



*Annual Assessment of the  
Business Systems Modernization Program*

**June 2006**

**Reference Number: 2006-20-102**

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.

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FOR TAX ADMINISTRATION

DEPARTMENT OF THE TREASURY  
WASHINGTON, D.C. 20220

June 30, 2006

**MEMORANDUM FOR CHIEF INFORMATION OFFICER**

**FROM:** *Michael R. Phillips*  
Michael R. Phillips  
Deputy Inspector General for Audit

**SUBJECT:** Final Audit Report – Annual Assessment of the Business Systems  
Modernization Program (Audit # 200620008)

This report presents the results of our Annual Assessment of the Business Systems Modernization Program. The overall objective of this review was to assess the progress of the Business Systems Modernization (BSM) program for Fiscal Year (FY) 2006, as required by the Internal Revenue Service (IRS) Restructuring and Reform Act of 1998.<sup>1</sup>

The BSM program is a complex effort to modernize the IRS' technology and related business processes. According to the IRS, this effort will involve integrating thousands of hardware and software components. All of this must be done while replacing outdated technology and maintaining the current tax system. The BSM program is in its eighth year and has received approximately \$2.1 billion for contractor services. Additionally, the IRS had spent \$170 million through FY 2005 and plans to spend an additional \$50 million in FY 2006 to manage the BSM program.

*Synopsis*

The BSM program's efforts to modernize IRS technology over the last 8 years have achieved mixed results. During this period, the IRS made changes to the program in response to many difficult challenges. This past year, the IRS began taking dramatic actions by restructuring and redesigning significant areas within the BSM program. Some examples include the IRS taking over the role of systems integrator<sup>2</sup> from the PRIME contractor, developing a new Modernization Vision and Strategy, and changing its approach from completely replacing current business

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<sup>1</sup> Pub. L. No. 105-206, 112 Stat. 685 (codified as amended in scattered sections of 2 U.S.C., 5 U.S.C. app., 16 U.S.C., 19 U.S.C., 23 U.S.C., 26 U.S.C., 31 U.S.C., 38 U.S.C., and 49 U.S.C.).

<sup>2</sup> See Appendix IV for a Glossary of Terms.



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systems to using current business systems to accomplish modernization. We believe these extensive changes signal the beginning of a different phase and approach for the entire modernization effort.

***Extensive changes signal the beginning of a different phase and approach for the entire modernization effort.***

Along with accomplishments made at the BSM program level, the IRS and its contractors have completed modernized projects that provide significant benefits to taxpayers. For example, the IRS reports the Modernized e-File project has resulted in over \$18 million in savings to businesses, through reductions in tax preparation fees, postage, and storage, and within the IRS through efficiencies gained. Another example is the Customer Account Data Engine project. This system has generated over \$1 billion in tax refunds and provides refunds to taxpayers 50 percent faster than the old system.

While the successes achieved are commendable, the IRS and its contractors have struggled to develop mature management capabilities and implement defined and repeatable processes necessary for effective and efficient systems development. As a result, the BSM program has experienced project cost increases and schedule delays.

In 2004, the IRS decided to revise existing project cost and schedule estimates and began creating estimates for smaller pieces of work, known as subreleases. Prior to revising the estimates, the Commissioner reported the IRS and its contractors had not met cost or schedule estimates for any of its projects. Since breaking down releases into smaller, more manageable pieces as suggested by the Clinger-Cohen Act,<sup>3</sup> the IRS and its contractors are doing better at meeting cost and schedule estimates. However, some projects still encounter cost increases and schedule delays of greater than 10 percent.<sup>4</sup>

***Since breaking down releases into smaller, more manageable pieces, the IRS and its contractors are doing better at meeting cost and schedule estimates.***

The severely reduced modernization funding levels over the last several years have been a concern for the IRS and the IRS Oversight Board. With the possibility of continued reductions to the BSM program in the coming years, the IRS' ability to provide the level of service taxpayers expect will be affected. If the BSM program continues to show improvement, we believe additional funding should be considered. However, we caution against any drastic increases in funding, as they may exceed the IRS' ability to effectively and efficiently manage the BSM program.

Since FY 2002, our BSM annual assessments have cited four specific challenges the IRS needs to overcome to deliver a successful modernization effort: 1) implement planned improvements

<sup>3</sup> Pub. L. No. 104-106, 110 Stat. 642 (codified in scattered sections of 5 U.S.C., 5 U.S.C. app., 10 U.S.C., 15 U.S.C., 16 U.S.C., 18 U.S.C., 22 U.S.C., 28 U.S.C., 29 U.S.C., 31 U.S.C., 38 U.S.C., 40 U.S.C., 41 U.S.C., 42 U.S.C., 44 U.S.C., 49 U.S.C., 50 U.S.C.).

<sup>4</sup> See Appendix IX for the BSM cost and schedule variance summary.



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in key management processes and commit necessary resources to enable success, 2) manage the increasing complexity and risks of the BSM program, 3) maintain the continuity and strategic direction with experienced leadership, and 4) ensure contractor performance and accountability are effectively managed. The IRS is at a juncture where it can build upon the successes and lessons learned from the first 8 years of the BSM program; however, we continue to believe the eventual success of the modernization effort will depend on how well the IRS deals with these four specific challenges.

The Federal Managers' Financial Integrity Act of 1982<sup>5</sup> requires each Federal Government agency to prepare for Congress and the President an annual report that identifies material weaknesses and the agency's corrective action plans and schedules. Since 1995, the IRS has identified and reported systems modernization as a material weakness. We believe systems modernization should remain a material weakness for the IRS based on open modernization corrective actions and the significance of the BSM program to external stakeholders.

***Systems modernization should  
remain a material weakness  
for the IRS.***

### *Response*

The Chief Information Officer responded he was pleased this report recognized the significant actions the IRS has taken to meet the BSM program's many challenges. He also provided some of the benefits BSM projects are accruing to both taxpayers and the IRS, including the issuance of over \$3.3 billion in refunds by the Customer Account Data Engine project. Management's complete response to the draft report is included as Appendix XII.

Copies of this report are also being sent to the IRS managers affected by the report observations. 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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<sup>5</sup> 31 U.S.C. §§ 1105, 1113, 3512 (2000).



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## *Background*

The Internal Revenue Service (IRS) Restructuring and Reform Act of 1998<sup>1</sup> requires the Treasury Inspector General for Tax Administration (TIGTA) to annually evaluate the adequacy and security of the IRS' information technology. This report provides our assessment of the IRS Business Systems Modernization (BSM) program for Fiscal Year (FY) 2006.

The BSM program is a complex effort to modernize the IRS' technology and related business processes. According to the IRS, this effort will involve integrating thousands of hardware and software components. All of this must be done while replacing outdated technology and maintaining the current tax system.

The BSM program is in its eighth year and has received approximately \$2.1 billion for contractor services. Additionally, the IRS had spent \$170 million through FY 2005 and plans to spend an additional \$50 million in FY 2006 to manage the BSM program.<sup>2</sup>

***The BSM program is in its eighth year and has received approximately \$2.1 billion for contractor services.***

This review was performed at the Modernization and Information Technology Services organization facilities in New Carrollton, Maryland. The information presented in this report is derived from current and previous TIGTA, Government Accountability Office (GAO), and IRS Oversight Board reports and discussions with appropriate BSM officials. We also intended to review the MITRE Corporation's<sup>3</sup> annual report on the BSM program, which is designed to provide up-to-date recommendations for adjustments and corrections to BSM program activities.<sup>4</sup> The results of this study were presented to the IRS in November 2005; however, the formal report had not been finalized by the time our review concluded in April 2006.

Compilation of information for this report was conducted during the period January through April 2006. Previous audits and our limited analyses were conducted in accordance with

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<sup>1</sup> Pub. L. No. 105-206, 112 Stat. 685 (codified as amended in scattered sections of 2 U.S.C., 5 U.S.C. app., 16 U.S.C., 19 U.S.C., 22 U.S.C., 23 U.S.C., 26 U.S.C., 31 U.S.C., 38 U.S.C., and 49 U.S.C.).

<sup>2</sup> See Chart 3 of Appendix V for details.

<sup>3</sup> See Appendix IV for a Glossary of Terms.

<sup>4</sup> In 2003, the IRS and the PRIME contractor initiated four studies to help identify the root causes of the problems hindering the BSM effort and make recommendations to remedy the problems identified. Key IRS executives and stakeholders developed actions to address the studies' recommendations and resolve longstanding BSM issues. Collectively, these actions became known as the BSM Challenges Plan. The need for this annual assessment was identified as part of the BSM Challenges Plan. The PRIME contractor is 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.



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*Government Accounting Standards.* Detailed information on our audit objective, 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*

***Extensive Changes Signal a New Phase of the Business Systems  
Modernization Program***

The BSM program's efforts to modernize the IRS technology over the last 8 years with funds exceeding \$2 billion have achieved mixed results. During that period, the IRS made changes to the program in response to many difficult challenges. For example:

- In 2002, we reported the IRS and the PRIME contractor had not achieved the maturity level needed for effective and efficient systems development. The IRS and the PRIME contractor responded by focusing on improving 12 key processes to ensure the success of modernization.
- In 2003, we reported concerns about the IRS' ability to manage its portfolio of existing projects, and the IRS responded by scaling back the program's scope and number of projects.
- In 2004, the IRS and its contractors drew increased criticism and pressure from various oversight groups to deliver a successful program. The IRS implemented numerous program management improvements such as establishing the Requirements Management Office.

The IRS changes over the last several years were performed within the existing structure and conceptual design of modernization. This past year, the IRS began taking dramatic actions by restructuring and redesigning significant areas within the BSM program. Some examples include the IRS taking over the role of systems integrator from the PRIME contractor, developing a new Modernization Vision and Strategy, and changing its approach from completely replacing current business systems to using current business systems to accomplish modernization. We believe these extensive changes signal the beginning of a different phase and approach for the entire modernization effort.

***Extensive changes signal the  
beginning of a different phase  
and approach for the entire  
modernization effort.***

***The IRS is taking over the primary role of systems integrator from the PRIME contractor***

The IRS initially partnered with the PRIME contractor to achieve its overall goal of modernizing business processes and systems to improve service quality, timeliness, reliability, and privacy. The IRS relied on the PRIME contractor to act as a systems integrator to find and manage the



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best expertise and technical resources to achieve the IRS' organizational goals. This partnership was envisioned to deliver world-class practices which would enable the IRS to modernize and provide top-quality service to taxpayers.

Since its inception, the partnership between the IRS and the PRIME contractor has experienced difficulties, and the envisioned world-class practices have not been fully realized. In 2003, due to the continued challenges confronting the BSM program, the IRS started to lose confidence in the PRIME contractor's ability to meet its commitments in modernizing the IRS' business systems. In May 2004, the IRS stated it was evident the PRIME contractor needed to significantly improve its performance. In 2005, the IRS began transitioning numerous program management activities away from the PRIME contractor and taking over the primary role as the systems integrator for all projects. The systems integrator role is a significant operational change for the IRS, requiring new procedures, personnel, and offices.

### **As directed by the House and Senate Appropriations Committees, the IRS is developing a new version of the Modernization Vision and Strategy**

In May 2005, the GAO recommended the IRS Commissioner fully revisit the BSM Vision and Strategy and develop a new set of long-term goals, strategies, and plans that are consistent with the IRS' budgetary outlook and management capabilities.<sup>5</sup> The IRS needed a new Vision and Strategy because the last Modernization Vision and Strategy dated back to FY 2002 and no longer reflected reality.

In January 2006, the House and Senate Appropriations Committees approved the release of FY 2006 funds for the BSM program and directed the IRS to provide a draft of its current Modernization Vision and Strategy to the GAO. The final version of the Modernization Vision and Strategy was due as we were completing our report and was not considered as part of our assessment.

### **The IRS is changing its approach from completely replacing current business systems to using current business systems to accomplish modernization**

In the past, the IRS' approach to modernizing was an enormous development effort aimed at replacing its current business systems. The IRS has recognized the need for an integrated approach to enterprise modernization and is now focusing on a flexible, more realistic approach that seeks to use current business systems as well as current and future information technology investments to accomplish modernization. Instead of scrapping and replacing the capabilities of hundreds of current IRS systems, the IRS will have existing systems evolve into reusable services. While use of this approach differs from the modernization program of the past, we are unclear how the IRS will identify and leverage the strengths of existing systems to achieve

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<sup>5</sup> *Business Systems Modernization: Internal Revenue Service's Fiscal Year 2005 Expenditure Plan* (GAO-05-774, dated July 2005).



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modernization goals. The new Modernization Vision and Strategy being developed by the IRS may provide additional clarification in this area.

***Assessment of the First 8 Years of the Modernization Program***

As mentioned previously, the BSM program’s efforts to modernize IRS technology over the last 8 years have achieved mixed results. While the BSM program has experienced setbacks, the IRS and its contractors have taken program-level actions that resulted in project-level successes. Figure 1 provides examples of significant program-level initiatives undertaken in the first 8 years of the BSM program; it is not intended to show every program-level accomplishment.

***Figure 1: BSM Program-Level Actions***

YEAR	BSM INITIATIVES
1999	The IRS received funding based on the approval of the first BSM Expenditure Plan.
2000	The modernized IRS organization was officially inaugurated or “stood up.”
2001	A comprehensive Enterprise Architecture providing a strategic view of BSM initiatives was approved, and a defined Enterprise Life Cycle <sup>6</sup> methodology was completed.
2002	The IRS took steps to slow the pace of the BSM program to match management capacity and capability.
2003	Four studies, including a benchmarking analysis, were conducted to assess the health of the BSM program.
2004	The IRS implemented numerous program management improvements such as establishing the Requirements Management Office, implementing a Resource Capacity Model, and creating a Performance Engineering Office.
2005	The IRS took over the primary role of systems integrator from the PRIME contractor.

*Source: TIGTA and GAO reports.*

***The IRS continues to deliver modernized systems benefiting taxpayers and the Federal Government***

Along with accomplishments made at the BSM program-level, the IRS and its contractors have completed modernized projects that provide significant benefits to taxpayers and the Federal Government. Some of these projects include the Customer Communications, Internet Refund Fact of Filing (IRFoF), e-Services, Customer Account Data Engine (CADE), and Modernized e-File (MeF) projects.<sup>7</sup> Figure 2 provides a snapshot of some of the project-level successes launched by the IRS and its contractors.

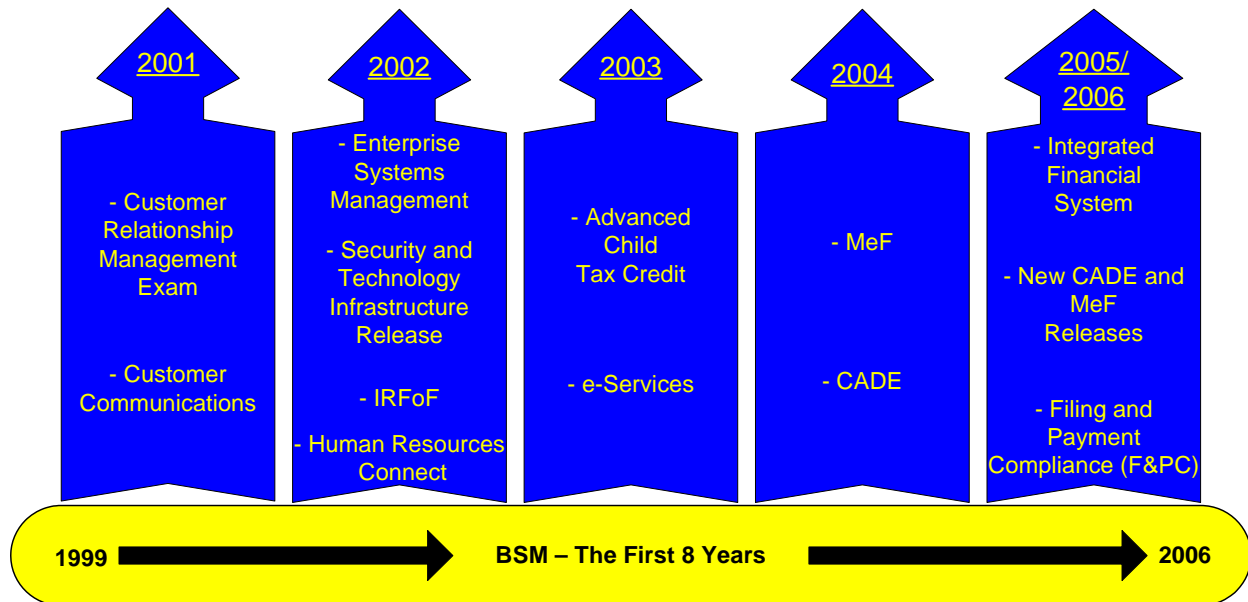
<sup>6</sup> See Appendix VII for an overview of the Enterprise Life Cycle.

<sup>7</sup> See Appendix VIII for descriptions, benefits, and the status of each BSM project.



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Figure 2: BSM Launched Projects



Source: TIGTA and GAO reports.

The IRS reports the following examples of BSM projects that have provided significant tangible benefits to taxpayers and the Federal Government.

- **Customer Communications and IRFoF** – The Customer Communications project resulted in a 50 percent reduction in wait time for IRS assistors to answer taxpayer calls and a 50 percent reduction in abandoned calls. The IRFoF project has also reduced telephone refund call volumes by nearly 24 percent, freeing IRS assistors to answer other tax inquiries. While not completely attributable to the Customer Communications and IRFoF projects, the relative success rate of taxpayers calling for assistance and seeking services from an IRS assistor has improved almost 23 percent since the 2002 Filing Season, as we reported recently.<sup>8</sup>
- **CADE** – This system has generated over \$1 billion in tax refunds and provides refunds to taxpayers 50 percent faster than the old system.
- **e-Services** – The IRS Oversight Board recently reported the e-Services project has freed up thousands of IRS staff hours and saved millions of taxpayer dollars in practitioner costs.<sup>9</sup> The National Taxpayer Advocate recently called the e-Services project an

<sup>8</sup> *Taxpayer Service Is Improving, but Challenges Continue in Meeting Expectations* (Reference Number 2006-40-052, dated February 2006).

<sup>9</sup> *IRS Oversight Board Annual Report to Congress on Electronic Filing* (dated December 2005).



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“extremely useful and efficient tool” and recommended it be expanded to provide benefits to more taxpayers.<sup>10</sup>

- **Integrated Financial System** – The IRS was able to maintain its clean opinion after replacing its old financial system with the Integrated Financial System.
- **MeF** – The MeF project has resulted in over \$18 million in savings to businesses through reductions in tax preparation fees, postage, and storage, and within the IRS through efficiencies gained.

Since our last annual assessment,<sup>11</sup> the IRS and its contractors have continued to complete modernized projects and deliver benefits to taxpayers and the Federal Government. Some of the most recent project-level accomplishments include implementing additional releases of the MeF and CADE projects, as well as a partial first release of the F&PC project. In addition, the IRS and its contractors recently received the Innovative Information Technology Award from the *Government Computer News* for the e-Services and MeF projects.

### **The IRS has struggled to manage program-level and project-level activities**

While the successes achieved are commendable, the IRS and its contractors have struggled to develop mature management capabilities and implement defined and repeatable processes necessary for effective and efficient systems acquisition and development. Figure 3 shows some of the challenges experienced within the BSM program and some of the actions the IRS has taken over the last 8 years in response to these challenges.

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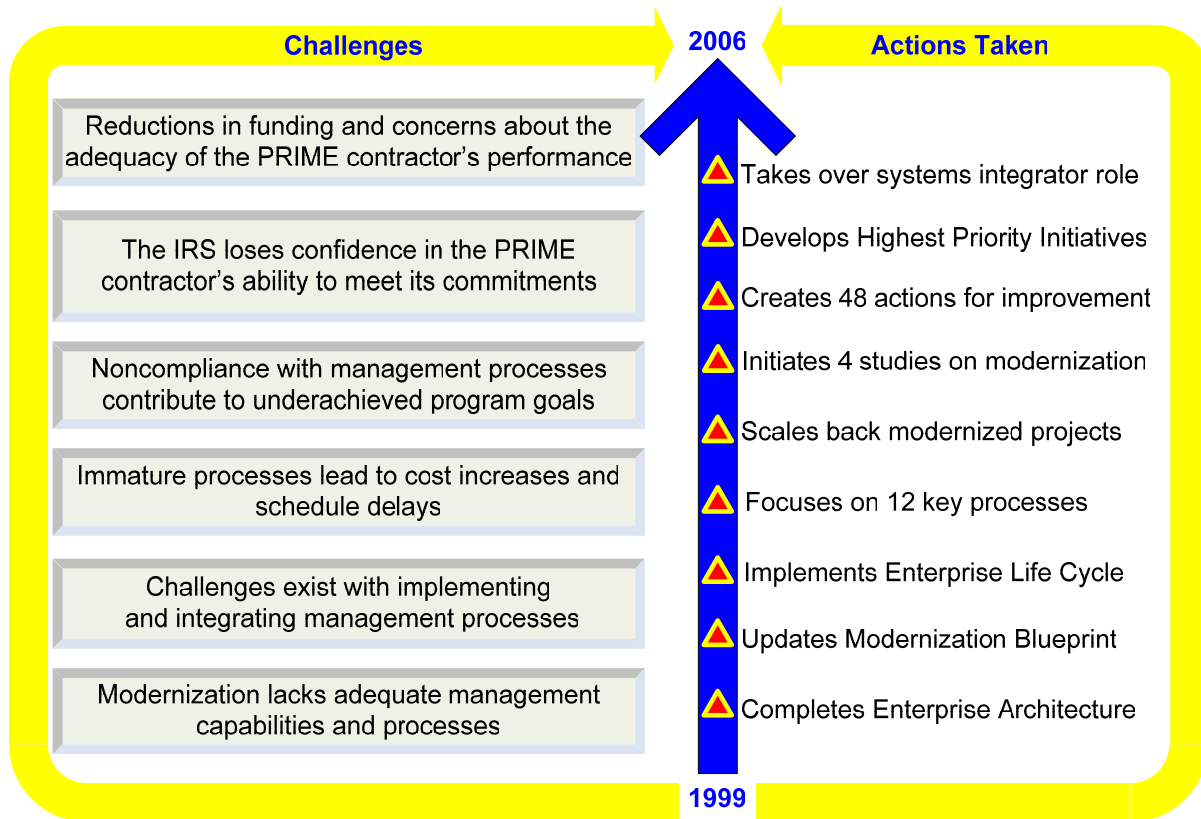
<sup>10</sup> *National Taxpayer Advocate 2005 Annual Report to Congress Executive Summary* (dated December 2005).

<sup>11</sup> *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2005-20-102, dated August 2005).



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Figure 3: Roadmap of BSM Management Efforts



Source: TIGTA and GAO reports.

**Cost increases and schedule delays have been significant but performance is improving**

Since the beginning of the modernization effort, BSM projects have experienced cost increases and schedule delays. We reported in the FY 2003 BSM annual assessment that certain modernized projects were experiencing cost increases of over \$35 million and delays of up to 14 months from original estimates.<sup>12</sup> One year later, cost increases for projects had grown to over \$86 million and schedule variances had grown to as much as 30 months.<sup>13</sup> Due to cost increases and schedule delays, pressure began mounting from various oversight groups to deliver a successful program. The IRS Oversight Board stated the "...IRS and its PRIME contractor

<sup>12</sup> Annual Assessment of the Business Systems Modernization Program (Reference Number 2003-20-208, dated September 2003).

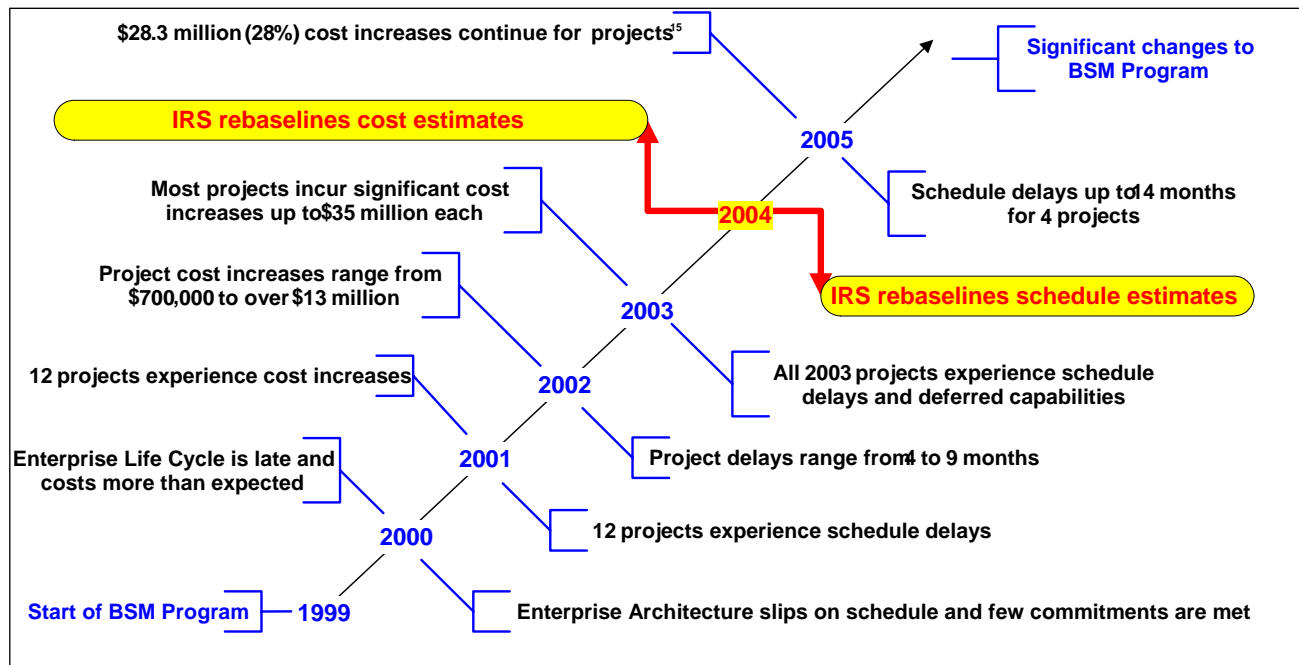
<sup>13</sup> Annual Assessment of the Business Systems Modernization Program (Reference Number 2004-20-107, dated June 2004).



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cannot continue to operate in a business-as-usual manner.”<sup>14</sup> Figure 4 shows a history of some of the cost and schedule overruns within the BSM program over the last 8 years.

**Figure 4: Cost Increases and Schedule Delays by Calendar Year**



Source: Our review of TIGTA and GAO reports.

In 2004, the IRS decided to revise existing project cost and schedule estimates and began creating estimates for smaller pieces of work, known as subreleases. Prior to revising the estimates, the Commissioner reported the IRS and its contractors had not met cost or schedule estimates for any of its projects. Since breaking down releases into smaller, more manageable pieces as suggested by the Clinger-Cohen Act,<sup>16</sup> the IRS and its contractors are doing better at meeting cost and schedule estimates. In 2005, IRS executives also stated they were concerned the existing cost and schedule variance methodology did not accurately depict variances within the BSM program and held meetings with the GAO and the TIGTA to discuss better ways of presenting and characterizing cost and schedule estimates. Based on these meetings, the IRS plans to use a different methodology to calculate and present cost and schedule estimates in future Expenditure Plans.

<sup>14</sup> *Independent Analysis of IRS Business Systems Modernization* (dated December 2003).

<sup>15</sup> *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2005-20-102, dated August 2005).

<sup>16</sup> Pub. L. No. 104-106, 110 Stat. 642 (codified in scattered sections of 5 U.S.C., 5 U.S.C. app., 10 U.S.C., 15 U.S.C., 16 U.S.C., 18 U.S.C., 22 U.S.C., 28 U.S.C., 29 U.S.C., 31 U.S.C., 38 U.S.C., 40 U.S.C., 41 U.S.C., 42 U.S.C., 44 U.S.C., 49 U.S.C., 50 U.S.C.).



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Using the existing methodology, some projects still encounter cost increases and schedule delays of greater than 10 percent.<sup>17</sup> For example, the Integrated Financial System<sup>18</sup> project recently encountered a \$9 million (60 percent) cost increase, and the MeF<sup>19</sup> project encountered a \$7.5 million (32 percent) cost increase. The GAO review of the IRS' FY 2006<sup>20</sup> Expenditure Plan reported results consistent with our analysis showing cost and schedule variances still exist for modernization projects.

**Since breaking down releases into smaller, more manageable pieces, the IRS and its contractors are doing better at meeting cost and schedule estimates.**

Due to the complexity of BSM projects, it is unrealistic to think every project will meet its exact cost and schedule estimates. However, several project segments are meeting cost and schedule estimates or are within a 10 percent threshold. The next challenge for the IRS and its contractors will be to control significant cost and schedule variances and build upon its initial successes with smaller pieces of work to deliver the BSM program within expectations.

### **A return on investment for the BSM program has not been determined**

A reasonable measure of value to determine the cost effectiveness of the BSM program would be to measure the return on investment taxpayers and the Federal Government have received from the BSM effort over the last 8 years. However, a logical assessment of the return on investment for the BSM program has not been determined because of the following factors:

- The full benefits of ongoing projects, such as the CADE and MeF projects, will not be realized until future releases are completed to provide additional capabilities and benefits to taxpayers,<sup>21</sup> making it premature to attempt to determine the return on investment.
- In November 2004, the GAO reported the IRS needed to improve its review of implemented projects because its reviews did not include an analysis of actual versus planned benefits.<sup>22</sup> The IRS also responded to a recent TIGTA audit report<sup>23</sup> that it was creating a program performance framework, including business value measures. Until this framework is in place, the IRS cannot determine the return on investment received from implemented projects.

<sup>17</sup> See Appendix IX for the BSM cost and schedule variance summary.

<sup>18</sup> Release 1, Milestone 5.

<sup>19</sup> Release 3.2, Milestone 4.

<sup>20</sup> *Business Systems Modernization: Internal Revenue Service's Fiscal Year 2006 Expenditure Plan* (GAO-06-360, dated February 2006).

<sup>21</sup> See Appendix VIII for descriptions, benefits, and the status of each BSM project.

<sup>22</sup> *Business Systems Modernization: IRS's Fiscal Year 2004 Expenditure Plan* (GAO-05-46, dated November 2004).

<sup>23</sup> *The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies* (Reference Number 2006-20-030, November 2005).





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## **Four Major Challenges Will Continue to Exist in the Next Phase of the Modernization Program**

Since FY 2002, our annual assessments have cited four specific challenges the IRS needs to overcome to deliver a successful modernization effort. The IRS has continuously taken corrective actions in response to our recommendations to address these four challenges. However, the IRS' recent and planned future changes have not eliminated the four challenges. Our reviews over the last year found each of the four challenges still exists, and one of these challenges has expanded.

### **Challenge 1: Implement planned improvements in key management processes and commit necessary resources to enable success**

Since our last annual assessment,<sup>24</sup> we found the IRS continues to need improvement in the areas of requirements management, cost and schedule estimation, and project justification. We have issued recommendations in each of these areas in prior audits. Recent reviews show the IRS is making progress but continues to struggle with defining and institutionalizing these key management processes.

#### **Requirements management**

Recent reviews of two modernized projects<sup>25</sup> showed requirements testing processes are not being followed and system requirements are being deferred to future project releases. During the completion of the MeF Release 3.2 project, testing activities used by the project team did not provide assurances the system requirements expected to be deployed were the requirements that were actually deployed. The project team did not trace the system requirements or update the System Requirements Report with changes during the testing process. In addition, a planned performance requirement to display tax and information returns within defined time periods was not delivered as part of the MeF Release 3.2. This performance requirement was originally planned to be delivered as part of the MeF Release 1 in February 2004.

For CADE Release 1.3.2, the project team did not timely finalize requirements and did not have appropriate staffing to fix a high number of failed tests during the systems testing process. This contributed to the deferral of eight requirements to future releases, and an unknown number of

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<sup>24</sup> *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2005-20-102, dated August 2005).

<sup>25</sup> *Controls Need to Be Strengthened to Ensure the Modernized e-File Project Meets Its Expectations* (Reference Number 2005-20-103, dated September 2005) and *Focusing Management Efforts on Long-Term Project Needs Will Help Development of the Customer Account Data Engine Project* (Audit Number 200520012, Draft Report dated May 2006).



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taxpayers will not receive the benefits associated with the CADE processing. We have reported on these and similar testing process issues since 2003.<sup>26</sup>

### Cost and schedule estimation

Due to significant cost increases and schedule delays, the BSM program has been criticized for its ineffective cost and schedule estimation capabilities. A recent audit<sup>27</sup> shows the IRS and its contractors have not always followed cost and schedule estimation processes within the BSM program. In addition, we determined the IRS is instituting different cost and schedule estimation processes due to its assumption of the systems integrator role.

### Project justification

Office of Management and Budget Circular A-11 Exhibit 300, Capital Asset Plan and Business Case,<sup>28</sup> for major information technology investments requires Federal Government agencies to conduct an Alternatives Analysis to provide estimated cost and benefit information on viable alternatives. This, in turn, assists management in determining the most effective approach for a project. During a recent review,<sup>29</sup> the IRS provided a draft Exhibit 300 showing alternatives with the most viable solutions for the F&PC project. We could not verify the IRS' decision to purchase commercially viable software for the F&PC project because project documentation contained errors and information could not be supported. The new Modernization Vision and Strategy is now considering the alternative of using current business systems instead of using the commercial software purchased for the F&PC project.

We reported similar findings during a prior review of four other business cases in April 2005.<sup>30</sup> All four business cases contained deficiencies, did not comply with Office of Management and Budget requirements and, in some cases, did not comply with the IRS' own *Exhibit 300 Business Case Guide*. Due to the importance of this issue, we are currently conducting a followup audit to determine the status of the IRS' corrective actions.

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<sup>26</sup> *Testing Practices for Business Systems Modernization Projects Need Improvement* (Reference Number 2003-20-178, dated September 2003) and *Further Enhancements to the Guidance for Testing Practices Will Help Ensure the Quality of Modernization Projects* (Reference Number 2006-20-051, dated March 2006).

<sup>27</sup> *While Improvements Have Been Made, Business Systems Modernization Cost and Schedule Estimation Processes Have Not Always Been Followed and Major Changes Are Planned* (Reference Number 2006-20-002, dated October 2005).

<sup>28</sup> *Preparation, Submission, and Execution of the Budget*, dated November 2005.

<sup>29</sup> *The Alternatives for Designing and Developing the Filing and Payment Compliance Project Should Be Revalidated* (Reference Number 2006-20-026, dated December 2005).

<sup>30</sup> *Business Cases for Information Technology Projects Need Improvement* (Reference Number 2005-20-074, dated April 2005).



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### **Challenge 2: Manage the increasing complexity and risks of the BSM program**

As stated earlier, the IRS is taking over the role of systems integrator from the PRIME contractor, which will increase complexities and introduce new challenges for the BSM program. The IRS created and is currently working on several Highest Priority Initiatives to develop, implement, and execute a variety of activities (e.g., expanded cost and schedule estimation, quality assurance, and requirements management roles).<sup>31</sup> Many of the initial Highest Priority Initiatives concerning the transition have already been completed. Proper management and operation of these transitioning areas are critical to the success of the BSM program.

In addition to complexities at the program level, the IRS and its contractors face further complexity at the project level. For example, the CADE project is the IRS' highest priority technology project and represents the core foundation of modernized systems. It has experienced significant cost and schedule setbacks during the initial releases involving the simplest accounts, and future releases will be more complex. The future of the CADE project is uncertain due to several factors.

- As the IRS adds more complex accounts to the CADE, the IRS and its contractors will need to focus on managing business rules existing within current business systems such as the Individual Master File account processing that contains tens of thousands of business rules. It is a major effort to capture, understand, and manage those business rules.
- The current release strategy allows the CADE project to be deployed incrementally (where accounts processing occurs in both the CADE and the Individual Master File) until all accounts have been migrated to the modernized environment. Under the new IRS modernization methodology of leveraging current business systems, we are unclear how the incremental approach to delivery of the CADE project will affect the Individual Master File as both environments are used and grow in complexity.
- The IRS does not have an application to allow its employees to view or interactively change account information transferred from the Individual Master File to the modernized environment. The IRS intended to build this capability through a future modernized project, which was deferred due to budget reductions. One of the capabilities being considered as part of the new Modernization Vision and Strategy is whether to pursue an interim capability to access the CADE and current business systems.
- In April 2005, a CADE project study was initiated to address several major concerns, including the fact that the current CADE logical design supports only the first two CADE releases. Until a long-term logical design is finalized, future releases of the CADE cannot be developed.

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<sup>31</sup> See Appendix VI for details on the Highest Priority Initiatives.



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### **Challenge 3: Maintain the continuity and strategic direction with experienced leadership**

The IRS continues to make significant, program-level changes causing difficulties in maintaining continuity or direction within the BSM program. While it is important to make corrections, there is an associated cost. For example, personnel often experience a learning curve when confronted with major changes.

Recently, the IRS restructured the Modernization and Information Technology Services organization by creating the new Applications Development and Enterprise Services functions. The Applications Development function is to build, test, deliver, and maintain information technology application systems that will support modernized systems and current systems. The Enterprise Services function combines all technical services (e.g., systems engineering, architecture, and program management) into a single function. The creation of these two complementary functions eliminates any operational separation between the BSM program and all other systems development work within the IRS.

The restructuring has caused changes to existing management and executive roles while creating new management roles and positions that have been or are currently being filled. As new and expanded roles are undertaken, a reasonable period of time will be needed to adapt to new roles and structures. The learning curve time will be an additional challenge to maintaining continuity with experienced leadership within the BSM program. In addition, it may be challenging for Applications Development and Enterprise Services function managers to focus on modernization because they will be responsible for both current and modernized systems.

Another major change for the BSM program is the new Modernization Vision and Strategy. As reported earlier, the GAO recommended the IRS Commissioner fully revisit the Modernization Vision and Strategy and develop a new set of long-term goals, strategies, and plans. This change will continue to challenge the IRS' ability to maintain continuity and strategic direction within the modernization effort.

### **Challenge 4: Ensure contractor performance and accountability are effectively managed**

In the past, the fourth challenge focused on the IRS' ability to manage the PRIME contractor's performance. The PRIME contractor, as the previous systems integrator, was responsible for managing contractors and subcontractors within the BSM program. Since the IRS is taking over the primary role of systems integrator, this challenge has expanded to include not only managing and ensuring the performance and accountability of the PRIME contractor but also managing and ensuring the performance and accountability of all modernization contractors. Therefore, we have eliminated the reference to the PRIME contractor for this challenge.

The IRS has long recognized the need to improve management of BSM task orders and has been emphasizing the increased use of performance-based contracting techniques. As part of this



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effort, we have recommended and the IRS has emphasized the use of firm fixed-price task orders. However, barriers exist for using firm fixed-price task orders on BSM projects. For example, two recent CADE releases are not using firm fixed-price task orders. This is due in part to the IRS and the PRIME contractor's inability to reach agreement on the amount of effort necessary to complete various CADE releases.

The IRS continues to make improvements to fully implement performance-based contracting. For example, the IRS has issued guidance on implementing firm fixed-price task orders, developing measurable performance standards, and developing monitoring plans. It has also trained IRS and PRIME contractor personnel on the new firm fixed-price policy. However, the performance-based contracting improvements have produced mixed results and have not been completely effective as the BSM program has struggled to institute revised processes.

We recently conducted audits of two task orders<sup>32</sup> and determined contract monitoring could be strengthened. In one audit, we determined the IRS was not performing quality reviews of all work items or making overall performance assessments of the PRIME contractor. In both audits, we determined the IRS was receiving items of significant value from its contractors; however, it did not always receive the expected or full value for all work items, indicating an inefficient use of Federal Government funds and a need for improved contract monitoring.

### ***The Modernization Effort Should Remain a Material Weakness for the Internal Revenue Service***

The Federal Managers' Financial Integrity Act of 1982<sup>33</sup> requires each Federal Government agency to prepare for Congress and the President an annual report that identifies material weaknesses and the agency's corrective action plans and schedules. Since 1995, the IRS has identified and reported systems modernization as a material weakness. Office of Management and Budget Circular A-123<sup>34</sup> defines a material weakness as any condition an agency head determines to be significant enough to be reported outside the agency. To maintain the high level of attention, focus, and accountability, we believe systems modernization should remain a material weakness for the IRS based on open

***Systems modernization should remain a material weakness for the IRS based on open modernization corrective actions and the significance of the BSM program to external stakeholders.***

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<sup>32</sup> *Strengthened Management Processes Are Needed to Assure the Usefulness of Products and Services Received Through the Infrastructure Shared Services Task Order* (Reference Number 2006-20-063, dated March 2006) and *The Business Systems Modernization Program Is Receiving Value From Contract Work; However, Monitoring Can Be Strengthened* (Reference Number 2006-20-079, dated May 2006).

<sup>33</sup> 31 U.S.C. §§ 1105, 1113, 3512 (2000).

<sup>34</sup> *Management's Responsibility for Internal Control*, dated December 2004.



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modernization corrective actions and the significance of the BSM program to external stakeholders as discussed below.

### **Open modernization corrective actions**

In response to the material weakness, the IRS developed a plan containing five high-level areas with specific corrective actions to address the material weakness.

1. Assess recommendations from special studies and reviews of the BSM program and projects.
2. Implement and institutionalize procedures for validating contractor-developed cost and schedules.
3. Establish effective contract management practices.
4. Complete the human capital strategy.
5. Improve configuration management practices.

As of December 2005, all corrective actions listed in the plan had been closed by the IRS; however, the information in the plan had not been updated to reflect new issues identified since 2003. The IRS currently has open corrective actions from TIGTA audit recommendations in all five high-level areas.<sup>35</sup>

In addition, the IRS creates Highest Priority Initiatives every 6 months to address needed improvements. These Initiatives also relate to the high-level areas in the plan. However, the material weakness plan has not been updated to include open corrective actions and improvement initiatives.

### **Significance of the BSM program to external stakeholders**

The United States Senate Committee on Appropriations, in its FY 2006 letter approving the release of BSM funds, stated “Nevertheless, we continue to believe that senior IRS management and leadership must acknowledge the serious risks associated with BSM and maintain high level attention, focus, and accountability for this important project.”

In addition, the IRS recently reorganized its Modernization and Information Technology Services organization. According to the IRS, its development and delivery capabilities have been realigned to eliminate unnecessary barriers between modernization and nonmodernization organizations.

Continuing to designate systems modernization as a material weakness will ensure the BSM program receives continued attention and focus separate from other IRS systems development

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<sup>35</sup> See Appendix X for a list of open corrective actions related to a material weakness.



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activities due to the sensitivity and outside interests in the program and ensure actions are taken to address newly identified issues.

### **Overall Conclusion**

The BSM program's efforts to modernize IRS technology over the last 8 years with funds exceeding \$2 billion have achieved mixed results. The IRS and its contractors have completed modernized projects that provide significant benefits to taxpayers. In addition, the IRS and its contractors are performing better against cost and schedule estimates since breaking down releases into smaller, more manageable pieces.

The severely reduced modernization funding levels over the last several years have been a concern for the IRS and the IRS Oversight Board. With the possibility of continued reductions to the BSM program in the coming years, the IRS Oversight Board reiterates its position that cutting back modernization funding will force the program to take longer and cost more than necessary. The Board also states that, if the IRS can continue to demonstrate improvement, it would seem desirable and logical to increase BSM program funding.

In the past, we recommended the IRS slow the pace of the BSM program to have a better chance of attaining goals and benefits. Since slowing the pace of the program, the IRS and its contractors demonstrated they can perform better and deliver results. With the possibility of continued reductions to the BSM program in the coming years, the IRS' ability to provide the level of service taxpayers expect will be affected. If the BSM program continues to show improvement, we believe additional funding should be considered. However, we caution against any drastic increases in funding, as they may exceed the IRS' ability to effectively and efficiently manage the BSM program.

Since FY 2002, we have cited four specific challenges the IRS needs to address to deliver a successful modernization effort. The IRS' recent and planned future changes do not eliminate the four challenges. The IRS is at a juncture where it can build upon the successes and lessons learned from the first 8 years of the BSM program; however, we continue to believe the eventual success of the modernization effort will depend on how well the IRS responds to these four specific challenges.

**Management's Response:** The Chief Information Officer responded he was pleased this report recognized the significant actions the IRS has taken to meet the BSM program's many challenges. He also provided some of the benefits BSM projects are accruing to both taxpayers and the IRS, including the issuance of over \$3.3 billion in refunds by the CADE project.



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## Appendix I

### *Detailed Objective, Scope, and Methodology*

The overall objective of this review was to assess the progress of the Business Systems Modernization (BSM) program for Fiscal Year 2006, as required by the Internal Revenue Service (IRS) Restructuring and Reform Act of 1998.<sup>1</sup> To accomplish this objective, we:

- I. Determined the current condition of the BSM program.
  - A. Obtained and reviewed Treasury Inspector General for Tax Administration reports issued from May 2005 through March 2006<sup>2</sup> and four previous BSM annual assessment reports (issued in 2002, 2003, 2004, and 2005<sup>3</sup>).
  - B. Obtained and reviewed recent IRS Oversight Board documents to identify current IRS Oversight Board issues and concerns.
  - C. Obtained and reviewed Government Accountability Office reports relevant to BSM program activities. We also intended to review a key MITRE Corporation<sup>4</sup> report. Specifically, the MITRE Corporation is required to annually assess the BSM program and provide up-to-date recommendations for adjustments and corrections to BSM program activities.<sup>5</sup> The results of this key study were ready in November 2005. However, the IRS had not finalized the report by the time our audit concluded.

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<sup>1</sup> Pub. L. No. 105-206, 112 Stat. 685 (codified as amended in scattered sections of 2 U.S.C., 5 U.S.C. app., 16 U.S.C., 19 U.S.C., 23 U.S.C., 26 U.S.C., 31 U.S.C., 38 U.S.C., and 49 U.S.C.).

<sup>2</sup> See Appendix XI for a detailed list of recent Treasury Inspector General for Tax Administration reports and associated findings.

<sup>3</sup> *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2002-20-189, dated September 2002), *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2003-20-208, dated September 2003), *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2004-20-107, dated June 2004), and *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2005-20-102, dated August 2005).

<sup>4</sup> See Appendix IV for a Glossary of Terms.

<sup>5</sup> In 2003, the IRS and the PRIME contractor initiated four studies to help identify the root causes of the problems hindering the BSM effort and make recommendations to remedy the problems identified. Key IRS executives and stakeholders developed actions to address the studies' recommendations and resolve longstanding BSM issues. Collectively, these actions became known as the BSM Challenges Plan. The need for this annual assessment was identified as part of the BSM Challenges Plan. The PRIME contractor is 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.





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- II. Determined the status and condition of the BSM program as reported by the IRS.
  - A. Reviewed the systems modernization material weakness plan.
  - B. Reviewed interim Modernization Vision and Strategy documents.
  - C. Reviewed BSM Expenditure Plans and evaluated any cost, schedule, and functionality variances.
  - D. Reviewed the IRS' Highest Priority Initiatives<sup>6</sup> status reports for the BSM program.

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<sup>6</sup> See Appendix VI for details on the Highest Priority Initiatives.



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**Appendix II**

*Major Contributors to This Report*

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**Appendix III**

*Report Distribution List*

Commissioner C  
Office of the Commissioner – Attn: Chief of Staff C  
Deputy Commissioner for Operations Support OS  
Associate Chief Information Officer, Applications Development OS:CIO:B  
Associate Chief Information Officer, Enterprise Services OS:CIO:ES  
Deputy Associate Chief Information Officer, Applications Development OS:CIO:AD  
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Deputy Associate Chief Information Officer, Systems Integration OS:CIO:ES:SI  
Director, Stakeholder Management OS:CIO:SM  
Chief Counsel CC  
National Taxpayer Advocate TA  
Director, Office of Legislative Affairs CL:LA  
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Audit Liaisons:  
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    Director, Program Oversight Office OS:CIO:SM:PO



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**Appendix IV**

*Glossary of Terms*

<b>Term</b>	<b>Definition</b>
<b>Business Rule</b>	A business rule is a statement that defines or constrains some aspect of the business.
<b>Business Rules Harvesting</b>	A business rule is a statement that defines or constrains some aspect of the business. Harvesting is a general term used to broadly describe the entire set of activities involved in gathering, formalizing, analyzing, and validating business rules for a particular scope.
<b>Campus</b>	The campuses are the data processing arm of the Internal Revenue Service (IRS). They process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.
<b>Capital Planning Investment and Control</b>	The Capital Planning Investment and Control process manages a central portfolio of information technology investments across the IRS.
<b>Change Request</b>	A change request is the medium for requesting approval to change a baselined product or other controlled item.
<b>Clean opinion</b>	A clean opinion refers to an auditor's opinion reflecting an unqualified acceptance of an agency's financial statements.
<b>Collection Contract Support</b>	The Collection Contract Support project will provide support to enable private collection agencies to supplement the IRS' internal collection staff. The Collection Contract Support project is now part of the Filing and Payment Compliance project.



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<b>Term</b>	<b>Definition</b>
<b>Configuration Management</b>	Configuration management involves establishing proper control over approved project documentation, hardware, and software and assuring changes are authorized, controlled, and tracked.
<b>Customer Account Data Engine</b>	The Customer Account Data Engine is the foundation for managing taxpayer accounts in the IRS modernization plan. It will consist of databases and related applications that will replace the IRS' existing Master File processing systems and will include applications for daily posting, settlement, maintenance, refund processing, and issue detection for taxpayer tax account and return data.
<b>Customer Communications</b>	The Customer Communications project has improved customer service by increasing the capacity of the toll-free telephone system and providing the ability to route taxpayers' calls to the appropriate IRS employees.
<b>Deferral</b>	Deferrals are approved requests for verification of a requirement or set of requirements to be moved to another phase of testing.
<b>Enterprise Integration, Test, and Evaluation</b>	Enterprise Integration, Test, and Evaluation includes processes for integrating multiple components of a solution and conducting various types and levels of testing on the solution.
<b>e-Services</b>	The e-Services project provides a set of web-based business products as incentives to third parties to increase electronic filing, in addition to providing electronic customer account management capabilities to all businesses, individuals, and other customers.



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<b>Term</b>	<b>Definition</b>
<b>Exhibit 300</b>	The Exhibit 300 is a Capital Asset Plan and Business Case required by the Office of Management and Budget.
<b>Extensible Markup Language</b>	Extensible Markup Language is the universal format for structured documents and data on the Internet.
<b>Filing and Payment Compliance</b>	The Filing and Payment Compliance project will provide support for detecting, scoring, and working nonfiler cases (filing compliance) and delinquency cases (payment compliance).
<b>Filing Season</b>	The period from January through mid-April when most individual income tax returns are filed.
<b>Firm Fixed-Price Task Order</b>	A firm fixed-price task order sets a price that is not subject to any adjustment because of cost overruns incurred by the contractor.
<b>Forms 1040EZ, 1040, and 1040A</b>	The Form 1040 series of IRS forms includes individual income tax returns.
<b>Individual Master File</b>	The IRS database that maintains transactions or records of individual tax accounts.
<b>Integrated Financial System (IFS)</b>	The IFS is intended to address administrative financial management weaknesses. The first release of the IFS will include the Accounts Payable, Accounts Receivable, General Ledger, Budget Execution, Cost Management, and Financial Reporting activities. A future IFS release will be needed to fully resolve all administrative financial management weaknesses.
<b>Internet Refund Fact of Filing</b>	The Internet Refund Fact of Filing project improves customer self-service by providing instant refund status information and instructions for resolving refund problems to taxpayers with Internet access.



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<b>Term</b>	<b>Definition</b>
<b>IRS Oversight Board</b>	The IRS Oversight Board is an independent body charged to provide the IRS with long-term guidance and direction.
<b>Joint Audit Management Enterprise System</b>	The Joint Audit Management Enterprise System is a Department of the Treasury database that monitors and tracks the progress of internal control issues and material weaknesses within the Department.
<b>Master File</b>	The IRS database that stores various types of taxpayer account information. This database includes individual, business, and employee plans and exempt organizations data.
<b>Material Weakness</b>	A material weakness is a reportable condition significant enough to be reported outside the agency.
<b>Milestone</b>	Milestones provide for “go/no-go” decision points in a project and are sometimes associated with funding approval to proceed.
<b>MITRE Corporation</b>	The IRS hired the MITRE Corporation as a Federally Funded Research and Development Center to assist with the IRS’ systems modernization effort.
<b>Modernized e-File</b>	The Modernized e-File project develops the modernized, web-based platform for filing approximately 330 IRS forms electronically, beginning with the U.S. Corporation Income Tax Return (Form 1120), U.S. Income Tax Return for an S Corporation (Form 1120S), and Return of Organization Exempt From Income Tax (Form 990). The project serves to streamline filing processes and reduce the costs associated with a paper-based process.



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<b>Term</b>	<b>Definition</b>
<b>Performance-Based Contracting</b>	Use of performance-based contracting means structuring all aspects of an acquisition around the purpose of the work to be performed, with the contract requirements set forth in clear, specific, and objective terms with measurable outcomes.
<b>PRIME Contractor</b>	The PRIME contractor is 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.
<b>PRIME Estimation Guidebook</b>	The PRIME Estimation Guidebook describes the framework for the processes used to produce cost and schedule estimates associated with PRIME contractor task order proposals.
<b>Release</b>	A release is a specific edition of software.
<b>Request for Information Services</b>	A Request for Information Services is a formal memorandum requesting organization support for changes to current or planned programming, corporate hardware, commercial off-the-shelf software applications, system testing, and other activities used in processing tax information.
<b>Stand Up</b>	The stand-up process is defined as the establishment of a new organization with at least the minimum requirements for operation.
<b>Systems Integrator</b>	The entity responsible for coordinating development projects into the modernized IRS systems.
<b>Task Order</b>	A task order is an order for services planned against an established contract.





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<b>Term</b>	<b>Definition</b>
<b>Transition Management</b>	Transition management helps ensure personnel and organizations are prepared to receive, use, operate, and maintain the business processes and technology provided by business change solutions.



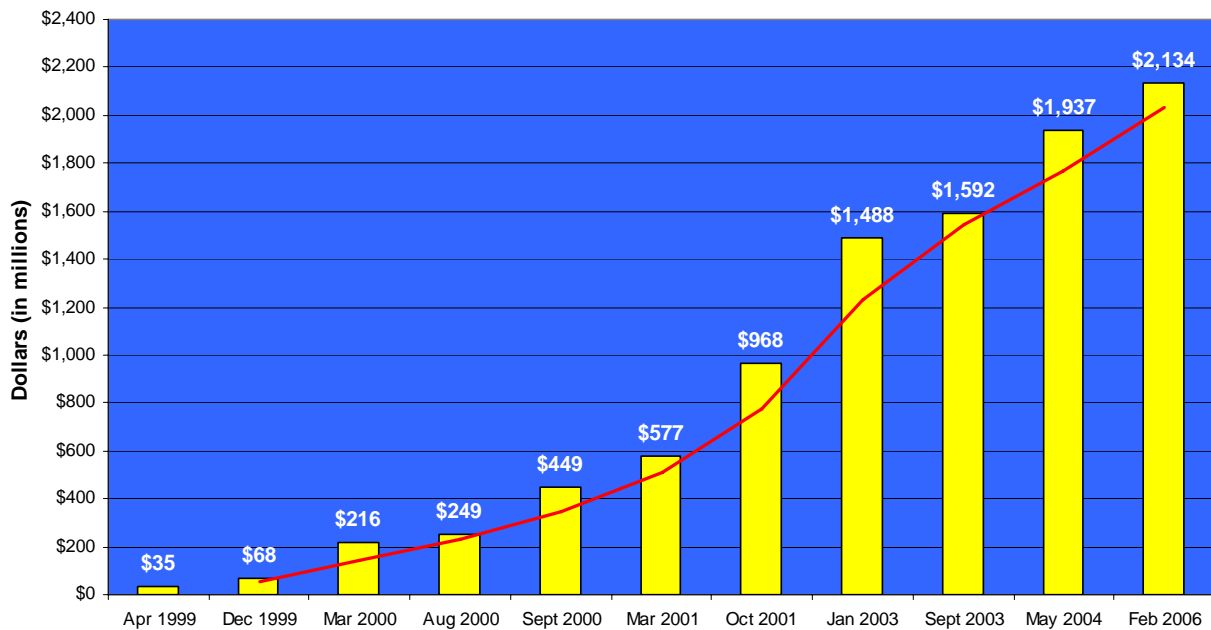
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Appendix V

Business Systems Modernization Funding Timeline

Chart 1 depicts cumulative funding received by the Internal Revenue Service (IRS) Business Systems Modernization (BSM) program for contractor costs.

Chart 1: BSM Program Funding Timeline (dollars are cumulative)



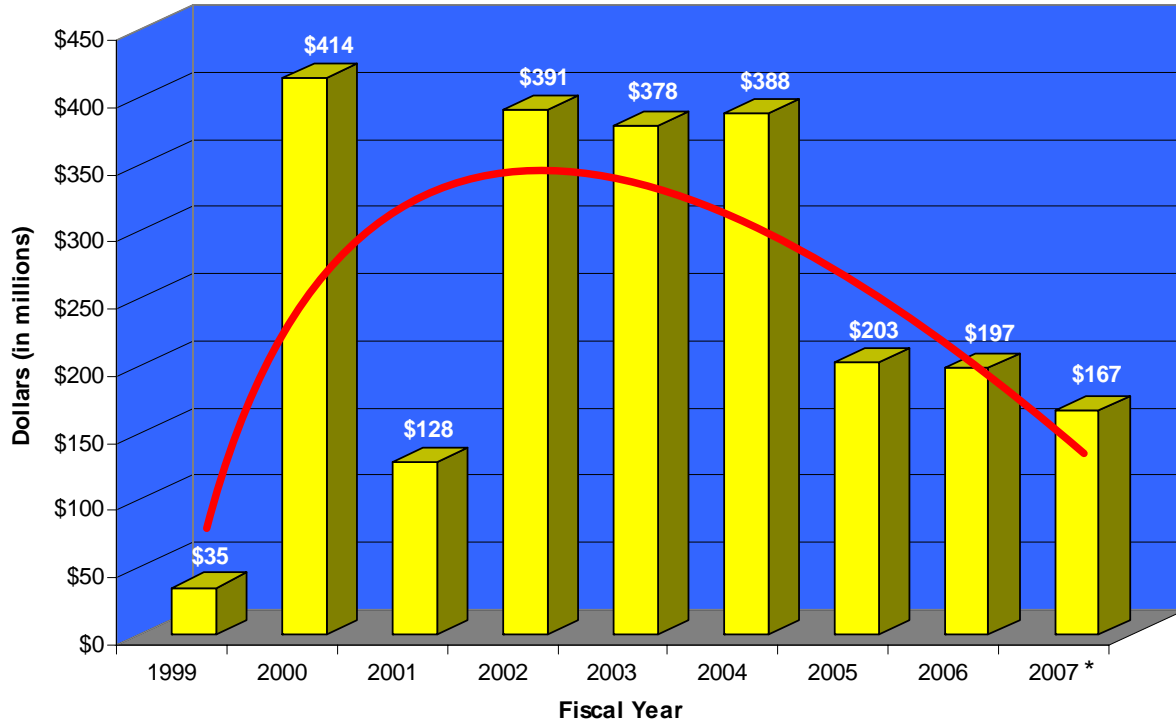
Source: BSM Expenditure Plans.



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Chart 2 depicts a timeline of the funding received annually by the BSM program for program management and development of business and infrastructure projects.

**Chart 2: BSM Program Funding by Fiscal Year**



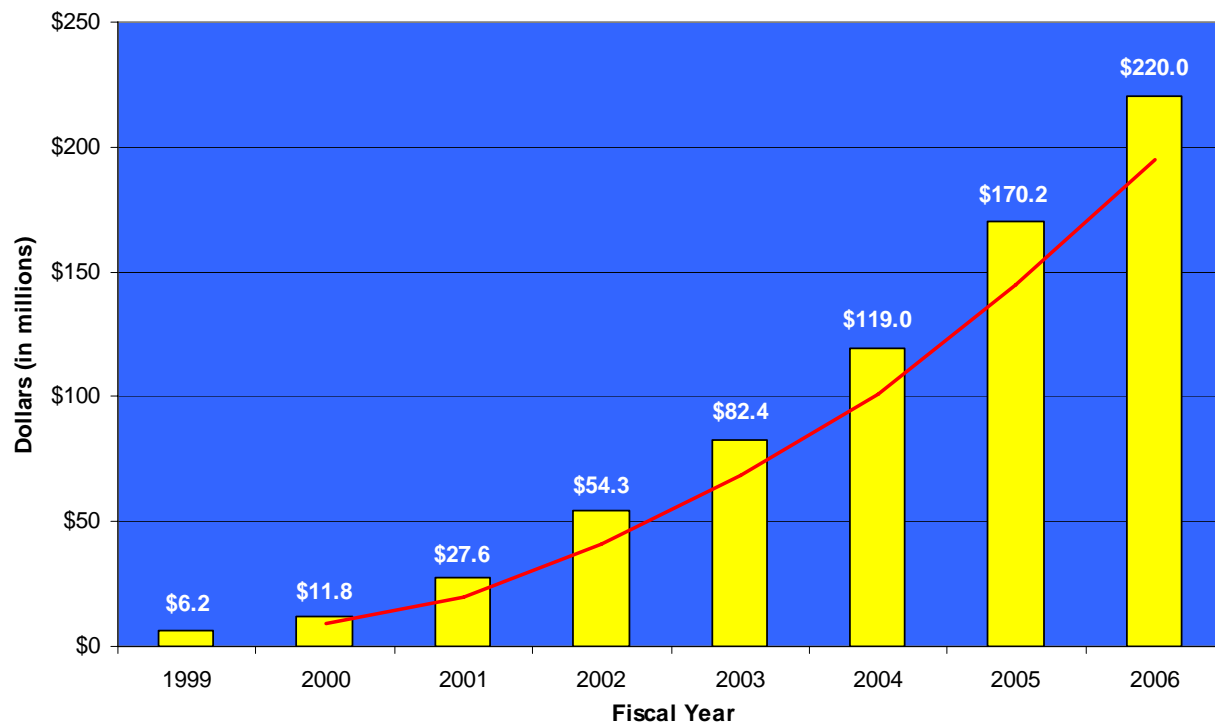
Source: BSM Expenditure Plans. \* NOTE – The 2007 amount has not yet been appropriated; the figure is from the President’s Fiscal Year 2007 Budget Request.



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Chart 3 depicts the cumulative funding received by the BSM program for internal (noncontractor) costs of managing BSM activities. The IRS stated approximately 25 percent of its noncontractor budget since Fiscal Year 2001 has been used to support non-BSM program activities in the IRS.

**Chart 3: Internal (noncontractor) BSM Funding Timeline (dollars are cumulative)**



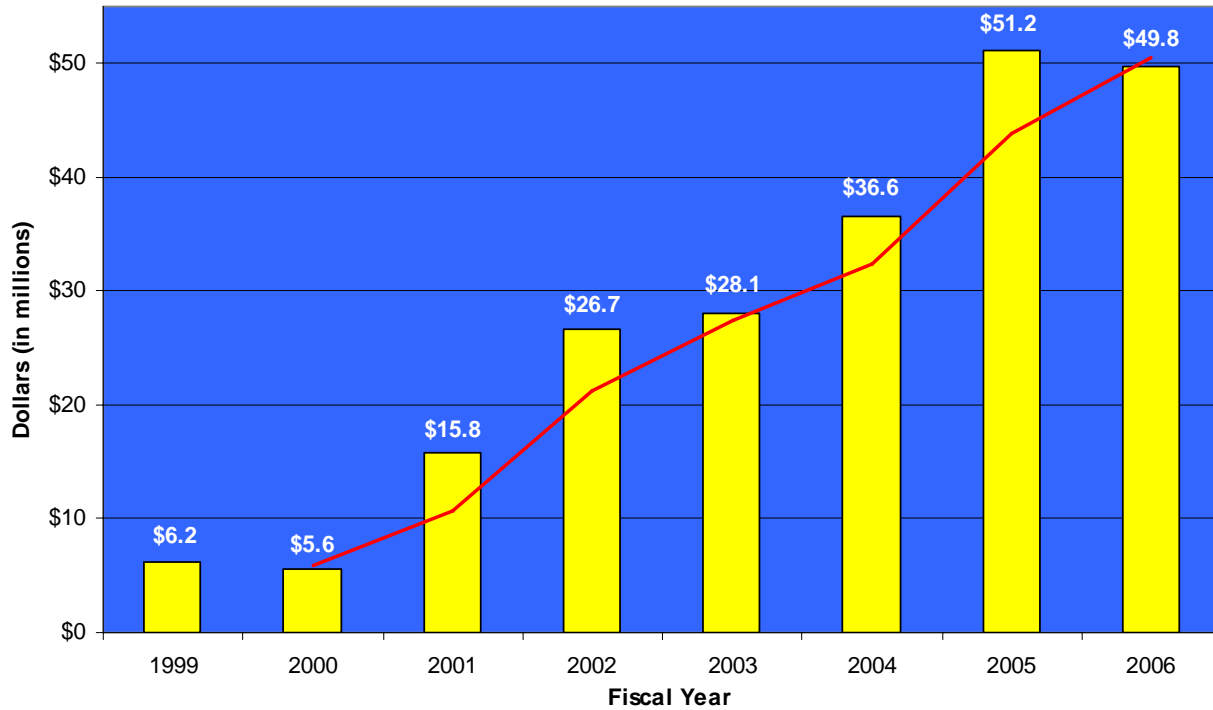
*Source: Actual expenditures for Fiscal Years 1999 through 2005 and the budget estimate for Fiscal Year 2006 provided by the IRS.*



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Chart 4 depicts a timeline of the funding received annually by the BSM program for internal (noncontractor) costs of managing BSM activities.

**Chart 4: Internal (noncontractor) BSM Costs by Fiscal Year**



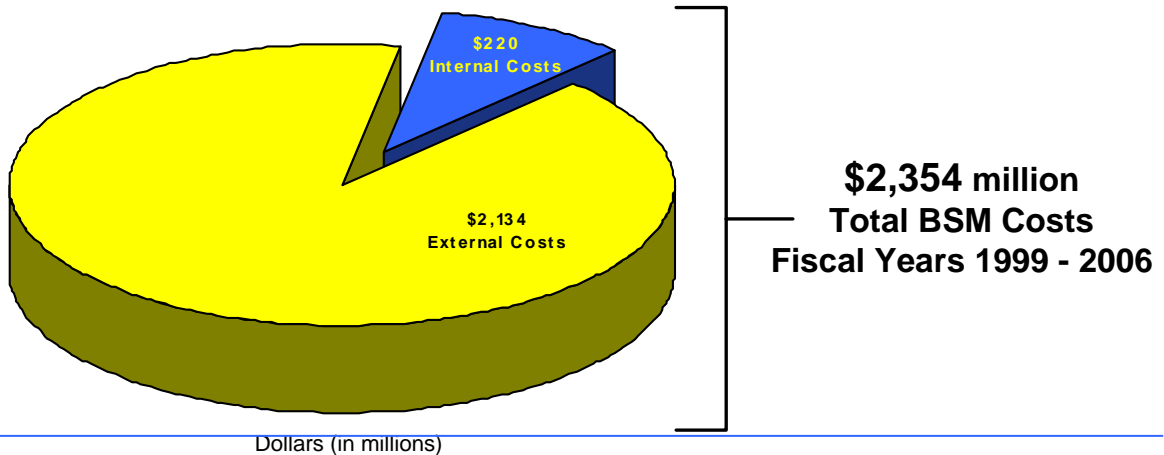
*Source: Actual expenditures for Fiscal Years 1999 through 2005 and the budget estimate for Fiscal Year 2006 provided by the IRS.*



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Chart 5 depicts the funding received by the BSM program for internal (noncontractor) and external (contractor) costs of managing BSM activities.

**Chart 5: Internal and External BSM Program Costs (in millions)**



*Source: Actual internal expenditures for Fiscal Years 1999 through 2005 and the internal budget estimate for Fiscal Year 2006 provided by the IRS. The external costs were derived from BSM Expenditure Plans.*



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**Appendix VI**

*Highest Priority Initiatives*

Recently, the Internal Revenue Service (IRS) began transitioning numerous program management activities away from the PRIME contractor<sup>1</sup> and taking over the primary role as the systems integrator. To accomplish the transition, the IRS created a number of Highest Priority Initiatives to develop, implement, and execute a variety of activities. Table 1 lists the transition Highest Priority Initiatives<sup>2</sup> identified by the IRS and the status as of January 2006.

**Table 1: IRS Highest Priority Initiatives**

Highest Priority Initiatives	Status	Description
HPI-01	Closed	Complete human capital strategy (develop detailed recruiting plan).
HPI-02	Open	Develop the next level of the IRS Business Systems Modernization program management capability.
HPI-03	Closed	Strengthen IRS systems engineering capability through external hiring or leverage contractor capabilities.
HPI-05	Closed	Standardize contracting solicitation language for reporting requirements.
HPI-06	Closed	Transition support for deploying new projects from the PRIME contractor.
HPI-07	Closed	Implement new role for Business Systems Modernization Quality Assurance.
HPI-08	Closed	Transition primary responsibility for integrated schedule management and baseline management from the PRIME contractor.
HPI-09	Closed	Transition primary responsibility for program management of cost and schedule estimation from the PRIME contractor.
HPI-10	Open	Change request process.
HPI-11	Closed	Enhance IRS Extensible Markup Language standards and guidelines.
HPI-12	Closed	Stand up business rules management operation.
HPI-13	Closed	Stand up Requirements Management Office.
HPI-17	Closed	Assume responsibility for enterprise transition strategy development.
HPI-19	Open	Continue to build on current IRS Modernization Vision and Strategy.
HPI-23	Open	Upgrade the Enterprise Life Cycle <sup>3</sup> methodology.

*Source: Identification of Highest Priority Initiatives related to the transition was provided by IRS management. Status and description of each Highest Priority Initiative was obtained from an IRS status report dated January 2006.*

<sup>1</sup> See Appendix IV for a Glossary of Terms.

<sup>2</sup> The HPI numbers that are skipped in Table 1 are unrelated to the transition of program management activities away from the PRIME contractor.

<sup>3</sup> See Appendix VII for an overview of the Enterprise Life Cycle.



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## **Appendix VII**

### *Enterprise Life Cycle Overview*

The Enterprise Life Cycle (ELC) is the Internal Revenue Service's (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 ELC addresses large and small projects developed internally and by contractors.

The ELC 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.<sup>1</sup>
- Financial justification, budgeting, and reporting of project status.

In addition, the ELC 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 layers, paths, phases, and milestones (shown as "MS" in Figure 1) within the ELC Framework.

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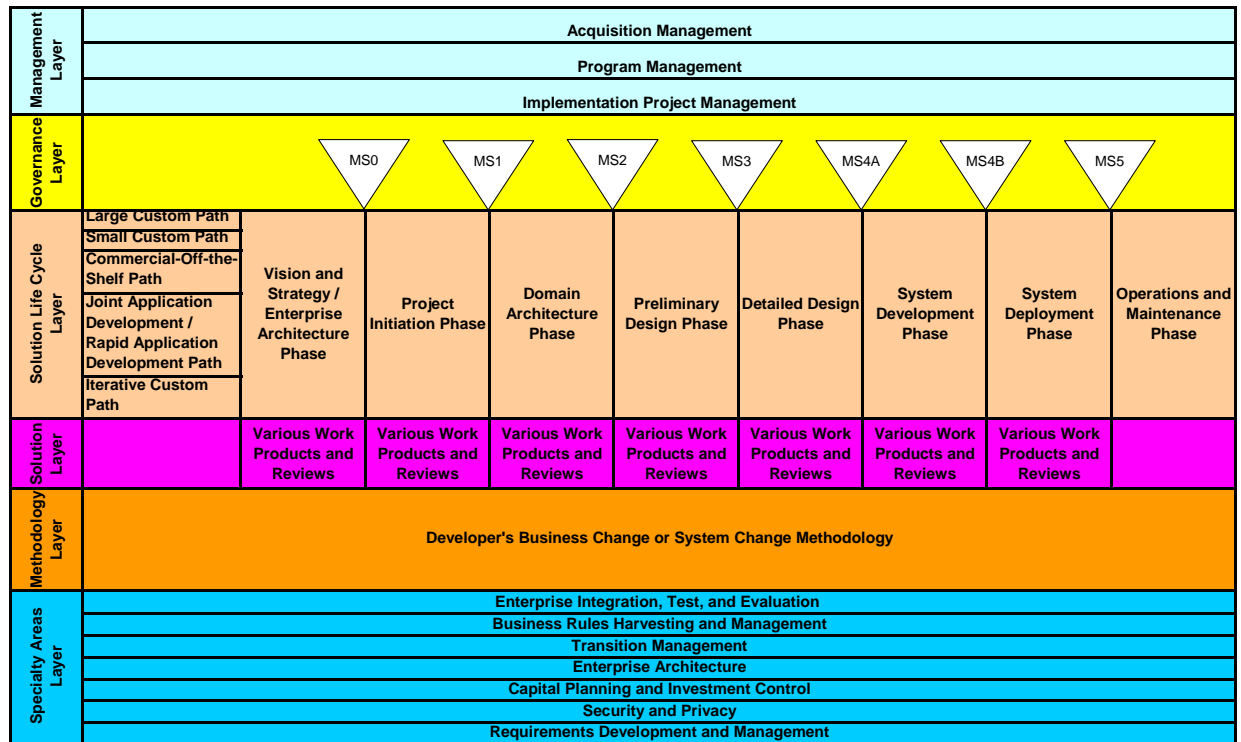
<sup>1</sup> See Appendix IV for a Glossary of Terms.





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**Figure 1: ELC Framework**



Source: Graphical representation of the ELC Framework modified from the ELC Guide.

## ELC Layers

The ELC is a framework for organizing and using IRS directives, processes, procedures, templates, and standards to accomplish business change. It is organized as a set of 6 interacting layers.

- The **Management Layer** specifies how to plan and control business change programs, projects, acquisitions, and solutions throughout the ELC.
- The **Governance Layer** specifies additional controls imposed from outside the project or program.
- The **Solution Life Cycle Layer** specifies what should be done but not how to do it.
- The **Solution Layer** manages the solution as it is produced, including providing standards for consistent solution specification and formal review of solution content. This Layer provides control over work products that may be produced by multiple internal and external developers using differing methodologies.



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- The **Methodology Layer** details how to do the work and specifies a unique set of work products to be produced. Specific methodologies are not part of the ELC Framework.
- The **Specialty Areas Layer** provides additional guidance for areas of particular importance within the IRS. These areas include Enterprise Integration, Test, and Evaluation; Business Rules Harvesting and Management; Transition Management; Enterprise Architecture; Capital Planning and Investment Control; Security and Privacy; Requirements Development and Management.

### ***ELC Paths***

A path specifies a unique “philosophy” or orientation for performing the work. Although the ELC specifies a standard for the work required to produce and operate business change solutions, there are multiple ways to approach and accomplish the required work. Paths are like alternate roads, each of which crosses different terrain, but all of which lead to the same destination. The ELC provides five distinct paths or approaches to developing systems:

- The **Large Custom Path** is for large projects.
- The **Small Custom Path** is for small projects.
- The **Commercial-Off-the-Shelf Path** is a commercial software-based approach.
- The **Joint Application Development/Rapid Application Development Path** is a highly accelerated, prototyping-based approach for very small, standalone solutions or solution components.
- The **Iterative Custom Path** is a hybrid approach that combines elements of the other approaches.

### ***ELC Phases and Milestones***

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 (called a 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 2: ELC Phases and Milestones**

Phase	General Nature of Work	Concluding 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 ELC Guide.*



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**Appendix VIII**

*Business Systems Modernization Projects and Status*

Table 1 presents the modernization projects initiated by the Internal Revenue Service (IRS) and the IRS' status of these projects as of February 2006.

**Table 1: Business Systems Modernization Projects**

Project Name	Year Initiated/ Year Launched	Project Description	Project Status per the IRS
Custodial Accounting Project	Initiated 1999/ Not Launched	Uses a data warehousing approach for storing, analyzing, and reporting taxpayer accounts and collections information.	Canceled February 2005.
Infrastructure Shared Services:  Security and Technology Infrastructure Release <sup>1</sup>	Initiated 1999/ Launched 2002	Provides a customer-focused technical infrastructure for secure telephone and electronic interaction among employees, tax practitioners, and taxpayers.	<ul style="list-style-type: none"> <li>• Provides secure Internet solutions for registered and employee users and related registration processes, security access controls, intrusion detection, and audit trail processing.</li> <li>• Is critical to the success of the Integrated Financial System (IFS), e-Services, Internet Refund/Fact of Filing (IRFoF), Modernized e-file (MeF), and Internet Employee Identification Number projects that rely on secure, robust portal access.</li> <li>• Supports the acquisition, installation, and operation of the development and test environments that support all modernization initiatives. The increased stability of the Development, Integration, and Test Environment and timely acquisition of hardware/software to support project schedules has contributed</li> </ul>

<sup>1</sup> See Appendix IV for a Glossary of Terms.



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<b>Project Name</b>	<b>Year Initiated/ Year Launched</b>	<b>Project Description</b>	<b>Project Status per the IRS</b>
Security and Technology Infrastructure Release (continued)			significantly to improved project performance.
Enterprise Systems Management	Initiated 2000/ Launched 2002	Executes a strategy to provide network and systems management to improve the information technology infrastructure availability and performance.	<ul style="list-style-type: none"> <li>• Provides enterprise systems management and monitoring of the e-Services, IFS, MeF, and IRFoF projects and core infrastructure systems.</li> <li>• Gathers information and provides appropriate response through monitors at the component, business, and enterprise levels.</li> <li>• Provides reliability, high availability, and optimal performance of complex e-business infrastructure and applications, helping to meet and exceed both internal and external service level agreements and reducing total cost of ownership.</li> <li>• Allows for proactive identification and resolution of information technology problems before they affect business performance.</li> </ul>
Customer Communications	Initiated 1999/ Launched 2001	Improves communications infrastructure, including telephone call management, call routing, and customer self-service applications.	<ul style="list-style-type: none"> <li>• 68,000 calls in one 3-minute period during initial week (coincided with start of Advanced Tax Refund of 2001).</li> <li>• 50 percent reduction in wait time for assistants to answer calls.</li> <li>• 50 percent reduction in abandoned calls.</li> <li>• More accurate prerouting of calls.</li> </ul>



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<b>Project Name</b>	<b>Year Initiated/ Year Launched</b>	<b>Project Description</b>	<b>Project Status per the IRS</b>
Customer Relationship Management Exam	Initiated 1999/ Launched 2001	Provides standard tax computation software to Large and Mid-Size Business Division revenue agents.	<ul style="list-style-type: none"> <li>• Deployed to almost 4,000 Large/Medium/Small Business revenue agents.</li> <li>• Taxpayers can independently verify a revenue agent's computations.</li> <li>• Allows for "what-if" computations to better use the examiners' and taxpayers' time.</li> </ul>
Customer Account Data Engine (CADE)	Initiated 2000/ Launched 2004	Provides an online, modernized data infrastructure that will house the authoritative taxpayer account and return data.	<ul style="list-style-type: none"> <li>• CADE Release 1.1 went into production the week of July 12, 2004, issuing refunds over 50 percent faster than the legacy Master File.</li> <li>• The processing of returns in the CADE marks the first time in 40 years that American tax returns have been processed in a system other than the Master File.</li> <li>• CADE Release 1.3.2 was implemented in January 2006. The CADE is now able to process a subset of Forms 1040EZ, 1040, and 1040A with no schedules.</li> <li>• Since implementation, CADE Release 1.3.2 has posted 1,217,961 returns and issued over 975,000 refunds totaling in excess of \$700,000,000. The total refund dollar amount surpasses the total for all of the 2005 Filing Season.</li> <li>• Direct deposit refunds continue to be issued 4 business days after posting to the CADE, and paper refunds continue to be issued 6 business days after posting to the CADE.</li> <li>• For the 2005 Filing Season, over 1,400,000 returns were posted by the CADE. Over 475,000 electronic refunds and over 927,000 paper refunds were issued by the CADE,</li> </ul>



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Project Name	Year Initiated/ Year Launched	Project Description	Project Status per the IRS
CADE (continued)			<p>which combined totaled over \$427,000,000.</p> <ul style="list-style-type: none"> <li>• Since implementation of CADE Release 1.3.2, \$1.2 million in potential Refund Anticipation Loan fees were eliminated.</li> </ul>
e-Services	Initiated 2000/ Launched 2003-2004	Focuses on revolutionizing the way taxpayers transact and communicate with the IRS.	<ul style="list-style-type: none"> <li>• Over 140,000 online registration participants of the Registered User Portal.</li> <li>• Over 140,000 Electronic Return Originator applications for <i>e-file</i>.</li> <li>• Over 273,000 online requests for Preparer Taxpayer Identification Numbers.</li> <li>• Over 89 million bulk Taxpayer Identification Number match requests processed.</li> <li>• Over 3 million interactive Taxpayer Identification Number match requests since launch.</li> <li>• The Taxpayer Identification Number matching tool in the current suite of e-Services applications has uncovered over \$15 million in unpaid taxes on Miscellaneous Income (Form 1099 series).</li> <li>• The Transcript Delivery System has processed over 412,000 requests for transcripts via the Registered User Portal and over 2 million via the Employee User Portal since launch on May 16, 2005.</li> <li>• Over 48,000 Power of Attorney and Declaration of Representative (Form 2848) requests have been received through Disclosure Authorization.</li> </ul>



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Project Name	Year Initiated/ Year Launched	Project Description	Project Status per the IRS
e-Services (continued)			<ul style="list-style-type: none"> <li>• Over 15,000 users are now using the Employee User Portal for handling transcript requests.</li> <li>• Received and processed over 11,000 requests via Electronic Account Resolution.</li> <li>• Total operational savings (print/mail/labor costs) of over \$8.2 million (as of 2/16/2006).</li> </ul>
Human Resources Connect	Initiated 2001/ Launched 2002	Delivers an enterprise solution to allow IRS employees to access and manage their human resources information online.	<ul style="list-style-type: none"> <li>• All IRS employee accounts are now on Human Resources Connect.</li> <li>• Accessible by kiosks for campus employees who do not have desktop access.</li> <li>• Human Resources Connect upgraded the software platform to PeopleSoft 8.3<sup>®</sup>; enhancements include increased employee self-service functionality and additional management reports.</li> <li>• Human Resources Connect Workforce Analytics offers management information to each business unit based on its organizational requirements (e.g., the status of the workforce, vacancies, upcoming retirements, and pending personnel actions are available at each management level).</li> <li>• Cited by the IRS Commissioner as a factor in the redirection of roughly 750 staff years to enforcement.</li> </ul>
IFS	Initiated 2001/ Release 1 launched in 2004	Operates as the new IRS accounting system, replacing the IRS' core financial systems, including expenditure controls, accounts payable, accounts receivable, general ledger,	<ul style="list-style-type: none"> <li>• Achieved initial operating capability on November 10, 2004, and achieved full operating capability on January 31, 2005.</li> <li>• Over 1,700 end users have been trained and are using the IFS daily.</li> </ul>





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<b>Project Name</b>	<b>Year Initiated/ Year Launched</b>	<b>Project Description</b>	<b>Project Status per the IRS</b>
IFS (continued)		budget formulation, and purchasing controls.	<ul style="list-style-type: none"> <li>• 100 percent of the backlogged invoices created during the cutover period have been paid.</li> <li>• Successfully processing all payroll data. All IFS databases retain current payroll information.</li> <li>• Over 171,000 procurement commitments, obligations, and receipt/acceptance documents have been processed.</li> <li>• The monthly Statement of Transactions (Form SF-224) has been submitted to the Department of the Treasury on time since going live in November 2004.</li> <li>• The monthly accounting report has been submitted to the Department of the Treasury on time, within the 3-day close time period, since the IFS went live in November 2004.</li> <li>• The IRS received a “clean audit opinion” from the Government Accountability Office in Fiscal Year 2005 – the IFS’ first year of operation.</li> </ul>
IRFoF	Initiated 2001/ Launched 2002	Improves customer self-service to the taxpayer by providing instant refund status information and instructions for resolving refund problems to taxpayers with Internet access.	<ul style="list-style-type: none"> <li>• Processed 6.4 million refund status/fact of filing inquiries in this fiscal year (as of 2/16/2006).</li> <li>• For the 2005 Filing Season, “Where’s My Refund” reduced telephone refund call volumes by nearly 24 percent.</li> <li>• Thirty-two percent of all refund inquiry contacts are handled by the IRFoF application via the Internet.</li> <li>• Modest reduction of IRS telecommunications costs (about \$250,000).</li> </ul>



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Project Name	Year Initiated/ Year Launched	Project Description	Project Status per the IRS
IRFoF (continued)			<ul style="list-style-type: none"> <li>• Every 1,000 IRFoF contacts eliminate 1,500 – 2,000 refund assistance calls.</li> </ul>
Advance Child Tax Credit	Initiated 2002/ Launched 2003	Modifies the IRFoF application to provide taxpayers with Advance Child Tax Credit refund status on the Internet.	<ul style="list-style-type: none"> <li>• 15.5 million inquiries in 2003; 12.3 million inquiries in 2004.</li> <li>• Peak date 1.1 million inquiries.</li> <li>• Application's life cycle ended December 31, 2004.</li> </ul>
Internet Employee Identification Number (EIN)	Initiated 2002/ 2003	Allows businesses and taxpayers to apply for and receive EINs over the Internet.	<ul style="list-style-type: none"> <li>• 4.7 million Internet EIN applications received as of 01/27/2006.</li> </ul>
Customer Account Management	Initiated 2002/ Not Launched	Interfaces the redesigned business processes to be used on a daily basis by IRS customer service representatives. Due to budget constraints, the project has not been funded since Fiscal Year 2003.	<ul style="list-style-type: none"> <li>• Suspended.</li> </ul>
Filing and Payment Compliance (F&PC) / Collection Contract Support	F&PC Initiated 2001  F&PC Suspended 2002  Collection Contract Support Initiated 2003	Improves the processes and technologies that support the IRS' filing compliance and collection activities and manages the associated organizational change.	<ul style="list-style-type: none"> <li>• Release 1 will provide infrastructure, processes, and organizational structure to implement the law authorizing private debt collection.<sup>2</sup></li> <li>• Release 1.1 was partially released in January 2006.</li> <li>• Release 1.2, scheduled for January 2007, will implement full inventory management capabilities.</li> <li>• Release 1.3 will provide expanded functionality that enables delivery of the full volume of casework.</li> <li>• Release 2 will provide new collection tools to call centers and campuses.</li> </ul>

<sup>2</sup> American Jobs Creation Act of 2004, Pub. L. No. 108-357, 118 Stat. 1418 (2004).



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Project Name	Year Initiated/ Year Launched	Project Description	Project Status per the IRS
	F&PC and Collection Contract Support Combined 2004  Launched 2006		<ul style="list-style-type: none"> <li>• Release 3 will provide new collection tools to field operations.</li> </ul>
MeF	Initiated 2002/ Launched 2004	Develops the modernized, web-based platform for filing IRS forms electronically.	<ul style="list-style-type: none"> <li>• Launched Release 1 February 2004.</li> <li>• Launched Release 2 August 2004.</li> <li>• Launched Release 3.1 January 2005.</li> <li>• Launched Release 3.2 January 2006.</li> <li>• The MeF project now provides <i>e-filing</i> for nearly 100 forms and schedules for large corporations, small businesses, and tax-exempt organizations.</li> <li>• Over 13,000 returns received since launch.</li> <li>• Over 14,000 participating Electronic Return Originators.</li> <li>• Error fallout rates for the MeF project are significantly lower than those for paper processing. For corporate returns alone, the MeF project has a fallout rate of 4 percent as compared to an 18 percent fallout rate for paper processing.</li> <li>• Over \$18 million of real business savings to the American taxpayers and to the IRS for Fiscal Year 2005.               <ul style="list-style-type: none"> <li>○ Savings to the taxpayer in tax preparation fees, postage, and storage.</li> <li>○ Savings to the IRS in operational efficiencies.</li> </ul> </li> </ul>

Source: IRS status report entitled *IRS Modernization Has Delivered Real Business Value* dated February 2006.



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**Appendix IX**

*Modernization Project Cost and Schedule Estimates  
and Revisions*

In 2004, the Internal Revenue Service (IRS) decided to revise existing project cost and schedule estimates and began creating estimates for smaller pieces of work, known as subreleases. Prior to revising the estimates, the Commissioner reported the IRS and its contractors had not met cost or schedule estimates for any of its projects.<sup>1</sup> Since breaking down releases into smaller, more manageable pieces, the IRS and its contractors are doing better at meeting cost and schedule estimates. In 2005, IRS executives also stated they were concerned the existing cost and schedule variance methodology did not accurately depict variances within the Business Systems Modernization (BSM) program and held meetings with the Government Accountability Office and the Treasury Inspector General for Tax Administration to discuss better ways of presenting and characterizing cost and schedule estimates. Based on these meetings, the IRS plans to use a different methodology to calculate and present cost and schedule estimates in future Expenditure Plans.

Table 1 provides a comparison of the original estimates in the IRS BSM Expenditure Plans since May 2004 (when the IRS revised existing cost and schedule estimates) to estimates provided by the IRS dated February 2006 using the existing cost and schedule variance methodology.

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<sup>1</sup> In 2004, the Commissioner reported 1) the Customer Account Data Engine project had experienced a schedule delay of 30 months and a resulting cost increase of approximately \$37 million, 2) the Modernized e-File project had experienced a schedule delay of 4.5 months and a resulting cost increase of approximately \$17 million, 3) the e-Services project had experienced a schedule delay of over 18 months and a resulting cost increase of approximately \$86 million, and 4) the Integrated Financial System project had experienced a schedule delay of over 7 months and a resulting cost increase of approximately \$54 million. See Appendix IV for a Glossary of Terms.



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**Table 1: IRS BSM Project Cost and Schedule Variance Summary**

Release	Project Launch Date	Milestone	Cost Variance	Cost Variance Percentage	Schedule Variance (in months)	Schedule Variance Percentage
<b>Customer Account Data Engine (CADE)</b>						
1.2	12/31/2004	2005 <sup>2</sup> Filing Season <sup>3</sup>	\$10,000	0%	0	0%
1.3.1	09/19/2005	2006 Filing Season	\$0	0%	2 <sup>4</sup>	20%
1.3.2	01/17/2006	2006 <sup>5</sup> Filing Season	\$0	0%	0	0%
2	In Progress	4a	In Progress			
Program Management	Not Applicable	Calendar Year 2005 level of effort <sup>6</sup>	\$1,935,000	24%	Not Applicable	Not Applicable
		Calendar Year 2006 level of effort	In Progress			
<b>Modernized e-File</b>						
3.1	03/24/2005	4	\$0	0%	0	0%
3.2	03/22/2006	4	\$7,550,000	32%	0	0%
4	In Progress	3	In Progress			

<sup>2</sup> CADE Release 1.2 was initially referred to as “CADE Filing Season 2005” in the BSM Expenditure Plan.

<sup>3</sup> The period from January through mid-April when most individual income tax returns are filed.

<sup>4</sup> Schedule variance is calculated using calendar days.

<sup>5</sup> CADE Releases 1.3.1 and 1.3.2 were initially combined and referred to as “CADE Filing Season 2006” in the BSM Expenditure Plan.

<sup>6</sup> Level of effort refers to performing program management and transition management activities.



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Release	Project Launch Date	Milestone	Cost Variance	Cost Variance Percentage	Schedule Variance (in months)	Schedule Variance Percentage
<b>Filing &amp; Payment Compliance (F&amp;PC)<sup>7</sup></b>						
1.1	01/24/2006	3,4,5	\$0	0%	0	0%
1.2	In Progress	4b	In Progress			
<b>e-Services</b>						
2	2/27/2004	Level of effort <sup>8</sup>	\$4,100,000	51%	4	40%
		5	\$0	0%	4	31%
<b>Integrated Financial System</b>						
1	01/31/2005	4	\$14,000,000	18%	0	0%
		5	\$9,035,000	60%	5	100%

Source: Treasury Inspector General for Tax Administration analysis of the BSM Expenditure Plans and data provided by the IRS.

<sup>7</sup> In the May 2004 Expenditure Plan, the IRS requested \$15.5 million for the Collection Contract Support (CCS) project to reach Milestone 4b. These funds were requested prior to passage of a law that would allow work to begin in earnest on the CCS project. With passage of the American Jobs Creation Act of 2004 (Pub. L. No. 108-357, 118 Stat. 1418 (2004)), the IRS reactivated the F&PC project. The first release of the F&PC project, which includes subreleases 1.1, 1.2, and 1.3, incorporates the capabilities originally planned for the CCS project. Once the IRS and its contractors began work on the capabilities for the F&PC project, both the Office of Management and Budget and the IRS determined it had not requested adequate funds to support the portion of the F&PC project dealing with private debt collection (i.e., the CCS project). As a result, the Office of Management and Budget allowed the IRS to redirect \$13.4 million in funds from previous years to the first release of the F&PC project. In addition, the IRS revised its existing cost and schedule estimates in the latest Expenditure Plan to reflect current cost and schedule estimates for F&PC project. Prior to revising its existing cost and schedule estimates, the IRS had requested \$22 million more than originally estimated for the CCS project and had not defined a precise end date for F&PC subrelease 1.3. The figures in Table 1 reflect the current baseline figures for the F&PC project.

<sup>8</sup> e-Services level of effort refers to an upgrade from PeopleSoft® Customer Relationship Management Version 8.1 to PeopleSoft® Customer Relationship Management Version 8.8.



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**Appendix X**

*Open Recommendations Related to the Systems  
Modernization Material Weaknesses*

Table 1 lists Treasury Inspector General for Tax Administration (TIGTA) audit recommendations with current Internal Revenue Service (IRS) open corrective actions related to a modernization material weakness.

**Table 1: TIGTA Recommendations Related to the Systems Modernization  
Material Weakness**

<b><i>The Modernization, Information Technology and Security Services Organization Needs to Take Further Action to Complete Its Human Capital Strategy (Reference Number 2003-20-209, dated September 2003)</i></b>	
2003-20-209 Finding 1, Recommendation 1	To ensure the Modernization Information Technology Services (MITS) organization has sufficient data to determine human capital demands, the Chief Information Officer (CIO) needs to support the Director, Management Services, to work with offices throughout the MITS organization to identify the human capital demand. The demand includes information to adequately plan the number, location, and assignment schedule of human capital assets for existing information systems (from owners in the Information Technology Services organization) and future MITS organization operations (from owners in the Business Systems Modernization [BSM] program).
2003-20-209 Finding 1, Recommendation 2	To ensure the MITS organization has adequate staffing to meet its needs, the CIO should charge the Director, Management Services, with developing detailed hiring and retention plans. These plans should consider staff position “return on investment” as a consideration for determining the type of talent to recruit or retain and should be incorporated into the MITS organization’s human capital strategy with relevant links to its budget. Recruiting: Prioritize the most critical skill needs and position locations with project development, deployment, implementation, and operation schedules. Proceed with hiring specific skills based on decisions for recruiting the subject position with either fully trained or trainable talent or through an internship position. Retention: Identify and compile retention incentives into a plan to maintain the MITS organization talent pool.
<b><i>Risks Are Mounting as the Integrated Financial System Project Team Strives to Meet an Aggressive Implementation Date (Reference Number 2004-20-001, dated October 2003)</i></b>	
2004-20-001 Finding 2, Recommendation 1	To ensure a high-quality system is delivered, the CIO should ensure the disaster recovery environment is completely built out and tested as soon as possible.
<b><i>The Office of Release Management Can Improve Controls for Modernization Program Coordination (Reference Number 2004-20-157, dated September 2004)</i></b>	
2004-20-157 Finding 1, Recommendation 1	To help provide clear direction in the development of the BSM program, the CIO should determine whether and how the BSM Office will fulfill the BSM program integrator role and document the related responsibilities and processes.



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<b><i>To Ensure the Customer Account Data Engine's Success, Prescribed Management Practices Need to Be Followed (Reference Number 2005-20-005, dated November 2004)</i></b>	
2005-20-005 Finding 3, Recommendation 1	The CIO should direct the BSM Office to ensure inefficient manual processes are automated in future Customer Account Data Engine releases.
<b><i>Business Cases for Information Technology Projects Need Improvement (Reference Number 2005-20-074, dated April 2005)</i></b>	
2005-20-074 Finding 4, Recommendation 1	The CIO should require the Project Managers of operational systems to document the results of their e-Government reviews in their projects' business cases. [OFFICE OF AUDIT COMMENT: In the narrative section of the management response, the CIO took the position that e-Government reviews are not required for existing projects that are scheduled for replacement by modernization projects and stated the Office of Management and Budget approved this position. We disagree with management's position that e-Government reviews are not required for projects that have been scheduled for replacement by modernization projects. Since the IRS modernization efforts are scheduled to be implemented over several years, we believe the IRS could have many opportunities to improve the efficiency of existing projects before they are modernized. We found no documentation that the Office of Management and Budget had approved the IRS' position. We will revisit this issue in our audit of the Budget Year 2007 submission. During the followup review, we will also evaluate management's progress in developing e-Government reviews for those projects not scheduled for replacement.]
<b><i>Controls Need to Be Strengthened to Ensure the Modernized e-File Project Meets Its Expectations (Reference Number 2005-20-103, dated September 2005)</i></b>	
2005-20-103 Finding 1, Recommendation 1	To help ensure the efficient and effective development of modernization projects, the CIO should ensure project teams follow the Enterprise Life Cycle <sup>1</sup> provisions for managing requirements by tracing System Requirements Report requirements to the Requirements Traceability Verification Matrix. In addition, the project team should document implementation of all requirements throughout the project life cycle in the System Requirements Report. This control will provide assurance about the development of all requirements.
2005-20-103 Finding 3, Recommendation 2	To help provide an efficient and effective process for implementing mandatory change requests, the CIO should direct the BSM Office to follow the Business Systems Development organization's concepts of establishing deadlines for submitting and approving a Request for Information Services <sup>2</sup> to help ensure timely implementation of mandatory change requests.
<b><i>Security Controls Were Not Adequately Considered in the Development and Integration Phases of Modernization Systems (Reference Number 2005-20-128, dated August 2005)</i></b>	
2005-20-128 Finding 1, Recommendation 2	Revise the Enterprise Life Cycle to require disaster recovery planning in the development phase of the system life cycle. A complete Disaster Recovery Plan should be required that addresses all modernization systems. During development, computer capacity and business resumption requirements should be gathered and considered.

<sup>1</sup> See Appendix VI for an overview of the Enterprise Life Cycle.

<sup>2</sup> See Appendix IV for a Glossary of Terms.





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2005-20-128 Finding 2, Recommendation 1	To address the testing of security controls for modernization systems in the integration phase, the Chief, Mission Assurance and Security Services, should enhance the Security Test and Evaluation process to include the use of additional off-the-shelf security testing tools to identify security vulnerabilities. More efficient tools that are already available to the IRS for generating test reports should also be used.
<b><i>Monitoring of PRIME Contractor Access to Networks and Data Needs to Be Improved (Reference Number 2005-20-185, dated September 2005)</i></b>	
2005-20-185 Finding 1, Recommendation 3	The Chief, Mission Assurance and Security Services, should ensure audit trail reviews of contractor activity are conducted as prescribed by IRS procedures.
<b><i>While Improvements Have Been Made, Business Systems Modernization Cost and Schedule Estimation Processes Have Not Always Been Followed and Major Changes Are Planned (Reference Number 2006-20-002, dated October 2005)</i></b>	
2006-20-002 Finding 1, Recommendation 1	To ensure cost and schedule estimate reviews can be conducted effectively in the absence of the PRIME Estimation Guidebook, the CIO should ensure all modernization systems development contractors provide consistent cost and schedule estimation data.
2006-20-002 Finding 2, Recommendation 1	To ensure adequate documentation on the use of a second cost and schedule estimation method is received for review, the CIO should develop an alternative way to clearly inform modernization contractors when the use of a second estimation method is needed and issue clear guidance requiring the results of using multiple estimation methods to be explained in the documentation submitted with estimate proposals.
<b><i>The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Reference Number 2006-20-003, dated November 2005)</i></b>	
2006-20-003 Finding 1, Recommendation 2	To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the Associate CIO, Enterprise Services, should create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing the standardized configuration management toolset.
2006-20-003 Finding 1, Recommendation 4	To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the Associate CIO, BSM, should assume the responsibility for correcting the identified study weaknesses concerning project metrics by a) identifying a group of standardized productivity and quality metrics needed for all projects across the entire life cycle, defining these metrics, ensuring the metrics are collected or calculated, and using the metrics to consistently manage projects and b) considering the impact of project-level metrics on the effort by the Deputy Associate CIO, Business Integration, to develop program-level metrics. Identification of a standard set of project-level metrics could collectively become program-level metrics or provide needed details for analysis in trends at the program level.
<b><i>Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed (Reference Number 2006-20-009, dated December 2005)</i></b>	
2006-20-009 Finding 2, Recommendation 1	When independent validations of project work plans are to be performed, the CIO should ensure independent validations of project work plans are performed and recommendations are addressed prior to beginning project execution. This practice would help ensure planned activities and target dates are reasonable and independent validation recommendations are adequately resolved and documented.



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***The Alternatives for Designing and Developing the Filing and Payment Compliance Project Should Be Revalidated (Reference Number 2006-20-026, dated December 2005)***

2006-20-026 Finding 1, Recommendation 1	The CIO should revalidate the Alternatives Analysis, develop and maintain adequate documentation to support the IRS' decision to purchase commercially available software, and revise the Exhibit 300, <sup>3</sup> if warranted. As part of the revalidation process, the IRS should perform a quality review of all supporting documentation for the Exhibit 300 to ensure the reliability of the documentation.
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*Source: The Joint Audit Management Enterprise System (as of February 2006).*

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<sup>3</sup> See Appendix IV for a Glossary of Terms.



*Annual Assessment of the Business  
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**Appendix XI**

*Recent Treasury Inspector General for Tax  
Administration Reports and Associated Findings on  
Business Systems Modernization*

Table 1 lists Treasury Inspector General for Tax Administration reports issued from May 2005 through March 2006 and associated findings related to the Business Systems Modernization program.

**Table 1: Recent Treasury Inspector General for Tax Administration Findings**

Report Title	Findings			
<i>Individual Income Tax Return Information Was Accurately and Timely Posted to the Customer Account Data Engine</i> (Reference Number 2005-40-109, dated July 2005)	The current scope of the Customer Account Data Engine <sup>1</sup> is limited, and expanding it will be challenging.	More accounts could be retained on the Customer Account Data Engine.		
<i>Controls Need to Be Strengthened to Ensure the Modernized e-File Project Meets Its Expectations</i> (Reference Number 2005-20-103, dated September 2005)	The project team did not follow control processes to ensure all Modernized e-File project requirements are developed.	Processes to manage change requests do not provide reliable information to monitor project development.	The Modernized e-File project team needs to work with its customers to receive change requests timely.	
<i>While Improvements Have Been Made, Business Systems Modernization Cost and Schedule Estimation Processes Have Not Always Been Followed and Major Changes Are Planned</i> (Reference Number 2006-20-002, dated October 2005)	Corrective actions for two previous audit recommendations were not completed by the original due dates and will be affected by program changes.	Cost and schedule estimation processes have not always been followed.	Cost and schedule estimates show signs of improvement; however, development and deployment variances have been substantial.	

<sup>1</sup> See Appendix IV for a Glossary of Terms.



*Annual Assessment of the Business  
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Report Title	Findings			
<i>The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies</i> (Reference Number 2006-20-003, dated November 2005)	Additional work is required to completely address six closed Business Systems Modernization Challenges Plan action items.			
<i>Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed</i> (Reference Number 2006-20-009, dated December 2005)	The business rules office needs to incorporate its current approach into the Modernization Vision and Strategy.	Recommendations from the independent technical review were not timely considered to ensure effective Project Management Plan development.	The Submission and Settlement Harvesting Project Management Plan has not been completed and approved.	The business rules engine repository may not be procured timely and needs to meet requirements of all customers.
<i>Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed</i> (Reference Number 2006-20-009, dated December 2005)	Additional actions are needed to ensure the successful integration of business rules engine technology.			
<i>The Alternatives for Designing and Developing the Filing and Payment Compliance Project Should Be Revalidated</i> (Reference Number 2006-20-026, dated December 2005)	The Internal Revenue Service could not provide adequate documentation to support its decision to purchase commercially available software.			
<i>Strengthened Management Processes Are Needed to Assure the Usefulness of Products and Services Received Through the Infrastructure Shared Services Task Order</i> (Reference Number 2006-20-063, dated March 2006)	The Internal Revenue Service did not receive the anticipated value for all work items it received.			

Source: Treasury Inspector General for Tax Administration reports issued from July 2005 through March 2006.



*Annual Assessment of the Business  
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**Appendix XII**

*Management's Response to the Draft Report*



CHIEF INFORMATION OFFICER

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

RECEIVED  
JUN 19 2006

June 19, 2006

**MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT**

**FROM:** W. Todd Grams *WTG*  
Chief Information Officer

**SUBJECT:** Draft Audit Report – Annual Assessment of the Business  
Systems Modernization Program (Audit #200620008)  
(i-trak 2006-12581)

Thank you for the opportunity to review the subject draft audit report. We also appreciate the additional meetings we had with the audit team to discuss the earlier versions of the report's observations. As a result of these meetings, the audit team incorporated our suggested management actions into the draft report.

We are pleased your report recognizes that the Business Systems Modernization (BSM) office has taken significant actions to meet the program's many challenges. Specifically, the report emphasizes that BSM has taken on the role of systems integrator, developed a new Modernization Vision and Strategy, and adopted a new approach to accomplish our modernization efforts – deciding to leverage current business systems rather than entirely replacing them.

We appreciate you acknowledging: 1) the Customer Account Data Engine (CADE) project has generated over \$1 billion in tax refunds and provided refunds to taxpayers fifty percent faster than the old system; 2) the Modernized e-File project has reported savings to businesses of over \$18 million due to reductions in tax preparation fees, postage, and storage costs as well as efficiencies gained within the IRS; and 3) the many benefits that are accruing to both taxpayers and the IRS from the Customer Communications, Internet Refund Fact of Filing, e-Services and Integrated Financial System projects. We note that the amount of tax refunds generated by CADE is now over \$3.3 billion.

Finally, your report highlights the major concern relative to the severely reduced modernization funding levels occurring over the last several years. We agree with your assessment that the possibility of continued reductions to the BSM program in the coming years will impact our ability to provide the level of service taxpayers expect.

We appreciate 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 have a member of your staff contact Judy Mills, Director of Program Oversight, at (202) 283-4915.