TREASURY INSPECTOR GENERAL FOR TAX ADMINISTRATION

The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies

November 2005

Reference Number: 2006-20-003

DEPARTMENT OF THE TREASURY

WASHINGTON, D.C. 20220

November 21, 2005

MEMORANDUM FOR CHIEF INFORMATION OFFICER

Michael R. Phillips

FROM: Michael R. Phillips
                      Deputy Inspector General for Audit

SUBJECT: Final Audit Report – The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

This report presents the results of our review to determine whether the Internal Revenue Service (IRS) Business Systems Modernization (BSM) Challenges Plan actions have been or will be effective in improving and strengthening the overall performance of the modernization program by addressing study weaknesses. The IRS Chief Information Officer (CIO) requested the Treasury Inspector General for Tax Administration perform a review of the effectiveness of the BSM Challenges Plan. This audit is in response to the CIO's request.

The IRS is currently engaged in an effort, known as BSM, to modernize its systems and associated processes. When the current IRS Commissioner arrived at the IRS in May 2003, the Commissioner and the PRIME contractor[1] determined they needed fresh assessments from outside experts on the health of the BSM program. As a result, in the summer of 2003, the IRS launched a comprehensive review comprising three studies of the BSM program. In addition, the PRIME contractor launched an internal study. To address the results of these studies, the IRS and the PRIME contractor developed a 48-point action plan,[2] known as the BSM Challenges Plan, designed to address the BSM-related study recommendations.

---

[1] 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.

[2] The BSM Challenges Plan originally consisted of 46 action items. The IRS added two action items based on the results of an IRS Oversight Board report: *Independent Analysis of IRS Business Systems Modernization*, dated December 2003. The IRS later merged 10 action items, resulting in 38 action items being actively worked by the IRS.

Synopsis

The BSM Challenges Plan was intended to address longstanding BSM weaknesses identified in internal and external studies. Our review of 25 action items found that, for 19 (76 percent) of the action items, the IRS is achieving this objective by effectively taking actions that should help address the identified weaknesses. For example, project managers from both the IRS and the PRIME contractor believe communications have improved following the reorganization of the modernization governance structure. In addition, the IRS has hired a number of executives from outside the IRS to increase the management capability and skills available to the BSM program.

For the remaining six items, we identified additional actions we believe are needed to effectively address the identified weaknesses. For example, the IRS has made improvements in the areas of configuration and change management and has initiated or planned an ambitious set of activities; however, it was difficult to determine all the activities that needed to be accomplished or a time period for the activities because an overall action plan had not been prepared.

In addition, the Associate CIO (ACIO), BSM, informed us the relationship between the IRS and the PRIME contractor was changing. Under the new operating model, the PRIME contractor will be a solutions provider and the BSM Office will become the program integrator. BSM Challenges Plan Action Item 30-07 (Identify key productivity and quality metrics[3] across the life cycle based on industry standards), Action Item 180-09 (Implement enhanced subcontractor management model), and other action items have been affected by the change in the IRS and PRIME contractor relationship.

Recommendations

To ensure study weaknesses and previous recommendations concerning change/configuration management[4] are addressed, we recommended the ACIO, Enterprise Services, 1) create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing one process for managing change; 2) create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing the standardized configuration management toolset; and 3) ensure corrective actions are completed

---

[3] Project metrics, such as total number of requirements added, changed, or deleted, help measure the progress of a project during development.

[4] Configuration management is a discipline that applies technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a piece of hardware or software, control changes to those characteristics and their related documentation, record and report change processing and implementation status, and verify compliance with specified requirements.

by assigning executive-level responsibility for addressing configuration management deficiencies.[5]

To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, we recommended the ACIO, BSM, 1) assume the responsibility for correcting the identified study weaknesses concerning project metrics, 2) consider enforcement of the "inspection clause"[6] on all new contracts and establish staffing to accomplish inspections, and 3) review additional action items closed due to the change in the IRS/PRIME contractor operating model to determine if any aspects of the closed action items should be addressed as part of the new BSM operating model.

Response

The CIO agreed with our recommendations. The CIO responded the BSM Challenges Plan has evolved to support the BSM program's goal of continuous improvement. BSM officials have identified highest priority initiatives, taking into consideration actions from the BSM Challenges Plan as well as internal and external assessments of the needs of the BSM program.

To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the IRS is creating a plan to implement one process for managing change requests and Requests for Information Services. The IRS is also hiring a contractor to assist in identifying a solution that integrates configuration management components on a Modernization and Information Technology Services organization-wide scale and has assigned responsibility for addressing configuration management deficiencies. To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the IRS has initiated a phased approach to identifying, collecting, and using productivity and quality metrics. In addition, the IRS has completed actions to ensure contractors are held accountable for work items and commitments (e.g., performing code and documentation inspections) and the BSM Quality Assurance organization coordinates with subcontractor Quality Assurance organizations to ensure quality products are delivered. Lastly, the IRS has implemented processes to define project roles and decision authorities and to conduct life cycle reviews, and is currently implementing a formal risk elevation process. Management's complete response to the draft report is included as Appendix VII.

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

---

[5] Configuration management deficiencies refer to issues identified during internal configuration management audits.
[6] Inspection clauses can be incorporated into contracts to allow Federal Government employees to inspect the goods and services completed by subcontractors.

Table of Contents

Background

The Internal Revenue Service (IRS) is currently engaged in an effort, known as Business Systems Modernization (BSM), to modernize its systems and associated processes. To facilitate the success of its modernization efforts, the IRS hired the Computer Sciences Corporation as the PRIME contractor and integrator for the BSM program and created the BSM Office (BSMO) to guide and oversee the work of the PRIME contractor.[1]

While the IRS and PRIME contractor have deployed projects that provide value to taxpayers and have built the infrastructure needed to support these projects, the IRS and its contractors have drawn increased criticism due to continuing schedule delays and cost increases. When the current IRS Commissioner arrived at the IRS in May 2003, the Commissioner and the PRIME contractor determined they needed fresh assessments from outside experts on the health of the BSM program. As a result, in the summer of 2003, the IRS launched a comprehensive review comprising three studies of the BSM program. In addition, the PRIME contractor launched an internal study.

The BSM program released the results of these studies early in Fiscal Year 2004. The studies were commissioned to identify specific areas for improvement in the BSM program. To address the results of these studies, the IRS and the PRIME contractor developed a 48-point action plan,[2] known as the BSM Challenges Plan, designed to address the BSM-related study recommendations. The IRS later merged 10 action items, resulting in 38 action items being actively worked by the IRS. On May 1, 2004, the BSM Challenges Plan Close-Out Report was released detailing the actions taken to address BSM challenges.

In the summer of 2004, the IRS Chief Information Officer (CIO) requested the Treasury Inspector General for Tax Administration (TIGTA) perform a review of the effectiveness of the BSM Challenges Plan. In December 2004, we issued a report on the results of that audit.[3] We determined key IRS executives and stakeholders quickly acknowledged BSM shortcomings and developed action items to address the studies' recommendations and resolve longstanding BSM issues. However, we determined the studies' recommendations were not fully addressed by the BSM Challenges Plan; no measurement plan was created to determine if the actions taken

---

[1] The PRIME contractor heads an alliance of leading technology companies brought together to assist with the IRS' efforts to modernize its computer systems and related information technology.

[2] The BSM Challenges Plan originally consisted of 46 action items. The IRS added two action items based on the results of an IRS Oversight Board report: *Independent Analysis of IRS Business Systems Modernization,* dated December 2003.

[3] *The Internal Revenue Service Should Ensure the Root Causes of Business Systems Modernization Performance Problems Are Successfully Addressed* (Reference Number 2005-20-014, dated December 2004).

resulted, or will result, in actual improvements in the BSM program; and many BSM Challenges Plan action items were closed before all significant activities were completed.

In August 2004, the Associate CIO (ACIO), Modernization Management, identified the key barriers to success in the BSM program and created a plan to address these barriers. This plan included detailed, high-priority initiatives to deal with the root causes that created the barriers.

Since many of the BSM Challenges Plan action items were reopened following our initial review, this audit was initiated to review the effectiveness of the BSM Challenges Plan. We analyzed the audit work that had been completed during other reviews of the BSM program that related to the action items, performed indepth work on the effectiveness of the six additional action items shown in Figure 1, and evaluated the status of action items as communicated by the IRS.

Figure 1: BSM Challenges Plan Action Items Reviewed in Depth As Part of This Audit

Action Item Number	Action Item Description
30-04	Clarify roles of committees as advisory.
30-07	Identify key productivity and quality metrics[4] across the life cycle based on industry standards.
90-07	Refine change request[5] process.
90-17	Establish a BSM Acquisition Executive.
180-05	Strengthen IRS program and project manager cadre.
180-09	Implement enhanced subcontractor management model.

Source: BSM Challenges Plan and this report.

---

[4] Project metrics, such as total number of requirements added, changed, or deleted, help measure the progress of a project during development.
[5] A change request is the medium for requesting approval to change a baselined product or other controlled item.

This audit was conducted while changes were being made at the BSM program level, including a significant change in the relationship between the IRS and the PRIME contractor. Any changes that have occurred since we concluded our analyses in April 2005 are not reflected in this report.

This review was performed at the BSMO facilities in New Carrollton, Maryland, during the period October 2004 through April 2005. The audit was conducted in accordance with *Government Auditing 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.

Results of Review

The Business Systems Modernization Office and the PRIME Contractor Have Completed Actions That Have Led to Improvements in the Business Systems Modernization Program; However, More Work Lies Ahead

The BSM Challenges Plan was intended to address longstanding BSM weaknesses identified in internal and external studies. Our review of 25 action items found that, for 19 (76 percent) of the action items, the IRS is achieving this objective by effectively taking actions that should help address the identified weaknesses. For the remaining six items, we identified additional actions we believe are needed to effectively address the identified weaknesses. These items are discussed in detail later in the report.

In addition, we did not draw any conclusions about the remaining 13 of 38 total BSM Challenges Plan action items because the items met 1 or more of the following 3 criteria:

- The IRS reports the action items are open or involve ongoing activities.

- A Fiscal Year 2005 TIGTA audit is currently being conducted to review the action items.

- The TIGTA has not scheduled an audit of the action items and does not have enough information or background knowledge to be able to express an opinion.
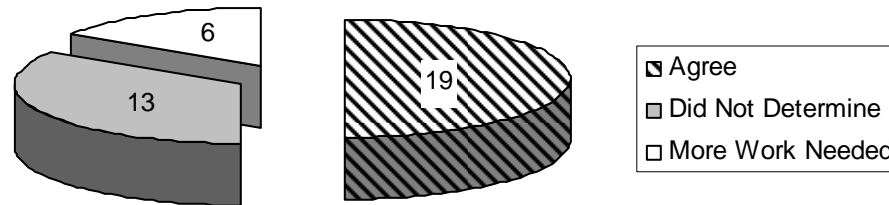
Figure 2 summarizes our opinions on the closure status of BSM Challenges Plan action items.[6]

---

[6] See Appendix IV for a detailed explanation supporting our conclusions.

**Figure 2: TIGTA Opinion on the Closure Status of
BSM Challenges Plan Action Items**

*Source: TIGTA analysis of the current status of the BSM Challenges
Plan dated June 6, 2005.*

The IRS has successfully closed 19 BSM Challenges Plan action items

We determined the IRS has effectively closed 19 BSM Challenges Plan action items. Some examples of positive outcomes that resulted from closing these action items follow.

- **Action Item 30-04 (Clarify roles of committees as advisory)** – The PRIME contractor's internal study found the decision-making process was ambiguous, with multiple steering committees, review meetings, and individuals either recommending, agreeing, providing input, or making decisions. Based on the responses to a TIGTA questionnaire (see Figure 3), project managers from both the IRS and the PRIME contractor believe communications have improved following the reorganization of the modernization governance structure.

Figure 3: BSM Project Managers' Responses to TIGTA Questionnaire Concerning the Extent to Which Communications Have Improved

5.88%

32.35%

Better
Same
Worse

61.76%
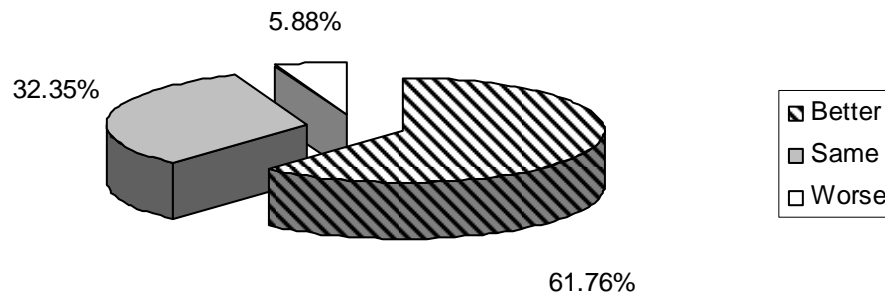
Source: Responses to TIGTA questionnaires.

- **Action Item 180-05 (Strengthen IRS program and project manager cadre)** – The IRS Oversight Board recommended the management cadre be significantly strengthened by increasing the experience and capabilities of the BSM team. This would require a meaningful number of outside hires from organizations that have experience with large, complex programs. The IRS has hired a number of executives from outside the IRS to increase the management capability and skills available to the BSM program.

- **Action Item 90-17 (Establish a BSM Acquisition Executive)** – One of the external studies recommended the IRS increase focus on performance-based acquisitions. The executive the IRS hired for modernization to complete this Action Item has Department of Defense level 3 equivalent certification in contracting and program management and has created a plan aimed at addressing performance-based acquisitions.

In addition, other actions items, such as 180-15 (Reduce the number of projects being conducted at the same time), have been accomplished. We believe focusing on a smaller set of projects will lead to improvements in the BSM program and have recommended this action in the past.

Additional Work Is Required to Completely Address Six Closed Business Systems Modernization Challenges Plan Action Items

In a program of the size and complexity of the BSM program, it is not unreasonable to expect that changes will take time to implement and additional actions will be needed to correct weaknesses. Of the 25 BSM Challenges Plan action items we reviewed, there are 6 we believe require more work to completely address internal and external study weaknesses. The remainder of this report will discuss these six action items.

Action Item 90-07 (Refine change request process)

The IRS internal study recommended improving immature management processes. One of the processes singled out in the BSM Challenges Plan was the change request process. BSM Challenges Plan Action Item 90-07 was initiated for this purpose. In addition, some of the activities taken as a result of this Action Item respond to our previous recommendations.

The IRS has made improvements in the areas of configuration and change management and has initiated or planned an ambitious set of activities; however, it was difficult to determine all the activities that needed to be accomplished or a time period for the activities because an overall action plan had not been prepared. For example:

- Improving the change process – The IRS and the PRIME contractor had developed ambitious proposals for unifying and controlling change requests and Requests for Information Services;[7] however, an overall plan including defined tasks, responsible individuals, and estimated completion dates had not been completed.

- Implementing a standardized configuration management[8] toolset – In a prior audit, we determined some Information Technology Services organizations used different configuration management software that did not comply with the Enterprise Architecture.[9] We recommended the CIO develop a transition plan to implement

---

[7] The Request for Information Services process provides a common framework to document, control, monitor, and track requests to the Modernization and Information Technology Services (MITS) organization for changes to IRS computer systems and for support.

[8] Configuration management is a discipline that applies technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a piece of hardware or software, control changes to those characteristics and their related documentation, record and report change processing and implementation status, and verify compliance with specified requirements.

[9] The Enterprise Architecture defines the IRS' future business objectives, processes, requirements, products and services to be offered, and basic computer hardware and software that will be used to provide these services.

standardized Enterprise Architecture-compliant configuration management software.[10] We determined the IRS created a plan; however, it would be several years before it was fully implemented. While there are many activities ahead, the plan did not include estimated dates when activities are planned to be accomplished or assign accountability for ensuring the activities are completed.

- Revising the Configuration Management Directive[11] – In a previous audit, we recommended the CIO modify the Modernization and Information Technology Services (MITS) Configuration Management Directive and procedures to 1) assign responsibility for ensuring MITS organization configuration management processes are implemented throughout the Information Technology Services organization and coordinated with the BSMO and configuration management deficiencies[12] are appropriately addressed and 2) establish governance policies, similar to those used by the BSMO, for defining the authority levels and threshold criteria to approve and control changes to the production environment in the Information Technology Services organization.[13]

  While the majority of the corrective actions related to our prior recommendations have been completed successfully,[14] we determined the revised Configuration Management Directive did not establish executive-level responsibility for addressing configuration management deficiencies. If executive-level responsibility were assigned for addressing configuration management deficiencies, higher visibility would be given to ensuring known configuration management problems are corrected.

Without an overall plan that includes defined tasks, responsible individuals, and estimated completion dates, as required by sound management practices, there is a high risk significant tasks may not be completed. An overall action plan had not been created because the IRS was

---

[10] *Additional Actions Are Needed to Establish and Maintain Controls Over Computer Hardware and Software Changes* (Reference Number 2004-20-026, dated December 2003).

[11] The Configuration Management Directive establishes authority and responsibility for the performance of configuration management activities throughout the MITS organization.

[12] Configuration management deficiencies refer to issues identified during internal configuration management audits.

[13] *Additional Actions Are Needed to Establish and Maintain Controls Over Computer Hardware and Software Changes* (Reference Number 2004-20-026, dated December 2003).

[14] The IRS significantly modified the Configuration Management Directive in September 2004 to include mandates to raise the level of responsibility for configuration management, improve the governance structure, and institutionalize configuration management processes throughout the MITS organization. The Configuration Management Directive requires MITS organization-wide implementation, as well as coordination with the BSMO, of all Information Technology Services organization-initiated changes. In line with the Directive, the charters for the Configuration Control Boards for the MITS organization, the Information Technology Services organization, and the BSMO were updated in December 2004, and the Authority Level and Threshold Criteria Directive was updated to conform to the current governance structure. In addition, the ACIO, Enterprise Services, recently assumed responsibility for several MITS organization processes, including MITS organization-wide configuration management process improvements.

hiring an executive to oversee highly complex information system initiatives such as configuration management.

Management Actions: During our audit, the IRS hired the ACIO, Enterprise Services, to oversee the configuration management process. During discussion of our concerns with the ACIO, Enterprise Services, we were informed a unified work request process group was created to develop a plan to unify change request and Request for Information Services processing. The ACIO, Enterprise Services, provided a charter for the group and a draft project management plan to guide activities. In addition, the ACIO, Enterprise Services, provided a draft set of objectives for the unified work request process initiative:

- Unify and improve effectiveness of fragmented work request processes.
- Integrate with investment prioritization and control processes.
- Integrate with change and configuration management processes.
- Incorporate flexibility and discipline for a wide range of work request types.

The ACIO, Enterprise Services, indicated the configuration management work request recommendations should be completed in the summer of 2005 and many of the processes should be in place by early fall of 2005.

Action Item 30-07 (Identify key productivity and quality metrics across the life cycle based on industry standards)

In February 2005, the ACIO, BSM, informed us the relationship between the IRS and the PRIME contractor was changing. Under the new operating model, the PRIME contractor will be a solutions provider and the BSMO will become the program integrator.

One BSM Challenges Plan action item affected by the new operating model is Action Item 30-07. The PRIME contractor was initially responsible for this Action Item, which involved developing and implementing project-level productivity and quality metrics for modernization projects across the entire life cycle.

To close Action Item 30-07, the PRIME contractor prepared a plan entitled PRIME Program Enterprise Life Cycle Key Productivity and Quality Measures Roll Out Plan. Our review of this Plan determined:

- The Plan was never updated or completed.
- Only the suggested metrics for Milestone 4[15] were defined in detail.
- Documentation on stakeholders' reviews of the PRIME contractor's Plan was not available. The PRIME Program Enterprise Life Cycle Key Productivity and Quality

---

[15] See Appendix V for a description of Enterprise Life Cycle milestones.

Measures Roll Out Plan stated the effectiveness of the Plan would be determined through stakeholder reviews.

- The BSM Key Productivity and Quality Measures Plan mentioned in the PRIME contractor's Plan was never created.

The Deputy ACIO, Business Integration, informed us the recent change in the IRS/PRIME contractor operating model caused the PRIME contractor to dissolve its Estimation and Maintenance Office, which had created the PRIME contractor's Plan. The Deputy ACIO, Business Integration, also informed us she had begun an initiative on program-level metrics, unrelated to Action Item 30-07. Based on our conversation, she also stated it might be useful for her staff to refer to the PRIME contractor's Plan while developing and enhancing program-level metrics. This research leads us to conclude study weaknesses were not fully addressed by activities taken under Action Item 30-07.

Management Action: We communicated our concerns with Action Item 30-07 to the ACIO, BSM, on April 5, 2005. The ACIO, BSM, responded by stating over 300 measures had been identified as candidates for the MITS organization performance scorecard. For certain measures, standard contract language was being developed for use in future contracts. In addition, the ACIO, BSM, indicated the IRS first wants to ascertain what data are already available to support useful metrics without specifically tasking contractors. Once this is complete, the IRS would determine what needs to change.

Action Item 180-09 (Implement enhanced subcontractor management model)

Action Item 180-09 is also affected by the new IRS/PRIME contractor operating model. The PRIME contractor's internal study identified improved subcontractor accountability and delivery as an issue. BSM Challenges Plan Action Item 180-09 was developed to resolve this issue.

The PRIME contractor provided a listing of improvement activities completed in response to this Action Item. For example, the PRIME contractor conducted subcontractor performance evaluations and required additional data from subcontractors. However, processes had not been established to ensure the activities were performed on a routine basis and did not involve trending of subcontractor performance. Therefore, we were not confident the improvement activities would be repeated; without trending, it would not be possible to determine whether subcontractor performance was improving.

Based on the new operating model, the PRIME contractor activity for Action Item 180-09 was closed. Without a PRIME contractor program office in place, the BSMO will need to ensure contractors are adequately overseeing their subcontractors. One way to achieve this is through the use of inspection clauses, which can be incorporated into contracts to allow Federal Government employees to inspect the goods and services completed by subcontractors.

Management Action: On February 22, 2005, we communicated our concerns with Action Item 180-09 to the ACIO, BSM, who responded he was interested in our concerns and would discuss the issue with the Office of Procurement.

Other action items affected by the change in the IRS/PRIME contractor operating model

The change in the IRS/PRIME contractor operating model also affected three additional BSM Challenges Plan action items. All three were closed based on the new operating model.

- **Action Item 30-03 (Enforce rapid escalation of issues)** – An issue is defined as a situation or condition that either (1) currently has negative consequences for the program/project or (2) has 100 percent probability of having negative consequences for the program/project. In a complex environment, it is important for issues to be raised for resolution as quickly as possible.
- **Action Item 90-12 (Ensure projects strictly follow the Enterprise Life Cycle and appropriate alternatives within the Enterprise Life Cycle are selected)** – Since projects differ in size and complexity, it is important to provide guidance to project personnel on choosing what activities from the Enterprise Life Cycle are most appropriate.
- **Action Item 180-11 (Clarify roles between the IRS and the PRIME contractor)** – This Action Item involved improving four processes: change request versus defect[16] reporting resolution, issue resolution, integrated master schedule[17] management, and change request resolution.

If improvement activities for these Action Items do not continue, it is possible study weaknesses will persist. Since the processes in the above three Action Items will remain important regardless of who the program integrator is, it would be prudent to determine how these actions are going to be managed with the BSMO as the new program integrator.

---

[16] A defect is a perceived problem found in software, documents, hardware, or other controlled products. Defect processing is the process of documenting the defect, tracking the defect and its corrective action, and reporting the status of each defect.

[17] The integrated master schedule provides a schedule for project development and integration of all BSM projects.

Recommendations

To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the ACIO, Enterprise Services, should:

Recommendation 1: Create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing one process for managing change requests and Requests for Information Services.

> ***Management's Response:*** The CIO agreed with this recommendation. To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the IRS is creating a plan to implement one process for managing change requests and Requests for Information Services. The IRS expects to complete the plan by December 31, 2005, and implement a system by October 31, 2006.

Recommendation 2: Create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing the standardized configuration management toolset.

> ***Management's Response:*** The CIO agreed with this recommendation. The IRS is hiring a contractor to assist in identifying a solution that integrates configuration management components on a MITS organization-wide scale, with a tool solution that supports the integrated process. The IRS expects to complete a plan to implement the configuration management toolset by April 2006.

Recommendation 3: Ensure corrective actions are completed by assigning executive-level responsibility for addressing configuration management deficiencies.

> ***Management's Response:*** The CIO agreed with this recommendation. The IRS has already assigned responsibility for addressing configuration management deficiencies. Significant issues identified during internal configuration audits will be assigned to the appropriate executive, and documentation issues identified during compliance assessment audits will be assigned to the appropriate project manager.

To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the ACIO, BSM, should:

Recommendation 4: 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.

b. Considering the impact of project-level metrics on the effort by the Deputy ACIO, 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.

Management's Response: The CIO agreed with this recommendation. The IRS has initiated a phased approach to identifying, collecting, and using productivity and quality metrics. The IRS will continue to use existing metrics as it makes improvements in identifying, collecting, and using productivity and quality metrics. The IRS is currently working to develop cost and schedule variance metrics and will then focus on establishing a performance measurement framework, targeting business value metrics first.

Recommendation 5: Consider enforcement of the "inspection clause" on all new contracts and establish staffing to accomplish inspections.

Management's Response: The CIO agreed with this recommendation. The IRS has completed actions to ensure contractors are held accountable for work items and commitments. For example, the IRS is performing code and documentation inspections, as well as conducting testing. In addition, the BSM Quality Assurance organization coordinates with subcontractor Quality Assurance organizations to ensure quality products are delivered.

Recommendation 6: Review additional action items closed due to the change in the IRS/PRIME contractor operating model to determine if any aspects of the closed action items should be addressed as part of the new BSM operating model.

Management's Response: The CIO agreed with this recommendation. The IRS is currently implementing a formal risk elevation management process, which includes the use of risk coordinators on each project and regular project and executive risk reviews. The IRS has already implemented a process to define project roles and decision authorities. This process is part of the Enterprise Life Cycle and will apply to any contractor with whom the IRS works. Lastly, the IRS has implemented four processes to conduct life cycle reviews across all phases of the Enterprise Life Cycle.

Detailed Objective, Scope, and Methodology

The overall objective of this review was to determine whether the Internal Revenue Service (IRS) Business Systems Modernization (BSM) Challenges Plan actions have been or will be effective in improving and strengthening the overall performance of the modernization program by addressing study weaknesses.[1] **NOTE**: At the beginning of our review, we chose to review 6 action items in depth because the other 42 BSM Challenges Plan action items 1) had been merged into other action items, 2) were the subject of other Treasury Inspector General for Tax Administration audits, 3) had not progressed far enough to warrant a review, or 4) were low-priority audit items.

To accomplish this objective, we:

I.   Determined if the BSM Acquisition Executive had a documented plan to address study weaknesses (Action Item 90-17, Establish a BSM Acquisition Executive).

II.   Determined if new project managers (Director, Internal Management, and Director, Infrastructure Management) had a documented plan to address study weaknesses (Action Item 180-05, Strengthen IRS program and project manager cadre).

III.   Determined if IRS and contractor project managers indicated the new governance structure had resulted in clearer or more consistent instructions (Action Item 30-04, Clarify roles of committees as advisory). **NOTE**: To answer this question, we submitted a questionnaire to five IRS and five contractor project managers for three of the six tax administration/internal management projects (Customer Account Data Engine [two releases], e-Services, and Integrated Financial System) and one of the two core infrastructure projects (Infrastructure Shared Services)[2] funded in the Fiscal Year 2004 expenditure plan.

IV.   Determined if the activities being taken as part of BSM Challenges Plan Action Items 180-09 (Implement enhanced subcontractor management model), 90-07 (Refine change

---

[1] In mid-2003, the IRS and the PRIME contractor (hired by the IRS as the integrator for the BSM program) 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 reviewed the results of the four studies and created actions to address the study recommendations. These actions collectively became known as the BSM Challenges Plan.

[2] We did not send a questionnaire to the other three tax administration/internal management projects because the PRIME contractor was not the lead contractor for those projects. We did not send a questionnaire to the second infrastructure project because this project was a consolidated administrative and oversight function for three related infrastructure support environments. See Appendix VI for a list of BSM projects and descriptions.

request process), and 30-07 (Identify key productivity and quality metrics[3] across the life cycle based on industry standards) effectively addressed the associated weaknesses identified in the recent studies.

V.   Identified the results of previous audits concerning BSM Challenges Plan action items.

VI.   Evaluated the status of action items as communicated by the IRS.

---

[3] Project metrics, such as total number of requirements added, changed, or deleted, help measure the progress of a project during development.

Major Contributors to This Report

Margaret E. Begg, Assistant Inspector General for Audit (Information Systems Programs)
Gary V. Hinkle, Director
Troy D. Paterson, Audit Manager
Paul M. Mitchell, Lead Auditor
Tina Wong, Senior Auditor
Steven W. Gibson, Auditor
Perrin T. Gleaton, Auditor

Report Distribution List

Commissioner C
Office of the Commissioner – Attn: Chief of Staff C
Deputy Commissioner for Operations Support OS
Associate Chief Information Officer, Business Systems Modernization OS:CIO:B
Associate Chief Information Officer, Enterprise Services OS:CIO:ES
Associate Chief Information Officer, Information Technology Services OS:CIO:I
Associate Chief Information Officer, Management OS:CIO:M
Director, Stakeholder Management OS:CIO:SM
Deputy Associate Chief Information Officer, Business Integration OS:CIO:B:BI
Deputy Associate Chief Information Officer, Program Management OS:CIO:B:PM
Deputy Associate Chief Information Officer, Systems Integration OS:CIO:B:SI
Chief Counsel CC
National Taxpayer Advocate TA
Director, Office of Legislative Affairs CL:LA
Director, Office of Program Evaluation and Risk Analysis RAS:O
Office of Management Controls OS:CFO:AR:M
Audit Liaisons:
      Associate Chief Information Officer, Business Systems Modernization OS:CIO:B
      Manager, Program Oversight Office OS:CIO:SM:PO

Independent Assessment of the Business Systems Modernization Challenges Plan Status

To obtain fresh and independent assessments from outside experts on the health of the Business Systems Modernization (BSM) program, the Internal Revenue Service (IRS) launched a comprehensive review consisting of three studies and a BSM benchmarking analysis. In addition, the PRIME contractor[1] launched an internal study. The studies resulted in 21 recommendations for improvement in the BSM program, 15 of which were similar to those made in Treasury Inspector General for Tax Administration (TIGTA) reports issued over several years.[2] Key IRS executives and stakeholders reviewed the results of the four studies, quickly acknowledged BSM shortcomings, and developed actions to address the studies' recommendations and resolve longstanding BSM issues. Collectively, these actions became known as the BSM Challenges Plan.

Based on our analysis of actions taken and the latest IRS BSM Challenges Plan status report (dated June 6, 2005), we created the following categories to document our opinion on the closing of each BSM Challenges Plan action item:

- **Agree** (19) – Activities conducted as part of the BSM Challenges Plan meet one of the following criteria: 1) the action item effectively corrected weaknesses found in the studies, 2) the IRS reports it has completed or is in the process of completing corrective actions to all relevant TIGTA recommendations, or 3) activities have been completed, yet it will take time to determine the effectiveness of the action item.

- **Did Not Determine** (13) – Activities conducted as part of the BSM Challenges Plan meet one or more of the following three criteria: 1) the IRS reports the action item is open or involves ongoing activities, 2) a Fiscal Year (FY) 2005 TIGTA audit is currently being conducted to review the action item, and/or 3) the TIGTA has not scheduled an audit of the action item and does not have enough information or background knowledge to be able to express an opinion.

- **More Work Needed** (6) – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses.

---

[1] The IRS hired the Computer Sciences Corporation as the PRIME contractor and integrator for the BSM program. The PRIME contractor heads an alliance of leading technology companies brought together to assist with the IRS' efforts to modernize its computer systems and related information technology.
[2] *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2004-20-107, dated June 2004).

Details on our reasons for categorizing each BSM Challenges Plan action item are shown in Figure 1.

Figure 1: TIGTA Opinion on the Status of BSM Challenges Plan Action Items

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
1	30-01 – Make business owner and program director accountable for project success.	**Merged** into Action Item 90-10	
2	30-02 – Implement short duration, discrete "Tiger Teams" in Customer Account Data Engine (CADE), Integrated Financial System (IFS), and e-Services.[3]	*Previous TIGTA Assessment*: Action Item 30-02 was extended to the Custodial Accounting Project. The BSM Office (BSMO)[4] initiated three reviews led by Tiger Teams resulting in 24 recommendations for the project. We determined only 2 of the 24 had been implemented and recommended the remaining 22 be implemented as soon as possible.[5] *Corrective Action*: The IRS closed this finding by addressing the remaining relevant 22 Tiger Team recommendations. *Joint Audit Management Enterprise System (JAMES)[6] Corrective Action Completion Date*: April 1, 2005. *IRS Status*: **Closed** – The Tiger Teams were initiated to drive delivery of three systems. All three systems were delivered and the Action Item was closed December 12, 2004.	**Agree** – The projects, which used Tiger Teams, were deployed. The IRS has completed corrective actions to all relevant TIGTA recommendations.

---

[3] See Appendix VI for a list of BSM projects and descriptions.
[4] The IRS created the BSMO to guide and oversee the work of the PRIME contractor.
[5] *System Requirements Were Not Adequately Managed During the Testing of the Custodial Accounting Project* (Reference Number 2005-20-019, dated December 2004).
[6] The JAMES is a Department of the Treasury database that monitors and tracks the progress of internal control issues and material weaknesses within the Department.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
3	30-03 – Enforce rapid escalation of issues.	*Previous PRIME Quality Management Office Assessment:* The PRIME contractor performed an audit and found the risk escalation process within the Item Tracking Reporting and Control (ITRAC)[7] system had not been used properly and the PRIME Item Escalation procedure had not been updated.[8] *Corrective Action:* No management response or corrective action is shown in the PRIME contractor audit report. *IRS Status*: **Closed** – The PRIME contractor amended the escalation process to correct this problem. This is one of five action items closed due to the shift in program management and project integration responsibilities from the PRIME contractor to the IRS in early 2005. The Action Item was closed January 27, 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendation 6 in this report.
4	30-04 – Clarify roles of committees as advisory.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The modernization governance committees were renamed and the charters were rewritten. The Action Item was closed November 21, 2003.	**Agree** – Activities have been completed, yet it will take time to determine the effectiveness of the Action Item.
5	30-05 – Designate business architects for all projects to support business insight required throughout the project life.	**Merged** into Action Item 90-10	
6	30-06 – Align critical engineering talent to most critical projects.	**Merged** into Action Item 90-08	

---

[7] The BSM Risk Management Plan requires that all modernization organizations use the ITRAC database to record and update the status of risks and issues.

[8] *In-Progress Assessment Plan/Report: Assess the utilization and effectiveness of the PRIME Item Escalation procedure* (dated September 2004).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
7	30-07 – Identify key productivity and quality metrics across the life cycle based on industry standards.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – This Action Item was closed March 8, 2005, due to the shift in program management and project integration responsibilities from the PRIME contractor to the IRS in early 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendation 4 in this report.
8	30-08 – Ensure more effective integration of IRS and PRIME/Subs test teams.	*Previous TIGTA Assessment*: To expedite testing of the IFS Release 1 project, the BSMO and the PRIME contractor decided to combine the System Acceptability Testing (SAT)[9] with the System Integration Testing (SIT)[10] process, but we determined this new process had not been documented as a separate Enterprise Life Cycle (ELC)[11] process. We also determined independent testing roles in the combined test process had not been documented. *Corrective Action*: The IRS closed this finding by obtaining final signatures and updating life cycle documentation. *JAMES Corrective Action Completion Date*: April 28, 2005. *IRS Status*: **Closed** – The combined SIT-SAT testing process has been documented and has been used. This Action Item was closed April 28, 2005.	**Agree** – The IRS has completed corrective actions to all relevant TIGTA recommendations.

---

[9] The SAT independently assesses the quality of a system and the system's readiness for implementation.

[10] The SIT ensures all system components (hardware and software) are working correctly and collectively with other related or dependent systems.

[11] See Appendix V for an overview of the ELC.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
9	30-09 – Complete the Acquisition Solutions Incorporated study to address IRS and PRIME contractor issues.	**Merged** into Action Item 180-08	
10	30-10 – Identify "blockers" on current contracting issues.	*Previous TIGTA Assessment*: Contract blockers referred to two task orders that needed to be signed. We determined these task orders had been signed. *IRS Status*: **Closed** – Blockers were identified and resolved. The Action Item was closed November 10, 2003.	**Agree** – Activities have been completed for the Action Item.
11	30-11 – Baseline the risk-adjusted schedule for CADE Releases 1.0 and 1.1.	*Previous TIGTA Assessment*: CADE Release 1.1 was released within budget and on time based on rebaselined estimates.[12] *IRS Status*: **Closed** – The risk-adjusted schedule and new baseline for CADE R1.0/1.1 was established and approved at the January 7, 2004, executive review meeting. The Action Item was closed January 17, 2004.	**Agree** – Since CADE Release 1.1 was released on time after rebaselining, we conclude the Action Item effectively corrected weaknesses found in the studies.
12	30-12 – Move acceptance testing earlier in the life cycle.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Moving the SAT earlier in the life cycle has now been instituted in the CADE and all other projects. The Action Item was closed October 28, 2003.	**Unable To Determine** – During our audit, audit work was being conducted to review this Action Item. Since the completion of our audit work, an FY 2006 TIGTA audit report[13] has been issued regarding the Action Item.

---

[12] *Annual Assessment of the Business Systems Modernization Program* (Reference Number 2005-20-102, dated August 2005).

[13] *Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed* (Draft Report issued October 2005).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
13	30-13 – Increase the frequency of CADE program reviews to twice monthly with the business owner.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS reports meetings were scheduled twice monthly for the PRIME contractor CADE project managers and the IRS CADE team. CADE meetings continue to take place twice monthly. The Action Item was closed November 3, 2003.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
14	30-14 – Formally assign accountability to the CADE Business Owner and the CADE Project Director.	**Merged** into Action Item 90-10	
15	90-01 – Streamline the MITS [Modernization and Information Technology Services] organization governance process.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The modernization governance committees were renamed and charters were rewritten. The Change Control Boards are functional and the Associate Chief Information Officer (ACIO), Enterprise Services, is on board. The Action Item was closed March 8, 2005.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
16	90-02 (renumbered as **180-16**) – Validate the existing ELC matrix decision-making process.	*Previous TIGTA Assessment*: We determined the BSMO initiated a plan to establish a Requirements Management Office that would incorporate new exit criteria for Milestones 3, 4a, and 4b. However, this Office had yet to be established.[14] *Corrective Action*: The IRS commenced a review of all previous TIGTA reports for program-wide requirements management issues. Also, the IRS indicated it may adopt the applicable Carnegie Mellon Software Engineering Institute's[15] Capability Maturity Model Integration (CMMI)[16] capabilities as part of establishing the new Requirements Management Office and in developing more effective requirements development and management processes. *JAMES Corrective Action Completion Date*: April 29, 2005. *IRS Status*: **Closed** – The IRS closed this Action Item March 8, 2005.	**Agree** – We determined activities have been completed, yet it will take time to determine the effectiveness of the Action Item.
17	90-03 – Develop criteria for project decision making, including impacts and trade-offs.	**Merged** with actions taken under Action Items 180-11 and 180-16	

---

[14] *The Modernization Program Is Establishing a Requirements Management Office to Address Requirements Development and Management Problems* (Reference Number 2005-20-023, dated January 2005).

[15] The Software Engineering Institute is a Federally Funded Research and Development Center whose purpose is to help others make measured improvements in their software engineering capabilities.

[16] The CMMI model provides guidance for an organization to use when developing its processes. These models help an organization appraise its capability, establish priorities for improvement, and implement these improvements.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
18	90-04 – Align senior transformation experts into the four operating divisions, the Chief Financial Officer, and the MITS organization.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS developed a Concept of Operations document for the operating divisions and the MITS organization. The IRS closed this Action Item March 8, 2005.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
19	90-05 – Make the diagnostic tools (dashboard) work.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS reports it added measures to the dashboard, which is used to monitor performance for all project releases in development. The IRS closed this Action Item March 8, 2005.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
20	90-06 – Establish ongoing third-party reviews.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS closed this Action Item March 8, 2005.	**Agree** – We are aware the MITRE Corporation[17] will review the BSM program annually and the Software Engineering Institute will review the CADE in 2005. Therefore, it will take time to determine the effectiveness of the Action Item.
21	90-07 – Refine change request process.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – All planned actions for this issue are complete; it has been officially handed off to the ACIO, Enterprise Services, to build out a process. The Action Item was closed March 8, 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendations 1 through 3 in this report.

---

[17] The MITRE Corporation (MITRE) is under contract to assist the IRS with the systems modernization.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
22	90-08 – Strengthen the IRS' system engineering capability through external hiring or leverage of additional MITRE/Northrop Grumman Mission Services capabilities.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS reports 9 out of 10 positions in the Modernization Program Engineering organization have been filled. The IRS closed this Action Item June 6, 2005.	**Unable To Determine** – The IRS reports the Action Item involves ongoing activities. In addition, the TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
23	90-09 – Determine appropriate skills/sizing and "right-size" contracting organization in the IRS and the Computer Sciences Corporation.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The Office of Modernization Acquisition continues hiring to fill 52 positions; the IRS closed this Action Item January 27, 2005.	**Unable To Determine** – The IRS reports the Action Item involves ongoing activities. In addition, the TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
24	90-10 – Assign business owners and architects to validate business unit participation and accountability in projects.	*Previous TIGTA Assessment:* We determined the Business Requirements Director (previously called the Business Architect) for the CADE project had not yet been located/hired.[18] *Corrective Action:* While recruiting efforts continue, MITRE Corporation employees and members from the Enterprise Architecture team are providing CADE project engineering and architecture support. *JAMES Corrective Action Completion Date*: Open. *IRS Status*: **Closed** – Roles and responsibilities of key positions in the new governance and management structure were clarified and incorporated into oversight committee charters and approved by the MITS Enterprise Governance committee. The Action Item was closed January 22, 2004.	**Agree** – The IRS is in the process of completing corrective actions to all relevant TIGTA recommendations.
25	90-11 – Consistently conduct technical integration reviews for each project and enterprise wide (performance, interface/integration).	**Merged** into Action Item 180-06	

---

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

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
26	90-12 (renumbered as **180-19**) – Ensure projects strictly follow the ELC and appropriate alternatives within the ELC are selected.	*Previous TIGTA Assessment:* We determined the actions planned by the PRIME contractor to close this Action Item did not include steps to ensure projects strictly follow the ELC.[19] *Management Actions:* The ACIO, Modernization Management,[20] met with and interviewed a number of individuals in the IRS business units, the TIGTA, and the Government Accountability Office. The ACIO also reviewed the four studies. As a result, the ACIO determined what he believed to be the key barriers to success in the BSM program and created a plan to address these barriers. *IRS Status:* **Closed** – The IRS reports the PRIME contractor developed life cycle tailoring guidance[21] between August and December 2004. The guidance was ready for approval; however, the IRS discontinued work on this Action Item due to the change in the IRS/PRIME contractor relationship. This is one of five action items closed due to the shift in program management and project integration responsibilities from the PRIME contractor to the IRS in early 2005. This Action Item was closed January 27, 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendation 6.

---

[19] *The Internal Revenue Service Should Ensure the Root Causes of Business Systems Modernization Performance Problems Are Successfully Addressed* (Reference Number 2005-20-014, dated December 2004).

[20] In the fall of 2004, the ACIO, Modernization Management, became the new ACIO, BSM.

[21] Tailoring guidance describes how to navigate and adapt the ELC methodology to fit specific projects.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
27	90-13 – Increase understanding by development team of what they are building.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS developed a video tape and held "boot camps" for 255 executives and development team members. The Action Item was closed January 19, 2004.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
28	90-14 – Clearly define business requirements and tightly manage them to control scope (e.g., Milestone 4a).	*Previous TIGTA Assessment*: We determined the BSMO initiated a plan to establish a Requirements Management Office that would incorporate new exit criteria for Milestones 3, 4a, and 4b. However, this Office had yet to be established.[22] *Corrective Action*: The IRS commenced a review of all previous TIGTA reports for program-wide requirements management issues. Also, the IRS indicated it may adopt the applicable Carnegie Mellon Software Engineering Institute's CMMI capabilities as part of establishing the new Requirements Management Office and in developing more effective requirements development and management processes. *JAMES Corrective Action Completion Date*: April 29, 2005. *IRS Status*: **Closed** – The IRS reported the Requirements Management Office "stood up"[23] and the Milestone 3, 4a, and 4b exit criteria were updated and validated. The Action Item was closed March 8, 2005.	**Agree** – The IRS has completed corrective actions to all relevant TIGTA recommendations.

---

[22] *The Modernization Program Is Establishing a Requirements Management Office to Address Requirements Development and Management Problems* (Reference Number 2005-20-023, dated January 2005).
[23] The stand-up process is defined as the establishment of a new organization with at least the minimum requirements for operation.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
29	90-15 – Implement firm fixed-price (FFP) policy for Milestones 4 and 5.	*Previous TIGTA Assessment:* We determined FFP contracting had not been used to the fullest extent possible due to 1) existing contracting barriers, such as unstable system requirements and business processes; 2) failure to follow best practices; and 3) lack of measurable contractor performance standards.[24] *Corrective Action:* To further balance risk between the IRS and the modernization contractors, the Chief Information Officer (CIO) stated the IRS has issued FFP contracting guidance. In addition, the IRS will continue to consider FFP contracting, address stabilizing requirements, and explore options to balance risk when the use of FFP contracting is not appropriate. *Office of Audit Comment:* While the CIO agreed with our recommendations, we were concerned the stated corrective actions had not corrected the issues or had not yet been implemented. *JAMES Corrective Action Completion Dates:* April 30, 2004 and May 1, 2004. *IRS Status:* **Closed** – The IRS closed this Action Item April 28, 2005.	**Agree** – While we have determined FFP contracting has not been used to the fullest extent possible and made recommendations to further increase the use of FFP contracting, we also determined the use of FFP task orders within the BSM program has increased since FY 2001. Therefore, we conclude the Action Item effectively corrected weaknesses found in the studies.
30	90-16 – Revise current contract with the PRIME contractor to align with new roles between the IRS and the PRIME contractor.	**Merged** into Action Item 180-08	

---

[24] *While Many Improvements Have Been Made, Continued Focus Is Needed to Improve Contract Negotiations and Fully Realize the Potential of Performance-Based Contracting* (Reference Number 2005-20-083, dated May 2005).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
31	90-17 – Establish a BSM Acquisition Executive.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS hired a BSM Acquisition Executive. The Action Item was closed January 21, 2004.	**Agree** – Activities have been completed, yet it will take time to determine the effectiveness of the Action Item.
32	90-18 – Establish independent architecture and engineering team of IRS and contractor Business Architects and Systems Engineers.	*Previous TIGTA Assessment:* We determined the absence of a dedicated CADE system architect contributed to the inability of the IRS and the PRIME contractor to communicate effectively to refine and validate the CADE requirements. We also determined the Business Requirements Director (previously called the Business Architect) for the CADE project had not yet been located/hired.[25] *Corrective Action:* While recruiting efforts continue, MITRE Corporation employees and members from the Enterprise Architecture team are providing CADE project engineering and architecture support. *JAMES Corrective Action Completion Date*: Open. *IRS Status*: **Closed** – The CADE Joint Engineering Team was established, and the Action Item was closed January 15, 2004.	**Agree** – The IRS is in the process of completing corrective actions to all relevant TIGTA recommendations.
33	90-19 (renumbered as **180-18**) – Start to test the business rules engine in the CADE environment.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – A plan and work breakdown schedule for the effort have been completed in partnership with the PRIME contractor. Analysis work is to be completed by July 2005, and the final report is scheduled to be issued in August 2005. The Action Item was closed June 5, 2005.	**Unable To Determine** – During our audit, audit work was being conducted to review this Action Item. Since the completion of our audit work, an FY 2006 TIGTA audit report[26] has been issued regarding the Action Item.

---

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

[26] *Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed* (Draft Report issued October 2005).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
34	180-01 – Raise tax administration understanding across the PRIME contractor alliance through tax administration "boot camps."	**Merged** into Action Item 90-13	
35	180-02 – Co-locate resources (both senior program managers and project personnel).	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The Office of Procurement is in the process of moving to the New Carrollton, Maryland, Federal Building. Other co-locations were considered and deemed not feasible. The Action Item was closed March 8, 2005.	**Unable To Determine** – The IRS reports the Action Item involves ongoing activities. In addition, the TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
36	180-03 – Integrate management processes across the program.	*Previous TIGTA Assessment*: We determined the integrator role is not clearly defined in the BSM program. Clearly defining the integrator for non-PRIME contractor projects and documenting the related responsibilities and processes will be necessary to assure the successful integration of projects developed by multiple contractors.[27] *Corrective Action*: Steps are underway to restructure the MITS organization to include this new role. The ACIO, Enterprise Services, will ultimately manage highly complex information system initiatives such as configuration management[28] and systems engineering. In the near term, the ACIO, BSM, will continue to implement and integrate improvements across the BSM program. *IRS Status*: **Closed** – A process is now fully operational in support of 19 management process areas in the BSM program. The Action Item was closed March 8, 2005.	**Agree** – The IRS reports it has instituted a method for reviewing and improving 19 management process areas. It will take time to determine the effectiveness of the Action Item.
37	180-04 – "Right-size" contracting organizations in IRS and PRIME Contracting.	Merged into Action Item 90-09	

---

[27] *The Office of Release Management Can Improve Controls for Modernization Program Coordination* (Reference Number 2004-20-157, dated September 2004) and *The Modernization Program Is Establishing a Requirements Management Office to Address Requirements Development and Management Problems* (Reference Number 2005-20-023, dated January 2005).

[28] Configuration management is a discipline that applies technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a piece of hardware or software, control changes to those characteristics and their related documentation, record and report change processing and implementation status, and verify compliance with specified requirements.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
38	180-05 – Strengthen IRS program and project manager cadre.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Four key, critical-pay project manager slots were filled. The Action Item was closed January 27, 2005.	**Agree** – Activities have been completed, yet it will take time to determine the effectiveness of the Action Item.
39	180-06 – Conduct key technical reviews throughout the ELC; baseline approved and placed under configuration management.	*Previous TIGTA Assessment:* We determined key CMMI requirements development and management guidelines relating to configuration management and technical reviews had not been planned into the new Requirements Management Office's responsibilities.[29] *Corrective Action*: The IRS commenced a review of all previous TIGTA reports for program-wide requirements management issues. Also, the IRS indicated it may adopt the applicable CMMI capabilities as part of establishing the new Requirements Management Office. *JAMES Corrective Action Completion Date*: April 29, 2005. *IRS Status*: **Closed** – The revised ELC framework is now available, and documentation has been approved. The Action Item was closed June 6, 2005.	**Agree** – The IRS has completed corrective actions to all relevant TIGTA recommendations.

[29] *The Modernization Program Is Establishing a Requirements Management Office to Address Requirements Development and Management Problems* (Reference Number 2005-20-023, dated January 2005).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
40	180-07 – Strengthen development environment by expanding capacity, conducting greater automating testing, and separating Infrastructure Development.	*Previous TIGTA Assessment:* We determined the activities scheduled to close this Action Item included no activities for automating testing or separating the infrastructure environment.[30] *Management Actions*: The ACIO, Modernization Management, met with and interviewed a number of individuals in the IRS business units, the TIGTA, and the Government Accountability Office. The ACIO also reviewed the four studies. As a result, the ACIO determined what he believed to be the key barriers to success in the BSM program and created a plan to address these barriers. The ACIO established detailed, highest priority initiatives to deal with these root cause problems. *IRS Status*: **Closed** – An action plan has been completed. The Development, Integration, and Test Environment (DITE)[31] lab is now operational. The Action Item was closed June 1, 2004.	**Agree** – While we determined the activities scheduled to close this Action Item did not include activities for automating testing or separating the infrastructure environment, the ACIO, BSM, completed corrective actions to our prior report by creating highest priority initiatives to deal with key barriers to success in the BSM program.
41	180-08 – Implement accepted recommendations from the Acquisition Solutions Incorporated study.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS management team considered Acquisition Solutions Incorporated study recommendations and found the recommendations were either addressed as part of other initiatives (completed or in progress) or were no longer applicable. The IRS closed this Action Item June 6, 2005.	**Unable To Determine** – The IRS reports the Action Item involves ongoing activities. In addition, the TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.

---

[30] *The Internal Revenue Service Should Ensure the Root Causes of Business Systems Modernization Performance Problems Are Successfully Addressed* (Reference Number 2005-20-014, dated December 2004).

[31] The DITE is a consolidated development and testing function for three related BSM infrastructure support environments: the Solutions Development Laboratory, Virtual Development Environment, and Enterprise Integration and Test Environment.

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
42	180-09 – Implement enhanced subcontractor management model.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The PRIME contractor began actions to improve the subcontractor management model. This is one of five Action Items closed due to the shift in program management and project integration responsibilities from the PRIME contractor to the IRS in early 2005. The Action Item was closed March 8, 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendation 5 in this report.
43	180-10 – Operationalize business rules management process.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – The IRS has deemed business rules management as a highest priority initiative for the next 6 months where it will define the scope, acquire a business rules repository, and conduct a rules engine utilization technical analysis. The Action Item was closed March 8, 2005.	**Unable To Determine** – During our audit, audit work was being conducted to review this Action Item. Since the completion of our audit work, an FY 2006 TIGTA audit report[32] has been issued regarding the Action Item.
44	180-11 – Clarify roles between the IRS and the PRIME contractor.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Some of the Bain and Company recommendations were addressed. This is one of five action items closed due to the shift in program management and project integration responsibilities from the PRIME contractor to the IRS in early 2005. The Action Item was closed March 8, 2005.	**More Work Needed** – Activities conducted as part of the BSM Challenges Plan have not completely addressed study weaknesses. See the **Additional Work Is Required to Completely Address Six Closed BSM Challenges Plan Action Items** section in this report for additional information on this Action Item. See also Recommendation 6 in this report.

---

[32] *Instilling More Discipline to Business Rules Management Will Help the Modernization Program Succeed* (Draft Report issued October 2005).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
45	180-12 – Fill gaps in the Enterprise Architecture business and technology architecture (Concept of Operations, Vision and Strategy, critical cross-project issues).	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Enterprise Architecture version 2.4 was approved by the MITS Enterprise Governance committee. Two updates were published to the Enterprise Architecture, and a significant amount of material was collected for a third update. A process for updating the Enterprise Architecture on a regular basis has been established. The Action Item was closed November 1, 2004.	**Unable To Determine** – The TIGTA has not scheduled an audit of the Action Item and does not have enough information or background knowledge to be able to express an opinion.
46	180-13 – Focus on program-level release engineering.	*Previous TIGTA Assessment:* We recommended the CIO determine whether and how the BSMO will fulfill the BSM program integrator role and document the related responsibilities and processes. In addition, we recommended procedures be developed and updated for the Office of Release Management.[33] *Corrective Action*: Steps are underway to restructure the MITS organization to include this new role. Further, the CIO will develop, complete, or update guidance for managing the activities in the Office of Release Management. *JAMES Corrective Action Completion Date*: Open. *IRS Status*: **Closed** – The IRS completed the transition of release architecture data. Training of IRS division personnel was completed. The Enterprise Transition Strategy was released in final on January 14, 2005. The Action Item was closed January 27, 2005.	**Agree** – The IRS is in the process of completing corrective actions to all relevant TIGTA recommendations.

---

[33] *The Office of Release Management Can Improve Controls for Modernization Program Coordination* (Reference Number 2004-20-157, dated September 2004).

#	ACTION ITEM NUMBER AND DESCRIPTION	HISTORICAL TIGTA ASSESSMENT/CURRENT IRS STATUS	TIGTA CONCURRENCE WITH CLOSURE
47	180-14 – Rationalize the oversight of the BSM program by streamlining process and eliminating duplications.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Stakeholder management is now centralized under a senior manager who reports directly to the CIO. All outstanding TIGTA corrective actions have been reviewed and prioritized. MITS organization management now meets regularly with external oversight functions. The Action Item was closed April 28, 2005.	**Agree** – While the TIGTA has not audited this Action Item, TIGTA officials met with MITS Stakeholder Management officials to discuss the scope of TIGTA BSM audits and agreed on oversight roles and responsibilities for the IRS and the external oversight functions.[34] Therefore, the Action Item effectively corrected weaknesses found in the studies.
48	180-15 – Reduce the number of projects being conducted at the same time.	*Previous TIGTA Assessment*: No previous TIGTA assessment has been made. *IRS Status*: **Closed** – Some projects were canceled and others were put on hold. The IRS has built a Resource Capacity Management model to more efficiently use current resources in projects and to assess skill deficiencies and consider further cutbacks in projects, if necessary. The Action Item was closed September 23, 2004.	**Agree** – Following prior TIGTA assessments of the BSM program, significant decreases in the BSM budget, and continuing problems with key modernization processes, the IRS scaled back FY 2004 BSM operations. Therefore, the Action Item effectively corrected weaknesses found in the studies.

Source: BSM Challenges Plan, previous TIGTA audit reports, the JAMES, and TIGTA analysis of the Current Status of BSM Challenges Plan dated June 6, 2005.

---

[34] The results of this meeting are documented in *Program Oversight*, dated January 13, 2005.

Enterprise Life Cycle Overview

The Enterprise Life Cycle (ELC) defines the processes, products, techniques, roles, responsibilities, policies, procedures, and standards associated with planning, executing, and managing business change. It includes redesign of business processes; transformation of the organization; and development, integration, deployment, and maintenance of the related information technology applications and infrastructure. Its immediate focus is the Internal Revenue Service (IRS) Business Systems Modernization (BSM) program. Both the IRS and the PRIME contractor[1] must follow the ELC in developing/acquiring business solutions for modernization projects.

The ELC framework is a flexible and adaptable structure within which one plans, executes, and integrates business change. The ELC process layer was created principally from the Computer Sciences Corporation's Catalyst® methodology.[2] It is intended to improve the acquisition, use, and management of information technology within the IRS; facilitate management of large-scale business change; and enhance the methods of decision making and information sharing. Other components and extensions were added as needed to meet the specific needs of the IRS BSM program.

ELC Processes

A process is an ordered, interdependent set of activities established to accomplish a specific purpose. Processes help to define what work needs to be performed. The ELC methodology includes two major groups of processes:

- **Life-Cycle Processes**, which are organized into phases and subphases and which address all domains of business change.

- **Management Processes**, which are organized into management areas and which operate across the entire life cycle.

---

[1] To facilitate success of its modernization efforts, the IRS hired the Computer Sciences Corporation as the PRIME contractor and integrator for the BSM program and created the Business Systems Modernization Office to guide and oversee the work of the PRIME contractor.

[2] The IRS has acquired a perpetual license to Catalyst® as part of the PRIME contract, subject to certain restrictions. The license includes rights to all enhancements made to Catalyst® by the Computer Sciences Corporation during the contract period.

Enterprise Life-Cycle Processes

Management
IRS Governance and Investment Decision Management
Program Management and Project Management
Architectural Engineering / Development Coordination
Management Support Processes

Life Cycle:

Vision & Strategy | **Architecture** | **Development** | **Integration** | **Deployment** | **Operations & Support**

- Business Processes
- Applications
- Data
- Organizational Change
- Technical Infrastructure
- Facilities Infrastructure
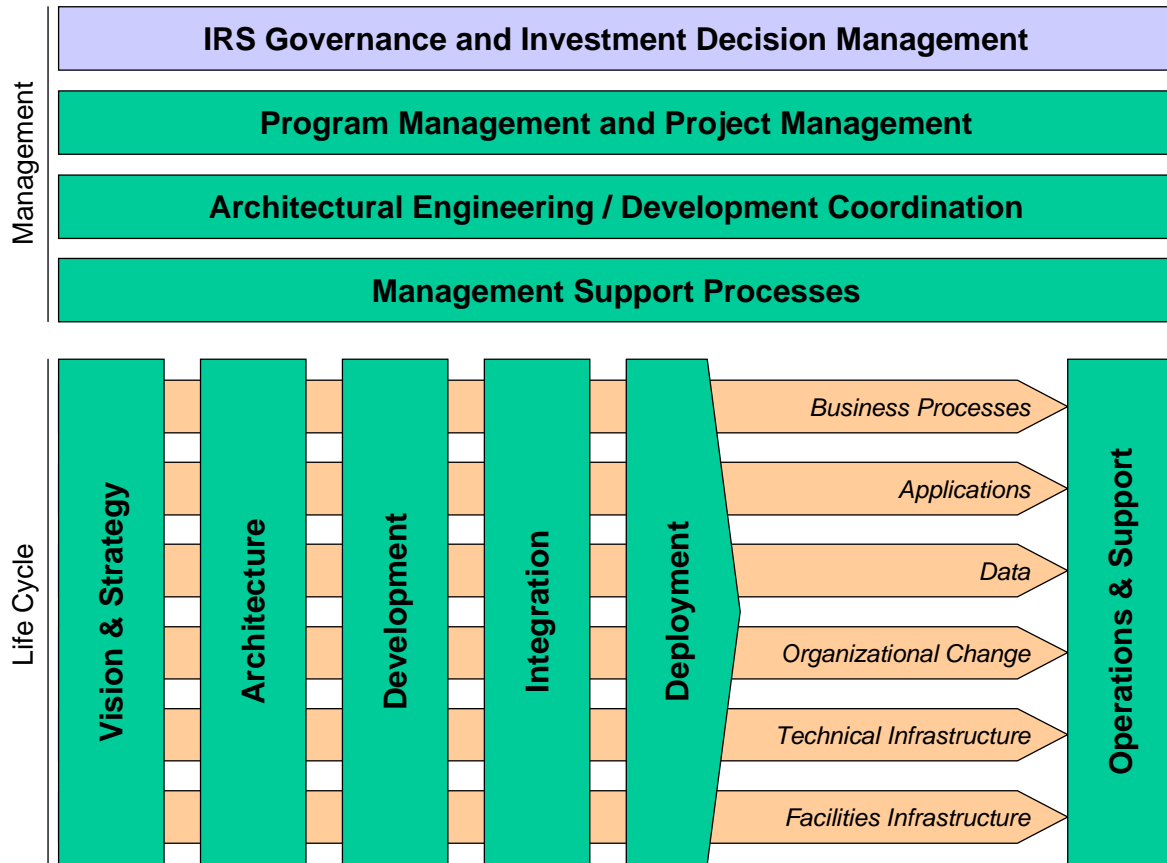
Source: ELC Guide, Page 2-16.

Life-Cycle Processes

The life-cycle processes of the ELC are divided into six phases, as described below:

- **Vision and Strategy** - This phase establishes the overall direction and priorities for business change for the enterprise. It also identifies and prioritizes the business or system areas for further analysis.

- **Architecture** - This phase establishes the concept/vision, requirements, and design for a particular business area or target system. It also defines the releases for the business area or system.

- **Development** - This phase includes the analysis, design, acquisition, modification, construction, and testing of the components of a business solution. This phase also includes routine planned maintenance of applications.

- **Integration** - This phase includes the integration, testing, piloting, and acceptance of a release. In this phase, the integration team brings together individual work packages of solution components developed or acquired separately during the Development phase. Application and technical infrastructure components are tested to determine whether they interact properly. If appropriate, the team conducts a pilot to ensure all elements of the business solution work together.

- **Deployment** - This phase includes preparation of a release for deployment and actual deployment of the release to the deployment sites. During this phase, the deployment team puts the solution release into operation at target sites.

- **Operations and Support** - This phase addresses the ongoing operations and support of the system. It begins after the business processes and system(s) have been installed and have begun performing business functions. It encompasses all of the operations and support processes necessary to deliver the services associated with managing all or part of a computing environment.

  The Operations and Support phase includes the scheduled activities, such as planned maintenance, systems backup, and production output, as well as the nonscheduled activities, such as problem resolution and service request delivery, including emergency unplanned maintenance of applications. It also includes the support processes required to keep the system up and running at the contractually specified level.

Management Processes

Besides the life-cycle processes, the ELC also addresses the various management areas at the process level. The management areas include:

- **IRS Governance and Investment Decision Management** - This area is responsible for managing the overall direction of the IRS, determining where to invest, and managing the investments over time.

- **Program Management and Project Management** - This area is responsible for organizing, planning, directing, and controlling the activities within the program and its

subordinate projects to achieve the objectives of the program and deliver the expected business results.

- **Architectural Engineering/Development Coordination** - This area is responsible for managing the technical aspects of coordination across projects and disciplines, such as managing interfaces, controlling architectural changes, ensuring architectural compliance, maintaining standards, and resolving issues.

- **Management Support Processes** - This area includes common management processes, such as quality management and configuration management that operate across multiple levels of management.

Milestones

The ELC establishes a set of repeatable processes and a system of milestones, checkpoints, and reviews that reduce the risks of systems development, accelerate the delivery of business solutions, and ensure alignment with the overall business strategy. The ELC defines a series of milestones in the life-cycle processes. Milestones provide for "go/no-go" decision points in the project and are sometimes associated with funding approval to proceed. They occur at natural breaks in the process where there is new information regarding costs, benefits, and risks and where executive authority is necessary for next phase expenditures.

There are five milestones during the project life cycle:

- **Milestone 1 - Business Vision and Case for Action.** In the activities leading up to Milestone 1, executive leadership identifies the direction and priorities for IRS business change. These guide which business areas and systems development projects are funded for further analysis. The primary decision at Milestone 1 is to select BSM projects based on both the enterprise-level Vision and Strategy and the Enterprise Architecture.

- **Milestone 2 - Business Systems Concept and Preliminary Business Case.** The activities leading up to Milestone 2 establish the project concept, including requirements and design elements, as a solution for a specific business area or business system. A preliminary business case is also produced. The primary decision at Milestone 2 is to approve the solution/system concept and associated plans for a modernization initiative and to authorize funding for that solution.

- **Milestone 3 - Business Systems Design and Baseline Business Case.** In the activities leading up to Milestone 3, the major components of the business solution are analyzed and designed. A baseline business case is also produced. The primary decision at Milestone 3 is to accept the logical system design and associated plans and to authorize funding for development, test, and (if chosen) pilot of that solution.

- **Milestone 4 - Business Systems Development and Enterprise Deployment Decision.** In the activities leading up to Milestone 4, the business solution is built. The Milestone 4 activities are separated by two checkpoints. Activities leading up to Milestone 4A involve further requirements definition, production of the system's physical design, and determination of the applicability of fixed-price contracting to complete system development and deployment. To achieve Milestone 4B, the system is integrated with other business systems and tested, piloted (usually), and prepared for deployment. The primary decision at Milestone 4B is to authorize the release for enterprise-wide deployment and commit the necessary resources.

- **Milestone 5 - Business Systems Deployment and Postdeployment Evaluation.** In the activities leading up to Milestone 5, the business solution is fully deployed, including delivery of training on use and maintenance. The primary decision at Milestone 5 is to authorize the release of performance-based compensation based on actual, measured performance of the business system.

Business Systems Modernization Project Descriptions

The following is a list of Business Systems Modernization projects.

Custodial Accounting Project (CAP) – The CAP will be a single, integrated data repository of taxpayer account information, integrated with the general ledger[1] and accessible for management analysis and reporting. The first release of the CAP will extract taxpayer account data from the Individual Master File (IMF) for the Taxpayer Account Subledger.[2]

Customer Account Data Engine (CADE) – The CADE 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.

Development, Integration, and Testing Environments (DITE) – The DITE is a consolidated administrative and oversight function for three related Business Systems Modernization infrastructure support environments: the Solutions Development Laboratory, Virtual Development Environment, and Enterprise Integration and Test Environment.

e-Services – 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.

Enterprise Integration and Test Environment (EITE) – The EITE provides a comprehensive integration and testing environment to support integration and testing of components from multiple projects.

Infrastructure Shared Services (ISS) – The ISS program's goal is to deliver a fully integrated shared information technology infrastructure to include hardware, software, shared applications, data, telecommunications, security, and an enterprise approach to systems and operations management.

---

[1] A general ledger is a set of accounts used to summarize an organization's financial transactions by transaction type (e.g., cash receipts, accounts receivable, or rental expenses).
[2] The IMF is the Internal Revenue Service database that maintains transactions or records of individual tax accounts. The Taxpayer Account Subledger will be an integrated data repository of taxpayer account information containing detailed taxpayer account history and unpaid assessment information.

Integrated Financial System (IFS) – 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.

Solutions Development Laboratory (SDL) – The SDL provides an environment that permits the rapid installation and configuration of proposed or potential systems solutions and provides the flexibility to scale and respond to multiple, concurrent projects.

Virtual Development Environment (VDE) – The VDE provides a software development environment enabling geographically distributed projects and developers access to standardized tools, information, and services.

Management's Response to the Draft Report

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

RECEIVED
OCT 07 2005

CHIEF INFORMATION OFFICER

October 7, 2005

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM: W. Todd Grams
             Chief Information Officer

SUBJECT: Management Response to Draft Audit Report – The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026) **(i-trak # 2005-03786)**

Thank you for the opportunity to review the subject draft audit report dated September 7, 2005. The audit team conducted their review during the period of October 2004 through April 2005.

We appreciate your acknowledgement of our completed actions in 76 percent of the Business Systems Modernization (BSM) Challenges Plan. The issues reviewed by the audit team will lead to improvements in the Business Systems Modernization (BSM) program. We are also grateful for the observation that, "In a program of the size and complexity of the BSM program, it is not unreasonable to expect that changes will take time to implement and additional actions will be needed to correct weaknesses."

In that regard, the BSM Challenges Plan has evolved to support our goal of continuous improvement of the program. The BSM leadership team has identified Highest Priority Initiatives (HPIs). In doing so, we weighed your office's audit findings, and also considered actions from the Challenges Plan, the Government Accountability Office (GAO), and the leadership team's own assessment of program needs. In addition, the BSM leadership team is now re-evaluating the BSM program as we assume the new operating model – with the PRIME contractor being a solutions provider, and the BSM office being the program integrator.

We agree with all of the recommendations in the report. In fact, we have already taken actions to close three of them. Additional comments for all of the recommendations are provided in the attachment.

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 members of your staff may contact Judy Mills, Director of Program Oversight, at (202) 283-4915.

Attachment

Attachment

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

RECOMMENDATION #1: To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the ACIO of Enterprise Services should create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing one process for managing change requests, and requests for information services.

CORRECTIVE ACTION #1: We agree with this recommendation, and we are confident that we will have an overall plan as described in your recommendations by December 31, 2005, as well as a system by October 31, 2006 (provided appropriate funding is received).

We have already established a working group tasked to define and implement a comprehensive agency-wide approach to demand management for information technology solutions. The Unified Work Request Core Working Group was formed on March 17, 2005. This group has developed a high level plan for the Unified Work Request, to merge the existing fragmented methods of requesting work (e.g., Request for Information Services and Change Requests processes) into an integrated process or set of processes that will ensure all requested work is prioritized, fully coordinated, and supports the strategic direction of the Service. We are currently working on the requirements, contracting for the system changes, and hiring for the work request coordinator's roles.

IMPLEMENTATION DATE: January 1, 2006

RESPONSIBLE OFFICIAL: Associate Chief Information Officer (ACIO) of Enterprise Services

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into the Joint Audit Management Enterprise System (JAMES). These corrective actions are monitored on a monthly basis until completion.

RECOMMENDATION #2: To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the ACIO of Enterprise Services should create an overall plan that includes defined tasks, responsible individuals, and estimated completion dates for implementing the standardized configuration management toolset.

CORRECTIVE ACTION #2: We agree with this recommendation. To that end, we have contracted with Gartner Group to assist in identifying a program management solution that integrates the process components of configuration management (configuration identification, control, status accounting, and audit) on a MITS-wide scale, with a tool solution that supports this integrated process. This activity was completed in September 2005, and we are now developing a comprehensive plan to identify, procure, and implement an appropriate IRS standardized configuration management toolset.

1

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

IMPLEMENTATION DATE: April 1, 2006

RESPONSIBLE OFFICIAL: Deputy ACIO of Enterprise Services for Systems Integration

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into JAMES. These corrective actions are monitored on a monthly basis until completion.

RECOMMENDATION #3: To ensure study weaknesses and previous recommendations concerning change/configuration management are addressed, the ACIO of Enterprise Services should ensure corrective actions are completed by assigning executive level responsibility for addressing configuration management deficiencies.

CORRECTIVE ACTION #3: We agree with this recommendation, and actions have been completed to close the recommendation. Discussions between the ACIO of Enterprise Services and the ACIO of Business Systems Modernization led to an agreement that all significant issues identified in the internal configuration audits will be assigned to the appropriate executive and tracked through the Issues Item Tracking, Reporting, and Control System (ITRAC).

Other issues related to documentation identified in the Configuration Management Compliance Assessment Audit have been tracked by the appropriate application project manager to ensure these actions are corrected, and to ensure the corrective actions are monitored by the ACIO of Enterprise Services Configuration Management organization.

IMPLEMENTATION DATE: July 27, 2005

RESPONSIBLE OFFICIAL: N/A

CORRECTIVE ACTION MONITORING PLAN: N/A

RECOMMENDATION #4A: To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the ACIO of Business Systems Modernization should assume the responsibility for correcting the identified study weaknesses concerning project metrics by 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.

CORRECTIVE ACTION #4A: We agree with this recommendation. We have initiated a phased approach to establishing a program measurement framework that will provide the necessary processes and practices to ensure effective identification, collection, and use of productivity and quality metrics.

2

Attachment

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

The first phase of the approach will establish the framework – targeting business value metrics. The second phase will implement the framework. Having established the performance goal metrics, we will then proceed to develop the appropriate productivity and quality metrics to track progress toward those performance goals. Because full implementation of the framework will extend over a period of time, we will brief TIGTA periodically on our progress.

In the meantime, the BSM program will continue to use the dashboard and the underlying project metrics already being collected to manage projects as we make improvements in identifying, collecting, and using productivity and quality metrics. We are also concluding work, in coordination with representatives from TIGTA and from the Government Accountability Office, to develop cost and schedule variance metrics for the BSM expenditure plan. These measures will be available by December 2005.

IMPLEMENTATION DATE:
Develop a Business Value Framework: February 28, 2006
Pilot/Begin Implementation of the Business Value Framework: September 29, 2006
Develop a Framework Enhancement Plan: February 28, 2007

RESPONSIBLE OFFICIAL: Deputy ACIO of Enterprise Services for Business Integration

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into JAMES. These corrective actions are monitored on a monthly basis until completion.

RECOMMENDATION #4B: To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the ACIO of Business Systems Modernization should assume the responsibility for correcting the identified study weaknesses concerning project metrics by considering the impact of project-level metrics on the effort by the Deputy ACIO of Enterprise Services for 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.

CORRECTIVE ACTION #4B: We agree with this recommendation, and as part of the development of the Program Measurement Framework discussed in #4A we will be developing program level metrics.

IMPLEMENTATION DATE:
Develop a Business Value Framework: February 28, 2006
Pilot/Begin Implementation of the Business Value Framework: September 29, 2006
Develop a Framework Enhancement Plan: February 28, 2007

RESPONSIBLE OFFICIAL: Deputy ACIO of Enterprise Services for Business Integration

3

Attachment

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into JAMES. These corrective actions are monitored on a monthly basis until completion.

RECOMMENDATION #5: To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the ACIO of Business Systems Modernization should consider enforcement of the "inspection clause" on all new contracts, and establish staffing to accomplish the inspections.

CORRECTIVE ACTION #5: We agree with this recommendation, and we have taken actions to close this recommendation. Regardless of the change to the new operating model, it is incumbent upon the PRIME contractors to manage their subcontractors' performance in accordance with the appropriate inspection clauses included in their contracts. Notwithstanding, we hold contractors accountable for all deliverables, work products, and cost/schedule commitments in their task orders.

We have a variety of methods available to us for monitoring performance on an ongoing basis, and for conducting various reviews throughout the life cycle. When faced with a significant issue, we exercise the right to inspect the code – requiring detailed documentation and schedules of the contractors/subcontractors delivering components of the work breakdown structure. For example,

- As part of Milestone 4B into Milestone 5 activities – and because we take ownership of the code after each deliverable – we invoke the government's right of inspection through acquiring a drop of the baseline code for all of our projects, and then we turn it over to MITRE to do a full code review.

- MITRE uses a diagnostic tool to do the inspection which will show how efficient the code is (providing various statistical data), like the number of variable function points, construct of the code, and complexity. This review also looks at adherence in accordance with general standards, e.g., MITRE brought in PeopleSoft experts to review e-Services code.

- As part of the Enterprise Life Cycle (ELC) process, we inspect code through a government acceptance test. This is the government's way of inspecting received property to ensure it works as scoped.

- As part of the ELC, our product assurance function conducts annual final integration testing on all software to be released during filing season in order to test output/performance of the code. These tests are conducted on the government's behalf.

- As part of the ELC, the business owners inspect all deliverables for technical content.

- Mission Assurance and Security Services also perform its own independent Security Test and Evaluation.

4

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

- Recently, the new framework for our quality assurance (a function developed as a part of our new BSM operating model) calls for coordination with sub-contractor quality assurance organizations to ensure the delivery of a quality product. For example, the Project Quality Management Plans prepared for Modernized e-File (MeF) and Filing and Payment Compliance (F&PC) identified audit and monitoring activities down to the sub-level. Our quality assurance function has met with the contractors' quality assurance staff for MeF and F&PC to form information-sharing relationships and access to quality records and information so that we may be privy to any problems or issues that arise prior to delivery.

IMPLEMENTATION DATE: July 25, 2005

RESPONSIBLE OFFICIAL: N/A

CORRECTIVE ACTION MONITORING PLAN: N/A

RECOMMENDATION #6: To ensure study weaknesses are addressed as part of the new IRS/PRIME contractor operating model, the ACIO of Business Systems Modernization should review additional action items closed due to the change in the IRS/PRIME contractor operating model to determine if any aspects of the closed action items should be addressed as part of the new BSM operating model.

CORRECTIVE ACTION #6: We agree with this recommendation, and we have taken actions to complete it. The ACIO of Business Systems Modernization has reviewed all BSM Challenges Plan issues and identified the following five action items. Each was originally owned by the PRIME and was noted in the final report as "closed" due to the change in the IRS/PRIME contractor operating model. The status for each of these five action items is as follows:

30-03: Enforce rapid escalation of issues: There is a formal risk elevation management process in place at both the project and program level, in addition to various established forums with contractors and BSM management. These forums include the biweekly Modernization Executive Team (MET) and the Senior Management Direct Review (SMDR) meetings.

This management process includes the use of risk coordinators on each project, item brokers assigned to BSM executives, and ITS facilitators to identify and escalate risks rapidly. Risks are managed on the ITRACS tool. In addition, there are regular project risk reviews – and executive risk reviews – to review progress on outstanding risks, and to discuss candidate as well as other risks and issues to the projects and program.

5

Attachment

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

30-07: Identify key productivity and quality metrics across the life cycle based on industry standards: This issue is currently being addressed through Enterprise Services. See our corrective action under Recommendation #4A.

180-09: Implement enhanced subcontractor management model: See our corrective action under Recommendation #5.

180-11: Clarify roles between IRS and PRIME around decision-making: The IRS and PRIME contracted with Bain & Company to help clarify decision-making roles for both IRS and the PRIME in four process areas: defect reporting resolution, issue resolution, integrated master schedule, and change request resolution.

At the time, PRIME was acting as the integrator and there was confusion around the decision authorities of the IRS and the PRIME. Bain's work in these four process areas resulted in various recommendations. The recommendations were effected through a memorandum to both IRS and PRIME project managers implementing near-term recommendations, and as changes to procedural documents. These were incorporated to the PAL in early 2005. With the shift in the integrator role from PRIME to IRS (giving the IRS full authority to make decisions on projects) there is no longer confusion between these roles.

With the help of Bain, we developed a matrix showing project roles and decision authorities for specific personnel (both contractor and IRS). This decision authorities matrix, along with the various milestone reviews and escalation process developed at the time, allow us to operate uniformly across all of our projects; independent of any specific contractor involvement. This decision-making process and roles matrix are now part of the ELC and will apply across the program to any contractor with whom we work. Implementation of a Revised ELC Directive package dated February 23, 2005, including executive directive on usage and the revised ELC framework and milestone readiness criteria (mandatory deliverables & responsibility matrix) currently resides on the PAL.

180-19: Ensure projects strictly follow the ELC and appropriate alternatives within the ELC are selected: The ELC Compliance Directive dated August 20, 2004, provides direction for implementing and complying with the ELC requirements. One of these requirements is the tailoring plan for the overall project, which must be submitted for approval at the start of the project.

This tailoring plan shall identify how the project will satisfy the ELC documents, deliverables, and work products; and it is to be included in applicable contract vehicles (e.g., statement of work, task orders, and contracts). As a project moves through the lifecycle, an approved phase tailoring plan will be submitted prior to the kickoff for that phase. Prior to exiting a given phase, a preliminary phase tailoring plan will be presented

6

Draft Report: The Business Systems Modernization Program Has Achieved Mixed Success in Addressing Weaknesses Identified in Internal and External Studies (Audit # 200520026)

as input to planning for the next phase. Acquisition project managers or project managers shall perform reviews specified in the tailoring plan.

In addition, a tailoring plan process description now describes the process for tailoring a project to the ELC, i.e., developing a tailoring plan and submitting this plan for approval. The purpose of this process description is also to support that directive. The MITS Template Project Tailoring Plan cites the standards to which this document must conform, and it provides the format for this document.

As part of the ELC process, there are various milestone reviews to ensure that a project adheres to the requirements set forth, such as customer technical reviews, milestone readiness reviews, and milestone exit reviews. On June 15, 2005, the ACIO for Business Systems Modernization signed four process assets that provide guidance for conducting lifecycle reviews across all phases of the ELC. These process assets are: lifecycle reviews in the revised ELC process description, customer technical reviews procedure, life cycle stage reviews procedure, and the milestone readiness review procedure. The Executive Steering Committee (ESC) or the MITS Executive Governance (MEG) committee must approve exit based on the completion of all documents, work products, and deliverables.

IMPLEMENTATION DATE: August 31, 2005

RESPONSIBLE OFFICIAL: N/A

CORRECTIVE ACTION MONITORING PLAN: N/A

7