

GAO

Report to the Chairman,  
Subcommittee on Defense,  
Committee on Appropriations,  
House of Representatives

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December 2004

# DEFENSE INVENTORY

## Improvements Needed in DOD's Implementation of Its Long-Term Strategy for Total Asset Visibility of Its Inventory



G A O

Accountability \* Integrity \* Reliability

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Highlights of [GAO-05-15](#), a report to the Chairman, Subcommittee on Defense, Committee on Appropriations, House of Representatives

## Why GAO Did This Study

For more than 30 years, the Department of Defense (DOD) has worked to achieve full visibility over and accessibility to its spare parts inventory. This initiative, called total asset visibility (TAV), aims to provide timely, accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies. In 1999, GAO examined DOD's TAV implementation approach and recommended that DOD develop a strategic plan to guide its efforts. DOD did not concur and stated it would rely on the components to individually achieve TAV. DOD's current target to achieve TAV is 2010. As requested, GAO examined DOD's progress towards, and impediments to, achieving TAV over its spare parts inventory. GAO also assessed DOD's progress in ensuring that its inventory management systems comply with federal financial management standards.

## What GAO Recommends

GAO recommends that DOD develop a departmentwide strategy to ensure TAV is achieved, with outcome-oriented goals and performance measures. While DOD concurred with the intent of our recommendations, it stated in written comments that it did not plan to change its current approach. Therefore, GAO has added a matter for congressional consideration suggesting that the Congress may wish to require DOD to report annually on TAV implementation.

[www.gao.gov/cgi-bin/getrpt?GAO-05-15](http://www.gao.gov/cgi-bin/getrpt?GAO-05-15).

To view the full product, including the scope and methodology, click on the link above. For more information, contact William M. Solis at (202) 512-8365 or [solisw@gao.gov](mailto:solisw@gao.gov).

## DEFENSE INVENTORY

# Improvements Needed in DOD's Implementation of Its Long-Term Strategy for Total Asset Visibility of Its Inventory

## What GAO Found

Although DOD, the military services, and the Defense Logistics Agency (DLA) made varying degrees of progress toward achieving visibility over in-storage assets, DOD did not meet its prior goal to achieve TAV by 2004. In a series of reports issued since March 1999, GAO reported that DOD also lacks visibility and control over items being shipped from one location to another. GAO's most recent work indicates that the military services and DLA generally have inventory management systems that provide visibility over specific segments of their inventories, but existing systems cannot always share data on a near real-time basis within their organizations or across the department. While DOD and the components all have ongoing efforts to modernize their business systems and improve the capability to share data on a near real-time basis, the requirements, time frames, and cost estimates for these additional systems have not been developed. Consequently, DOD's ability to achieve the new TAV goal of 2010 remains uncertain.

Three significant impediments hinder the achievement of TAV. First, DOD does not have a clear long-term strategy for achieving TAV. While DOD has identified TAV as a key goal of its departmentwide effort to refine and implement a business enterprise architecture, components' plans and initiatives lack a clear link to the architecture and DOD's long-term business management modernization program. Further, while the logistics community identified TAV as a key element in its logistics transformation efforts, it did not include TAV as a goal within its Future Logistics Enterprise, its mid-term logistics transformation plan. Consequently, the components are pursuing internal initiatives to attain TAV. Second, DOD lacks the systems integration necessary to provide TAV. As GAO recently reported, DOD has made little progress in refining its business enterprise architecture, which leaves DOD without a long-term strategy needed to successfully guide efforts to achieve TAV. Without proper oversight and approval of emerging systems, DOD will continue to deploy systems that do not have the ability to provide TAV. While DOD plans to address GAO's recommendations aimed at improving its institutional oversight of business system investments, DOD has yet to fully implement these recommendations. Third, DOD's inventory management systems have long-standing data accuracy and reliability issues. Without accurate, reliable data from these systems, new systems will also contain suspect data and not provide TAV. Unless DOD overcomes these impediments, it is unlikely that it will meet its goal of achieving TAV by 2010.

DOD has made little progress in assuring that its inventory management systems are substantially compliant with federal financial management standards. DOD has recognized the weaknesses within its financial management and feeder systems, and stated in its Performance and Accountability Report for fiscal year 2003 that its systems did not substantially comply. GAO's review of two emerging logistics systems raises concerns regarding DOD's lack of policies and procedures to ensure new systems substantially comply with federal standards.

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## Abbreviations

|       |  |
|-------|--|
| CFO   | Chief Financial Officers Act of 1990                 |
| DLA   | Defense Logistics Agency                             |
| DOD   | Department of Defense                                |
| FFMIA | Federal Financial Management Improvement Act of 1996 |
| GPRA  | Government Performance and Results Act of 1993       |
| JFMIP | Joint Financial Management Improvement Program       |
| JTAV  | Joint Total Asset Visibility                         |
| SGL   | Standard General Ledger                              |
| TAV   | Total Asset Visibility                               |

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United States Government Accountability Office  
Washington, DC 20548

December 6, 2004

The Honorable Jerry Lewis  
Chairman  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

Dear Mr. Chairman:

We have repeatedly reported that the Department of Defense (DOD) does not have adequate visibility and control over the approximately \$70 billion of inventory, including its spare and repair parts.<sup>1</sup> While DOD has recognized the importance of achieving total asset visibility (TAV) for more than 30 years, its efforts to improve its capability have fallen short. DOD defines TAV as the ability to provide timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies and having the ability to act on that information.<sup>2</sup> In 1999, we reported that DOD's efforts to achieve TAV could be improved through the development of a strategic plan.<sup>3</sup> DOD responded that the department planned to address TAV in the context of improved asset management through the business system modernization efforts of its military services and the Defense Logistics Agency (DLA). The ability to harness such detailed, near real-time<sup>4</sup> information for spare and repair parts could significantly improve military readiness by more efficiently and effectively getting needed items to the operating forces. If the information contained in the inventory management systems is not accurate, complete, and timely, ongoing operations could be adversely impacted. Although DOD had established a goal of achieving TAV by 2004, it recently revised its estimate for achieving this elusive goal to fiscal year 2010.

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<sup>1</sup> GAO, *Defense Inventory: Consumption of Inventory Exceeding Current Operating Requirements Since September 11, 2001*, [GAO-04-689](#) (Washington, D.C.: Aug. 2, 2004).

<sup>2</sup> DOD 4140.1-R, Supply Chain Materiel Management Regulation, May 23, 2003.

<sup>3</sup> GAO, *Defense Inventory: DOD Could Improve Total Asset Visibility Initiative With Results Act Framework*, [GAO/NSIAD-99-40](#) (Washington, D.C.: Apr. 12, 1999).

<sup>4</sup> Data or information that has been delayed by the time required for electronic communication and automatic data processing. This implies that there are not significant delays.

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This report responds to your request that we review DOD's progress toward achieving TAV over its spare and repair parts, especially across the military services at the wholesale and retail levels of supply.<sup>5</sup> As requested, we also discuss the department's efforts to improve financial management reporting on its inventory. For TAV purposes, supplies, which include spare and repair parts, are categorized as "in storage,"<sup>6</sup> "in process" (on order or in repair), or "in transit." Because of the recent designation of the U.S. Transportation Command as the distribution process owner, the many problems identified with in-transit visibility in recent years and the magnitude of the in-storage inventory, we agreed to focus this report on spare and repair parts in storage. Specifically, we addressed (1) what progress DOD, the military services, and DLA have made in implementing TAV and (2) what impediments, if any, DOD, the military services, and DLA must overcome in order to achieve TAV. In addition, you requested that we assess the progress that DOD has made in ensuring that inventory management systems are fully compliant with statutory requirements for federal financial management systems.

To accomplish these objectives, we obtained and analyzed information on inventory management practices from DOD, the military services, and DLA, including DOD's Supply Chain Materiel Management Regulation.<sup>7</sup> In addition, we reviewed previous GAO reports, other audit agency reports, and appropriate DOD guidance. We also interviewed knowledgeable officials within the military services and DLA to enhance our understanding of inventory management practices. Additionally, we interviewed officials who establish inventory management policy within the Office of the Secretary of Defense. Finally, we reviewed documentation on a wide variety of DOD, military service, and DLA initiatives and programs addressing inventory management. We conducted this assignment in accordance with generally accepted government auditing standards. Our scope and methodology are discussed in further detail in appendix I. Appendix II contains a list and brief description of key programs and systems that are applicable to TAV.

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<sup>5</sup> DOD maintains spare parts at two levels of inventory. Wholesale level represents inventory managed centrally, while retail level inventory represents inventory held for use at maintenance activities or operational units.

<sup>6</sup> "In storage" inventory refers to any items being held for future use. This includes items held at the wholesale, retail, and unit levels of supply in anticipation of future needs.

<sup>7</sup> DOD 4140.1-R, Supply Chain Materiel Management Regulation, May 23, 2003.

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## Results in Brief

Although DOD, the military services, and DLA have made varying degrees of progress toward achieving visibility over in-storage assets, DOD failed to meet its goal to achieve TAV by 2004. DOD did not achieve its goal because existing inventory systems continue to lack the ability to share data on a near real-time basis for all inventory segments. In a series of reports issued since March 1999, we have reported numerous weaknesses in DOD's visibility and control over items being shipped from one location to another. Our most recent work identified that the military services and DLA generally have inventory management systems that provide visibility over only specific segments of their inventories, such as wholesale and retail inventories. They also have the ability to share data both within their respective organizations and among the defense components, although this capability does not always exist on a near real-time basis. The 1998 DOD Logistics Strategic Plan established a goal for attaining 100 percent visibility over all assets by 2004. DOD's definition of visibility also includes the capability to act on the information provided by the information systems to improve overall logistics operations. While DOD, the military services, and DLA all have ongoing efforts to modernize the business systems they use to provide visibility over in-storage assets, these systems by themselves will not provide TAV because the TAV capability is dependent on additional systems that have not yet been developed. In some cases, the requirements, time frames, and cost estimates for these additional systems have not been developed. Similarly, the capability to share data both within the respective organizations and on a departmentwide level is currently evolving. Consequently, the department's ability to achieve the new TAV goal of 2010 remains uncertain.

DOD, the military services, and DLA must overcome three significant impediments, which present a number of challenges, in order to achieve TAV. First, while DOD has identified achieving TAV as one of the objectives for its ongoing efforts to refine and implement a business enterprise architecture, it continues to lack a clear long-term strategy for achieving TAV departmentwide. In May 2004, we reported that the architecture did not provide sufficient descriptive content related to future business operations and supporting technology to permit effective acquisition of systems solutions and associated operational changes. In another recent review, we found that DOD component efforts, including the military services and DLA, were not clearly linked to DOD's long-term improvement initiative, the business management modernization program. The department is required to report annually to the Congress on the progress it is making on refining and implementing the business enterprise architecture in support of its business management modernization

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program.<sup>8</sup> Further, the logistics community has identified TAV as one of the four pillars for its logistics transformation initiative but did not specifically include it in its Future Logistics Enterprise—DOD’s mid-term strategic plan for logistics transformation. Because DOD has not developed a clear long-term strategy, the military services and DLA will be exposed to the risk of spending billions of dollars on duplicative, stovepiped, nonintegrated systems that do not support the department’s business transformation goals, including attaining TAV. In fact, DOD’s goal for achieving TAV has slipped from 2004 to 2010 since we reported on this issue in 1999. Without a clear long-term strategy, DOD lacks a key management control for ensuring that time frames, results-oriented performance measures, and accountability mechanisms are established and monitored to help achieve TAV. In addition, DOD has not achieved the necessary integration or interoperability among its many inventory systems to support TAV and, without proper oversight and approval of emerging systems, DOD and the defense components will likely continue to deploy systems that do not have the ability to provide TAV. In addition to deficiencies in DOD’s business enterprise architecture that diminish its utility as a blueprint for guiding TAV efforts, in May 2004 we reported that two emerging systems intended to transform logistics operations for DLA and the Army did not resolve problems associated with TAV and integrated systems.<sup>9</sup> For example, the Army system, the Logistics Modernization Program, is dependent on two additional systems that are under development to attain TAV. However, neither the time frames nor cost estimates to develop these systems has been established. Until integration or interoperability is achieved and processes and controls are improved, DOD will continue to rely on current processes and procedures that include the use of multiple data entry points for transactions, which can result in data entry errors concerning the amount and location of inventory. While DOD has indicated it plans to address our recent recommendations aimed at improving DOD’s institutional oversight of planned and ongoing business systems investments—steps we have previously stated that DOD needs to take in a timely manner—DOD has yet to fully implement these recommendations. Finally, DOD, the military services, and DLA must overcome long-standing data accuracy and

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<sup>8</sup> Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 332, 118 Stat. 1811 (Oct. 28, 2004)

<sup>9</sup> GAO, *DOD Business Systems Modernization: Billions Continue to Be Invested with Inadequate Management Oversight and Accountability*, [GAO-04-615](#) (Washington, D.C.: May 27, 2004).



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reliability issues associated with their numerous legacy systems used to report the quantity, location, and value of DOD's inventory. Without implementation of efficient and effective business processes and controls to ensure accurate, complete, timely, and reliable data, DOD's systems, both legacy and emerging systems, will fail to provide TAV. Recent audit reports prepared by the DOD Inspector General and the military services' audit agencies, for example, have identified more than \$200 million in excess or unrecorded inventory that was not visible to item managers as well as significant misstatements in the reported inventory balances. Given that DOD has not developed a departmentwide long-term strategy to overcome these various impediments, it appears unlikely that it will achieve TAV by 2010.

DOD, the military services, and DLA have made little progress in assuring that inventory management systems are substantially compliant with statutory requirements for federal financial management systems as defined in the Federal Financial Management Improvement Act (FFMIA) of 1996.<sup>10</sup> The department recognizes the weaknesses within its financial management and feeder systems and stated in its Performance and Accountability Report for fiscal year 2003 that these systems did not substantially comply. While DOD is requiring the military services and DLA to certify that emerging systems are substantially compliant with federal financial management requirements, we are concerned that the department lacks adequate policies and procedures to determine whether compliance has been achieved. For example, we recently reported weaknesses in the development and testing of systems requirements for two new systems, the Business Systems Modernization and the Logistics Modernization Program.<sup>11</sup> For example, the Army did not perform testing on 147 of the systems' requirements because the core requirements from the software package had previously been certified through the Joint Financial Management Improvement Program (JFMIP). Relying on the JFMIP certification does not provide assurance that federal financial management standards are met because the Army had modified the commercial software package and did not perform specific transaction testing to determine if the modified system software provided the anticipated results. Consequently, although these two systems were certified as being compliant, the weaknesses identified in the certification

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<sup>10</sup> Pub. L. No. 104-208, div. A, §101 (f), title VIII, 110 Stat. 3009, 3009-389 (Sept. 30, 1996).

<sup>11</sup> [GAO-04-615](#).

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process make it difficult to determine if the systems do in fact comply with the FFMA requirements.

We are recommending that DOD develop a comprehensive, long-term strategy as part of its Business Enterprise Architecture with key elements such as milestones, to assist the department in achieving TAV over its spare and repair parts inventory. In commenting on a draft of this report, DOD concurred with the intent of three of our recommendations and partially concurred with our final recommendation. While recognizing the need to improve visibility over spare and repair parts, DOD believes that its current approach of modernizing logistics systems and implementing an integrated data approach is the way to achieve TAV. We continue to believe that DOD needs to place more specific emphasis on attaining TAV. Therefore, we have added a matter for congressional consideration suggesting that the Congress may wish to require having the Secretary of Defense specifically address the plans and progress the department is making on attaining TAV in his annual report to the Congress on the refinement and implementation of the business enterprise architecture pursuant to Sect. 332 of the fiscal year 2005 national defense authorization act.

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## Background

While total asset visibility (TAV) has been a goal of DOD's since the early 1970s, target completion dates of 1980, 1995, and 2004 have not been met. In fact, DOD's target date for achieving TAV has slipped by nearly 30 years, most recently being moved from fiscal year 2004 to fiscal year 2010. In 1972, DOD launched a Logistics Systems Plan to meet its TAV needs with a target completion date of 1980. This plan was created to eliminate unnecessary duplication of inventories and to establish common use of inventories whenever possible; however, it did not succeed. Subsequently, in 1992, DOD instituted a second TAV Plan to provide managers with the capability to access and act on timely and accurate information regarding the location, quantity, condition, movement, and status of DOD materiel assets. Once again, the target date was not achieved. In 1996, DOD developed a third TAV Implementation Plan, which expanded the scope of the 1992 plan. However, this plan had no clear completion date and was superseded by the 1998 DOD Logistics Strategic Plan. The 1998 plan was created to "...meet total asset tracking requirements established in the

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DOD regulation on asset management.”<sup>12</sup> This plan’s target completion date was 2004.

In 1999, we reported<sup>13</sup> on DOD’s TAV initiative and noted significant wartime logistics management problems that had occurred during Operations Desert Shield and Desert Storm due to the lack of visibility over spare parts and supplies. In our 1999 report, we recommended that DOD develop a departmentwide strategic plan and associated component implementation plans in accordance with specific outcome-oriented management principles embodied in the Government Performance and Results Act of 1993 (GPRA)<sup>14</sup> and the Clinger-Cohen Act.<sup>15</sup> The department, however, disagreed with our recommendation that it develop an overarching strategic plan and stated that TAV could be attained as each of the components proceeds with its own logistics supply chain modernization efforts.

Subsequent to our 1999 report, TAV continued to be an important goal within the department. The business support community, under the direction of the Under Secretary of Defense (Comptroller) and the Chief Information Officer, recognized the importance of realizing TAV and included achieving TAV by 2010 as part of its Business Management Modernization Program. This program is designed to guide the departmentwide business transformation efforts that are ongoing throughout the organization through the refinement and implementation of a business enterprise architecture. This architecture is intended to serve as a blueprint to guide and constrain investments in systems related to DOD’s business processes and provide a basis for planning, developing, and implementing business management systems. However, as we reported in September 2004, DOD components’ mid-term implementation plans were not clearly linked to the long-term improvement initiative known as the business management modernization program.<sup>16</sup> Within the logistics community, the Deputy Under Secretary of Defense for Logistics

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<sup>12</sup> DOD Regulation 4140.1-R, version dated May 1998, chapter 4, “Asset Management.”

<sup>13</sup> [GAO/NSIAD-99-40](#).

<sup>14</sup> Pub. L. No. 103-62, Aug. 3, 1993.

<sup>15</sup> 40 U.S.C. §§11101-11703

<sup>16</sup> GAO, *Financial Management: Further Actions Are Needed to Establish Framework to Guide Audit Opinion and Business Management Improvement Efforts at DOD*, [GAO-04-910R](#) (Washington, D.C.: Sept. 20, 2004).

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and Materiel Readiness published the Future Logistics Enterprise document as a mid-term guide for achieving logistics transformation. Although TAV was not specifically identified within this document, the End-to-End Distribution initiative contained in the document incorporated many of the same characteristics as TAV. In the Focused Logistics Campaign Plan, the Joint Chiefs of Staff also recognized the importance of TAV and identified it as one of four pillars upon which logistics transformation must be built. Despite this focus, we recently reported that DOD experienced logistics management weaknesses during the build up and early phases of Operation Iraqi Freedom due to inadequate asset visibility.<sup>17</sup> These weaknesses are similar to those experienced during Operations Desert Shield and Desert Storm. For example, as Operation Iraqi Freedom began, a number of asset visibility weaknesses contributed to a \$1.2 billion discrepancy between the material shipped to Army activities in the Iraqi theater and the material acknowledged as received. While Army officials believe that this material was received in theater, lapses in asset visibility, in some instances, resulted in units cannibalizing major equipment items, submitting duplicate requisitions, and circumventing the normal supply systems to obtain needed parts.

As we have previously reported, accurately reporting the amount of inventory, both in terms of the numbers of items on hand and the valuation of that inventory, has been a continuing struggle for DOD.<sup>18</sup> One of the primary factors contributing to this struggle is DOD's outdated and ineffective management information systems. FFMIA<sup>19</sup> and other financial management reform legislation have emphasized the importance of improving financial management, which necessarily encompasses proper inventory management, across the federal government. Built upon the foundation laid by the Chief Financial Officers (CFO) Act of 1990,<sup>20</sup> FFMIA emphasizes the need for agencies to have financial management systems that can generate timely, accurate, and useful information to make informed decisions and to ensure accountability on an ongoing basis. With such information, government leaders will be better positioned to invest

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<sup>17</sup> GAO, *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom*, [GAO-04-305R](#) (Washington, D.C.: Dec. 18, 2003).

<sup>18</sup> [GAO/NSIAD-99-40](#).

<sup>19</sup> Pub. L. No. 104-208, div. A, §101 (f), title VIII, 110 Stat. 3009, 3009-389 (Sept. 30, 1996).

<sup>20</sup> Pub. L. No. 101-576, 104 Stat. 2838, Nov. 15, 1990.

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resources, reduce costs, oversee programs, and hold agency managers accountable for the way they run government programs. FFMIA requires that financial management systems comply substantially with federal financial management systems requirements, applicable federal accounting standards, and the U.S. Government Standard General Ledger at the transaction level in order to help achieve these goals.

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## DOD, the Military Services, and DLA Have Not Achieved TAV over Spare and Repair Parts in Storage

Although DOD, the military services, and DLA have made varying degrees of progress toward achieving visibility over in-storage assets, DOD's most recent goal to achieve TAV by 2004 was not met, and the department's ability to achieve the new TAV goal of 2010 remains uncertain. First, while the military services and DLA generally have inventory management systems that provide visibility over in-storage assets, they do not have, in all cases, the capability to share data on a near real-time basis. Second, the inability to share data on a near real-time basis negatively affects DOD's ability to make efficient and effective inventory management decisions in support of operating forces. Consequently, DOD did not reach the goal established in its 1998 Logistics Strategic Plan of achieving 100 percent visibility by 2004. Finally, the ongoing business systems modernization efforts and other efforts to develop data sharing capability may not be completed prior to the new goal of achieving TAV in 2010.

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## Component Inventory Management Systems Provide Some Visibility

As shown in table 1, each of the military services and DLA has a variety of inventory management systems that provide visibility over the assets stored at the various levels of supply throughout the department. However, these systems do not always have the capability to share data on a near real time basis.

**Table 1: Summary of In-Storage Inventory Management Systems**

| Wholesale supply level  | Retail intermediate level   | Retail consumer level   | Servicewide capability             |
|---|---|---|------------------------------------|
| <b>Army:</b>  |   |   |                                    |
| New system: logistics Modernization program   |   |   |                                    |
| Legacy systems: commodity command standard system, and the standard depot system  | Standard Army Retail Supply System  | Standard Army Retail Supply System  | Army Total Asset Visibility System |
| <b>Navy:</b>  |   |   |                                    |
| Uniform Inventory Control Program   | Uniform Automated Data Processing System and Force Inventory Management Analysis Reporting System | Uniform Automated Data Processing System and Force Inventory Management Analysis Reporting System | One Touch Support                  |
| <b>Air Force:</b>   |   |   |                                    |
| Stock control system (DO35A)  | Stock Control System (DO35K)  | Standard Base Supply System   | Stock Control System               |
| <b>DLA:</b>   |   |   |                                    |
| New system: business systems modernization  |   |   |                                    |
| Legacy systems: Standard Automated Materiel Management System, and the Defense Integrated Subsistence Management System | N/A <sup>a</sup>  | N/A <sup>a</sup>  | N/A <sup>a</sup>                   |

Source: GAO analysis.

<sup>a</sup>For the purposes of this comparison, we did not consider the relatively small amount of inventory held at DLA retail facilities.

Table 1 shows the various management tools that the military services and DLA have developed to enable data sharing among the levels of supply for which they are responsible. These systems generally provide visibility over specific segments of inventory, but visibility across different levels of supply or across services is dependent upon being able to share data from multiple systems. For example, the Navy’s Uniform Inventory Control Program System provides the Navy with visibility over assets within its wholesale supply system and its Uniform Automated Data Processing System and Force Inventory Management Analysis Reporting System provide visibility over assets within its retail supply system. While each of the components has the ability to share data from existing logistics systems throughout its particular organization, the capability to share data on a near real time basis does not always exist. Without the ability to share data on a near real-time basis, DOD, the military services, and DLA cannot be assured that they are making inventory management decisions with accurate and timely records.

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While the capability to share some information on a departmentwide basis also exists, this capability is also negatively affected by the lack of near real-time data sharing. Specifically, at this time the capability to share data is sometimes achieved by reconstructing data from other data sources, which can introduce data reliability errors into the system, or batch processing of data, which can result in timeliness issues. For example, the Navy's One Touch Support system provides the Navy with the capability to access logistics information from a wide variety of Navy data sources as well as from DLA and other military service systems. Some of these data are provided through near real-time data links, while other data are shared among the Army, Air Force, and DLA on a periodic basis through batch processing.

Lateral redistribution also provides the military services and DLA with some capability to act upon information provided by the various systems within the department. Lateral redistribution is an automated capability used to satisfy a requisition through the most efficient and effective means. Generally speaking, the lateral redistribution process takes place when no assets are available to satisfy the requisition at the appropriate wholesale supply source. The item manager uses an automated query capability to determine if any of the military services has the item available in their retail systems prior to initiating a procurement action. Generally, redistribution of assets that exceed an activity's authorized inventory level occur automatically, while redistribution of assets that comprise an activity's authorized inventory level is dependent on a complex matrix of priorities. If an asset is found within the retail supply systems of any of the military services, then the lateral redistribution business rules are used to determine if that asset should be used to satisfy the requisition or whether the procurement action should proceed.

In a series of reports issued between March 1999 and July 2004, we have reported numerous weaknesses in DOD's visibility and control over items being shipped from one location to another. Specifically, we reported in March 1999 that the Navy had not effectively controlled its in-transit inventory and placed enormous amounts of inventory at risk of undetected theft or misplacement.<sup>21</sup> For example, we found that between fiscal years 1996 and 1998, the Navy reported that it had lost more than \$3 billion in in-transit inventory, including some classified and sensitive items such as

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<sup>21</sup> GAO, *Defense Inventory: Navy's Procedures for Controlling In-Transit Items Are Not Being Followed*, GAO/NSIAD-99-61 (Washington, D.C.: Mar. 31, 1999).

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aircraft guided-missile launchers, military night vision devices, and communications equipment. Similarly, we reported in June 2000 that the Army did not know the extent to which shipped inventory was lost or stolen because of weaknesses in its inventory controls and financial management practices.<sup>22</sup> In addition, we reported in July 2002 that the Air Force and contractor personnel had largely not complied with DOD and Air Force inventory control procedures designed to safeguard material shipped to contractors, placing items worth billions of dollars at risk of fraud, waste, and abuse.<sup>23</sup> Most recently, we reported in July 2004 that the Navy had failed to maintain proper accountability and visibility over government furnished equipment shipped to repair contractors.<sup>24</sup>

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## Continuing Systems Development Efforts May Not Achieve TAV by 2010

Each of the components has ongoing efforts for developing new systems to improve their inventory management capabilities. For example, both DLA and the Army are in the process of fielding their next generation of inventory management systems for use at the wholesale level, Business Systems Modernization and Logistics Modernization Program, respectively. In addition, the Air Force and Navy also have similar ongoing efforts to redesign their logistics systems. While these efforts may help to attain TAV, we are concerned that DOD's near term efforts may not be consistent with its long-term strategy—Business Management Modernization Program. For example, we reported in September 2004 that clear links between mid-range and long-range efforts to address deficiencies in DOD's business operations were not yet established.<sup>25</sup> Further, recent reviews of two DOD system efforts have raised concerns regarding aspects of DOD's system development oversight and monitoring.<sup>26</sup> For example, we recently reported that Army and DLA systems do not provide a corporate solution for TAV because that solution depends on the successful development and implementation of other systems for which timeframes and associated costs have not yet been fully

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<sup>22</sup> GAO, *Defense Inventory: Army Needs to Strengthen and Follow Procedures to Control Shipped Items*, [GAO/NSIAD-00-109](#) (Washington, D.C.: June 23, 2000).

<sup>23</sup> GAO, *Defense Inventory: Air Force Needs to Improve Control of Shipments to Repair Contractors*, [GAO-02-617](#) (Washington, D.C.: July 1, 2002).

<sup>24</sup> GAO, *Defense Inventory: Navy Needs to Improve the Management Over Government-Furnished Material Shipped to Its Repair Contractors*, [GAO-04-779](#) (Washington, D.C.: July 23, 2004).

<sup>25</sup> [GAO-04-910R](#).

<sup>26</sup> [GAO-04-615](#).



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defined. Achieving TAV within the Army will require the Logistics Modernization Program to be integrated with other Army systems currently under development—the Product Lifecycle Management Plus and Global Combat Support System-Army. As of May 2004, there were no estimates for the cost or time frames for completing the development and implementation of the Product Lifecycle Management Plus system. Similarly, although the Army’s capital investment program includes funding of more than \$1 billion for the Global Combat Support System-Army through fiscal year 2009, the Army stated that the total cost of the program could not be accurately estimated until all process requirements are defined at some later date.

From a departmentwide perspective, joint total asset visibility is an evolving process designed to (1) provide users with information on the location, movement, status, and identity of units, personnel, equipment, and supplies and (2) facilitate the capability of users to act upon the information. Currently, this capability is provided through the Joint Total Asset Visibility (JTAV) system, which relies on non-integrated inventory management systems within the military services and DLA for visibility data. While JTAV is available to users throughout the department, it does not provide TAV because the system is constrained by reliance on the availability, accuracy, and timeliness of information from the military services’ and DLA’s information systems. For example, a recent contractor study of logistics performance in Operation Iraqi Freedom stated that because JTAV will be replaced at the end of fiscal year 2005 and is only being funded to support its existing capabilities, little has changed in JTAV capability since the DOD Inspector General reported shortfalls in the system’s capability in 2002.<sup>27</sup> In addition, the contractor study stated that JTAV was seen by users as being incomplete and untimely, and therefore, could not be relied upon. Consequently, users were accessing component information systems separately and integrating the data from multiple systems manually.

At this time, DLA is leading a departmentwide effort called the Integrated Data Environment that is intended to provide joint visibility throughout the department. This new capability is based on establishing normalized data requirements that will have to be supported by existing and new business information systems. This capability is expected to be operational during fiscal year 2005 within DLA, and is expected to provide

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<sup>27</sup> Science Applications International Corporation, *Objective Assessment of Logistics in Iraq*, March 2004.

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DLA logistics data to users throughout DLA and the department. DLA's capability is expected to serve as the model for instituting similar data environments in the military services that can ultimately be linked to provide visibility across the department. This departmentwide capability is expected to be available in August 2007. However, because the Integrated Data Environment utilizes data from the various military service and DLA systems, TAV will not be achieved through the Integrated Data Environment until the individual systems are developed and implemented within the military services and DLA.

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## Significant Impediments Hinder Achievement of TAV

A number of significant impediments hinder DOD and the components' abilities to attain their goals of achieving TAV. First, DOD lacks a clear long-term strategy to guide its TAV efforts and address key issues such as systems integration. Second, integration and interoperability of the numerous information systems used to support logistics operations and inventory management continue to present challenges to DOD, the military services, and DLA. Finally, DOD, the military services, and DLA have long-standing data accuracy and reliability issues pertaining to their numerous inventory management systems. Given the lack of an overarching plan to guide TAV efforts, the continuing integration issues, and the shortcomings of the existing systems, it seems unlikely that the military services and DLA will meet the department's target of achieving TAV by 2010.

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## TAV Hindered by Lack of a Clear Long-Term Strategy

Because DOD continues to rely on the individual efforts of DLA and the military services to achieve TAV without a clear link to its long-term improvement initiative the Business Management Modernization Program, it is unlikely DOD will achieve TAV by its 2010 target date. When we examined the status of TAV within DOD in 1999, we recommended that DOD develop a departmentwide strategic plan or common strategy and associated components' implementation plans to improve the management and implementation of TAV. Furthermore, we recommended these plans be based on the outcome-oriented principles of GPRA. However, DOD responded that better asset management would be attained by each component through improvements to their business and inventory systems and databases. DOD's Business Management Modernization Program is responsible for oversight and monitoring of the department's business transformation initiatives. As part of this program, DOD is continuing its efforts to refine and implement the department's business enterprise architecture to serve as a blueprint to guide business transformation efforts and business systems acquisition and development. One of the objectives of this architecture is to attain TAV by fiscal year 2010.

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However, as discussed below, we have previously reported that weaknesses exist in the design and content of the most recent version of the architecture. Further, we reported in September 2004 that there is no clear link between the components' implementation plans and the long-term objectives of the department's business transformation program.<sup>28</sup> Currently, the department is required to report annually to Congress by March 15 of each year on the progress it is making in refining and implementing the business enterprise architecture in support of its business management modernization program.

While the logistics community has identified TAV as one of the four pillars needed as the foundation for its logistics transformation in its Focused Logistics Campaign, it has not established a long-term strategy to focus and guide the components' efforts. However, TAV is not specifically included in the Future Logistics Enterprise—the mid-term plan for logistics transformation. While the End-to-End Distribution initiative within the Future Logistics Enterprise incorporates many of the characteristics of TAV, it does not require the components to submit supporting plans and does not include some key elements of a comprehensive plan necessary to achieve TAV. For example, the department still has not defined a management framework, established accountability, identified resource requirements, or established performance measures in regards to TAV.

Even when a plan to improve TAV is developed, problems with departmentwide implementation still occur. For example, in response to Program Budget Decision 422, dated December 2001, each of the military services developed separate plans for implementing the decision, which reflected a disparity in the extent to which they were willing to implement the departmentwide policy. While this document called for the military services to eliminate duplicative retail supply operations by returning management and ownership of DLA-managed items being held by the military services to DLA, the services' implementation plans each interpreted the requirements differently. For example, the Navy plan called for a small number of pilot sites where DLA would take over the ownership of the DLA-managed items being stored at the Navy retail supply activities. The Air Force, on the other hand, did not participate in

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<sup>28</sup> GAO, *Financial Management: Further Actions Are Needed to Establish Framework to Guide Audit Opinion and Business Management Improvement Efforts at DOD*, [GAO-04-910R](#) (Washington, D.C.: Sept. 20, 2004).

any of the pilot projects, and planned only to eliminate co-located inventory items at the Air Logistics Centers.

**Information Systems  
Integration Challenges  
Hinder TAV Achievement**

DOD has not achieved the necessary integration or interoperability of its inventory (business) systems to support TAV. TAV cannot be achieved unless these multiple business systems provide users such as combatant commanders, operating units and inventory managers with accurate data on the quantity, location, condition, and movement of inventory. As part of its ongoing business systems modernization efforts DOD is creating a repository of the department’s existing business systems. As of April 2003, this repository contained 210 inventory-related information systems within the logistics domain, as shown below in table 2.

**Table 2: Reported DOD Logistics Business Systems by Functional Area**

| Logistics                            |            |            |                       |                   |                    |            |
|--------------------------------------|------------|------------|-----------------------|-------------------|--------------------|------------|
| Functional Area                      | Air Force  | Army       | Navy/<br>Marine Corps | DFAS <sup>a</sup> | Other <sup>b</sup> | Total      |
| Inventory                            | 50         | 90         | 42                    | 4                 | 24                 | 210        |
| Logistics                            | 57         | 44         | 28                    | 2                 | 29                 | 160        |
| Transportation                       | 8          | 11         | 2                     | 0                 | 11                 | 32         |
| Personal property management         | 6          | 5          | 5                     | 0                 | 2                  | 18         |
| Real property management             | 3          | 3          | 4                     | 0                 | 0                  | 10         |
| National defense property management | 2          | 0          | 1                     | 0                 | 0                  | 3          |
| Other functions combined             | 51         | 30         | 21                    | 5                 | 11                 | 118        |
| Acquisition                          | 3          | 8          | 1                     | 0                 | 2                  | 14         |
| <b>Subtotal</b>                      | <b>180</b> | <b>191</b> | <b>104</b>            | <b>11</b>         | <b>79</b>          | <b>565</b> |

Source: GAO analysis of BMMP April 2003 Data.

<sup>a</sup>Defense Finance and Accounting Service.

<sup>b</sup>Includes the Defense Logistics Agency systems.

Table 2 clearly shows that there are numerous systems operating throughout DOD within the logistics domain and the inventory functional area. As we reported in May 2004, these systems are not integrated and thus have multiple points of data entry, which can result in data reliability problems due to data input errors at the various points of data entry.<sup>29</sup>

<sup>29</sup> GAO-04-615.

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DOD is refining and implementing a business enterprise architecture as part of its Business Management Modernization Program in order to define the common operating environment and data requirements for its business systems including logistics. Under the incremental approach adopted by DOD, the target for achieving TAV is fiscal year 2010. In the long-term, this architecture could serve to guide business systems investments throughout the department and ensure that new business systems are designed and built to be integrated. In May 2001, we advocated the creation of an architecture to guide and constrain the billions of dollars the department planned to spend to modernize its business systems.<sup>30</sup> We reiterated this recommendation in September 2003 and further recommended that DOD provide more sufficient descriptive content related to the future business operations and supporting technology necessary for refining and implementing a business enterprise architecture.<sup>31</sup> However, as we recently reported,<sup>32</sup> after three years, more than \$203 million in obligations, and disbursements totaling \$111 million, there has not been any significant change in the content of DOD's architecture. Consequently the architecture continues to lack many of the key elements such as sufficient descriptive content related to future business operations and supporting technology to support effective acquisition and implementation of systems solutions and associated operational changes. In addition, DOD has not established the necessary management structure, processes, and controls necessary to refine and implement the business enterprise architecture. For example, DOD has not yet (1) assigned accountability and responsibility for directing, overseeing, and approving the architecture; (2) developed specific performance measures needed to evaluate the progress made in developing the architecture; (3) developed either near-term or long-term plans for developing the architecture that explicitly identify and establish a baseline for actions to be taken, milestones to be achieved, cost estimates to be met and targeted outcomes to be achieved; and (4) established effective management oversight and control over ongoing

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<sup>30</sup> GAO, *Information Technology: Architecture Needed to Guide Modernization of DOD's Financial Operations*, [GAO-01-525](#) (Washington, D.C.: May 17, 2001).

<sup>31</sup> GAO, *DOD Business Systems Modernization: Important Progress Made to Develop Business Enterprise Architecture, but Much Work Remains*, [GAO-03-1018](#) (Washington, D.C.: Sept. 19, 2003).

<sup>32</sup> GAO, *DOD Business Systems Modernization: Limited Progress in Development of Business Enterprise Architecture and Oversight of Information Technology Investments*, [GAO-04-731R](#) (Washington, D.C.: May 17, 2001).

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business systems modernization investments. Finally, as we reported in May 2004, DOD has not yet developed the detailed plans that include performance measures for the quality, content, and utility of the architecture in support of the incremental approach being used to develop the business enterprise architecture.

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### Long-Standing Data Accuracy and Reliability Issues Hamper TAV Achievement

Problems with data accuracy and reliability of data pertaining to the quantity, location, and value of inventory within the numerous inventory management systems are long-standing issues that hinder the achievement of TAV. For example, military service audit agencies and the DOD Inspector General identified various types of inaccurate inventory data in the military services' information systems. Since fiscal year 2002, these inaccuracies included more than \$200 million of excess or unrecorded inventory that was not visible to item managers as well as significant misstatements in the reported inventory balances. Since these unrecorded inventories were not visible to item managers, they could not be used to satisfy current operating requirements and represent an unnecessary cost if additional inventory was purchased that was not needed. To illustrate this point, the Air Force Audit Agency identified a \$3.3 million overstatement in the procurement and repair requirements for three aircraft systems that resulted from the lack of visibility over \$10.8 million worth of inventory for these three systems.

Because DOD does not have integrated systems, methods such as multiple points of entry, manual reentry of data, and data interpreters are relied upon to enable data sharing among the various DOD, DLA, and military service systems. All of these methods introduce the potential for inaccurate data. For example, in fielding emerging systems such as the Business Systems Modernization and the Logistics Modernization Program, numerous interfaces had to be developed with existing systems to enable data sharing. When some of these interfaces did not work as intended, manual reentry of transactions was relied upon to enable the required data transfer. According to DOD officials these, problems were only a temporary solution until modifications to the interfaces could be made. This problem was not only costly, but could have also led to the introduction of inaccurate and unreliable data into emerging systems.

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## DOD Has Made Little Progress toward Assuring That Inventory Systems Comply with Financial Standards

DOD, the military services, and DLA have made little progress in assuring that inventory management systems that provide visibility over spare and repair parts are substantially compliant with the requirements of the Federal Financial Management Improvement Act (FFMIA) of 1996. The department recognizes the weaknesses in their financial management systems in general and stated in DOD's Performance and Accountability Report for fiscal year 2003 that these systems did not substantially comply with Federal financial management systems requirements, generally accepted accounting principles, and the U.S. Government Standard General Ledger at the transaction level. In addition, the report stated that DOD's financial management and feeder systems could not provide adequate evidence to support various material amounts on the financial statements. Since 1990, we have identified inventory management as a high-risk area within DOD and specifically identified DOD's outdated and ineffective management information systems as a primary factor causing this weakness. Inventory management system weaknesses hinder DOD's and components' efforts to collect accurate, reliable, and timely financial information.

While DOD is currently requiring the military services and DLA to certify that emerging systems are in substantial compliance with federal financial management requirements, we are concerned that the department lacks adequate policies and procedures to determine whether compliance has in fact been achieved. For example, we recently reported that in developing the Business Systems Modernization and Logistics Modernization Program, DLA and the Army, respectively, had not fully defined the capabilities required from these systems or how these capabilities would be tested to ensure the new systems provided the capabilities needed, including whether the systems comply with federal financial management requirements.<sup>33</sup> In addition we found, in both instances, that testing of transactions was not performed to validate that they would be processed as intended. For example, to test the Logistics Modernization Program, the Army relied upon Joint Financial Management Improvement Program (JFMIP)<sup>34</sup> testing of the commercial off the shelf software in fiscal year

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<sup>33</sup> [GAO-04-615](#).

<sup>34</sup> The Joint Financial Management Improvement Program is a joint and cooperative undertaking of the Department of the Treasury, the GAO, the Office of Management and Budget, and the Office of Personnel Management working in cooperation with each other and other agencies to improve financial management practices in government. The Program Management Office, managed by the Executive Director, tests vendor commercial-off-the-shelf packages and certifies that they meet certain federal financial management systems requirements for core financial systems.

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1999 to validate that 147 requirements were satisfied for the Logistics Modernization Program. We concluded that JFMIP's testing should not be relied on to validate these requirements because it did not address entity-specific tests of transactions or systems interfaces. In addition, because the Army modified the basic commercial software package, the Army cannot be assured that these 147 requirements will produce the intended results. Consequently, although these two systems were certified as being compliant, the weaknesses identified in the certification process raise concerns regarding the system's compliance with the FFMIA requirements.

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## Conclusions

While considerable efforts were made to increase asset visibility over spare and repair parts in storage, DOD did not attain TAV by the end of fiscal year 2004. Further, it remains questionable whether DOD will achieve TAV by fiscal year 2010. While some efforts have been undertaken to increase asset visibility, these efforts have been limited to specific components due to the absence of an effective departmentwide long-term strategy. As a result, DOD's efforts to achieve TAV have generally been narrow in scope, uncoordinated with other components, not integrated with other inventory management systems, and fail to address long-standing data reliability problems. Without an effective long-term strategy containing goals, measures, time frames, and accountability, wartime logistics problems similar to those encountered in our most recent operations in Iraq are likely to continue. These problems could negatively impact readiness, could cause operating units to resort to inefficient practices such as cannibalization, and could result in the unnecessary expenditure of millions or even billions of dollars on unneeded inventory or on systems and initiatives that do not attain TAV. In addition, DOD has made little progress in assuring that its inventory management systems comply with federal financial management standards, and we remain concerned that system tests were not conducted to validate that relevant data were processed as intended. Until DOD ensures that its inventory management systems are fully compliant with federal financial management standards, concerns will remain about the quality of the financial data reported and its value for making inventory management decisions related to procurement and distribution of items.



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## Recommendations

We continue to believe, as we recommended in April 1999, that DOD should develop a cohesive, departmentwide plan to ensure that TAV is achieved. Specifically, we recommend that the Secretary of Defense develop a departmentwide long-term TAV strategy as part of the Business Enterprise Architecture that

- describes the complete management structure and assigns accountability to specific offices throughout the department, with milestones and performance measures, for ensuring timely success in achieving TAV;
- identifies the resource requirements for implementing TAV and includes related investment analyses that show how the major information technology investments will support TAV goals;
- identifies how departmentwide systems issues that affect implementation of TAV will be addressed; and
- establishes outcome-oriented TAV goals and performance measures for all relevant components and closely links the measures with timelines for improvement.

In addition, since 2001, we have made a number of recommendations aimed at improving DOD's refinement and implementation of the business management modernization program. Most recently, we identified the need to have component plans clearly linked to the long-term objectives of the department's business management modernization program. As they relate to TAV, we continue to believe that these recommendations are valid.

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## Matter for Congressional Consideration

If the Congress wants a better understanding of the department's plans and progress for attaining TAV, it may wish to consider having the Secretary of Defense include a section specifically addressing TAV implementation in its annual report to the Congress on the progress it is making in refining and implementing the business enterprise architecture in support of the business management modernization program, as required by section 332 of the fiscal year 2005 national defense authorization act. Specifically, the Congress may wish to consider requiring the Secretary of Defense to outline in this annual report the department's plans, milestones, performance measures, and progress for attaining TAV throughout the department.

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## Agency Comments and Our Evaluation

In commenting on a draft of this report, the Acting Deputy Under Secretary of Defense for Logistics and Materiel Readiness concurred with the intent of our first three recommendations and partially concurred with our last recommendation. Specifically, the department acknowledges the need to improve visibility over spare and repair parts, but believes that its current strategy of modernizing logistics systems and implementing an integrated data approach is the way to achieve TAV. In addition, while DOD's comments also recognized the need to place increased emphasis on TAV in its modernization program and ensure that the component efforts link more closely to long-term objectives like TAV, the comments did not include specific actions the department plans to take to address its asset visibility weaknesses, nor did it provide milestones for when it plans to implement all of its modernization programs. Because DOD does not plan to modify its approach to implementing TAV, we have added a matter for congressional consideration suggesting that the Congress may wish to require the Secretary of Defense to report annually on the Department's plans and progress for attaining TAV. DOD's comments are reprinted in appendix III of this report.

In concurring with the intent of our recommendations that the Secretary of Defense develop a departmentwide long-term TAV strategy that (1) describes the complete management structure and assigns accountability to specific offices throughout the department, with milestones and performance measures for ensuring timely success in achieving TAV, (2) identifies the resource requirements for implementing TAV and includes related investment analyses that show how the major information technology investments will support TAV goals, and (3) identifies how departmentwide systems issues that affect implementation of TAV will be addressed, DOD stated that these issues would be addressed as part of the ongoing business systems modernization programs. However, as discussed in this report, these ongoing efforts may not ensure that DOD will attain TAV. For example, we reported in May 2004 that DOD had not yet established the necessary management structure, processes, or controls necessary to refine and implement the business enterprise architecture, a key component of DOD's business management modernization program. In addition, component efforts to modernize business systems will not necessarily provide solutions to TAV because these efforts rely on the creation of yet more systems to attain TAV. Without a departmentwide long-term strategy as part of the Business Enterprise Architecture that clearly identifies how business systems modernization programs relate to and address TAV, DOD may not achieve its TAV goal.

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In partially concurring with our recommendation that the Secretary of Defense develop a departmentwide long-term TAV strategy that establishes outcome-oriented goals and performance measures for all relevant components and links the measures with timelines for improvement, DOD stated that outcome-oriented goals and measures specific to the end-to-end supply chain, such as customer wait time, will continue to be monitored. We agree that measures such as customer wait time should continue to be monitored. Similarly, we agree that having a viable data strategy as part of the Business Enterprise Architecture and a sound portfolio management process are also essential to attaining TAV. However, as we reported in May 2004, DOD had not yet established an effective management oversight and control process for ongoing business systems modernization investments. In addition, the integrated data environment, which could provide the viable data strategy, is still under development. With business systems modernization taking place while both the integrated data environment and business enterprise architecture are still being developed, a departmentwide long-term strategy becomes even more critical to ensure that the modernization efforts support the department's objectives such as TAV.

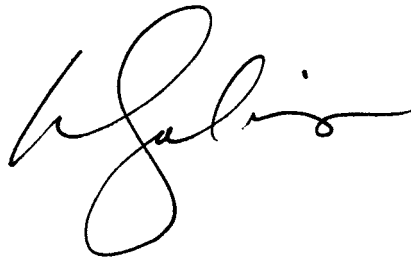
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We are sending copies of this report to Chairman and Ranking Member, House Appropriations Subcommittee on Defense. We are also sending copies to the Secretary of Defense; the Director, Office of Management and Budget; the Secretary of the Army; the Secretary of the Navy; the Secretary of the Air Force; and the Director, Defense Logistics Agency. Copies will also be available at no charge on our Web site at <http://www.gao.gov>

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If you or your staff have any questions about this report, please contact me at (202)512-8365 or e-mail me at [solisw@gao.gov](mailto:solisw@gao.gov). GAO contacts and key contributors to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink, appearing to read "W. Solis". The signature is fluid and cursive, with a large loop at the end.

William M. Solis  
Director, Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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To determine what progress has been made in implementing TAV within DOD, the military services, and the DLA, we obtained and analyzed information on various initiatives pertaining to improving inventory management practices. We reviewed these initiatives to identify the objectives and scope of the initiatives. We also evaluated whether these initiatives would have any impact on the visibility over assets. To learn more about the initiatives themselves and what benefits would be derived from implementing them, we interviewed knowledgeable officials from the following logistics organizations:

- Department of Air Force: Deputy Chief of Staff Installations & Logistics, Directorate of Logistics Readiness, Material Management Policy Division; AF/ILFD; Deputy Chief of Staff Installations & Logistics, Maintenance Management Division; Air Force Material Command;
- Department of Army: Supply Policy Division, Headquarters, Office of the Deputy Chief of Staff, G4; Supply Policy & Logistics Automation Task Force, Headquarters, Office of the Deputy Chief of Staff, G4; Transportation, Headquarters Army Material Command; Headquarters, Office of the Deputy Chief of Staff, G4-LESCO; Headquarters Army Material Command; DALO-SMP; DALO-TEO; Headquarters, Army Material Command-Logistics Support Activity;
- Department of Navy: Naval Supply Systems Command;
- Defense Logistics Agency: DLA/J-333-Supply Chain Integration Division; and
- The Joint Staff Directorate of Logistics (J-4).

Additionally, we relied on other GAO audit work for information about some on-going business systems modernization efforts as they related to inventory management. Finally, we analyzed the findings documented in audit reports prepared by the DOD Inspector General and the military service audit agencies dating back to fiscal year 2001 as another means of gauging the amount of progress being made in implementing TAV.

To identify the impediments that DOD, the military services, and DLA must overcome in order to achieve TAV, we reviewed previous GAO reports (including the 1999 report on TAV). We also reviewed DOD Inspector General reports and military service audit reports pertaining to asset visibility and inventory management to determine if additional

impediments existed and whether previously identified impediments continue to be a problem. We also discussed impediments to achieving TAV with the officials identified above as well as officials from the Supply Chain Integration Office and the Transportation Policy Office within the Office of Deputy Under Secretary of Defense Logistics Materiel Readiness. Also we reviewed policies, rules, and regulations to determine what departmentwide guidance are provided for achieving TAV. Lastly, we relied on other GAO audit work for information about (1) logistics challenges experienced during Operation Iraqi Freedom due to inadequate asset visibility, (2) the Business Enterprise Architecture effort underway and its relationship to TAV, and (3) the relationship between DOD component improvement initiatives and the departments business management modernization program.

To assess what progress has been made in ensuring that inventory management systems are fully compliant with statutory requirements for federal financial management systems, we reviewed the requirements outlined in the Federal Financial Management Improvement Act of 1996 and the standards prescribed in the Joint Financial Management Improvement Program. Additionally, we relied on other GAO audit work for information about how DOD is ensuring compliance of existing and emerging inventory systems with the federal financial management systems requirements.

We conducted our work from August 2003 to August 2004 in accordance with generally accepted government auditing standards.

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# Appendix II: Key Programs and Systems

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**Future Logistics Enterprise**—DOD’s mid-term vision to accelerate logistics improvements, enhance support to the warfighter, and align logistics processes with the operational demands of the 21st century. The Future Logistics Enterprise builds upon and accelerates specific, ongoing service and agency initiatives to meet the requirements of the Quadrennial Defense Review and the National Defense Strategy.

**End-to-End Distribution**—One of six initiatives contained in the Future Logistics Enterprise. End-to-End Distribution is designed to streamline warfighter support by providing materiel, including retrograde and associated information from the source of supply or point of origin to the point of use.

**Focused Logistics Campaign Plan**—A comprehensive, integrated approach for achieving full spectrum support for the future joint warfighter. The plan describes how the full potential of focused logistics will be achieved through revolutionary changes to information systems, reengineered processes, innovation in organizational structures, and advances in transportation technology.

**Business Management Modernization Program**—The Business Management Modernization Program is the department's business transformation initiative and encompasses defense policies, processes, people, and systems that guide, perform, or support all aspects of business management—including development and implementation of the business enterprise architecture. The Under Secretary of Defense (Comptroller) established a program management office called Business Modernization and Systems Integration (BMSI), to oversee and manage the program.

**Business enterprise architecture**—The business enterprise architecture is designed to provide a clear and comprehensive picture of DOD’s business operations across six domains. This picture consists of a snapshot of the current operational and technical environment and its target environment, as well as a capital investment roadmap for transitioning from the current environment to the target environment.

**Joint Total Asset Visibility**—Joint Total Asset Visibility is the Defense Department’s evolving process designed to track equipment, personnel, and supplies.

**Logistics Modernization Program**—The Army Materiel Command system that will be used to capture logistics data from the wholesale supply system. It will replace two existing materiel management systems,

the Commodity Command Standard System and the Standard Depot System.

**Business systems modernization**—The DLA system that will replace two existing materiel management systems, the Standard Automated Materiel Management System and the Defense Integrated Subsistence Management System.

**Integrated data environment**—This initiative will provide the capability to integrate DOD logistics information within DLA. The environment will facilitate the sharing of data across the department.

**Global Combat Support System**—This is a family of systems that are designed to provide an information-centric environment thereby allowing DOD users to access shared data and applications regardless of location.

**Standard General Ledger**—The Standard General Ledger provides a uniform Chart of Accounts and technical guidance to be used in standardizing Federal agency accounting.

**Joint Financial Management Improvement Program**—The Joint Financial Management Improvement Program is a joint and cooperative undertaking of the Department of the Treasury, the GAO, the Office of Management and Budget, and the Office of Personnel Management working in cooperation with each other and other agencies to improve financial management practices in government. The Program Management Office, managed by the Executive Director, tests vendor commercial-off-the-shelf packages and certifies that they meet certain federal financial management systems requirements for core financial systems.

**Virtual Master Stock Inventory Record**—The Virtual Master Stock Inventory Record is a database managed by the Navy that displays stock availability at the major Navy stock points. The Virtual Master Stock Inventory Record also provides the capability to view quantity and location of specific items.



# Appendix III: Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR  
LOGISTICS AND MATERIEL READINESS  
3500 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3500

OCT 29 2004

Mr. William Solis  
Director, Defense Capabilities and Management  
U.S. General Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Solis:

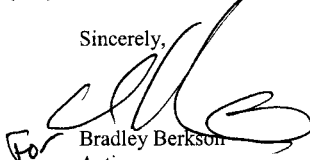
This is the Department of Defense (DoD) response to the GAO draft report, GAO-05-15, "DEFENSE INVENTORY: Improvements Needed In DoD's Implementation of Its Long-Term Strategy for Total Asset Visibility of Its Inventory," dated September 30, 2004 (GAO Code 350420). The Department concurs with the intent of the recommendation to improve visibility over spare and repair parts, but we believe that our strategy of modernizing our logistics systems and implementing an integrated data approach is the way to achieve that goal.

As acknowledged in the audit, the Department has put considerable effort into achieving asset visibility over spare and repair parts over the past several years. Over that time, the Department has made considerable progress towards enhancing asset visibility by improving our legacy inventory systems and creating Department-wide policy and procedures for required asset visibility capability. We also implemented business rules for lateral redistribution to act upon that visibility. Through these improvements, we have achieved visibility of our spare and repair parts for item managers who can act upon that information. However, fully realizing timely and accurate asset information requires modernization of our business systems and the implementation of the integrated data environment (IDE) that is a key component of that modernization.

TAV is an enabler, not an end to itself. Asset visibility is the by product of any well designed and enabled end-to-end supply chain. As the Department continues to modernize through implementation of commercial off-the-shelf software and integration techniques, timely and accurate asset visibility will become institutionalized in the Department's logistic chain. Our logistics systems modernization programs, along with a viable data strategy and sound portfolio management process, are the long term solutions to TAV. The Department continues to stand behind this approach as our long-term TAV strategy. However, we will place increased emphasis on TAV in our modernization programs and ensure that the Component efforts link more closely to long term objectives like TAV.

Should additional information be required, Mrs. Kathy Smith of my staff is the point of contact. She may be reached at (703) 604-0098x135.

Sincerely,

  
Bradley Berkson  
Acting



GAO DRAFT REPORT – DATED SEPTEMBER 30, 2004  
GAO CODE 350420/GAO-05-15

“DEFENSE INVENTORY: Improvements Needed in DoD’s Implementation of Its Long-term strategy for Total Asset Visibility of Its Inventory.”

DEPARTMENT OF DEFENSE COMMENTS  
TO THE RECOMMENDATIONS

**RECOMMENDATION 1:** The Secretary of Defense develop a Department-wide long-term TAV strategy that describes the complete management structure and assigns accountability to specific offices throughout the department, with milestones and performance measures, for ensuring timely success in achieving TAV. (Page 21/GAO Draft Report)

**DOD RESPONSE:** Concur with intent. The management structure in place for the business systems modernization will be used to ensure timely success in achieving our long-term objectives, to include TAV.

**RECOMMENDATION 2:** The Secretary of Defense develop a Department-wide long-term TAV strategy that identifies the resource requirements for implementing TAV and includes related investment analysis that show how the major information technology investments will support TAV goals. (Page 21/GAO Draft Report)

**DOD RESPONSE:** Concur with intent. The resource requirements in place for the business systems modernization will focus efforts on long-term objectives, to include TAV.

**RECOMMENDATION 3:** The Secretary of Defense develop a Department-wide long-term TAV strategy that identifies how department wide systems issues that affect implementation of TAV will be addressed. (Page 21/GAO Draft Report)

**DOD RESPONSE:** Concur with intent. The Department-wide approach to managing the business system modernization will address Department-wide systems issues, if any.

**RECOMMENDATION 4:** The Secretary of Defense developed a Department-wide long-term TAV strategy that establishes outcome-oriented TAV goals and performance measures for all relevant components and closely links the measures with timelines for improvement. (Page 21/GAO Draft Report)

**DOD RESPONSE:** Partially concur. As carefully pointed out by the GAO in previous audits, TAV is an output, not an outcome measure. Outcome-oriented goals and measures specific to the end-to-end supply chain will continue to be monitored, such as customer wait time.

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# Appendix IV: GAO Contacts and Staff Acknowledgments

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## GAO Contacts

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## Acknowledgments

In addition to the individuals named above, key contributors to this report included Ann DuBois, Shveta Khanna, Harry Knobler, Katherine Lenane, and Janine Prybyla.

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