



*Modernized e-File Will Enhance Processing of
Electronically Filed Individual Tax Returns,
but System Development and Security
Need Improvement*

May 26, 2010

Reference Number: 2010-20-041

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.



HIGHLIGHTS

MODERNIZED E-FILE WILL ENHANCE PROCESSING OF ELECTRONICALLY FILED INDIVIDUAL TAX RETURNS, BUT SYSTEM DEVELOPMENT AND SECURITY NEED IMPROVEMENT

Highlights

Final Report issued on May 26, 2010

Highlights of Report Number: 2010-20-041 to the Internal Revenue Service Chief Technology Officer.

IMPACT ON TAXPAYERS

The Modernized e-File Project's (MeF) goal is to replace the Internal Revenue Service's (IRS) current tax return filing technology with a modernized, Internet-based electronic filing platform. This will allow more individual taxpayers to take advantage of the benefits of electronic filing, while streamlining the IRS' filing processes and reducing the costs associated with paper tax returns. The IRS' management of the Project's risks, requirements, and security can be improved to ensure the capabilities expected and approved to be deployed are appropriately implemented.

WHY TIGTA DID THE AUDIT

This review was part of our Fiscal Year 2010 Annual Audit Plan and addresses the major management challenge of Modernization of the IRS. The overall objective of this review was to determine whether the MeF Project Release 6.1 development activities provided the capability to electronically receive, process, and secure U.S. Individual Income Tax Returns (Form 1040), delivering the intended benefits to the IRS and taxpayers.

WHAT TIGTA FOUND

On February 17, 2010, the IRS deployed MeF Release 6.1 and began processing electronically filed individual income tax forms. During the first 3 weeks of operation, the MeF system rejected 23 percent of the individual income tax returns filed.

The System Integration Test Results indicated all application requirements were tested and passed. However, supporting test documents showed that many of the requirements were not tested and many more failed the tests and no indication was provided to show the defects were corrected. Additionally, reviewing prior release development and deployment experiences – Lessons Learned Reports – would improve project management.

Further, controls were not adequate to manage all of the MeF system security risks, issues, and action items. Information provided by the IRS in December 2009, showed that 10 of the 13 security vulnerabilities were resolved. However, the January 2010 Security Test and Evaluation reported that only 2 of the 13 vulnerabilities were resolved.

WHAT TIGTA RECOMMENDED

TIGTA recommended the Chief Technology Officer ensure that project releases are deployed only after all system requirements are tested and met and that test results are verified to ensure their completeness and accuracy. Further, guidance should be modified to require consideration of Lessons Learned Reports earlier in the project development process.

To resolve all MeF system security issues, the Cybersecurity organization must complete implementation of the process to ensure that system owners enter and track all system security weaknesses in IRS control systems.

In its response to the report, the IRS stated it plans to update project development guidance and that it completed the process to control system security weaknesses as of March 25, 2010. The IRS disagreed with the recommendation about release deployment only after testing showed requirements were met, citing milestone readiness reviews and the Executive Steering Committee as controls. With the significant number of failed tests and the resulting problems in rejected individual income tax returns filed, TIGTA questions whether the Executive Steering Committee had sufficient and timely information to make an informed risk-based decision for deploying MeF Release 6.1.



TREASURY INSPECTOR GENERAL
FOR TAX ADMINISTRATION

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

May 26, 2010

MEMORANDUM FOR CHIEF TECHNOLOGY OFFICER

FROM: (for) Michael R. Phillips
Deputy Inspector General for Audit

SUBJECT: Final Audit Report – Modernized e-File Will Enhance Processing of Electronically Filed Individual Tax Returns, but System Development and Security Need Improvement (Audit # 200920023)

This report presents the results of our review of the Modernized e-File Project Release¹ 6.1 development activities. The overall objective of this review was to determine whether the Modernized e-File Project Release 6.1 development activities will provide the capability to electronically receive, process, and secure U.S. Individual Income Tax Returns (Form 1040), delivering the intended benefits to the Internal Revenue Service and taxpayers. This review was part of our Fiscal Year 2010 Annual Audit Plan and addresses the major management challenge of Modernization of the Internal Revenue Service.

Management's complete response to the draft report is included as Appendix VII.

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 Alan Duncan, Assistant Inspector General for Audit (Security and Information Technology Services), at (202) 622-5894.

¹ See Appendix VI for a glossary of terms.



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Abbreviations

| | |
|-------|---|
| IRS | Internal Revenue Service |
| MeF | Modernized e-File |
| MITS | Modernization and Information Technology Services |
| TIGTA | Treasury Inspector General for Tax Administration |



*Modernized e-File Will Enhance Processing of
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Background

The Modernized e-File (MeF) system is a replacement of the current Internal Revenue Service (IRS) tax return filing technology with a modernized, Internet-based electronic filing platform. This system streamlines tax return filing processes and reduces the costs associated with paper tax returns.

The MeF system supports and facilitates the IRS' commitment to achieve the IRS Restructuring and Reform Act of 1998 goal of receiving at least 80 percent of all tax returns in electronic form.

In February 2004, the IRS deployed the initial MeF system release.¹ This release provided Internet-based filing of the U.S. Corporation Income Tax Return (Form 1120), the U.S. Income Tax Return for an S Corporation (Form 1120S), and the Return of Organization Exempt From Income Tax (Form 990). The MeF Project also developed the Federal/State Single Point Filing System platform and the Federal/State components for Forms 1120 and 990, permitting tax return transmitters to submit multiple Federal and State tax return types within one electronic transmission.

Subsequent releases added the U.S. Return of Partnership Income (Form 1065), U.S. Return of Income for Electing Large Partnerships (and Form 1065-B), excise tax forms associated with the Excise Tax *e-File* and Compliance project, U.S. Income Tax Return of a Foreign Corporation (Form 1120-F), and the Electronic Notice (e-Postcard) for Tax-Exempt Organizations Not Required to File Form 990 or 990-EZ (Form 990-N).

MeF Release 6.1 was deployed in February 2010 and includes the U.S. Individual Income Tax Return (Form 1040), Application for Automatic Extension of Time To File U.S. Individual Income Tax Return (Form 4868), and 21 forms and schedules related to Form 1040 for Tax Year 2009. Future releases will include hardware installation for full Form 1040 implementation, full disaster recovery capability, and the remaining Form 1040 related forms (approximately 120 forms).

For all forms submitted, electronic filing transmitters use IRS approved software to allow them to electronically file tax returns. Returns received electronically are validated for format and content, and an acknowledgement is returned to the transmitter indicating whether the return was accepted or rejected. Accepted returns are stored in the Modernized Tax Return Database, the legal repository for original electronically filed tax returns received by the IRS through the MeF system, and forwarded to IRS downstream systems for further tax processing.

The MeF system is 1 of more than 200 computer systems maintained by the IRS to administer the nation's tax system. Each tax return contains personally identifiable information, such as the

¹ See Appendix VI for a glossary of terms.



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filer's name, address, Social Security Number, and other personal information. Because of the volume and type of data it maintains, the IRS is an attractive target for criminals with the intent to commit identity theft by stealing and using someone's personal information for their own financial gain.

Like all Federal Government agencies, the IRS should protect its computer systems by implementing appropriate security controls to ensure the confidentiality, integrity, and availability of sensitive data, as recommended in the National Institute of Standards and Technology Special Publication 800-53.² These security controls include system access, audit logging, and contingency planning. In addition, the IRS is specifically required by Federal law³ to keep taxpayer data confidential and prevent unauthorized disclosure or browsing of taxpayer records. These requirements apply to all IRS computer systems that maintain sensitive data.

The IRS stores sensitive financial and personal information for more than 130 million individual taxpayers who file annual Federal income tax returns.

This review was performed at the Modernization and Information Technology Services (MITS) organization facilities in New Carrollton, Maryland, during the period August 2009 through February 2010. 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. This review was included in the Treasury Inspector General for Tax Administration (TIGTA) Fiscal Year 2010 Annual Audit Plan and addresses the major management challenge of Modernization of the IRS. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

² *Recommended Security Controls for Federal Information Systems*, Revision 2, dated December 2007.

³ Internal Revenue Code Section 6103 (26 U.S.C. Section 6103) and the Taxpayer Browsing Protection Act of 1997 (26 U.S.C.A. Sections 7213, 7213A, 7431 (West 2006)).



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Results of Review

The Modernized e-File Project Adds New Electronic Filing Capabilities and Improves Existing Capabilities

The IRS deployed Release 6.1 on February 17, 2010, and for the first time, began processing electronically filed individual tax forms on the MeF system. MeF Release 6.1 also permits tax return transmitters to submit multiple Federal and State individual tax returns within one electronic transmission. MeF Release 6.1 provides benefits by improving individual tax return filing and processing efficiency and by being the system that provides tax form information to other IRS systems for use by employees.

The MeF Release 6.1 development included a plan to effectively manage the expected large processing volume of individual tax returns and requests for an extension to file. This plan incorporates a prudent approach by limiting the volume of forms for processing in Calendar Year 2010 so the IRS and tax form transmitters have an opportunity to observe system behavior and responses. Based on the system performance in Calendar Year 2010, the MeF system can be adjusted to manage the full workload of individual tax returns during Calendar Year 2011.

The plan controls the volume of processing by providing participating transmitters a limit to the number of forms they can submit daily. The daily totals are based on 2009 volumes and discussions held with the transmitters. Based on agreements with transmitters, the IRS estimates MeF Release 6.1 will process the following volumes of individual tax forms during the periods specified:

- February 17, 2010, through February 28, 2010 – 1.5 million forms.
- March 1, 2010, through March 31, 2010 – 4.4 million forms.
- April 1, 2010, through April 15, 2010 – 5 million forms.

Based on these estimates, MeF Release 6.1 will process during these periods almost 11 million of the 15.6 million projected total individual tax forms the MeF system is expected to receive electronically.



Modernized e-File Will Enhance Processing of Electronically Filed Individual Tax Returns, but System Development and Security Need Improvement

The Modernized e-File Project Team Has Not Completely Addressed Previously Reported Requirements Management and Processing Issues

Verifying Development of Requirements: In a prior TIGTA audit report entitled *The Modernized e-File Project Can Improve Its Management of Requirements*,⁴ we recommended Project Teams follow the Enterprise Life Cycle⁵ provisions for managing requirements by ensuring planned capabilities were developed by tracing release requirements in the System Requirements Report to the requirements traceability verification matrices. In addition, we recommended the Project Team document implementation of all requirements throughout the project life cycle in the System Requirements Report. The IRS' corrective action for MeF Requirements Traceability indicated that for Release 6, the MeF Project was working with the Business Rules and Requirements Management office to implement a full bi-directional traceability model. The IRS reported implementation of the corrective actions was completed January 16, 2009.

To determine if the MeF Release 6.1 requirements were adequately traced between the high-level and low-level requirements, we reviewed the:

- Business System Requirements Report Final, System Development Phase (Milestone 4b), dated December 3, 2009, which presents all of the requirements for implementation in Release 6.1.
- System Integration and Test Plan, Appendix A – Integration, Test, and Deployment Requirements Traceability Verification Matrix, dated November 3, 2009, which presents the bi-directional traceability between the release requirements and the related test cases.

We selected a sample of customer and system requirements to verify the adequacy of the bi-directional traceability for the MeF Release 6.1 requirements. The project staff performed the bi-directional requirements tracing between the Business System Requirements Report Final and the System Integration and Test Plan as required by the Enterprise Life Cycle.

The System Integration and Test End of Test Completion Report documents actual testing results and identifies applicable environmental, test approach, test design, test planning, and test execution variances from the original Test Plan. The Requirements Traceability Verification Matrix delivered in the original Test Plan must be updated to document the actual results of test execution. On March 5, 2010, after we had held our closing conference with the IRS, the Project Team provided the System Integration and Test End of Test Completion Report, dated January 22, 2010, which reported that all MeF Release 6.1 capabilities passed testing. Subsequently, on March 8, 2010, the Project Team provided Appendix A, which included two

⁴ Reference Number 2007-20-099, dated July 9, 2007.

⁵ See Appendix IV for an overview of the Enterprise Life Cycle.



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matrices – the Test, Assurance, and Documentation Requirements Traceability Verification Matrix and the Integration, Test, and Deployment Requirements Traceability Verification Matrix. The test execution results presented for the Test, Assurance, and Documentation Requirements Traceability Verification Matrix reported failed tests and defect reports for the MeF Release 6.1. These failed test results were not accurately summarized in the final report. Additionally, the Integration, Test, and Deployment Requirements Traceability Verification Matrix did not present any test execution results. The following table presents the tests results reported in the System Integration and Test End of Test Completion Report summary and in each of the traceability verification matrix sections.

Table 1: MeF Release 6.1 Testing Results

| Section of System Integration and Test End of Test Completion Report | Number of Failed Tests | Number of Test Cases With Defect Reports |
|---|------------------------|--|
| Report Summary | 0 | 8 |
| Appendix A – Integration, Test, and Deployment Requirements Traceability Verification Matrix | No Results Provided | No Results Provided |
| Appendix A – Test, Assurance, and Documentation Requirements Traceability Verification Matrix | 34 | 120 |

Source: System Integration and Test End of Test Completion Report, dated January 22, 2010.

The Test, Assurance, and Documentation Requirements Traceability Verification Matrix also presented the following results about uncompleted tests: 29 blocked; 37 not run; 4 in progress; and 17 candidates for waiver. None of these results were included in the report body summary, and when asked about these conditions, the IRS did not provide an explanation for the conflicts between the final report and the supporting documentation.

Although the Project Team traced requirements between the Business System Requirements Report Final and the System Integration and Test Plan, the System Integration and Test End of Test Completion Report shows the test results were not traced to the requirements, and the application did not execute all of the requirements as expected. The lack of consistent information regarding the effective execution of application requirements could impact the ability of the MeF system to perform the expected capabilities. In fact, during the first 3 weeks of operation, the MeF system rejected 29,697 (23 percent) of the 127,105 individual income tax returns filed.

We did not perform analyses to specifically determine whether the rejected individual income tax returns were directly related to the failed tests and identified defects. However, the TIGTA is currently conducting another audit to determine whether individual income tax returns transmitted through the MeF system are processed timely and accurately and in a manner consistent with tax returns processed in the current e-file system.

