



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
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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 Patterns: Hybrid Data Access (HDA)

- **Enterprise Design Pattern Scope:** This increment of the HDA Enterprise Design Pattern document will expand on the concepts and constraints described in VA Enterprise Design Patterns: Data-as-a-Service (DaaS) by describing how they will be applied in a VA enterprise data solution. Specifically, this document addresses:
 1. Interactions between middleware and different types of databases (e.g., Relational, NoSQL).
 2. Aggregation and processing of information retrieved from multiple data sources of different types into a single message consumable by services/applications connected to HDA.
 3. Ensuring data can be accessed and/or edited quickly (availability) while maintaining its correctness and integrity (consistency) across data sources.
 4. Providing access to VistA records through the VistA Service Assembler (VSA), the future replacement for the current access service (Medical Domain Web Services or MDWS).¹⁰
- **Current State:** VA is a large, diverse, geographically distributed organization in which individual lines of business, regional offices, and operating units have traditionally developed and maintained their own IT systems. This means a large number of systems in VA's inventory consist of databases tightly coupled with the business applications. These systems rely on customized and/or proprietary software that did not anticipate service-oriented computing or shared services. Often, they are not interconnected and operate in isolation from each other.

VA has recently launched an enterprise-wide effort to transform its IT architecture from a set of stove-piped systems to an integrated, modern, service oriented architecture (SOA) environment. This effort includes modernizing existing applications and creating a framework for standardized implementations of future applications using shared enterprise services and data using the VA Enterprise Architecture (EA) SOA infrastructure. HDA will form the data layer of this infrastructure.

Design Pattern Solution: The proposed HDA capability will integrate siloed VA data sources and enable enterprise-wide data sharing, leveraging existing integration and standardization solutions where available. All VA data integrated through HDA will be accessible to systems, users, and applications through a single transparent connection point. HDA will facilitate enterprise-wide use of designated Authoritative Data Sources (ADSs) by serving as a standardized, scalable, and centrally managed integration point.

As a result, Veterans will be able to:

- Access their health and benefits information through a variety of Web interfaces, applications, and mobile devices using a single portal;
- Update their information in a single place at a single point in time, and;
- Receive coordinated services and timely, appropriate outreach from VA.

For VA staff, HDA will significantly reduce the redundancy, time, and effort to update Veteran records in individual data stores. VA will have more time and resources to devote to directly serving Veterans and beneficiaries. In addition, VA staff will be able to:

- Efficiently manage and access the data they need to serve Veterans;
- Automate time-consuming manual processes, and;
- More easily develop, test, and deploy both VA internal and Veteran-facing applications.

HDA will significantly reduce the burden of data integration and manual data management on Service members, Veterans, beneficiaries, and the VA staff who serve them.