

VA ENTERPRISE DESIGN PATTERNS

1. REASON FOR ISSUE: This directive establishes mandatory policy for establishing and utilizing Enterprise Design Patterns by all Department of Veterans Affairs (VA) projects developing information technology (IT) systems in accordance with the VA's Office of Information and Technology (OI&T) integrated development and release management process, the Veteran-focused Integration Process (VIP).

2. SUMMARY OF CONTENTS/MAJOR CHANGES: This directive establishes the authority and processes for the identification, definition, implementation, and use of Enterprise Design Patterns.

3. RESPONSIBLE OFFICE: The Office of the Assistant Secretary for Information and Technology (OI&T) is responsible for issuing this policy and ensuring adherence to the policy across OI&T. The Deputy Chief Information Officer (DCIO) for Architecture, Strategy, and Design (ASD) acts as the agent in performing this responsibility.

4. RELATED HANDBOOK: None

5. RESCISSIONS: None

CERTIFIED BY:

/s/
LaVerne H. Council
Assistant Secretary
for Information and Technology

**BY DIRECTION OF THE SECRETARY
VETERANS AFFAIRS:**

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LaVerne H. Council
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1. PURPOSE:

a. This directive mandates the use of Enterprise Design Patterns in the development and management of all VA information technology (IT) systems. Enterprise Design Patterns are capability guidance documents that identify repeatable, best practice approaches to addressing recurring technical challenges impacting VA's ability to improve and evolve information security, advance agile interoperability and information sharing, and reduce the total lifecycle cost of IT. They support integrated product development activities, within VIP's portfolio/program/project construct, by enabling the consistent reuse of enterprise capabilities provided by a shared, enterprise-wide IT infrastructure and Enterprise Shared Services (ESS), thereby yielding standardized and consistent technical solutions.

b. Enterprise Design Patterns are developed by the Architecture, Strategy and Design (ASD) Office of Technology Strategies (TS) in a collaborative, vendor-agnostic environment that involves stakeholders internal and external to the VA. They are developed iteratively with these stakeholders, leading to a final version that is formally approved by the Deputy Chief Information Officer (DCIO) of ASD. Projects refer to approved Enterprise Design Patterns to inform and constrain solution architectures in order to comply with VA's Enterprise Technical Architecture (ETA) Compliance Criteria. The VA ETA Compliance Criteria prescribes approved Enterprise Design Patterns as an authoritative source for guiding solution architecture development, using approved standards and technologies catalogued in the One-VA Technical Reference Model (TRM).

Approved and published Enterprise Design patterns are located at:
http://www.techstrategies.oit.va.gov/docs_design_patterns.asp

2. POLICY:

All projects under VIP's purview must evaluate Enterprise Design Patterns as they progress through the VIP lifecycle.

a. Projects will leverage Enterprise Design Patterns to bring about the best technical solutions in accordance with the VA ETA Compliance Criteria. Technical standards along with VA guidance and policy defined in the ETA Compliance Criteria guide the use of resources needed to establish design specifications.

b. Projects will refer to applicable Enterprise Design Patterns during the planning of their initial design approaches, documented within portfolio-level compliance EPICs and user stories, prior to VIP Critical Decision #1 (CD1)..

3. RESPONSIBILITIES

a. **OI&T Architecture, Strategy, and Design (ASD), Office of Technology Strategies (TS)**, or designee will:

(1) Work in conjunction with stakeholders representing all OI&T entities and representatives from Veterans Health Administration (VHA), Veterans Benefits Administration (VBA), and National Cemetery Association (NCA) to identify, develop, review and approve all Enterprise Design Patterns.

(2) Leverage VIP Critical Decision boards and other Enterprise Program Management Office (EPMO) – approved review processes as an enforcement mechanism for Enterprise Design Patterns. Provide ASD representation to governance bodies and outreach activities throughout VA (e.g., training webinars and stakeholder engagement meetings) to ensure a common understanding of how to use Enterprise Design Patterns in accordance with this Directive.

(3) Maintain this Directive to implement the policies and responsibilities necessary to advance implementation of capabilities outlined in Enterprise Design Patterns.

(4) Ensure that Enterprise Design Patterns properly convey enterprise IT capabilities, standards, and policies in accordance with the VA ETA developed by ASD.

(5) Ensure that Enterprise Design Patterns are accessible and understandable, and the guidance for their usage is appropriately referenced in the VA ETA Compliance Criteria maintained by ASD.

(6) Support EPMO governance activities at Critical Decision #1 and #2, as well as on-going compliance efforts throughout the project development cycle.

(7) Conduct configuration management of published Enterprise Design Patterns. ASD TS will provide a mechanism for stakeholders to submit change requests as well as requests for new Enterprise Design Pattern topics.

(8) Reassess published Enterprise Design Patterns on a regular basis against actual design decisions and lessons learned from VIP product development activities. ASD TS will support outreach to active project teams regarding transition to new technologies stemming from significant changes in guidance promulgated by updated Enterprise Design Patterns.

(9) Ensure that all Enterprise Design Patterns are focused on best practice approaches to solving recurring technical problems, and enable the reuse of enterprise IT capabilities in standard ways, without inadvertently altering, hindering or causing a negative impact to business practices, procedures or processes of the Administrations.

(10) Develop and provide Enterprise Design Pattern compliance language to project teams for use in performance work statements and source selection criteria.

b. **VA OI&T Entities, Administrations and Corporate Staff Offices** will:

(1) Support the coordination, review and approval of Enterprise Design Patterns as key stakeholders. Participate in the development of Enterprise Design Patterns to ensure that they are applicable to all lines of business and are flexible to support future needs.

(2) Support enforcement of Enterprise Design Pattern usage in VIP decision-making processes. Establish mechanisms to enforce standards, requirements, guidelines, and policies to enable that enterprise-wide capabilities, including ESS, are managed consistently throughout the VA enterprise, as well as with mission partners.

c. Project Teams will:

(1) Ensure that VA ETA specific and measurable compliance language exists in applicable performance work statements and source selection evaluation plans.

(2) Monitor VA ETA compliance during the project lifecycle, ensuring compliance and initiating corrective action to maintain compliance as required.

(3) Comply with Enterprise Design Patterns through adherence to the VA ETA Compliance Criteria and use of approved technologies and standards in the TRM.

(4) Demonstrate compliance with Enterprise Design Patterns during VIP Critical Decision reviews.

(a) As part initial technical planning, projects will leverage applicable VIP Compliance EPICs, which incorporate Enterprise Design Pattern guidance, to identify appropriate architectural constraints.

(b) Projects establish solution architectures and design specifications prior to VIP Critical Decision #1, and they will specify capacity plans and integration with enterprise capabilities in their designs in accordance with the VA ETA Compliance Criteria.

(5) ASD will evaluate active projects and identify appropriate courses of action for future compliance with an Enterprise Design Pattern, such as development of a migration plan for consuming an ESS or integration with Identity and Access Management (IAM) capabilities. ASD will evaluate existing functionality in sustainment on a case-by-case basis for migration to new functionality, either through new projects or regular technology refreshes, in accordance with Enterprise Design Patterns.

4. REFERENCES

- a. VA Directive and Handbook 6500, VA Information Security Program.
- b. VA Directive 6051, VA Enterprise Architecture.
- c. CIO Memorandum, Approval for Veteran-focused Integration Process (VIP), dated December 31, 2015
- d. Veteran-focused Integration Process (VIP) Guide, dated December 2015

- e. VA ESS Directive.
- f. VA ETA Compliance Criteria.
- g. VA OI&T Enterprise Roadmap.
- h. One-VA Technical Reference Model (TRM).

5. DEFINITIONS

a. **Service:** A mechanism to enable access to one or more capabilities, where the access is provided using a prescribed interface and is exercised consistent with constraints and policies as specified by the service description.

b. **Service Oriented Architecture (SOA):** A paradigm for organizing and utilizing distributed capabilities that may be under the control of different ownership domains. It provides a uniform means to offer, discover, interact with and use capabilities to produce desired effects consistent with measurable preconditions and expectations.

c. **Enterprise Shared Service:** A SOA service that is visible across the enterprise and can be accessed by users across the enterprise, subject to appropriate security and privacy restrictions.

d. **Enterprise Design Pattern:** Enterprise-level capability guidance documents that identify best practice approaches to solving reoccurring technical problems in the VA. They enable the reuse of enterprise capabilities in standard ways.

e. **Capability:** Power or ability to perform some function provided by services. A service consumer requires capability and service provider that provides or creates service to provide capability.