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March 11, 2002



Information Technology

Effectiveness of the Joint Total Asset
Visibility Program
(D-2002-057)

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Acronyms

CINC	Commander in Chief
DLA	Defense Logistics Agency
DUSD(L&MR)	Deputy Under Secretary of Defense (Logistics and Materiel Readiness)
GCSS	Global Combat Support System
JTAV	Joint Total Asset Visibility
JULLS	Joint Universal Lessons Learned System



INSPECTOR GENERAL
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400 ARMY NAVY DRIVE
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March 11, 2002

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,
TECHNOLOGY, AND LOGISTICS

SUBJECT: Audit Report on Effectiveness of the Joint Total Asset Visibility Program
(Report No. D-2002-057)

We are providing this report for information and use. We considered management comments on a draft of this report in preparing the final report.

Comments on the draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, no additional comments are required.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Tilghman A. Schraden at (703) 604-9186 (DSN 664-9186) (tschraden@dodig.osd.mil) or Ms. Kathryn L. Palmer at (703) 604-8840 (DSN 664-8840) (kpalmer@dodig.osd.mil). See Appendix F for the report distribution. The audit team members are listed inside the back cover.

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Acting Assistant Inspector General
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Office of the Inspector General, DoD

Report No. D-2002-057

March 11, 2002

(Project No. D2001LD-0078.001)

Effectiveness of the Joint Total Asset Visibility Program

Executive Summary

Introduction. This report is the second of two audit reports addressing total asset visibility. This report discusses the effectiveness of the Joint Total Asset Visibility Program. The first report discusses the effectiveness of the DoD Total Asset Visibility Program goal as it relates to the Government Performance and Results Act.

The Joint Total Asset Visibility Program is an automated information system that was designed to provide users with timely and accurate logistics information on the location, movement, status, and identity of Military units, personnel, equipment, and supplies. The Joint Total Asset Visibility Program does not process and create data; it extracts common logistics data from DoD Component information systems and formats the extractions in standard reports for review and additional processing. The Joint Total Asset Visibility Program was developed to provide unified and joint task force commanders with asset visibility for Military units within their commands. Users access common databases managed by DoD Components that provide them with opportunities to reassign or redirect theater assets. Depending on data criticality, information stored in the databases are periodically updated through system interfaces.

The Joint Total Asset Visibility Program is in the system sustainment phase of the system development life cycle, and \$43.8 million was programmed to sustain the system through FY 2005.

Objective. The overall audit objective was to evaluate the effectiveness of the Joint Total Asset Visibility Program. Specifically, the audit evaluated whether the Joint Total Asset Visibility Program was meeting asset visibility requirements of the unified commands. Our review of the applicable management control program is reported in Inspector General, DoD, Report No. D-2002-016, "Government Performance and Results Act Performance Measure for DoD Total Asset Visibility," November 21, 2001.

Results. The Joint Total Asset Visibility Program was not fully developed and funded to provide commanders in chief and joint task force commanders with the total asset visibility required. As a result, commanders in chief and joint task force commanders did not have access through the program to all required data on the location, movement, status, and identity of Military units, personnel, equipment, and supplies. Links to 77 of 130 data sources currently provided by the Joint Total Asset Visibility Program as well as undeveloped links to the other 53 data sources required by commanders in chief and joint task force commanders are to be integrated into the Global Combat Support System family of systems.* See the Finding section for details on the audit results.

*Family of systems is a concept for the development of future automated information systems. The concept is to provide users access to interrelated data from a family of systems through a single application. Family of systems is in contrast to stand-alone systems that must be individually accessed in order to obtain information.

Recommendation. We recommend that the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) ensure that the Joint Total Asset Visibility Program is funded until sufficient operational capabilities of the Global Combat Support System have been fielded and can provide capabilities that are at least equivalent to the existing Joint Total Asset Visibility Program.

Management Comments. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) concurred and stated that his office would monitor the Defense Logistics Agency's budget to ensure continued funding. A summary of management comments is in the Finding section of the report, and the complete text is in the Management Comments section.

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Background

This report is the second of two audit reports addressing total asset visibility. This report discusses the effectiveness of the Joint Total Asset Visibility (JTAV) Program. The first report discusses the effectiveness of the DoD Total Asset Visibility Program as it relates to the Government Performance and Results Act Performance Measure 2.3.5, "Visibility and Accessibility of DoD Materiel Assets." See Appendix C for a discussion of definitions and terminology used in this report.

Joint Total Asset Visibility. The JTAV Program is an automated information system that was designed with the intention of providing users with timely and accurate logistics information on the location, movement, status, and identity of Military units, personnel, equipment, and supplies. The JTAV Program does not process and create data; it extracts common logistics data from DoD Component information systems and formats the extractions in standard reports for review and additional processing. The JTAV Program was developed to provide unified and joint task force commanders with asset visibility for Military units within their commands. Users access common databases managed by DoD Components that provide them with opportunities to reassign or redirect theater assets. Depending on data criticality, information stored in the databases is periodically updated through system interfaces.

Joint Total Asset Visibility Requirements. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD[L&MR]) (previously the Deputy Under Secretary of Defense [Logistics]) initiated the JTAV Program as a management planning tool to provide unified commanders with asset visibility for Military units within their commands. The program was developed as a result of the poor control and visibility of assets in-theater during Operations Desert Shield and Desert Storm. In June 1998, the executive agency for the program was transferred from the Army, which served as executive agent since April 1995, to the Defense Logistics Agency (DLA).

The required JTAV functions were outlined in the Defense Total Asset Visibility Implementation Plan (Implementation Plan) published in 1995 by the Under Secretary of Defense for Acquisition, Technology, and Logistics. In January 1996, the JTAV Program was designated an Acquisition Category IAM¹ major automated information system, and in December 2000, the JTAV Operational Requirements Document was developed and approved. The Operational Requirements Document documented the existing JTAV capabilities (completed data links that make up the In-Theater JTAV) as well as the required capabilities that had not been developed and fielded. In addition, the Operational Requirements Document provided performance parameters to satisfy DoD system acquisition regulations; General Accounting Office and Inspector General, DoD, concerns; and DUSD(L&MR) direction. JTAV is in the system sustainment phase of the system development life cycle. System sustainment means that DUSD(L&MR) authorized the JTAV Program Office to

¹Acquisition category IAM is the designation for an automated information system that receives the highest level of acquisition oversight.

continue operating the program at its FY 2000 level of development. Additionally, DUSD(L&MR) budgeted \$43.8 million to sustain links to the existing 77 of 130 targeted data sources through FY 2005. The 77 data links are expected to be replaced by the Global Combat Support System (GCSS) family of systems² in FY 2005.

Global Combat Support System. The GCSS family of systems evolved from the operational concept of “Focused Logistics,”³ as defined in the Joint Vision 2010 warfighting strategy.⁴ GCSS is an initiative for enhancing combat support effectiveness through system and data interoperability that will allow users worldwide access to shared data and applications regardless of their location. The initiative is sponsored by the Directorate for Logistics (J-4), Joint Staff. GCSS will provide DoD Components with a consolidated data source to manage and monitor Military units, personnel, and equipment from mobilization through deployment, employment, operational sustainment, redeployment, and demobilization. The primary objective of GCSS, as stated in the Joint Chiefs of Staff GCSS Strategic Plan Version 2.1, July 15, 2000, “is to provide the joint warfighter (and other authorized users to include Service component commanders, staff and supporting agencies) with a fused and integrated real-time picture of the battlespace across the spectrum of logistics functions enabling timely and informed decisions.” The GCSS family of systems concept will expand the availability of information to the commander, providing access to all data and applications necessary to do the job from any standardized computer workstation.

Objective

The overall audit objective was to evaluate the effectiveness of the JTAV Program. Specifically, the audit evaluated whether JTAV was meeting asset visibility requirements of the unified commands. Our review of the applicable management control program is reported in Inspector General, DoD, Report No. D-2002-016, “Government Performance and Results Act Performance Measure for DoD Total Asset Visibility,” November 21, 2001. See Appendix A for a discussion of the audit scope and methodology and a summary of our review of the management control program. See Appendix B for prior coverage.

²Family of systems is a concept for the development of future automated information systems. The concept is to provide users access to interrelated data from a family of systems through a single application. Family of systems is in contrast to stand-alone systems that must be individually accessed in order to obtain information.

³Focused Logistics is a concept that depends on the shared data capabilities of GCSS to integrate DoD functional capabilities of maintenance, design and engineering, materiel management, finance, transportation, acquisition, and personnel management into a global logistics support system.

⁴Joint Vision 2010 is the joint warfighting strategy for the early 21st century and provides common direction to the Military Departments. Focused Logistics is one of the key elements of Joint Vision 2010. The Chairman of the Joint Chiefs of Staff subsequently revised and reissued Joint Vision 2010 as Joint Vision 2020.

Joint Total Asset Visibility Program Sustainment Funding

The JTAV Program was not fully developed and funded to provide commanders in chief (CINCs) and joint task force commanders with the total asset visibility required. That occurred because the required capabilities for the program to function at full operational capability were not developed before the program was placed into system sustainment. As a result, CINCs and joint task force commanders did not have access through the program to all required data on the location, movement, status, and identity of Military units, personnel, equipment, and supplies. Links to 77 of 130 data sources currently provided by JTAV as well as the undeveloped links to another 53 data sources required by CINCs and joint task force commanders are to be integrated into the GCSS family of systems.

Evolution of the Total Asset Visibility Concept

Visibility of assets has been a concern of the Services for many years. The January 1993 version of DoD Regulation 4140.1-R,⁵ "DoD Materiel Management Regulation," defined total asset visibility as "the capability for both operational and logistics managers to obtain and act on information on the location, quantity, condition, movement, and status of assets throughout the DoD logistics system. TAV [total asset visibility] includes all levels, and all secondary items, both consumable and repairable." Lessons learned from Operations Desert Shield and Desert Storm focused attention on the seriousness of the problem of inadequate asset visibility. During Operations Desert Shield and Desert Storm, the responsiveness of the logistics system was degraded by thousands of duplicate orders being placed for materiel because operational units had inadequate visibility over the status of their requisitions, particularly for critical items. Moreover, an enormous amount of materiel was shipped to the theater but was not readily available to U.S. forces because of poor control and visibility of the assets.

Defense Total Asset Visibility Implementation Plan. Responding to those problems, the Under Secretary of Defense for Acquisition, Technology, and Logistics published the Implementation Plan in November 1995, which outlined the concepts, requirements, and milestones to provide a total asset visibility capability for DoD. The Implementation Plan addressed total asset visibility requirements in four areas: requisition tracking, visibility of assets in-storage or in-process, visibility of assets in-transit, and logistics management within a theater of operations. The Implementation Plan designated JTAV as the program to meet in-theater asset visibility requirements using an advanced concept technology demonstration approach. The advanced concept technology demonstration approach was used to apply maturing technologies to address

⁵Revised May 1998 to include a more detailed explanation of total asset visibility objectives.

specific total asset visibility concerns, demonstrate the capabilities of the new technologies, and test the solutions to the deficiencies. Further, the Implementation Plan acknowledged that JTAV operational concepts would continue to evolve in response to reviews by the unified CINCs, the Services, and the Joint Staff and in response to lessons learned from using the system. See Appendix D for examples of lessons learned from joint force exercises that used JTAV.

Rapid Prototype of JTAV. JTAV was intended to integrate information from dispersed DoD Component automated logistics, medical, and personnel systems into regional repositories that could provide improved asset visibility to deployed forces within each CINC. The rapid prototype development of JTAV focused on linking CINC-associated Service databases to a logistics repository within each CINC and on developing preformatted and ad hoc query capabilities. That prototype was In-Theater JTAV. The JTAV Program Office had planned to eventually integrate all logistics automated information systems that theater CINCs could reasonably expect to use into one global JTAV logistics repository.

In-Theater JTAV. The In-Theater JTAV Program began in April 1995 as an advanced concept technology demonstration initiative. In-theater capabilities were designed to provide a CINC with asset visibility for Military units within the command. JTAV⁶ allows authorized CINC users⁷ to access shared Service databases within the unified command and provides CINC users with opportunities to reassign or redirect theater assets. Depending on data criticality, information stored in the databases is periodically updated through system interfaces. In-Theater JTAV was fielded to all theater CINCs beginning in February 1996 and ending in October 1998. Although In-Theater JTAV has been fielded to all CINCs, it does not provide the full capability because not all of the required data links between JTAV and existing automated data sources were developed. (See Appendix E for a list of data sources.)

Global JTAV. The global JTAV Program was not approved or funded for development. The JTAV Program Office had planned to develop the global JTAV as a way for the JTAV Program to achieve full operational capability. The global JTAV would have provided worldwide logistics visibility to authorized CINC users. Global JTAV was to have tracked in-storage, in-process, and in-transit assets. The global JTAV Program was not approved or funded for development because the GCSS Program was also developing global joint asset visibility capabilities. GCSS uses a new technology approach that will enable warfighters to access near real time information. Global JTAV was to rely on data links to legacy systems that used batch processing⁸ to update records.

⁶Unless otherwise specified, the term JTAV will refer to the in-theater capabilities.

⁷Authorized CINC users include deployment re-supply organizations, operational units, Defense agencies, and their support contractors.

⁸Batch processing involves updating automated records on a cyclical basis as opposed to updating records as changes are made (real time).

JTAV Capabilities

JTAV provided incomplete asset visibility to CINCs. Although the JTAV full operational capability called for visibility of in-storage assets, in-process assets, in-transit assets, and personnel, JTAV provides only partial visibility for in-storage and in-transit assets and for personnel. It provides no visibility for in-process assets and does not track requisitions.

Required Capability. Requirements to achieve JTAV full operational capability were not completely implemented. JTAV was to provide joint visibility of Service, agency, commercial, and coalition in-storage, in-process, in-transit, and personnel assets. JTAV was to include visibility of retail and wholesale stocks; requisitioned, pre-positioned, and war reserve stocks; equipment at the units and equipment within the maintenance process; assets in procurement; in-transit cargo, supplies, bulk fuel, munitions, and equipment; and Military units, personnel, and skills. To meet those requirements, the JTAV Program was expected to have data links with a total of 130 critical DoD Component and coalition automated information systems and databases. Of those 130 links, 77 had been developed, but 53 had not been developed as of June 20, 2001.

Current Capability. JTAV provides no visibility of in-process, in-maintenance (repair), and in-procurement items and provides limited visibility of in-storage assets, in-transit assets, and personnel, as shown in the following table.

JTAV Visibility Status¹					
	<u>Army</u>	<u>Navy</u>	<u>Air Force</u>	<u>Marine Corps</u>	<u>DLA</u>
In-process:					
Maintenance	No	No	No	No	No
Procurement	No	No	No	No	No
In-storage:					
Pre-positioned stocks	Yes	Yes	Yes	Yes	Yes
Unit equipment	Yes	Partial	Yes	Yes	N/A ²
In-transit³	Partial	Partial	Partial	Partial	Partial
Personnel⁴	Partial	Partial	Partial	Partial	N/A
¹ The JTAV Program Office provided this data. We did not validate the data for accuracy.					
² Not applicable.					
³ The Global Transportation Network system provides JTAV the data for in-transit visibility. In-transit assets include both wholesale and retail assets that the Government owns and are between locations. Items in transit from a contractor to the Government are not tracked in the Global Transportation Network system.					
⁴ The Global Transportation Network system provides JTAV the capability to track in-transit personnel. JTAV does not provide visibility of in-place personnel.					

In-storage assets include Military unit equipment and pre-positioned stocks. Although personnel visibility is depicted as partially developed, visibility is based on the capability to track in-transit personnel through the Global Transportation Network system of the U.S. Transportation Command. Personnel visibility was originally planned as a capability to be developed as part of JTAV; however, the Joint Personnel Asset Visibility system is being separately developed by the DoD Human Resources Activity as part of the Defense Integrated Military Human Resources System to provide personnel visibility data to GCSS. Data links to 77 automated information systems and databases had been developed to provide asset visibility data to JTAV. Because both Service and Defense agency systems, and JTAV itself, are batch-processing systems, the data provided through those 77 data links are neither accurate nor timely.

Current Use. JTAV is a valuable tool for use by CINC users even though it does not provide full asset visibility. Because of the sensitivity of Operation Enduring Freedom, we were unable to evaluate the use of JTAV at the unified commands. However, representatives at the U.S. Central Command indicated that JTAV was being used to support logistics planning and execution for Operation Enduring Freedom. U.S. Joint Forces Command representatives indicated that JTAV was the best tool available to provide a joint visibility picture of assets. Further, they stated that JTAV was a valuable tool for what it provides, even though it did not provide them with full asset visibility.

In order to determine user opinions about the usefulness of JTAV, we reviewed all user lessons learned problem reports from joint exercises involving JTAV. Joint exercise participants input their lessons learned problem reports into the automated database, the Joint Universal Lessons Learned System (JULLS). The purpose of JULLS is to improve the warfighting capabilities for the CINCs by taking advantage of the lessons learned from real world operations and exercises. As a result of our review of lessons learned, we concluded that users were using JTAV although it did not provide full asset visibility. Our review of lessons learned reports revealed that JTAV lacked in-storage asset and personnel visibility for the warfighter; lacked accurate and timely source data; and lacked data links to critical data. For example, JULLS number 12347-30447, "Software Package for the Asset Tracking Logistics and Supply System (ATLASS)," June 25, 1998, observed that there was no module in the Asset Tracking Logistics and Supply System to permit interface with the Army supply system.

Program Status

Global JTAV had been proposed as the future direction for the JTAV Program. However, because of funding limitations in DoD and identical information requirements for both global JTAV and GCSS, the Logistics Reform Senior Steering Group, chaired by DUSD(L&MR), stopped all new JTAV software development at the end of FY 2000. Additionally, the Steering Group placed the JTAV Program in the system sustainment phase of acquisition development. The JTAV Program Office was directed to maintain the JTAV at the FY 2000

baseline capability. As a result, required JTAV capabilities were not fully developed to provide CINCs with the required data on the location, movement, status, and identity of Military units, personnel, equipment, and supplies.

Sustainment Decision. To support the decision of the Logistics Reform Senior Steering Group, funding was requested through FY 2005 to sustain the JTAV at the FY 2000 baseline capability. The group did not recommend funding the development of the remaining 53 data links or the global JTAV capabilities. One of the factors for that recommendation was that GCSS uses a new technology approach that will enable warfighters to access near real time information whereas global JTAV was to rely on data links to legacy systems that used batch processing to update records. In order to avoid duplicating functions that would be included in GCSS, the development of the global JTAV and the development of data links for the remaining 53 targeted Component-level automated systems and databases were discontinued.

Program Budget Decision. In December 1999, the Under Secretary of Defense (Comptroller) approved Program Budget Decision 070C, programming \$43.8 million in system sustainment funding for JTAV. The budget decision provided funding for the JTAV Program for FY 2001 through FY 2005.

Execution Guidance. On March 17, 2000, the Principal Assistant DUSD(L&MR) issued guidance relating to the funding programmed in Program Budget Decision 070C. Key elements of the execution guidance required the JTAV Program Office to:

- migrate JTAV architecture to the GCSS data environment during FY 2000, coordinating all data distribution engineering activities with the Defense Information Systems Agency;
- pursue additional data elements for the FY 2000 baseline only with the approval of the Logistics Information Board⁹ and only after sources for all current data elements are made available;
- limit software and hardware maintenance in the field to that necessary to stabilize the JTAV baseline capability;
- discontinue all new software development at the end of FY 2000; and
- limit JTAV software expenditures in FY 2001 and beyond to changes necessary to ensure the correct execution of requirements documented in the FY 2000 baseline.

⁹The Logistics Information Board provides a forum for senior managers to review and resolve issues regarding information requirements associated with logistics policies, procedures, and business practices.

GCSS Program Capabilities. Although JTAV did not provide the full spectrum of visibility desired by the CINCs and joint force commanders, access to the data currently provided by JTAV as well as access to other undeveloped data sources as required by CINCs are to be integrated into the GCSS family of systems. As GCSS is being developed for future implementation, joint asset visibility functionality will be included in the logistics module of GCSS. That module is envisioned to be an enhanced version of the FY 2000 baseline capabilities provided by the JTAV Program. The capability for joint asset visibility is a cornerstone of the GCSS family of systems concept. GCSS is to provide the joint warfighter with a single, end-to-end capability to manage Military units, personnel, and equipment from mobilization through deployment, operational sustainment, redeployment, and demobilization. GCSS will present the warfighter an integrated picture of logistics and eliminate the need to individually access multiple legacy systems.

Although GCSS is scheduled to be fielded in FY 2004, it might not be fully operational at that time. Funds for JTAV were programmed through FY 2005 in order to allow for a period of parallel operation of the two systems. The period of parallel operation is designed to ensure that GCSS capabilities are functional and can provide at least the same capabilities provided by JTAV. The operational priorities in support of Operation Enduring Freedom clearly demonstrate the need for a joint logistics management tool and the imperativeness that JTAV capabilities be sustained until GCSS is fielded and can provide those capabilities.

Conclusion

The JTAV Program was not fully developed and funded at the level necessary to provide CINCs with the total asset visibility required. As a result, CINCs did not have access through JTAV to all required data on the location, movement, status, and identity of Military units, personnel, equipment, and supplies. Nevertheless, JTAV users stated that the program was a useful tool to support logistics planning, which was evidenced by the use of JTAV by the CINCs as a planning tool in support of Operation Enduring Freedom.

Recommendation and Management Comments

We recommend that the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) ensure that the Joint Total Asset Visibility Program is funded until sufficient operational capabilities of the Global Combat Support System have been fielded and can provide capabilities that are at least equivalent to the existing Joint Total Asset Visibility Program.

Management Comments. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) concurred and stated that his office would continue to monitor the Defense Logistics Agency's budget to ensure continued funding to sustain the current program until equivalent capabilities are fielded.

Appendix A. Audit Process

Scope and Methodology

Work Performed. We reviewed DoD guidance; lessons learned problem reports; prior audit reports, including the status of report recommendations; program funding documentation; and system quarterly reports related to JTAV. The documents we reviewed were dated from January 1993 through November 2001. To accomplish the JTAV audit objective, we:

- interviewed officials and obtained documentation from the JTAV Program Office; the office of DUSD(L&MR); the Directorate for Logistics (J-4), Joint Staff; and JTAV users and operators at the U.S. Joint Forces Command and the U.S. Central Command;
- reviewed JULLS problem reports dated from March through August 1998; and
- reviewed the overall implementation of JTAV, JTAV sustainment funding documentation dated December 1999, and JTAV usage data for April through June 2001.

Limitations to Scope. The audit scope was limited because we did not test the operational use of JTAV due to restrictions on overseas travel and the reduced availability of JTAV users at the unified commands following the terrorist attacks of September 11, 2001. Additionally, we did not validate the accuracy of the information about targeted JTAV data links presented in the table titled "JTAV Visibility Status" and in Appendix E.

High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Systems Modernization high-risk area.

Use of Computer-Processed Data. We did not rely on computer-processed data to develop conclusions in this report.

Audit Type, Dates, and Standards. We performed this program audit from September through November 2001 in accordance with generally accepted government auditing standards.

Contacts During the Audit. We contacted individuals and organizations within DoD. Further details are available upon request.

Management Control Program Review

We did not test JTAV management controls in this audit. This report is the second report in a series. In the first report, Inspector General, DoD, Report No. D-2002-016, "Government Performance and Results Act Performance Measure for DoD Total Asset Visibility," November 21, 2001, we identified and discussed a management control weakness as defined by DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996. The report states that the DUSD(L&MR) oversight of total asset visibility reporting by the Components was inadequate to ensure that total asset visibility data reported by the DoD Components were current, accurate, and complete. DUSD(L&MR) did not issue written guidance on the types of assets to be reported by the Components. Additionally, DUSD(L&MR) did not adequately verify the asset data that the Components reported.

Appendix C of that report also discussed the reporting of DoD total asset visibility as a systemic control weakness in the annual statements of assurance published by DoD, the Office of the Secretary of Defense, and the Components. The TAV systemic management control weakness reported in the FY 1999 DoD Annual Statement of Assurance* defines the total asset visibility problem as the lack of the capability within DoD to share logistics information concerning the location, condition, quantity, and availability of assets within and between the Components and the unified commands. The Statement of Assurance further states, "The components have developed their own systems which give them an asset visibility capability within their own respective organizations [which] must now be integrated and voids satisfied . . ." However, all the actions and milestones established to correct the systemic control weakness address asset visibility in terms of the JTAV Program. The JTAV Program addresses asset visibility for the unified commands rather than the Components. None of the milestones address the stated problem of integrating the Component logistics systems. The FY 2000 Statement of Assurance issued by the Office of the Secretary of Defense also identifies total asset visibility as a systemic control weakness. In addition, the Army, the Navy, and the Air Force report a management control weakness related to total asset visibility or total asset visibility-related issues in their individual Statements of Assurance for FY 2000.

*The FY 2000 DoD Annual Statement of Assurance was issued in October 2001, subsequent to the completion of that audit. In keeping with prior DoD Annual Statements, the FY 2000 Annual Statement of Assurance identified total asset visibility as a systemic control weakness.

Appendix B. Prior Coverage

During the last 5 years, the General Accounting Office issued one report and the Inspector General, DoD, issued six reports addressing total asset visibility in DoD. Unrestricted General Accounting Office reports can be accessed over the Internet at <http://www.gao.gov>. Unrestricted Inspector General, DoD, reports can be accessed at <http://www.dodig.osd.mil/audit/reports>.

General Accounting Office

General Accounting Office Report No. GAO/NSIAD-99-40 (OSD Case No. 1739), "Defense Inventory: DoD Could Improve Total Asset Visibility Initiative With Results Act Framework," April 12, 1999

Inspector General, DoD

Inspector General, DoD, Report No. D-2002-016, "Government Performance and Results Act Performance Measure for DoD Total Asset Visibility," November 21, 2001

Inspector General, DoD, Report No. D-2000-122, "Information Assurance in the Advanced Logistics Program," May 12, 2000

Inspector General, DoD, Report No. D-2000-055, "Acquisition Management of the Joint Total Asset Visibility System," December 14, 1999

Inspector General, DoD, Report No. 00-009, "Information Assurance for the Joint Total Asset Visibility System at the U.S. Pacific Command (U)," October 14, 1999

Inspector General, DoD, Report No. 00-005, "Information Assurance for the Joint Total Asset Visibility System (U)," October 8, 1999

Inspector General, DoD, Report No. 99-159, "Interservice Availability of Multiservice Used Items," May 14, 1999

Appendix C. Definitions and Terms

This appendix defines some of the terms used in this report.

Advanced Concept Technology Demonstration. An initiative to accelerate the transition of maturing technologies that have a potential to rapidly provide improved military capabilities or technological solutions to specific emerging operational challenges. An advanced concept technology demonstration is a short-term program that seeks to provide a militarily significant residual capability at the end of the demonstration.

Asset. Primary or secondary materiel, to include materiel on hand and due in.

Automated Information System. An assembly of computer hardware, software, data, and telecommunications, or any combination of those elements, configured to accomplish specific information-handling operations, such as collecting, displaying, processing, and transmitting information.

Cargo. Any materiel or item of supply that is in transit.

Component. A Military Department or Defense agency.

Consumable Item. An item of supply that is normally expended or used up beyond recovery in the use for which it is designed or intended.

Critical Item. An essential item that is in short supply or expected to be in short supply for an extended period.

Demobilization. The process of transitioning a conflict or wartime military establishment to a peacetime configuration while maintaining national security.

Deployment. The relocation of forces to areas of operation.

End Item. A final combination of end products, component parts, and materiel that is ready for its intended use, such as a ship, tank, or aircraft.

Equipment. In logistics, all nonconsumable items needed to outfit or equip an individual or organization.

Executive Agent. A term used in DoD and Service regulations to indicate a delegation of authority by a superior to a subordinate to act on behalf of the superior.

Global Combat Support System. Supplies commanders at the CINC and joint task force level with read-only access to comprehensive combat support information from various databases and portrays combat support status.

Global Transportation Network. An automated network of the U.S. Transportation Command that provides integrated transportation data and systems necessary to accomplish global transportation planning, command and control, and in-transit visibility across the range of military operations.

Initial Operational Capability. The first attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics, and which is manned or operated by an adequately trained, equipped, and supported Military unit or force.

In-Process Assets. Assets on order from DoD vendors and not yet shipped, assets in repair at depot-level organic or commercial repair facilities, and assets in repair at intermediate repair facilities.

In-Storage Assets. Assets in storage at retail consumer sites, at retail intermediate storage sites, at disposal sites, or in wholesale inventories, to include ashore and afloat pre-positioned assets.

In-Transit Assets. Assets that are between storage locations, either wholesale or retail; assets shipped from vendors after acceptance by the Government but not yet received by the inventory manager; assets temporarily in use or on loan with contractors or schools; or assets that cannot be otherwise categorized.

In-Transit Visibility. The ability to track the identity, status, and location of DoD cargo, passengers, medical patients, and personal property from origin to the destination designated by the CINCs, the Services, or Defense agencies during peace, contingencies, and war.

Inventory. Materiel that is titled to the Government, held for sale or issue, held for repair, or held pending transfer to disposal.

Joint Task Force. A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a sub-unified commander, or an existing joint task force commander.

Legacy System. An existing automated information system that performs the same functions that a future replacement system will perform.

Logistics Reform Senior Steering Group. A committee composed of DoD senior executives and managers that advises the Office of the Secretary of Defense on the development and management of functional and technical strategies to modernize and maintain the logistics infrastructure that supports the operational missions of the theater CINCs, the Services, and the Defense agencies. The Logistics Reform Senior Steering Group provides oversight of requirements that support centralized planning of logistics requirements.

Materiel. All items (including end items and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities.

Materiel Management. Continuing actions relating to planning, organizing, directing, coordinating, controlling, and evaluating the application of resources to ensure the effective and economical support of military forces. Materiel management includes provisioning and cataloging materiel as well as requirements determination, acquisition, distribution, maintenance, and disposal of materiel.

Military Departments. The Departments of the Army, the Navy, and the Air Force.

Principal Items. End items or a replacement assembly of such importance to operational readiness that management techniques require centralized individual item management through the supply system to include items stocked at the depot level, base level, and unit level.

Program Budget Decision. Secretary of Defense decision documents that affirm or change dollar amounts or personnel allowances in the Services' budget estimate submissions.

Redeployment. The process of evacuating, moving, or returning units, non-unit cargo, and non-unit personnel from a theater of operations to another theater of operations.

Requisition. An order for materiel initiated by an established, authorized organization that is transmitted to a supply source organization assigned management responsibility for a category of materiel.

Secondary Items. Consumable and repairable items other than principal items.

Sustainment (Operational). The provision of personnel, logistics, and other support required for maintaining and prolonging operations or combating until successful accomplishment of the mission.

Sustainment (System). The provision of personnel, logistics, and other support required for maintaining the readiness and operational capability of deployed information systems. The scope of support varies among information systems but includes supply, maintenance, transportation, engineering, data management, configuration management, personnel, training, protection of critical program information, and environmental management functions.

System Development Life Cycle. The process of developing information systems through investigation, analysis, design, implementation, and maintenance.

Theater. A geographical area outside the continental United States for which a commander of a combatant command has been assigned responsibility.

Unified Command. A command with a broad continuing mission under a single commander and composed of significant assigned Components of two or more Military Departments.

Appendix D. Asset Visibility Lessons Learned

The following examples of lessons learned that relate to the use of JTAV during joint exercises were abstracted from JULLS.

JULLS Title, Number, and Date	Observation	Lessons Learned	Recommendation
<p>Logistics Automation and JTAV</p> <p>Log No. 88290-22884</p> <p>Dated: April 15, 1998</p>	<p>JTAV was not used to assist movement or monitoring supplies/requisitions. Logistics automation is needed both in the continental United States and in the area of responsibility.</p>	<p>The JTAV data must be of the best quality possible. If volume increases, as expected during a prolonged buildup or during sustainment, the sheer load will overwhelm personnel and movement requirements. Although that was not apparent during this smaller operation, it is obvious that with a small increase in operations the problems would snowball. Many actions were handled via e-mail or telephone. That provided a quick response, but if volume had been massive the process would have failed.</p>	<p>That JTAV data be improved and the Services and agencies that provide data be better funded to improve the process, to include training at the legacy level. That the GCSS be moved up in development priority and some of the major subordinate applications be made available to the unified commands and Components as soon as possible.</p>
<p>In-Transit Visibility</p> <p>Log No. 34719-06218</p> <p>Dated: Aug 19, 1998</p>	<p>In-transit visibility systems did not provide deployed joint task forces with sufficient identification in order to support preparations for reception of specific units of incoming airlift cargo.</p>	<p>The work-around solution was to fax the available manifest data from aerial port of embarkation to aerial port of debarkation. It was an incomplete solution and did not use the joint in-transit visibility system capabilities. Efficient data feeds and functional system interfaces for joint in-transit assets are basic to effective joint in-transit visibility.</p>	<p>a. Push for increased funding for automated identification technology to support joint task force deployments and champion initiatives to improve interfaces between Service Component and joint in-transit visibility systems. (In-transit visibility training must emphasize automated identification technology and the importance of timely data input at air and seaports to the functioning and value of joint Service systems).</p>

JULLS Title, Number, and Date	Observation	Lessons Learned	Recommendation
Log No. 34719-06218 (continued)			b. Develop the expertise of staff elements and joint task force personnel to operate and to appreciate the practical utility of employing joint tracking systems.
Lack of Joint Personnel Accounting Automation Systems Log No. 41156-19877 Dated: April 10, 1998	Operation Desert Thunder revealed problems with accounting for, tracking, and obtaining information on personnel deployed in a joint task force. Every Service has its own system to account for personnel.	Personnel accountability must be established early on during the deployment with supporting real time automation systems.	That a unified command take the lead in getting the Joint Personnel Asset Visibility system for testing/initial fielding within the command.
Nuclear/Biological/Chemical Equipment Visibility Log No. 32043-89656 Dated: March 18, 1998	The Joint Staff does not have visibility of real time information into the stockage levels of critical assets.	During a time of crisis, there are times when information must be obtained and verified from multiple sources in order to portray a total picture. However, the Joint Staff should have access to information through an automated database such as the Army Total Asset Visibility System to obtain net asset position of critical assets.	Provide the Directorate for Logistics (J-4), Joint Staff, access to the Army Total Asset Visibility System in order to be able to query detailed information from multiple databases on the net asset position of critical assets.

JULLS Title, Number, and Date	Observation	Lessons Learned	Recommendation
<p>Software Package for the Asset Tracking Logistics and Supply System (ATLASS)</p> <p>Log No. 12347-30447</p> <p>Dated: June 25, 1998</p>	<p>There was no module in the Asset Tracking Logistics and Supply System to permit interface with the Army supply system.</p>	<p>An Army unit identification code had to be created for the Marine Corps to order supplies from the Army.</p>	<p>That a Unit Line Logistics System template be added to the new phase of the Asset Tracking Logistics and Supply System that is being upgraded to interface with the Army supply system. That would eliminate the manual process of filling out handwritten forms. Identify common item support in the Asset Tracking Logistics and Supply System. The template would allow electronic interface with the Army supply system.</p>

Appendix E. Targeted Joint Total Asset Visibility Data Links

This appendix was developed from information provided by the JTAV Program Office. We did not validate the information for accuracy. Out of a total of 130 data links targeted for development, only 77 were developed.

	<u>Developed</u>	<u>Not Developed</u>
Air Force Data Sources		
Air Force Equipment Management System	X	
Combat Ammunition System	X	
Core Air Force Maintenance System		X
Depot Standard System Air Force	X	
Pipeline Tracking Analysis and Metric System		X
Reliability and Maintainability Information System		X
Standard Base Supply System	X	
Stock Control System		X
Army Data Sources		
Army Total Asset Visibility (Logistics Integrated Database)	X	
Army War Reserves Distribution System – Army Preposition Stocks	X	
Commodity Command Standard System	X	
Logistics Intelligence File		X
Material Returns Database		X
Reserve Component Automation System		X
Standard Army Ammunition System – Modernization	X	
Standard Army Maintenance System		X
Standard Army Retail Supply System	X	
Standard Property Book – Redesign	X	
Theater Army Medical Management Information System	X	
Work Order Logistics File		X
Worldwide Ammunition Reporting System	X	
Automated Identification Technology Data Sources		
Automated Manifest Data Source	X	
Defense Tracking, Reporting and Control System	X	
Radio Frequency Continental United States	X	
Radio Frequency Europe	X	
Radio Frequency Korea	X	

	<u>Developed</u>	<u>Not Developed</u>
Coalition Data Sources		
Asian		X
Canada		X
Foreign Military Sales		X
France		X
Israel		X
Japan		X
Kuwait		X
Mexico		X
North Atlantic Treaty Organization		X
Organization of African States		X
Qatar		X
Saudi Arabia		X
South East Asia Treaty Organization		X
United Arab Emirates		X
United Kingdom		X
Commercial Data Sources		
Direct Vendor Delivery		X
DoD Contract Asset Visibility		X
Defense Advanced Research Project Agency Data Sources		
Advanced Logistics Project	X	
Joint Logistics Advanced Concept Technical Demonstration	X	
Defense Information Systems Agency Data Source		
Common Operating Picture Combat Support Enabled	X	
Defense Logistics Agency Data Sources		
Defense Automated Addressing System		
Logistics Operational Tracking System	X	
Defense Automatic Addressing System Center	X	
Defense Fuels Automated Management System	X	
Defense Integrated Subsistence Management System	X	
Defense Reutilization Materials System	X	
Depot Standard System Air Force	X	
Fast Food	X	
Federal Logistics Information System	X	
Folder		X
Fuel Automated System		X
Integrated Consumable Item Support	X	
Standard Automated Materiel Management System	X	
Standard Procurement System/Shared Data Warehouse		X

	<u>Developed</u>	<u>Not Developed</u>
Joint Medical Automated Repository Data Sources		
Defense Blood Standard System	X	
Defense Medical Logistics Standard System	X	
Fleet Inventory Management and Reporting System	X	
Medical Logistics	X	
Medical Supply Integrated List System	X	
NAC (Army internal medical inventory system)	X	
NAY (Army pre-positioned medical stocks)	X	
Theater Army Medical Management Information System – Medical Assemblage Management	X	
Theater Army Medical Management Information System – Medical Supply	X	
Universal Data Repository	X	
Vendor Managed Items	X	
Joint Personnel Asset Visibility Data Sources		
Air Force Personnel Tempo		X
Army Personnel Tempo		X
Cargo Routing Information Management/Global Transportation Network		X
Common Access Card/Global Air Transportation Execution System		X
Defense Clearance and Investigation Index/Joint Personnel Accreditation System	X	
Defense Eligibility and Enrollment Reporting System	X	
Joint Operation Planning and Execution System/ Force Requirements Generator		X
Marine Corps Personnel Tempo	X	
Navy Personnel Tempo		X
Unit Identification Code	X	
Marine Corps Data Sources		
Advanced Traceability and Control System		X
Asset Tracking Logistics and Supply System (version II)		X
Maintenance Resource Planning (version II)		X
Marine Corps Automated Ammunition and Requisitioning System (version II)	X	
Marine Corps Integrated Maintenance Management System		X
Maritime Prepositioning Ships Blount Island Command Stock Control System	X	X
Supported Activity Supply System	X	

	<u>Developed</u>	<u>Not Developed</u>
Military Sealift Command Data Sources		
Afloat Residual Asset Management System		X
Configuration Management Information Systems		X
Conventional Ammunition Integration Management System	X	
Navy Energy Usage Reporting System		X
Shipboard Non-Tactical Automation Program/ Shipboard Uniform Automatic Data Processing System/ Fleet Inventory Management and Reporting System		X
Supply Management		X
Naval Data Sources		
Advanced Tracibility and Control System		X
Aircraft Maintenance Material Reporting System		X
Cargo Routing Information Management		X
Construction Automotive and Special Equipment Management Information System	X	
Conventional Ammunition Integrated Management System	X	
Fleet Inventory Management and Reporting System	X	
Individual Material Reporting System		X
Naval Aviation Logistics Data Analysis II		X
Uniformed Automated Data Processing System Revision II	X	
U.S. Coast Guard Data Sources		
Aviation Logistics Management Information System		X
Configuration Management Plus		X
Conventional Ammunition Integrated Management System	X	
Supply Computer Replacement Center	X	
U.S. Transportation Command/ Global Transportation Network Data Sources		
Air Mobility Command Development Analysis System	X	
Automated Manifest System	X	
Broker	X	
Cargo Movement Operations System	X	
Consolidated Air Mobility Planning System	X	
Continental US Freight Management System	X	
Defense Automatic Addressing System	X	
Defense Transportation Tracking System	X	
Global Air Transportation Execution System	X	
Global Command and Control System - Command and Control	X	

	<u>Developed</u>	<u>Not Developed</u>
U.S. Transportation Command/ Global Transportation Network Data Sources (cont'd)		
Global Decision Support Tools	X	
Groups Operational Passenger System	X	
Integrated Booking System	X	
Integrated Command, Control and Communication Systems	X	
Joint Air Logistics Information System	X	
Logistics Automated Information System/Passengers	X	
Munitions Transportation Management System		X
Radio Frequency Continental United States	X	
Radio Frequency Europe	X	
Radio Frequency Korea	X	
Transportation Coordinator Automated Command and Control System	X	
Transportation Coordinator Automated Information Manifest System II	X	
Worldwide Port System	X	

Appendix F. Report Distribution

Office of the Secretary of the Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics
Deputy Under Secretary of Defense (Logistics and Materiel Readiness)
Under Secretary of Defense (Comptroller)
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)

Joint Staff

Director for Logistics (J-4)

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Naval Inspector General
Auditor General, Department of the Navy

Department of the Air Force

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Unified Commands

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Commander in Chief, U.S. Joint Forces Command
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Commander in Chief, U.S. Central Command
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Senate Subcommittee on Defense, Committee on Appropriations

Senate Committee on Armed Services

Senate Committee on Governmental Affairs

House Committee on Appropriations

House Subcommittee on Defense, Committee on Appropriations

House Committee on Armed Services

House Committee on Government Reform

House Subcommittee on Government Efficiency, Financial Management, and Intergovernmental Relations, Committee on Government Reform

House Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform

House Subcommittee on Technology and Procurement Policy, Committee on Government Reform

Deputy Under Secretary of Defense (Logistics and Materiel Readiness) Comments



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

FEB 13 2002

MEMORANDUM FOR THE DOD INSPECTOR GENERAL
(ATTN: DIRECTOR, READINESS AND LOGISTICS SUPPORT
DIRECTORATE)

THROUGH: Director, Acquisition Resources Analysis *RA Memo 2/13/02*

SUBJECT: Response to Draft Audit Report on Effectiveness of the Joint Total
Asset Visibility Program (Project No. D2001LD-0078.001)

This is in response to your recent memorandum on the above subject. Your memorandum requested management comments on the recommendations in the proposed audit. Attached are our comments to your recommendation to the Deputy Under Secretary of Defense (Logistics and Materiel Readiness).

Thank you for the opportunity to comment on the draft report. Please contact Ms. Kathy Smith, ADUSD (L&MR/SCT), 703-697-9196 if you have any questions.

A handwritten signature in black ink, appearing to read "Allen W. Beckett".

Allen W. Beckett
Principal Assistant

Attachment
As stated



**COMMENTS ON DRAFT AUDIT REPORT ON EFFECTIVENESS OF THE
JOINT TOTAL ASSET VISIBILITY PROGRAM
(PROJECT NO. D2001LD-0078.001)**

Recommendation. Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD(L&MR)) ensure that the Joint Total Asset Visibility Program is funded until sufficient operational capabilities of Global Combat Support System have been fielded and can provide capabilities that are at least equivalent to the existing Joint Total Asset Visibility Program.

DoD Response: The DUSD(L&MR) recognizes the value of an asset visibility tool to the Commander-in-Chief users and concurs with the recommendation to ensure continued funding necessary to sustain the current program until equivalent capabilities are fielded. To ensure this, the DUSD(L&MR) office will continue to monitor the Defense Logistics Agency's budget as well as keep abreast of emerging capabilities as they come available.

Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector General, DoD, who contributed to the report are listed below.

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