



*Correspondence Imaging System
Performance Has Improved, but Additional
Measures Are Needed to Ensure That the
System Performs As Expected*

July 9, 2008

Reference Number: 2008-20-130

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

July 9, 2008

MEMORANDUM FOR CHIEF INFORMATION OFFICER

FROM:

Michael R. Phillips
Michael R. Phillips
Deputy Inspector General for Audit

SUBJECT:

Final Audit Report – Correspondence Imaging System Performance
Has Improved, but Additional Measures Are Needed to Ensure That the
System Performs As Expected (Audit # 200720011)

This report presents the results of our review to determine whether the Internal Revenue Service (IRS) had established and implemented adequate internal controls to ensure the stability and performance of the Correspondence Imaging System (hereafter referred to as the CIS or System) and to ensure proper planning for its future merger with the Accounts Management Services system.¹ This review was part of the Treasury Inspector General for Tax Administration Fiscal Year 2007 Annual Audit Plan coverage.

Impact on the Taxpayer

The IRS has spent approximately \$32 million to develop and implement the CIS to scan and convert the millions of pieces of incoming taxpayer correspondence to digital images. While the IRS has taken steps to improve the System's performance, the System continues to experience periods of instability and performance issues. The IRS needs to further improve System performance and prevent the same instability and performance problems from recurring. Until this work is complete, the CIS could continue to experience periods of instability and performance issues that might affect the IRS' ability to provide efficient and effective service to taxpayers.

¹ The Accounts Management Services system is being developed to provide an integrated approach to view, access, update, and manage taxpayer accounts by providing IRS employees with the tools to access information quickly and accurately in response to complex customer inquiries and to update taxpayer accounts on demand.



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Synopsis

The IRS is responsible for processing individual and business taxpayer correspondence and forms at 10 campus² locations. As of January 2008, the IRS had spent approximately \$32 million to develop and implement the CIS to scan and convert incoming taxpayer correspondence to digital images. With this System, IRS customer service representatives can access correspondence electronically and use new automated procedures that should benefit the IRS and taxpayers.

In January 2007, the CIS became so unstable that the IRS decided to shut it down for approximately 1 month and revert to use of manual procedures for processing taxpayer correspondence. The IRS was able to identify and resolve the specific issues that caused the January 2007 problems. However, the System continues to experience random periods of instability and performance issues. The IRS and its contractor did not follow appropriate requirements management processes for developing, documenting, and testing System performance requirements.³ If the IRS does not follow critical requirements management processes, the CIS could continue to experience instability and performance issues.

In 2007, the IRS submitted a CIS business case providing key information for Budget Year 2009 to the Department of the Treasury and the Office of Management and Budget. However, this business case did not disclose the IRS' plans to merge the CIS with the Accounts Management Services system, and the IRS overstated the estimated costs and benefits of the CIS by \$115.4 million and \$86.2 million, respectively. As a result, information used by the Department of the Treasury and the Office of Management and Budget to make financial budget decisions related to the CIS project was incomplete and inaccurate. Subsequent to the completion of audit fieldwork, the IRS requested approval to merge the systems as instructed by Department of the Treasury guidance.

Recommendations

The Chief Information Officer should ensure that 1) corrective actions taken subsequent to our audit work to address the open recommendations identified by the Incident Analysis Team⁴ have been completed and were effective in improving CIS performance, 2) adequate actions are taken to reduce and prevent the same instability and performance issues from recurring after the CIS is

² The data processing arm of the IRS. The campuses process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.

³ Requirements management processes are designed to ensure that a system will perform in accordance with user expectations.

⁴ The Incident Analysis Team was coordinated by the Enterprise Services organization Systems Integration function and included representatives from the Applications Development, Enterprise Operations, End User Equipment and Services, and Enterprise Networks organizations and the CIS Business Project Office.



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merged with the Accounts Management Services system, and 3) IRS project officials make a timely request for Department of the Treasury approval to merge and close investments and restate expected costs and benefits.

Response

IRS management agreed with all of our recommendations. Corrective actions taken or planned include 1) providing a document showing the successful completion of each Incident Analysis Team recommendation, action, and result to the Customer Service Executive Steering Committee⁵ and the Treasury Inspector General for Tax Administration, 2) implementing the Accounts Management Services system with a complete re-architecture of the CIS, 3) giving presentations to the Executive Steering Committees as part of the enterprise governance process to reinforce the need to secure Department of the Treasury approval when a decision to merge investments has been made, and 4) preparing the new CIS business case (Office of Management and Budget Exhibit 300) required to effectively merge the CIS and Accounts Management Services system investments and restating the expected costs and benefits. Management's complete response to the draft report is included as Appendix VI.

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 Preston B. Benoit, Acting Assistant Inspector General for Audit (Information Systems Programs), at 202-622-5894.

⁵ The Executive Steering Committee oversees investments, including validating major investment business requirements and ensuring that enabling technologies are defined, developed, and implemented.



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Abbreviations

CIS	Correspondence Imaging System
IRS	Internal Revenue Service



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Background

The Internal Revenue Service (IRS) processes individual and business taxpayer correspondence and forms at 10 campus¹ locations. IRS customer service representatives and tax examiners handle millions of cases containing correspondence generated in multiple formats by taxpayers. Correspondence might include items such as taxpayer-generated letters, responses to tax notices, amended tax returns, and claims documents, which are processed by customer service representatives from the Accounts Management function within the Wage and Investment Division.

As of January 2008, the IRS had spent approximately \$32 million to develop and implement the Correspondence Imaging System (hereafter referred to as the CIS or System) to scan and convert incoming taxpayer correspondence to digital images. Prior to implementation of the CIS, IRS personnel performed manually intensive procedures to process correspondence items. The prior manual system made it difficult for the IRS to meet its goal of resolving taxpayer inquiries, claims, and adjustment requests in a timely manner.

***The IRS has spent about
\$32 million to develop and
implement the CIS.***

The purposes of the CIS are to 1) provide an automated process for electronically imaging all correspondence items with improved inventory controls, and 2) reduce the time needed to resolve taxpayer requests. With this System, customer service representatives can access correspondence electronically while simultaneously working with other existing management systems to more effectively process taxpayer information. The IRS expects to process about 7 million CIS cases each year, with as many as 8,200 users on the System at peak processing times. Some manual procedures are still needed to process correspondence items. However, the conversion of paper documents into electronic media and the new automated procedures provide significant benefits to both the IRS and taxpayers.

The CIS was developed and implemented in two different releases.² Release 1 related to Individual Master File³ accounts and was deployed between Calendar Years 2003 and 2005 at the following five IRS campuses:

- Austin, Texas (initial pilot location) – November 2003.
- Atlanta, Georgia – July 2004.

¹ The data processing arm of the IRS. The campuses process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.

² A release is a specific edition of software.

³ The IRS database that maintains transactions or records of individual tax accounts.



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- Kansas City, Missouri – October 2004.
- Andover, Massachusetts – January 2005.
- Fresno, California – July 2005.

Release 2 provided additional system functionality and was deployed at three additional Individual Master File campus locations. This Release also included the ability to process Business Master File⁴ accounts in two IRS campuses. The IRS has deployed or is scheduled to deploy Release 2 at the following five campuses:

- Brookhaven, New York – March 2006.
- Memphis, Tennessee – July 2006.
- Philadelphia, Pennsylvania – April 2007.
- Cincinnati, Ohio (Business Master File site) – March 2008.
- Ogden, Utah (Business Master File site) – scheduled for June 2008.

This review was performed at the Atlanta Campus and at the offices of the CIS administrators in Austin, Texas, during the period June 2007 through February 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

⁴ The IRS database that consists of Federal tax-related transactions and accounts for business. These include employment taxes on businesses and excise taxes.



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Results of Review

The Internal Revenue Service Has Taken Steps to Improve the Performance of the Correspondence Imaging System

The CIS has significantly improved the timeliness and efficiency of processing taxpayer correspondence cases in the campus locations where it has been deployed. The IRS relies on an effectively operating CIS to provide high employee and, ultimately, customer satisfaction by reducing the burden of handling large volumes of paper documents. IRS customer service representatives and tax examiners nationwide are now using a number of automated processes as a result of the CIS to more efficiently deliver work and better manage inventories.

In January 2007, the CIS experienced unacceptable levels of instability and performance problems that affected the IRS' ability to conduct critical business functions. The IRS took several actions to improve the performance of the System. For example, it identified the main reason why the January 2007 System problems occurred and took steps to fix the problems. The IRS also formed an Incident Analysis Team⁵ in February 2007 to assess additional performance problems affecting the System.

Actions taken to identify and resolve stability and performance problems

In January 2007, the CIS was upgraded with a third-party software product that had unexpected stability and performance effects on the System. Because of the stability problems, the IRS decided to shut down the System for approximately 1 month and revert to use of manual procedures for processing taxpayer correspondence. The performance problems also significantly delayed final deployment of the CIS to the Cincinnati and Ogden Campuses.

In late February 2007, the IRS was able to identify the problems caused by the software upgrade and focus its resolution efforts on correcting them. As part of the resolution process, the IRS installed a monitoring tool to assess, track, and report the functions and performance of the System. These actions seemed to address the specific problems caused by the software upgrade. However, the CIS continued to experience stability and performance issues.

In response, the IRS formed the Incident Analysis Team to investigate the causes of the System's instability and to recommend changes that would address those problems. The Team analyzed all CIS problems that occurred from January 10 through June 17, 2007, and classified them into

⁵ The Incident Analysis Team was coordinated by the Enterprise Services organization Systems Integration function and included representatives from the Applications Development, Enterprise Operations, End User Equipment and Services, and Enterprise Networks organizations and the CIS Business Project Office.



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six major categories. The results of the Incident Analysis Team analysis were completed in June 2007, and the Team prepared a report containing seven recommendations to address the performance problems. The IRS developed 26 corrective actions in response to the 7 recommendations.

As of January 2008, the IRS had taken steps to complete 18 of the 26 corrective actions. The remaining eight open corrective actions correspond to five of the recommendations made in the Incident Analysis Team report. Specific details on the status of the recommendations and corrective actions are included in Appendix V. According to the IRS, it is continuing work to complete the corrective actions by their assigned due dates.

The Correspondence Imaging System Continues to Experience Random Periods of Instability and Performance Issues

The IRS assesses the stability of the CIS based on System availability. The System is deemed stable if downtime (any period when users cannot use the CIS to work and close cases) does not exceed 4 hours during a 14-day period. The IRS measures downtime by how long the System is unavailable and the number of locations affected. The results are cumulative. For example, if the CIS was not available for 2 hours and the downtime affected 8 IRS locations, the cumulative downtime would be 16 hours.

Based on the IRS criteria for System stability, CIS performance has significantly improved. In fact, the IRS reported the System was operational more than 98 percent of the time during Fiscal Year 2007. The IRS declared the CIS stable on August 21, 2007, because it had not had any downtime longer than 4 hours for a 14-day period. However, the System continues to experience random periods of instability and performance issues. The IRS was unable to maintain a consistent level of stability, and the System was unavailable for significant periods of time on several occasions during the last 3 months of Calendar Year 2007. For example, the CIS was down:

The CIS continues to experience periods of instability and performance issues.

- On October 17 approximately 1.5 hours affecting all 8 locations resulting in 12 site hours of impact.
- On October 31 approximately 0.5 hour affecting all 8 locations resulting in 4 site hours of impact.
- On November 19 approximately 2.3 hours affecting all 8 locations resulting in 18 site hours of impact.
- On December 10 approximately 7.5 hours affecting 3 locations resulting in 23 site hours of impact.
- On December 11 approximately 2.3 hours affecting all 8 locations resulting in 18 site hours of impact.



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- On December 19 approximately 1.4 hours affecting all 8 locations resulting in 12 site hours of impact.

We believe that the continued instability and performance problems persist, at least in part, because the IRS has not completed all of the corrective actions to address the recommendations made by the Incident Analysis Team. As of January 2008, 8 of the 26 corrective actions were still open. For example, one of the open corrective actions is to test the Disaster Recovery/Replication process. This corrective action was scheduled for completion on December 15, 2007, but is still outstanding. IRS customer service representatives rely heavily on the CIS to perform critical day-to-day operations. A complete and tested disaster recovery process provides the ability to effectively respond to disasters that could affect the System. If the CIS continues to experience random periods of instability and performance issues, the IRS could:

- Experience further loss of productivity. For example, each hour of System downtime at all CIS locations prevents the IRS from closing approximately 1,500 adjustment cases and results in lost productivity of about \$130,000.
- Require additional resources to continue researching, responding to, and resolving problems with the System.
- Experience reduced or diminished value from the Incident Analysis Team study and recommendations.
- Experience similar instability and performance issues after the CIS is merged with the Accounts Management Services system.⁶

Management Action: Subsequent to the completion of audit fieldwork, the IRS provided a report dated April 9, 2008, showing that the remaining open corrective actions were closed. However, we did not obtain additional information and validate the closure of the actions.

Recommendations

The Chief Information Officer should ensure that:

Recommendation 1: The corrective actions taken subsequent to our audit work to address the open recommendations identified by the Incident Analysis Team have been completed and were effective in improving CIS performance.

Management's Response: IRS management agreed with this recommendation. The Applications Development organization, partnering with the Enterprise Operations organization, provided a document showing the successful completion of each Incident

⁶ The Accounts Management Services system is being developed to provide an integrated approach to view, access, update, and manage taxpayer accounts by providing IRS employees with the tools to access information quickly and accurately in response to complex customer inquiries and to update taxpayer accounts on demand.



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Analysis Team recommendation, action, and result to the Customer Service Executive Steering Committee⁷ and the Treasury Inspector General for Tax Administration. The stability, availability, and performance improvements achieved through implementation of the Incident Analysis Team recommendations resulted in unanimous approval by the Customer Service Executive Steering Committee to close Incident Analysis Team status reporting on May 28, 2008.

Recommendation 2: Adequate actions are taken to reduce and prevent the same instability and performance issues from occurring after the CIS is merged with the Accounts Management Services system.

Management's Response: IRS management agreed with this recommendation. The IRS will implement Accounts Management Services system Release 1.3, which is a complete re-architecture of the CIS. This will ensure that adequate actions are taken to reduce and prevent instability and performance issues once the CIS has merged with the Accounts Management Services system.

System Performance Requirements Were Not Adequately Managed and Tested

The IRS and its contractor did not follow appropriate requirements management processes for developing, documenting, and testing performance requirements. For example, the IRS developed 17 performance requirements for CIS Release 1 but could not provide us with documentation to verify that those performance requirements were adequately tested and accepted by all stakeholders. For CIS Release 2, the IRS relied on the performance requirements developed from Release 1. According to the IRS contractor working on the System, the 17 performance requirements developed by the IRS were not sufficient and did not provide adequate information to be measurable. Therefore, the contractor developed and tested other performance requirements, which were not reviewed and approved by IRS officials. The IRS provided us with the performance tests conducted by the contractor. However, none of the test results were validated or measured against pre-defined and approved performance requirements.

The IRS Modernization and Information Technology Services Handbook states that the stakeholders of a system should define the performance requirements to identify and document the needs and capabilities of the system. Requirements should be unambiguous, traceable, complete, verifiable, and measurable. Stakeholders are also responsible for validating and approving the system requirements with test results that are documented and compared to expected results.

⁷ The Executive Steering Committee oversees investments, including validating major investment business requirements and ensuring that enabling technologies are defined, developed, and implemented.



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Requirements management processes are designed to ensure that a system will perform in accordance with user expectations. If the IRS does not follow critical requirements management processes, the CIS could continue to experience instability and performance issues. In addition, the IRS might be unable to achieve all of the business performance goals expected from deploying the System. Over the past 3 years, the IRS has been unable to achieve three of the four business performance goals set for the System. Figure 1 provides the CIS business performance goals and results for Fiscal Years 2005 - 2007.

Figure 1: CIS Performance Goals

Performance Goals	Fiscal Year 2005 Result	Fiscal Year 2006 Result	Fiscal Year 2007 Result
Reduce the number of days to close cases to 30 calendar days.	44 calendar days	50 calendar days	46 calendar days
Increase System availability to 99.97%.	No Measure	No Measure	98.21%
Reduce the over-age case percentage to 15%.	13%	23%	28.4%
Increase the number of cases controlled on the System to 85%.	80.1%	80.1%	86.1%

Source: IRS-provided performance measures worksheet for Fiscal Years 2005 and 2006 and the CIS business case (Office of Management and Budget Exhibit 300) submission.

While other factors such as staff reductions might contribute to the IRS' inability to achieve the stated CIS performance goals, appropriate requirements management processes are critical to the success of systems project development. We have previously reported on weaknesses in the IRS' requirements management process⁸ and have provided recommendations to improve the process. The IRS is currently working on several corrective actions for those recommendations that, if taken appropriately, will address the same requirements management issues discussed in this report. Therefore, we are including no additional recommendation related to this issue.

⁸ *The Modernization Program Is Establishing a Requirements Management Office to Address Requirements Development and Management Problems* (Reference Number 2005-20-023, dated January 2005) and *The Modernized E-file Project Can Improve Its Management of Requirements* (Reference Number 2007-20-099, dated July 9, 2007).



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Information in the Correspondence Imaging System Business Case Was Incomplete and Inaccurate

The IRS has provided information to the Department of the Treasury and the Office of Management and Budget to make financial budget decisions related to the CIS project. The primary tool used to report the information was the CIS business case (Office of Management and Budget Exhibit 300). However, some information in the System business case was incomplete and inaccurate and, as a result, the IRS overstated the estimated costs and benefits of the System by \$115.4 million and \$86.2 million, respectively.

A project business case provides key information related to IRS investments on capital assets and information technology projects. Key information includes estimated costs, benefits, and financial indicators for the investments. It is used by IRS, Department of the Treasury, and Office of Management and Budget officials to ensure that Federal Government resources are spent wisely and to improve upon asset management. All information contained in a project business case should be accurate, succinct, and up-to-date.

Information included in a business case represents the baseline for an investment and includes cost, schedule, and performance goals. Any major changes to information technology investments (e.g., a significant change to the scope of an investment or the merging of two or more investments) must be approved by the IRS Chief Information Officer, the Department of the Treasury, and the Office of Management and Budget before being implemented. A Baseline Change Request should be prepared to document the proposed changes to the investment baseline and be approved prior to submission of a new business case.

In Calendar Year 2006, the IRS decided to merge the CIS with the new Accounts Management Services system. The merger is scheduled to be completed in November 2008 and will result in the retirement of the CIS. However, the IRS did not prepare and submit a Baseline Change Request for the planned merger before it submitted the Budget Year 2009 CIS business case in 2007. Because the planned merger was not approved by the Department of the Treasury and the Office of Management and Budget, the Budget Year 2009 business case did not disclose the IRS' plans to merge the CIS with the Accounts Management Services system. The CIS business case showed that the System would remain operational through Fiscal Year 2017. The IRS also projected costs and benefits in the System business case through Fiscal Year 2017, even though the System would no longer exist after Fiscal Year 2009. The Accounts Management Services system Budget Year 2009 business case did report the planned merger, but it was not consistent with the information presented in the CIS business case.

The CIS business case contained inaccurate information because the IRS did not take timely actions to prepare a Baseline Change Request. Several IRS officials did not fully understand the requirements for preparing a business case or a Baseline Change Request in situations where two information technology systems are merged.



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We have found similar problems related to the reliability of information contained in IRS business cases in prior audits.⁹ For those audits, we issued reports with several recommendations designed to improve the reliability of IRS business cases.

Management Action: Subsequent to the completion of audit fieldwork, the IRS provided a copy of a May 13, 2008, memorandum to the Department of the Treasury Capital Planning and Investment Control Desk Officer requesting approval of the Account Management Services system and CIS merger. The IRS requested approval to merge the systems as instructed by Department of the Treasury guidance in the Information Technology, Capital Planning and Investment Control Policy Guide, Appendix H - Closing and Merging Major Information Technology Investments.

Recommendation

Recommendation 3: The Chief Information Officer should ensure that IRS project officials make a timely request for Department of the Treasury approval to merge and close investments and restate expected costs and benefits.

Management's Response: IRS management agreed with this recommendation. They will give presentations to the Executive Steering Committees as part of the enterprise governance process to reinforce the need to secure Department of the Treasury approval when a decision to merge investments has been made. IRS project officials will prepare the new Exhibit 300 required to effectively merge the CIS and the Accounts Management Services system investments and will restate the expected costs and benefits.

⁹ *Business Cases for Information Technology Projects Need Improvement* (Reference Number 2005-20-074, dated April 2005) and *Business Cases for Information Technology Projects Remain Inaccurate* (Reference Number 2007-20-024, dated January 25, 2007).



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Appendix I

Detailed Objective, Scope, and Methodology

The overall audit objective was to determine whether the IRS had established and implemented adequate internal controls to ensure the stability and performance of the CIS and to ensure proper planning for its future merger with the Accounts Management Services system.¹ To accomplish this objective, we:

- I. Determined whether the IRS had taken adequate actions to ensure the stability and optimal performance of the CIS by appropriately addressing the recommendations from the Incident Analysis Team² report.
 - A. Reviewed status reports on actions taken by the IRS to address each of the nine recommendations in the Incident Analysis Team report.
 - B. Determined whether the Incident Analysis Team report appropriately identified the causes of the stability problems within the CIS.
- II. Determined whether the IRS was achieving the technical and business performance standards originally planned for delivery of the CIS. We determined whether the CIS consistently has met or is meeting technical and business performance standards.
- III. Determined whether the IRS had adequately planned for merger of the CIS with the Accounts Management Services system.
 - A. Determined how the CIS will be merged with the Accounts Management Services system.
 - B. Evaluated the collaboration efforts between CIS and Accounts Management Services system officials to ensure that the CIS appropriately merges with the Accounts Management Services system.

¹ The Accounts Management Services system is being developed to provide an integrated approach to view, access, update, and manage taxpayer accounts by providing IRS employees with the tools to access information quickly and accurately in response to complex customer inquiries and to update taxpayer accounts on demand.

² The Incident Analysis Team was coordinated by the Enterprise Services organization Systems Integration function and included representatives from the Applications Development, Enterprise Operations, End User Equipment and Services, and Enterprise Networks organizations and the CIS Business Project Office.



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- IV. Determined whether the IRS had ensured that the business case for the CIS accurately reflected future plans for the CIS.
 - A. Determined whether the planned merger of the CIS with the Accounts Management Services system was properly reported in the business case for each project.
 - B. Determined how future updates to the business cases will reflect future plans for the CIS and the Accounts Management Services system.



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Appendix II

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Appendix III

Report Distribution List

Commissioner C
Office of the Commissioner – Attn: Acting Chief of Staff C
Deputy Commissioner for Operations Support OS
Associate Chief Information Officer, Applications Development OS:CIO:AD
Deputy Associate Chief Information Officer, Applications Development OS:CIO:AD
Director, Stakeholder Management OS:CIO:SM
Director, Compliance OS:CIO:AD:C
Director, Corporate Data OS:CIO:AD:CD
Chief Counsel CC
National Taxpayer Advocate TA
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Director, Office of Program Evaluation and Risk Analysis RAS:O
Office of Internal Control OS:CFO:CPIC:IC
Audit Liaison: Director, Program Oversight Office OS:CIO:SM:PO



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Appendix IV

Outcome Measure

This appendix presents detailed information on the measurable impact that our recommended corrective actions will have on tax administration. This benefit will be incorporated into our Semiannual Report to Congress.

Type and Value of Outcome Measure:

- Reliability of Information – Actual; \$201.6 million (see page 8).

Methodology Used to Measure the Reported Benefit:

The IRS overstated the estimated costs and benefits in the CIS business case, which affected the reliability of the business case information. The IRS plans to merge the CIS with the Accounts Management Services system¹ in November 2008 and then retire the CIS. However, the IRS recorded the estimated completion date for the CIS as July 2017, and the CIS business case includes forecasted costs and benefits up to that completion date. The estimated costs and benefits for the CIS are overstated by approximately \$115.4 million and \$86.2 million, respectively, because they should not have been projected beyond the planned merger date of November 2008. The overstated costs and benefits were derived from the CIS business case for estimates beginning with Budget Year 2010 because Budget Year 2009 would have already started before November 2008.

¹ The Accounts Management Services system is being developed to provide an integrated approach to view, access, update, and manage taxpayer accounts by providing IRS employees with the tools to access information quickly and accurately in response to complex customer inquiries and to update taxpayer accounts on demand.



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Appendix V

*Incident Analysis Team Report
Recommendations and Corrective Actions*

In January 2007, the CIS was experiencing unacceptable levels of system instability. To address these performance problems, the IRS formed the Incident Analysis Team¹ to analyze the causes. The Team completed its study in June 2007 and issued a report on its findings and recommendations. CIS project executives created a series of corrective actions to implement the recommendations.

Figure 1 reflects the status of each recommendation, along with the supporting corrective actions as of January 2008. It also includes the original due date for each corrective action and the actual completion date, if available.

Figure 1: Incident Analysis Team Report Recommendations and Corrective Actions

Recommendation 1: Replace unreliable Hewlett Packard servers and expand Storage Area Network storage to support all CIS data management.	
Corrective Actions	Status of Actions
1 – Obtain one free replacement server from Hewlett Packard.	Completed August 14, 2007
2 – Install replacement server designated as C1 (Note: Content Manager servers are designated as “C1” in some cases).	Completed January 14, 2008
3 – Provide specifications for remaining server replacements, replacing Redundant Array of Independent Disks arrays with Storage Area Network storage.	Completed August 14, 2007

¹ The Incident Analysis Team was coordinated by the Enterprise Services organization Systems Integration function and included representatives from the Applications Development, Enterprise Operations, End User Equipment and Services, and Enterprise Networks organizations and the CIS Business Project Office.



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4 – Prepare site for Production and Disaster Recovery Replacement Servers.	Completed November 20, 2007
5 – Procure replacement servers and Storage Area Network storage.	Completed November 20, 2007
6 – Secure data processing services.	Completed November 20, 2007
7 – Get new controller cards from Hewlett Packard.	Open

Recommendation 2: Service delivery mitigation should continue, including update to Service Level Agreements.²

Corrective Actions

Status of Actions

1 – Secure input from Modernization and Information Technology Services organization suppliers on Memorandum of Understanding content.	Completed August 14, 2007
2 – Identify gaps and redundancy.	Completed August 14, 2007
3 – Negotiate hours of availability with customer to ensure adequate maintenance window.	Open
4 – Finalize content and secure concurrence.	Open

Recommendation 3: The CIS will follow existing Modernization and Information Technology Services organization standard procedures for configuration management/change management.

Corrective Actions

Status of Actions

1 – Conduct review of policies and procedures for configuration/change management.	Open
2 – Expand Enterprise Operations organization staff availability.	Open

² The Master Service Level Agreement serves as a binding mutual agreement of services and responsibilities between the Modernization and Information Technology Services organization and the IRS business units.



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Performs As Expected*

Recommendation 4: An Applications Development/Enterprise Operations/End User Equipment and Services organizational task force should be initiated to:

Corrective Actions	Status of Actions
1 – Develop a set of software tools or scripts (programs) to automatically kick off scripts when system thresholds are reached.	Open
2 – Review and complete the standard operating procedures for each system at each location.	Open ³
3 – Update troubleshooting guides for addressing CIS problems.	Completed September 27, 2007

Recommendation 5: The Enterprise Operations and Applications Development organizations should revisit the CIS Information Technology Contingency Plan and Disaster Recovery plan and enhance as necessary, and a failover test should be executed as soon as possible.

Corrective Actions	Status of Actions
1 – Deploy and implement the production replacement servers.	Completed January 24, 2008
2 – Deploy and implement the Disaster Recovery replacement servers.	Completed January 24, 2008
3 – Test the Disaster Recovery/Replication process.	Open
4 – Devise monthly schedule for Enterprise Computing Center-Martinsburg ⁴ updates.	Completed September 27, 2007

³ The standard operating procedures were in draft form as of April 8, 2008.

⁴ IRS Computing Centers support tax processing and information management through a data processing and telecommunications infrastructure. The Enterprise Computing Center-Martinsburg is in Martinsburg, West Virginia.



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Recommendation 6: Training should be provided to the system administrators and database administrators as needed.	
Corrective Actions	Status of Actions
1 – Survey for training needs.	Completed August 14, 2007
2 – Develop training.	Completed September 27, 2007
3 – Deliver training.	Completed September 27, 2007
Recommendation 7: Continue to use OPNET⁵ tools to monitor local performance and response time.	
Corrective Actions	Status of Actions
1 – OPNET Monitoring – complete the full implementation of Panorama (monitoring and reporting software) in the CIS environment.	Completed October 23, 2007
2 – Determine operational responsibility for monitoring.	Completed November 20, 2007
3 – Provide OPNET training (Enterprise Operations and Applications Development organizations need to identify who needs to be trained).	Completed September 26, 2007

Source: Incident Analysis Team report and Treasury Inspector General for Tax Administration analysis of documents and discussions with IRS management.

⁵ OPNET is an independent contractor providing monitoring and other defect-reporting software.



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Appendix VI

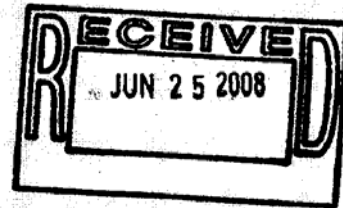
Management's Response to the Draft Report



CHIEF INFORMATION OFFICER

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

JUN 25 2008



MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM:

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

SUBJECT:

Draft Audit Report – Correspondence Imaging System Performance has
Improved, but Additional Measures are Needed to Ensure that the
System Performs as Expected (Audit #200720011)
(i-trak #2008-33873)

Thank you for the opportunity to review your draft audit report and to meet with the audit team to discuss earlier draft report observations. As a result of our meetings, the audit team has incorporated some of our suggestions into the draft report.

I appreciate your comments and observations that acknowledge the Correspondence Imaging System's success in significantly improving the timeliness and efficiency of processing taxpayer correspondence cases. I also acknowledge and appreciate the audit team's advice on ways to further improve the process. We agree with the three recommendations made as a result of your audit. The attachment to this memo details our planned actions to implement your suggestions.

We value your continued support and the assistance and guidance 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



*Correspondence Imaging System Performance Has Improved, but
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Attachment

**Draft Audit Report – Correspondence Imaging System Performance has Improved, but
Additional Measures are Needed to Ensure that the System Performs as Expected
(Audit #200720011)**

RECOMMENDATION #1: The Chief Information Officer should ensure that the corrective actions taken subsequent to our audit work to address the open recommendations identified by the Incident Analysis Team have been completed and were effective in improving CIS performance.

CORRECTIVE ACTION #1: We agree with this recommendation. Applications Development, partnering with Enterprise Operations, provided a document showing successful completion of each Incident Analysis Team (IAT) recommendation, action and result to the Customer Service (CS) Executive Steering Committee (ESC) and to TIGTA. The stability, availability, and performance improvements achieved through implementation of the IAT recommendations resulted in unanimous approval by the CS-ESC to close IAT status reporting on May 28, 2008.

IMPLEMENTATION DATE: May 28, 2008

RESPONSIBLE OFFICIAL: Associate Chief Information Officer, Applications Development

CORRECTIVE ACTION MONITORING PLAN: N/A

RECOMMENDATION #2: The Chief Information Officer should ensure that adequate actions are taken to reduce and prevent the same instability and performance issues from occurring after the CIS is merged with the Accounts Management Services system.

CORRECTIVE ACTION #2: We agree with this recommendation. Following the large path methodology, we will implement Accounts Management Services (AMS) Release 1.3 drop 2, which is a complete re-architecture of the Correspondence Imaging System (CIS). This will ensure that adequate actions are taken to reduce and prevent instability and performance issues once CIS has merged with AMS.

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). These Corrective Actions are monitored on a monthly basis until completion.

RECOMMENDATION #3: The Chief Information Officer should ensure that IRS project officials timely request Department of the Treasury approval to merge and close investments and restate expected costs and benefits.



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Attachment

Draft Audit Report – Correspondence Imaging System Performance has Improved, but
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(Audit #200720011)

CORRECTIVE ACTION #3A: We agree with the recommendation to ensure IRS project officials timely request Department of the Treasury approval to merge and close investments. We will conduct presentations to the ESCs as part of our enterprise governance process to reinforce the need to secure Department of the Treasury approval when a decision to merge investments has been made.

IMPLEMENTATION DATE: September 1, 2008

RESPONSIBLE OFFICIAL: Associate Chief Information Officer, Management

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

CORRECTIVE ACTION #3B: We agree with the recommendation to restate the expected costs and benefits due to the merger of the CIS and AMS investments. IRS project officials will prepare the new Exhibit 300 required to effectively merge the CIS and AMS investments and will restate the expected costs and benefits.

IMPLEMENTATION DATE: February 1, 2009

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.