

Why GAO Did This Study

The Department of Defense (DOD) spends billions of dollars annually to build and maintain information technology (IT) systems intended to support its mission. For decades, DOD has been challenged in modernizing its systems environment to reduce duplication and increase integration. Such modernizations can be guided by an enterprise architecture—a blueprint that describes an organization’s current and target state for its business operations and supporting IT systems and a plan for transitioning between the two states. DOD has long sought to employ enterprise architectures and has defined an approach for doing so that depends in large part on the military departments developing architectures of their own. In light of the critical role that military department enterprise architectures play in DOD’s overall architecture approach, GAO was requested to assess the status of the Departments of the Air Force, Army, and Navy (DON) enterprise architecture programs. To do so, GAO obtained and analyzed key information about each department’s architecture relative to the 59 core elements contained in stages 1 through 6 of GAO’s Enterprise Architecture Management Maturity Framework.

What GAO Recommends

GAO recommends that the military departments each develop a plan for fully satisfying the elements of GAO’s framework. DOD and Army concurred and the Air Force and DON did not. In this regard, DOD stated that Air Force and DON do not have a valid business case that would justify the implementation of all the elements. However, GAO continues to believe its recommendation is warranted.

View [GAO-11-902](#) or key components. For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

ORGANIZATIONAL TRANSFORMATION

Military Departments Can Improve Their Enterprise Architecture Programs

What GAO Found

While Air Force, Army, and DON each have long-standing efforts to develop and use enterprise architectures, they have much to do before their efforts can be considered mature. GAO’s enterprise architecture management framework provides a flexible benchmark against which to plan for and measure architecture program maturity and consists of 59 core elements arranged into a matrix of seven hierarchical stages. The Air Force has fully satisfied 20 percent, partially satisfied 47 percent, and not satisfied 32 percent of GAO’s framework elements. The Army has fully satisfied 12 percent and partially satisfied 42 percent of the elements, with the remaining 46 percent not satisfied. Finally, DON has satisfied 27 percent, partially satisfied 41 percent, and not satisfied 32 percent of the framework elements (see table).

Military Department Satisfaction of GAO’s Framework Core Elements (Percent)

Military department	Fully satisfied	Partially satisfied	Not satisfied
Air Force	20	47	32
Army	12	42	46
DON	27	41	32
Average	20	44	37

Source: GAO analysis of military department data.

Note: Numbers do not always add to 100 percent due to rounding.

With respect to stages 1 through 6 of GAO’s architecture framework, the military departments have generally begun establishing institutional commitments to their respective enterprise architecture efforts (stage 1), not established the management foundations necessary for effective enterprise architecture development and use (stage 2), begun developing initial enterprise architecture content (stage 3), not completed and used their initial enterprise architecture versions to achieve results (stage 4), not expanded and evolved the development and use of their respective architectures to support institutional transformation (stage 5), and taken limited steps to continuously improve their respective architecture programs and use their architectures to achieve corporate optimization (stage 6).

Officials at the military departments stated that they have been limited in their ability to overcome long-standing enterprise architecture management challenges, including receiving adequate funding and attaining sufficient senior leadership understanding. Nevertheless, DOD has been provided with considerable resources for its IT systems environment, which consists of 2,324 systems. Specifically, DOD receives over \$30 billion each year for this environment. Without fully developed and effectively managed enterprise architectures and a plan, the Air Force, Army, and DON lack the necessary road maps for transforming their business processes and modernizing their hundreds of supporting systems to minimize overlap and maximize interoperability. What this means is that DOD, as a whole, is not as well positioned as it should be to realize the significant benefits that a well-managed federation of architectures can afford its systems modernization efforts, such as eliminating system overlap and duplication. Because DOD is provided with over \$30 billion each year for its IT systems environment, the potential for identifying and avoiding the costs associated with duplicative functionality across its IT investments is significant.