into the data layer will be done in two phases.

Phase One is a data integration strategy that enables sharing common, high-value customer data. Phase Two is a big data strategy that supports sophisticated service delivery and analytic capabilities, including automatic enrollment of separating Servicemembers in VA benefit programs and near real-time processing of streaming data from wearables and medical devices.

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*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.*