
Office of Inspector General

*Implementing a New
Financial Management System*

Department of Transportation

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Memorandum

U.S. Department of
Transportation

Office of the Secretary
of Transportation
Office of Inspector General

Subject: **ACTION: Report on Implementing a
New Financial Management System, DOT
FI-2001-074**

Date: August 7, 2001

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Reply To

Attn Of: Meche:x61496

To: Assistant Secretary for Budget and Programs
and Chief Financial Officer

This report presents our initial assessment of the Department of Transportation (DOT) implementation of a new financial management system, which DOT calls Delphi. DOT's existing Departmental Accounting and Financial Information System, called DAFIS, was designed in the 1980s and does not comply with financial management system requirements set forth by the Chief Financial Officers Act of 1990, the Federal Financial Management Integrity Act (FFMIA) of 1996, and the Joint Financial Management Improvement Program (JFMIP).¹

In December 1997, DOT decided that DAFIS could not meet its future needs and initiated action to replace DAFIS using commercial off-the-shelf (COTS) software for its new Delphi system. Replacing DAFIS is the right decision.

DOT needs a new financial accounting and management system because the outdated technology in DAFIS is difficult to maintain, and DAFIS was not designed to account for and report on financial data that are needed to satisfy today's needs. To illustrate, DAFIS has to close its "books" within 5 days after yearend, because it cannot process transactions in more than one fiscal year at the same time. This required DOT to make more than 700 adjustments outside DAFIS, totaling about \$20 billion, to manually prepare its Fiscal Year (FY) 2000 financial statements. This is a time-consuming, expensive, and labor-intensive effort, which is prone to errors and mistakes.

¹ JFMIP is a joint cooperative undertaking of the Office of Management and Budget, the General Accounting Office, the Department of the Treasury, and the Office of Personnel Management, working in cooperation with each other and with operating agencies to improve financial management practices throughout the Federal Government.

Today's financial systems have the capability to keep the books open for the prior year while still processing current-year transactions. This capability is commonly called the "13th month," and eliminates the need for adjustments outside the accounting system, while allowing for quicker availability of financial data for management purposes and reports, and preparation of annual financial statements by the financial system itself.

DOT began Delphi as a pilot project in the Federal Railroad Administration (FRA), one of DOT's smaller agencies. Our audit objectives were to determine whether (1) Delphi has been successfully implemented in FRA and (2) Delphi complies with Federal financial management system requirements, generally accepted accounting principles, and the U.S. Government standard general ledger at the transaction level.

RESULTS

DOT already has incurred contract costs of at least \$26 million² to develop Delphi. While it is not unusual to encounter problems during implementation of new computer systems, we identified significant deficiencies, as highlighted below, with Delphi's capability to function as DOT's core financial management system. Key deficiencies involved Delphi's capability to:

- Account for recovery of prior-year funds automatically.
- Prevent agencies from changing each other's financial data.
- Generate reliable financial statements and other financial reports.
- Adjust obligations electronically recorded from other financial systems.
- Interface electronically with other internal and external systems.
- Continue operations in the event of emergencies and to protect its financial information during transmission.

These serious deficiencies warrant immediate attention and delay of the implementation schedule for DOT's larger and more complex agencies. In our opinion, it is more important to correct these deficiencies before full implementation rather than taking the risk of disruption of service or loss of control over DOT financial operations. After reviewing our draft report, DOT agreed to delay the implementation schedule for the remaining agencies not yet on Delphi.

² These costs represent Delphi-specific contracts issued on behalf of DOT's Office of Financial Management and the Delphi team, and do not include Federal employee time, training, and travel costs. Costs also do not include Delphi-related contracts issued by the Operating Administrations for technical support to implement Delphi.

Current Status of Delphi

FRA originally was scheduled to have Delphi fully implemented and operational by May 2000. While Delphi has been implemented in FRA for over 1 year, it still is not providing a full range of financial and reporting functions as intended. Major deficiencies discussed below, which were encountered in FRA, will present even greater challenges for DOT's larger and more complex agencies. Specific examples of significant deficiencies follow.

- Delphi does not appropriately account for prior-year funds automatically. When adjustments are made to prior-year obligations, Delphi improperly adds recovered funds from expired appropriations to current-year funds, which could cause FRA and DOT to violate provisions of the Antideficiency Act. During FY 1999, FRA recovered and DAFIS properly accounted for \$4.7 million in prior-year funds. Using Delphi in FY 2000, FRA had to manually move prior-year recoveries from FY 2000 funds because Delphi inappropriately added them to current-year funds.

While FRA used manual procedures and manual records to keep up with its small volume of prior-year recoveries, such manual procedures for the Federal Aviation Administration (FAA), as an example, are not viable alternatives to keep up with the almost \$200 million of prior-year funds that FAA recovers annually. This is a material internal control weakness that was identified over 2 years ago. In response to our draft report, DOT stated the scheduled date for resolving this accounting deficiency is December 31, 2001.

- Delphi does not have adequate internal controls in place to prevent DOT agencies from changing each other's financial data. We identified three areas where agencies could access each other's data. For example, an FAA accountant changed an FRA employee's banking information, which resulted in the FRA employee's travel reimbursement check being deposited through direct deposit into an Office of Inspector General (OIG) employee's bank account. DOT subsequently corrected the deficiency concerning the banking information. This material internal control weakness was identified about 3 years ago.
- Delphi does not generate reliable financial statements and other required financial reports. The first step in preparing reliable financial statements and other reports is for the financial system to produce a trial balance.³ FRA was unable to rely on the trial balances produced by Delphi as of

³ A trial balance is a list of all active account balances. It shows whether the accounts are in proper balance and aids in the preparation of financial statements and other financial reports.

September 30, 2000. For example, Delphi showed cash disbursements for the month of September 2000 were \$109 million while the Department of the Treasury (Treasury) records showed \$21 million, resulting in FRA being out of balance with Treasury records by \$88 million. Treasury reported differences with FRA every month since Delphi was implemented in April 2000.

FRA, the Delphi team, and DOT used 18 people and more than 4,000 hours trying to manually reconcile FRA financial data in Delphi with information reported by Treasury, and still was out of balance by \$15 million. Even after these manual efforts, FRA still was unable to rely on its trial balances and had to input its financial data into electronic spreadsheets to prepare its FY 2000 financial statements.

Although DOT and its contractor had not been able to resolve these and other long-standing deficiencies, DOT continued to implement Delphi in other agencies, thus exposing more of the Department to material internal control weaknesses, labor-intensive procedures, and manual recordkeeping. After reviewing our draft report, DOT delayed the implementation schedule for those agencies not yet on Delphi.

Challenges Ahead for Delphi

As of April 30, 2001, we identified 36 unresolved deficiencies with Delphi operations, 12 of which DOT categorized as major. Six of these major deficiencies have been unresolved for between 1 and 3 years. One deficiency, called the Delphi "Global Build and Design" (global build) feature,⁴ is the key component to making Delphi an integrated financial management system for DOT.

DOT also faces more significant challenges with implementing Delphi in its large and more complex agencies. Implementing Delphi for DOT agencies with billion-dollar budgets, multiple accounting offices, and hundreds of employees needing access to Delphi will introduce new dynamics and internal control weaknesses that did not exist in FRA. Specific examples follow.

- We found that Delphi cannot process adjustments from another internal financial system to obligations that are initially recorded in Delphi electronically. For example, the Federal Highway Administration (FHWA) Fiscal Management Information System (FMIS) processes more than 2 million

⁴ The global build feature is to include all the functional and technical activities concerning DOT business that must be processed by the COTS software to create Delphi as an integrated financial management system for DOT.

transactions annually, valued at \$27 billion, for Federal highway programs. FMIS has more than 600 authorized users throughout FHWA and highway departments in the 50 states, Puerto Rico, U.S. Virgin Islands, and the District of Columbia who can process adjustments to increase or decrease amounts obligated for highway projects.

This is a major deficiency for DOT grant-making agencies such as FHWA, FAA, and the Federal Transit Administration (FTA). To manually keep up with the thousands of adjustments being made at multiple locations by different people and organizations will require expenditures for increased staffing and increase the risk of introducing errors into the financial system. This deficiency was identified in July 2000.

- DOT agencies have more than 70 internal and external systems that will require electronic interfacing with Delphi. We found that most of these systems' interfaces have not yet been developed or tested to work with Delphi. For example, Delphi cannot send or receive electronic billing and other financial information from the General Services Administration. As a result, DOT had to manually enter these transactions into Delphi. This material internal control weakness was identified in September 1999.

In addition to Delphi system deficiencies and internal control weaknesses, we identified two other deficiencies concerning data conversion and computer security that affect FFMI compliance.

- We identified one DAFIS deficiency that was not addressed in the Delphi conversion process. DAFIS reported employee benefits in the operating expenses account, and not in the appropriate standard general ledger account (Benefits Expense Account 6400) as required. During conversion, FRA simply transferred the combined amount to the same wrong account in Delphi. As a result, about \$950 million of employee benefits reported to the Office of Personnel Management (OPM) were not included in the appropriate Delphi or DAFIS standard general ledger accounts for FY 2000. DOT subsequently corrected this deficiency.
- We also found DOT accredited Delphi as adequately secured commensurate with the risk resulting from the loss, misuse, unauthorized access to, or modification of Delphi without adequate testing and fully implementing its disaster recovery and continuity of operation plans. After we discussed this, DOT revised and tested its plan. Delphi also uses a low-level encryption⁵ that

⁵ For security reasons, specifics concerning this weakness are not discussed in this report, but were provided to DOT managers during the audit.

is not a Federal Information Processing Standards-approved encryption for protecting Government information. In response to our draft report, DOT established a target date of October 31, 2001, for adopting an upgraded encryption.

Actions Needed

We found Delphi had significant system deficiencies and material internal control weaknesses. These long-standing unresolved deficiencies already have delayed the Delphi implementation schedule from June 30 to December 31, 2001, and could be deciding factors in determining whether Delphi can be a compliant, integrated financial management system for DOT. Aside from the contract itself, DOT has no written agreement with the contractor to resolve these significant deficiencies. DOT has not paid the contractor for work that has not been satisfactorily completed. For example, the contractor has been paid nothing for the FRA implementation and the global build feature as of July 23, 2001.

With more than 3 years into this project, DOT and the contractor still cannot get Delphi to provide a full range of financial accounting and reporting functions in a small organization like FRA. Other Federal agencies had continued with implementation of new financial systems, although significant unresolved deficiencies existed, only to later find that contractors were unable to develop compliant financial systems (see the Exhibit). After spending years and millions of dollars, these agencies had to take significant corrective actions or start over.

DOT is at a crossroads with Delphi. We found DOT has been able to operate Delphi in small, low-risk agencies by supplementing Delphi with interim workaround solutions, manual procedures and manual recordkeeping. However, such efforts are expensive, labor intensive, and risky for large and complex organizations like FHWA, FTA, Maritime Administration (MARAD), U.S. Coast Guard, and especially FAA which already is on the General Accounting Office's (GAO) Governmentwide high-risk list for its long-standing accounting and financial management weaknesses.

To ensure that the Department minimizes the risk of disruption of service or loss of control over its financial operations, we recommended that DOT:

- Discontinue further implementation of Delphi in other DOT agencies until the contractor can provide a compliant, fully functioning system for FRA.
- Establish corrective action plans, with specific target completion dates agreed to by the contractor, to resolve the major outstanding deficiencies, and a method to properly address any other major deficiencies as they arise.

- Implement and test Delphi's disaster recovery and business continuity plan and upgrade Delphi's security encryption.
- Develop a comprehensive risk-management strategy for FAA and determine whether the risks justify running DAFIS and Delphi in parallel.
- Prepare a revised remediation plan for the Office of Management and Budget (OMB) that describes the resources, remedies, and milestones for achieving FFMIA compliance.

The DOT Deputy Chief Financial Officer agreed with our recommendations, identified corrective actions taken or planned, and provided estimated completion dates for planned actions. All actions are expected to be completed by December 31, 2001.

BACKGROUND

In 1982, FAA implemented its Uniform Accounting System which DOT subsequently decided to expand and use as its core accounting system under the name DAFIS. In 1997, DOT decided to replace DAFIS. DOT endorsed Oracle U.S. Federal Financials as the underlying COTS software for Delphi.

DOT was the first cabinet-level agency to attempt to implement Oracle U.S. Federal Financials agencywide. In March 1998, DOT purchased the software and signed a fixed-price contract with Oracle Corporation to implement its COTS software. The contract and amendments with Oracle Corporation total about \$15 million.⁶ In September 1998, DOT hired the Computer Science Corporation to oversee Oracle Corporation's implementation of Delphi.

FFMIA requires each Government agency to implement and maintain financial management systems that substantially comply with Federal financial management systems requirements, applicable accounting standards, and the U.S. Government standard general ledger at the transaction level. These system requirements are detailed in OMB Circular A-127, Financial Management Systems, and the Financial Management Systems Requirements series issued by JFMIP.

JFMIP's Core Financial System Requirements list 251 mandatory requirements that any COTS product must satisfy before JFMIP certifies its use by Federal agencies. These requirements provide the basic information and controls needed

⁶ These costs represent Delphi-specific contract awards to Oracle Corporation issued on behalf of DOT's Office of Financial Management and the Delphi team. Costs also do not include Delphi-related contracts issued by the Operating Administrations for technical support to implement Delphi.

to carry out financial management, manage financial operations of an agency, and report on the agency's financial status to Congress and the public.

OMB Circular A-127 requires that JFMIP test COTS software products to ensure they meet Federal core financial system requirements, and JFMIP awards certificates⁷ to those software products that pass its tests. The JFMIP test⁸ is only an acceptance test of core financial system requirements and does not substitute for an agency completely testing the COTS software products in its own environment.

In its initial certification tests (baseline test of 1999) of Oracle U.S. Federal Financials, JFMIP fully tested 155 of the 251 requirements, partially tested 76 requirements, and did no testing on 20 of the specific requirements. JFMIP certified the Oracle COTS software product for use by Federal agencies on October 1, 1999. During its 2000 incremental test, JFMIP tested additional requirements not tested during the 1999 baseline test. Considering both the 1999 baseline and the 2000 incremental tests, JFMIP reported it tested over 95 percent of the JFMIP Core Financial System Requirements and Oracle U.S. Federal Financials successfully passed both tests.

Delphi is being implemented in two phases. In the first phase, the global build feature for the Oracle U.S. Federal Financials COTS software was to be setup by Oracle Corporation. Oracle Corporation sets up the COTS software to perform departmentwide financial activities, such as recording payroll; recording transactions; and preparing external reports and financial statements. The first phase also includes conducting a pilot implementation in FRA, a DOT agency with one accounting office and small-scale financial activities.

In the second phase, Oracle Corporation will implement Delphi in DOT's other agencies under a phased schedule. As part of the second phase, OIG; the Research and Special Programs Administration (RSPA); and the Transportation Administrative Service Center (TASC) implemented Delphi in June 2000, October 2000, and January 2001, respectively. The Office of the Secretary of Transportation (OST), the Surface Transportation Board (STB), and the Bureau of Transportation Statistics (BTS) implemented Delphi in February 2001.

⁷ The certificate of compliance awarded to software products passing the tests is version specific and the certificate is valid for 3 years. During the 3 years, the software package must pass any incremental tests performed by JFMIP to retain certification.

⁸ Prior to the test, the vendor provides materials to JFMIP. These materials include a software product description and a statement by the vendor that the software meets all core financial system requirements. The tests are conducted at the vendor's site using vendor-provided hardware and software. JFMIP provides the vendor with test setup data and scripts. The vendor uses its software product to perform core financial system requirement functions according to the script. JFMIP observes and evaluates the test results.

SCOPE AND METHODOLOGY

We discussed the design and implementation of Delphi with the DOT Deputy Chief Financial Officer and officials from the DOT Chief Financial Officer's Office of Financial Management, the Delphi project team, and FRA. The Delphi project team reports to DOT's Office of Financial Management. We also discussed the status of implementation with other DOT agencies.

We reviewed Delphi's Program Charter, Delphi's Security Accreditation Review, and two PricewaterhouseCoopers LLP reviews of the Delphi project. We also reviewed Delphi-related contracts and procurement documents totaling \$26 million, related contractor progress reports and DOT monitoring reports. We interviewed contracting officers at FAA's Technical Center in Atlantic City, New Jersey, and the Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. We also interviewed contracting officers at TASC and the U.S. Coast Guard in Washington, D.C.

We compared our observations of Delphi to JFMIP's Core Financial System Requirements, JFMIP-SR-99-4, and DOT's COTS Functional Evaluation Criteria. We met with JFMIP representatives and discussed JFMIP's testing and certification procedures for core financial system software packages. We compared Delphi's chart of accounts to the U.S. Government standard general ledger to determine whether Delphi maintained the U.S. Government standard general ledger.

We also compared elements of Delphi's security features to the National Institute of Standards and Technology, Federal Information Processing Standards Publication 46-3, Data Encryption Standard; Publication 102-1, Guideline for Computer Security Certification and Accreditation; and Publication 140-1, System Requirements for Cryptographic Modules.

FRA divides its 25 appropriations and non-appropriation accounts into 87 groupings called "funds" in Delphi. We traced general ledger account balances from DAFIS into Delphi for 10 of FRA's 87 funds. To test yearend closing capabilities, we compared FRA's yearend closing budgetary account balances for FY 2000 to its FY 2001 beginning account balances. To review Delphi's electronic interface capabilities, we traced payroll amounts from DOT's Consolidated Uniform Payroll System to Delphi. To determine whether the trial balances supported the financial statements, we reviewed FRA's FY 2000 financial statements and compared key line items to its supporting standard general ledger accounts in the adjusted trial balances.

We also obtained information on financial systems implementations from representatives at the National Aeronautics and Space Administration in Washington, D.C.; the U.S. Agency for International Development in Washington, D.C.; the U.S. Supreme Court in Washington, D.C.; and the Department of Energy, Western Area Power Administration in Lakewood, Colorado. We also discussed implementation of Oracle U.S. Federal Financials with auditors at KPMG International in Salt Lake City, Utah.

We conducted the audit from May 2000 through April 2001. Some data were updated through July 2001. The audit was conducted in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States.

ANALYSES AND RECOMMENDATIONS

Current Status of Delphi

In April 2000, FRA began using Delphi exclusively as its financial management system, and simultaneously stopped processing transactions in DAFIS. JFMIP's Framework for Federal Financial Management Systems provides three primary techniques for transitioning to a new financial system: (1) incremental implementation beginning with a pilot and phasing in operations by organization or function; (2) hard cut-over in which all operations of the old system cease and the new system starts all at once; and (3) running the new and existing systems in parallel.

According to JFMIP guidance, the choice of transitioning method should consider the benefits and risks of each method, resources available for implementation, and the impact on the organization affected by the change. Regardless of the method used, adequate testing must precede transitioning to ensure a smooth transition.

FRA originally was scheduled to have Delphi fully implemented and operational by May 2000. More than 1 year after the planned completion date, we found that FRA's pilot implementation still is not complete. FRA has been able to process transactions and pay bills, but it has not been able to demonstrate that Delphi can function as DOT's core financial system. While Delphi has been implemented in FRA, it is not providing a full range of financial and reporting functions as intended. Specific examples of long-standing incomplete and unresolved financial system deficiencies observed in FRA are discussed below.

Accounting for Prior-Year Funds

We found that Delphi does not appropriately account for funds that are no longer available for obligation (expired appropriations) when recording prior-year transactions. Recovery of prior-year funds occurs when a bill that is paid in a subsequent year is less than the recorded obligation. In the case of expired appropriations, these recovered funds are available only to pay bills from prior-year obligations and cannot be used to pay current-year bills.

According to JFMIP requirements, the core financial system should provide the ability to manage and control prior-year funds in the current year, including the capability to identify prior-year and current-year deobligations separately.

We found that when FRA paid bills and closed the related obligations, Delphi improperly added the remaining prior-year funds to current-year funds, thus making them available for new obligations although these funds had expired for obligation purposes. This material weakness in Delphi's internal controls could cause FRA and DOT to violate provisions of the Antideficiency Act which states that no officer of the U.S. Government may make or authorize an expenditure exceeding an amount available in an appropriation.

This accounting deficiency represents a material risk to DOT. To illustrate, during FY 1999 FRA recovered and DAFIS properly accounted for \$4.7 million in prior-year funds. Using Delphi in FY 2000, FRA had to manually move prior-year funds from FY 2000 funds because Delphi inappropriately added them to current-year funds. While FRA could use manual procedures and manual records to keep up with the small volume of prior-year recoveries, such manual procedures for FAA, as an example, are not viable alternatives to keep up with the almost \$200 million in prior-year funds that FAA recovers annually.

Due to the seriousness of this accounting deficiency, the Delphi team had to issue interim guidance requiring FRA to manually analyze its prior-year appropriations to identify any spending transactions that increased its current-year budget authority. The guidance requires that, for each prior-year appropriation, FRA must periodically review budgetary accounts manually and, based on balances in those accounts, determine the amount of prior-year recoveries and make corrective journal entries. After the amount is determined, FRA has to manually enter the corrected transactions into Delphi. DOT identified this as a major deficiency in February 1999.

Developing Internal Controls to Protect Financial Integrity

Delphi does not have the internal controls in place to protect the integrity of financial data among DOT's agencies. We found three areas where agencies could access each other's data: updating banking records; accessing fixed assets; and accounting for projects. This deficiency was identified in August 1998. According to the GAO Standards for Internal Controls in the Federal Government (AIMD-00.21.3.1), access to records should be limited to authorized individuals.

Because Delphi does not protect the integrity of financial data, other DOT agencies were able to change FRA information. For example, while establishing address and banking information for OIG's implementation of Delphi, an FAA accountant viewed an FRA employee's banking information, and changed it by using an OIG employee's banking information. A subsequent travel reimbursement processed by FRA on behalf of its employee was deposited by direct-deposit into the OIG employee's bank account. The OIG employee reported the erroneous receipt and the transaction was corrected. DOT subsequently corrected the deficiency concerning the banking information.

Generating Financial Statements and Required Reports

We found that Delphi cannot generate reliable financial statements and other required financial reports. JFMIP's financial system requirements state that core financial systems must provide data in the format required by other Federal Government agencies such as Treasury and OMB for financial reporting.

The first step in preparing reliable financial statements and other financial reports is for the financial system to produce a trial balance. We found that FRA was unable to rely on the trial balances produced by Delphi as of September 30, 2000, because its fund balances, such as cash, were different from amounts recorded in Treasury. Delphi reported incorrect amounts on its monthly Statement of Transactions report to Treasury (Standard Form 224 Report). For example, Delphi showed cash disbursements for the month of September 2000 were \$109 million while Treasury records showed \$21 million, resulting in FRA being out of balance with Treasury by \$88 million. Treasury reported differences with FRA every month since Delphi was implemented in April 2000.

FRA, the Delphi team, and DOT's Cash Operations Group spent about 2 months trying to manually reconcile FRA's trial balances for each of its 87 funds with amounts reported by Treasury. To do this required 18 people and more than 4,000 hours. The reconciliation, similar to balancing a checkbook to a bank statement, included manually entering amounts from Delphi into electronic worksheets for analysis and comparing those amounts to Treasury reports. To correct Delphi

data, FRA made about 1,000 postings to accounts with a total value of \$342 million (40 percent of FRA's FY 2000 budget authority). Notwithstanding all the effort, FRA still was out of balance with Treasury by \$15 million.

Such manual reconciliations could not have been done in large complex organizations like FAA and FHWA whose budgets total about \$40 billion. Even after these extensive manual efforts, Delphi's adjusted trial balances still did not contain all the balances necessary to prepare the financial statements. FRA had to use a combination of Delphi adjusted trial balances and other reports to prepare its FY 2000 financial statements. For example, FRA had to rely on beginning balances from prior-year budget reports because Delphi reported beginning balances at zero for all budgetary accounts on its adjusted trial balances.

Challenges Ahead for Delphi

We found that DOT and its contractor have not completed the basic setup of the global build feature in Delphi to perform departmentwide financial activities after 3 years. According to the Computer Science Corporation, the contractor still has "... a number of outstanding items from global build, including test problems, gaps, bugs, and interim workarounds, that remain to be addressed with permanent solutions." Global build is the key component to make Delphi an integrated financial management system for all of DOT.

As of April 30, 2001, we identified 36 unresolved deficiencies with Delphi operations, 12 of which DOT categorized as major. Six of these major deficiencies have been unresolved for between 1 and 3 years. The Delphi project plan and the Computer Science Corporation called for many of these deficiencies to be resolved before Delphi was implemented in FRA, or shortly thereafter. Although DOT tracks these major deficiencies, there is no formal agreement with the contractor for resolution dates.

Of the \$26 million in Delphi-related contracts, about \$15 million has been awarded to Oracle Corporation. DOT has a fixed-price contract with Oracle Corporation for implementation of Delphi, for which about \$7 million has been paid. DOT has not paid for work that has not been satisfactorily completed. For example, Oracle Corporation has been paid nothing for the FRA implementation and the global build feature as of July 23, 2001.

DOT also faces more significant challenges with implementing Delphi in its large and more complex agencies. Implementing Delphi in DOT agencies with billion-dollar budgets, multiple accounting offices, and hundreds of employees needing access to Delphi will introduce new dynamics and internal control

weaknesses that did not exist in FRA. Examples of major challenges are discussed below.

Adjusting Obligations Made in Other Internal Financial Systems

We found that Delphi cannot process adjustments from another internal financial agency to obligations that are initially recorded in Delphi electronically. DOT agencies have a number of internal financial systems that process obligations that may be adjusted many times for any number of reasons. For example, the FHWA Fiscal Management Information System (FMIS) processes more than 2 million transactions annually, valued at \$27 billion, for Federal highway programs.

FMIS has more than 600 authorized users throughout FHWA and highway departments in the 50 states, Puerto Rico, U.S. Virgin Islands, and the District of Columbia. These authorized users can process adjustments to increase or decrease the amount obligated for highway projects. While DAFIS was able to electronically process all initial obligations and any adjustments made in FMIS, Delphi cannot.

Until the contractor can come up with an acceptable solution, the DOT interim process is for agencies to manually enter the adjustments into Delphi and manually reconcile Delphi with other internal systems to ensure they are in balance. To manually keep up with the thousands of adjustments being made at multiple locations by different people and organizations, DOT's large grant-making agencies will require expenditures for increased staffing and the manual operations will increase the risk of introducing errors into the accounting system. This deficiency was identified in July 2000.

Interfacing with Internal and External Systems

In addition to FMIS, DOT agencies have more than 70 other internal and external systems that will require electronic interfacing with Delphi. We found that most of these systems' interfaces have not yet been developed or tested to work with Delphi. Completing these interfaces will be a significant challenge for DOT.

JFMIP financial system requirements state that the core financial system should support billings and collections between Federal agencies through the use of electronic systems. To illustrate, because Delphi could not electronically interface with the General Services Administration (GSA), DOT's Cash Operations Group had to view the information in the GSA system and manually enter it into Delphi. Manually entering the information is time-consuming and increases the risk of errors. DOT identified the system interfacing deficiencies in September 1999.

Implementing Delphi Throughout DOT

We found that Delphi has significant system deficiencies and material internal control weaknesses, and testing before implementation was not adequate to ensure that Delphi met the requirements of OMB, JFMIP, and system users. These long-standing unresolved deficiencies already have delayed the Delphi implementation schedule from June 30 to December 31, 2001, and could be deciding factors in determining whether Delphi can be a compliant, integrated financial management system for DOT. Aside from the contract itself, DOT has no written agreement with the contractor to resolve these deficiencies.

With more than 3 years into this project, DOT and the contractor still cannot get Delphi to provide a full range of financial accounting and reporting functions in a small organization like FRA. Other Federal agencies had continued with implementation of new financial management systems, although significant unresolved deficiencies existed, only to find that contractors were unable to develop compliant financial systems (see Exhibit). After spending years and millions of dollars, these agencies had to take significant corrective actions or start over.

JFMIP guidance states the choice of transitioning method should consider the benefits and risks of each method. DOT is at a crossroads with Delphi. The known deficiencies and material internal control weaknesses make Delphi a significant risk for DOT losing control of its financial operations, even in small organizations like FRA. More significantly, FAA, with nine accounting offices, six major lines of business, billions of dollars in grants to airports, and a financial track record that caused GAO to place FAA on its Governmentwide high-risk list since 1999 because of serious and long-standing accounting and financial management weaknesses, is preparing to transition to Delphi. Considering this, DOT needs to develop a comprehensive risk-management strategy for FAA and determine whether the risks justify using the transitioning method of running the new (Delphi) and existing (DAFIS) systems in parallel since FAA already is a high-risk agency.

Compliance with FFMIA

On January 4, 2001, OMB issued revised guidance to be used for financial reports and audits of FY 2000 financial statements for determining compliance of financial systems with FFMIA. FFMIA requires agency heads and independent auditors to report on agency financial management system compliance with (1) Federal financial management system requirements, (2) applicable Federal accounting standards, and (3) the U.S. Government standard general ledger at the transaction level.

The OMB guidance specifically states that progress toward resolving deficiencies should not be construed as compliance with FFMIA. When financial systems are found to be noncompliant, agencies are required to develop remediation plans and file them with OMB.

Converting Financial Data to Delphi

During the audit, we identified one DAFIS deficiency that was not addressed in the Delphi conversion process. DAFIS reported employee benefits in the operating expenses account and not in the appropriate standard general ledger benefit expense account (account 6400) as required. Rather than fixing the deficiency during conversion, FRA simply transferred the combined amount from DAFIS to the same wrong account in Delphi. Although Delphi has the appropriate standard general ledger account, it was not being used.

OPM uses employee benefits information to assess the reasonableness of employee benefits reported by agencies. For DOT, about \$950 million of employee benefits reported to OPM were not included in the appropriate Delphi or DAFIS standard general ledger accounts for FY 2000. DOT subsequently corrected this deficiency.

System Accreditation and Security

We found that DOT accredited Delphi as adequately secured commensurate with the risk resulting from the loss, misuse, unauthorized access to, or modification of Delphi without adequate testing and fully implementing its disaster recovery and continuity of operations plan, and while knowing that Delphi did not meet approved Federal data encryption standards. DOT cited these items as future corrective actions in the accreditation report.

According to Appendix III of OMB Circular A-130, Security of Federal Automated Information Resources, management officials should establish and periodically test their agency's capability to function in the event of a failure of its automated support, such as Delphi. While DOT had a proposed plan in the event Delphi failed, DOT had not established the capability nor tested its plan to function in the event that Delphi failed.

Not fully implementing and testing the plan gives DOT a false sense of security and puts DOT at risk of not being able to perform financial management functions such as paying vendors and tracking budgetary resources if Delphi operations are disrupted. FRA, OIG, RSPA, TASC, OST, STB, and BTS are dependent solely on Delphi to pay bills and control the use of appropriated funds. After we discussed this, DOT revised and tested its plan.

We found that Delphi's data encryption also is not a Federal Information Processing Standards-approved encryption for protecting Government information. In March 2000, DOT's internal security review reported that Delphi's data encryption did not comply to Federal Information Processing Standards Publication 140-1 and recommended that DOT upgrade Delphi. Almost a year later, no action had been taken to enhance it. Because Delphi also can be accessed from the Internet, DOT should provide a better security encryption for Delphi.

We recognize that Delphi is a new system and compliance deficiencies during implementation are expected. However, Delphi is in production in FRA, OIG, RSPA, TASC, OST, STB, and BTS. As discussed in this report, we found that Delphi was not in compliance with FFMIA. Specifically, it had material internal control weaknesses and did not:

- comply with Federal financial management system and JFMIP requirements, to include providing managerial cost information consistent with standards in Statement of Federal Financial Accounting Standard Number 4;
- use all standard general ledger accounts;
- prepare financial statements and other required financial and budget reports;
- provide reliable and timely financial information;
- electronically interface with internal and external systems; and
- meet computer security requirements.

Until recently, DOT was reporting that its noncompliance with FFMIA would be resolved by June 30, 2001, with full implementation of Delphi. In December 2000, DOT acknowledged that Delphi's implementation would be delayed until December 31, 2001.

Based on our findings and the contractor's lack of progress in resolving significant deficiencies, in our opinion DOT cannot expect to resolve these many major deficiencies and have a compliant, fully functioning Delphi throughout DOT by December 31, 2001. Therefore, DOT should prepare an updated remediation plan that describes the resources, remedies, and revised milestones for achieving substantial compliance as required by OMB.

One other matter needs to be resolved to ensure DOT will be compliant with FFMIA. On June 8, 2000, the U. S. Coast Guard informed the DOT former Chief Financial Officer that it planned to continue processing financial transactions with

its existing account structure and classifications, which are different from the ones used in Delphi. This would require the Coast Guard to maintain its own core financial system apart from the rest of DOT and would provide the reporting of only summary data to Delphi.

In response to the plan advanced by the Coast Guard, the DOT former Chief Financial Officer stated he strongly opposed actions that move away from a single integrated system by setting up a separate Coast Guard general ledger and related applications. In earlier correspondence, the DOT Chief Financial Officer expressed concerns that this approach was not consistent with the Chief Financial Officers Act of 1990 and OMB Circular A-127, which require a single departmentwide integrated accounting and financial management system including standard data classification and formats; financial reporting; and internal controls. We agree that the Coast Guard system must be part of DOT's core financial system for DOT to be compliant with FFMIA.

Recommendations

We recommend that the DOT Deputy Chief Financial Officer, in coordination with the DOT Deputy Chief Information Officer and the Operating Administrations' Chief Financial Officers:

1. Discontinue implementation of Delphi in other DOT agencies until the contractor can provide a compliant, fully functioning system for FRA, as required in its contract with DOT.
2. Establish corrective action plans, with specific target completion dates agreed to by the contractor, to resolve the major outstanding deficiencies, and a method to properly address any other deficiencies as they arise during implementation.
3. Implement and test Delphi's disaster recovery and business continuity plan and upgrade Delphi's security encryption.
4. Develop a comprehensive risk-management strategy for FAA and determine whether the risks justify running DAFIS and Delphi in parallel.
5. Prepare a revised remediation plan for Delphi, in consultation with OMB, that describes the resources, remedies, and milestones for achieving substantial compliance with FFMIA.

MANAGEMENT RESPONSE

A draft of this report was provided to the DOT Deputy Chief Financial Officer for written comments on May 22, 2001. We also discussed the draft report with the DOT Chief Information Officers Council, the Operating Administrations, and JFMIP. We considered their comments in preparing the final report. The Deputy Chief Financial Officer provided comments on July 27, 2001 (see Appendix). He agreed with our recommendations and stated:

Recommendation 1: We concur with the need for the essential functions of Oracle Federal Financials to be tested and operating before DOT agencies move into production. The agency Chief Financial Officer and the Delphi Project Manager would have to concur in advance of going live.

Recommendation 2: We agree and have established target dates and upgrade strategies with the contractor for moving to the latest version of Oracle Federal Financials -- 11i, and a follow-on piece of software which will put in place the needed product enhancements. Resolution of other issues will use change control procedures.

Recommendation 3: We concur and have performed a live test of disaster recovery and the contingency plan. We have established a target date (October 31, 2001) for moving to the next version of the software that adopts an upgraded 128-bit encryption.

Recommendation 4: FAA concurs and is in the process of working through its implementation plan.

Recommendation 5: We agree and will consult with OMB staff and, as part of our five-year plan submission, we will update our plan for achieving substantial compliance with FFMIA.

OFFICE OF INSPECTOR GENERAL COMMENTS

Actions taken and planned for each of our recommendations are reasonable.

After reviewing our discussion draft report, the DOT Deputy Chief Financial Officer engaged PricewaterhouseCoopers LLP to perform a high-level programmatic review to assess the health of the DOT implementation of Delphi.

The PricewaterhouseCoopers report made the following seven overall recommendations for improving Delphi project management effectiveness.

- Immediately establish a formal communications/change management strategy that will address the issues cited and improve stakeholder commitment.
- Consider an implementation approach that emphasizes development of workaround alternatives, rather than dependence on the next Oracle software release, to fix problems and resolve issues.
- Establish, review, and maintain an integrated Delphi project schedule that realistically incorporates all Operating Agency activities and tasks.
- Adopt more disciplined scope controls, especially around the decision to implement Oracle Release 11i software mid-project.
- Continue the good work of including the right mix of people on the project, while seeking to enhance the Oracle Federal Financial Application knowledge of the team.
- Supplement risk identification efforts with documented assessment and mitigation activities that are frequently reviewed and monitored.
- Ensure that delivery organization benefits continue to be realized.

The PricewaterhouseCoopers review also reported that projects of this magnitude and complexity are inherently difficult, and that while these recommended actions will not guarantee success, experience has shown that they clearly decrease the risks of project failure or serious schedule/cost overruns.

We agree with the PricewaterhouseCoopers recommendations and request that DOT provide, within 30 days, specific action plans and target dates for addressing these recommendations.

We appreciate the courtesies and cooperation of DOT representatives. If you have questions, please call me at (202) 366-1964 or John Meche at (202) 366-1496.

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IMPLEMENTATION OF FINANCIAL SYSTEMS AT OTHER FEDERAL AGENCIES

DOT can benefit from lessons learned by other Federal agencies that have attempted to implement new financial management systems. We identified several Federal agencies that recently faced the same or similar decisions of whether to continue implementation of new financial management systems that had major unresolved **issues**.

Western Area Power Administration

As DOT is attempting to do, the U.S. Department of Energy's Western Area Power Administration implemented Oracle U.S. Federal Financials in November 1998, more than a year before DOT. DOT is experiencing many of the same problems encountered by the Western Area Power Administration, such as system functionality and performance; data accuracy; security; and reporting. While the Department of Energy's financial systems, as a whole, substantially complied with FFMIA, the new financial system implemented by Western Area Power Administration was not in compliance with OMB Circular A-127 requirements as of September 30, 1999. For example, the system did not generate timely, useful reports on financial information.

Like FRA, Western Area Power Administration implemented its new core financial system without performing parallel processing with its existing system. In its Accountability Report for FY 1999, the Department of Energy specifically cited that one of several reasons why problems with the new financial system occurred was because it ". . . did not run the old financial system in parallel." Before implementation of Oracle U.S. Federal Financials, Western Area Power Administration had earned unqualified audit opinions. However, it received no opinion on its FY 1999 financial statements; and its new accounting system was reported as a material weakness.

U.S. Agency for International Development

Although its core financial system was not a COTS product, the U.S. Agency for International Development provides an example of what may happen when an agency implements a new financial system too soon. The U.S. Agency for International Development attempted to implement a new core financial system in its office in Washington, DC, before technical and implementation deficiencies were corrected. In September 1996, the U.S. Agency for International

EXHIBIT
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Development's Office of Inspector General reported that the system was not adequately tested, not operating effectively, and did not meet Federal financial management system requirements.

The new financial system still was deployed worldwide on October 1, 1996. By March 1997, the Office of Inspector General reported that the system had disrupted operations; increased the risk of fraud, waste, and abuse; and reduced employee morale. Shortly thereafter, the U.S. Agency for International Development began to develop requirements for a different financial management system.

National Aeronautics and Space Administration

In September 1997, the National Aeronautics and Space Administration awarded a fixed-priced contract to a vendor to provide a COTS software-based, integrated financial management system. The contract required the system to be implemented at all National Aeronautics and Space Administration centers by July 1, 1999. The software was not fully developed as of the contract award date, however, the contractor stated it could resolve all problems. The contractor was not able to produce an acceptable financial management system. After a number of missed milestones, the National Aeronautics and Space Administration cancelled the contract in early 2000 after spending millions of dollars and being set back at least 3 years.



**U.S. Department of
Transportation**
Office of the Secretary
of Transportation

Assistant Secretary
for Budget and Programs
and Chief Financial Officer

400 Seventh St., S.W.
Washington, D.C. 20590

Date: July 27, 2001

Memorandum to John Meche

From: David Kleinberg

A handwritten signature in black ink, appearing to read "David K. Kleinberg".

Subject: A Retrospective View of the Delphi Audit

We have clearly spent a large amount of time analyzing the issues raised and the way they were presented in the March Discussion Draft and May Draft audits. This memo is designed to give an overview of our perspective of the issues, their current stages, comments on your draft recommendations, and suggestions on moving forward to bring into operation a financial management system that truly is advanced and is a platform for many of the unmet needs of Transportation.

As noted below, given Delphi's progress since the Fall of 2000, we believe that these changed conditions should be reflected in the report.

Comments on Draft Recommendations

1. "Discontinue implementation of Delphi in other DOT agencies until the contractor can provide a compliant, fully functioning system for FRA, as required in its contract with DOT."

Comment: Agree. We concur with the need for the essential functions of Oracle Federal Financials to be tested and operating before DOT agencies move into production. Attachment A is the revised proposal sent to the Operating Administrations with system performance requirements that will be the pre-production standard. Consistent with ensuring sounding operations, the agency CFO and the Delphi Project Manager would have to concur in advance of going live. The suggested joint agreement is included in the revised recommendation below:

Only after consultation with the Office of the CFO and with the joint agreement of the Operating Administration CFO and the Delphi Project Manager that the essential functions are fully operative, will the OA use Delphi.

2. "Establish corrective action plans, with specific target completion dates agreed to by the contractor, to resolve the major outstanding issues, and a method to properly address any other issues as they arise during implementation."

Comment: We agree. We have established target dates and upgrade strategies with the contractor for, moving to the latest version of Oracle Federal Financials – 11i, and a follow-on piece of software which will put in place the needed product enhancements. Resolution of other issues will use change control procedures.

3. “Implement and test Delphi's disaster recovery and business continuity plan and upgrade Delphi's security encryption.”

Comment: We concur. We have performed a live test of disaster recovery and the contingency plan. We have established a target date (October 31, 2001) for moving to the next version of the software that adopts an upgraded 128-bit encryption.

4. “Develop a comprehensive risk-management strategy for FAA and determine whether the risks justify running DAFIS and Delphi in parallel.”

Comment: FAA concurs with this recommendation and is in the process of working through their implementation plan.

5. “Prepare a revised remediation plan for Delphi, in consultation with OMB, which describes the resources, remedies, and milestones for achieving substantial compliance with FFMIA”.

Comments: We agree. We will consult with OMB staff and as part of our five-year plan submission, we will update our plan for achieving substantial compliance with FFMIA.

General Comments

We did not have the ability to consult with JFMIP or Treasury on their comments on the draft report. We note that JFMIP did provide comments directly to your office and recommended a number of corrections be made to the draft report. A copy of JFMIP comments is attached. Audit issues such as internal controls, specific elements of current and proposed testing of COTS, and the ability of the software to generate financial statements and Treasury reports, need to be reviewed by Delphi staff with JFMIP and Treasury staff.

Within Transportation, there is unanimity in moving beyond DAFIS. DAFIS has numerous deficiencies including the inability to produce a Standard General Ledger and the needed financial statements. As you know, we have developed a new add-on piece of software (DAFIS Financial Statements Module) -- a bridge to accomplish the objective of producing the FY2001 financial statements and merging information from both DAFIS and Delphi for the Transportation consolidated financial statement.

We believe it is useful to review the draft report's basic elements. Audit work was conducted primarily in the Fall of 2000. In its initial phase Delphi was being setup. We ought to look at where things were then, and where they are now. Our mutual objective

is to put in place a single, integrated, financial management system that brings credit to the Transportation Department. We want a financial system that is flexible, can keep up to date with evolving requirements, is audit friendly, and transparent. We want it to be a true tool for financial managers, budget program, procurement, audit and evaluation, and many other communities within Transportation, the Congress and the Executive Branch. We believe, this project is a worthy, ambitious and formidable enterprise.

The issues:

Security

Delphi performed a live test of disaster recovery and contingency planning a several months ago and is now installing and testing a new version of upgraded Oracle Financials software that has 128-bit encryption. Delphi intends to continue upgrades to the functional and security features as Oracle releases new products and they are proven. We are deeply conscious of the security threats from outside agents as well as those associated with the improper use of the system by people who have authorized access. Some believe that the “enemy within” is the greatest threat of any. Documentation on both the encryption and test of disaster recovery was shared with you on April 10, 2001.

Reporting

Based on our current operations, discussions with other federal agencies using Oracle Federal Financials, JFMIP and the Coast Guard we have found no systemic problems associated with the software’s ability to produce the standard Treasury reports, an array of web reports, and ad hoc reports. For the second quarter of FY 2001, we used the bulk transfer for transmitting FACTS II reports to Treasury for your office and TASC. These FACTS II transmissions passed the Treasury edit checks and were accepted. In essence, the trial balances in FACTS II are the key ingredients of financial statements. For the third quarter we will submit FACTs II data for the additional Delphi agencies. We have recently installed and successfully tested modified Oracle software for all but one of the Financial Statements. We will advise your staff when the testing of the last element of the Financial Statements is completed. *It is useful to note that these FACTs II and Financial Statement functions could not be undertaken in DAFIS.*

The inability of other Delphi organizations to report to Treasury in the second quarter relates to bad data, incorrect or incomplete operating procedures, and similar issues which prompted us to add to the training and support of these operating entities. These operational production issues are not reviewed in the draft report. Remaining bugs and cleanups – common to introducing new systems – are being worked with Delphi dedicated staff. We have largely achieved our goal of having measurable improvements in several key areas for those currently on Delphi by the beginning of August. We want to be in good shape when we close the books this fiscal year. We strive for, but we do not believe we will reach perfection. We are far advanced from where Delphi was at the end of FY 2000 --- nine months ago.

Standard General Ledger

On one General Ledger account we erred in DAFIS and carried forward that error in the initial set up in Delphi. Your staff found it, and we fixed it. As all federal users know, Delphi has the flexibility and full capability to handle all the General Ledger work required and foreseen by Treasury *et al.* Coming from the DAFIS world, we are miles ahead. That is one key reason why we are going on Delphi.

Internal Control Weaknesses

The issue concerning the ability to change data in other organizations was on our “punch list.” The FRA matter has been resolved not only for FRA but for all operating administrations. One organization can no longer change data in the FRA vendor table and *vice versa*. Another place where that problem surfaced is being fixed in software now being installed and tested. Again, based on discussion with our federal counterparts in DOD, DOE and other federal agencies, we are aware of no systematic problems in the software with regard to internal controls contrary to statements in the draft report. With respect to prior year recoveries, a software improvement has been scheduled for late this calendar year and an interim improvement will be in place before then. We have advised your staff of each of these enhancements and their scheduled dates in previous discussions and correspondence.

Should there be evidence of systematic problems, we would ask JFMIP to promptly advise the vendor and other Federal users of such non-conformity.

Interfaces

Three levels of interfaces operate in Delphi. Some interfaces are used by all Transportation elements – payroll is a good example. The payroll interface is in operation and has been in place since we initially put Delphi into production. A second interface level is between federal agencies. GSA data associated with fleet services and the purchase of supplies flows to Transportation. When FRA started up we had a clunky interface with GSA. Staff was reluctant to use it. We recently replaced the GSA interfaces with a much-improved one – it went into operation last month. Recently, the Coast Guard completed the purchase card interface. At the third level are interfaces from Operating Administration feeder systems and other multi-agency user systems such as travel. In most cases these systems need to have the capability to electronically reduce obligations (that is, to make a negative adjustment) to an existing obligation in Delphi. While these can be done manually, major feeder systems require an electronic process to be efficient. Custom tailored and contractor supported interfaces could have been built earlier to deal with the negative adjustment transactions. We chose to have this capability in the Oracle Financial product to assure regular support and maintenance and ease of upgrading versions. Clearly, this choice slowed our installation – the negative adjustment software is being installed and tested. It may have delayed the modes from fully developing their interfaces. The central point is that the full interface capability will

be present, it will be there for all federal agencies to use or model, and it will be supported by Oracle.

Software Improvements

Also on our internal “punch list“ were several software features needed to operate efficiently and effectively. Among them are prior year recoveries, negative adjustments, multi-fund accounts receivables, and multi-organization fixed assets. Although putting them in the supported Oracle financials product has taken longer than planned, three of the four items are contained in the product now being installed and tested. The scheduled date for the fourth item, prior year recoveries, is at the end of this calendar year. In the meantime, an interim enhancement is being deployed.

Examination of the PICs or “punch list” starting with the items noted in the discussion draft to the present shows the progressive completion of the Delphi core installation. Outside experts believe that we are normal or better than normal for a project of this character and scope in dealing with these setup issues.

PICS DATA

	<u>January 31, 2001</u>	<u>April 30, 2001</u>	<u>Today</u>
Total items	62	36	28 ¹
Items in Testing			12

Implementing Delphi is like building a house and we believe the audit criteria associated with a “work in progress” should be applied. Utilization of “finished” product standards may apply about six months after all Transportation agencies are in full operation.

Utility of the Draft Report

We found the report useful. It triggered a review of our implementation of seven organizations. We learned that we need to work more closely with OA offices, particularly with offices other than finance to assure that more reports are developed early and meet other needs. We also learned that we need more and earlier communications with the OAs; more intense training of the finance and other staff; and related technical support for longer periods. Additional audit or evaluation of these areas could prove of great use as we move to the next stage (the installation of agencies with multiple feeder systems and multiple sites) and later as we set out an ambitious road map for the future.

¹ 11 – are resolved by 11i -currently in testing
 1 in final testing - almost ready to move to production
 2 are being worked on
 14 enhancement requests

We need advice on how to best exploit Delphi. We need to provide more timely and more useful information to a variety of internal and external customers. We welcome your suggestions and ideas in this area.

Future steps include the use of Delphi to achieve or supplement cost accounting objectives, relating financial information to program information, integrating the data from numerous other systems such as inventory, property management, and benefit payments. Sketching out that architecture, setting out goals and arraying the alternatives in a practical way is a major challenge.

Risk Management and Detailed Testing

Delphi has employed a stringent risk management process to minimize the risks associated with moving an agency to Delphi. The draft report does not comment on Delphi efforts in this area. There is no recognition of the significant amount of testing that is performed at each step during the implementation process. The draft report implies that agencies would be moved to Delphi without all the functionality needed to meet their business requirements. This is simply not the case entire system along with all interfaces is tested and re-tested for each agency to ensure that all required functionality is working before an agency moves into production.

The discussion draft provided that parallel processing was the only way to manage the risk of putting in a new accounting system. The draft report has been modified to reflect contemporary practices, and now recommends that FAA develop a comprehensive risk-management strategy and determine whether the risks justify running DAFIS and Delphi in parallel. FAA concurs with the revised recommendation as it is current practice and is in the process of evaluating options in this regard.