United States Government Accountability Office

GAO

Report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

August 2008

DOD BUSINESS TRANSFORMATION

Air Force's Current Approach Increases Risk That Asset Visibility Goals and Transformation Priorities Will Not Be Achieved

GAO

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DOD BUSINESS TRANSFORMATION

Air Force's Current Approach Increases Risk That Asset Visibility Goals and Transformation Priorities Will Not Be Achieved

Why GAO Did This Study

The Department of Defense (DOD) established a goal to achieve total asset visibility over 30 years ago. This initiative aims to provide timely, accurate information on the location, movement, status, and identity of equipment and supplies. To date, the effort has been unsuccessful. GAO was requested to determine (1) the implementation status of the Air Force's business system initiatives to achieve total asset visibility, and whether the Air Force has implemented related best practices, and (2) whether the Air Force's business transformation efforts to achieve total asset visibility are aligned within the Air Force and with DOD's broader business transformation priorities. GAO interviewed Air Force officials and reviewed Air Force documentation to obtain an understanding of the Air Force's system initiatives and strategy for achieving total asset visibility and to identify areas for improvement.

What GAO Recommends

GAO makes three recommendations to DOD to improve the Air Force's risk management process and system testing related to ECSS and DEAMS, and integration of transformation plans for achieving business transformation and goals, including total asset visibility. DOD concurred with the recommendations and identified specific actions that it will take to implement them.

To view the full product, including the scope and methodology, click on GAO-08-866. For more information, contact Paula M. Rascona at (202) 512-9095 or rasconap@gao.gov.

What GAO Found

The Air Force has identified the Expeditionary Combat Support System (ECSS) and the Defense Enterprise Accounting and Management System (DEAMS) as key technology enablers of the Air Force's efforts to transform its logistics and financial management operations and achieve total asset visibility—a key DOD priority.

- ECSS is expected to provide a single, integrated logistics system, including transportation, supply, maintenance and repair, and other key business functions directly related to logistics such as engineering and acquisition. Additionally, ECSS will perform financial management and accounting for the Air Force working capital fund operations. ECSS is expected to be fully operational in fiscal year 2013, and replace about 250 legacy logistics and procurement systems.

- DEAMS is expected to provide the entire spectrum of core financial management capabilities, including collections, commitments/obligations, cost accounting, general ledger, funds control, receipts and acceptance, accounts payable and disbursement, billing, and financial reporting for the Air Force general fund operations. DEAMS is expected to replace seven legacy systems and be fully operational in fiscal year 2014.

GAO identified several areas in which the Air Force had not fully implemented best practices related to risk management and system testing. These findings increase the risk that these business system initiatives will not meet their stated functionality, cost, and milestone goals, thereby limiting the Air Force's efforts to achieve total asset visibility and other DOD business transformation priorities.

Further, key Air Force business transformation strategic plans and documents were not aligned within the Air Force nor with DOD's broader business transformation priorities. While each individual Air Force plan was intended to support the Air Force's business transformation efforts, the plans did not reflect a coordinated effort toward achieving a stated Air Force or DOD goal. For example, neither the Air Force's Military Equipment Accountability Improvement Plan for supporting DOD's military equipment valuation effort, nor the Air Force Logistics Enterprise Architecture Concept of Operations, its key strategic transformation plan for logistics, identified a shared relationship, including metrics, in supporting Air Force and DOD logistics and financial management transformation goals. As a result, neither the Air Force nor DOD will have the performance data needed to oversee efforts intended to improve the Air Force's ability to locate, manage, and account for assets throughout their life cycle.

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Abbreviations

DOD	Department of Defense
DEAMS	Defense Enterprise Accounting and Management System
ECSS	Expeditionary Combat Support System
FIAR	Financial Improvement and Audit Readiness
SFIS	Standard Financial Information Structure

![GAO logo - Accountability * Integrity * Reliability]

United States Government Accountability Office
Washington, DC 20548

August 8, 2008

The Honorable Daniel K. Akaka
Chairman
The Honorable John Thune
Ranking Member
Subcommittee on Readiness and Management Support
Committee on Armed Services
United States Senate

Over 30 years ago, the Department of Defense (DOD) established a goal to achieve total asset visibility in recognition of its importance to successful operations. To date, DOD's efforts have been unsuccessful. DOD defines total asset visibility as the capability to provide timely, accurate information on the location, movement, status or condition, and identity of units, personnel, equipment, and supplies DOD-wide, and having the capability to act on that information. If the information contained in the asset accountability systems is not accurate, complete, and timely, DOD's day-to-day operations could be adversely affected by, for example, investing in inventory that is not needed to meet current needs.

Asset visibility is one of three focus areas identified by the department as critical to effective and efficient supply chain management operations.[1] The other two focus areas are inventory management and distribution. Collectively, these three areas are integral to department logistical operations[2] and improvements are needed in each to address the problems associated with DOD's supply chain management, which has been on our high-risk list since 1990.[3] Of the 27 areas on our high-risk list,[4] DOD

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[1]Supply chain management is the management of all processes or functions to satisfy a customer's product or service order.

[2]DOD defines logistics as the science of planning and carrying out the movement and maintenance of forces. Logistics includes the aspects of military operations that deal with (1) design and development acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; (2) movement, evacuation, and hospitalization of personnel; (3) acquisition or construction, maintenance, operation, and disposition of facilities; and (4) acquisition or furnishing of services.

[3]GAO, *High-Risk Series: An Update*, GAO-07-310 (Washington, D.C.: January 2007).

[4]GAO-07-310.

has 8 high-risk areas of its own,[5] and shares responsibility for 7 governmentwide high-risk areas.[6] The nature and severity of DOD's deficiencies in these high-risk areas impedes the ability of DOD managers to receive the full range of information needed to effectively manage day-to-day operations. DOD's efforts to achieve total asset visibility should assist the department in addressing several of its high-risk areas, including supply-chain management, business system modernizations, and financial management by providing DOD management and the Congress with more accurate and reliable information for decision making purposes.

Similar to the department as a whole, the Air Force continues to struggle to achieve and maintain efficient and effective management control over the hundreds of billions of dollars in inventory and other assets with which it is entrusted. For example, in 1996, we reported that information systems do not always provide Air Force managers and employees with accurate, real-time data on the cost, amount, location, condition, and usage of inventory—elements that are required to successfully plan, control, and measure inventory management.[7] Furthermore, in April 2007 we reported that more than half of the Air Force's spare parts inventory worth an average of $31.4 billion was not needed.[8] Our report further noted that the Air Force has continued to purchase unneeded inventory because its policies do not provide incentives to manage the amount of inventory on order that may not be needed to support its logistics operations. The Air Force has acknowledged that its logistics operations have largely been reactionary, rather than anticipatory, because stovepiped business processes and systems impede visibility. Importantly, Air Force logisticians have historically met the challenge of fulfilling their mission within the constraints of archaic business processes and

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[5]The eight specific DOD high-risk areas are (1) business transformation, (2) business systems modernization, (3) contract management, (4) financial management, (5) personnel security clearance, (6) supply chain management, (7) support system infrastructure, and (8) weapon systems acquisition.

[6]The seven high-risk areas that DOD shares responsibility for are (1) disability programs, (2) information sharing for homeland security, (3) information security and critical infrastructure, (4) interagency contracting, (5) human capital, (6) real property, and (7) technologies critical to national security.

[7]GAO, *Best Management Practices: Reengineering the Air Force's Logistics Systems Can Yield Substantial Savings*, GAO/NSIAD-96-5 (Washington, D.C.: Feb. 21, 1996).

[8]GAO, *Defense Inventory: Opportunities Exist to Save Billions by Reducing Air Force's Unneeded Spare Parts Inventory*, GAO-07-232 (Washington, D.C.: Apr. 27, 2007).

nonintegrated systems, through increased personnel and financial resources.

The Air Force's vision for transforming its logistics operations to meet both the current and future threat environment is broad in scope and touches on all logistics functions, including transportation, maintenance, procurement, inventory management, and product life-cycle management, and crosses all commodity lines (such as fuel, munitions, aircraft, and vehicles) and organizational boundaries.[9] The Air Force has determined that logistics must operate with an enterprise (Air Force-wide) view, across integrated processes, while optimizing resources and leveraging integrated technology "to deliver the right support, to the right place, at the right time, every time."[10] The Air Force has a number of ongoing technology, policy, organization, and process engineering initiatives to enhance asset visibility. Among these are asset marking and tracking initiatives, which are intended to enable more accurate and timely recording of asset information such as location, condition, and status through the use of unique item identification and radio frequency identification of individual or groups of assets. In addition, the Air Force has undertaken two business system initiatives, the Expeditionary Combat Support System (ECSS) and the Defense Enterprise Accounting and Management System (DEAMS) that it has identified as key to its efforts to transform its logistics and financial management operations, and achieve total asset visibility. ECSS will primarily be responsible for performing the logistical functions for both the Air Force's general[11] and working capital[12] funds and the financial management functions for the Air Force's working capital funds. DEAMS will perform the financial management functions for the Air Force's general funds. Although ECSS and DEAMS are important technology enablers, their ability to provide the information intended by Air Force to support total asset visibility, including asset accountability

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[9]Air Force, Air Force Expeditionary Logistics for the 21st Century Campaign Plan.

[10]Air Force, Air Force Expeditionary Logistics for the 21st Century Campaign Plan.

[11]The general fund can be defined as the fund into which all receipts of the United States government are deposited, except those from specific sources required by law to be deposited into other designated funds and from which appropriations are made by Congress to carry on the general and ordinary operations of the government.

[12]A working capital fund is an intragovernmental revolving fund that conducts continuing cycles of business-like activity mainly within and between government agencies, in which the fund charges for the sale of products or services and uses the proceeds to finance its spending, usually without requirement for annual appropriations.

and decision making support, is largely dependent upon the Air Force's success in integrating, managing, and completing other transformation initiatives outlined in a variety of Air Force strategic plans and documents.

This report provides information in support of your continuing oversight of DOD's progress towards resolving the department's long-standing problems in achieving total asset visibility. In July 2007, we reported on the Army's efforts to achieve total asset visibility.[13] Our objectives were to determine (1) the implementation status of the Air Force's current business system initiatives to achieve total asset visibility, and whether the Air Force has implemented related best practices, and (2) whether the Air Force's business transformation efforts to achieve total asset visibility are aligned within the Air Force and with DOD's broader business transformation priorities.[14]

To address the first objective, we analyzed documentation and met with Air Force and DOD Business Transformation Agency officials to identify and determine the implementation status of key Air Force business system initiatives intended to support the Air Force's goal of achieving total asset visibility. Further, we interviewed and obtained briefings from Air Force logistics and financial management officials and others on ECSS and DEAMS program management and oversight. Specifically, we obtained and reviewed documentation related to each system initiative, including costs, implementation schedules, and risk management programs, to assess their acquisition status and to determine whether improvements were needed in the Air Force's approach for acquiring and implementing these systems. We did not review ECSS and DEAMS compliance with the Air Force's enterprise architecture because our related work focused on ascertaining the status of the military services' efforts to develop and use an enterprise architecture. The results of this work are discussed in our

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[13]GAO, *DOD Business Transformation: Lack of an Integrated Strategy Puts the Army's Asset Visibility Systems Investments at Risk*, GAO-07-860 (Washington, D.C.: July 27, 2007).

[14]Basis for best practices were derived from the following publications: Steve McConnell, *Rapid Development: Taming Wild Software Schedules* (Redmond, WA: Microsoft Press, 1996), Hubert F. Hofmann, Deborah K. Yedlin, John W. Mishler, and Susan Kushner, *CMMI for Outsourcing: Guidelines for Software, Systems, and IT Acquisition, SEI Series in Software Engineering* (Boston, MA: Addison-Wesley Professional, 2007), Department of Defense, *Risk Management Guide for DOD Acquisition*, Sixth Edition, Version 1.0, (August 2006), and GAO, *Information Technology: DOD's Acquisition Policies and Guidance Need to Incorporate Additional Best Practices and Controls*, GAO-04-722 (Washington, D.C.: July 30, 2004).

May 2008 report, which noted that while the Air Force's efforts to develop an enterprise architecture were ahead of the Army's and the Navy's efforts, the Air Force's architecture was not sufficiently developed to guide and constrain its business systems modernization investments.[15] To address the second objective, we obtained and analyzed key Air Force business transformation strategic plans to assess integration and utilization of metrics in supporting and managing the Air Force's efforts to transform its business operations and achieve total asset visibility. Additionally, we compared key Air Force business transformation plans with DOD's Enterprise Transition Plan to determine if DOD's business enterprise transformation priorities were incorporated into the Air Force's plans.

We conducted this performance audit from July 2007 through August 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Details on our scope and methodology are included in appendix I. We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Deputy Under Secretary of Defense (Business Transformation), which are reprinted in appendix II.

Results in Brief

The Air Force has identified ECSS and DEAMS as key technology enablers to the Air Force's efforts to transform its logistics and financial management operations and achieve total asset visibility. According to the Air Force, ECSS is expected to provide a single, integrated logistics system, including transportation, supply, maintenance and repair, and other key business functions, such as engineering and acquisition, directly related to logistics. Additionally, ECSS is expected to perform financial management and accounting functions for working capital fund operations.[16] As of December 2007, the Air Force reported that it had

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[15]GAO, *DOD Business Systems Modernization: Military Departments Need to Strengthen Management of Enterprise Architecture Programs*, GAO-08-519 (Washington, D.C.: May 12, 2008).

[16]This includes financial management and related business capabilities, such as collections, commitment/obligations, cost accounting, general ledger, funds control, receipt and acceptance, accounts payable, disbursements, and billings.

obligated a total of $250 million for ECSS. Due to delays as a result of two contract award protests, the Air Force expects ECSS to reach full operational capability in fiscal year 2013. When fully implemented, ECSS is expected to replace about 250 legacy logistics and procurement (acquisition) systems and support over 250,000 users Air Force-wide. DEAMS is expected to provide financial management and accounting functions for Air Force general fund operations. As of December 2007, the Air Force reported that it had obligated a total of $119 million for DEAMS. Cost information was not specifically identified by DOD as an element for achieving total asset visibility. However, there is a growing recognition within the department, including the Air Force, of the importance of cost information to effectively and efficiently manage business operations, including logistics management. Lack of integration between business systems, including logistics and financial management, has adversely affected the ability of DOD and the Air Force to ensure basic accountability, anticipate future costs and claims on the budget, measure performance, maintain funds control, and prevent fraud. If the information contained in asset and financial accountability systems is not accurate, complete, and timely, the Air Force's day-to-day operations could be adversely affected by, for example, investing in inventory that is not needed to meet current needs or for which the Air Force had not allocated sufficient resources or authority to purchase. Both physical and financial accountability are essential to achieving total asset visibility and DOD's objective of providing information to support decision making. When fully implemented, DEAMS is expected to replace seven legacy systems and reach full operational capability by fiscal year 2014.

The Air Force has not fully managed ECSS and DEAMS programs in accordance with key DOD guidance and best practices for systems acquisition. More specifically, at the time of our review, neither the ECSS nor DEAMS program management office had used a comprehensive and fully integrated risk management process that provides the program management office clear visibility or linkages to risk management activities occurring within various subordinate program groups or activities. Visibility of activities occurring within the program is needed to help program management and other senior leaders ensure appropriate actions are taken to identify, analyze, and mitigate risks throughout the program, rather than within a single group or activity. In regard to system testing, the DEAMS program management office's field testing of DEAMS did not initially consider the impact that different computer desktop configurations would have on their ability to successfully deploy DEAMS at its first deployment location—Scott Air Force Base, Illinois. As a result, the DEAMS program management office had to delay further

implementation of DEAMS at Scott Air Force Base because it unexpectedly encountered different computer desktop configurations that required a series of "system patches" to address software and connectivity issues before implementation could be completed. The delay at Scott Air Force Base underscores how the importance of obtaining a comprehensive understanding of a location's current operating environment is essential to the successful implementation of a system. Although we found that neither DEAMS's nor ECSS's risk management programs had identified the possibility of encountering different computer desktop configurations in use at deployment locations as a potential program risk for mitigation, they both acknowledged that future deployment of either system could be adversely affected by a lack of, or incomplete understanding of, the operating environment currently in use at a deployment location. Officials in both the DEAMS and ECSS program management offices stated that in the future, they intend to test computer desktop configurations at each location prior to deployment.

The Air Force's transformation efforts do not reflect a coordinated, concerted effort or strategy for transforming its business operations and achieving stated Air Force or DOD enterprise goals, such as total asset visibility. For example, the Air Force Military Equipment Accountability Improvement Plan for supporting the department's military equipment valuation effort was not linked to the Air Force Logistics Enterprise Architecture Concept of Operations—the key business transformation plan for Air Force logistics.[17] Additionally, the various Air Force plans generally did not include any metrics for measuring transformation progress. For instance, the Air Force Logistics Enterprise Architecture Concept of Operations identified two goals—increase equipment availability by 20 percent no later than fiscal year 2011 and reduce annual operating and support costs by 10 percent no later than fiscal year 2011. While these are notable goals, the plan did not identify any metrics for assessing incremental progress made in achieving these two goals or DOD business transformation priorities. Additionally, the Air Force has not established metrics to measure, monitor, and reliably report incremental progress in improving its ability to locate, manage, and account for assets throughout their life cycle.

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[17]Air Force, United States Air Force Military Equipment Accountability Improvement Plan, (December 2006).

We are making three recommendations to the Secretary of Defense to improve the department's efforts to achieve total asset visibility, further enhance its efforts to improve control and accountability over business system investments, and achieve its business transformation priorities. Specifically, we recommend that the Secretary of Defense (1) direct the Air Force to provide risk management visibility at the ECSS and DEAMS program level to facilitate oversight and monitoring of risk management activities occurring throughout the programs; (2) direct the Air Force to direct ECSS and DEAMS program management offices to identify and mitigate key ECSS and DEAMS implementation risks before deployment, such as testing ECSS and DEAMS on relevant computer desktop configurations prior to deployment at a given location; and (3) direct the Air Force transformation activities to align their business transformation plans, including efforts aimed at achieving total asset visibility, with priorities included in DOD's Enterprise Transition Plan.

We received written comments on a draft of this report from the Deputy Under Secretary of Defense (Business Transformation), which are reprinted in appendix II. DOD concurred with our recommendations and identified specific actions it plans to take to implement these recommendations.

Background

In April 2003, the Secretary of Defense charged the military services with supporting six transformational objectives.[18] These objectives not only included a reiteration of the department's goal to fully implement total asset visibility, but also clearly reflected a growing recognition of the importance of cost information in fulfilling the logistics mission. Further, when DOD released its first Enterprise Transition Plan in 2005, these objectives, including the importance of financial information visibility for use in decision making, were embodied into the department's six strategic business enterprise transformation priorities.[19] Both DOD and the Air

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[18]The six transformational objectives are (1) optimize support to the warfighter, (2) improve strategic mobility to meet operations requirements, (3) implement customer wait time as a cascading metric, (4) fully implement total asset visibility, (5) reengineer applicable processes and systems to increase overall communication and operational situational awareness, and (6) achieve best-value logistics while meeting requirements at reduced operating costs.

[19]The six DOD business transformation priorities are (1) personnel visibility, (2) acquisition visibility, (3) common supplier engagement, (4) materiel visibility, (5) real property accountability, and (6) financial visibility.

Force have initiatives under way to improve their ability to link financial resources to associated assets, programs, and activities or missions. For example, both the department and the Air Force have efforts underway, such as the Unique Item Identification and Radio Frequency Identification initiatives and the Standard Financial Information Structure (SFIS) initiative, to improve their ability to identify and track assets, including costs, throughout their life cycle.[20]

The Air Force, as a DOD component, is confronted with similar management challenges that must be effectively resolved if it is to improve its business operations and in turn provide better support to the warfighter. The following highlights some of the asset management challenges the Air Force is attempting to resolve to achieve total asset visibility.

Excess inventory. We have previously reported that more than half of the Air Force's secondary inventory (spare parts), worth an average of $31.4 billion, was not needed to support required on-hand and on-order inventory levels from fiscal years 2002 through 2005.[21] The Air Force has continued to purchase unneeded on-order inventory because its policies do not provide incentives to reduce the amount of inventory on order that is not needed to support requirements.

Financial management and reporting. The DOD Inspector General reported in November 2007, and the Air Force acknowledged, that the Air Force continues to have significant internal control deficiencies that impede the ability of its general and working capital funds to produce accurate and reliable information on the results of their operations. Deficiencies were found in the following areas: (1) financial management systems, (2) government furnished and contractor-acquired materiel (general fund), (3) environmental liabilities, (4) operating materials and supplies, (5) accounting entries, (6) property, plant, and equipment, and (7) in-transit inventory (working capital fund).[22]

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[20]SFIS is intended to provide a standardized DOD-wide financial information structure to facilitate improved cost accounting, analysis, and reporting.

[21]GAO-07-232.

[22]DOD Inspector General, *Independent Auditor's Report on the FY 2007 Air Force General Fund Financial Statements*, Report No. D2008-010 (Arlington, VA: Nov. 8, 2007) and *Independent Auditor's Report on the Air Force FY 2007 Working Capital Fund Financial Statements*, Report No. D2008-011 (Arlington, VA: Nov. 8, 2007).

Deployed assets. In January 2007, the Air Force Audit Agency reported that the Air Force had lost control and accountability over 5,800 assets, valued at approximately $108 million, in part because its logistical systems did not provide Air Force personnel with the capability to effectively manage, track, and monitor deployed assets.[23] For example, the system incorrectly reported that assets were deployed to closed bases. Additionally, the systems did not provide reliable asset information, such as asset quantities and location. As a result of these weaknesses, Air Force management did not have total asset visibility and was not able to determine if the right assets were at the right location to meet mission requirements.

Government furnished material. In January 2007, the Air Force Audit Agency also reported that the Air Force did not effectively manage government furnished material.[24] More specifically, the Air Force Audit Agency reported that the Air Force logistics personnel inappropriately provided government furnished material to contractors that were not authorized by contract documentation to receive this material. This problem could adversely affect mission support if the Air Force loses assets that should be in inventory. In addition, poor accountability controls increase the Air Force's susceptibility to fraud and misuse of government resources.

Key DOD and Air Force Business Transformation Plans

Successful transformation of DOD's business operations, including the achievement of total asset visibility, will require a multifaceted, cross-organizational approach that addresses the contribution and alignment of key elements, including strategic plans, people, processes, and technology. The following highlights key DOD and Air Force transformation plans that are aimed at enhancing business operations and supporting the department's total asset visibility goal.

Enterprise Transition Plan. DOD guidance states that the Enterprise Transition Plan is intended to provide a road map for achieving DOD's business transformation through technology, process, and governance improvements. According to DOD, the Enterprise Transition Plan is

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[23]Air Force Audit Agency, *Deployed Assets*, F2007-0004-FC4000 (Washington, D.C.: Jan. 26, 2007).

[24]Air Force Audit Agency, *Government Furnished Material*, F2007-0003-FC4000 (Washington, D.C.: Jan. 26, 2007).

intended to summarize all levels of transition planning information (milestones, metrics, resource needs, and system migrations) as an integrated product for communicating and monitoring progress—resulting in a consistent framework for setting priorities and evaluating plans, programs, and investments. DOD updates the Enterprise Transition Plan twice a year, once in March as part of DOD's annual report to Congress and again in September. Although the Enterprise Transition Plan provides an overall strategy and corresponding metrics for achieving each of the department's six business enterprise priorities, DOD officials have acknowledged improvements are needed in the plan to provide a clearer assessment of the department's transformation effort. DOD officials have also acknowledged the need for an integrated planning process and results-oriented measures to assess overall business transformation.

Financial Improvement and Audit Readiness (FIAR) Plan. A major component of DOD's business transformation effort is the Defense FIAR Plan. The FIAR Plan is updated twice a year and is intended to provide DOD components with a framework (audit readiness strategy) for resolving problems affecting the accuracy, reliability, and timeliness of financial information and obtaining clean financial statement audit opinions. The FIAR Plan's audit readiness strategy consists of six phases: (1) discovery and correction, (2) segment assertion, (3) audit readiness validation, (4) audit readiness sustainment, (5) financial statement assertion, and (6) financial statement audit. Each military service is required to develop subordinate plans that are to support the FIAR Plan in achieving its objectives.

Air Force Financial Management Strategic Plan for Fiscal Years 2007-2012. This plan identifies seven financial management goals for transforming the Air Force's financial management operations. Those goals are (1) foster mutual respect and integrity, (2) reduce Air Force cost structure, (3) expand partnership in strategic Air Force decisions, (4) recruit, prepare, and retain a well-trained and highly educated professional team for today and tomorrow, (5) provide customers with world-class financial services, (6) implement open, transparent business practices, and achieve a clean financial statement audit, and (7) continuously streamline financial management processes and increase capabilities. In addition, the plan also identifies specific objectives for each goal, some of the actions that will be taken to accomplish the objectives, and 13 financial management metrics.

Air Force Logistics Enterprise Concept of Operations. This document presents a collection of high-level requirements for

transforming Air Force logistics. It establishes the process framework, standards, and guidelines to define the environment in which future logistics systems can be identified, acquired, or built. Further, it aims to serve as a catalyst for developing doctrine, policies, and organizational structure consistent with the vision outlined in the Air Force Expeditionary Logistics for the 21st Century Campaign Plan, needed to enable logistics transformation.

Air Force Information Reliability and Integration Action Plan/ Financial Improvement Plan. This plan describes actions planned to identify and address impediments to the Air Force's ability to achieve clean financial statement audit opinions. The Air Force Information Reliability and Integration Action Plan, commonly referred to as the Air Force Financial Improvement Plan, includes specific tasks, completion dates, start dates, owner/lead components, and points of contact for addressing weaknesses adversely affecting the reliability of individual Air Force financial statement line items and is intended to support the department's FIAR Plan.

Air Force Military Equipment Accountability Improvement Plan. This plan is intended to define how the Air Force will implement measures to properly collect, account for, track, and report military equipment values. This plan is intended to identify the actions required to resolve any existing problems or impediments to achieving auditable values for military equipment items. The Air Force Military Equipment Accountability Improvement Plan is intended to be incorporated into the Air Force's Financial Improvement Plan and DOD's FIAR Plan.

Improvements Are Needed in the Air Force's Approach for Acquiring and Implementing ECSS and DEAMS

ECSS and DEAMS are two business systems initiatives identified by the Air Force that are intended to help it address asset accountability weaknesses and achieve its total asset visibility goal. While these programs are intended to provide the Air Force with the full spectrum of logistics and financial management capabilities, our review identified areas where the Air Force had not fully implemented key best practices related to risk management for ECSS and DEAMS and system testing for DEAMS.

ECSS and DEAMS Are Intended to Help the Air Force Achieve Total Asset Visibility

ECSS and DEAMS are intended to support the Air Force's efforts to transform its business operations and provide accurate, reliable, and timely information to support decision making and management of the Air Force's business operations, including total asset visibility. The ECSS program was initiated in January 2004 and is expected to provide a single, integrated logistics system, including transportation, supply, maintenance and repair, and other key business functions directly related to logistics, such as engineering and acquisition, at a total life-cycle cost over $3 billion. Initially, the Air Force anticipated achieving full operational capability of ECSS during fiscal year 2012. Due to delays as a result of two contract award protests, the Air Force now expects ECSS to reach full operational capability in fiscal year 2013. When fully implemented, ECSS is expected to replace about 250 legacy logistics and procurement (acquisition) systems and support over 250,000 users Air Force-wide. ECSS is considered a key element in the Air Force's efforts to reengineer and transform its supply chain operations from a reactive posture to a more predictive posture that facilitates greater effectiveness and efficiency in the Air Force's logistics operations that support the warfighter.

ECSS is intended to interface with DEAMS to provide the Air Force with improved financial visibility over Air Force assets. Additionally, implementation of ECSS is expected to address long-standing weaknesses in supply chain management, a DOD issue that has been on our high-risk list since 1990. In this regard, the redesign of the Air Force's supply chain operations, in part through implementation of ECSS, is expected to address four broad Air Force logistical issues: (1) lack of an enterprise view, (2) fragmented planning processes, (3) lack of process integration, and (4) no enterprise-level systems strategy. Figure 1 provides information related to ECSS's timeline for implementation and funding.

Figure 1: ECSS Timeline and Funding

Dollars in billions
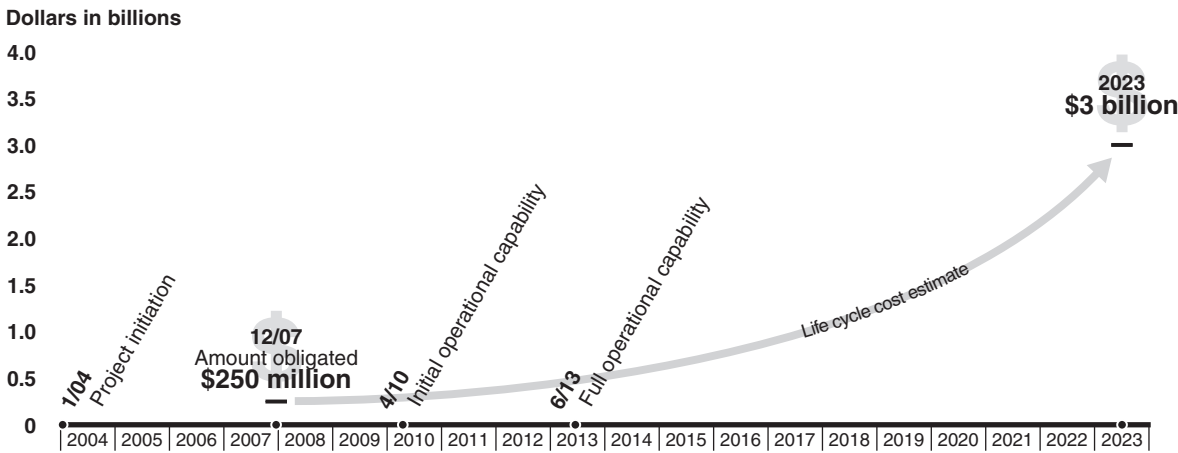
Source: GAO based on information provided by Air Force.

Currently, the program is undergoing a process referred to as "blueprinting" to identify needed interfaces and data requirements. After blueprinting is completed in fiscal year 2009, the Air Force will begin system testing and initial implementation of ECSS. As of December 2007, the Air Force reported that approximately $250 million had been obligated in total for the ECSS effort.

As shown in figure 1, the Air Force estimates a total life-cycle cost of $3 billion; however, the total life-cycle cost of ECSS is likely to increase due to an Air Force decision to add functionality. In January 2008, Air Force ECSS program management officials informed us that ECSS would assume financial management control and accountability, including invoice processing and financial reporting responsibility, for the Air Force's working capital fund operations. Prior to this decision, the Air Force had designated DEAMS as the business system initiative it intended to use to improve the financial management capabilities of both the Air Force's working capital and general funds. The Air Force is currently in the process of determining the cost of this decision and how much it will add to its already recognized funding shortfall for ECSS of approximately $697 million. According to ECSS program management office officials, ECSS's funding shortfall resulted from contract order award protests that caused stop-work actions. As a result of the stop-work actions, the ECSS program management office was not able to spend money for work as planned, which caused the Air Force to reallocate the money to other Air Force requirements, ultimately resulting in unfunded ECSS requirements.

The DEAMS program was initiated in August 2003 and is expected to provide general fund accounting for the entire Air Force at a total life-cycle cost of over $1 billion.[25] In the past, lack of integration between business systems, including logistics and financial management, have adversely affected the ability of DOD and the Air Force to control costs, ensure basic accountability, anticipate future costs and claims on the budget, measure performance, maintain funds control, and prevent fraud. If the information contained in asset and financial accountability systems is not accurate, complete, and timely, the Air Force's day-to-day operations could be adversely affected by, for example, investment in inventory that is not needed to meet current needs or for which the Air Force had not allocated sufficient resources or authority to purchase. Both physical and financial accountability are essential to achieving total asset visibility and DOD's objective of providing information to support decision making.

According to Air Force officials, DEAMS will replace seven legacy accounting systems.[26] As depicted in figure 2, Air Force program management officials expect DEAMS to reach initial operational capability[27] during fiscal year 2011 and full operational capability[28] by fiscal year 2014 with a total life-cycle cost of about $1.1 billion. DOD defines total life-cycle cost as the total cost to the government of acquisition and ownership of that system over its useful life. It includes the cost of acquisition, operations, and support (to include manpower), and where applicable, disposal. Figure 2 provides information related to DEAMS's timeline for implementation and funding.

[25]General fund accounting includes such financial management and related business capabilities as collections, commitment/obligations, cost accounting, general ledger, funds control, receipt and acceptance, accounts payable, disbursements, and billings.

[26]DEAMS is intended to replace the following legacy accounting systems: (1) Cargo and Billing System, (2) Transportation Financial Management System-Military Traffic Management Command, (3) Airlift Services Industrial Fund Integrated Computer System, (4) Automated Business Services System, (5) Base Accounts Receivable System, (6) General Accounting and Finance System (Base-level/rehost), and (7) Integrated Accounts Payable System.

[27]Initial operational capability is achieved when a system is implemented with some minimal capabilities and additional capabilities are planned before the system is determined to have reached full operational capability.

[28]Full operational capability means that the system has been deployed as intended to all planned locations.

Figure 2: DEAMS Timeline and Funding

Dollars in billions
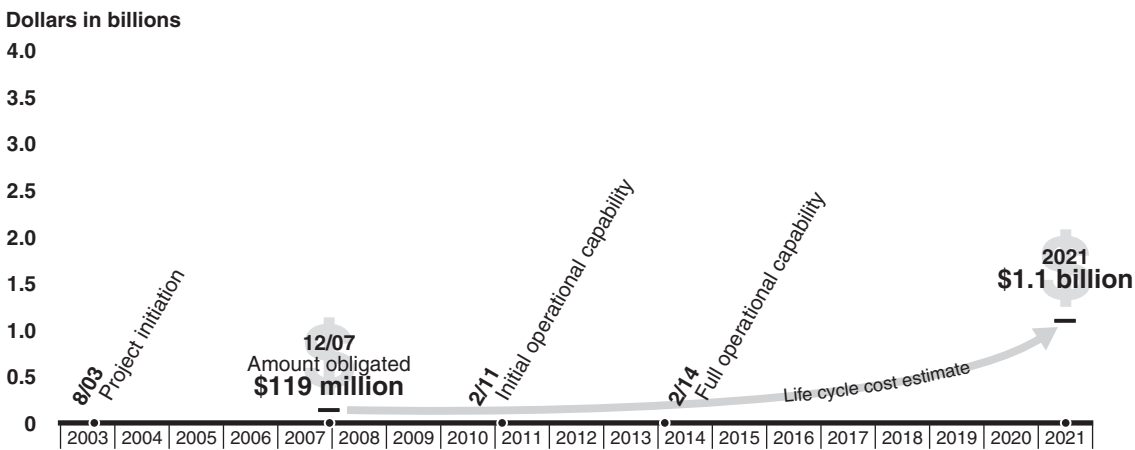
Source: GAO based on information provided by Air Force.

The DEAMS business system initiative was approved by the Office of the Secretary of Defense Business Management Modernization Program's Financial Management Transformation Team[29] as a joint United States Transportation Command (Transportation Command), Defense Finance and Accounting Service, and Air Force project. According to Air Force officials, DEAMS will be implemented in two increments—the first at the Transportation Command and the second at the Air Force.

During the first incremental deployment of DEAMS, which began at Scott Air Force Base, Illinois, on July 27, 2007, approximately 200 users within the Transportation Command, the Air Force's Air Mobility Command component, and other selected tenant organizations at Scott Air Force Base, began to receive limited accounting capabilities (starting with commitment accounting). As of December 2007, the Air Force reported that approximately $119 million had been obligated for this system. By the end of the increment 1 deployment phase, which is expected to be completed by December 2010, DEAMS is intended to provide Scott Air Force Base with the entire spectrum of core financial management capabilities, including collections, commitments/obligations, cost accounting, general ledger, funds control, receipt and acceptance,

[29]The Business Management Modernization Program was the approval authority for business systems investment efforts in 2003. Currently, the Defense Business Systems Management Committee is the approval authority for business systems investments.

accounts payable and disbursement, billing, and financial reporting. Deployment of DEAMS to an estimated 28,000 users at other Air Force locations will occur during the DEAMS increment 2 deployment phase.

ECSS and DEAMS Programs Did Not Fully Embrace or Implement Key Business System Best Practices

The Air Force had not yet fully embraced or implemented key business system best practices in several areas. Best practices are tried and proven methods, processes, techniques, and activities that organizations define and use to minimize program risks and maximize the chances of a program's success.[30] Collectively, these practices are intended to reasonably ensure that the investment in a given system represents the right solution to fill a mission need—and if the solution is right, that acquisition and deployment are done the right way, meaning that they maximize the chances of delivering defined system capabilities on time and within budget. Specifically, we found that the Air Force had not fully implemented key best practices related to risk management for ECSS and DEAMS and system testing for DEAMS. These findings increase the risk that these two business systems will not meet their stated functionality, cost, and milestone goals or effectively further the Air Force's efforts to achieve total asset visibility.

ECSS and DEAMS Risk Management Programs Are Not Comprehensive and Do Not Provide Sufficient Detail to Effectively Oversee the Programs

The Air Force did not have reasonable assurance that its risk management process would accomplish its primary purpose—managing a program's risks to acceptable levels by taking the actions necessary to identify and mitigate the adverse effects of risks before they affect the program.[31] The objective of a well-managed risk management program is to provide a repeatable process for balancing cost, schedule, and performance goals within program funding. According to DOD's *Risk Management Guide for DOD Acquisition*, risk management is most effective if it is fully

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[30]Best practices associated with risk management programs and system testing were derived from the following publications: Department of Defense, *Risk Management Guide for DOD Acquisition*, sixth edition, Version 1.0, (August 2006), Steve McConnell, *Rapid Development: Taming Wild Software Schedules* (Redmond, WA: Microsoft Press, 1996), Hubert F. Hofmann, Deborah K. Yedlin, John W. Mishler, and Susan Kushner, *CMMI for Outsourcing: Guidelines for Software, Systems, and IT Acquisition, SEI Series in Software Engineering* (Boston, MA: Addison-Wesley Professional, 2007), and GAO-04-722.

[31]Acceptable levels refer to the fact that any systems acquisition effort will have risks and will suffer the adverse consequences associated with defects resulting from system acquisition and implementation processes. However, effective implementation of disciplined processes reduces the possibility of the potential risks actually occurring and prevents significant defects from materially affecting the cost, timeliness, and performance of the program.

integrated within a program.[32] Our analysis of the ECSS and DEAMS risk management programs found that neither program used a comprehensive and fully integrated risk management process. Program risk was monitored, overseen, and managed independently by various groups or activities within the program without adequate visibility, at the program management level. Without adequate visibility of risk management activities programwide, the program management office has little assurance of the sufficiency of actions taken by its subordinate groups or activities to identify, analyze, and mitigate risk that may affect other groups or the program itself. A single risk management process for each program with clear linkages to subordinate risk management activities throughout the program would provide greater visibility and assurance that appropriate actions are taken to identify and address risks. Acquiring software is a risky endeavor and risk management processes are intended to help the program manager and senior leadership ensure that actions are taken to mitigate the adverse effects of each determined program risk. If program risks are not effectively communicated and managed, then the risks will manage the program, potentially leading to increased costs to ultimately address the impact of a realized risk or implement a program that does not provide the intended capabilities. The following highlights specific risk management issues that we identified within the Air Force's current approach.

Interfaces. Our analysis of ECSS and DEAMS risk management processes found that even when risks were identified at lower levels within a program, the level of detail at the program level was not always sufficient to provide program managers with the visibility needed to effectively assess and manage certain risks at those levels. Although the ECSS and DEAMS program management offices identified interfaces as potential areas of risk at lower levels within the program, we found that neither program management office consistently identified interfaces as a risk at the program level. In the case of DEAMS, the information in the program level risk management system did not disclose that 70 key interfaces must be dealt with in order to implement the system, even though this level of detail was maintained at a lower level by the DEAMS Interface and Conversion Group. Without visibility of risks identified at all levels of a program, it is difficult, if not impossible, for the program manager or other senior-level officials to ascertain if the various risks that are associated with a program of this magnitude are effectively identified and managed.

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[32]Department of Defense, *Risk Management Guide for DOD Acquisition*, sixth edition Version 1.0, (August 2006).

We have previously reported that interfaces are critical elements necessary to successfully implement a new system and failure to properly address risk in interface areas has contributed to the system failures of previous agency efforts.[33]

Data conversion. In implementing ECSS and DEAMS, the Air Force will have to expend considerable resources to clean-up and transfer the data in the existing legacy systems to ECSS or DEAMS. However, we found that only the ECSS risk management program identified data quality as an issue in its discussion of data conversion. Much like system interfaces, each effort to convert data needs to be separately identified and managed so that (1) the risks associated with a given effort can be identified, (2) adequate mitigating actions can be developed for those risks, and (3) the effectiveness of the mitigating actions can be monitored. For example, in June 2005, we reported that data conversion problems seriously affected the Army's ability to implement its Logistics Modernization Program at the Tobyhanna Army Depot, Tobyhanna, Pennsylvania.[34] These problems affected reporting of revenue earned, accountability over orders received from customers, and prepared billings. As discussed in our July 2007 report, the Army and its contractor still had not resolved the issues of customers being improperly billed.[35]

Change management. The DEAMS program management office did not identify change management as a risk in its risk management system; however, it was included as a risk by the ECSS program management office. Change management is the process of preparing users for the changes that should occur with the implementation of a new system. It involves engaging users and communicating the nature of anticipated changes to system users through training on how jobs will change. This is necessary because commercial products are created with the developers' expectations of how they will be used, and the products' functionality may require the organization implementing the system to change existing business processes. However, neither the ECSS or DEAMS program had identified training as a potential change management risk at the program level. As discussed previously, the lack of sufficient transparency of risks identified by the lower levels at the program level may impede the ability

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[33]GAO, *Financial Management Systems: Additional Efforts Needed to Address Key Causes of Modernization Failures*, GAO-06-184 (Washington, D.C.: Mar. 15, 2006).

[34]GAO, *Army Depot Maintenance: Ineffective Oversight of Depot Maintenance Operations and System Implementation Efforts*, GAO-05-441 (Washington, D.C.: June 30, 2005).

[35]GAO-07-860.

of ECSS and DEAMS program managers and senior-level officials to ensure that risks are effectively mitigated. Further, the lack of centralized visibility may also minimize program efficiencies that could be gained through shared knowledge of risks identified by other groups within the program and actions planned or taken to mitigate them. As we have previously reported, having staff with the appropriate skills is a key element for achieving financial management improvement.[36] The implementation of a new system is intended to bring about improvements in the way an entity performs its day-to-day business operations. We have issued several reports that associated the lack of effective change management to program schedule slippages.[37] Unless those intended changes are clearly identified and communicated to the affected employees, the changes in the organization's business processes may not occur or be less effective and efficient than envisioned.

Contractor oversight. The Air Force's ability to manage these two programs—including oversight of contractors—is critical to reducing the risks to acceptable levels. Both ECSS and DEAMS program management officials identified staffing shortfalls within their respective offices as program risks. In addition, both offices identified actions needed to mitigate the impact the shortfalls may have on their programs. However, neither program management office considered whether their programs had staff with the appropriate skill sets to effectively oversee and manage their respective contractors. Since the contractors for each program are performing many of the key tasks, including how the system will perform and what information or capabilities it will provide, it is critical that the Air Force have an effective monitoring process to oversee the contractors and ensure that the project management processes employed by contractors were effectively implemented.

During discussions on their respective programs, in March 2008, both ECSS and DEAMS program management officials stated that they thought their existing risk management programs provided adequate visibility over

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[36]GAO, *Financial Management Systems: Lack of Disciplined Processes Puts Implementation of HHS' Financial System at Risk*, GAO-04-1008 (Washington, D.C.: Sept. 23, 2004) and GAO/AIMD-00-134.

[37]GAO, *Office of Personnel Management: Retirement Systems Modernization Program Faces Numerous Challenges*, GAO-05-237 (Washington, D.C.: Feb. 28, 2005); *Information Technology Management: Customs Automated Commercial Environment Program Progressing, but Need for Management Improvements Continues*, GAO-05-267 (Washington, D.C.: Mar. 14, 2005); and *Executive Guide: Creating Value Through World-class Financial Management*, GAO/AIMD-00-134 (Washington, D.C.: April 2000).

risks within their respective programs. However, after discussing our concerns with the program management officials, they agreed with us that their program level risk management programs could be improved to provide better links to the various risks identified and the risk management processes used by the groups within their programs. They also agreed that this would help them achieve reasonable assurance that their decentralized risk management program is achieving the objectives of a more traditional centralized risk management process.

More Robust Testing of the Operating Environments at Planned Deployment Locations Is Needed to Minimize Delays

A limited version of DEAMS was deployed at Scott Air Force Base in July 2007. A follow-on deployment[38] intended to provide DEAMS functionality to additional users, originally scheduled for October 2007, was placed on hold to address a series of software and connectivity issues that were identified after the initial deployment.[39] According to Air Force DEAMS program management officials, DEAMS was functioning as intended on the older Air Force standard computer desktop configuration; however, problems occurred when the system was deployed to offices that were utilizing a newer computer desktop configuration than the one the program management office had utilized in its initial tests. Air Force DEAMS program management officials stated that they did not include the potential of encountering different operating environments at deployment locations as a potential program risk because they thought that there was a standard computer desktop configuration across the Air Force and therefore the risk was remote. DEAMS program management officials acknowledged that the standardization of computer desktops across the Air Force is a major challenge and that encountering it during the DEAMS deployment at Scott Air Force Base was a "lessons learned."

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[38]The second deployment was to include Headquarters, Air Mobility Command, the 375th Airlift Wing, and two Air National Guard wings. This deployment would have increased the total number of users to approximately 800.

[39]A computer desktop configuration conflict caused Air Force desktops using Internet Explorer 7.0 to fail when connecting with the core applications within DEAMS. This problem did not affect Air Force desktops using Internet Explorer 6.0. The Air Force identified the problem in November 2007 after it deployed DEAMS to approximately 200 users and as user desktops were simultaneously being upgraded from Internet Explorer 6.0 to Internet Explorer 7.0 as part of the normal technology refresh process (i.e., the Internet Explorer 7.0 upgrade was not driven by DEAMS). In December 2007, it was decided to (1) keep the 200 existing DEAMS users on Internet Explorer 6.0 and (2) stop deployment for the remaining 400 new users until a viable Internet Explorer 7.0 connectivity solution was in place.

Further, DEAMS program management officials stated that system "patches" to address the problem have been tested on multiple computer desktop configurations at Scott Air Force Base to ensure that DEAMS operates as intended at that location. According to DEAMS program management officials, they started the redeployment of DEAMS at the end of March 2008, and they do not anticipate that this will result in a significant delay, if any, toward achieving full deployment of DEAMS within fiscal year 2014.

However, unless the DEAMS program management office obtains a clear understanding of the environment in which DEAMS will be deployed, DEAMS will likely suffer additional implementation delays. Further, ECSS is also likely to encounter nonstandardized computer desktop configurations during its deployment. Both ECSS and DEAMS program management officials acknowledged that nonstandardized computer desktop configurations will continue to represent a potential program risk and indicated that they intend to test desktop configurations at each deployment location in the future. DEAMS program management officials are working with its contractor and other Air Force personnel to develop a long-term solution for the DEAMS program.

Better Integration Is Needed to Ensure That the Air Force's Business Transformation Plans Support DOD Business Transformation Priorities and Total Asset Visibility

Viewed from a broad perspective, the Air Force does not have a single comprehensive plan or integrated set of plans to support DOD business transformation priorities, transform Air Force business operations, and achieve total asset visibility. Rather, the Air Force is utilizing several individual business transformation plans and efforts. Our analysis of these plans disclosed that they are neither fully integrated with each other nor are they fully aligned with business transformation priorities and related performance measures or metrics outlined in DOD's Enterprise Transition Plan. Integration and coordination of improvement efforts within a component and clear alignment of those efforts with DOD's Enterprise Transition Plan is necessary to achieve both the components' and DOD's business transformation priorities and goals, including total asset visibility. Without clear alignment of transformation plans, priorities, and metrics, both DOD and the Air Force will have difficulty (1) ensuring that transformation efforts, such as ECSS and DEAMS, are efficiently and effectively directed at achieving DOD's business transformation priorities/goals, including total asset visibility, and (2) measuring and reporting on progress toward the capabilities necessary for achieving an intended business transformation priority, such as financial and materiel visibility. Air Force officials acknowledged that integration of their plans within the Air Force and with the DOD's Enterprise Transition Plan could

be improved and indicated that they intend to make improvements to their plans. By not fully aligning and integrating these transformation strategies and plans, the Air Force risks falling short of significantly enhancing its ability to provide the right equipment and materiel, in the right condition, at the correct place, when needed to support the warfighter.

DOD Business Priorities Are Not Clearly Identified in Key Air Force Business Transformation Plans

Our review of several Air Force strategic documents and plans, such as its Financial Management Strategic Plan, Accountability Improvement Plan, and Logistics Enterprise Architecture Concept of Operations, found that the plans were not clearly linked to each other or with DOD's Enterprise Transition Plan.

Air Force Financial Management Strategic Plan. This plan outlines seven goals for transforming Air Force financial management.[40] However, the plan contains no reference to the priorities, objectives, or capabilities identified in DOD's Enterprise Transition Plan. Additionally, the Air Force Financial Management Strategic Plan does not identify any performance measures or metrics that the Air Force intends to use to measure incremental progress toward achieving its own stated financial management goals or DOD's business transformation priorities. It is also unclear how certain Air Force financial management goals, such as to "foster mutual respect and integrity" or "recruit, prepare, and retain a well-trained and highly educated professional team for today and tomorrow," specifically relate to achieving the four financial visibility objectives identified in DOD's Enterprise Transition Plan: (1) produce and interpret relevant, accurate, and timely financial information that is readily available for analyses and decision making, (2) link resource allocation to planned and actual business outcomes and warfighter missions, (3) produce comparable financial information across organizations, and (4) achieve audit readiness and prepare auditable financial statements.

Air Force Military Equipment Accountability Improvement Plan. This plan is intended to support the department's valuation of military

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[40]The Air Force Financial Management Strategic Plan identifies seven goals: (1) foster mutual respect and integrity, (2) reduced Air Force cost structure, (3) expand partnership in strategic Air Force decisions, (4) recruit, prepare, and retain a well-trained and highly educated professional team for today and tomorrow, (5) provide our customers with world-class financial services, (6) implement open, transparent business practices and achieve a clean audit opinion, and (7) continuously streamline financial management processes and increase capabilities.

equipment and the Air Force's and DOD's goal to obtain auditable financial statements. However, the relationship between the Air Force Military Equipment Accountability Improvement Plan to other Air Force transformation plans or initiatives, such as the Air Force Logistics Enterprise Architecture Concept of Operations, in transforming the Air Force's business operations is not articulated in the plan. For example, although the Under Secretary of Defense for Acquisition, Logistics, and Technology tasked the Air Force and other military components with preparing a military equipment accountability improvement plan, the plan does not explain how resolution of these problems will support the Air Force's logistics goals to improve operational capability, while minimizing the cost to deliver capability. Further, the Air Force Military Equipment Accountability Improvement Plan does not discuss how its efforts contribute, individually or as part of a collective Air Force effort, to incremental and measurable improvements in the visibility of Air Force logistical and financial information for decision making, analysis, and reporting—a key transformation priority identified in DOD's Enterprise Transition Plan.

The Air Force Lacks Business Transformation Performance Metrics Consistent with DOD's Enterprise Transition Plan

None of the various Air Force strategic plans we analyzed included performance measures or metrics that could be used to systematically assess and report on transformation progress. Without adequate metrics, both Air Force and DOD management face a difficult challenge in monitoring implementation of Air Force plans and assessing the Air Force's progress in improving its processes, controls, and systems and achieving DOD's business transformation priorities, including total asset visibility. Our prior work has identified at least four characteristics common to successful hierarchies of performance measures or metrics: (1) demonstrated results, (2) limited to a vital few, (3) corresponding to multiple priorities, and (4) linked to responsible programs.[41] Simply stated, performance measures should tell each organizational level how well it is achieving its own and shared goals and priorities. Examples of the lack of consistent metrics follow.

Air Force Logistics Enterprise Architecture Concept of Operations. None of the six materiel visibility business capability improvement metrics

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[41]GAO, *Agencies' Annual Performance Plans Under the Results Act: An Assessment Guide to Facilitate Congressional Decisionmaking*, GAO/GGD/AIMD-10.1.18S (Washington, D.C.: February 1998).

included in the DOD Enterprise Transition Plan are identified in the Air Force Logistics Enterprise Architecture Concept of Operations. Further, the Air Force Logistics Enterprise Architecture Concept of Operations identified only two measures or goals: (1) increase equipment availability by 20 percent no later than fiscal year 2011 and (2) reduce annual operating and support cost by 10 percent no later than fiscal year 2011. While these are notable goals, these metrics do not provide a means to measure incremental progress in improving the Air Force's ability to locate and account for materiel assets throughout their life cycle.

Air Force Financial Management Strategic Plan. This plan identified 13 metrics, some of which pertained to reducing interest penalties paid, lost discounts, and unmatched disbursements, to support an assessment of the current state of the Air Force's financial management. However, the Air Force Financial Management Strategic Plan did not include metrics that the Air Force can use to measure the progress of its various financial management initiatives in transforming the Air Force's financial management and related business operations and achieving DOD business transformation priorities. For example, none of the 13 metrics outlined in the Air Force Financial Management Strategic Plan could be used to measure, monitor, or report incremental progress toward producing and interpreting relevant, accurate and timely financial information that is readily available for analyses and decision making—a key financial visibility objective identified in DOD's Enterprise Transition Plan.

Air Force Military Equipment Accountability Improvement Plan and its Financial Improvement Plan. Neither plan included performance metrics to measure the effectiveness of planned actions to resolve identified weaknesses that have adversely affected the reliability of reported financial and physical accountability information. Specifically, we found that the Air Force's status reporting for both initiatives consisted primarily of the completion of milestone dates associated with steps outlined by DOD in its FIAR Plan for achieving auditability of its financial statements. As a result, the Accountability Improvement Plan and the Financial Improvement Plan provide little information on incremental improvements made in the Air Force's financial management capabilities, including decision making support. Moreover, when we compared the Financial Improvement Plans dated August 1, 2007, and October 11, 2007, we identified numerous inconsistencies that raise concerns regarding the oversight and monitoring provided to these plans and their reported progress. For example, we found

- 211 of the total 1,762 tasks in the October 2007 Financial Improvement Plan had completion dates identified as prior to October 1, 2007; however, the reported progress toward completion for each of these tasks was identified as zero, and

- 61 of the total 1,279 tasks that were included in both the August 2007 and October 2007 Financial Improvement Plans showed a decline in the percentage completion total reported for the same tasks between the two plans.

Conclusion

The Air Force's efforts to transform its logistics and financial management operations through system, process, and control changes are being guided by numerous strategies and plans that are not fully integrated within the Air Force and with DOD's business enterprise transformation priorities. As the Air Force deploys ECSS and DEAMS, it is important that it utilize a comprehensive and integrated risk management process to identify, analyze, and mitigate risks and configuration issues that may impede successful deployment of these systems throughout the Air Force, such as testing computer desktop configurations at each deployment location. Additionally, successful transformation will require a comprehensive plan or integrated set of plans and effective processes and tools, such as results-oriented performance measures that link enterprise and unit goals and expectations, for measuring, monitoring, and reporting progress in accomplishing the department's priorities. Until the Air Force's efforts are aligned within the Air Force and with DOD's business transformation priorities, and best practices are fully adopted to minimize risk and maximize chances for success, the risk increases that billions of dollars will be wasted and the efforts will not achieve the transformation envisioned for the future.

Recommendations for Executive Action

To improve the department's efforts to achieve total asset visibility and further enhance its efforts to improve control and accountability over business system investments and achieve its business transformation priorities, we recommend that the Secretary of Defense direct the Secretary of the Air Force to take the following three actions:

- Direct Air Force program management officials for ECSS and DEAMS to ensure that risk management activities at all levels of the program are identified and communicated to program management to facilitate oversight and monitoring. Key risks described at the appropriate level of detail should include and not be limited to risks associated with interfaces, data conversion, change management, and contractor oversight.

- Direct the Air Force program management offices to test ECSS and DEAMS on relevant computer desktop configurations prior to deployment at a given location.

- Direct Air Force organizations responsible for the business transformation plans discussed in this report to align their respective plans, including efforts aimed at achieving total asset visibility, with priorities included in DOD's Enterprise Transition Plan. Further, these plans should include metrics to measure, monitor, and report progress in accomplishing the business priorities identified in DOD's Enterprise Transition Plan.

Agency Comments and Our Evaluation

We received written comments on a draft of this report from the Deputy Under Secretary of Defense (Business Transformation), which are reprinted in appendix II. DOD concurred with our recommendations and identified specific actions it plans to take to implement these recommendations. For example, the ECSS program management office has added GAO-identified risks to its inventory of program risks. Additionally, the DEAMS program management office intends to centralize two subordinate risk management activities into a single program-level risk management process. Further, in its rewrite of the DEAMS program charter for the department's Business Capability Lifecycle process, the DEAMS program management office stated its intent to implement a program-based risk management process that addresses all risk areas noted by GAO. In addition, the department noted that the Air Force is updating its Financial Improvement Plan to assure alignment with the department's Financial Improvement and Audit Readiness plan. DOD stated that the Air Force will ensure that the Financial Improvement Plan is aligned to the Air Force Financial Management Strategic Plan and DOD's Enterprise Transition Plan.

We are sending copies of this report to the Secretary of Defense; Secretary of the Air Force; Deputy Under Secretary of Defense (Business Transformation); Assistant Secretary of the Air Force (Financial Management and Comptroller); Air Force Chief Information Officer; Air Force Deputy Chief of Staff (Logistics); and other interested congressional committees and members. Copies of this report will be made available to others upon request. In addition, this report is available at no charge on the GAO Web site at http://www.gao.gov.

Please contact Paula M. Rascona at (202) 512-9095 or rasconap@gao.gov, Nabajyoti Barkakati at (202) 512-4499 or barkakatin@gao.gov, or William M. Solis at (202) 512-8365 or solisw@gao.gov if you or your staff have

questions on matters discussed in this report. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

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Appendix I: Scope and Methodology

In order to determine the implementation status of the Air Force's current business system initiatives to achieve total asset visibility, and whether the Air Force has implemented related best practices,[1] we reviewed Air Force business system budget documentation and met with Air Force Chief Information Officer personnel and DOD Business Transformation officials. Most of the financial information in this report related to ECSS and DEAMS was obtained from the respective program management offices and is presented for informational purposes only; it was not used to develop our findings and recommendations. We interviewed, obtained briefings, and reviewed documentation provided by ECSS and DEAMS Air Force program management officials, Business Transformation Agency officials, and Air Force Financial Management and Comptroller officials to further our understanding of the intended purpose of each system and their respective roles in supporting the Air Force's efforts to achieve total asset visibility and transform its business operations. During this audit, we did not review ECSS and DEAMS compliance with the Air Force's enterprise architecture because of ongoing GAO work focused on ascertaining the status of the military services' efforts to develop and utilize an enterprise architecture. The results of our work are discussed in our May 2008 report,[2] which noted that while the Air Force's efforts to develop an enterprise architecture were further ahead of Army and Navy efforts, the Air Force's architecture was not sufficiently developed to guide and constrain its business systems modernization investments.

To determine whether any improvements were needed in the Air Force's approach for acquiring and implementing these business systems, we evaluated the ECSS and DEAMS risk management programs, reviewed Air Force guidance related to risk management, and obtained an explanation from each program management office on how they managed their respective risk management program. Additionally, we analyzed risk

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[1]Best practices and relevant DOD guidance were derived from the following publications: Steve McConnell, *Rapid Development: Taming Wild Software Schedules* (Redmond, WA: Microsoft Press, 1996), Hubert F. Hofmann, Deborah K. Yedlin, John W. Mishler, and Susan Kushner, *CMMI for Outsourcing: Guidelines for Software, Systems, and IT Acquisition, SEI Series in Software Engineering* (Boston, MA: Addison-Wesley Professional, 2007), GAO, *Information Technology: DOD's Acquisition Policies and Guidance Need to Incorporate Additional Best Practices and Controls*, GAO-04-722 (Washington, D.C.: July 30, 2004), and Department of Defense, *Risk Management Guide for DOD Acquisition*, sixth edition, Version 1.0, (August 2006).

[2]GAO, *DOD Business Systems Modernization: Military Departments Need to Strengthen Management of Enterprise Architecture Programs*, GAO-08-519 (Washington, D.C.: May 12, 2008).

management reports that were prepared by each program management
office and reviewed risk management briefings that were presented to
senior Air Force management. We compared risk management reports for
both programs with applicable Air Force guidance to ascertain if each
program identified the risks that are associated with the acquisition and
implementation of a system.[3]

To determine whether the Air Force's business transformation efforts to
achieve total asset visibility are aligned within the Air Force and with
DOD's broader business transformation priorities, we interviewed officials
from the Air Force's Financial Management and Comptroller Office and
the Air Force Logistics Enterprise Architecture and ECSS Transformation
Management Division. There are many DOD and Air Force transformation
plans and initiatives, such as DOD's Enterprise Transition Plan and
Quadrennial Defense Review Report, and the Air Force Strategic Plan and
the Air Force Smart Operations for the 21st Century. However, following
discussions with Air Force officials, we focused our review on the Air
Force Financial Management Strategic Plan for fiscal years 2007-2012,
Logistics Enterprise Architecture Concept of Operations, Financial
Improvement Plan for August 2007 and October 2007, and Military
Equipment Accountability Improvement Plan issued in December 2006
because they are more directly related to total asset visibility and related
business transformation efforts. We analyzed and compared these
documents to assess consistency among the plans and approaches both
within the Air Force and with DOD's Enterprise Transition Plan's business
transformation priorities and metrics.

We conducted this performance audit from July 2007 through August 2008
in accordance with generally accepted government auditing standards.
Those standards require that we plan and perform the audit to obtain
sufficient, appropriate evidence to provide a reasonable basis for our
findings and conclusions based on our audit objectives. We believe that
the evidence obtained provides a reasonable basis for our findings and
conclusions based on our audit objectives. Most of the financial
information in this report related to the ECSS and DEAMS programs was
obtained from the respective program management offices and is
presented for informational purposes only and was not used to develop
our findings and recommendations. To assess the reliability of the funding

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[3]U.S. Air Force Materiel Command Pamphlet 63-101, *Acquisition: Risk Management*
(July 9, 1997).

data, we interviewed Air Force program management office officials knowledgeable about funding and reviewed budgetary data on the Air Force's investment in ECSS and DEAMS. We conducted our work at the DOD Business Transformation Agency, the Air Force Chief Information Officer Office, the Air Force Financial Management and Comptroller Office, and the Air Force Logistics Enterprise Architecture and ECSS Transformation Management Division in Arlington, Virginia. Additionally, we made site visits to the Air Force program management offices for ECSS and DEAMS at Wright-Patterson Air Force Base in Dayton, Ohio. We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Deputy Under Secretary of Defense (Business Transformation), which are reprinted in appendix II.

Appendix II: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

JUL 3 0 2008

ACQUISITION
TECHNOLOGY
AND LOGISTICS

Ms. Paula M. Rascona
Director, Financial Management and Assurance
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Rascona:

This is the Department of Defense (DoD) response to the GAO draft report GAO-08-866, "DOD BUSINESS TRANSFORMATION: Air Force's Current Approach Increases Risk that Asset Visibility Goals and Transformation Priorities Will Not be Achieved," dated June 23, 2008 (GAO Code 195116). Detailed comments on the report recommendations are enclosed.

DoD concurred with the three recommendations issued by GAO. Overall, the Department considers the recommendations to be representative of best practices that are currently being followed by the Air Force. The Air Force is currently taking additional steps to address some of GAO's specific findings, to include strengthening existing risk management processes, and revising its plans as appropriate to better reflect alignment with priorities defined in the Department's Enterprise Transition Plan (ETP).

We welcome the GAO's insight on the Department's progress with its business transformation efforts and continue to value our partnership.

Sincerely,

Paul A. Brinkley
Deputy Under Secretary of Defense
(Business Transformation)

Enclosure:
As stated

GAO DRAFT REPORT DATED JUNE 23, 2008
GAO-08-866 (GAO CODE 195116)

"DOD BUSINESS TRANSFORMATION: AIR FORCE'S CURRENT
APPROACH INCREASES RISK THAT ASSET VISIBILITY GOALS AND
TRANSFORMATION PRIORITIES WILL NOT BE ACHIEVED"

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct
the Secretary of the Air Force to direct Air Force program management officials for
Expeditionary Combat Support System (ECSS) and Defense Enterprise Accounting and
Management System (DEAMS) to ensure that risk management activities at all levels of
the program are identified and communicated to program management to facilitate
oversight and monitoring. Key risks described at the appropriate level of detail should
include and not be limited to interfaces, data conversion, change management, and
contractor oversight. (Page 37/GAO Draft Report)

DOD RESPONSE: Concur. While both the ECSS and DEAMS program offices have
already implemented risk management processes that include identifying and
communicating program risks to program management, they are currently taking steps to
further strengthen their existing processes. For example, the ECSS program office has
added GAO-recommended risks to its inventory, and the DEAMS program office intends
to centralize two subordinate risk management programs (Increments 1 and 2) into a
single program-level Risk Management Program that will be managed by a Government
employee accountable to the DEAMS Deputy Program Manager. Further, in its rewrite
of the DEAMS Program Charter for the Department's Business Capability Lifecycle
(BCL) process, the DEAMS program office intends to codify a program-based risk
management process which addresses all risk areas noted by the GAO.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct
the Secretary of the Air Force to direct the Air Force program management offices to test
ECSS and DEAMS on relevant computer desktop configurations prior to deployment at a
given location. (Page 37/GAO Draft Report)

DOD RESPONSE: Concur. As a sound management practice, prior to deployment go-
live, the DEAMS program office tested the program on all user desktop configurations.
Additionally, informal unit desktop testing was conducted prior to each unit's initial
deployment. As a result of the informal testing, the standard desktop configuration
(SDC)-DEAMS conflict that GAO noted in its report was discovered one week prior to
the Air National Guard Wave-2 deployment of DEAMS and action was taken to mitigate
the issue and reduce the likelihood of its future occurrence. However, the SDC conflict

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was a minimal risk, and the Department views the issue as a "lesson learned" for future
Enterprise Resource Planning (ERP) implementation.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct
the Secretary of the Air Force to direct Air Force organizations responsible for the
respective business transformation plans discussed in this report to align their respective
plans, including efforts aimed at achieving total asset visibility, with priorities included in
DoD's Enterprise Transition Plan. (Page 38/GAO Draft Report)

DOD RESPONSE: Concur. The ETP and Business Enterprise Architecture (BEA) guide
the Air Force's efforts to transform its logistics and financial management operations, and
the Air Force identifies and corrects anomalies within its business transformation plans to
better demonstrate alignment with ETP priorities as needed, to include working with
Department organizations at the Office of the Secretary of Defense (OSD)-level to
resolve issues that impact the accurate reporting of key milestones and metrics.

Currently, the Air Force is updating its Financial Improvement Plan (FIP) to assure
alignment with the new OSD Financial Improvement and Readiness (FIAR) plan. The
Air Force will ensure that the FIP is aligned to the Office of the Secretary of the Air
Force/Financial Management (SAF/FM) Strategic Plan, the ETP, and the updated OSD
policy.

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Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts

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Acknowledgments

In addition to the above contacts, the following individuals made key contributions to this report: J. Christopher Martin, Senior-Level Technologist; Darby Smith, Assistant Director; Evelyn Logue, Assistant Director; F. Abe Dymond, Assistant General Counsel; Beatrice Alff; Harold Brumm, Jr.; Francine DelVecchio; Jason Kelly; Jason Kirwan; Chanetta Reed; Debra Rucker; and Tory Wudtke.

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