

VA ENTERPRISE DESIGN PATTERNS CLOUD COMPUTING TRANSITION TO CLOUD



Office of Information and Technology

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EXECUTIVE SUMMARY

Scope

The Transition to Cloud Enterprise Design Pattern (EDP) defines a framework for the transition to cloud services that are provided by the Department of Veterans Affairs (VA) Enterprise Cloud Environment (VAECE):

- What requirements must be known before the determination is made to move to the cloud?
- What are the customer needs that drive these requirements?
- What is the order to consider cloud services (SaaS/PaaS/IaaS)?
- How are best practices and lessons-learned leveraged?

Business Need

A framework for cloud-based capabilities that is used consistently by project teams will address strategic infrastructure gaps that exist between current cloud implementation and the information technology (IT) vision, as identified in the Enterprise Technology Strategic Plan (ETSP). The framework will support a smooth transition of VA applications to the VAECE by providing common services and security controls to all service delivery models (IaaS, PaaS, SaaS) that host applications within it. The appropriateness of the transition to the cloud will be evaluated by business and technical requirements criteria. The framework is expected to leverage existing cloud computing EDPs.

VA is in the process of establishing a system for Enterprise Cloud Service Management (ECSM) in order to realize measurable efficiencies and governance within every layer of the VAECE, from the infrastructure of the Enterprise Cloud Management Platform (ECMP), to application. The ECSM will function to guide, organize, and control the multiple clouds within both public and private environments (including IaaS, PaaS, and SaaS).

Approach

This EDP defines a framework for deploying and migrating to cloud solutions. Guidance pertaining to the framework can be found in the ensuing sections: current limitations, key attributes of a transition to cloud framework, use cases, service model selection, and future capabilities. A project team determines how to transition to cloud by answering the following questions:

- What customer needs drive requirements and what are the current limitations?
- What are the key attributes of a transition to cloud framework?
- In what sequence are cloud service models (SaaS/PaaS/IaaS) reviewed for consideration?
- Where does a migration application fit within the VAEC or alternate CSPs and how does it contribute to the future capabilities?

Additionally, this EDP establishes a path for migrating to the cloud to address a wide variety of VA business needs. The target state for VA's IT infrastructure is achieved through a comprehensive approach that includes cloud-based services in the Enterprise Architecture (EA). This approach consists of the following:

- Gather business needs and define requirements.
- Define the attributes of a cloud transition framework.
- Use VA furnished cloud capacity. This framework will have the potential to provide:
 - Time to market, cost savings, flexibility, standardization, sustainment efficiencies, improved performance, reduction of enterprise risk, and improved end user experience

Enterprise Design Patterns (EDPs) are developed 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.