

January 2006

DOD BUSINESS
TRANSFORMATION

Defense Travel System
Continues to Face
Implementation
Challenges



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Highlights of [GAO-06-18](#), a report to congressional addressees

DOD BUSINESS TRANSFORMATION

Defense Travel System Continues to Face Implementation Challenges

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. Over the past several years numerous GAO reports and testimonies have highlighted problems with DOD's travel practices that resulted in wasteful spending of millions of dollars. In response, the department has noted that the Defense Travel System (DTS), in part, will help correct these problems. Because of the widespread congressional interest in DTS, GAO initiated the audit under the statutory authority of the Comptroller General of the United States. The objectives of the audit were to (1) determine if DOD effectively tested key DTS functionality, (2) ascertain if DTS will correct the weaknesses previously identified, (3) identify the challenges that remain, and (4) identify opportunities to streamline DOD's travel process.

What GAO Recommends

GAO is making 10 recommendations to DOD, including the following: (1) properly test new or modified system interfaces, (2) obtain data on utilization of DTS, and (3) streamline DOD's travel management practices. DOD concurred with all of the recommendations and described its efforts to address them.

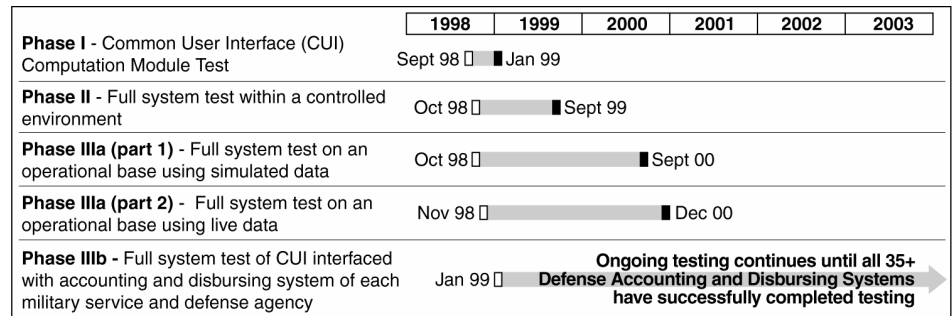
www.gao.gov/cgi-bin/getrpt?GAO-06-18.

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 that resulted in significant schedule slippages between the planned and actual system deployment, as shown below.

DTS Schedule Slippages



□ Original date █ Schedule delays ■ Actual date

Source: GAO, based on information provided by DOD.

GAO's recent analysis of selected requirements related to DTS's reservation module 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 displayed flight and airfare information. This problem was not detected prior to deployment, since DOD failed to properly test system interfaces.

While DTS has corrected some of the previously reported travel problems, 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 travelers' claims. These remaining problems cannot be resolved solely within DTS and will take departmentwide action to address.

GAO also 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 36 interfaces with various DOD business systems, it will have to develop interfaces with at least 18 additional systems—not a trivial task. Additionally, the continued use of the existing legacy travel systems results in underutilization of DTS and affects the savings that DTS was planned to achieve. Furthermore, GAO has identified concepts that the department can adopt to streamline its travel management practices.

Contents

Letter		1
	Results in Brief	3
	Background	6
	Ongoing DTS Testing Remains a Concern	11
	DTS Has Corrected Some Previously Reported Travel Problems	17
	DTS Faces Challenges in Making DTS a Standard DOD Travel System	24
	Conclusions	40
	Recommendations for Executive Action	41
	Agency Comments and Our Evaluation	42

Appendixes		
	Appendix I: Scope and Methodology	46
	Appendix II: Comments from the Department of Defense	49
	Appendix III: GAO Contacts and Staff Acknowledgments	54

Related GAO Products		55
-----------------------------	--	----

Table	Table 1: Summary of Premium-Class Travel Analysis	19
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Figures	Figure 1: Defense Travel System Processes	9
	Figure 2: Delay in the Development and Implementation of DTS	12
	Figure 3: Limitations of DTS Testing	14
	Figure 4: Current DTS System Interfaces	26
	Figure 5: DTS System Interfaces That Need to Be Developed	27

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United States Government Accountability Office
Washington, D.C. 20548

January 18, 2006

Congressional Addressees

Over 10 years ago, the Department of Defense (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 systems were not integrated.¹ 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. The Defense Travel System (DTS) is envisioned as being the department's standard end-to-end travel system.²

The department currently estimates that DTS will be fully deployed at all intended 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 is worth approximately \$264 million. The remaining costs are associated with areas such as the operation and maintenance of DTS, operation of the PMO-DTS, the voucher payment process, and management and oversight of the numerous commercial travel offices (CTO).

Over the past several years, our reports and testimonies have highlighted problems with DOD's travel practices that resulted in wasteful spending of millions of dollars.³ In responses to some of our reports, the department

¹Department of Defense, *Report of the Department of Defense Task Force to Reengineer Travel* (Arlington, Va.: January 1995).

²DOD 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 travel system."

³See the Related GAO Products section at the end of this report.

has noted that DTS, in part, will help correct these problems. In September 2005, we testified on our preliminary results regarding this audit of DTS.⁴

Our audit objectives were to (1) determine if DOD effectively tested key DTS functionality related to flights and fare information, (2) ascertain if DTS will correct the internal control weaknesses and improper payments previously identified, (3) identify the challenges that remain in ensuring DTS achieves its goal as DOD's standard travel system, and (4) identify opportunities for DOD to streamline the entire travel process. To address the first objective, 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 objective, 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. Further, we randomly selected for review travel vouchers drawn from the first quarter of fiscal year 2005 (October through December 2004) to determine if DTS calculation problems identified by DFAS had been resolved.⁵ To address the third objective, 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 private sector businesses. We also analyzed DOD data related to the utilization of DTS. To address the fourth objective, we analyzed the department's current travel processes, discussed them with the PMO-DTS, and reviewed our past reports that discussed federal agency travel practices. We determined that the DOD data we used as the basis for our evaluation in this report 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.

Because of the widespread congressional interest in DTS, this assignment was performed at our initiative under the statutory authority provided to the Comptroller General of the United States. Our work was performed from October 2004 through October 2005 in accordance with U.S. generally

⁴GAO, *DOD Business Transformation: Preliminary Observations on the Defense Travel System*, GAO-05-998T (Washington, D.C.: Sept. 29, 2005).

⁵Defense 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).

accepted government auditing standards. Details on our scope and methodology are included in appendix I. We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Director, DFAS, which are reprinted in appendix II.

Results in Brief

DTS's 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. Thus, it is not surprising that critical flaws have been identified, resulting in significant schedule slippages between the planned and actual deployment dates of the system. 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.⁶ This problem was not detected prior to deployment since DOD failed to properly test the system interfaces through which the data are accessed for display. 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 initial deployment of DTS in February 2002. PMO-DTS officials stated that the problem was corrected in an August 2005 release of the software. However, we found that the August 2005 release did not fully address this problem. Our review found that as of the September 2005 release, the PMO-DTS had reasonable assurance that DTS was properly displaying the correct General Services Administration (GSA) city pair airfares, but DOD still lacks reasonable assurance that the flight information displayed was accurate.

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

⁶Flight information includes items such as departure and arrival times, airports, and the cost of the airline ticket.

airline tickets, and (3) paid twice for the same airline ticket when using the centrally billed accounts (CBA). 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 prior reports, DFAS's Kansas City Statistical Operations and Review Branch has previously reported inaccuracies with DTS's travel payments of airfare, lodging, meals, and incidental expenses.⁷

First, although DOD has taken numerous actions to improve existing guidance and controls related to premium-class travel, including system changes in DTS, our results indicate that unauthorized premium-class travel continues. This continuing problem is not the fault of DTS but rather is caused by 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; rather, the traveler has to request that the CTO process a credit for the unused portion of the airline ticket. To address this unused airline ticket 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 CBAs cannot be claimed on the individual's travel voucher as a reimbursement to the traveler for airfare expenses, thus eliminating this problem of paying twice for the same ticket.

Finally, we randomly sampled 170 travel vouchers⁸ for the period October 1, 2004, to December 31, 2004,⁹ to ascertain if the problems previously reported by DFAS had been resolved. 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 traveler or the authorizing officials (AO) resulted in questionable payments to the traveler. For example, our random sample identified a case where the traveler

⁷Defense Finance and Accounting Service, *Military and Civilian Pay Services Defense Travel System*.

⁸We analyzed 170 travel vouchers, and at the time of our review 3 vouchers in our sample had not yet been completed and submitted.

⁹The 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.

claimed a travel advance received as a travel expense. Since travel advances are not eligible for reimbursement, the payment for this claim resulted in a duplicate payment to the traveler—for the advance and for the actual expenses paid for using the advance. On the other hand, we also identified an example where a traveler deducted a travel advance received on the traveler's personal credit card from the travel claim. Since the traveler was responsible for repaying the advance received, this deduction should not have been made, and the traveler was underpaid. In all cases, the AOs did not detect these errors during review of the travel claims.

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 DTS. Two of those challenges are (1) developing needed interfaces and (2) underutilization of DTS at sites where it has been deployed. To date, DTS has developed 36 interfaces with various DOD business systems, and going forward, interfaces will have to be developed with at least 18 additional business systems. According to the PMO-DTS, DOD has spent over \$30 million 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 travel system.

In addition, the continued use of the existing legacy travel systems at locations where DTS is already deployed results in the underutilization of DTS and reduces the savings that 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 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 over \$6 million to process 177,000 travel vouchers manually—\$34 per travel voucher, in contrast to about \$186,000 to process 84,000 travel vouchers electronically—\$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.

In its 1995 report entitled *Report of the Department of Defense Task Force to Reengineer Travel*, the department noted that the existing process was a complex system that imposed exorbitant administrative costs on the traveler and DOD to ostensibly ensure that travel funds are not wasted. The report concluded that the process focused on (1) compliance with rigid rules rather than on mission performance, (2) outmoded travel practices, and (3) “stovepiped” administrative processes, and that the department needed to address these problems. While DTS has reduced some of the administrative burden, opportunities exist to further reduce the administrative burden and cost while supporting the DOD mission. While some of the opportunities could be implemented by DOD policy changes, others will require coordination with other organizations such as, the Internal Revenue Service (IRS). Examples of possible changes in DOD’s travel management practices include automating approval of changes to approved travel expenses and simplifying the display of airline flight information.

We are making ten recommendations to the Secretary of Defense aimed at improving the department’s management and oversight of DTS and streamlining its administrative travel processes. In its written comments on a draft of this report, DOD agreed with all of our recommendations and briefly outlined its actions for addressing them. We have reprinted DOD’s written comments in appendix II.

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. The task force’s January 1995 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 and Technology 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.¹⁰ 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 "stovepiped." 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 DOD TDY travel.

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, GAO denied a bid protest challenging the department's selection of BDM.¹¹ 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 achieving initial operational capability (IOC),¹² BDM was to be paid a onetime 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,

¹⁰Office of the Under Secretary of Defense (Comptroller): *Department of Defense Travel Reengineering Pilot Report to Congress* (Arlington, Va.: June 1997).

¹¹The protestor, 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 BDM's staffing level for operation and maintenance of the DTS. *Matter of Electronic Data Systems Corporation*, B-280133; B-280133.2 (Sept. 3, 1998).

¹²IOC represents the first attainment of the minimum capability to effectively employ a system of approved specific characteristics.

Technology and 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 and Logistics) approved proceeding with DTS 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 the 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.

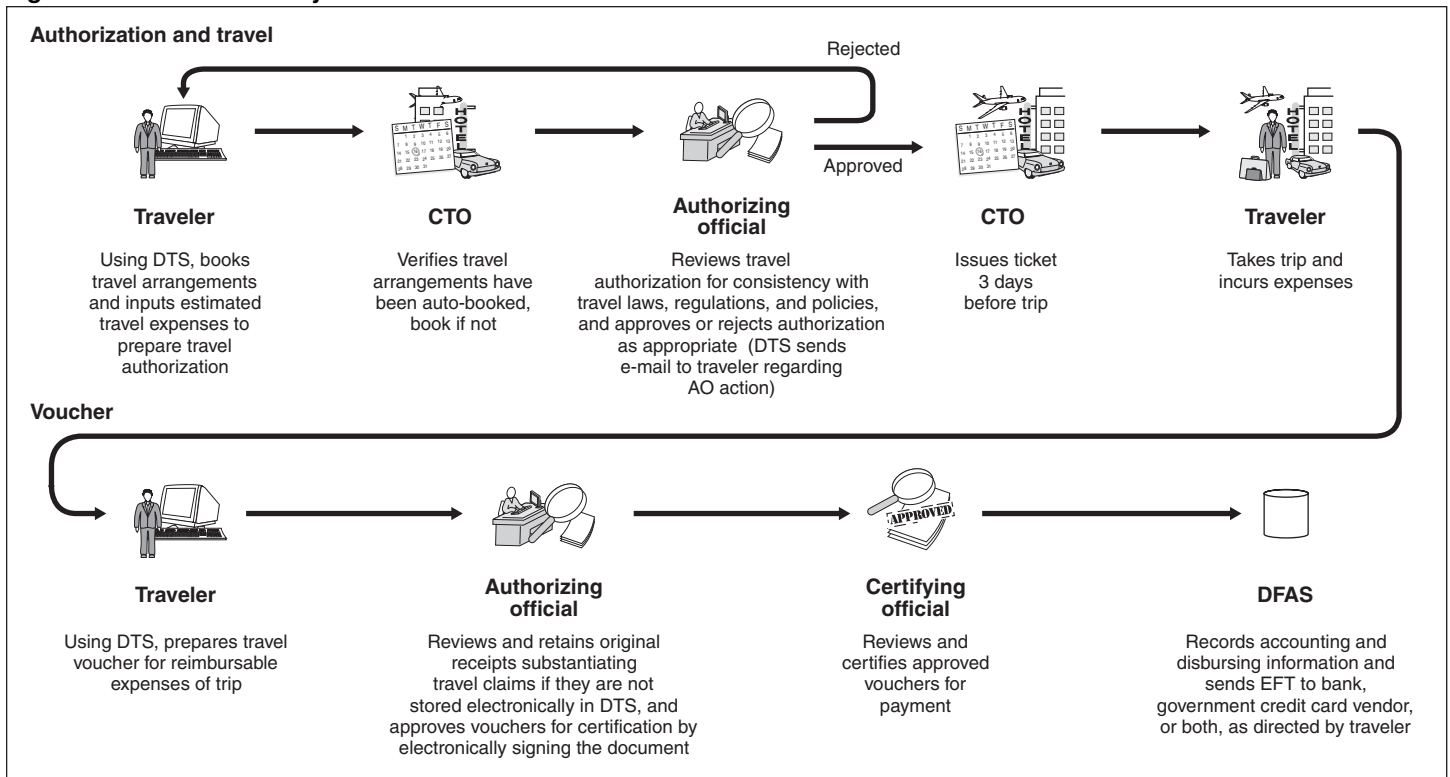
The first deployment of DTS was at Ellsworth Air Force Base, South Dakota, in August 2001. As of September 2005, DTS has been deployed to approximately 5,600 locations. The department currently estimates that DTS will be fully deployed to all 11,000 locations by the end of fiscal year 2006, with an estimated 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 estimated in the original contract that was agreed to with BDM.¹³ The remaining costs are DOD internal costs associated with areas such as the operation and maintenance of DTS, the operation of the PMO-DTS, the voucher payment process, and management and oversight of the numerous CTO contractors.

DOD Travel Process

DTS automates and integrates the department's three travel processes: authorization, reservations, and payment to the traveler. Figure 1 depicts the designated DOD travel process using DTS.

¹³According to the PMO-DTS, the \$44 million associated with the restructuring of the contract is part of the overall contract amount of \$264 million.

Figure 1: Defense Travel System Processes



Source: GAO.

The three essential players in the processing of a travel authorization and related payment are the traveler, the CTO, and the AO. The traveler generates a travel authorization and enters the appropriate information into DTS, such as travel dates, departure and arrival airports, and hotel and rental car arrangements. When the traveler is finished, DTS sends a prebuilt passenger name record to the CTO. If possible, requested arrangements will automatically book without CTO intervention. In cases where the travel arrangements do not automatically book, the CTO must intervene and take additional steps to book the requested arrangements. Next, the traveler's AO receives an e-mail notification from DTS stating that there is a travel authorization awaiting review and approval.

The AO is a key internal control point in the travel authorization process. AO responsibilities include reviewing the travel authorization for compliance with travel laws, regulations, and policies; determining if the

trip is mission essential and funds are available; assigning the proper line of accounting prior to authorization; reviewing all policy exceptions, and approving or rejecting the travel authorization as appropriate. When the AO approves a travel authorization by electronically signing the document in DTS, DTS routes the approved travel authorization to the CTO for ticketing, sends an obligation transaction to the appropriate accounting system and notifies the traveler via e-mail that the travel authorization has been approved.

When the trip is complete, the traveler creates a travel voucher for reimbursable travel-related expenses from the travel authorization data stored in DTS, and electronically signs the voucher. DTS electronically routes the travel voucher to the AO for approval.¹⁴ An AO is then responsible for certifying a travel voucher for payment by electronically signing the document.¹⁵ DTS submits the certified travel voucher to DFAS for payment through electronic interfaces, which records the information in the appropriate accounting and disbursing systems.

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

¹⁴AOs are appointed as accountable officers and shall be pecuniarily liable for erroneous payments from negligent performance of duties in accordance with DOD Financial Management Regulation 7000.14-R, vol. 5, ch. 33.

¹⁵DOD policy permits the AO to also serve as the certifying official, but PMO-DTS officials stated that by practice, AOs do not approve and certify the same vouchers. Certifying officials are also pecuniarily liable for erroneous payments, but may be relieved from liability if they were not negligent in the performance of their duties.

more than a coach class ticket, unauthorized premium-class travel resulted in millions of dollars of unnecessary costs annually.¹⁶

- 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 its CBA could be at least \$100 million.¹⁷
- We found that DOD sometimes paid twice for the same airline ticket—first to 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.¹⁸

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 key practices, it is not surprising that critical flaws have been identified after deployment, resulting in significant schedule slippages. In July 2002, a DOD Inspector General’s report noted that in early 1999, it was evident that the commercial-off-the-shelf software would require extensive modification in order to meet DOD’s needs.¹⁹ Further, the report pointed

¹⁶GAO, *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), and *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).

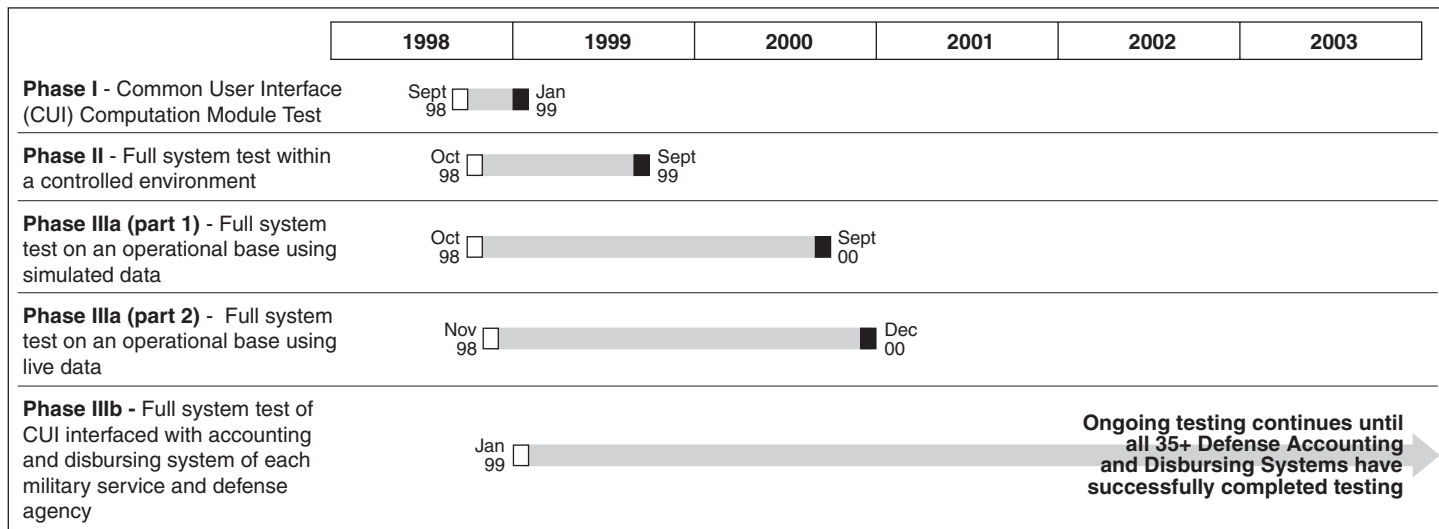
¹⁷GAO, *DOD Travel Cards: Control Weaknesses Led to Millions of Dollars Wasted on Unused Airline Tickets*, [GAO-04-398](#) (Washington, D.C.: Mar. 31, 2004).

¹⁸GAO, *DOD Travel Cards: Control Weaknesses Led to Millions of Dollars of Improper Payments*, [GAO-04-576](#) (Washington, D.C.: June 9, 2004).

¹⁹Department of Defense Office of the Inspector General, *Allegations to the Defense Hotline on the Management of the Defense Travel System*, D-2002-124 (Arlington, Va.: July 1, 2002).

out that operational problems continued to arise during the third phase of the system testing in the fall of 2000. As originally envisioned, the initial deployment of DTS was to commence 120 days after 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. Figure 2 shows the schedule slippage between the planned and actual implementation of DTS.

Figure 2: Delay in the Development and Implementation of DTS



- Original date
- Schedule delays
- Actual date

Source: GAO, based on information provided by DOD.

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 needs to be in place in order to have reasonable assurance

that an organization has implemented the disciplined processes necessary to reduce software development project risks to acceptable levels.²⁰

In one key area, our review 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. For example, DOD officials stated that prior to an August 2005 system update, DTS should have displayed 12 flights, if that many flights were available, within a flight window.²¹ 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. Because a system requirement covering this feature had never been defined and communicated to the contractor, there was no reasonable assurance that DTS would display the envisioned number of flights and related airfares within a given flight window.²² As we have noted in previous reports, requirements that are not defined are unlikely to be tested, with the resulting consequence that they are even less likely to be satisfied.²³

We also noted that even when the requirements were properly defined, the DOD tests for determining whether DTS displayed the proper flights and airfares did not provide reasonable assurance that the (1) proper flights were displayed and (2) airfares for those flights were displayed. Specifically, DTS uses a commercial product to obtain information from the database that contains the applicable flight and airfare information—

²⁰Disciplined processes for software development and implementation include a wide range of activities, including project planning and oversight, requirements management, risk management, and testing.

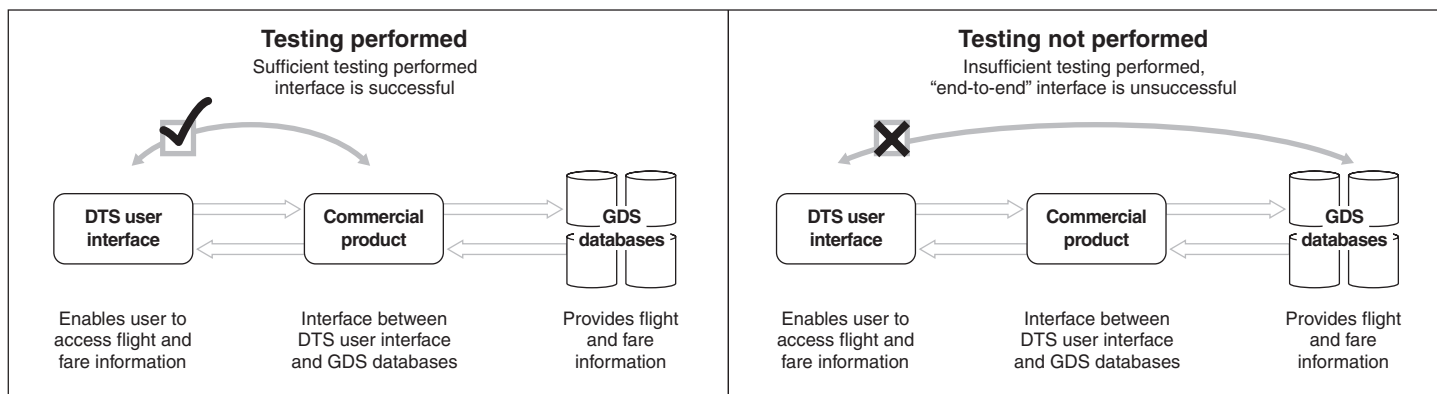
²¹Prior to the August 2005 system update, DTS used a 4-hour flight window for domestic flights and a 12-hour flight window for foreign flights. The current window is 12 hours for domestic flights and 24 hours for foreign destinations. The system is also now expected to display up to 25 flights for the flight window.

²²A 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.

²³GAO, *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).

commonly referred to as a global distribution system (GDS).²⁴ 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 airfares to DTS that were contained in the GDS. Since the PMO-DTS neither performed an end-to-end test 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 flight and airfare information to the users.²⁵ According to DOD officials, this system weakness was detected by users complaining that DTS did not display all relevant flights and airfares. Figure 3 illustrates the inadequacy of the DTS testing.

Figure 3: Limitations of DTS Testing



Source: GAO.

²⁴A system that is used to offer and purchase travel services and related products. For example, according to one GDS (SABRE), it now includes more than 400 airlines, 64,000 hotels, 32 car rental companies, 9 cruise lines, 35 railroads, and 220 tour operators. In 2004, more than 900 travel providers displayed information about their products and services through the SABRE system, and an estimated \$70 billion worth of travel-related products were sold.

²⁵The 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.

PMO-DTS officials acknowledged that these two problems have been ongoing since the initial implementation of DTS. Accordingly, 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. Further, PMO-DTS officials have stated that the two problems were corrected as part of the August 2005 DTS system update. However, we found that the problems have not been entirely corrected as of the September 2005 release. In reviewing the documentation relating to the September 2005 release, we found that (1) the requirements generally described the functionality that was expected relating to the display of flights and airfares except that the specific flight order was not adequately documented and (2) testing was inadequate to provide reasonable assurance that the DTS system requirements associated with the reservation module were properly tested.

Our analysis found that the documentation relating to the testing for the September 2005 release provided reasonable assurance that the proper GSA city pair airfares were displayed for a given flight. However, this documentation did not provide reasonable assurance that the proper flights were displayed. Although we were told by PMO-DTS officials that the testing efforts had checked the number of flights displayed in the GDS to those that were displayed by DTS to ensure that DTS was properly displaying the available flights, adequate documentation was not retained to verify that this comparison had been made. In November 2005 we performed a limited test and found that the system did not properly display the GSA city pair flights between Chicago, Illinois and Dayton, Ohio. Our analysis also identified other problems in the display of flight information.

More specifically, for the reservation module our analysis found that the flights actually displayed in DTS did not meet the stated DOD requirements. According to PMO-DTS officials, DTS is required to display up to 25 flights within a 12-hour flight window for domestic flights, with the GSA city pair flights shown first. When more than one flight is available within a category, the flights should then be sorted first by the elapsed flight time²⁶ and then by the earliest departure time. Our review found that the testing performed for the September 2005 release did not provide reasonable assurance that these requirements were met. Our analysis of

²⁶Elapsed flight time is the amount of time the flight is scheduled to be in the air, rather than the total trip time. For example, one flight displayed in DTS showed an elapsed flight time of 3 hours and 20 minutes with a total trip time of about 9 hours.

two frequently used city pairs DOD tested disclosed that DTS (1) displayed more than the 25 flights, (2) included flights that were outside the flight window, and (3) did not display the flights in the proper order. The following examples illustrate these problems.

- The testing documentation showed that 29 flights were displayed for the Chicago, Illinois, to Dayton, Ohio, flight and that 11 of these flights were outside the flight window. For example, the stated departure time was 9:00 a.m. which means that flights from 3:00 a.m. and 3:00 p.m. should be considered for inclusion. Furthermore, 60 percent of the first 10 flights were outside of this window and leaving at such times as 3:45 p.m. (fourth item on the display) and 8:55 p.m. (eighth item on the display).
- Although the stated requirement was to show the flights with GSA city pairs first, sorted by elapsed flight and earliest departure times, the testing documentation showed for an October 18, 2005, departure time, that the first flight displayed in DTS left Washington, D.C., at 6:45 a.m. and arrived at Columbus, Ohio at 9:30 a.m. with an elapsed flight time of 1 hour and 55 minutes when the user entered a 9:00 a.m. departure time. However, the documentation also showed that 6:55 a.m. (eleventh item on the display) and 1:35 p.m. (thirteenth item on the display) departing flights were also available with elapsed times of about 1 hour and 25 minutes. Based on the stated requirement, these two flights should have been shown first and second on the display since they had shorter elapsed flight times and were also GSA city pair flights. Furthermore, the flights with the shortest elapsed flight times were direct flights while the first flight involved stopping at another airport before arriving at Columbus, Ohio.

We believe that one factor contributing to the failure to detect the errors in displaying the flights in the proper order was that the stated requirements for the order had not been properly documented. Specifically, the requirements that were included in the testing documentation stated that the flights were to be displayed in the following order: GSA city pair flights with capacity limits, GSA city pair flights, and all other unrestricted flights. These requirements did not contain additional information to state that elapsed flight time and earliest departure time should also be considered in the display. As we noted in our September 2005 testimony, requirements that are not defined are unlikely to be tested.²⁷

²⁷GAO-05-998T.

PMO-DTS officials stated that subsequent to the September 2005 release, they had identified the flight order display problem and that it had been corrected in a subsequent release. Our limited test in November 2005 showed that the flights were now displayed in the proper order for the two city pairs for which we had identified problems in the September 2005 testing. PMO-DTS officials stated that they would investigate the reasons (1) that more than 25 flights were displayed, (2) why flights that were outside the 12-hour flight window were displayed, and (3) why all GSA city pair flights were not included in the display.

DTS Has Corrected Some Previously Reported Travel Problems

DTS has corrected one of the previously reported travel problems, but others remain. We have previously reported that a breakdown in internal controls and a weak control environment have led to potential fraud, waste, and abuse of hundreds of millions of dollars being improperly spent on DOD travel.²⁸ Specifically, DTS has resolved the problem related to duplicate payment for airline tickets purchased through CBAs. However, problems remain related to improper premium-class travel, unused tickets that are not refunded, and accuracy of travelers' claims. The three remaining problems cannot be resolved solely within DTS and will take departmentwide action to address.

Duplicate Payments Related to CBA

Based upon our observations, we found that DTS was designed to ensure that a ticket purchased through CBAs cannot be claimed on the individual's travel voucher as a reimbursement for airfare to the traveler. We have previously reported that the department sometimes paid for the same airline ticket twice when the CBAs were used.²⁹ As part of our statistical sample discussed later, we found 14 travel vouchers for which an airline ticket purchased with a CBA was included on the voucher; however, the traveler did not receive reimbursement for the claim.

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.

²⁸GAO-04-88, GAO-04-398, and GAO-04-576.

²⁹GAO-04-576.

In November 2003, the Under Secretary of Defense for Personnel and Readiness formed a task force to address our prior recommendations³⁰ 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, AOs must have their own premium-class travel approved at the next higher 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 eight 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 eight codes and, in May 2005, reduced the list to three codes. According to PMO-DTS officials, these three codes are consistently used among the various airlines to designate premium-class travel.

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. Our analysis disclosed at least 68 cases that involve improper premium-class travel.³¹ Table 1 presents a summary of our analysis.

³⁰GAO-04-88.

³¹To 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 through 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 period. We eliminated all airfare transactions that were (1) less than \$200, (2) not processed through DTS, and (3) determined to be economy class. As a result, we identified 419 cases that could involve premium-class travel.

Table 1: Summary of Premium-Class Travel Analysis

Defense component	Potential premium-class travel	Improperly approved premium-class travel	Properly approved premium-class travel	No documentation received	Documentation inconclusive
Army	93	46	4	4	39
Navy	40	13	9	0	18
Air Force	157	9	0	131	17
DOD agencies	118	0	6	110	2
Total	408	68	19	245	76

Source: GAO analysis of DOD data.

DOD regulations require that authorization for premium-class accommodations be made in advance of travel unless extenuating circumstances or emergency situations make advance authorization impossible. Further, consistent with the *Federal Travel Regulation*, DOD restricts premium-class travel to one of the following eight circumstances: (1) regularly scheduled flights between origin and destination provide only premium-class accommodations, and this is certified on the travel voucher; (2) coach class is not available in time to accomplish the purpose of the official travel, which is so urgent it cannot be postponed; (3) premium-class travel is necessary to accommodate the traveler’s disability or other physical impairment, and the condition is substantiated in writing by competent medical authority; (4) premium-class travel is needed for security purposes or because exceptional circumstances make its use essential to the successful performance of the mission; (5) coach-class accommodations on authorized/approved foreign carriers do not provide adequate sanitation or meet health standards; (6) premium-class accommodations would result in overall savings to the government because of subsistence costs, overtime, or lost productive time that would be incurred while awaiting coach-class accommodations; (7) transportation is paid in full by a nonfederal source; and (8) travel is to or from a destination outside the continental United States, and the scheduled flight time is in excess of 14 hours.³² However, a rest stop is prohibited when travel is authorized for premium-class accommodations. Based upon the documentation provided by DOD, we found that none of

³²Department of Defense Civilian Personnel *Joint Travel Regulations*, paras. C2000 and C2204 and Department of Defense *Joint Federal Travel Regulations*, paras. U3100 and U3125.

the 68 cases meet the above criteria or were approved at the appropriate level.

Further, as shown in table 1, we were unable to ascertain if premium-class travel occurred for 321 travel legs. For 245 travel legs, no documentation was received, and for 76 travel legs, the documentation provided was inconclusive. On numerous occasions, we requested that the DOD components provide us with documentation, such as ticket stubs or travel itineraries, to substantiate whether the travel legs were premium- or economy-class travel. If the documentation indicated premium-class travel, we requested that the proper authorization and justification be provided.³³ At the end of September 2005, the DOD components had not provided the requested documentation for 245 travel legs. Therefore, we could not ascertain and—more importantly—on the basis of the documentation provided, DOD is not in position to determine, if the airfare was for premium-class or economy-class travel.

Specific examples of the 68 instances of improperly approved premium-class travel are highlighted below:

- A Navy senior Chief Petty Officer (E-8) flew from Norfolk via Detroit to Seattle, Seattle to Los Angeles, drove from Los Angeles to San Diego, and flew first class from San Diego via Detroit to Norfolk. The traveler charged \$1,578 on the government travel card for travel from Norfolk to Seattle and San Diego to Norfolk, whereas GSA city pair fare was only \$359. Similarly, the traveler paid \$298 to fly from Seattle to Los Angeles compared to the GSA city pair fare of \$149. The CTO remarked on the travel authorization that it would not issue a first-class ticket without properly approved documentation and the lowest government fare was \$414. The traveler submitted the travel voucher and the approving official (civilian GS-9) approved the premium-class travel costs without documentation of proper authorization from a premium-class approving official. According to a Navy official, the traveler purchased his own ticket at the airport. However, this has no bearing on the fact that reimbursement was made without the proper authorization.
- A Department of the Army civilian employee (GS-12) flew from Columbia, South Carolina, via Atlanta, Georgia, to Gulf Port, Mississippi,

³³Request for documentation was made on May 19, June 9, July 11, August 8, and August 22, 2005.

to attend a conference. One leg of the return trip included a first-class flight. 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; 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. The justification provided by the traveler is not in accordance with DOD's criteria. As a result, the premium-class fare was not properly approved.

Fifty-eight of the 68 travel legs identified as premium-class travel were for international travel, mostly intra-European flights. For 31 of the 58 travel legs, the CTOs claimed that these flights were the lowest unrestricted fares available, and therefore it is not necessary to obtain permission for premium-class travel. However, effective August 16, 2004, paragraph U3125-B5.b of the *Joint Federal Travel Regulations* (JFTR) and paragraph C2204-B.5.b of the *Joint Travel Regulations* (JTR) require the approval of premium-class travel under these circumstances. More specifically, the JFTR and JTR state that "When regularly scheduled flights between the authorized origin and destination (including connection) points provide only premium-class accommodations, the member must certify these circumstances on the travel order attachment." In the absence of specific authorization/approval from the designated authority, the member is financially responsible for all additional costs resulting from premium-class airline accommodations use. The 58 travel legs were identified as business class and therefore should have been approved in accordance with DOD's policy. However, the CTOs failed to notify the traveler that these travel legs were coded business class, and therefore, approval by higher authority was required. Unless the CTOs adhere to the applicable policy, improperly approved premium-class travel will continue. It is incumbent upon DOD to ensure that the CTOs are knowledgeable about the department travel policies and that those policies are followed.

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 and obtain a refund as required. To address this problem, DOD directed that all new CTO contract solicitations require CTOs to prepare unused airline ticket reports which identify tickets that were not used within a specified period, usually 30 days past the trip date, so that they can be canceled 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. However, according to DOD officials, this requirement has not yet been implemented in all existing CTO contracts.

At the five locations we visited,³⁴ each CTO was preparing the unused airline ticket report; however, the frequency varied. The CTOs at the Army and Air Force locations prepared the required report on a daily and monthly basis, respectively. According to Army and Air Force officials, the reports are prepared for each location currently using DTS. For the third quarter of fiscal year 2005, the Army had unused airline tickets of approximately \$14 million, and the Air Force had about \$2 million of unused airline tickets submitted for refund. The Navy requires its CTO to produce the unused ticket report on a weekly basis. Our review of the Navy's unused airline ticket report for the week ended July 17, 2005, indicated that the Navy was in the process of obtaining refunds of about \$800,000. The Marine Corps prepared unused airline ticket reports on a monthly basis. For the third quarter of fiscal year 2005, the Marine Corps had approximately \$1.4 million in unused airline tickets refunded. Army, Navy, and Marine Corps representatives stated that the reports prepared by their CTOs also included dollar amounts that are the result of travelers notifying the CTOs that all or a portion of their ticket was not used. They could not ascertain the amount that related directly to the work of the CTOs. According to Air Force personnel, the unused airline ticket report only includes tickets that were found by the CTO and then canceled and refunded.

Accuracy of Travel Voucher Reimbursements Questionable

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 analysis of 170 travel vouchers 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

³⁴Aberdeen Proving Ground, Maryland; Buckley Air Force Base, Colorado; Defense Logistics Agency, Virginia; Headquarters Marine Corps, Virginia; and Naval Operations Headquarters, Virginia.

correct in all instances on the basis of the information provided by the traveler.³⁵

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 AO were inadequate. In regard to the AO reviews, on the basis of our sample, we estimated that 18 percent of the travel vouchers were paid even though there was not reasonable assurance that the amount of the reimbursement was accurate.³⁶ Further, we estimated that 29 percent of the travel vouchers lacked adequate receipts for the amounts claimed.³⁷ Furthermore, for the 49 travel vouchers lacking receipts, we saw no evidence that the AOs were provided with the appropriate receipts by the traveler.

The JFTR and JTR state that receipts are required for all lodging expenses regardless of amount and for all individual official travel expenses of \$75 or more. The receipt must show when specific services were rendered, and the traveler must attach the required receipts to the travel voucher.

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 AOs. Additionally, we identified eight vouchers in which the claims for reimbursement of rental car expenses were not in accordance with DOD policy. The JFTR and JTR state that when rental car usage is authorized for official business by the AOs, reimbursement is authorized for rental car expenses, such as the rental costs, taxes and local assessments on rental car users, gasoline, parking, road/tunnel tolls, and any per-day administrative fee required by the rental car agreements. When a compact rental car (the “standard” for TDY travel) does not meet requirements, the AOs may authorize vehicles appropriate for the mission. In all eight cases, we found that the traveler did not provide justification for

³⁵We analyzed 170 travel vouchers, and at the time of our review, 3 vouchers in our sample had not yet been completed and submitted. The selected vouchers were drawn from the first quarter of fiscal year 2005 (October through December 2004).

³⁶We are 95 percent confident that the total number of travel vouchers that were paid even though there was not reasonable assurance that the amount of the reimbursement was accurate was between 13 percent and 25 percent.

³⁷We are 95 percent confident that the total number of travel vouchers that lacked adequate receipts for the amounts claimed was between 22 percent and 36 percent.

the non-compact rental cars and the AOs did not require the justification to be documented in accordance with DOD policy.

The AO's review and approval of the traveler's voucher is intended to ensure that only authorized, properly supported travel charges are reimbursed and that the amounts are accurate and properly calculated. Our analysis clearly indicates that DOD reimbursed travelers for amounts claimed despite the lack of the required documentation. According to DOD regulations, "the AO (s') 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 AO's signature indicates 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. Further, inadequate reviews by the AO's resulted in some travelers being reimbursed more than entitled and other travelers having to pay for legitimate travel expenses out of their own pockets.

DTS Faces Challenges in Making DTS a Standard DOD Travel System

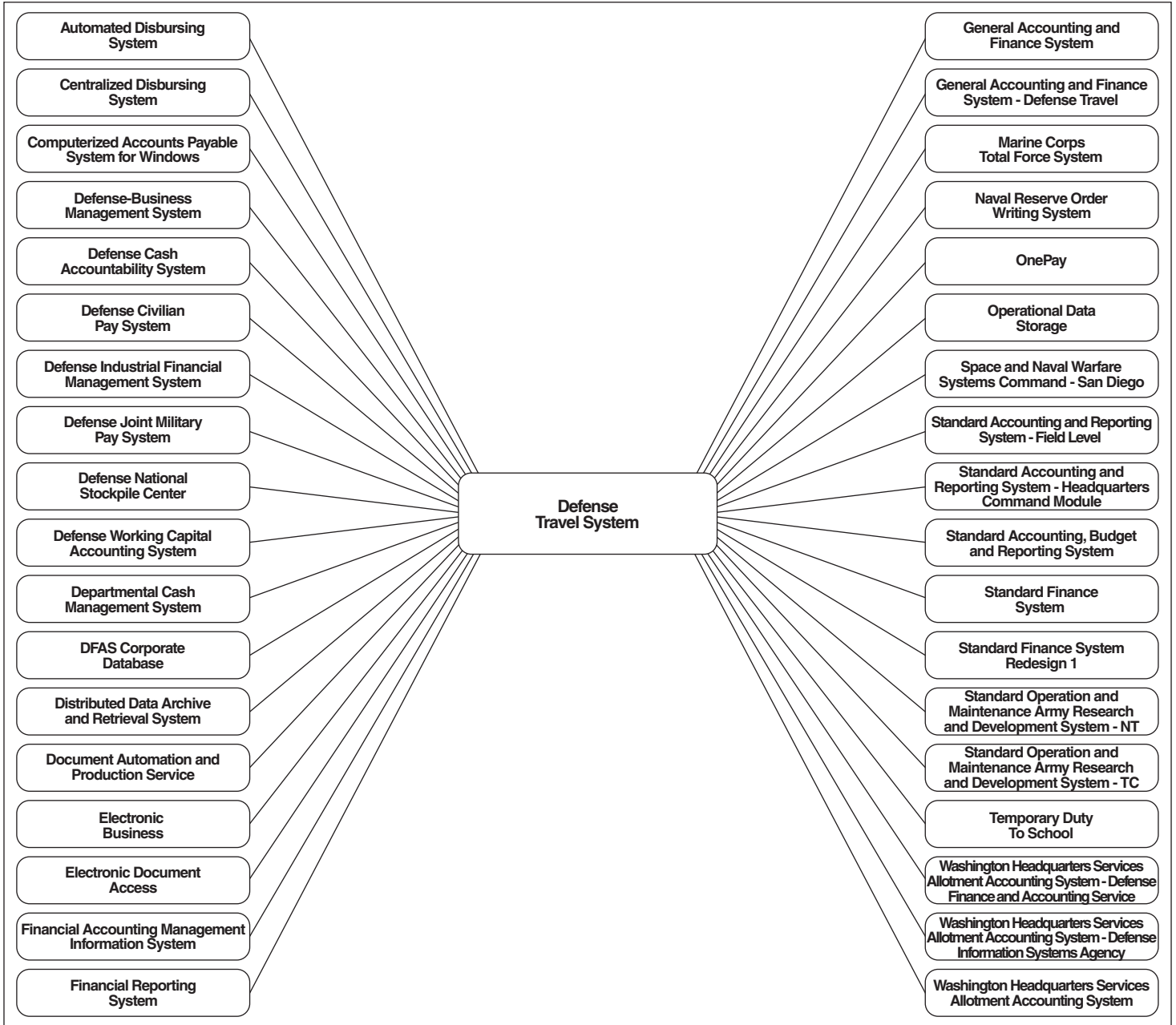
DOD's goal of making DTS the standard travel system within the department depends upon the development, testing, and implementation of system interfaces with the myriad of related DOD systems, as well as private-sector systems, such as the system used by the credit card company that provides DOD military and civilian employees with travel cards. While DOD has developed 31 system interfaces, the PMO-DTS is aware of at least 18 additional DOD business systems for which interfaces must be developed. To date, DOD has reported that the development and testing of the system interfaces has cost 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. Furthermore, the underutilization affects 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 system(s) other than DTS—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 system used by the credit card company that provides DOD personnel with travel cards. Figure 4 identifies the 36 DOD business systems for which the interfaces with DTS have already been developed and implemented.

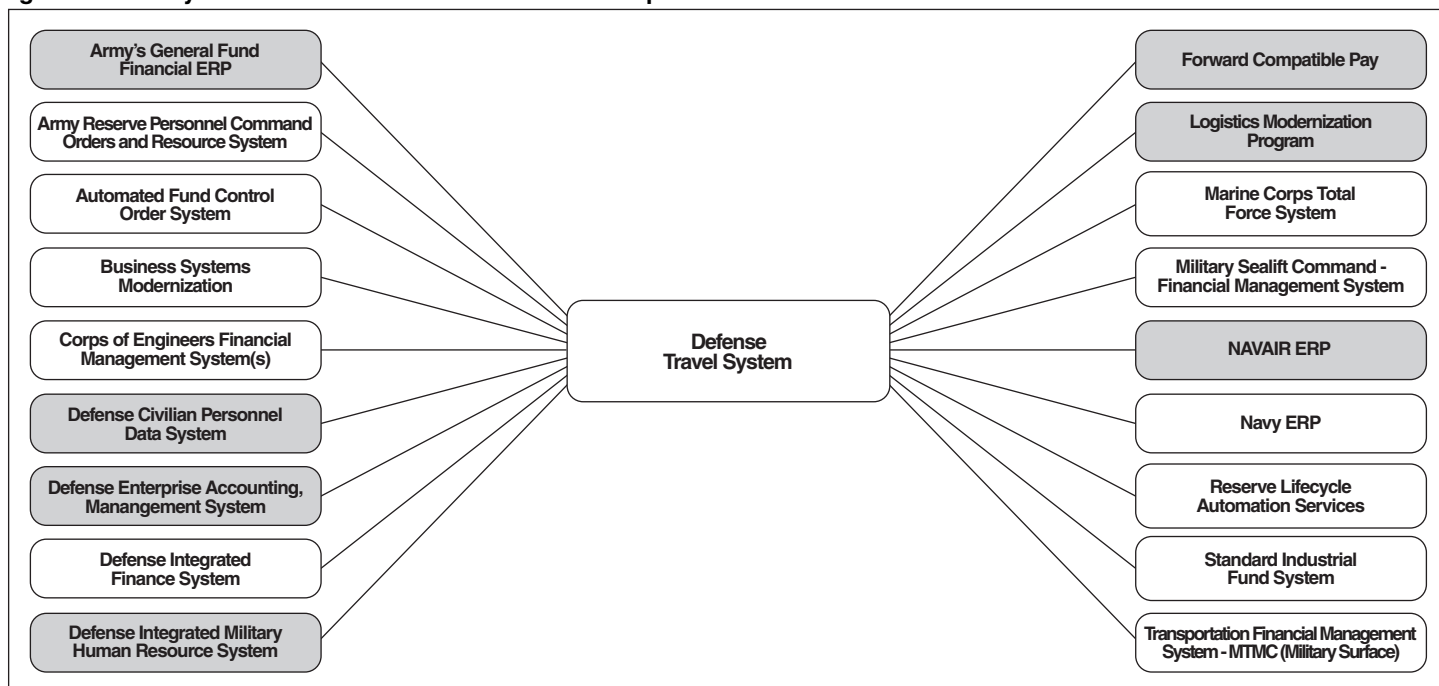
Figure 4: Current DTS System Interfaces



Source: GAO analysis of DOD data.

Figure 5 illustrates the additional 18 DOD business systems for which interfaces with DTS must be developed in the future.

Figure 5: DTS System Interfaces That Need to Be Developed



To be completed in future
 Completion dependent on future funding

Source: GAO analysis of DOD data.

While DOD was able to develop and implement interfaces with the 36 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 for the Army General Fund Financial Enterprise

Resource Planning (ERP) system,³⁸ which is a relatively new endeavor within the department, so it will be some time before DOD is in position to start development of the interface. Additionally, the development of the DTS interfaces depends on other system managers achieving their time frames for implementation. For example, the Navy ERP system 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 schedule slippage for the interface's implementation. The above two factors also affect DTS's ability to develop reliable cost estimates for the future interfaces.

Interfaces with Private-Sector Systems Are Critical

Besides the DOD systems, DTS must also develop effective interfaces with several private-sector systems. For example, DTS must interface with the department's credit card provider and the four GDSs used by the various CTOs that support DOD's travel activities. The information from the credit card provider is used for such items as (1) supporting and automating the CBA reconciliation process for credit card charges and (2) providing the traveler with the credit card charges to assist in the preparation of the travel voucher and the payment process. The interfaces with the four GDSs are necessary since DTS must support the GDS that has been selected by a CTO servicing a given DOD location. For example, CTO A has selected SABRE as its GDS and services base A, while CTO B has selected Apollo as its GDS and services base B. In order for DTS to properly display the reservation information to personnel at base A, it must have a connection to SABRE, while in order to perform the same function at base B, it must have a connection to Apollo.

Further complicating DTS's operation is the fact that not all airlines use a GDS. Fees are charged by the GDS for displaying and booking reservations and to the CTO for making travel arrangements. Providing the travel services directly to the traveler could eliminate these costs and is one reason that some travel service providers have decided not to use a GDS. According to DTS officials, the ability to directly connect travel service suppliers and customers is being explored. For example, they are currently negotiating with an airline to bring its flight and airfare information into

³⁸An 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.

DTS, rather than going through a GDS, by using an existing internet technology commonly referred to as Web services.³⁹

Underutilization of DTS Affects Estimated Savings

Another challenge in establishing DTS as a standard travel system within DOD is the continued use of the existing legacy travel systems, which are controlled 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.⁴⁰ We recognize that some of the existing travel systems, such as the Integrated Automated Travel System version 6.0, cannot be completely eliminated because they perform functions, such as permanent change of station travel claims that DTS cannot. However, in other cases, the department is spending funds on duplicative systems that perform the same functions as DTS. The funding of multiple systems that perform the same functions is one of the reasons why the department has at least 4,150 business systems.⁴¹ Since these legacy systems are not controlled and operated by the PMO-DTS, it does not have the authority to discontinue their operation.

Over the past several years, we have been critical of the department's inability to effectively control its business systems investments.⁴² To address this issue, the statutory requirements of the Ronald W. Reagan

³⁹As defined by the World Wide Web Consortium "Web services provide a standard means of interoperating between different software applications, running on a variety of platforms and/or frameworks. Web services are characterized by their great interoperability and extensibility thanks to the use of [the Extensible Markup Language (XML)], and they can then be combined in a loosely coupled way in order to achieve complex operations." XML is a flexible, nonproprietary set of standards for annotating or "tagging" information so that it can be transmitted over a network such as the Internet and readily interpreted by disparate computer systems.

⁴⁰GAO, *DOD Business Systems Modernization: Billions Being Invested without Adequate Oversight*, [GAO-05-381](#) (Washington, D.C.: Apr. 29, 2005).

⁴¹[GAO-05-381](#).

⁴²GAO, *DOD Business Systems Modernization: Billions Continue to Be Invested with Inadequate Management Oversight and Accountability*, [GAO-04-615](#) (Washington, D.C.: May 27, 2004), and [GAO-05-381](#).

National Defense Authorization Act for Fiscal Year 2005⁴³ are aimed at improving the department's business systems management practices. The act directs DOD to put in place a definite management structure responsible for the control and accountability over business systems investments, by establishing a hierarchy of investment review boards from across the department, and directs that the boards use a standard set of investment review and decision-making criteria to ensure compliance and consistency with the department's business enterprise architecture. The continuation of the status quo should not be tolerated. It is the investment review boards' responsibility to ensure the funds are not being spent on the legacy systems at those locations where DTS has been fully deployed. Allowing such expenditures to occur will only perpetuate the current parochialism and cultural resistance to change that is prevalent throughout the department. We have previously reported that cultural resistance and stovepiped operations have all contributed significantly to the failure of previous attempts to implement broad-based management reforms at DOD.⁴⁴ The department has acknowledged that it confronts decades-old problems deeply grounded in the bureaucratic history and operating practices of a complex, multifaceted organization and that many of these practices were developed piecemeal and evolved to accommodate different organizations, each with its own policies and procedures.

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 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-

⁴³Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 332, 118 Stat. 1811, 1851-56 (Oct. 28, 2004) (*codified, in part, at 10 U.S.C. §§ 186, 2222*).

⁴⁴GAO, *Department of Defense: Long-standing Problems Continue to Impede Financial and Business Management Transformation*, [GAO-04-907T](#) (Washington, D.C.: July 7, 2004).

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 to which DTS 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 DTS has the capability to process. The Air Force issued a memorandum in November 2004 that stressed the importance of using DTS when implemented at an installation. The Navy issued a similar directive in June 2005.

Despite these messages, DTS remains underutilized by the military services. Some of 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 travel system. Until DOD develops and implements an effective strategy for overcoming resistance, parochialism, and stovepiped operations, transformation efforts, as envisioned by the 1995 task force report, will not be successful and the department will be faced with the continued proliferation of numerous business systems that are nonintegrated, duplicative, and waste limited resources.

Additional Actions Can Be Taken to Streamline DOD Travel Process

In its 1995 report, the DOD Task Force to Reengineer Travel noted that the existing process was complex and imposed exorbitant administrative costs on DOD to ostensibly ensure that travel funds are not wasted. The task force concluded that the DOD travel system focused on (1) compliance with rigid rules rather than on performance of the mission, (2) outmoded travel practices, and (3) a nonintegrated travel system and that the department needed to address these problems. While DTS has reduced some of the administrative burden, other opportunities exist to further

achieve the vision of a travel system that reduces the administrative burden and cost while supporting DOD's mission. While some of the opportunities could be implemented by DOD policy changes, others will require coordination with other organizations such as IRS. Examples of the possible changes in DOD's travel management practices include the following:

- automating approval of changes to authorized travel expenses;
- utilizing commercial databases to identify unused airline tickets and obtain refunds;
- simplifying display of flights;
- utilizing airfares other than the GSA city pair fares, where cost effective; and
- using automated methods to reduce hard copy receipt requirements.

Automating Approval of Changes to Authorized Travel Expenses

The current business process used by DTS designates the traveler's supervisor as the AO responsible for authorizing travel and then approving the travel voucher and making sure the charges are appropriate after the travel is complete. Furthermore, should the actual expenses claimed on the travel voucher differ from the authorized estimate of expenses, the AO is required to approve these deviations as well. For example, if the estimated costs associated with the travel authorization are \$500 and the actual expenses are \$495, then the AO must specifically approve the \$5 difference. If the difference is caused by two different items, then each item must be approved. Similarly, if the actual expenses are \$505, then the AO must specifically approve this \$5 increase. This policy appears to perpetuate one of the problems noted in the 1995 DOD report—compliance with rigid rules rather than focusing on the performance of the mission.

One practice that could be used to reduce the administrative burden on the traveler and the AO is to automatically make the adjustments to the travel claim when the adjustments do not introduce any risk or the cost of the internal control outweighs the risk. For example, processing a travel claim that is less than the amount authorized does not pose any more risk than processing a travel claim that equals the authorized amount since the key is whether the claim is valid rather than whether the amount equals the funding initially authorized and obligated in the financial management

system. The concept of using tolerances and making accounting entries is discussed in the *Exposure Draft: Core Financial System Requirements* that was published by the Office of Federal Financial Management.⁴⁵ These requirements were also contained in the previous document issued by the Joint Financial Management Improvement Program in November 2001.⁴⁶

Using Commercial Databases to Identify Unused Airline Tickets

We have previously reported that DOD has not recovered millions of dollars in unused airline tickets.⁴⁷ As discussed previously, one action that DOD is taking to address the problem is requiring the CTOs to prepare reports on the unused airline tickets. While this action is a positive step forward, it requires (1) the CTOs to have an effective system of performing this function and (2) DOD to have an effective program for monitoring compliance.

A third party service, commonly referred to as the Airlines Reporting Corporation (ARC),⁴⁸ may provide DOD with the necessary information to collect unused airline tickets in an automated manner. DTS officials have stated that they have had discussions with ARC, but were uncertain of the cost of obtaining and utilizing the data provided by ARC. If the information from ARC was utilized, DOD would not have to rely on the reports prepared by the CTOs and would be able to avoid the costs associated with preparing the unused airline ticket reports. According to DOD officials, this requirement has not yet been implemented in all the existing CTO contracts, and therefore, the total costs of preparing the unused airline ticket reports is not known.

⁴⁵Office of Management and Budget, Office of Federal Financial Management, *Exposure Draft: Core Financial System Requirements*, OFFM-NO-0105 (Washington, D.C.: February 2005).

⁴⁶Joint Financial Management Improvement Program, *Federal Financial Management System Requirements: Core Financial System Requirements*, JFMIP-SR-02-01 (Washington, D.C.: November 2001).

⁴⁷[GAO-04-398](#).

⁴⁸According to ARC, it was established by the travel industry to provide prompt, efficient, secure distribution and settlement of travel purchased in the United States. It also is a recognized travel industry data store and provider of travel industry knowledge and insight. According to DOD, ARC provides information on a subscription basis.

Besides using ARC for the unused airline tickets, DOD could use the information from ARC to provide assurances that the airfares claimed by travelers are correct. A case in point is an example we found in our review of premium-class travel. Since the ticket was obtained through a transaction outside of DTS, it was not included in the results previously discussed. We found that an Air Force senior executive purchased an airline ticket from Albuquerque, New Mexico to Europe with stopovers in France, Great Britain, Denmark, and Germany. He originally purchased a round-trip airline ticket using his government travel card for \$3,159. The traveler then exchanged the ticket at an airport and received a \$1,303 credit on the government travel card. We examined Bank of America data and confirmed that a refund of \$1,303 was posted to the account. While in Munich, Germany, the traveler exchanged the ticket again and was charged an additional \$515. The total airfare cost for this part of the trip was \$2,371; however, the traveler submitted a voucher claiming the original estimated cost of \$3,159 and included a handwritten receipt. The approving official approved the travel voucher, and the traveler was reimbursed \$3,159, an overpayment of \$788. Additionally, the traveler purchased an airfare ticket in Copenhagen to fly to Hamburg, and we found that the traveler submitted a receipt and requested a reimbursement of \$628, even though Bank of America showed that ticket cost only \$523—a potential overpayment of \$105. As a result of these various transactions the traveler was potentially improperly reimbursed at least \$893.

Since ARC maintains ticketing data, such as passenger name, ticket number, flight information, and fees paid for over 3 years, access to ARC would allow DOD to obtain the entire history of refunds and exchanges associated with a given ticket number. This information would permit DOD to not only identify unused airline tickets, but also unreported refunds such as those in the previous example. Since ARC is the organization that assigns tickets numbers, DOD could easily query the trips of interest. Under this concept, DOD could take the ticket numbers and query ARC to validate that the (1) ticket had been used and (2) ultimate price paid for the ticket after any refunds. Any tickets associated with trips that had been completed but not yet used would be identified in this process, which would allow DOD to begin taking the necessary actions to ensure it received the reimbursement for the portion of the unused airline ticket. This information would also be useful in identifying refunds provided to travelers that were not shown on the travel vouchers.

Simplify the Display of Flights

The current DTS business rules require the system to display multiple airfares for the same flight. DTS displays airfares in the following order, if seats are available on a given flight:

- GSA city pair fares with capacity limits,⁴⁹
- GSA city pair fares,⁵⁰ and
- other unrestricted fares—if GSA city pair fares are not available on that flight.

Following the above criteria, for a flight from Washington, D.C. (Ronald Reagan National Airport), to Dallas/Fort Worth, the GSA city pair fare with capacity limits, which is \$188,⁵¹ would be shown along side the GSA city pair fare of \$341, assuming that seats were available for both fares. We believe that the process could be simplified if only the lowest available airfare was displayed—in this case, \$188. Using the above flight, DTS should only display the GSA city pair fare with capacity limits for the given flight, if seats are available, since it was the lowest-cost unrestricted airfare, rather than showing both fares. Furthermore, if a lower unrestricted fare was available, that fare, rather than the GSA city pair fare, should be shown. This approach would be in accordance with the GSA city pair program since it allows for other unrestricted fares to be accepted when the selected airfare is (1) lower than the GSA city pair fare and (2) available to the general public. Implementation of this change would require DTS to change its business process. Currently, if travelers have to change their flights and the fares are not the same, they have to go through

⁴⁹These fares are lower in cost and the terms and conditions are similar to GSA city pair fares except the airline limits the number of seats that can be sold. However, they are refundable, changeable, and have no advance ticketing requirements. These fares are not always available, especially for last-minute or peak-season travel.

⁵⁰GSA awards contracts to the airlines to provide flight services. This is commonly referred to as the GSA city pair program. Under this program, (1) no advanced ticket purchases are required, (2) no minimum or maximum length of stay is required, (3) tickets are fully refundable and no charges are assessed for cancellations or changes, (4) seating is not capacity controlled (i.e., as long as there is a coach-class seat on the plane, the traveler may purchase it), (5) no blackout dates apply, (6) fare savings average 70 percent over regular walk-up fares, and (7) fares are priced on one-way routes permitting agencies to plan for multiple destinations.

⁵¹The \$188 represents a one-way fare, which is how the GSA city pair fares are shown.

the approval process because it necessitates change in the amount of funds obligated to pay for the flights. In reality, approving an airfare change from a GSA city pair fare with capacity limits to a GSA city pair fare should be “automatic” since a GSA city pair flight and airfare were being used and this airfare could have been selected by the traveler when the travel authorization was originated. Additionally, the automatic approval of such an increase would help alleviate concerns the travelers may have about amending travel authorization while in a travel status.

Utilizing Restricted Airfares Where Cost Effective

DOD’s business rules and the design of DTS provide that only unrestricted airfares should be displayed. However, adopting a “one size fits all” policy does not provide an incentive to the traveler to make the best decision for the government, which was one of the stated changes documented in the 1995 DOD report. Other airfares, generally referred to as restricted airfares, may be less expensive than a given GSA city pair fare and other unrestricted airfares. However, as the name implies, these fares come with restrictions. For example, within the GSA city pair fare program, changes can be made in the flight numerous times without any additional cost to the government. Generally, with restricted airfares there is a fee for changing flights.⁵²

The *Federal Travel Regulation* and DOD’s JFTR and JTR allow travelers to take restricted airfares, including on those airlines not under the GSA city pair contract, if the restricted airfare costs less to the government. However, DOD’s regulations do not address reimbursement above the applicable unrestricted airfare if that charge was incurred for the convenience of the government. For example, assume that the GSA city pair rate between city A and city B was \$300 and a traveler selected a restricted airfare for \$250. If the traveler incurred a \$35 change fee for personal reasons, then the traveler would be allowed to claim for reimbursement the \$35 fee since the total price of the ticket (\$285) was less than the GSA city pair fare. On the other hand, if the traveler incurred a \$70 fee and the change was for the convenience of the government, it is not clear under DOD’s regulations that the traveler would receive

⁵²Other types of restrictions include purchasing the ticket in advance or staying over a specified number of days.

reimbursement for the entire \$320.⁵³ Furthermore, even if the traveler felt certain that no changes would be required, DTS does not display restricted air fares. Additionally, at the present time, DOD does not have quantifiable information available that can be used to ascertain if the use of restricted airfares would be advantageous to the department.

Adopting a standard policy of using one type of airfare—unrestricted or restricted—is not the most appropriate approach for DOD to follow. A better approach would be to establish guidance on when unrestricted and restricted airfares should be used and then monitor how that policy is implemented. For example, travelers could be instructed to select restricted airfares when (1) the certainty of the trip occurring is highly probable, (2) the cost differential between unrestricted and restricted airfare would cover the costs of at least one change fee, and (3) the restricted airfare meets mission requirements. Once these business rules were defined, DTS could be modified to incorporate them into its displays of available flights, which would assist the traveler in identifying restricted airfares that may be of interest and in compliance with DOD guidance. Although development of the guidance is an important first step, management also needs to determine (1) whether the policy was being followed and (2) what changes are needed to make it more effective. For example, a periodic review of the change fees associated with restricted airfares could be made to determine such items as (1) whether, after consideration of these fees, savings were accruing to the department and (2) if the change fees were significant, the reasons for those change fees. Since DTS could be modified to capture the change fees as a separate expense item, such quantifiable data would assist in this analysis.

Using Automated Methods to Reduce Hard Copy Receipt Requirements

While receipts provide valuable information that is necessary to validate claims, as noted in our sample results, the omission of receipts was a significant problem in our review of the travel vouchers. In some cases, DOD may be able to change its policy and reduce the number of receipts required and the associated administrative burden without adversely affecting its ability to ensure a claim is proper. However, in some cases, IRS regulations mandate that DOD obtain receipts. For example, IRS has prescribed certain guidelines relating to the requirement for receipts

⁵³Under the JFTR and JTR, if a DOD traveler arranges travel through a noncontract CTO, DOD will reimburse the cost of a restricted ticket only up to the cost of the least expensive unrestricted ticket.

associated with travel expenses.⁵⁴ In this regard, receipts are not required for expenses less than \$75 (except for lodging) and transportation expenses where receipts are not readily available.⁵⁵

Automated methods could be used to reduce the number of receipts that the traveler is currently required to provide without compromising internal controls. Currently, a DOD traveler is required to provide a copy of the receipt associated with the airline ticket, except when the ticket is purchased via the CBA. However, adequate information may be available from automated sources that would provide at least the same degree of assurance as the receipts. Specifically, when the airline ticket is acquired using a government credit card, the appropriate information is available from the credit card company in an automated form that can be used to validate the claim on the voucher. Besides the airline tickets, information on the government charge card could also be used to validate the claim for reimbursement for travel fees paid to the CTO and fuel charges. Furthermore, if DOD gained access to the information contained in ARC as discussed previously, then this information could be used to further support the costs associated with the travel claim.

Other automated methods that may be able to produce reasonable assurance of the claim may require consultation with IRS. For example, IRS requires that lodging expenses be supported by receipts showing (1) the name and location of the hotel; (2) the dates the employee stayed there; and (3) separate amounts for charges such as lodging, meals, and telephone calls.⁵⁶ In the case of federal travel, such information is critical to determining whether the individual is receiving duplicate reimbursement. For example, if the employee was reimbursed \$70 for lodging expenses, which included a \$5 meal, then that employee could be compensated for the meal twice—once under the per diem allowance paid and then again under the lodging expenses. The information currently displayed by the government charge card vendor does not provide this level of detail. However, other automated techniques may provide reasonable assurance that the objective of not paying expenses twice is achieved. Conceptually,

⁵⁴26 C.F.R. § 1.62-2; see also, Revenue Ruling 2003-106, November 3, 2003; Revenue Procedure 97-45, October 14, 1997.

⁵⁵Internal Revenue Service, *Travel, Entertainment, Gift, and Car Expenses*, Publication 463 (Washington, D.C.: 2004).

⁵⁶IRS Publication 463.

using data-mining techniques,⁵⁷ an entity could achieve reasonable assurance that the claims for lodging were reasonable and did not include duplicate charges. The following is one conceptual approach that could be used.

- DTS knows (1) the dates the employee claimed lodging expenses, (2) the amount of lodging expenses claimed each day, and (3) the location where those expenses should have been incurred.⁵⁸ Also, assuming that the lodging was booked through DTS, it knows the rate that is expected to be paid.
- The government charge card system knows the (1) transaction date of the payment made to the lodging provider, (2) total amount paid, (3) name of lodging provider, and (4) location of lodging provider (city, state, and zip code).
- Comparison of data from DTS and the government charge card would indicate whether the claim for lodging costs was greater than or equal to the amount claimed on the travel voucher, which would provide reasonable assurance that the costs had been incurred.
- Although the comparison of the DTS information to the charge card information would provide reasonable assurance that the charges claimed were actually incurred, it would not provide reasonable assurance that the costs claimed did not include duplicate charges. Reasonable assurance that the amounts actually claimed represented the actual charges for those items can be obtained by using the data already captured (or available) through two methods. First, since DTS knows the travel claims for a large number of individuals, it will have a high probability of knowing (1) the lodging expenses incurred by others at that facility and (2) the applicable tax rate for lodging associated with a given zip code. For example, if 10 travelers stay within a given zip code and the tax rate is 5 percent, then it is reasonable to expect that another claim in that zip code with a 5 percent tax rate is reasonable. Second, it may be possible to compare the rate claimed by multiple

⁵⁷Data mining applies a search process to a data set, analyzing for trends, relationships, and interesting associations. For instance, it can be used to efficiently query transaction data for characteristics that may indicate potentially improper activity.

⁵⁸For example, the employee may have been authorized to travel to Washington, D.C., but stayed in Arlington, Virginia, which is located near Washington, D.C.

individuals at a given facility even though those individuals may not have been associated with the trip or stayed at the facility on the same day. For example, if 5 travelers stayed at hotel A during a 6-month period and all of them claimed the same for lodging and taxes, then it would be reasonable to assume that this figure was the actual amount paid. Using these techniques, anomalies could be detected.

The term “reasonable assurance” is important because no matter how well designed and operated, an internal control system cannot provide absolute assurance that agency objectives will be met. Furthermore, an important concept in internal control considerations is the relationship between costs and benefits.⁵⁹ Because techniques and technology may allow DOD to achieve the reasonable assurances needed by IRS that, in effect, require DOD to obtain lodging and similar receipts, DOD could explore with IRS acceptable approaches for reducing the number of receipts required for the paper-based receipt process. Reducing the need for paper receipts would also reduce the administrative burden on the travelers and the AOs and the costs incurred by DOD for capturing and storing these receipts.

Conclusions

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 stovepiped legacy travel systems and cheaper electronic processing, which could be achieved with the successful implementation of DTS, is critical to realizing the anticipated savings. Further, opportunities exist to streamline the department’s overall travel management practices thereby reducing the

⁵⁹GAO, *Financial Management: Effective Internal Control Is Key to Accountability*, GAO-05-321T (Washington, D.C.: Feb. 16, 2005).

administrative burden and cost without affecting internal controls and, in some cases, improving internal controls over the department's travel management practices.

Recommendations for Executive Action

To improve the department's management and oversight of DTS and streamline its administrative process for travel, we recommend that the Secretary of Defense take the following 10 actions:

- direct the PMO-DTS to effectively implement the disciplined processes necessary to provide reasonable assurance that (1) requirements are properly documented and (2) requirements are adequately tested;
- direct the PMO-DTS to properly test new or modified system interfaces so that the intended functionality is properly operating prior to a software update being provided to DTS users;
- direct the PMO-DTS to require that all CTOs adhere to the department's policy on the use of premium-class travel, even in those instances where it is listed as the only available airfare;
- direct the Secretaries of the Army, Navy, and Air Force, as well as the heads of all DOD agencies, to reemphasize that travelers are to justify exceptions from department policy and the importance of the authorizing officials not approving any travel authorization in which exceptions are not properly justified;
- direct the Secretaries of the Army, Navy, and Air Force, as well as the heads of all DOD agencies, to routinely monitor, such as on a quarterly basis, information on the number and cost of processing travel vouchers outside of DTS and initiate action to eliminate funding for legacy systems, where applicable;
- direct the PMO-DTS to develop and implement the means to automate the approval of changes to authorized travel expenses where possible;
- direct the PMO-DTS to consider the viability of using commercial databases to identify unused airline tickets, for which reimbursement should be obtained and help improve the assurance that the actual travel taken was consistent with the information shown on the travel voucher;

-
- direct the PMO-DTS to consider simplifying the display of airfares in DTS;
 - direct the PMO-DTS to determine the feasibility of utilizing restricted airfares, where cost effective; and
 - direct the PMO-DTS to work with IRS to develop an approach that will permit the use of automated methods to reduce the need for hard copy receipts to satisfy requirements to substantiate travel expenses.

Agency Comments and Our Evaluation

We received written comments on a draft of this report from the Director, DFAS, which are reprinted in appendix II. DOD concurred with all our recommendations and identified actions it plans to take to improve the department's management and oversight of DTS and streamline its administrative travel process. For example, DOD stated that it will continuously monitor and adjust its processes to ensure requirements are properly documented and tested. Additionally, DOD noted that the PMO-DTS will incorporate system and travel review changes to ensure CTOs are following departmental policy by periodically reviewing premium-class travel authorizations. DOD's comments also noted that the department will consider the use of commercial databases to identify unused airline tickets for which reimbursement should be obtained. DOD noted that this effort could be expanded governmentwide through ongoing collaborative efforts with GSA.

We are sending copies of this report to the Secretary of Defense; Under Secretary of Defense (Comptroller); the Under Secretary of Defense (Acquisition, Technology and Logistics); and the Director, Office of Management and Budget. Copies of this report will be made available to others upon request. In addition, the report is available at no charge on the GAO Web site at <http://www.gao.gov>. If you or your staff have any questions on matters discussed in this report, please contact McCoy Williams at (202) 512-6906 or williamsml@gao.gov or Keith A. Rhodes at (202) 512-6412 or rhodesk@gao.gov. Contact points for our Offices of Congressional

Relations and Public Affairs may be found on the last page of this report.
Key contributors to this report are listed in appendix III.



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List of Congressional Addressees

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Committee on Government Reform
House of Representatives

The Honorable William Lacy Clay
House of Representatives

The Honorable Paul Kanjorski
House of Representatives

The Honorable Edolphus Towns
House of Representatives

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 two key DTS flight-related requirements and the related testing 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 (CBA) and the accuracy of claims for travel reimbursement. More specifically, to determine if DTS will correct the weaknesses related to premium-class travel, we

- identified and tested all individually billed account (IBA) and CBA premium-class travel transactions processed by DTS for the first quarter of fiscal year 2005 (October through December 2004) for proper approval and justification and
- obtained an understanding of the process to purchase properly approved and justified premium-class travel through DTS, and of the controls in DTS to prevent a traveler from purchasing premium-class travel without proper approval.

To assess the use of premium-class travel for IBA, we obtained from Bank of America a database of fiscal year 2005 first quarter (October through December 2004) air travel transactions charged to IBA accounts. The database contained transaction specific information, such as the price of the ticket, ticket number, name of passenger, date and destination of travel, and service code (first, business, or coach class seating accommodations). We also obtained from the Project Management Office—Defense Travel System (PMO-DTS) a database containing all vouchers processed by DTS for the same time period. We extracted all unique Social Security Numbers (SSN) from the PMO-DTS database and compared the information with the data from Bank of America. This comparison resulted in the identification of the IBA transactions that could be potential premium-class airline tickets. We eliminated all airfare charges that were less than \$200, which created a listing of 380 potential premium-class travel IBA charges. In those instances in which there was insufficient information in DTS to ascertain if a premium-class airline ticket had been purchased, we requested additional information from the military services, such as travel itinerary or ticket

stub providing information on the class of service (economy, business, first) purchased. We reviewed the travel authorization and all supporting documentation to determine the class of service provided and determined if there was proper approval and justification for premium-class travel.

To ascertain if the CBAs were being used for the purchase of premium-class travel, we followed the same methodology used in reviewing IBAs. Our comparison resulted in the identification of 244 potential CBA premium-class travel transactions. The CBA listing only contained the travelers' names and not their respective SSNs, therefore we requested additional information from the military services. In performing our analysis of the IBA and CBA, besides the \$200 criteria mentioned above, we also eliminated all airfare transactions that were not processed through DTS or that we determined were economy-class airfare transactions. This process resulted in the identification of potentially 419 transactions in which a premium-class ticket could have been issued.

To address the issue of unused airline tickets, we discussed with the PMO-DTS specific actions that were being taken and visited five locations¹ to ascertain if the commercial travel offices were preparing the unused airline ticket reports. In regard to the duplicate payment for airline tickets purchased through the CBA, we reviewed DTS controls to ascertain if they were designed to ensure that tickets purchased through the CBA cannot be claimed on an individual's travel voucher as a reimbursement to the traveler.

To test for the accuracy of travel voucher reimbursements, we utilized the DTS database previously mentioned covering the first quarter of fiscal year 2005. From this database, we extracted all temporary duty travel vouchers where the travel occurred from October 1, 2004 to December 31, 2004. We assumed a 10 percent rate of control violations, and we desired a precision of +/- 5 percentage points at the 95 percent confidence level. These parameters, along with an assumed 80 percent response rate, led to a sample size of 173 travel vouchers.² Because we followed a probability procedure based on random selections, our sample is only one of a large

¹Aberdeen Proving Ground, Maryland; Buckley Air Force Base, Colorado; Defense Logistics Agency, Virginia; Headquarters Marine Corps, Virginia; and Naval Operations Headquarters, Virginia.

²We analyzed 170 travel vouchers, and at the time of our review 3 vouchers in our sample had not yet been completed and submitted.

number of samples that we might have drawn. Since each sample could have provided different estimates, we express the precision of our particular sample's results as a 95 percent confidence interval (e.g., plus or minus 5 percentage points). This is the interval that would contain the actual population value for 95 percent of the samples we could have drawn. As a result, we are 95 percent confident that each of the confidence intervals in this report will include the true values in the study population.

To identify some of the challenges confronting DOD 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. Additionally, we analyzed data on the number of systems interfaces that have been developed and implemented to date and those that need to be developed in the future. We also discussed with the PMO-DTS some of the specific actions that could be taken to further streamline the department's travel management practices. In this regard, we reviewed past GAO reports that discuss specific actions agencies can take to streamline their respective travel management practices.

We assessed the reliability of the DOD data used for our audit 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 audit. We performed our audit work from October 2004 through October 2005 in accordance with U.S. generally accepted government auditing standards.

We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Director, DFAS, which are reprinted in appendix II.

Comments from the Department of Defense



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DEC 14 2005

Mr. McCoy Williams
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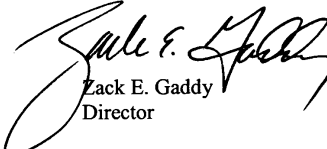
Mr. Williams,

This is the Department of Defense (DoD) response to the GAO draft report (06-18), 'DOD BUSINESS TRANSFORMATION: Defense Travel System Continues to Face Implementation Challenges,' dated November 10, 2005 (GAO Code 192146).

The enclosed DoD response is provided as an attachment.

Thank you the opportunity to review this draft report and provide comments.

If you have any questions please do not hesitate to contact the primary action officer, Philip Puckett, 703-607-3797.


Zack E. Gaddy
Director

Enclosure:
As stated

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GAO DRAFT REPORT DATED NOVEMBER 2005
GAO-06-18

"DOD BUSINESS TRANSFORMATION: Defense Travel System
Continues to Face Implementation Challenges"

DEPARTMENT OF DEFENSE RESPONSE

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the DTS-PMO to effectively implement the disciplined processes necessary to provide reasonable assurance that: (1) requirements are properly documented and (2) requirements are adequately tested. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. DTS is under DOD Instruction 5000.2 and complies with its program documentation (e.g., ORD, TEMP). The PMO-DTS and the prime contractor will continue to improve processes and oversight by continuously monitoring and adjusting the below processes to ensure proper requirements documentation and testing.

The prime contractor is Software Engineering Institute – Capability Maturity Model Integration (SEI-CMMI) Level 5 certified. The DOD requirement is Level 3.

The requirements GAO reviewed were primarily focused on the reservation model. The DTS software has just completed a favorable Operational Assessment (OA) with the Madison Release and was found to be suitable, survivable and effective. DOD will work to continuously improve all requirements generation and testing.

Listed below are key steps in our requirements and testing processes.

- PMO-DTS Integrated Product Team leads define and validate functional requirements for all new components of the DTS system.
- These functional requirements are approved by the DTS-PMO before they are provided to the various entities who implement DTS application components and interfaces.
- These high level requirements are decomposed into system and software requirements that are approved by the PMO before software design is completed.
- Software requirements are approved by the PMO before the software is released for system testing. Software test activities are planned and executed against the documented system and software requirements.
- Software is then independently tested to verify requirements are operationally effective.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the PMO-DTS to properly test new or modified system interfaces so that the intended functionality is properly operating prior to a software update being provided to DTS users. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. DTS is under DOD Instruction 5000.2. The PMO-DTS and the prime contractor will continue to improve processes and oversight by continuously

monitoring and adjusting the below processes to properly test new or modified system interfaces so that intended functionality is operating properly prior to software updates being provided to DTS users.

- PMO-DTS will capture data interaction within each of the external systems with which DTS interfaces. This data gathering should ensure that the external system is correctly processing data received from DTS and that it is correctly generating the data provided to DTS.
- Before any software that impacts external interfaces is released into production, a System Qualification Test (SQT) is performed. External partners are selected for participation in this test based on the impact the changes have on their day-to-day operations. All new system interfaces are tested before the external system is certified for connection to DTS.
- During this test, each of the external system interfaces is exercised, and the results of the exchanged data elements are tested within the system. This test does not validate the processing within the external system, but it validates the responses received by DTS.

RECOMMENDATION 3: The GAO recommended that the Secretary of Defense direct the PMO-DTS to require that all CTOs adhere to the Department's policy on the use of premium class travel, even in those instances where it is listed as the only available airfare. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. All commercial travel service contracts that are governed by the PMO-DTS contain appropriate language reflecting the Department's policies on the use of premium class travel. However, the PMO – DTS does not have jurisdiction over all Commercial Travel Offices (CTOs). The PMO-DTS can ensure all future CTOs contracted with DOD for official travel services adhere to the Department's policy on use of premium class travel, even in those instances where it is listed as the only available airfare. The requirement to have contracted CTOs adhere to the Department's policy does not in itself preclude government purchase or reimbursement for unauthorized premium travel. Additionally, PMO-DTS will incorporate system and travel review changes to ensure CTOs are following the policy by periodically reviewing premium class travel authorizations.

RECOMMENDATION 4: The GAO recommended that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force, as well as the heads of all DOD agencies, to reemphasize that travelers are to justify exceptions from Department policy and the importance of the authorizing officials not approving any travel authorization in which exceptions are not properly justified. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. Although DTS currently conducts front-end policy checks and flags 'out-of-policy' items for both the Traveler and Authorizing Official (AO), Travelers and AOs must be trained and then required to be fiscally responsible when making and approving travel authorizations and vouchers. DTS presently allows for conditional routing the transaction to the next layer of management within an organization when deviating from policy. Moreover, a memorandum will be prepared notifying the Service Secretaries and heads of DOD agencies to reemphasize that AOs must ensure that travelers provide adequate justification for exceptions from Department

2

policy and the importance of the AOs not approving any travel authorization or voucher in which exceptions are not properly justified.

RECOMMENDATION 5: The GAO recommended that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force, as well as the heads of all DOD agencies, to routinely monitor, such as on a quarterly basis, information on the number and cost of processing travel vouchers outside of DTS and initiate action to eliminate funding for legacy systems, where applicable. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. Existing TDY processing of business travel is much more expensive than DTS. Maintaining existing legacy travel systems when DTS is available is not cost effective, and it offers the Services and Defense Agencies a costly alternative to DTS that is often chosen simply because it is comfortable and familiar. The Office of the Under Secretary of Defense (Personnel & Readiness) is preparing a memorandum directing increased DTS use by the Services and Agencies. This high-level mandate should increase DTS usage.

RECOMMENDATION 6: The GAO recommended that the Secretary of Defense direct the PMO-DTS to develop and implement the means to automate the approval of changes to authorized travel expenses, where possible. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. Automating the approval of changes to authorized travel expenses, where possible, is in keeping with the DTS vision of providing a seamless, paperless, end-to-end travel management process. Current DTS functionality allows for approval of changes to expenses when the voucher is approved by the AO/Certifying Official for payment in a single process (i.e., when there is no need to approve changes prior to approving the voucher). Approval of the voucher electronically sends updated financial transactions to the accounting system for all approved changes and subsequently (without additional human intervention) sends the disbursing transactions to facilitate payment to the traveler.

To further streamline the process, DOD will research policy and applicable financial regulations to determine if it is permissible to automatically approve vouchers without audit flags, and to electronically bypass the AO/Certifying step in the settlement process. If an audit flag was set, the voucher would still need to be routed to the AO for approval.

RECOMMENDATION 7: The GAO recommended that the Secretary of Defense direct the PMO-DTS to consider the viability of using commercial databases to identify unused airline tickets, for which reimbursement should be obtained and help improve the assurance that the actual travel taken was consistent with the information shown on the travel voucher. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. PMO-DTS will consider the use of commercial data bases to identify unused airline tickets for which reimbursement should be obtained. To this end, the Airline Reporting Commission may be part of this solution, and this initiative can possibly be expanded Federal Government-wide through on-going collaborative

travel management information system and business intelligent efforts between DOD and GSA's E-Government Travel PMO.

RECOMMENDATION 8: The GAO recommended that the Secretary of Defense direct the PMO-DTS to consider simplifying display of airfares in DTS. (p. 56/GAO Draft Report)

DOD RESPONSE: Concur. The PMO-DTS continuously strives to improve system usability, and simplifying airfare display is on-going. Recent enhancements implemented in DTS include providing additional information on the reservation screens that clearly identify what flights are available. Among actions being considered is that the initial results display will contain only contract city pair flights with only *CA fares if they are available. Any unrestricted fares available to the general public that are lower than the contract city pair will also be shown.

RECOMMENDATION 9: The GAO recommended that the Secretary of Defense direct the PMO-DTS to determine the feasibility of utilizing restricted airfares, where cost effective. (p. 57/GAO Draft Report)

DOD RESPONSE: Concur. Department policy currently supports using less costly fares and does not preclude restricted fares. PMO-DTS will explore the feasibility of utilizing restricted airfares when cost effective; however, DTS must comply with existing Department policies and procedures.

RECOMMENDATION 10: The GAO recommended that the Secretary of Defense direct the PMO-DTS to work with the IRS to develop an approach that will permit the use of automated methods to reduce the necessity of hard copy receipts to satisfy requirements to substantiate travel expenses. (p. 57/GAO Draft Report)

DOD RESPONSE: Concur. The DTS-PMO will work with the Office of the Under Secretary of Defense (Personnel & Readiness) and the Office of the Under Secretary of Defense (Comptroller) to coordinate policy, procedure and regulatory changes to develop an approach with the IRS that will permit the use of automated methods to reduce the necessity of hard copy receipts to satisfy requirement to substantiate travel expenses. Additionally, the reengineering effort for Permanent Duty Travel (PDT) will review all such regulatory requirements and recommend changes will be incorporated when applicable, to improve the process for the traveler.

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