



HOMELAND SECURITY

Efforts Under Way to Develop Enterprise Architecture, but Much Work Remains

Highlights of [GAO-04-777](#), a report to Chairman, Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census, Committee on Government Reform, House of Representatives

Why GAO Did This Study

The Department of Homeland Security (DHS) is attempting to integrate 22 federal agencies, each specializing in one or more interrelated aspects of homeland security. An enterprise architecture is a key tool for effectively and efficiently accomplishing this. In September 2003, DHS issued an initial version of its architecture. Since 2002, the Office of Management and Budget (OMB) has issued various components of the Federal Enterprise Architecture (FEA), which is intended to be, among other things, a framework for informing the content of agencies' enterprise architectures. GAO was asked to determine whether the initial version of DHS's architecture (1) provides a foundation upon which to build and (2) is aligned with the FEA.

What GAO Recommends

GAO is making recommendations to the Secretary of Homeland Security aimed at improving the department's architecture content and development approach. GAO is also making a recommendation to the Director of OMB to clarify the expected relationship between agencies' enterprise architectures and the FEA. In comments on this report, DHS stated that it was not realistic for the initial version of its architecture to satisfy all of the key elements recommended by GAO, but that future versions would do so. OMB stated that it would address the FEA and agency architecture relationship issues that GAO reported.

www.gao.gov/cgi-bin/getrpt?GAO-04-777.

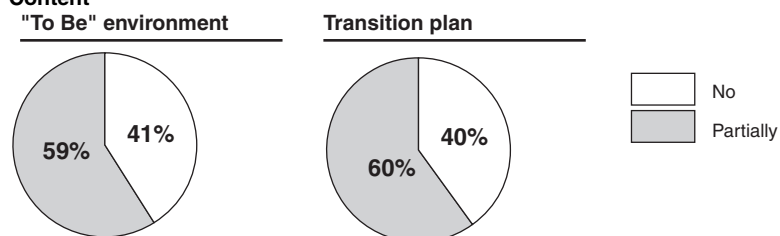
To view the full product, including the scope and methodology, click on the link above. For more information, contact Randolph C. Hite at (202) 512-3439 or hiter@gao.gov.

What GAO Found

DHS's initial enterprise architecture provides a partial foundation upon which to build future versions. However, it is missing, either in part or in total, all of the key elements expected to be found in a well-defined architecture, such as descriptions of business processes, information flows among these processes, and security rules associated with these information flows, to name just a few (see figure below for a summary of key elements present). Moreover, the key elements that are at least partially present in the initial version were not derived in a manner consistent with best practices for architecture development. Instead, they are based on assumptions about a DHS or national corporate business strategy and, according to DHS, are largely the products of combining the existing architectures of several of the department's predecessor agencies, along with their respective portfolios of system investment projects. DHS officials agreed that their initial version is lacking key elements, and they stated that this version represents what could be done in the absence of a strategic plan, with limited resources, and in the 4 months that were available to meet an OMB deadline for submitting the department's fiscal year 2004 information technology budget request. In addition, they stated that the next version of the architecture, which is to be issued in September 2004, would have much more content. As a result, DHS does not yet have the necessary architectural blueprint to effectively guide and constrain its ongoing business transformation efforts and the hundreds of millions of dollars that it is investing in supporting information technology assets. Without this, DHS runs the risk that its efforts and investments will not be well integrated, will be duplicative, will be unnecessarily costly to maintain and interface, and will not optimize overall mission performance.

The department's initial enterprise architecture can be traced semantically with the FEA, which means that similar terms and/or definitions of terms can be found in the respective architectures. However, traceability in terms of architecture structures and functions is not apparent. Because of this, it is not clear whether the substance and intent of the respective architectures are in fact aligned, meaning that, if both were implemented, they would produce similar outcomes. This is due at least in part to the fact that OMB has yet to clearly define what it expects the relationship between agencies' enterprise architectures and the FEA to be, including what it means by architectural alignment.

Summary of Extent to Which Version 1.0 Satisfies Key Elements Governing Architectural Content



Source: GAO analysis of DHS data.