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DOD BUSINESS TRANSFORMATION

Preliminary Observations on the Defense Travel System

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Accountability * Integrity * Reliability

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Highlights

Highlights of GAO-05-998T, a testimony to the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

The Department of Defense (DOD) has been working to develop and implement a standard end-to-end travel system for the last 10 years. The Subcommittee has been at the forefront in addressing issues related to DOD's travel management practices with the hearing today being another example of its oversight efforts. Because of widespread congressional interest in the Defense Travel System (DTS), GAO's current audit is being performed under the statutory authority given to the Comptroller General of the United States. GAO's testimony is based on the preliminary results of that audit and focuses on the following three key questions: (1) Has DOD effectively tested key functionality in DTS related to flights and fare information? (2) Will DTS correct the problems related to DOD travel previously identified by GAO and others? and (3) What challenges remain in ensuring that DTS achieves its goal as DOD's standard travel system?

In addition, the Subcommittee asked that GAO provide a description of the intellectual property rights of DOD in DTS. This issue is addressed in appendix. I.

Subsequent to this testimony, GAO plans to issue a report that will include recommendations to the Secretary of Defense aimed at improving the department's implementation of DTS.

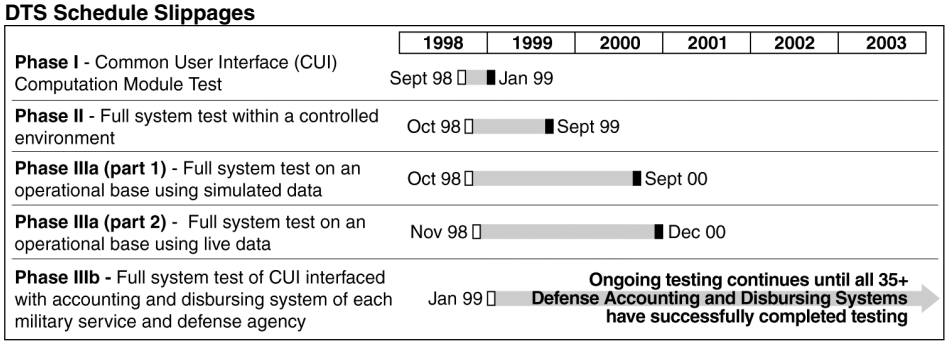
www.gao.gov/cgi-bin/getrpt?GAO-05-998T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact McCoy Williams at (202) 512-6906 or Keith Rhodes at (202) 512-6412.

What GAO Found

DTS development and implementation have been problematic, especially in the area of testing key functionality to ensure that the system will perform as intended. Consequently, critical flaws have been identified after deployment, resulting in significant schedule slippages as shown below.

DTS Schedule Slippages



Source: GAO.

GAO's recent analysis of selected requirements disclosed that system testing was ineffective in ensuring that the promised capability has been delivered as intended. For example, GAO found that DOD did not have reasonable assurance that DTS properly display flight and airfare information. This problem was not detected prior to deployment, since DOD failed to properly test system interfaces. Accordingly, DOD travelers might not have received accurate information which, could have resulted in higher travel costs.

DTS has corrected some of the previously reported travel problems but others remain. Specifically, DTS has resolved the problem related to duplicate payment for airline tickets purchased with the centrally billed accounts. However, problems remain related to improper premium class travel, unused tickets that are not refunded, and accuracy of traveler's claims. These remaining problems cannot be resolved solely within DTS and will take departmentwide action to address.

GAO identified two key challenges facing DTS in becoming DOD's standard travel system: (1) developing needed interfaces and (2) underutilization of DTS at sites where it has been deployed. While DTS has developed 32 interfaces with various DOD business systems, it will have to develop interfaces with at least 17 additional systems—not a trivial task. Furthermore, the continued use of the existing legacy travel systems results in underutilization of DTS and affects the savings that DTS was planned to achieve. Components incur additional costs by operating two systems with the same function—the legacy system and DTS—and by paying higher processing fees for manual travel vouchers as opposed to processing the travel vouchers electronically through DTS.

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to discuss our preliminary results of the Department of Defense (DOD) efforts to develop and implement a new standard end-to-end travel system.[1] Over 10 years ago, the DOD Task Force to Reengineer Travel issued a report that pinpointed three principal causes for DOD's inefficient travel system: (1) travel policies and programs were focused on compliance with rigid rules rather than mission performance, (2) travel practices did not keep pace with travel management improvements implemented by industry, and (3) the travel system were not integrated. To address these concerns, DOD established the Project Management Office—Defense Travel System (PMO-DTS) to acquire travel services that would be used DOD-wide. This Subcommittee has been at the forefront in addressing issues related to DOD's travel management practices. Continued oversight activities such as this hearing can help ensure that DOD achieves its long-standing goal of successfully implementing a standard travel management system. We look forward to continuing to work with the Subcommittee.

Because of widespread congressional interest in the Defense Travel System (DTS), our current audit is being performed under the statutory authority given to the Comptroller General of the United States. Our testimony today is based on the preliminary results of that audit. Although we discussed the preliminary findings included in our testimony with DOD officials, we have not yet provided the department with our draft report for comment. Subsequent to this testimony, we plan to issue a report that will include recommendations to the Secretary of Defense aimed at improving the department's management and oversight of DTS.

[1] DOD expects DTS to perform all functions related to travel or ensure that other systems are provided with adequate information to provide this functionality. For example, obligating funds associated with travel is a necessary function and DTS is expected to (1) make sure that adequate funds are available before authorizing travel either through information contained in its system or by obtaining the necessary information from another system, (2) obligate funds through issuance of approved travel orders, and (3) provide DOD's financial management systems with the necessary information so that those systems can record the obligation. Since DTS is required to ensure that all travel related functionality is properly performed, DOD commonly refers to DTS as an "end-to-end system."

Today, our testimony will focus on the following three key questions:

- Has DOD effectively tested key DTS functionality related to flights and fare information?
- Will DTS correct the internal control weaknesses and improper payments previously identified?
- What challenges remain in ensuring that DTS achieves its goal as DOD's standard travel system?

In addition, for the hearing today, you asked us for a description of DOD's property rights in DTS. We address this issue in appendix I.

To address the first key question, we reviewed two key DTS flight-related requirements and the related testing to determine if the desired functionality was effectively implemented. To address the second key question, we analyzed (1) our prior reports and testimonies, (2) selected Defense Finance and Accounting Service (DFAS) reports, and (3) DOD congressional testimonies to identify the specific problems that DTS was intended to resolve. We also randomly selected for detailed review travel vouchers and transactions drawn from the first quarter of fiscal year 2005 (October-December 2004) to determine if DTS calculation problems identified by DFAS had been resolved.[2] To address the third key question, we discussed with the PMO-DTS the deployment of DTS as it relates to the transmission of data such as finance and accounting information, between DTS and the other systems belonging to DOD, as well as the private sector.

We also analyzed DOD data related to the utilization of DTS throughout DOD. We determined that the DOD data we used as the basis for the preliminary evaluation in the testimony were sufficiently reliable by (1) performing electronic testing of required data elements, (2) reviewing existing information about the data and the system that produced them, and (3) interviewing agency officials knowledgeable about the data. We performed our work from October 2004 through September 2005 in accordance with U.S. generally accepted government auditing standards. Details of our scope and methodology are included in appendix II.

Summary

DTS's development and implementation have been problematic, especially in the area of requirements and testing key functionality to ensure that the

[2] Defense Finance and Accounting Service, Statistical Operations and Review Branch, *Military and Civilian Pay Services Defense Travel System: Results of Post Payment Reviews, 1st Quarter, FY 2004* (Kansas City, Mo.: undated).

system would perform as intended. Thus, it is not surprising that critical flaws have been identified after deployment, resulting in significant schedule slippages. As originally envisioned, the initial deployment of DTS was to commence within 120 days after the effective date of contract award in September 1998, with complete deployment to approximately 11,000 locations by April 2002. However, that date has been changed to September 2006—a slippage of over 4 years. Our recent analysis of selected requirements for one key area disclosed that system testing was ineffective in ensuring that the promised capability was delivered as intended. For example, we found that DOD did not have reasonable assurance that flight information was properly displayed.[3] This problem was not detected prior to deployment since DOD failed to properly test the system interfaces through which the data is accessed. Accordingly, DOD travelers might not have received accurate information on available flights, which could have resulted in higher travel costs. PMO-DTS officials have acknowledged that the problem has existed since the implementation of the system. PMO-DTS officials have indicated that the problem was corrected in an August 2005 release of the software. We are in the process of following up to determine whether the corrective actions have resolved the problem and will include the results in our report that will be issued subsequent to the testimony.

DTS has corrected some of the previously reported internal control weaknesses, while others remain. We previously reported that as a result of a breakdown in internal controls and a weak control environment, DOD has (1) paid for improper premium class travel, (2) failed to redeem unused airline tickets, and (3) paid twice for the same airline ticket when using the centrally billed accounts (CBA). [4] In commenting on our reports and in congressional testimony, the department has stated that DTS, to varying degrees, will help resolve these problems. In addition to our audit related issues, DFAS's Kansas City Statistical Operations and Review

[3] Flight information includes items such as departure and arrival times, airports, and the cost of the airline ticket.

[4] GAO, *Travel Cards: Internal Control Weaknesses at DOD Led to Improper Use of First and Business Class Travel*, GAO-04-88 (Washington, D.C.: Oct. 24, 2003); GAO, *Travel Cards: Internal Control Weaknesses at DOD Led to Improper Use of First and Business Class Travel*, GAO-04-229T (Washington, D.C.: Nov. 6, 2003); GAO, *DOD Travel Cards: Control Weaknesses Led to Millions of Dollars Wasted on Unused Airline Tickets*, GAO-04-398 (Washington, D.C.: Mar. 31, 2004); GAO, *DOD Travel Cards: Control Weaknesses Led to Millions of Dollars of Improper Payments*, GAO-04-576 (Washington, D.C.: June 9, 2004); GAO, *DOD Travel Cards: Control Weaknesses Led to Millions in Fraud, Waste, and Improper Payments*, GAO-04-825T (Washington, D.C.: June 9, 2004).

Branch has previously reported inaccuracies with DTS's travel payments of airfare, lodging, meals, and incidental expenses.[5] First, although DOD has taken numerous actions to improve existing guidance and controls related to premium class travel, including system changes in DTS, our preliminary results indicate that unauthorized premium class travel continues. This continuing problem is not the fault of DTS but rather the lack of adherence to departmental policy. Second, as currently designed, DTS cannot determine whether a traveler has not used all or a portion of an airline ticket, unless the traveler requests that the commercial travel office (CTO) process a credit for the unused portion of the airline ticket. To address the problem, the department now requires certain CTOs to run unused ticket reports that identify tickets that were not used within a specified time period, usually 30 days past the trip date. Third, in regard to duplicate payment for the same ticket, we have observed that DTS is designed to ensure that tickets purchased through the CBA cannot be claimed on the individual's travel voucher as a reimbursement to the traveler, thus eliminating this problem.

Finally, we randomly sampled 170 travel vouchers[6] for the period October 1, 2004, to December 31, 2004,[7] to ascertain if the problems previously reported by DFAS had been resolved. From our preliminary results for the attributes tested, we found that DTS calculated the lodging and meal reimbursements correctly based upon information provided by the traveler. However, we identified instances in which human error, either by the travelers or the authorizing officials (AO), resulted in the amount of reimbursement to the traveler being questionable. For example, the department's policy prescribes the use of a compact car as the norm, unless otherwise authorized by the AO. We found eight cases in which the traveler rented a vehicle other than a compact without the proper authorization. We found no evidence that the AOs questioned why departmental policy was not followed.

[5] Defense Finance and Accounting Service, Statistical Operations and Review Branch, *Military and Civilian Pay Services Defense Travel System: Results of Post Payment Reviews*, *1st Quarter*, *FY 2004* (Kansas City, Mo.: undated).

[6] We randomly selected 173 travel vouchers for detailed review, but at the time of our review, 3 vouchers had not yet been completed and submitted for review.

[7] The vouchers selected for review were those trips in DTS where (1) the trip started on or after October 1, 2004, and (2) the trip ended on or before December 31, 2004.

To become the standard travel system within DOD, DTS has faced and will continue to face challenges—some of which are beyond the control of the DTS program. Our testimony today focuses on two of those challenges: (1) developing needed interfaces and (2) underutilization of DTS at sites where it has been deployed. To date, DTS has developed 32 interfaces with various DOD business systems and going forward interfaces will have to be developed with 17 additional business systems. According to the PMO-DTS, a reported $30 million has been spent on developing and testing the interfaces. Some of these systems, such as the Army's General Fund System, are critical to DOD's modernization of business systems and operations. According to the PMO-DTS, the availability of funding to develop the interfaces is uncertain. Unless these interfaces are successfully developed and implemented, it will be virtually impossible for DTS to be a truly end-to-end business system.

The continued use of the existing legacy travel systems at locations where DTS is already deployed underutilizes DTS and reduces the savings the DTS was planned to achieve. For example, the Army has acknowledged that legacy systems are operating at locations where DTS has been deployed. As a result, DOD is spending funds on duplicative systems—legacy systems and DTS. Additionally, because of the continued operation of the legacy systems at locations where DTS has been fully deployed, DOD components may pay DFAS a higher processing fee for processing manual travel vouchers as opposed to processing the travel voucher electronically through DTS. For example, for the period October 1, 2004, to February 28, 2005, the Army paid DFAS approximately $6 million to process 177,000 travel vouchers manually—$34 per travel voucher, versus about $186,000 to process 84,000 travel vouchers electrically—$2.22 per voucher. Overall, for this 5-month period, it cost the Army about $5.6 million more to process these travel vouchers manually as opposed to electronically using DTS.

Background

Twelve years ago, in September 1993, the National Performance Review called for an overhaul of DOD's temporary duty (TDY) travel system. In response, DOD created the DOD Task Force to Reengineer Travel to examine the process. In January 1995, the task force issued the Report of the Department of Defense Task Force to Reengineer Travel.[8] The Task

[8] DOD, *Report of the Department of Defense Task Force to Reengineer Travel* (Washington, D.C.: January 1995).

Force's report pinpointed three principal causes for DOD's inefficient travel system: (1) travel policies and programs were focused on compliance with rigid rules rather than mission performance, (2) travel practices did not keep pace with travel management improvements implemented by industry, and (3) the travel system was not integrated.

On December 13, 1995, the Under Secretary of Defense for Acquisition, Technology, and Logistics and the Under Secretary of Defense (Comptroller)/Chief Financial Officer issued a memorandum, "Reengineering Travel Initiative," establishing the PMO-DTS to acquire travel services that would be used DOD-wide. Additionally, in a 1997 report to the Congress, the DOD Comptroller pointed out that the existing DOD TDY travel system was never designed to be an integrated system.[9] Furthermore, the report stated that because there was no centralized focus on the department's travel practices, the travel policies were issued by different offices and the process had become fragmented and "stove-piped." The report further noted that there was no vehicle in the current structure to overcome these deficiencies, as no one individual within the department had specific responsibility for management control of the TDY travel system.

To address these concerns and after the use of competitive procedures, the department awarded a firm fixed-price, performance-based services contract to BDM International, Inc. (BDM) in May 1998. In September 1998, we upheld the department's selection of BDM.[10] Under the terms of the contract, the contractor was to start deploying a travel system and to begin providing travel services for approximately 11,000 sites worldwide, within 120 days of the effective date of the contract, completing deployment approximately 38 months later. The contract specified that, upon DTS's achieving initial operational capability (IOC),[11] BDM was to be

[9] Office of the Under Secretary of Defense (Comptroller): *Department of Defense Travel Reengineering Pilot Report to Congress* (June 1997).

[10] The competitor, Electronic Data Systems Corporation (EDS), had alleged that the department improperly evaluated the two offers by: (1) undervaluing the estimated savings to the department by EDS's proposed accelerated DTS deployment schedule; (2) failing to hold "discussions" with EDS on the proposed accelerated deployment schedule; and (3) omitting from consideration certain department evaluation team members' concerns about EDS's staffing level for operation and maintenance of the DTS. *Matter of Electronic Data Systems Corporation*, B-280133; B-280133.2 (Sept. 3, 1998).

[11] IOC represents the first attainment of the minimum capability to effectively employ a system of approved specific characteristics.

paid a one-time deployment fee of $20 for each user and a transaction fee of $5.27 for each travel voucher processed. The estimated cost for the contract was approximately $264 million. Prior to commencing the work, BDM was acquired by TRW Inc. (TRW), which became the contractor of record.

The operational assessment of DTS at Whiteman Air Force Base, Missouri, from October through December 2000, disclosed serious failures. For example, the system's response time was slower than anticipated, the result being that it took longer than expected to process a travel order/voucher. Because of the severity of the problems, in January 2001, a joint memorandum was issued by the Under Secretary of Defense (Comptroller) and the Deputy Under Secretary of Defense (Acquisition, Technology & Logistics) directing a functional and technical assessment of DTS. The memorandum also directed that a determination be made of any future contract actions that would be necessary, based on the assessment results. In July 2001, the Under Secretary of Defense (Comptroller) and the Under Secretary of Defense (Acquisition, Technology & Logistics) approved proceeding with the DTS program and restructuring the contract with TRW.

The TRW contract was restructured through a series of contract modifications which were finalized on March 29, 2002. The Government agreed to provide TRW consideration in the amount of about $44 million for restructure of the contract. TRW agreed to release and discharge the Government from liability and agreed to waive any and all liabilities, obligations, claims and demands related to or arising from its early performance efforts under the original contract. Northrop Grumman subsequently acquired TRW in December 2002, and, as such, is now the contractor of record.

The first deployment of DTS was at Ellsworth Air Force Base, South Dakota, in February 2002. As of September 2005, DTS has been deployed to approximately 5,600 locations. The department currently estimates that DTS will be fully deployed to all 11,000 locations by the end of fiscal year 2006, with an estimated total development and production cost of approximately $474 million. Of this amount, the contract for the design, development, and deployment of DTS, as restructured is worth approximately $264 million—the same amount as specified in the original contract that was agreed to with BDM. The remaining costs are DOD internal costs associated with areas such as the operation of the program management office, the voucher payment process, and management of the numerous CTO contractors.

Previously Reported DOD Travel Issues

Over the past several years, we have reported pervasive weaknesses in DOD's travel program. These weaknesses have hindered the department's operational efficiencies and have left it vulnerable to fraud, waste, and abuse. These weaknesses are highlighted below.

- On the basis of statistical sampling, we estimated that 72 percent of the over 68,000 premium class airline tickets DOD purchased for fiscal years 2001 and 2002 were not properly authorized and that 73 percent were not properly justified. During fiscal years 2001 and 2002, DOD spent almost $124 million on airline tickets that included at least one leg of the trip in premium class—usually business class. Because each premium class ticket costs the government up to thousands of dollars more than a coach class ticket, unauthorized premium class travel resulted in millions of dollars of unnecessary costs annually.[12]
- Because of control breakdowns, DOD paid for airline tickets that were neither used nor processed for refund—amounting to about 58,000 tickets totaling more than $21 million for fiscal years 2001 and 2002. DOD was not aware of this problem before our audit and did not maintain any data on unused tickets. Based on limited data provided by the airlines, it is possible that the unused value of the fully and partially unused tickets that DOD purchased from fiscal year 1997 through fiscal year 2003 with DOD's CBA could be at least $100 million.[13]
- We found that DOD sometimes paid twice for the same airline ticket—first to the Bank of America for the monthly DOD credit card bill, and second to the traveler, who was reimbursed for the same ticket. Based on our mining of limited data, the potential magnitude of the improper payments was 27,000 transactions for over $8 million. For example, DOD paid a Navy GS-15 civilian employee approximately $10,000 for 13 airline tickets he had not purchased.[14]

Ongoing DTS Testing Remains a Concern

DTS development and implementation have been problematic, especially in the area of requirements and testing key functionality to ensure that the system would perform as intended. Given the lack of adherence to such a key practice, it is not surprising that critical flaws have been identified after deployment, resulting in significant schedule slippages. As originally envisioned, the initial deployment of DTS was to commence 120 days after

[12] GAO-04-88 and GAO-04-229T.

[13] GAO-04-398.

[14] GAO-04-576.

the effective date of the contract award in September 1998, with complete deployment to approximately 11,000 locations by April 2002. However, that date has been changed to September 2006—a slippage of over 4 years. Our recent analysis of selected requirements disclosed that the testing of DTS is not always adequate prior to updated software being released for use by DOD personnel. System testing is a critical process utilized by organizations to improve an entity's confidence that the system will satisfy the requirements of the end user and will operate as intended. Additionally, an efficient and effective system testing program is one of the critical elements that need to be in place in order to have reasonable assurance that an organization has implemented the disciplined processes[15] necessary to reduce project risks to acceptable levels in software development. In one key area, our results to date have identified instances in which the testing of DTS was inadequate, which precluded DOD from having reasonable assurance that DTS displayed the proper flights and airfares. This occurred because the PMO-DTS failed to ensure that the appropriate system interfaces were tested. Additionally, because a system requirement covering this had never been defined, there was not reasonable assurance that DTS displayed the accurate number of flights and related airfares within a given flight window.[16] As a result of these two weaknesses, DOD travelers might not have received accurate information on available flights and airfares, which could have resulted in higher travel costs. Specific details on these two weaknesses are discussed below.

- The DOD tests for determining whether DTS displayed the proper flights and airfares did not provide reasonable assurance that the proper (1) flights were displayed and (2) airfares for those flights were displayed. DTS uses a commercial product to obtain information from the database that contains the applicable flight and airfare information (commonly referred to as a Global Distribution System or [GDS]). In testing whether DTS displayed the proper flights and airfares, the information returned from the commercial product was compared with the information displayed in DTS and was found to be in agreement. However, the commercial product did not provide all of the appropriate flights or

[15] Disciplined processes for software development and implementation include a wide range of activities, including project planning and oversight, requirements management, risk management, and testing.

[16] A flight window is the amount of time before and after a specified time and is used for determining the flights that should be displayed. For example, if the flight window is 4 hours and estimated departure time is 9:00 a.m., then the flight window that is used for displaying available flights is from 7:00 a.m. to 11:00 a.m.

airfares to DTS that were contained in the GDS. Since the PMO-DTS neither performed an end-to-end test[17] nor made sure that the information returned from this commercial product was in agreement with the information contained in the GDS, it did not have reasonable assurance that DTS was displaying the proper flights and airfares information to the users. According to DOD officials, this system weakness was detected by users complaining that DTS did not display the proper flights and airfares.

- DOD officials stated that prior to the August 2005 system update, DTS should have displayed 12 flights, if that many flights were available, within a flight window.[18] DTS program officials and Northrop Grumman personnel acknowledged that this particular system requirement had never been tested because DOD failed to document the requirement until January 2005. Therefore, DOD did not have reasonable assurance that DTS displayed the required number of flights and related airfare information. The inability to ensure that the proper number of flights was displayed could have caused DOD to incur unnecessary travel cost. As we have noted in previous reports, requirements that are not defined are unlikely to be tested.[19]

PMO-DTS officials acknowledged that these two problems have been ongoing since the initial implementation of DTS. PMO-DTS officials have stated that the two problems were corrected as part of the August 2005 DTS system update. We are in the process of verifying whether the actions taken by DOD will correct the problems.

DTS Has Corrected Some Previously Reported Travel Problems

Of the four previously reported DOD travel problems, DTS has corrected one of the problems while the others remain. However, the remaining problems are not necessarily within the purview of DTS and may take departmentwide action to fully address.

[17] The purpose of end-to-end testing is to verify that a defined set of interrelated systems, which collectively support an organizational core business area or function, interoperate as intended in an operational environment.

[18] Prior to the August 2005 system update, DTS used a 4-hour flight window for domestic flights and a 12-hour flight window for foreign flights. The current window is 12-hours for domestic flights and 24-hours for foreign destinations.

[19] GAO, *Indian Trust Funds: Challenges Facing Interior's Implementation of New Trust Asset and Accounting Management System*, GAO/T-AIMD-99-238 (Washington, D.C.: July 14, 1999).

Improper Premium Class Travel

While DOD has taken actions to improve existing guidance and controls related to premium class travel, including system changes in DTS, we identified instances in which unauthorized premium class travel continues. In November 2003, the Under Secretary of Defense (Personnel and Readiness) formed a task force to address our prior recommendations[20] that focused on three major areas: (1) policy and controls of travel authorization, (2) ticket issuance and reporting, and (3) internal control and oversight. Subsequently, several policy changes were made to improve the control and accountability over premium class travel. For example, the approval level for first class travel was elevated to a three-star general and for business class travel to a two-star general or civilian equivalent. Other changes included strengthening the description of circumstances when premium class travel may be used to more clearly show that it is an exceptional circumstance and not a common practice. In all cases, approving officials must have their own premium class travel approved at the next level. These changes also set a broad policy that CTOs are not to issue premium class tickets without proper authorization. In September 2004, the PMO-DTS made system changes to DTS that blocked seven fare codes that were considered to be premium class fare codes from being displayed or selected by the traveler through DTS. According to the PMO-DTS, the airline industry does not have standardized fare code indicators to identify first class, business class, and economy class. Subsequently, DOD found that economy class fare codes were being blocked using the seven codes and in May 2005, reduced the list to three codes.

Despite these various changes in policy and to DTS, we continue to identify instances in which premium class travel is occurring without the proper authorization. To date, our preliminary analysis disclosed at least 68 cases that involved improperly approved premium class travel.[21] In one case, we found that a Department of the Army civilian employee (GS-12) flew from Columbia, South Carolina via Atlanta, Georgia to Gulf Port, Mississippi to attend a conference. On the return trip, one leg included

[20] GAO-04-88.

[21] To assess the use of premium class travel, we obtained databases from Bank of America and the PMO-DTS, which provided information on the actual travel transactions and traveler information for the period October-December 2004. The Bank of America database contained all DOD transactions for the first quarter of fiscal year 2005, and the PMO-DTS database contained all vouchers processed by DTS for the same time period. We identified potentially 419 cases that could involved premium class travel. We are still in the process of reviewing information requested from DOD to ascertain if there are other cases of improper premium class travel.

first class accommodations. From our review and analysis of Bank of America data and the travel voucher, DOD paid $1,107 for the airfare. The cost of a GSA city pair round trip airfare was $770. According to information provided by the Army, the traveler informed the Army that he was meeting another traveler at the destination and they were going to share a rental car and there were no seats available on the flight the other traveler had booked. Therefore, the individual selected a flight arriving as close as possible to the time of the traveler he was meeting. This is not a valid justification, and the premium class fare was not approved by the appropriate official. Additionally, the premium class fare occurred on the return flight. Furthermore, based upon our review to date, none of the 68 cases that involved improper premium class travel had the required approval.

Unused Airline Tickets

DTS still does not have the capability to determine whether a traveler does not use all or a portion of an airline ticket. To address this problem, DOD directed that all new CTO contract solicitations require CTOs to prepare that unused ticket reports which identify tickets that were not used within a specified time period, usually 30 days past the trip date, so that they can be cancelled and processed for refund. Additionally, the various DOD components were directed to modify existing CTO contracts to require the CTOs to process refunds for unused airline tickets. At the five locations we visited[22] we found that the Army and Air Force CTOs prepared daily and monthly reports. The Navy CTOs produced the unused ticket report on a weekly basis, and the Marine Corps CTOs prepared the report monthly. However, according to DOD officials, this requirement has not yet been implemented in all the existing CTO contracts.

Duplicate Payments Related to Centrally Billed Accounts (CBA).

Our preliminary observations indicate that DTS was designed to ensure that tickets purchased through the CBA cannot be claimed on the individual's travel voucher as a reimbursement to the traveler. As part of our statistical sample discussed later, we found 14 travel vouchers in which an airline ticket purchased with the CBA was included on the voucher; however, the traveler did not receive reimbursement for the claim.

[22] Aberdeen Proving Ground, Md.; Buckley Air Force Base, Colo.; Defense Logistics Agency, Va.; Headquarters Marine Corps, Va.; and Naval Operations Headquarters, Va.

Accuracy of Travel Vouchers

DFAS has previously reported problems with the accuracy of DTS travel payments. For the first quarter of fiscal year 2004, DFAS reported a 14 percent inaccuracy rate in the DTS travel payments of airfare, lodging, and meals, and incidental expenses. Our preliminary analysis of 170 travel vouchers[23] disclosed that for the two attributes that are directly related to the operation of the DTS system—computation of lodging reimbursement and meals and incidental expenses (per diem)—the DTS calculations were correct in all instances on the basis of the information provided by the traveler. However, we continue to identify numerous instances in which employee errors led to inaccurate reimbursements. In some cases, errors occurred because incorrect data were entered into DTS by the traveler. In other cases, the reviews by the AOs were inadequate. In regard to the AO reviews, our preliminary analysis indicates that approximately 66 travel vouchers or 39 percent were paid even though there was not reasonable assurance that the amount of the reimbursement was accurate. More specifically, 49 of 66 travel vouchers lacked adequate receipts for the amounts claimed. Receipts are required for all expenses of $75 or more and for lodging, regardless of the amount. However, for the 49 vouchers, we saw no evidence that the AO was provided with the appropriate receipts by the traveler. In one case, the traveler was reimbursed for expenses claimed in excess of $500, even though none of the required receipts were available for review and approval by the AO. According to DOD regulations, "the AOs signature on the expense report certifies that the travel was taken, that the charges are reasonable…and that the payment of the authorized expenses is approved." While the signature of the AO signifies that the payment is approved, it falls short of ensuring that amounts claimed are reasonable in the cases in which receipts for airfare and lodging are not provided. Until the overall review process is improved, travel payment problems will continue to occur.

DTS Faces Challenges in Achieving the Goal of a Standard DOD Travel System

DOD's goal of making DTS the standard travel system within the department depends upon the development, testing, and implementation of system interfaces with the myriad of related DOD systems, as well as private-sector systems such as the system used by credit card company that provides DOD military and civilian employees with travel cards. While DOD has developed 32 interfaces, the PMO-DTS is aware of at least 17

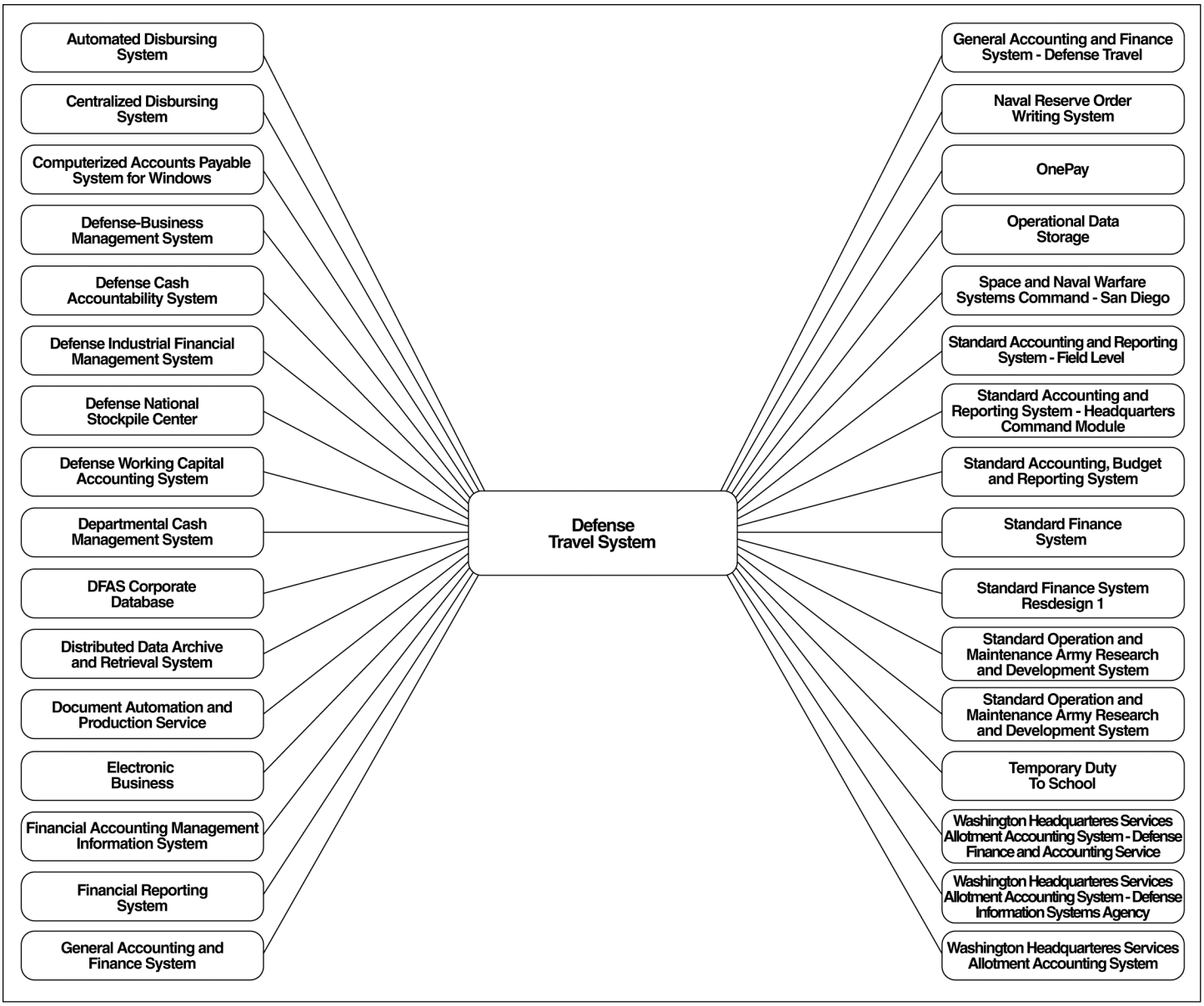
[23] We randomly selected 173 travel vouchers for detail review, but at the time of our review 3 vouchers had not yet been completed and submitted for review. The selected vouchers were drawn from the first quarter of fiscal year 2005 (October-December 2004).

additional DOD business systems for which interfaces must be developed. To date, the development and testing of the interfaces has cost DOD reportedly over $30 million. Developing the interfaces is time consuming and costly. Additionally, the underutilization of DTS at the sites where it has been deployed is also hindering the department's efforts to have a standard travel system throughout the department. Furthermore, the underutilization impacts the estimated savings that are to be derived from the use of DTS departmentwide.

Interfaces Are Critical to Implementing an End-to-End System

One of DOD's long-standing problems has been the lack of integrated systems. To address this issue and minimize the manual entry of data, interfaces between existing systems must be developed to provide the exchange of data that is critical for day-to-day operations. For example, DTS needs to know before permitting the authorization of travel that sufficient funds are available to pay for the travel—information that comes from a non-DTS system—and once the travel has been authorized, another system needs to know this information so that it can record an obligation and provide management and other systems with information on the funds that remain available. Interfaces are also needed with private-sector systems, such as the credit card company that provides DOD personnel with travel cards. Figure 1 illustrates the numerous DTS system interfaces that have already been developed and implemented with the department's business systems.

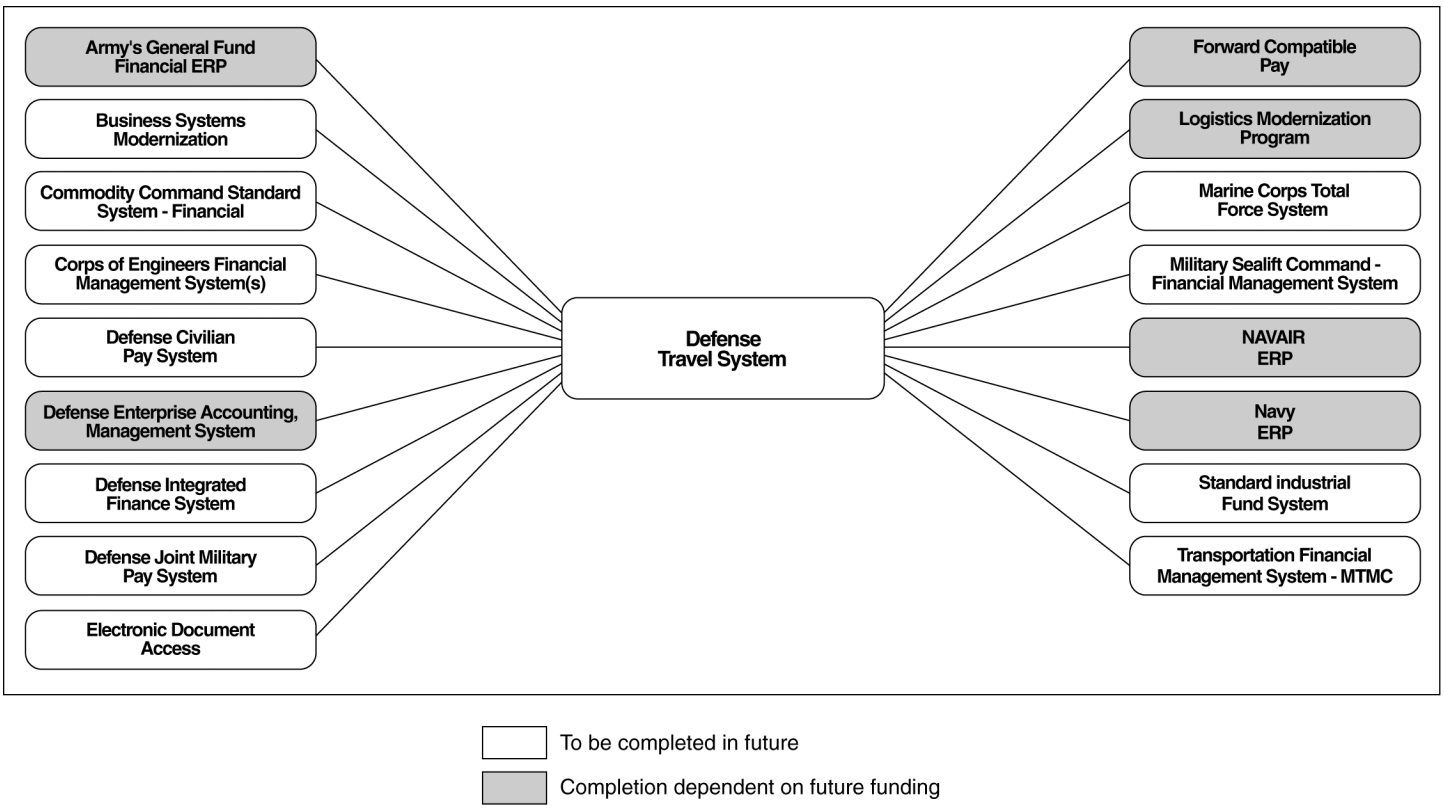
Figure 1: DTS System Interfaces Operating Today



Source: GAO analysis based on data provided by PMO-DTS.

Figure 2 shows the DTS system interfaces that must be developed in the future with the department's business systems.

Figure 2: Future DTS System Interfaces That Need to be Developed



Source: GAO analysis based on data provided by PMO-DTS.

While DOD was able to develop and implement the interfaces with the 32 systems, the development of each remaining interface will present the PMO-DTS with challenges. For example, the detailed requirements for each of the remaining interfaces have not yet been defined. Such requirements would define (1) what information will be exchanged and (2) how the data exchange will be conducted. This is understandable in some cases such as the Army General Fund Financial enterprise resource planning (ERP),[24] which is a relatively new endeavor within the department and it will be some time before DOD is in position to start

[24] An ERP solution is an automated system consisting of multiple, integrated functional modules that perform a variety of business-related tasks such as payroll, general ledger accounting, and supply chain management.

development of the interface. Additionally, the development of the DTS interfaces depends on other system owners' achieving their time frames for implementation. For example, the Navy ERP is one of the DOD systems with which DTS is to interface and exchange data. Any difficulties with the Navy's ERP implementation schedule could adversely affect DTS's interface testing and, thereby, result in a slippage in the interface being implemented. The above two factors also affect DTS's ability to develop reliable cost estimates for the future interfaces.

Underutilization of DTS Affects Estimated Savings

Another challenge for DTS in achieving its goal of a standard travel system within DOD is the continued use of the existing legacy travel systems, which are owned and operated by the various DOD components. Currently, at least 31 legacy travel systems are continuing to be operated within the department. As we have previously reported, because each DOD component receives its own funding for the operation, maintenance, and modernization of its own systems, there is no incentive for DOD components to eliminate duplicative travel systems. [25] We recognize that some of the existing travel systems, such as the Integrated Automated Travel System version 6.0, cannot be completely eliminated because it performs other functions, such as permanent change of station travel claims that DTS cannot process. However, in other cases, the department is spending funds on duplicative systems that perform the same function as DTS. The funding of multiple systems that perform the same function is one of the reasons why the department has 4,150 business systems.[26] Since these legacy systems are not owned and operated by DTS, the PMO-DTS does not have the authority to discontinue their operation. This is an issue that must be addressed from a departmentwide perspective.

Because of the continued operation of the legacy systems at locations where DTS has been fully deployed, DOD components pay DFAS higher processing fees for processing manual travel vouchers as opposed to processing the travel vouchers electronically through DTS. According to an April 13, 2005, memorandum from the Assistant Secretary of the Army (Financial Management and Comptroller), DFAS was charging the Army $34 for each travel voucher processed manually and $2.22 for each travel voucher processed electronically—a difference of $31.78. The

[25] GAO, *DOD Business Systems Modernization: Billions Being Invested without Adequate Oversight*, GAO-05-381 (Washington, D.C.: Apr. 29, 2005).

[26] GAO-05-381.

memorandum further noted that for the period October 1, 2004, to February 28, 2005, at locations where DTS had been deployed, the Army paid DFAS approximately $6 million to process 177,000 travel vouchers manually—$34 per travel voucher, versus about $186,000 to process 84,000 travel vouchers electronically—$2.22 per voucher. Overall, for this 5-month period, the Army reported that it spent about $5.6 million more to process these travel vouchers manually as opposed to electronically using DTS.

The military services have recognized the importance of utilizing DTS to the fullest extent possible. The Army issued a memorandum in September 2004 directing each Army installation to fully disseminate DTS to all travelers within 90 to 180 days after IOC at each installation. The memorandum included a list of sites that should be fully disseminated and the types of vouchers that must be processed through DTS. Furthermore, the memorandum noted that travel vouchers that could be processed in DTS should not be sent to DFAS for processing. In a similar manner, in February 2005, the Marine Corps directed that upon declaration of DTS's IOC at each location, commands will have DTS fully fielded within 90 days and will stop using other travel processes that have the capabilities of DTS. The Air Force issued a memorandum in November 2004 that stressed the importance of using DTS when implemented at an installation. The Navy has not issued a similar directive.

Despite these messages, DTS remains underutilized by the military services. The military services, and in particular, the Army, have taken steps to monitor DTS's usage, but others, such as the Marine Corps, do not capture the data necessary to assess the extent to which DTS is being underutilized. The lack of pertinent data hinders management's ability to monitor its progress toward the DOD vision of DTS as the standard TDY system.

Concluding Remarks

Overhauling DOD's financial management and business operations—one of the largest and most complex organizations in the world—represents a daunting challenge. DTS, intended to be the department's end-to-end travel management system, illustrates some of the obstacles that must be overcome by DOD's array of transformation efforts. With over 3.3 million military and civilian personnel as potential travel system users, the sheer size and complexity of the undertaking overshadows any such project in the private sector. Nonetheless, standardized business systems across the department will be the key to achieving billions of dollars of annual savings through successful DOD transformation. As we have previously

reported, because each DOD component receives its own funding for the operation, maintenance, and modernization of its own systems, nonintegrated, parochial business systems have proliferated— 4,150 business systems throughout the department by a recent count. The elimination of "stove-piped" legacy systems and cheaper electronic processing, which could be achieved with the successful implementation of DTS, are critical to realizing the anticipated savings.

In closing, we commend the Subcommittee for holding this hearing as a catalyst for improving the department's travel management practices. We also would like to reiterate that following this testimony, we plan to issue a report that will include recommendations to the Secretary of Defense aimed at improving the department's implementation of DTS.

Mr. Chairman and Members of the Subcommittee, this concludes our prepared statement. We would be pleased to respond to any questions you may have.

Appendix I: Department of Defense Rights to Property in the Defense Travel System

DOD has taken several steps to address its needs for the use of intellectual and tangible property in the DTS, but it has not yet completed the exercise of the rights it determined necessary for long-term development and implementation of the DTS. While the original contract awarded to BDM did not specifically address intellectual property rights, TRW, as the successor to BDM, acquired in 2001 perpetual rights to use three key commercial software programs to accommodate technology decisions that necessitated modifying some software for use in DTS. When DOD and TRW agreed to restructure the DTS contract, they modified the contract to include several key provisions that provided DOD with rights to various categories of intellectual and tangible property. As set out below, DOD officials told us that they have yet to complete the exercise of some of DOD's intellectual property rights and to secure title to hardware necessary to meet its long-term acquisition needs, but those steps are in progress.

Property Rights Under the Original DTS Contract

The original DTS contract awarded in 1998 did not specifically address the Government's intellectual property rights because the contract was structured primarily as a fixed-priced travel services contact rather than as a government-funded development effort. As such, the contractor was responsible for securing the necessary intellectual property rights in the commercial software and other products being used, except for those pertaining to existing DOD systems or used by DOD under other agreements.[1] The fixed price for the services would include the cost to the contractor to obtain or develop the necessary software, hardware, and technical data[2] in order to provide the required travel services to DOD.

According to DOD officials, DOD and TRW determined in 2001 that three key commercial software programs used in DTS would not meet DOD's requirements without modification.[3] Accordingly, in September 2001, TRW executed a license agreement with the firm holding the copyright to the

[1] Some software and technical data on existing DOD systems to be connected to DTS were provided to the contractor as government-furnished equipment or information.

[2] "Technical data" means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

[3] In September 2001, DOD and TRW agreed to Modification No. 4 to Task Order No. 10 to require software development work and, under this modification, TRW was to provide DOD with a perpetual license for DTS software.

software programs[4] for TRW to use in developing and deploying DTS within DOD.[5] The firm charged TRW with a one-time fee for the rights under the agreement.

Under the license agreement, TRW obtained a perpetual and exclusive license to use the three software programs and related software documentation to develop and deploy software and services for use in the DTS. This license includes the authority to modify the source code to one of the software programs. The license agreement authorizes the assignment of TRW's rights under the agreement to DOD for the DTS project. The license agreement does not expressly condition such an assignment on payment of a fee. According to DOD officials, DOD has approached Northrop Grumman Space & Mission Systems Corp. (Northrop Grumman), as the successor to TRW, requesting assignment of those rights to DOD. In a September 22, 2005, letter to the DTS contracting officer, Northrop Grumman represented that they would assign its rights under the license agreement to DOD at the conclusion of the contract, if requested.

The license agreement also provides that Northrop Grumman may sublicense its rights under the agreement to other entities in support of DTS. DOD officials told us that they believe Northrop Grumman's assignment of these rights to DOD would include the authority for DOD to sublicense the rights to other DOD contractors for use in providing services related to DTS. The DOD officials noted that they are in the process of modernizing the DTS application to include a potential complete replacement of the licensed software with custom developed software. The officials stated that they are still evaluating whether an assignment of rights and issuance of any sublicenses actually would be needed in light of these changes.

Property Rights Under the Restructured Contract

In the restructuring of the DTS contract, DOD and TRW agreed to address a number of intellectual and tangible property categories under the contract that DOD officials told us would satisfy DOD's long-term DTS

[4] The firm represented that it holds the copyright and title to one commercial software program and acted as an authorized licensee with respect to the other software programs and certain related data.

[5] The license agreement also authorized limited use of the software, source code and documentation on similar terms by the U.S. Treasury Department and included terms for use of the software and executable code by non-DOD federal government entities under the authority of "the Economy Act."

development and implementation plans. The restructured contract incorporated several standard DOD intellectual property rights clauses, but DOD is still evaluating ownership rights related to key hardware used in the DTS.

The restructured contract incorporates standard DOD intellectual property rights clauses for a system being developed at government expense and it specifically gives DOD perpetual rights to DTS software. The perpetual rights for different categories of intellectual property generally depend upon the source of the funding of their development. In particular, the contract requires Northrop Grumman to "provide a perpetual license for DOD use worldwide for DTS software" in accordance with certain standard clauses or in accordance with standard commercial terms for commercial software.[6] Also, the contract incorporates a clause that requires Northrop Grumman to grant or obtain for the government royalty free, world-wide, nonexclusive, irrevocable license rights in technical data.[7] Further, these clauses include provisions that permit Northrop Grumman to assert restrictions on the government's use, release or disclosure of technical data and computer software, depending upon the funding of their development.[8] For commercial software used in the DTS, Northrop Grumman has asserted restrictions applicable to commercial software licenses. Some of the licenses Northrop Grumman obtained for use of commercial software may be neither perpetual nor assignable to DOD, but DOD officials told us that this does not cause risk to the project since there are available alternative methods to acquire similar licenses. Table 1 sets out DOD's rights in these categories. Finally, the contract incorporated a standard clause governing restrictions DOD may place on information it provides to Northrop Grumman for use under the contract.[9]

[6] Specifically, these rights must be in accordance with Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7014, *Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation*, 252.227-7019, *Validation of Asserted Restrictions – Computer Software*, and 252.227-7037, *Validation of Restrictive Markings*, or consistent with publicly available licenses for commercial computer software and documentation.

[7] DFARS clause 252.227-7013, *Rights in Technical Data – Noncommercial Items*.

[8] DFARS clauses 252.227-7013 and 252.227-7014.

[9] DFARS clause 252.227-7025, *Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends*. This clause was added to the contract in June 2002.

Table 1: DOD Rights to Intellectual Property Under the DTS Contract

Category	Intellectual Property in DTS	DOD Rights
Noncommercial Technical Data – Government funded	All technical data delivered to DOD under the DTS contract	Perpetual Unlimited Rights[a]
Computer Software & Documentation		
Noncommercial – Government Funded	Software developed under Task Order Numbers 10, 18, 20, and 26	Perpetual Unlimited Rights
Commercial – Privately Funded (excluding 3 key programs discussed above)	Several dozen software programs	Northrop Grumman has restricted rights[b] for use in DTS as set out in individual commercial licenses[c]

Source: GAO analysis based upon information provided by and discussions with the PMO-DTS.

[a]"Unlimited rights" means the government's rights to use computer software or technical data in any way and to authorize others to do so.

[b]"Restricted rights" means, generally, the right to use the software on one computer at a time. TRW has more liberal rights than restricted rights in some of these programs.

[c]According to DOD officials, Northrop Grumman has obtained perpetual and assignable licenses for only some of these programs and DOD intends to assess its needs and alternative acquisition methods available for all commercial software as part of its long-term development and implementation plans.

The restructured contract requires Northrop Grumman to provide all hardware (and other equipment) necessary to deliver services under the contract, but DOD officials told us that they are discussing delivery schedules and ownership rights to hardware items, principally configuration items. In a September 23, 2005, letter to the DTS contracting officer, Northrop Grumman represented that they would assign title to certain hardware at the conclusion of the contract, if requested. Finally, DOD has leased some hardware items necessary to interface with the airline Global Distribution Systems and it will need to evaluate the terms of those leases.

Appendix II: Scope and Methodology

To determine if the Department of Defense (DOD) effectively tested key Defense Travel System (DTS) functionality associated with flights and airfares, we reviewed the applicable requirements and the related testing prior to the August 2005 release to determine if the desired functionality was effectively implemented.

To determine if DTS will correct the problems previously identified with DOD travel, we analyzed past GAO reports and testimonies, selected Defense Finance and Accounting Service (DFAS) reports, and DOD congressional testimonies. In this regard, we focused on how DTS addresses issues related to premium class travel, unused tickets, and centrally billed accounts. We also randomly sampled 170 travel vouchers[1] to ascertain if some of the problems previously reported upon by DFAS have been resolved. To be included within the selected sample, the travel vouchers had to be for trips that were in DTS and for travel started on or after October 1, 2004, and ended on or before December 31, 2004. We have not yet finalized our projections for the sample. To assess the use of premium class travel, we obtained databases from Bank of America and the Project Management Office-Defense Travel System (PMO-DTS), which provided information on the actual travel transactions and traveler information for the period October-December 2004. The Bank of America's database contained all DOD transactions for the first quarter of fiscal year 2005, and the PMO-DTS database contained all vouchers processed by DTS for the same time period. We removed all transactions that were not specifically airline charges, such as rail charges and commercial travel office fees, and then selected all fare codes that corresponded to the potential issuance of a premium class ticket. This resulted in 419 instances in which a premium class ticket could have been issued. We have not finalized our analysis.

To identify some of the challenges confronting the department in making DTS the department's standard travel system, we discussed with PMO-DTS officials their implementation strategy and reviewed past GAO reports and testimonies related to the department's efforts to improve the accuracy and reliability of the information in its business systems.

[1] We randomly selected 173 travel vouchers for detail review, but at the time of our review 3 vouchers had not yet been completed and submitted for review.

We briefed DOD officials on the contents of this testimony. We assessed the reliability of the DOD data we used for our preliminary evaluation by (1) performing electronic testing of required data elements, (2) reviewing existing information about the data and the system that produced them, and (3) interviewing agency officials knowledgeable about the data. We determined that the data were sufficiently reliable for the purpose of this testimony. We performed our audit work from October 2004 through September 2005, in accordance with U.S. generally accepted government auditing standards.

To describe DOD's property rights in the DTS we reviewed the DTS contract, applicable acquisition regulations, DOD intellectual property guidance, key DTS license agreements, and written responses from PMO-DTS to our questions, and we met with PMO-DTS and contracting officials and with their legal counsel.

Appendix III: GAO Contacts and Acknowledgments

For future information about this testimony, please contact McCoy Williams at (202) 512-6906 or williamsm1@gao.gov or Keith A. Rhodes at (202) 512-6412 or rhodesk@gao.gov.

Our contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this testimony. In addition to the above contacts, the following individuals made key contributions to this testimony: Darby Smith, Assistant Director; J. Christopher Martin, Senior Level Technologist; Beatrice Alff; Francine DelVecchio; Francis Dymond; Thomas Hackney; Gloria Hernandezsaunders; Wilfred Holloway; Jason Kelly; Sheila Miller; Robert Sharpe; Patrick Tobo; and Adam Vodraska.

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