

Data Integration with Semantic Web Technologies Enterprise Design Pattern

Executive Summary

Office of Technology Strategies (TS)



Scope

This Enterprise Design Pattern (EDP) provides an enterprise-level view of the “As-Is” and “To-Be” capabilities relevant to Semantic Web Technologies (SWT) used in Department of Veterans Affairs (VA) applications and standard processes. The document will refer to, rather than duplicate, lower-level solution guidance associated with these capabilities. This EDP provides guiding principles and best practices that support the adaptation of SWT standards for VA systems and services. These standards enable dynamic integration of data – located in varied sources – by leveraging explicit, standardized, machine-readable linkages among entities.

Business Need

Adoption of SWT standards will improve interoperability among VA’s different systems supporting diverse business needs. Semantic linkage of datasets and machine-readable data processing may secure flexible and dynamic data integration for VA. Office of Information & Technology (OI&T) supports business needs by establishing official standards for interoperable data exchanges to overcome the following organizational barriers: the patchwork of data capabilities, including legacy data management systems, do not adequately meet emerging data needs; analysts must resort to ad-hoc, labor-intensive processes for emerging data needs; and the “little data” capabilities within VA offices are not plugged into enterprise-level “big data” capabilities.

Approach

This EDP supports SWT-driven data integration and interoperability that can be applied throughout VA, including: promoting application of SWT across all Lines of Business (LOB); aligning SWT applications with organizational goals and needs; reviewing existing VA data sources; selecting data processing strategies; aligning semantic implementations with data sources; and implementing pilot SWT projects followed by extension of capacity to meet needs.

VAPULSE



The TS office within OI&T’s ASD, interacts not only with the Enterprise Architecture pillar offices, but also with

multiple external vendors, stakeholders within OI&T, and with strategic offices across the enterprise. TS works closely with IT and business owners to capture business rules and provide technical guidance as it relates to Data Sharing across the enterprise, specifically for interagency operability.

What are Enterprise Design Patterns?

Reusable templates that guide the enterprise to implement a set of technologies in standard ways

How do Enterprise Design Patterns relate to the Enterprise? Enterprise Design Patterns translate OI&T’s strategic goals, as documented in the Enterprise Technology Strategic Plan (ETSP), into “real world” direction to guide system design

How can I learn more about this Enterprise Design Pattern?

Please contact Nicholas Bogden (Nicholas.bogden@va.gov) to learn more

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