



*Customer Account Data Engine Project
Management Practices Have Improved, but
Continued Attention Is Needed to Ensure
Future Success*

September 11, 2008

Reference Number: 2008-20-151

This report has cleared the Treasury Inspector General for Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document.



TREASURY INSPECTOR GENERAL
FOR TAX ADMINISTRATION

DEPARTMENT OF THE TREASURY

WASHINGTON, D.C. 20220

September 11, 2008

MEMORANDUM FOR CHIEF INFORMATION OFFICER

Michael R. Phillips

FROM:

Michael R. Phillips
Deputy Inspector General for Audit

SUBJECT:

Final Audit Report – Customer Account Data Engine Project
Management Practices Have Improved, but Continued Attention Is
Needed to Ensure Future Success (Audit # 200820008)

This report presents the results of our review of the development and capabilities of the Customer Account Data Engine (CADE). The overall objectives of this review were to determine the status of management's implementation of corrective actions to our previous CADE report¹ and to assess efforts to improve CADE customer service capabilities. This review was part of our Fiscal Year 2008 audit plan for reviews of the Internal Revenue Service's (IRS) Business Systems Modernization Program efforts.

Impact on the Taxpayer

The IRS has developed a strategy for a phased replacement of its computer systems to better support today's tax laws, tax policies, and taxpayer needs. As the centerpiece of the IRS modernization program, the CADE is an essential project in this strategy. It is being developed in incremental releases and will eventually replace the existing Master File² processing systems, which are the IRS' official repositories of taxpayer information. However, long-term objectives and the ability to adjust for unplanned initiatives have challenged the IRS' ability to meet the goal of having the CADE perform as the modernization program's centerpiece. The modernized CADE database will allow the IRS to update taxpayer accounts, support account settlement and maintenance, and process refunds daily, which will contribute to improved service to taxpayers.

¹ *Vital Decisions Must Be Made to Ensure Successful Implementation of Customer Account Data Engine Capabilities* (Reference Number 2007-20-080, dated July 13, 2007).

² See Appendix X for a glossary of terms.



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Synopsis

In July 2007, we reported³ a continuing pattern by the CADE project team of deferring requirements to later releases and missing release deployment dates. This occurred, in part, because the IRS and the PRIME contractor agreed to an unrealistic scope of work and did not assign adequate PRIME contractor staffing to the project. We also reported that 1) the approach taken to implement the CADE architectural design would not support long-term goals and objectives and 2) alternative design approaches might be needed to meet the CADE computer processing demands. The Chief Information Officer agreed with the recommendations in our prior audit report and outlined corrective actions to address the findings.

IRS executives and managers have initiated efforts to integrate the CADE with other tax processing systems. For example, in October 2007, the Account Management Services system successfully processed the first transactions updating taxpayer accounts on the CADE using the Enterprise Architecture Integration Broker. With the addition of this capability, the number of accounts retained in the CADE will increase over time while the number of accounts returned to the current processing environment will decrease.

Another effort involves retaining in the CADE those taxpayer accounts that require issuance of selected notices to the taxpayers. To accomplish this, the CADE sends taxpayer notice data to the Notice Services program to initiate the correspondence process with taxpayers. This business process changed from a weekly to a daily process because the CADE has daily processing capabilities.

Long-term issues continue to challenge the CADE project. The ability of the CADE to access historical taxpayer account information currently residing on the Individual Master File must be resolved to enable requirements for soon-to-be developed CADE releases. In addition, with the expectation of significant increases in the CADE taxpayer population, processing capacity and data storage require consideration to meet future operational needs.

The processing of payments related to the Economic Stimulus Act of 2008⁴ put the CADE Release 4 Project Schedule at risk. In January 2008, the IRS engaged the PRIME contractor to conduct an impact analysis and develop a preliminary design assessment for the work needed for the CADE to process economic stimulus payment checks. The project team included the work related to this effort in the scope of Release 4 with a task order modification.

However, the IRS did not have funds appropriated for this additional work until the effort was already underway. Adding programming for the economic stimulus payments into the Release 4.1 project schedule stressed resources and affected delivery of several notices and the

³ *Vital Decisions Must Be Made to Ensure Successful Implementation of Customer Account Data Engine Capabilities* (Reference Number 2007-20-080, dated July 13, 2007).

⁴ Pub. L. No. 110-185, 122 Stat. 613.



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overall project schedules for Releases 4.1 and 4.2. CADE officials stated that the economic stimulus effort eliminated all reserve time built into the Release 4 project schedule and increased the overall project schedule by 5 weeks.

As the IRS continues to modernize its databases, the ability to provide immediate access to integrated account data, enable real-time transaction processing, and ensure daily account settlement is critical to improving customer service and business results.

Recommendations

The Chief Information Officer should 1) ensure that a Historical Data Conversion solution is in place to enable the CADE to process transactions related to issues such as balance-due conditions, 2) develop an updated estimate of the processing and storage requirements—including the related costs—to support the long-term objectives and goals of CADE operations, and 3) use a standardized process—including measurement and reporting to appropriate parties—to determine the effect on the CADE project's scope, cost, and delivery schedules when unplanned initiatives are mandated for implementation.

Response

The Chief Information Officer agreed with our recommendations. Planned corrective actions include developing a decision paper to assess how to proceed with the Historical Data Conversion as it relates to the CADE's continued development, updating CADE end-state processing and storage design estimates, and reviewing current procedures for assessing the effects and risks in response to unplanned initiatives affecting the CADE, and filling any gaps in these procedures. Management's complete response to the draft report is included as Appendix XI.

Copies of this report are also being sent to the IRS managers affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Margaret E. Begg, Assistant Inspector General for Audit (Information Systems Programs), at (202) 622-8510.



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Abbreviations

BSMO	Business Systems Modernization Office
CADE	Customer Account Data Engine
CP	Computer Paragraph
EIC	Earned Income Credit
EIN	Employee Identification Number
IRS	Internal Revenue Service



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Background

The Customer Account Data Engine (CADE) is the centerpiece of the Internal Revenue Service (IRS) modernization program. The CADE project is building a modernized database that will replace the existing Master File¹ processing systems, which are the IRS' official repositories of taxpayer information. To accomplish this, the IRS is developing applications that will update taxpayer accounts, support account settlement and maintenance, and process refunds daily.

The IRS initiated the CADE project in September 1999 and has delivered the following releases of the project:

- Release 1.1 deployed in August 2004 and Release 1.2 deployed in January 2005 provided processing for Income Tax Returns for Single and Joint Filers With No Dependents (Form 1040EZ).
- Release 1.3.1 deployed in September 2005 and Release 1.3.2 deployed in January 2006 provided processing for U.S. Individual Income Tax Returns (Forms 1040 and 1040A) with no schedules.
- Release 2.1 deployed in September 2006 added several new schedules to the CADE, including Form 1040 Itemized Deductions (Schedule A), Form 1040 Interest and Ordinary Dividends (Schedule B), and Form 1040 Credit for the Elderly or the Disabled (Schedule R). Release 2.2, which completed deployment in May 2007, added additional schedules and filing statuses.
- Release 3.1 deployed in August 2007 (coordinated with the Account Management Services project) added the address change customer service capability, and Release 3.2 deployed in January 2008 added new tax law changes, several new schedules, and the capability for direct deposit of a refund to more than one account.

In July 2007, we reported² a continuing pattern by the CADE project team of deferring requirements to later releases and missing release deployment dates. This occurred, in part, because the IRS and the PRIME contractor agreed to an unrealistic scope of work and did not assign adequate PRIME contractor staffing to the project. We also reported that 1) the approach taken to implement the CADE architectural design would not support long-term goals and objectives, and 2) alternative design approaches might be needed to meet the CADE computer processing demands.

¹ See Appendix X for a glossary of terms.

² *Vital Decisions Must Be Made to Ensure Successful Implementation of Customer Account Data Engine Capabilities* (Reference Number 2007-20-080, dated July 13, 2007).



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The IRS Information Technology Modernization Vision and Strategy effort revalidated the need for modernized tax administration capabilities. As the IRS continues to modernize its databases, the abilities to provide immediate access to integrated account data, enable real-time transaction processing, and ensure daily account settlement are critical to improving customer service and business results. Realization of these capabilities requires implementation of tools that allow for the retention of taxpayer accounts in the modernized CADE database through online access, monitoring, and adjustment.

The Corporate Notices initiative will enable the CADE to support and manage taxpayer accounts that require generation of notices to the taxpayers. The CADE sends taxpayer notice data to the Notice Services program, which then generates composed notices, forwards a sample of selected notices to quality review, and submits composed notices to the Correspondence Production Services function for printing and mailing. This business process changed from a weekly to a daily routine. Future releases of the Corporate Notices initiative will address the migration of approximately 125 notices to the modernized processing environment.

This review was performed at the Modernization and Information Technology Services organization in New Carrollton, Maryland, during the period February through May 2008. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This review was part of our Fiscal Year 2008 audit plan for reviews of the Modernization and Information Technology Services organization and contributes to the Treasury Inspector General for Tax Administration's efforts to address the Fiscal Year 2008 Major Management Challenge to assess the progress of the "Modernization of the IRS Computerized Systems." Detailed information on our audit objectives, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.



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Results of Review

The Internal Revenue Service Has Taken Actions to Address Previously Recognized Project Shortcomings

In July 2007, we reported that the IRS needed to negotiate a reasonable scope of work for future CADE releases and ensure that the amount of staffing assigned to a specific release was adequate to accomplish the scope of projected work. The report also stated that the IRS had not completed 1) addressing the need to include a database that stores historical account data, 2) essential processing requirements deferred since Release 1 (first planned for implementation in January 2002), and 3) a process to improve the efficiency of the daily processing cycle.

The Chief Information Officer agreed with the recommendations from our prior audit and outlined corrective actions to address the findings.³ As of May 2008, the IRS had adequately addressed all but one of the corrective actions. The open corrective action focuses on the exploration of alternative design approaches for the CADE to reduce future processing costs. This correction action is planned for completion in July 2008.

The project team has made progress to ensure that CADE releases contain a reasonable scope of work and sufficient staffing

The CADE requirements management process is transitioning from the PRIME contractor to the CADE Project Office and the Wage and Investment Division business owners. To ensure a reasonable scope of work, the CADE project implemented use of a formal Business Systems Requirements Report that incorporates IRS processes in the Business Rules and Requirements Management Division, which will conduct detailed requirements identification and development. Using these processes helps to define the scope of work, clarify business needs, and document clearly defined requirements within established release boundaries.

The PRIME contractor documented Release 3 requirements in a Business Systems Requirements Report and is responsible for the content and management of those requirements. While the IRS played a lead role in development of the Release 4 Business Systems Requirements Report, the PRIME contractor is responsible for the content and management of the requirements. With Release 5, the Applications Development organization and the Business Rules and Requirements Management Division worked with the Wage and Investment Division business owners to develop the requirements contained in the Business Systems Requirements Report.

³ See Appendix IX for IRS corrective actions to our prior recommendations.



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This change in requirements ownership is an effort to ensure that a manageable scope of work is undertaken in the Detailed Design and System Development Phases of the Enterprise Life Cycle.⁴ The CADE project team is aggressively tracking staffing levels weekly by analyzing resource use reports provided by the PRIME contractor. The team also conducts staffing review sessions to reduce any potential resource contention.

The IRS now requires the PRIME contractor to provide a list of the employees who support each CADE release. The CADE project managers review and analyze the resources listed to ensure that adequate support is provided by the PRIME contractor. The project managers and the PRIME contractor have used these lists to develop and progressively update measures to capture weekly staffing levels to better forecast current and future needs. These measures provide high-level indicators of potential problems (i.e., yellow, red)⁵ that also provide information about a specific release and area within that release that are of concern. When the scope of work is properly defined, the project managers and business executives can effectively estimate the resources needed to deliver the requirements agreed to during the contract negotiation process. Appendix IV presents an analysis of the Project release costs through Fiscal Year 2008, which total about \$270.9 million.

Current measures provide CADE project managers and business executives with data sufficient to proactively identify staffing issues.

Appropriate actions were taken to deliver essential processing requirements

The project established the CADE Independent Requirements Project to implement six essential processing requirements deferred from the January 2002 Release 1 plans. These requirements were deferred because they were not needed to meet the release delivery goals. For example, the Release 1 requirement to process prior year tax returns for accounts currently residing on the CADE database is scheduled for delivery with Release 4.1.

One of the six essential processing requirements was delivered with Release 2.2, and three requirements were delivered with Release 3.2. The remaining two requirements were moved to Release 3.2, and again deferred to Release 4.1 because adequate staffing was not available for their development due to a change in the contract structure.

The contract for the CADE Independent Requirements Project was originally structured using a cost-plus task order. In April 2007, as part of the Release 3 renegotiation process, the CADE Independent Requirements Project was changed to a fixed-price agreement. In September 2007, Release 3.2 fell behind schedule and was in jeopardy of not being completed in time for the upcoming filing season, and the PRIME contractor could not guarantee on-time delivery for the

⁴ Appendix VIII presents an overview of the Enterprise Life Cycle.

⁵ A “yellow” designation signifies that the issues are documented in the Item Tracking Reporting and Control system and the project is proceeding. A “red” designation signifies that the issues are documented in the Item Tracking Reporting and Control system and the project is in jeopardy.



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CADE Independent Requirements Project. During subsequent negotiations, the IRS agreed to move two requirements to Release 4.1 to maintain the integrity of the fixed-price agreement. At that point, staffing resources were transferred from the CADE Independent Requirements Project to work on Release 3.2.

In response to our prior audit, the CADE project team is implementing new requirements management and staffing processes that were not in place in September 2007 to overcome the staffing imbalances experienced. The new processes will help to ensure that a similar situation will be less likely to occur in the future.

Preliminary designs have been developed to enable more efficient daily processing of tax return account information

The basic unit of work performed by the CADE is the daily processing cycle, and each of these cycles must be successfully completed before any significant processing can be started for the next daily cycle. As more complex functions and processing needs are added to each release, the CADE's ability to complete each daily processing cycle is affected.

The IRS and the PRIME contractor have developed several preliminary designs to improve daily processing routines. For example, one design will allow the CADE to execute bulk data transfers at any time concurrent with real-time, on-demand transactions. Another design will allow recovery of specific transactions without having to rerun an entire day's processing.

Several preliminary designs have been developed to improve daily processing routines.

Each preliminary design addresses previously identified problems that the IRS repeatedly postponed addressing. The CADE project team's driving concern was to make the current release operational and to process as many tax returns as possible. However, as CADE volume increased, resolving these issues has become an important if not immediate concern.

Appendix VI presents a description of the preliminary designs intended to provide the CADE with the tools necessary to successfully process the taxpayer account volume contained in the Individual Master File.

Current release capabilities were delivered in a timely manner

The IRS and the PRIME contractor began using a biannual release approach in September 2005. One release in June each year will add complex capabilities, and another release in January each year will include filing season updates. Appendix V presents the prior and current biannual CADE release schedules. The current release schedule was updated in November 2006.

The IRS delivered CADE Release 3.1 in August 2007 and Release 3.2 in January 2008. In addition to new tax law changes, several new schedules were added to the CADE, including Earned Income Credit (Schedule EIC), Child and Dependent Care Expenses (Form 2441), Child and Dependent Care Expenses for Form 1040A Filers (Schedule 2), and Direct Deposit of



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Refund to More Than One Account (Form 8888). The CADE can now process address changes using the Enterprise Application Integration Broker and, for the first time, is processing three taxpayer notices.

As of May 30, 2008, the CADE had processed more than 30 million tax returns and generated almost \$44 billion in refunds. This is a significant increase over the 11.2 million tax returns processed in Calendar Year 2007 that generated approximately \$11.6 billion in refunds. In addition, the CADE processed more than 17.7 million payments related to the Economic Stimulus Act of 2008⁶ that generated refunds totaling more than \$14 billion during this same period in Calendar Year 2008.

The Customer Account Data Engine Is Successfully Integrating With Other Processing Systems

IRS executives and managers have taken the lead in directing future efforts for integrating the CADE with other tax processing systems. For example, in October 2007, the Account Management Services system successfully processed the first transactions updating taxpayer accounts on the CADE through the Desktop Integration application. This was accomplished using the Enterprise Application Integration Broker. With the addition of this capability, the number of accounts retained in the CADE will increase over time, while the number of accounts returned to the current processing environment will decrease.

The IRS has initiated efforts to integrate the CADE with other processing systems to expedite taxpayer account updates and information notice issuance.

Another effort involves retaining in the CADE those taxpayer accounts that require issuance of selected notices to the taxpayers. The CADE sends taxpayer notice data to the Notice Services program, which then generates composed notices, forwards a sample of selected notices to quality review, and submits composed notices to the Correspondence Production Services function for printing and mailing. This business process changed from a weekly to a daily process.

In February 2007, the IRS aligned 13 notices with CADE Release 3.2 and the Notice Services program (see Appendix VII for a list of the 13 notices). The Wage and Investment Division business owners subsequently limited Release 3.2 to eight notices that did not require processing through the Notice Review Processing System. The IRS planned to deliver the remaining five notices with Release 4.2.

In February 2008, Release 3.2 began processing two mathematical error notices and one Earned Income Credit (EIC) information notice. As of May 27, 2008, the CADE had processed more

⁶ Pub. L. No. 110-185, 122 Stat. 613.



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than 56,000 mathematical error notices and 122,000 information notices. For 2008, the business owners estimate that the CADE will process more than 93,000 mathematical error notices and almost 168,000 information notices.

The IRS rescheduled delivery of two notices

Two refund notices originally planned for delivery with Release 3.2 were inadvertently omitted from the task order. Upon discovery of this oversight, the IRS prepared work requests to develop and implement the notice processing. However, once the work requests were approved, CADE and business executives determined that development and testing of the processing for these notices was not cost efficient at that time.

The decision to not include these two refund notices with Release 3.2 was reasonable given the circumstances. These notices have been rescheduled for Release 4.1, which is planned for delivery in July 2008.

Precautions taken during testing of notices were reasonable

In February 2008, CADE and business executives decided to prevent issuance of two EIC mathematical error notices and one EIC information notice. The project team needed additional time to test a sufficient number of taxpayer accounts before the notices were put into production. Issuing these notices during the middle of the filing season without the assurance that notices were generated only when appropriate could have jeopardized the entire Release 3.2 deployment, potentially returning thousands of accounts from the CADE database to the Individual Master File. The IRS has not rescheduled issuance of these three notices.

Long-Term Issues Continue to Challenge the Customer Account Data Engine Project

The ability of the CADE to access historical taxpayer account information currently residing on the Individual Master File must be resolved to enable requirements for soon-to-be developed CADE releases. Further, with the expectation of significant increases in the CADE taxpayer population, processing capacity and data storage require consideration to meet future operational needs.

The Historical Data Conversion Project has been delayed, adding risk to the deployment of future CADE releases

The IRS currently stores all relevant historical taxpayer data such as prior year tax assessments and outstanding tax liabilities on the Individual Master File. The CADE project team planned to build a database in 2002 to store historical account data in a modernized format as part of Release 1. However, this requirement was deferred because the task was complex and its necessity was not immediate to releases that did not require reference to these data. Currently,



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the CADE does not store historical taxpayer account data in a modernized format. It stores only the taxpayer account data used in processing the current year returns.

As corrective actions to our prior report, the IRS planned to align the Historical Data Conversion Project with CADE Release 3. However, the Project development has been rescheduled to allow the IRS to coordinate its delivery strategy with the Individual Master File to Database 2 initiative and the Enterprise Data Strategy.

The IRS has a requirement to convert historical data from the Individual Master File data to storage on the CADE because the data on the Individual Master File are not compatible with the CADE.

This setback occurred in part because the foundation for designing a CADE database capable of supporting all current and future business requirements (i.e., the “end state” Logical Data Model) is incomplete. This issue was not adequately addressed when identified in August 2006 by the CADE Data Study. As a result, the contracted work for Release 3 agreed to by the IRS and the PRIME contractor supported only Release 3.2 data elements and did not include more than 10,000 data elements needed to successfully deliver the Historical Data Conversion Project.

The IRS has tentative plans to implement a Historical Data Integration process with CADE Release 5.1 in July 2009. The process will allow the CADE to efficiently use the taxpayer and tax return data once the data are converted from the Individual Master File format into the CADE modernized data structure. However, until a long-term Historical Data Conversion solution is implemented, the CADE will be unable to efficiently retain the increasing number of CADE-eligible taxpayer accounts in its database.

The need to explore alternative design solutions still exists

The IRS still needs to decide whether to reduce CADE capabilities because of capacity constraints or to continue development with the expectation of using new technology or alternative resources to satisfy its computer processing demands. The CADE processing demands are quickly reaching the capacity of the current system, both in the storage and retrieval of data and the processing speed for daily transactions. If the IRS does not identify new technology to more efficiently perform computer processing, CADE costs might be prohibitive.

The IRS engineering staff have determined that use of external sources such as supercomputing centers for additional processing capacity is impractical for several reasons. Barriers to using external sources for data management include the size of the data transfers, compatibility type database issues, account balancing, and security. The engineering staff performed the last formal study of CADE processing capacity in 2004 and have not determined the long-term CADE processing capacity needs.

The absence of a comprehensive direction in designing and developing efficient computer processing will affect the CADE project’s ability to deliver intended capabilities. Unless



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sufficient time and effort are provided to deliver the capabilities needed to support the long-term objectives and goal, the CADE will be unable to process tax returns for all individual and business taxpayers as planned. In addition, the longer these decisions are delayed, the greater the risk of costly rework.

Recommendations

The Chief Information Officer should:

Recommendation 1: Ensure that a Historical Data Conversion solution is in place to enable the CADE to process transactions related to issues such as balance-due conditions.

Management's Response: The Chief Information Officer agreed with this recommendation and will have the CADE Project Office partner with key stakeholders to develop a decision paper to assess how to proceed with the Historical Data Conversion as it relates to the CADE's continued development. The CADE Project Office will develop a plan and schedule for the Historical Data Conversion based on the decision paper.

Recommendation 2: Develop an updated estimate of the processing and storage requirements, including the related costs, to support the long-term objectives and goals of CADE operations.

Management's Response: The Chief Information Officer agreed with this recommendation and will have the Enterprise Services organization update the CADE end-state processing and storage design estimates. Estimates will include direct costs associated with processing and storage requirements. Indirect costs such as software license fees, professional services, labor charges, and maintenance fees will not be included in cost estimates.

Processing of Economic Stimulus Payments Put the Release 4 Project Schedule at Risk

In February 2008, the 2008 Legislative Economic Stimulus initiative⁷ went into effect. This initiative was designed to stimulate consumer spending by providing payments of up to \$1,200 to qualifying taxpayers. At the time, the CADE did not have the capability to process these payments, so in order to issue the payments to taxpayers whose accounts resided on the CADE, the IRS would have had to transfer all of the accounts back to the Individual Master File. In January 2008, the IRS proactively engaged the PRIME contractor to conduct an impact analysis and develop a preliminary design assessment for the work needed for the CADE to process the economic stimulus payments. The project team included the work related to this effort in the

⁷ Pub. L. No. 110-185, 122 Stat. 613.



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scope of Release 4 with a task order modification. Because the IRS took these steps, more than 17 million taxpayers received the benefit of expedited payments by remaining in the CADE database. In addition, the IRS did not have to move all of the accounts to the Master File to process the payments and then move the accounts back to the CADE.

However, the IRS did not have funds appropriated for this additional work until the effort was already underway. Adding programming for the economic stimulus payments into the Release 4.1 project schedule stressed resources and affected delivery of several notices and the overall project schedules for Releases 4.1 and 4.2. CADE officials stated that the economic stimulus effort eliminated all reserve time built into the Release 4 project schedule and increased the overall project schedule by 5 weeks.

Recommendation

Recommendation 3: The Chief Information Officer should use a standardized process to determine the effect on the CADE project's scope, cost, and delivery schedules when unplanned initiatives are mandated for implementation. These effects should be measured to the extent possible and reported to the IRS Commissioner and other stakeholders as a means for communicating the consequences to previously planned CADE capabilities.

Management's Response: The Chief Information Officer agreed with this recommendation and will review current procedures for assessing the effects and risks in response to unplanned initiatives affecting the CADE as described in the CADE and the Modernization and Information Technology Services organization Change Control Board processes and the Executive Steering Committee governance procedures. If it is determined that there are gaps in these procedures, the Modernization and Information Technology Services organization will update the procedures. As events such as the 2008 Legislative Economic Stimulus initiative occur, the Modernization and Information Technology Services organization will ensure that organizational decisions are made with knowledge of the potential effect on the project and ensure that these are appropriately documented. However, there is no commitment that all such decisions will be elevated to the IRS Commissioner.



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Appendix I

Detailed Objectives, Scope, and Methodology

The overall objectives of this review were to determine the status of management's implementation of corrective actions to our previous CADE report¹ and to assess efforts to improve CADE customer service capabilities. This review was part of our Fiscal Year 2008 audit plan for reviews of the IRS' Business Systems Modernization efforts and contributes to our efforts to address the Fiscal Year 2008 Major Management Challenge to assess modernization of the IRS' computerized systems.

To accomplish our objective, we identified the internal control systems used as guidance for the CADE's development. These systems include the Enterprise Life Cycle² and the Internal Revenue Manual. We assessed the adequacy of CADE development activities in relation to the guidance provided by these internal control systems. We also assessed the adequacy of CADE development and program plans by reviewing Business Systems Modernization Program and project documentation and data provided by the IRS and by interviewing personnel in the Applications Development and Enterprise Services organizations. Specifically, we:

- I. Evaluated the effectiveness of the corrective actions related to the design, development, and delivery of new CADE releases.³
 - A. Reviewed CADE Project Office activities to determine whether 1) future releases will have a reasonably achievable scope of work, and 2) each release will be sufficiently staffed to deliver planned requirements on schedule.
 - B. Reviewed CADE Project Office activities related to plans and actions to develop previously deferred essential CADE requirements.
 - C. Assessed CADE Project Office actions taken to deliver the Historical Data Conversion Project.
 - D. Reviewed CADE Project Office activities related to improving daily processing routines and meeting long-term CADE computer processing and storage demands.
- II. Determined the status of IRS efforts to enable the CADE to improve customer service by evaluating the effectiveness of current activities taken to ensure that it will be able to

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² Appendix VIII presents an overview of the Enterprise Life Cycle.

³ See Appendix X for a glossary of terms.



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manage taxpayer accounts requiring issuance of selected notices, such as mathematical error notices and information notices.



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Appendix II

Major Contributors to This Report

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Appendix III

Report Distribution List

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Associate Chief Information Officer, Enterprise Services OS:CIO:ES
Director, Procurement OS:A:P
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Director, Test, Assurance, and Documentation OS:CIO:AD:TAD
Chief Counsel CC
National Taxpayer Advocate TA
Director, Office of Legislative Affairs CL:LA
Director, Office of Program Evaluation and Risk Analysis RAS:O
Office of Internal Control OS:CFO:CPIC:IC
Audit Liaisons:
 Associate Chief Information Officer, Applications Development OS:CIO:AD
 Director, Procurement OS:A:P
 Director, Program Oversight OS:CIO:SM:PO



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Appendix IV

Customer Account Data Engine Project Costs

Table 1: Project Task Order¹ Costs Through Release 3

Task Order Number	Period of Performance	Cost
0019	1999 – 2000 (specific dates not available)	\$2,166,234
0037	April 24, 2000 – August 31, 2000	\$3,011,000
0054	September 1, 2000 – April 30, 2001	\$13,971,165
0069	June 1, 2001 – August 31, 2001	\$5,700,000
0071	May 1, 2001 – June 30, 2001	\$1,534,012
0073	September 1, 2001 – August 31, 2004	\$60,458,154
0123	October 1, 2004 – June 8, 2006	\$78,862,590
0132	May 2, 2006 – April 15, 2008	<u>\$39,143,554</u>
Total		<u>\$204,846,709</u>

Source: CADE contract task orders from the IRS Procurement office.

Table 2: Estimated Project Costs and Schedule Through Release 3

Release Project Phases	Completed/Scheduled	Cost/Estimate
Milestone 1	December 31, 1999	\$5,116,000
Milestones 2 and 3	June 30, 2001	\$19,267,000
Milestone 4	July 30, 2004	\$58,838,000
2003/2004 Filing Seasons (Release 1.1)	August 5, 2004	\$24,550,000
2005 Filing Season (Release 1.2)	December 31, 2004	\$23,403,000
Milestone 5	June 30, 2005	\$17,450,000
2006 Filing Season (Release 1.3)	December 31, 2005	\$28,300,000
2007 Filing Season (Release 2)	May 30, 2007	\$56,959,000
2007 Filing Season (Release 3)	January 14, 2008	<u>\$37,000,000</u>
Total		<u>\$270,883,000</u>

Source: Business Systems Modernization Expenditure Plans for Fiscal Year 2004 through Fiscal Year 2008.

¹ See Appendix X for a glossary of terms.



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Table 3: Project Cost and Schedule Variance Summary

Release	Milestone	Cost Variance	Cost Variance Percentage	Schedule Variance (in months)	Schedule Variance (percentage)
1	Operations and Maintenance ²	\$7,510,000	43%	0	0%
1.2	2005 Filing Season ³	\$10,000	0%	0	0%
1.3.1	2006 Filing Season	\$668	3%	2	20%
1.3.2	2006 Filing Season ⁴	\$66	0%	0	0%
2.1	Mid-year Release	\$4,190	15%	0	0%
2.2	2007 Filing Season	\$3,777	15%	5	65%
3.1	Mid-year Release	\$0	0%	0	0%
3.2	2008 Filing Season	\$0	0%	0	0%
Program Management	Calendar Year 2005 Level of Effort	\$1,935,000	24%	Not Applicable	Not Applicable
	Calendar Year 2006 Level of Effort	\$0	0%	Not Applicable	Not Applicable

Source: *Business Systems Modernization Expenditure Plans for Fiscal Year 2004 through Fiscal Year 2008, and the Business Systems Modernization Monthly Performance Measures Reports.*

² CADE Release 1 (Operations and Maintenance) was initially referred to as “CADE Release 1, Milestone 5” in the Business Systems Modernization Expenditure Plan.

³ CADE Release 1.2 was initially referred to as “CADE Filing Season 2005” in the Business Systems Modernization Expenditure Plan. The IRS did not provide cost and schedule data for this Release in subsequent Expenditure Plans.

⁴ CADE Releases 1.3.1 and 1.3.2 were initially combined and referred to as “CADE Filing Season 2006” in the Business Systems Modernization Expenditure Plan.



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Appendix V

Customer Account Data Engine Release Schedules

Table 1 presents the historical development of the CADE and the original CADE release¹ schedule. The names of the tax forms planned for CADE processing are presented below Table 1. All tax forms and schedules listed in Tables 1 and 2 are available at the public IRS web site (IRS.gov).

Table 1: Original CADE Release Schedule

	RELEASE 1.1/1.2	RELEASE 1.3.1	RELEASE 1.3.2	RELEASE 2.1	RELEASE 2.2	RELEASE 3	RELEASE 4	RELEASE 5
Tax Return Types	Form 1040EZ; Single filing status; refund or even-balance returns	Release 1.1/1.2 plus address change	Release 1.3.1 plus Forms 1040 and 1040A with no schedules; Forms 4868 and 2688; prior year returns (2003+); limited name-change returns	Form 1040EZ; Form 1040 Schedules A, B, and R; Form 1040A Schedules 1 and 3	Release 2.1 plus Form 1040 Schedules C, D, E, F, and H without an Employer Identification Number (EIN) and their supporting schedules	All Form 1040 family and supporting forms without an EIN; Form 1040A Schedule 2; refund, deceased refund, or fully paid returns	All Form 1040 family and supporting forms with an EIN; Forms 941, 940, and 720; payroll, unemployment, and excise returns for Form 1040 taxpayers; refund, fully paid, balance-due, and even-balance returns	All remaining individual tax returns
Filing Status	Single	Single	Single	Single; Married; Head of Household, limited dependents	Single; Married; Head of Household, limited dependents	All (including Head of Household)	All	All
Account Characteristics	No account issues (open or closed)	No account issues (open or closed)	No account issues (open or closed)	No account issues (open or closed)	Married once; no open account issues	No open account issues; EIC	Power of Attorney; Centralized Authorization File; no open account issues	All accounts not included in previous releases

¹ See Appendix X for a glossary of terms.



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	RELEASE 1.1/1.2	RELEASE 1.3.1	RELEASE 1.3.2	RELEASE 2.1	RELEASE 2.2	RELEASE 3	RELEASE 4	RELEASE 5
Number of Returns Original estimate	3 million				35 million	76 million	110 million	122 million
Revised Estimate - February 2005	2 million	2 million	To Be Determined	To Be Determined	33 million	50 million	80 million	140 million
Estimated Delivery: As of April 2000	January 2002			August 2002		July 2003	July 2004	July 2005
As of January 2004	August 2004		January 2006	To Be Determined	To Be Determined	To Be Determined	To Be Determined	To Be Determined
As of December 2004	August 2004	July 2005	January 2006	July 2006	January 2007	To Be Determined	To Be Determined	To Be Determined
As of February 2005	August 2004/ January 2005	July 2005	January 2006	July 2006	January 2007	<u>Releases</u> 3.1/3.2 July 2007/ January 2008	<u>Releases</u> 4.1/4.2 July 2008/ January 2009	July 2009

Source: CADE Individual Master File Release Content Master Plan Updates, dated June 5, 2003, and February 11, 2005.

- Form 720 – Quarterly Federal Excise Tax Return
- Form 940 – Employer’s Annual Federal Unemployment (FUTA) Tax Return
- Form 941 – Employer’s QUARTERLY Federal Tax Return
- Form 1040 – U.S. Individual Income Tax Return
- Form 1040A – U.S. Individual Income Tax Return
- Form 1040EZ – Income Tax Return for Single and Joint Filers With No Dependents
- Form 2688 – Application for Additional Extension of Time To File U.S. Individual Income Tax Return
- Form 4868 – Application for Automatic Extension of Time To File U.S. Individual Income Tax Return
- Schedule A (Form 1040) – Itemized Deductions
- Schedule B (Form 1040) – Interest and Ordinary Dividends
- Schedule C (Form 1040) – Profit or Loss From Business
- Schedule D (Form 1040) – Capital Gains and Losses
- Schedule E (Form 1040) – Supplemental Income and Loss
- Schedule F (Form 1040) – Profit or Loss From Farming
- Schedule H (Form 1040) – Household Employment Taxes
- Schedule R (Form 1040) – Credit for the Elderly or the Disabled
- Schedule 1 (Form 1040A) – Interest and Ordinary Dividends for Form 1040A Filers
- Schedule 2 (Form 1040A) – Child and Dependent Care Expenses for Form 1040A Filers
- Schedule 3 (Form 1040A) – Credit for the Elderly or the Disabled for Form 1040A Filers

Table 2 presents the first biannual CADE release schedule. The names of additional tax forms planned for CADE processing are presented below Table 2.



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Table 2: First Biannual CADE Release Schedule

	2004	2005	2006	2007	2008	2009	2010	2011/2012
January and June	RELEASE 1.1	RELEASE 1.2 1.3.1	RELEASE 1.3.2 2.1	RELEASE 2.2 3.1	RELEASE 3.2 4.1	RELEASE 4.2 5.1	RELEASE 5.2 6.1	RELEASE 6.2 7.1/7.2
Tax Return Types	Form 1040EZ	1.2 & 1.3.1 Form 1040EZ 1.3.1 only Address changes	1.3.2 Forms 1040 and 1040A, no schedules	2.2 Form 1040A Schedules 1 and 3; Form 1040 Schedules A, B, D, and R and supporting forms; Form 1040 Schedules C, F, and E without an EIN and supporting forms including Schedule SE; limited name change on return	3.2 Form 1040 decedent returns; Form 1040 fully paid with remittance; Form 1040 with credit elect; Form 4868 with remittance; Form 4868 with no remittance; additional Form 1040 schedules and forms; Form 1040-ES; Form 1040X; Form 1040A Schedule 2; Form 1040 Schedule EIC and supporting forms	4.2 Balance-due returns; mathematical error returns; Form 6251; additional Form 1040 schedules and forms	5.2 Form 1040 Schedules C, E, and F with an EIN and supporting schedules including Schedule SE; Forms 940 and 720 payroll, unemployment, and excise tax returns for Form 1040 self-employed filers; additional Form 1040 schedules and forms; delinquent returns	6.2 Additional Form 1040 schedules and forms 7.2 Form 1040NR; Form 1040 Puerto Rico resident; Form 1040 Self-Employed; Form 1040 Departing Alien; foreign address; additional Form 1040 schedules and forms
Filing Status	Single (never married); no dependents	Single (never married); no dependents	2.1 Single, Married (joint and separate), Head of Household	3.1 Single, Married (joint and separate), Head of Household, Surviving Spouse	4.1 Single, Married (joint and separate), Head of Household, Surviving Spouse	5.1 Single, Married (joint and separate), Head of Household, Surviving Spouse	6.1 Single, Married (joint and separate), Head of Household, Surviving Spouse	7.1 Single, Married (joint and separate), Head of Household, Surviving Spouse



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January and June	2004 RELEASE 1.1	2005 RELEASE 1.2 1.3.1	2006 RELEASE 1.3.2 2.1	2007 RELEASE 2.2 3.1	2008 RELEASE 3.2 4.1	2009 RELEASE 4.2 5.1	2010 RELEASE 5.2 6.1	2011/2012 RELEASE 6.2 7.1/7.2
Account Characteristics	Refund or even-balance returns; no account issues (open or closed)	Refund or even-balance returns; no dependents; no account issues (open or closed)	Refund or even-balance returns; no dependents; no account issues (open or closed)	2.2 Married once; no open account issues 3.1 No open account issues; EIC	3.2 No open account issues; EIC 4.1 Power of Attorney; Centralized Authorization File; no open account issues; EIC	No open account issues; EIC	Power of Attorney; Centralized Authorization File; no open account issues	All accounts not included in previous releases
Estimated Number of Returns	Not applicable	Actual 1,423,517	Actual 7,372,572	2.2 33 million	3.2 50 million	4.2 70 million	5.2 90 million	6.2 110 million 7.2 135 million

Source: *Customer Relationship Management Executive Steering Committee, approved October 18, 2005.*

- Form 1040-ES – Estimated Tax for Individuals
- Form 1040NR – U.S. Nonresident Alien Income Tax Return
- Form 1040-V – Payment Voucher
- Form 1040X – Amended U.S. Individual Income Tax Return
- Form 6251 – Alternative Minimum Tax–Individuals
- Schedule EIC (Form 1040 or 1040A) – Earned Income Credit
- Schedule SE (Form 1040) – Self-Employment Tax



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Table 3 presents the revised biannual CADE release schedule as of November 16, 2006. The names of additional tax forms planned for CADE processing are presented below Table 3.

Table 3: Second Biannual CADE Release Schedule

January and June	2007 RELEASE 2.2 3.1	2008 RELEASE 3.2 4.1	2009 RELEASE 4.2 5.1	2010 RELEASE 5.2 6.1	2011 RELEASE 6.2 7.1	2012 RELEASE 7.2
Tax Return Types	<p>2.2 Form 1040 Schedules C, F, and E without an EIN and supporting forms including Schedule SE; Form 1040 Schedule D and its supporting forms; Form 8880</p> <p>3.1 Form 1040 fully paid with remittance; Form 1040-ES, Form 1040-V, Schedule EIC, and their supporting forms</p>	<p>3.2 Form 1040 decedent returns; Form 1040 with credit elect; Form 1040A Schedule 2; Form 4868 with remittance and without remittance</p> <p>4.1 Balance-due returns; mathematical error returns</p>	<p>4.2 Form 1040X; Form 6251</p> <p>5.1 Delinquent returns; Form 1040X expanded</p>	<p>5.2 None</p> <p>6.1 Additional Form 1040 schedules and forms; Form 1040 Schedules C and F with an EIN and supporting schedules, including Schedule SE</p>	<p>6.2 None</p> <p>7.1 Form 1040NR; Form 1040 Puerto Rico resident; Form 1040-SS self-employed Puerto Rico resident; Form 1040 foreign address; additional Form 1040 schedules and forms; Forms 940 and 720 payroll, unemployment, and excise tax returns for Form 1040 self-employed filers</p>	<p>7.2 None</p>
Filing Status	Not included in plan	Not included in plan	Not included in plan	Not included in plan	Not included in plan	
Account Characteristics	<p>2.2 Clean dependents; Married (joint and separate), married once</p> <p>3.1 Dependents expanded</p>	<p>3.2 Deceased taxpayers; name change (last name)</p> <p>4.1 None</p>	<p>4.2 None</p> <p>5.1 Power of Attorney; Centralized Authorization File</p>	<p>5.2 None</p> <p>6.1 Taxpayers with a history of multiple marriages</p>	<p>6.2 None</p> <p>7.1 All open issues</p>	<p>7.2 None</p>



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	2007	2008	2009	2010	2011	2012
January and June	RELEASE 2.2 3.1	RELEASE 3.2 4.1	RELEASE 4.2 5.1	RELEASE 5.2 6.1	RELEASE 6.2 7.1	RELEASE 7.2
Estimated Number of Returns	Not included in plan	Not included in plan	Not included in plan	Not included in plan	Not included in plan	Not included in plan

Source: *The IRS Applications Development organization.*

Form 1040-SS – U.S. Self-Employment Tax Return (Including the Additional Child Tax Credit for Bona Fide Residents of Puerto Rico)
Form 8880 – Credit for Qualified Retirement Savings Contributions



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Appendix VI

Preliminary Designs for Improving Daily Processing Routines

Continuous Online Processing

Objectives: 1) Eliminate constraints imposed by the current application architecture to allow the CADE to support 24-hour by 7-day batch-input and on-demand transactions, and 2) improve CADE transaction throughput by supporting a 20-hour to 24-hour day enabling the CADE to spread the peak processing over more hours, thereby dramatically reducing the processing capacity requirements.

Tentative Delivery: Release 5.1

Transaction-Based Recovery

Objective: Provide the ability to recover CADE processing at the transactional level rather than cycle¹ level to maximize the system's availability and enable continuous online (transactional) processing.

Tentative Delivery: Release 5.1

CADE Initialization Approach

Objective: Provide an approach to bring taxpayers into the CADE from the Individual Master File that is not affected by annual end-of-year and beginning-of-year time-constrained processing. The approach needs to increase the frequency with which taxpayers can be moved from the Individual Master File into the CADE, such that there is no need for a large initialization effort during the ending/beginning of the year. The target state is for all taxpayers (or at least the overwhelming majority) to permanently reside in the CADE, which would eliminate the need for extensive initialization processing.

Tentative Delivery: Release 5.2

¹ See Appendix X for a glossary of terms.



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Return to the Current Processing Environment Enhancement

Objectives: Improve the CADE architecture by 1) enhancing the communication to the current processing environment architecture by reducing process inefficiencies and system resource consumption, and 2) providing a more scalable and maintainable return to current processing environment approach that will handle increased volumes in the future and improve performance.

Tentative Delivery: Release 5.2

Archiving and Restore From Archive

Objective: Reduce and remove unneeded data from the active CADE database for all active taxpayers by transferring it to specific types of long-term storage.

Tentative Delivery: Release 7

Thread-safe Transaction and Customer Information Control System Transaction Server Open Transaction Environment

Objective: Identify viable software approaches to increase CADE system performance by making the computer code more efficient.

Tentative Delivery: Release 6

Incremental Database Improvements

Objective: Implement incremental database improvements to satisfy the business and technical needs identified for each release.

Tentative Delivery: Releases 4.2 through 6.2



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Appendix VII

Taxpayer Notices Aligned With Release 3.2

In Production: Release 3.2

Computer Paragraph (CP)-12: Math Error, overpayment of \$1.00 or more.

CP-13: Math Error, balance due less than \$5.00, overpayment less than \$1.00.

CP-27: EIC potential for taxpayer without qualifying children.

Planned Delivery: Release 4.1

CP-08: Informs recipient that he or she might qualify for the Additional Child Tax Credit.

CP-53: Notifies taxpayer an electronic funds transfer was not honored.

Planned Delivery: Release 4.2

CP-09: Notifies taxpayer of possible eligibility for the EIC.

CP-10: Math Error with reduced credit elect.

CP-24: Estimated tax discrepancy, overpayment of \$1.00 or more.

CP-25: Estimated tax discrepancy, balance due less than \$5.00, overpayment less than \$1.00.

CP-45: Credit elect change.

Planned Delivery: To be determined

CP-10A: EIC Math Error with reduced credit elect.

CP-12A: EIC Math Error, overpayment of \$1.00 or more.

CP-13A: EIC Math Error, balance due less than \$5.00, overpayment less than \$1.00.



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Appendix VIII

Enterprise Life Cycle Overview

The Enterprise Life Cycle is the IRS' standard approach to business change and information systems initiatives. It is a collection of program and project management best practices designed to manage business change in a successful and repeatable manner. The Enterprise Life Cycle addresses large and small projects developed internally and by contractors.

The Enterprise Life Cycle includes such requirements as:

- Development of and conformance to an enterprise architecture.
- Improving business processes prior to automation.
- Use of prototyping and commercial software, where possible.
- Obtaining early benefit by implementing solutions in multiple releases.
- Financial justification, budgeting, and reporting of project status.

In addition, the Enterprise Life Cycle improves the IRS' ability to manage changes to the enterprise; estimate the cost of changes; and engineer, develop, and maintain systems effectively. Figure 1 provides an overview of the phases and milestones within the Enterprise Life Cycle. A phase is a broad segment of work encompassing activities of similar scope, nature, and detail and providing a natural breakpoint in the life cycle. Each phase begins with a kickoff meeting and ends with an executive management decision point (milestone) at which IRS executives make "go/no-go" decisions for continuation of a project. Project funding decisions are often associated with milestones.



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Figure 1: Enterprise Life Cycle Phases and Milestones

Phase	General Nature of Work	Milestone
Vision and Strategy/ Enterprise Architecture Phase	High-level direction setting. This is the only phase for enterprise planning projects.	0
Project Initiation Phase	Startup of development projects.	1
Domain Architecture Phase	Specification of the operating concept, requirements, and structure of the solution.	2
Preliminary Design Phase	Preliminary design of all solution components.	3
Detailed Design Phase	Detailed design of solution components.	4A
System Development Phase	Coding, integration, testing, and certification of solutions.	4B
System Deployment Phase	Expanding availability of the solution to all target users. This is usually the last phase for development projects.	5
Operations and Maintenance Phase	Ongoing management of operational systems.	System Retirement

Source: *The Enterprise Life Cycle Guide*.



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Appendix IX

Corrective Actions to Prior Recommendations

Table 1 presents the findings reported by the Treasury Inspector General for Tax Administration and the IRS' subsequent planned corrective actions and implementation status. The report titles are presented below Table 1.

Table 1: Status of Treasury Inspector General for Tax Administration Report Findings and IRS Corrective Actions Related to the CADE Project

Report Number and Date	Finding and Recommendation	Corrective Action	Status
2003-20-018 November 2002	<p>1. The Pilot Plan Needs to Include Adequate Defect Reporting Procedures.</p> <p>To ensure that the defect reporting databases provide reliable information for the pilot defect reports, the Business Systems Modernization Office (BSMO) should require the PRIME contractor¹ to provide written procedures directing that the IRS approve defect report resolution actions prior to defect report closure.</p>	<p>The IRS monitors Information Technology Asset Management System use and requires the PRIME contractor to develop procedures to include defect report resolution. Under the draft procedures, the PRIME contractor initiates the recommendation to close in the Information Technology Asset Management System, and the IRS is responsible for the final closure. Those procedures are currently under review. Approval and distribution of the procedures is planned for November 30, 2002.</p>	<p>Closed</p>
	<p>2. The Pilot Plan Needs to Include Adequate Defect Reporting Procedures.</p> <p>To ensure that the defect reporting databases provide reliable</p>	<p>The PRIME contractor has drafted procedures that document the process the IRS will use when interfacing defect reporting information between the ClearQuest® database and the</p>	<p>Closed</p>

¹ See Appendix X for a glossary of terms.



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Report Number and Date	Finding and Recommendation	Corrective Action	Status
	<p>information for the pilot defect reports, the BSMO should require the PRIME contractor to provide detailed procedures for reconciling defect reports in the ClearQuest® database and the Information Technology Asset Management System.</p>	<p>Information Technology Asset Management System defect tracking tools. These procedures contain specific information on the reconciliation of these reports. The procedures are currently under review and are scheduled to be approved and distributed by November 30, 2002.</p>	
<p>2003-20-089 March 2003</p>	<p>1. File and Job Names Need to Be Compatible With Current Tax Processing Systems.</p> <p>The Deputy Commissioner for Modernization and Chief Information Officer needs to ensure that development of job and file naming standards is expeditiously completed by the IRS Enterprise Operations Services organization. The BSMO needs to work with the PRIME contractor to ensure that these naming standards are used in the development of future CADE releases and all other IRS modernization projects.</p>	<p>The BSMO is developing naming standards. Key naming standards will be published and available for use by the current processing and modernization environments by August 1, 2003.</p>	<p>Closed</p>
	<p>2. The Balancing, Control, and Reconciliation Process Needs to Be Completed and Tested Prior to Release 1.</p> <p>The BSMO should monitor the completion of the remaining work contained in the detailed schedule to assess the progress in completing</p>	<p>The BSMO will continue to monitor the actions taken in balancing, control, and reconciliation in preparation for CADE Release 1 deployment.</p>	<p>Closed</p>



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Report Number and Date	Finding and Recommendation	Corrective Action	Status
	<p>the balancing, control, and reconciliation process development.</p> <p>3. Improvements to the Computer Handbook Will Help to Ensure an Effective Release 1 Deployment.</p> <p>The BSMO should work with the PRIME contractor to incorporate minimum documentation standards and the Documentation Task Force's findings into CADE Release 1 and future releases.</p>	<p>The BSMO will work with the PRIME contractor to incorporate minimum documentation standards and the Documentation Task Force's findings into the CADE.</p>	<p>Closed</p>
	<p>4. Improvements to the Computer Handbook Will Help to Ensure an Effective Release 1 Deployment.</p> <p>The BSMO should work with the PRIME contractor to incorporate these documentation standards into the Enterprise Life Cycle. Incorporating standards into the Enterprise Life Cycle will provide guidance in developing documentation for current and future CADE releases, as well as all other IRS modernization projects.</p>	<p>The BSMO is working with the PRIME contractor and Information Technology Service organization as a task group to define standard deliverables that will facilitate improved transition of modernization systems into the current processing environment. The computer operations handbook subtask group is working to define gaps and requirements for standard deliverables needed by the Information Technology Service organization for operations and maintenance support.</p>	<p>Closed</p>
	<p>5. The Balancing, Control, and Reconciliation Process Needs to Be Completed and Tested Prior to Release 1.</p> <p>The BSMO should require the PRIME contractor to complete the</p>	<p>The BSMO will continue to work with the PRIME contractor to ensure that the remaining work for the balancing, control, and reconciliation process for Release 1 is tested and completed.</p>	<p>Closed</p>



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Report Number and Date	Finding and Recommendation	Corrective Action	Status
	<p>remaining work on the balancing, control, and reconciliation process and fully test these processes to ensure that they meet the design requirements.</p>		
<p>2005-20-005 November 2004</p>	<p>1. Significant Software Changes Were Added to CADE Release 1.1.</p> <p>The Chief Information Officer should direct the BSMO to work with the PRIME contractor to ensure that future project development changes undergo appropriate performance testing, simulating high-volume processing, before deploying the system.</p>	<p>The BSMO is planning semiannual releases of the CADE in July and January of each year. The July delivery will involve higher risk, more complex functionality, and the January delivery will include filing season changes combined with additional changes as capacity permits. Because the returns from earlier in the filing season will be available for testing, the IRS can conduct performance testing on the July release using the highest volume periods. The IRS will determine whether to conduct additional performance testing on the January release based on the likelihood of the changes affecting performance.</p>	<p>Closed</p>
	<p>2. The CADE Program Does Not Have a Dedicated System Architect.</p> <p>The Chief Information Officer should ensure that the BSMO makes the system architecture resources being acquired available to the CADE program on a full-time basis.</p>	<p>Over the last year, the BSMO has been actively searching for qualified engineering resources. While the BSMO has had success in recruiting a few candidates (some of whom are dedicated to the CADE), it is very difficult to attract qualified individuals to work for the Federal Government. The BSMO's recruiting efforts</p>	<p>Closed</p>



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Report Number and Date	Finding and Recommendation	Corrective Action	Status
		<p>will continue. In the interim, MITRE Corporation employees and members from the Enterprise Architecture team are providing CADE engineering and architecture support. The PRIME contractor is continuing to provide full-time architecture support to the CADE project.</p>	
	<p>3. Disaster Recovery Capabilities Were Not Tested Prior to CADE Release 1.1 Implementation.</p> <p>To ensure the ability of the IRS to restore the CADE after a disaster with the least disruption to the IRS mission, the Chief Information Officer needs to ensure that disaster recovery capabilities for future releases of the CADE are fully tested prior to implementation.</p>	<p>Disaster recovery for the CADE needs to be periodically tested. However, it should be part of an enterprise disaster recovery and testing strategy for mainframe computing operations and databases at the Enterprise Computing Center. The IRS generally deploys major functionality enhancements for future CADE releases in July and deploys filing season changes and smaller system enhancements as part of CADE filing season releases in January. The Systems Integration Enterprise Architecture Office will work with the Enterprise Operations Service organization and the Enterprise Computing Center to ensure that CADE disaster recovery testing is included in the annual disaster recovery testing performed each fall. Because most new functionality will be deployed in the July release, the fall testing would be timely prior</p>	Closed



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Report Number and Date	Finding and Recommendation	Corrective Action	Status
		to the start of the new filing season when the IRS will be encountering high volumes.	
	<p>4. Improvements to the CADE Operator's Guide Need to Be Completed.</p> <p>The Chief Information Officer should direct the BSMO to ensure that pilot and production operational documentation for future CADE releases is reviewed, tested, and approved before both the pilot test and live production are allowed to proceed. This review should also ensure that the corrective action to our March 2003 report is incorporated in this review and that the IRS' minimum documentation standards are completed and met in current and future CADE releases.</p>	<p>The BSMO made the required changes to the operational documentation for CADE Release 1.1. However, the final copy with "no markup" was not available for a few weeks following initial operation. Going forward, the BSMO plans to have full documentation available at implementation. There are no plans for additional CADE pilots.</p>	Closed
	<p>5. Manual Processes Within CADE Release 1.1 Need to Be Automated for Future Releases.</p> <p>The Chief Information Officer should direct the BSMO to ensure that inefficient manual processes are automated in future CADE releases.</p>	<p>Changes will be included in the January 2005 and July 2005 deliveries addressing the specified operational inefficiencies.</p>	Closed
	<p>6. Disaster Recovery Capabilities Were Not Tested Prior to CADE Release 1.1 Implementation.</p>	<p>The Director, Enterprise Computing Center, will test the recovery and restoration of key components of CADE processing</p>	Closed



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	<p>To ensure that the IRS can restore the CADE after a disaster with the least disruption to the IRS mission, the Chief Information Officer needs to ensure that all aspects of the CADE disaster recovery capabilities are tested during the Annual IRS Disaster Recovery Test.</p>	<p>to ensure a high confidence level in the IRS' ability to recover the CADE in the event of a disaster. The CADE was part of the annual Enterprise Computing Center Master File Disaster Recovery test. The test was conducted.</p>	
<p>2006-20-076 June 2006</p>	<p>1. The PRIME Contractor's Inadequate Testing Resulted in Reduced Capabilities for CADE Release 1.3.</p> <p>The IRS and the PRIME contractor agreed to defer eight Release 1.3.2 requirements to help ensure that the CADE would process tax returns in time for the 2006 Filing Season. This occurred because the PRIME contractor did not effectively and efficiently use computer language (coding practices). Also, the PRIME contractor's unit testing did not adequately identify programming defects.</p>	<p>Prior to Federal Government testing, the PRIME contractor will be required to provide the IRS with notification regarding the completion of unit testing. The CADE project team has placed this requirement of formal notification regarding the completion of unit testing in the CADE Release 2 task order and will continue to do so in future task orders.</p> <p>This corrective action will be incorporated into the ongoing Test Process Improvement Project, which addresses corrective actions from a prior Treasury Inspector General for Tax Administration audit report.² The Test Process Improvement Working Group of Stakeholders will review existing test guidance and make the appropriate</p>	<p>Closed</p>

² *System Requirements Were Not Adequately Managed During the Testing of the Custodial Accounting Project* (Reference Number 2007-20-019, dated December 2004).



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		<p>modification to ensure that unit testing was adequately performed by the PRIME contractor and that the application being provided to the IRS is ready for integration and testing. The recommendations of the Working Group will be vetted through the formal IRS document review processes, and revised guidance will be posted to the Process Asset Library after executive approval.</p>	
	<p>2. Successful Development of the CADE Is Dependent Upon Its Ability to Serve As an Efficient and Effective Foundation for Modernized Systems and Applications.</p> <p>The CADE’s design for managing taxpayer accounts is not fully developed to provide a foundation for the IRS’ current and planned modernized systems. In April 2005, the BSMO initiated the CADE Data Architecture and Analysis Study to enable the CADE project team to adapt a flexible release strategy by establishing a long-term plan to organize and manage CADE project data. Also, the Modernization and Information Technology Services organization is forming the Modernization Vision and Strategy to establish</p>	<p>The Modernization and Information Technology Services organization will review the deliverables of the CADE Data Study to serve as the basis for developing data models that will guide the logical and physical designs for CADE Releases 3 and 4. The Modernization and Information Technology Services organization will review Modernization and Vision project strategies for extracting operational and analytical data and develop a high-level data strategy for data warehousing. Building upon the CADE data models and the high-level data warehousing strategy, the Modernization and Information Technology Services organization will develop a data access strategy and transition plan.</p>	<p>Closed</p>



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	<p>project development priorities with the IRS business operations. The Modernization and Information Technology Services organization's Modernization Vision and Strategy will provide a 5-year plan for developing modernization projects and processes. Until these efforts are completed, successful deployment of a long-term CADE release strategy cannot move forward, and the future releases might not be deployed when planned.</p>		
	<p>3. Controls to Manage CADE Requirements Do Not Allow Ready Access for Project Team Use.</p> <p>Adequate procedures were not in place to ensure that all CADE release requirements are controlled in a timely manner. As of February 23, 2006, an interim process to control CADE Release 2 requirements was in development. The BSMO will use this process until a vendor able to develop a repository meeting the IRS needs is identified.</p>	<p>As an interim measure, a project repository has been developed within the CADE to track and control requirements for each release. This vehicle will remain in place until implementation of the planned Enterprise Services organization repository.</p>	Closed
	<p>4. Defining CADE Project Release Requirements Will Help Enable the Use of Fixed-Price Contracts.</p> <p>The BSMO implemented contracting guidance on</p>	<p>The projects will continue to work with the IRS Procurement office to ensure that the task orders awarded are segregated to include Milestones 2, 3, and 4A as well as separate task orders for</p>	Closed



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	<p>April 30, 2004, entitled “Enabling Fixed-Price Contracting for Business Systems Modernization Task Orders,” which requires contracts and task orders for BSMO acquisition projects to be fixed-price at the appropriate life cycle development phase, unless the Federal Government’s interest is best served by other contract types. The IRS is not using fixed-price contracts for CADE Release 1.3 development activities or for Release 2 design work performed by the PRIME contractor. The IRS recognized challenges in working with the PRIME contractor to use fixed-price contracts. The benefits of fixed-price contracting will be realized only when the CADE project requirements are fully developed and agreed to, when comprehensive estimates of effort to perform the contract tasks are made, and when meaningful negotiations are held.</p>	<p>Milestone 4B. This separation of the 4B task order gives the IRS the ability to award firm fixed-price contracts in accordance with the firm fixed-price contract guidance established on April 30, 2004. This leads to more cost-effective acquisitions, better value, and greater competition. The Acquisition Development organization will continue to work with the Enterprise Services organization to establish requirements earlier in the life cycle using the interim suite of policies and procedures that address the core disciplines of requirements development and management. This documentation is available to all projects through the Business Rules and Requirements Management Division web site.</p> <p>The CADE, in conjunction with the IRS Contracting Officers, reevaluated the benefits of using a fixed-price contract for the remaining work on Release 2. The risk profile that was presented by the PRIME contractor was much higher than the risk that the Federal Government was ready to assume. After full review, negotiations, and consideration, the IRS made a business decision</p>	



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		to continue with the cost-plus-award-fee contract. The primary drivers were maintaining the current task order end dates and dollar values.	
2008-20-080 July 2007	<p>1. Plans for Deploying CADE Releases Have Not Been Achieved.</p> <p>The Chief Information Officer should 1) ensure that the IRS negotiates a reasonable scope of work, 2) ensure that the amount of staffing is adequate to accomplish the scope of projected work, 3) ensure that the CADE project follows Enterprise Life Cycle guidance for performing Customer Technical Reviews and Life Cycle Stage Reviews after completion of the Design Phase for each release and major release segment, and 4) not allow the PRIME contractor to exit the Preliminary Design Phase without identifying all of the related release work.</p>	<p>The IRS has implemented a formal Business Systems Requirements Report document using IRS processes in the Business Rules and Requirements Management Division to address scope concerns. CADE release managers review and analyze contractor-provided resource lists to ensure that adequate support is provided for each release. The IRS agreed to follow Enterprise Life Cycle guidance for required reviews after completion of the Design Phase for each major release segment and to not allow the PRIME contractor to exit the Preliminary Design Phase without identifying all of the work related to the release requirement.</p>	<p>Closed</p>



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	<p>2. The Approach Taken to Implement the Architectural Design Will Not Support CADE Project Long-Term Goals and Objectives.</p> <p>The Chief Information Officer should limit future CADE delivery to essential capabilities and filing season updates. Further, the Chief Information Officer should consider postponing new capabilities until key business decisions are made and the following requirements are implemented: historical data are stored, requirements identified by the CADE Independent Requirements Project are developed and implemented, and daily processing routines are improved.</p>	<p>The IRS initiated tasks to develop the historical data store and the requirements that are captured in the CADE Independent Requirements Project. The IRS has also undertaken efforts to determine what improvements can be made to daily processing. As part of re-scoping Releases 3, many new capabilities were deferred to ensure that the above-noted infrastructure improvements and previously deferred requirements were incorporated. However, some new capabilities have been included in Release 3.2. The IRS will continue to carefully plan and approve increments of new functionality to include in future CADE releases.</p>	Closed



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	<p>3. Implementing Current Technology to Support the CADE's Ultimate Computer Processing Demands May Be Cost Prohibitive.</p> <p>The Chief Information Officer should partner with the Wage and Investment Division Business Modernization Office to jointly review alternative design solutions and identify process improvements for the CADE. Alternative design solutions need to be explored to ensure that the CADE can operate as efficiently and effectively as possible.</p>	<p>The Chief Information Officer will continue to work with the Submission Processing organization to identify alternatives for processing tax returns on high-volume days, and the Wage and Investment Division Business Modernization Office will continue to work with the Enterprise Computing Center to implement Saturday tax return processing during the filing season. The IRS will also continue to explore alternative solutions for successful implementation. In support of this issue, a joint technical assessment team is being formed to identify CADE technical constraints and improvement opportunities with regard to the architecture, performance, and software quality.</p>	Open

Source: Treasury Inspector General for Tax Administration audit reports and IRS management responses.

2003-20-018 - *Improvements in the Customer Account Data Engine Pilot Plan Need to Be Considered to Help Ensure the Pilot's Success* (Reference Number 2003-20-018, dated November 2002).

2003-20-089 - *Adhering to Established Development Guidelines Will Help to Ensure the Customer Account Data Engine Meets Expectations* (Reference Number 2003-20-089, dated March 2003).

2005-20-005 - *To Ensure the Customer Account Data Engine's Success, Prescribed Management Practices Need to Be Followed* (Reference Number 2005-20-005, dated November 2004).

2006-20-076 - *Focusing Management Efforts on Long-Term Project Needs Will Help Development of the Customer Account Data Engine Project* (Reference Number 2006-20-076, dated June 2006).

2008-20-080 - *Vital Decisions Must Be Made to Ensure Successful Implementation of Customer Account Data Engine Capabilities* (Reference Number 2007-20-080, dated July 13, 2007).



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Appendix X

Glossary of Terms

Term	Definition
Account Management Services	A project that provides an integrated approach to view, access, update, and manage taxpayer accounts.
Best Practice	A technique or methodology that, through experience and research, has proven to reliably lead to a desired result.
Business Rule	A statement that defines or constrains some aspect of the business.
Business Rules and Requirements Management Division	Provides the IRS with a quality requirements baseline that reflects the needs of the business and its customers and results in the development of solutions that meet those needs.
Business Systems Requirements Report	The primary reference for all project requirements needed to complete design and development of the business solution.
CADE Independent Requirements Project	A project with the objective of completing requirements the PRIME contractor was unable to deliver in prior CADE releases.
Centralized Authorization File	Contains information about the types of authorizations taxpayers have given their representatives for their tax returns.
Clean Dependent	A dependent with the following characteristics for acceptance in CADE tax return processing: the dependent was claimed on the Calendar Year 2005 tax return submitted by the taxpayer and was also claimed on the taxpayer's Calendar Years 2004 and 2003 tax returns. The dependent must have a valid Taxpayer Identification Number.
ClearQuest®	A defect and change tracking system that captures and manages all types of change requests throughout the development life cycle, helping organizations quickly deliver higher quality software.
Corporate Notices Release 1.2B	A project that enables the CADE to support and manage taxpayer accounts that require generation of notices.



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Term	Definition
Correspondence Production Services	Generates and mails taxpayer notices.
Credit Elect	A taxpayer request to the IRS to change a credit to a refund.
Cycle	A 7-day processing period (usually from Sunday to Saturday) measurement used by the IRS.
Desktop Integration	Provides integrated access to multiple systems using only 1 computer terminal and supports more than 30,000 end users.
Enterprise Architecture Integration Broker	A commercial off-the-shelf solution that enables data communication and transformation among systems and applications.
Enterprise Computing Center	Supports tax processing and information management through a data processing and telecommunications infrastructure.
Enterprise Data Strategy	A strategy to develop integrated data solutions and retire duplicate systems while maintaining the business functionality.
Enterprise Life Cycle	A structured business systems development method that requires the preparation of specific work products during different phases of the development process.
Executive Steering Committee	Oversees investments, including validating major investment business requirements and ensuring that enabling technologies are defined, developed, and implemented.
Filing Season	The period from January through mid-April when most individual income tax returns are filed.
Firm Fixed-Price Contract	Sets a price that is not subject to any adjustment because of cost overruns incurred by the contractor.
Forms 1040, 1040EZ, and 1040A	The series of IRS forms that include individual income tax returns.
Individual Master File	The IRS database that maintains transactions or records of individual tax accounts.
Individual Master File to Database 2 Initiative	Will convert all Individual Master File data into a Database 2 format similar to that used by the CADE.



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Term	Definition
Information Technology Asset Management System	Delivers an inventory system that enables tracking, reporting, and management of information technology assets.
Information Technology Modernization Vision and Strategy	Establishes a 5-year plan that drives investment decisions; addresses the priorities around modernizing front-line tax administration and supporting technical capabilities; and leverages existing systems (where possible) and new development (where necessary) to optimize capacity, manage program costs, and deliver business value on a more incremental and frequent basis.
Infrastructure	The fundamental structure of a system or organization. The basic, fundamental architecture of any system (electronic, mechanical, social, political, etc.) determines how it functions and how flexible it is to meet future requirements.
Item Tracking Report and Control System	An information system used to track and report on issues, risks, and action items in the modernization effort.
Level of Effort Contract	A contract form that describes the scope of work in general terms and requires the contractor to provide a specified level of effort (number of hours or percentage of effort) over a stated period of time.
Logical Data Model	A foundation for designing a database that supports the business requirements. It also facilitates data re-use and sharing and provides documentation of the information requirements of the business area for ongoing impact analysis. Each business process is tied to the logical data model to assure that all data and process model components have been discovered.
Logical Design	Describes the functions required of a system; that is, what is to be done, not how it will be done. Logical design is concerned with the processes to be performed.
Master File	The IRS database that stores various types of taxpayer account information. This database includes individual, business, and employee plans and exempt organizations data.
Milestone	Provides for a “go/no-go” decision point in a project and is sometimes associated with funding approval to proceed.



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Term	Definition
MITRE Corporation	Hired by the IRS as a Federally Funded Research and Development Center to assist with the IRS systems modernization effort.
Notice	A computer-generated message resulting from an analysis of the taxpayer's account on the Master File.
Notice Review Processing System	Matches notices with Individual Master File unpostable and re-sequencing transactions.
Notice Services Program	Has capabilities to support notice issuance directly from the CADE database to enhance notice processing, notice management, and taxpayer services.
Physical Design	Describes how the processing will be performed; for example, whether data are input by a person or read by a bar code reader or whether a file is electronic or print. Tools to represent the physical design include system flowcharts and structure charts.
PRIME Contractor	The Computer Sciences Corporation, which heads an alliance of leading technology companies brought together to assist with the IRS' efforts to modernize its computer systems and related information technology.
Process Asset Library	A web-based repository that contains process content for the IRS. The contents include policies, directions, procedures, templates, and standards used by the IRS to define, implement, and manage business change for the IRS Business Systems Modernization Program.
Release	A specific edition of software.
Task Order	An order for services planned against an established contract.
Unit Testing	Ensures that program modules perform in accordance with requirements.
Vision and Strategy	The phase that translates the fundamental business strategy into a transformation strategy for business processes, information technology, and organizational change.



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Term	Definition
Wage and Investment Division Business Owners	Includes, but is not limited to, the Business Modernization Director for the CADE, the Business Leader for the CADE, and the Business Requirements Director for the CADE.



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Appendix XI

Management's Response to the Draft Report



CHIEF INFORMATION OFFICER

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

AUG 22 2008



MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM: Arthur L. Gonzalez *A. Gonzalez*
Chief Information Officer

SUBJECT: Draft Audit Report – Customer Account Data Engine Project
Management Practices Have Improved, but Continued Attention Is
Needed to Ensure Future Success (Audit #200820008)
(i-trak #2008-40553)

Thank you for the opportunity to review the subject draft audit report and meet with the audit team to discuss previous observations included in the report.

We appreciate that the report recognizes the substantial progress the IRS has made in ensuring that Customer Account Data Engine (CADE) releases contain a reasonable scope of work and staffing, and that CADE is integrated with other tax processing systems to deliver essential processing requirements. Your observations and suggested recommendations will further improve our CADE program management processes. We agree with, and will implement, all of your recommendations as specified in the attachment.

With regard to Recommendation #3, although we agree that a documented, standardized decision process should exist to determine the effect of unplanned initiatives on CADE, we would like to point out that the decision to go forward with the recent stimulus changes was made at a very high level. The Associate Chief Information Officer, Applications Development uses the existing Change Management directives to manage the Change Request process to assess the impacts, costs and risks of unplanned initiatives affecting CADE. Recommendations from the appropriate Change Control Boards are communicated to the Customer Service Executive Steering Committee and appropriate senior officials in the Chief Information Officer organization to gain approval for implementing such unplanned initiatives.

Thank you for your continued support and the valuable assistance and guidance that your team provides. If you have any questions, please contact me at (202) 622-6800 or Perry Robinett, Director of Program Oversight, at (202) 283-6283.

Attachment



*Customer Account Data Engine Project Management Practices
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Attachment

Draft Audit Report – Customer Account Data Engine Project Management Practices Have Improved, but Continued Attention Is Needed to Ensure Future Success – (Audit #200820008) (i-trak #2008-40553)

RECOMMENDATION #1: The Chief Information Officer should ensure that a Historical Data Conversion solution is in place to enable the CADE to process transactions related to issues such as balance-due conditions.

CORRECTIVE ACTION #1: We agree with this recommendation. The Customer Account Data Engine (CADE) Project Office will partner with key stakeholders to develop a decision paper to assess how to proceed with the Historical Data Conversion (HDC) as it relates to CADE's continued development. We will develop a plan and schedule for HDC implementations based on the decision paper.

IMPLEMENTATION DATE: April 1, 2009

RESPONSIBLE OFFICIAL: Associate Chief Information Officer, Applications Development

CORRECTIVE ACTION MONITORING PLAN: We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.

RECOMMENDATION #2: The Chief Information Officer should develop an updated estimate of the processing and storage requirements, including the related costs, to support the long-term objectives and goals of CADE operations.

CORRECTIVE ACTION #2: We agree with this recommendation. Enterprise Services will update CADE end-state processing and storage design estimates as measured in million instructions per second and terabytes, respectively. Estimates will include direct costs associated with processing and storage requirements. Indirect costs such as software license fees, professional services, labor charges and maintenance fees will not be included in cost estimates.

IMPLEMENTATION DATE: June 30, 2009

RESPONSIBLE OFFICIAL: Associate Chief Information Officer, Enterprise Services

CORRECTIVE ACTION MONITORING PLAN: We enter accepted Corrective Actions into JAMES and monitor them on a monthly basis until completion.



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Attachment

Draft Audit Report – Customer Account Data Engine Project Management Practices Have Improved, but Continued Attention Is Needed to Ensure Future Success – (Audit #200820008) (i-trak #2008-40553)

RECOMMENDATION #3: The Chief Information Officer should use a standardized process to determine the effect on the CADE project's scope, cost and delivery schedules when unplanned initiatives are mandated for implementation. These effects should be measured to the extent possible and reported to the IRS Commissioner and other stakeholders as a means for communicating the consequences to previously planned CADE capabilities

CORRECTIVE ACTION #3: We agree with this recommendation. We will review our current procedures for assessing impacts and risks in response to unplanned initiatives impacting CADE as described in the CADE/MITS Change Control Board processes and the Executive Steering Committee governance procedures, and will update them if gaps exist. As events such as the Economic Stimulus Package occur, we will ensure that organizational decisions are made with the knowledge of the potential impact to the project and that they are appropriately documented; however, we do not commit to elevating all such decisions to the Commissioner of Internal Revenue.

IMPLEMENTATION DATE: December 1, 2008

RESPONSIBLE OFFICIAL: Associate Chief Information Officer, Applications Development

CORRECTIVE ACTION MONITORING PLAN: We enter accepted Corrective Actions into JAMES and monitor them on a monthly basis until completion.