



VA ENTERPRISE DESIGN PATTERNS

CLOUD COMPUTING

CLOUD COMPUTING ARCHITECTURE

Office of Technology Strategies (TS)
Architecture, Strategy, and Design (ASD)
Office of Information and Technology (OIT)

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EXECUTIVE SUMMARY

Scope

This Enterprise Design Pattern (EDP) provides guiding principles for both business owners and OIT to leverage a standard set of components required to adopt cloud-based Information Technology (IT) solutions. These components consist of virtual servers and storage, delivery models (Software-as-a-Service, Platform-as-a-Service, or Infrastructure-as-a-Service), and secure network connections that enable rapid development, deployment, and operations of IT solutions in accordance with VA Handbook 6500 security and privacy guidelines.

Business Need

VA IT projects adopting cloud services will improve efficiency and agility in response to changing business needs. This approach leverages industry best practices and applies innovations developed in the private sector for future cloud expandability. Cloud-based solutions reduce development lifecycles and provide platforms that support modern applications (e.g., distributed applications composed of fine-grained, loosely coupled units known as microservices), and Development Operations (DevOps) best practices. Together, this forms the basis of the cloud computing architecture: reducing OI&T's burden of planning, provisioning, and maintaining IT infrastructure while incorporating an agile development processes.

Approach

This EDP documents VA's current cloud initiatives, defines the attributes of centralized cloud architecture, and provides recommendations that facilitate integrating existing cloud environments into a centralized cloud architecture.

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.