



Highlights of [GAO-08-519](#), a report to congressional committees

DOD BUSINESS SYSTEMS MODERNIZATION

Military Departments Need to Strengthen Management of Enterprise Architecture Programs

Why GAO Did This Study

In 1995, GAO designated Department of Defense (DOD) business systems modernization as a high-risk program, and the program remains on the high-risk list today. A key to successful systems modernization is having and using an enterprise architecture as an authoritative frame of reference, or blueprint, for system investment decisions. To assist DOD in modernizing its business systems, Congress passed legislation consistent with prior GAO recommendations for DOD to develop and implement a business enterprise architecture (BEA). In response, DOD developed a corporate BEA that it intends to federate, or extend, to the military departments and defense agencies.

To support GAO's legislative mandate to review DOD's BEA, GAO evaluated the status of the Air Force, Navy, and Army architecture programs. To accomplish this, GAO used its Enterprise Architecture Management Maturity Framework and associated evaluation method.

What GAO Recommends

Given the relative status and progress of the military departments' architecture programs, and GAO's existing recommendations for improving their maturity, GAO reiterates these existing recommendations and recommends that the Navy and Army reach out to the Air Force to learn from and apply its architecture-related lessons learned and experiences. In written comments, DOD agreed with GAO's recommendation.

To view the full product, including the scope and methodology, click on [GAO-08-519](#). For more information, contact Randolph C. Hite at (202) 512-3439 or hiter@gao.gov.

What GAO Found

The enterprise architecture programs within the Departments of the Air Force, Navy, and Army have yet to advance to a level that can be considered fully mature. Specifically, all three departments are at the initial stage of GAO's architecture maturity framework. This means that they have not fully satisfied all the core elements associated with the framework's second stage (establishing the management foundation for developing, maintaining, and using the architecture) or any of the framework's higher stages: Stage 3 (developing the architecture), Stage 4 (completing the architecture), and Stage 5 (leveraging the architecture for organizational change). An organization generally needs to have achieved the fifth stage in the framework for it to have an effective architecture program because, at this stage, the management controls and structures are in place for using an approved architecture to guide and constrain system investments in a way that produces institutional results.

Although each department is at Stage 1, the status of the programs vary considerably. Specifically, the Air Force far exceeds both the Navy and the Army, while the Navy generally exceeds the Army, in terms of the total percentage of core elements that are fully satisfied. Moreover, of the core elements that have not been fully satisfied by at least one of the three departments, most relate to architecture content, use, and measurement. Even though none of the departments have fully satisfied sufficient core elements to advance beyond Stage 1, the Air Force has at least partially satisfied all the core elements associated with Stages 2 and 3, as well as all but three core elements across all stages, and the Navy has at least partially satisfied all the core elements for Stage 2. In addition, the Air Force has made important progress in the last 2 years in maturing its architecture program, while the Navy's progress has been mixed, and the Army has not made any progress.

Collectively, this means 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 business systems modernization efforts. Individually, it means that the Air Force has a solid architectural foundation on which to continue building, while the Navy and, even more so, the Army has much to accomplish. According to Air Force officials, its progress owes largely to the architecture-related focus, commitment, and leadership of senior department executives, including the Secretary.

Percent of Framework Elements Fully Satisfied by Framework Maturity Stage

Military departments	All Stages	Stage 2	Stage 3	Stage 4	Stage 5
Air Force	61%	78%	83%	38%	50%
Navy	13	22	17	0	13
Army	3	11	0	0	0

Source: GAO analysis of agency data.