Technology Strategies

Defining OI&T's "To Be" Technology Vision

Enterprise Design Patterns: Data Storage

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?
To learn more about Mobile Enterprise Design Patterns, contact Nicholas Bogden (nicholas.bogden@va.gov)

To read the full document, see the TS website: www.techstrategies.oit.va.gov

To ask questions about Enterprise Design Patterns in general, reach out to AskTS@va.gov

Enterprise Design Pattern Scope: The Department of Veterans Affairs (VA) is developing standardized approaches to deployment and management of reusable data storage capabilities to support data architecture objectives in VA's Enterprise Architecture (EA). VA will provide an array of data storage options to all projects as part of its adoption of Enterprise Shared Services (ESS) in accordance with the Enterprise Technology Strategic Plan (ETSP). This Enterprise Design Pattern (EDP) guides project teams to criteria for selection of new data storage technologies, as well as criteria for re-platforming legacy data to more current technologies.

Current State: VA is moving toward more centralized, consistent, enterprise-level management of data stores. VA has instituted the VA Data Inventory (VADI) and Data Architecture Repository (DAR), inventories for data stores and metadata, respectively. VA's regional data centers shape and influence adoption of storage technology within the Department. The Business Intelligence Service Line (BISL) and warehouse governance boards drive technology prioritization and acquisition for analytics.
The TRM provides the beginnings of an approach to technology selection for data storage and other purposes. It is a component within the overall EA that establishes a common vocabulary and structure for describing the information technology (IT) used to develop, operate, and maintain enterprise applications. The TRM serves as a technology roadmap and tool for supporting the Office of Information & Technology (OI&T).

Design Pattern Solution: This design pattern contains guidelines and criteria to re-platform data from legacy technologies to new systems using more current technologies. This helps project managers and sponsors articulate their business needs and justifications for making this transition. This will help individual system and data owners make better decisions regarding the type of data storage platform(s) to use for a particular set of requirements, and whether, why, and when to re-platform data from legacy technologies.

Most of this guidance comes from existing VA sources or industry best practices. The guidance is consistent with VA's intent to leverage cloud services per the ETSP, in that it encourages moving data from legacy technologies to platforms that are better suited to virtualized/cloud and service-oriented architectures.

The proposed approach to data storage selection applies to choosing one or more technologies for re-platforming data and to service-oriented data storage. It can also be used to select cloud storage systems or articulate requirements to cloud service providers (e.g., through a service-level agreement).
In addition, this design pattern presents consistent, mission-driven approaches for selecting appropriate data storage types for a current or emerging business purpose. The approach is informed by factors such as data temperature, data structure, and security and functional needs (described below). This approach to technology selection will be used whether the business purpose is for a new dataset or an existing dataset being re-platformed. It will also drive any automated policies or business processes for sorting different types of data input into the appropriate storage platform(s).

VAPULSE