

June 2003

# BUSINESS SYSTEMS MODERNIZATION

## IRS Has Made Significant Progress in Improving Its Management Controls, but Risks Remain



G A O

Accountability \* Integrity \* Reliability



Highlights of [GAO-03-768](#), a report to congressional committees

## Why GAO Did This Study

As required by law, the Internal Revenue Service (IRS), in November 2002 and March 2003, submitted to the congressional appropriations committees its initial and revised fiscal year 2003 expenditure plans, respectively, requesting about \$378 million for the Business Systems Modernization (BSM) program.

GAO reviewed the plans to (1) determine whether the plans were prepared in accordance with the law, (2) determine what progress IRS had made in implementing modernization management controls and capabilities, and (3) provide any other observations about the plans and IRS's BSM program.

## What GAO Recommends

GAO recommends that the Commissioner of Internal Revenue direct the Chief Information Officer (CIO) to continue improvements in IRS's modernization management controls. GAO also recommends that the Commissioner direct the CIO to promptly update the enterprise transition strategy to conform to other changes in IRS's enterprise architecture and establish and implement a process for determining the type of task order to be awarded in acquiring modernized systems. The Commissioner agreed with GAO's findings and commented on actions to address the recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-03-768](http://www.gao.gov/cgi-bin/getrpt?GAO-03-768).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robert F. Dacey at (202) 512-3317 or [daceyf@gao.gov](mailto:daceyf@gao.gov).

# BUSINESS SYSTEMS MODERNIZATION

## IRS Has Made Significant Progress in Improving Its Management Controls, but Risks Remain

### What GAO Found

IRS's initial (November 2002) and revised (March 2003) fiscal year 2003 expenditure plans were prepared in accordance with the law. IRS made significant progress in improving its modernization management controls and capabilities and implementing GAO's recommendations. For example:

- IRS implemented 20 of 23 commitments and is implementing the remaining 3 commitments that address previously reported weaknesses and recommendations. Significant among these efforts were IRS's achievements in improving its software acquisition practices.
- IRS deployed 3 modernized systems that are currently providing benefits that (1) improve telecommunications infrastructure, including telephone call management, call routing, and customer self-service; (2) provide off-the-shelf software to IRS revenue agents to allow them to accurately compute complex corporate transactions; and (3) improve customer self-service by providing instant refund status information and instructions for resolving refund problems via the Internet.
- IRS also took steps to balance the scope and pace of the BSM program with the management capacity of IRS and its prime contractor. These steps included reassessing the portfolio of projects that IRS had planned to proceed with during the remainder of fiscal year 2002 and reducing the planned scope and pace of the BSM program for fiscal year 2003.

Although significant progress has been made, certain controls and capabilities for modernization have not yet been fully implemented, including human capital management and validation of cost and schedule estimates. Weaknesses in these controls and capabilities contributed, in part, to cost, schedule, and performance shortfalls in the BSM program. For example, in the revised fiscal year 2003 expenditure plan, IRS disclosed that 75 percent of program-level initiatives and acquisition project milestones had cost increases and/or schedule delays exceeding 10 percent of the estimated cost and duration specified in the fiscal year 2002 expenditure plan. Schedule delays affect the delivery of benefits. For example, (1) the opportunity for Form 1040EZ filers to enjoy faster refunds, as promised by the first release of the project that is to replace IRS's master files of taxpayer information, has been delayed for an additional 13 months and (2) schedule delays for the first release of the e-Services project will defer the provision of easy-to-use electronic products and services targeted at tax practitioners who inform, educate, and provide services to the taxpaying public.

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## Abbreviations

BSM	Business Systems Modernization
CIO	Chief Information Officer
IRS	Internal Revenue Service
OMB	Office of Management and Budget
PRIME	PRIME Systems Integration Support contractor

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United States General Accounting Office  
Washington, D.C. 20548

June 27, 2003

The Honorable Richard Shelby  
Chairman  
The Honorable Patty Murray  
Ranking Member  
Subcommittee on Transportation, Treasury  
and General Government  
Committee on Appropriations  
United States Senate

The Honorable Ernest J. Istook, Jr.  
Chairman  
The Honorable John W. Olver  
Ranking Minority Member  
Subcommittee on Transportation, Treasury  
and Independent Agencies  
Committee on Appropriations  
House of Representatives

As required by law, the Internal Revenue Service (IRS), in November 2002 and March 2003, submitted to the congressional appropriations committees its initial and revised fiscal year 2003 expenditure plans, respectively, requesting about \$378 million from its Business Systems Modernization (BSM) fund. Our objectives in reviewing the plans were to (1) determine whether the plans satisfied the conditions specified in the law,<sup>1</sup> (2) determine what progress IRS had made in implementing modernization management controls and capabilities, and (3) provide any other observations about the initial and revised plans and IRS's BSM program.

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<sup>1</sup>BSM funds are unavailable until IRS submits to congressional appropriations committees for approval a modernization expenditure plan that (1) meets the Office of Management and Budget's (OMB) capital planning and investment control review requirements; (2) complies with IRS's enterprise architecture; (3) conforms with IRS's enterprise life-cycle methodology; (4) is approved by IRS, the Department of the Treasury, and OMB; (5) is reviewed by GAO; and (6) complies with federal acquisition rules, requirements, guidelines, and systems acquisition management practices. See P.L. 108-7 (Feb. 20, 2003), and intervening continuing resolutions for fiscal year 2003 funding, and P.L. 107-67 (Nov. 12, 2001), for fiscal year 2002 funding.

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On December 18, 2002, and April 14, 2003, we briefed your respective offices on the results of our reviews. This report transmits the materials used at those briefings and reiterates the recommendations that we made to the then-Acting Commissioner of Internal Revenue that we specified in our December 2002 briefing.<sup>2</sup> The full briefing materials, including our scope and methodology, are reprinted in appendixes I and II.

In summary, we made the following four major points in our December 2002 briefing on the results of our review of IRS's initial expenditure plan for fiscal year 2003:

- IRS's initial expenditure plan satisfied each of the six legislative conditions.
- IRS had made significant progress in improving its modernization management controls and capabilities and implementing our recommendations. For example, IRS had implemented 20 of 23 commitments and is in the process of implementing the remaining 3 commitments that address previously reported weaknesses and recommendations. Significant among these efforts was IRS's achievements in improving its software acquisition practices.
- IRS also had taken steps to balance the scope and pace of the BSM program with the management capacity of IRS and the PRIME Systems Integration Support contractor (PRIME). In accordance with our recommendation, IRS completed a reassessment of the fiscal year 2002 BSM program in May 2002 and took actions to better balance the system acquisition workload with the management capacity. Specifically, IRS (1) deferred the start of five new projects until fiscal years 2003 and 2004 to reduce IRS/PRIME resource demands, (2) reapplied a portion of these deferred financial resources toward PRIME management processes and support of the federally funded research and development center to accelerate correcting modernization management control weaknesses, and (3) increased its own efforts and executive focus on management process improvement.

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<sup>2</sup>Since the time of our briefings, a new Commissioner of Internal Revenue has been confirmed.

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- Although significant progress had been made, certain modernization management controls and capabilities—related to configuration management,<sup>3</sup> enterprise transition strategy,<sup>4</sup> human capital management, and cost and schedule estimate validation—had not yet been fully implemented. Weaknesses in these controls and capabilities increase the risk of cost, schedule, and performance shortfalls in the BSM program.

We also made the following five observations related to the BSM program and the initial fiscal year 2003 expenditure plan:

- The number of project milestones experiencing cost and schedule changes was increasing.
- BSM was entering a critical, high-risk phase as the scope and complexity of the program continued to grow.
- Opportunities for using performance-based contracts in acquiring modernized systems were increasing.
- IRS had improved the format of its expenditure plan.
- Internal IRS costs of the BSM program, paid from other IRS appropriations, were expected to increase, but were not tracked or known.

In our April 2003 briefing on the results of our review of IRS's revised fiscal year 2003 expenditure plan, we reported that IRS had deployed three modernized systems that provide benefits that (1) improve telecommunications infrastructure, including telephone call management, call routing, and customer self-service; (2) provide off-the-shelf software to IRS revenue agents to allow them to accurately compute complex corporate transactions; and (3) improve customer self-service by providing

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<sup>3</sup>Configuration management is the means for ensuring the integrity and consistency of system modernization program and project products throughout their life cycles. Through effective configuration management, for example, integration among related projects and alignment between projects and the enterprise architecture can be achieved.

<sup>4</sup>An enterprise transition strategy describes how an organization will migrate from its current operating environment to its future operating environment.

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instant refund status information and instructions for resolving refund problems via the Internet.

In addition, we made the following four major points in the April 2003 briefing:

- IRS's revised plan satisfied the conditions specified under the law.
- IRS continued to take steps to balance the pace of the program with management capacity by reducing the planned scope of the BSM program for fiscal year 2003. Between November 2002 and March 2003, IRS deferred four new project releases, discontinued two ongoing project releases, absorbed one new release into an ongoing project release, and transferred one ongoing project to another appropriation. Moreover, IRS reduced the scope of BSM program-level initiatives and core infrastructure projects. As a result, IRS reduced the initial BSM funding request for fiscal year 2003 by about \$72 million.
- Most initiatives/project milestones continued to experience cost increases and/or schedule delays. In the revised fiscal year 2003 expenditure plan, IRS disclosed that 75 percent of program-level initiatives and acquisition project milestones had cost increases and/or schedule delays exceeding 10 percent of the estimated cost and duration specified in the fiscal year 2002 expenditure plan.
- Schedule delays affected the delivery of benefits. For example, (1) the opportunity for the first set of taxpayers (single, Form 1040EZ filers) to enjoy faster refunds, as promised by the first release of the project that is to replace IRS's master files of taxpayer information, has been delayed an additional 13 months; (2) schedule slippages for the first release of the e-Services project will delay the provision of easy-to-use electronic products and services targeted at tax practitioners that inform, educate, and provide services to the taxpaying public; and (3) remediation of material weaknesses may be delayed.

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## Recommendations for Executive Action

To improve IRS's modernization management controls and capabilities, we recommend that the Commissioner of Internal Revenue direct the Chief Information Officer (CIO) to complete actions to

- institutionalize configuration management procedures for the Business Systems Modernization Office;

- 
- implement plans for obtaining, developing, and retaining requisite human capital resources; and
  - implement effective procedures for validating contractor-developed cost and schedule estimates.

In addition, we recommend that the Commissioner of Internal Revenue direct the CIO to

- promptly update the enterprise transition strategy to conform to other changes in IRS's enterprise architecture and
- establish and implement a process for determining the type of task order to be awarded in acquiring modernized systems.

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## Agency Comments

In providing written comments on a draft of this report, the Commissioner of Internal Revenue agreed with this report's findings and commented on the actions IRS is taking to implement our recommendations. The Commissioner's comments are reprinted in appendix III.

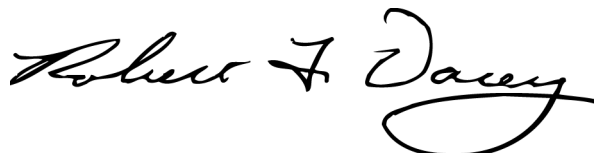
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We are sending copies of this report to the Chairmen and Ranking Minority Members of other Senate and House committees and subcommittees that have appropriations, authorization, and oversight responsibilities for the Internal Revenue Service. We are also sending copies to the Commissioner of Internal Revenue, the Secretary of the Treasury, the Chairman of the IRS Oversight Board, and the Director of the Office of Management and Budget. Copies are also available at no charge on the GAO Web site at <http://www.gao.gov>.



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Should you or your offices have questions on matters discussed in this report, please contact me at (202) 512-3317. I can also be reached by E-mail at [dacey@gao.gov](mailto:dacey@gao.gov). Key contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Robert F. Dacey". The signature is written in a cursive style with a large, looping flourish at the end of the name.

Robert F. Dacey  
Director, Information Security Issues

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# Briefing Slides from the December 18, 2002, Briefing to the Senate and House Appropriations Subcommittee Staffs

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## Results of Review of IRS's November 2002 Business Systems Modernization Expenditure Plan

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Briefing to the Staffs of  
the Senate Committee on Appropriations,  
Subcommittee on Treasury and General Government  
and  
the House Committee on Appropriations,  
Subcommittee on Treasury, Postal Service,  
and General Government

December 18, 2002



## Briefing Overview

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- Introduction
- Objectives
- Scope and Methodology
- Background
- Results in Brief
- Results
- Conclusions
- Recommendations



## Introduction

- As mandated by IRS's FY 2002 appropriations act,<sup>1</sup> and proposed in its FY 2003 appropriations bills,<sup>2</sup> Business Systems Modernization (BSM) funds are unavailable until IRS submits to the congressional appropriations committees for approval, a modernization expenditure plan that:
  - Meets the Office of Management and Budget's (OMB) capital planning and information technology (IT) investment control review requirements;
  - Complies with IRS's enterprise architecture (EA);<sup>3</sup>
  - Meets IRS life cycle management requirements;<sup>4</sup>
  - Is approved by IRS, Treasury, and OMB;
  - Is reviewed by GAO; and
  - Complies with federal acquisition requirements and management practices.

<sup>1</sup>Treasury and General Government Appropriations Act, 2002 (P. L. 107-67).

<sup>2</sup>Treasury and General Government Appropriations Act, 2003 (H.R.5120 and S.2740). IRS's FY 2003 funding is provided under a Current Resolution, Pub. L. No. 107-229, as amended by Pub. L. No. 107-294, that continues IRS's funding at the "current rate" of operations, subject to the "authority and conditions" provided in the FY 2002 appropriations act.

<sup>3</sup>An Enterprise Architecture (EA) is an institutional blueprint defining how an enterprise operates today, in both business and technology terms, and how it wants to operate at some point in the future. An EA also includes a roadmap for transitioning between these environments.

<sup>4</sup>IRS refers to its life cycle management program as the Enterprise Life Cycle (ELC), which is graphically depicted in the Background Section.



## Introduction

- Since mid-1999, IRS has submitted a series of expenditure or “spending” plans requesting release of BSM appropriated funds. To date, about \$968 million<sup>5</sup> has been appropriated and released for BSM.
- IRS requested about \$451 million in its November 2002 expenditure plan for FY 2003.
- However, OMB only approved \$257 million of IRS’s \$451 million request. OMB is deferring decisions on the remaining \$194 million until it completes a more thorough review of IRS’s business cases, receives the results of Treasury’s analysis on how it plans to proceed with the Custodial Accounting Project (CAP/EDW), and more thoroughly reviews IRS’s modernization plans in the context of the President’s management agenda and the 24 government-wide E-gov initiatives.
- On November 18, 2002, IRS submitted its expenditure plan for \$451 million, seeking release of the \$257 million approved by OMB.

<sup>5</sup>This does not include the \$14 million from IRS’s FY 2002 supplemental appropriation that has not yet been released.



## Objectives

- As agreed with IRS's appropriations subcommittees, our objectives were to
  - determine whether the November 2002 expenditure plan satisfies the legislative conditions,
  - determine what progress IRS has made in implementing modernization management controls and capabilities, and
  - provide any other observations about the November 2002 plan and IRS's BSM program.



## Scope and Methodology

- To accomplish our objectives, we
  - Reviewed the November 2002 expenditure plan submitted by IRS in the context of both the amount originally requested by IRS and the amount approved by OMB;
  - Analyzed the plan against the legislative conditions to identify any variances;
  - Reviewed program and project management reports and briefings to assess progress in implementing modernization management controls and capabilities;
  - Observed modernization executive steering committee and subcommittee meetings to, among other things, document how the plan was developed and reviewed;
  - Interviewed IRS program and project management officials to corroborate our understanding of the plan and other BSM activities.



## Scope and Methodology

- Analyzed available evidence on recent efforts to implement modernization management controls and capabilities. Specifically, we analyzed progress and plans for
  - software acquisition management, as defined by the Software Engineering Institute's (SEI) Software Acquisition Capability Maturity Model™ (SA-CMM),
  - ELC definition and implementation, including configuration management, quality assurance and risk management,
  - enterprise architecture (EA) definition and implementation,
  - human capital management,
  - cost and schedule estimation practices,
  - integrated program schedule development,
  - contract management,
  - transition management, and
  - the Customer Account Data Engine (CADE) project, which is intended to replace IRS's taxpayer master files.





## Scope and Methodology

- Collaborated with the Treasury Inspector General for Tax Administration (TIGTA) to avoid duplication of effort in reviewing BSM initiatives and incorporated TIGTA results in this briefing where appropriate.
  - Projects addressed by TIGTA included CADE.
  - Program-level processes addressed by TIGTA included cost and schedule estimation, contract management, and transition management.



## Scope and Methodology

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- Consistent with prior reviews, we did not independently validate planned initiatives' cost estimates or confirm, through system and project management documentation, the validity of IRS-provided information on the initiatives' content and progress.
- We provided a draft of this briefing on December 16, 2002, to IRS BSM program executives, and have incorporated their comments where appropriate.
- We performed our work from November through December 2002 in accordance with generally accepted government auditing standards.



## Background

- The November 2002 plan that IRS submitted to OMB is to (1) continue ongoing program-level initiatives through mid-November 2003 and 12 ongoing projects to their next milestones and (2) start 8 new projects or new releases of existing projects. See appendix I for a description of projects and initiatives. Examples of new projects are Modernized e-file and Modernized Data Access.
- The plan reported completion of several projects, including the Internet Refund/Fact of Filing, Enhance Call Routing, and Enterprise Systems Management applications and the first part of the Security and Technology Infrastructure Release (STIR).
- However, OMB has only approved funding for IRS to (1) continue ongoing program-level initiatives for 3 months and 9 ongoing projects to their next milestones and (2) start 3 new projects or new releases of existing projects.
- Like its previous plans, IRS's November 2002 expenditure plan covers contractor costs, such as the Prime Systems Integration Support contractor (PRIME) and the systems engineering and technical services provided by the Federally Funded Research and Development Center (MITRE).
- A summary of the plan follows.



## Background

### Summary of IRS's November 2002 Expenditure Plan (\$000)<sup>6</sup>

Program-Level Initiatives	IRS Request	OMB Approved
Architecture & Integration	\$43,577	
Business Integration	\$11,413	
Management Processes	\$13,828	
Federally Funded Research and Development Center (FFRDC) - MITRE	\$20,750	
Program Management Office	<u>\$9,908</u>	
<i>Subtotal</i>	\$99,476	\$25,000
<b>Projects<sup>7</sup></b>		
Core Infrastructure Projects (e.g. Infrastructure Shared Services)	\$99,261	\$99,000
Data Projects (e.g. Customer Account Data Engine, Integrated Financial Services)	\$152,798	\$115,000
Business Projects (e.g. e-Services, HR Connect)	<u>\$94,800</u>	<u>\$18,000</u>
<i>Subtotal</i>	\$346,859	\$232,000
<b>Addition to Management Reserve*</b>	\$4,342	
<b>Total**</b>	<u>\$450,677</u>	<u>\$257,000</u>

\* - Includes \$677 from Remaining FY2001 and FY2002 Appropriated Funds

\*\* - Includes \$14,000 from FY 2002 Supplemental Appropriation

Source: IRS

<sup>6</sup>See appendix II for a more detailed summary of the plan.

<sup>7</sup>The 3 categories under this heading include 20 separate projects.



## Background

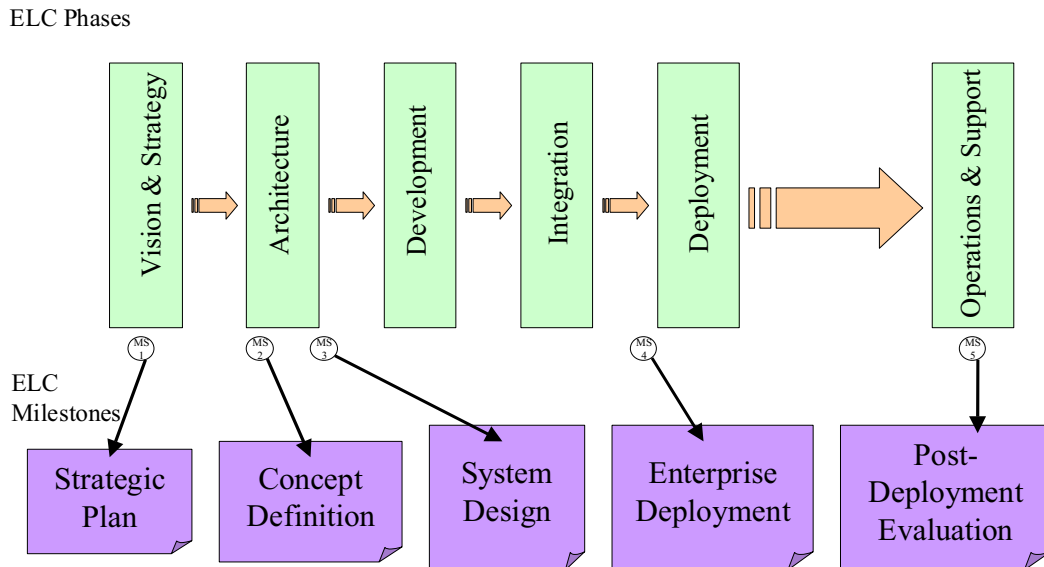
- To date, GAO has reviewed and reported on seven requests for BSM funding releases.<sup>8</sup>
  - Since mid-1999, we have reported<sup>9</sup> on the risks associated with IRS's approach of concurrently building systems while developing and implementing program management capabilities such as having a fully operational program management office and implementing its enterprise life cycle (ELC). IRS's ELC is a structured method for managing system modernization program and project investments throughout their life cycles (see next slide for a simplified diagram of the life cycle).
  - We reported that attempting to acquire modernized systems before having the requisite management capability increases the risk that systems will experience cost, schedule, and performance shortfalls.

<sup>8</sup>For details on our past review results, see appendix III.

<sup>9</sup>For example, see U.S. General Accounting Office, *Business Systems Modernization: Results of Review of IRS' March 2001 Expenditure Plan*, GAO-01-716 (Washington, D.C.: June 29, 2001) and U.S. General Accounting Office, *Internal Revenue Service: Progress Continues But Serious Management Challenges Remain*, GAO-01-562T (Washington, D.C.: April 2, 2001).



## IRS's Enterprise Life Cycle Phases and Milestones (MS)





## Background

- We have also reported<sup>10</sup> that the risk of cost increases and schedule slippages associated with building systems without the requisite management controls is not as severe early in projects' life cycles when they are being planned (project definition and preliminary system design), but escalates as projects are built (detailed design and development) and implemented (enterprise deployment).
- In the case of IRS and its ELC, this point of risk escalation is Milestone 3. From this point through deployment (Milestone 4) to operations and support (Milestone 5), risk can increase significantly.
- In our February 2002 report,<sup>11</sup> we identified key IRS projects that were approaching or had passed Milestone 3 that were beginning to experience cost, schedule, and performance shortfalls, and concluded that program risks were increasing.

<sup>10</sup>For example, see U.S. General Accounting Office, *Tax Systems Modernization: Results of Review of IRS' Third Expenditure Plan*, GAO-01-227 (Washington, D.C.: January 22, 2001).

<sup>11</sup>U.S. General Accounting Office, *Business Systems Modernization: IRS Needs to Better Balance Management Capacity with Systems Acquisition Workload*, GAO-02-356 (Washington, D.C.: Feb. 28, 2002).



- IRS's November 2002 plan satisfies each of six legislative conditions.

Legislative Conditions	Satisfies	Does Not Satisfy
1. Meets OMB capital planning and investment control review requirements.	✓	
2. Complies with IRS' enterprise architecture.	✓	
3. Meets the requirements of IRS' life cycle program.	✓	
4. Approved by IRS, Treasury, and OMB.	✓	
5. Reviewed by GAO.	✓	
6. Complies with federal acquisition requirements and management practices. <sup>12</sup>	✓	

- IRS has made significant progress in improving its modernization management controls and capabilities and implementing our recommendations. For example, IRS has implemented 20 of 23 commitments and is in the process of implementing the remaining three commitments that address previously reported weaknesses and recommendations. As part of these efforts, IRS was independently rated as SA-CMM Level 2. Further, IRS has taken steps to better balance the pace of the FY 2002 BSM program with its management capability.

<sup>12</sup>These acquisition requirements and practices are intended to establish acquisition management rigor and discipline, such as those defined in the Software Engineering Institute's software acquisition model. Our analysis of the plan focused on satisfaction of this model's tenets.





## Results in Brief

- Although significant progress has been made, certain modernization management controls and capabilities, related to configuration management, enterprise transition strategy, human capital management, and cost and schedule estimate validation, have not yet been fully implemented. Weaknesses in these controls and capabilities contributed, at least in part, to BSM project cost, schedule, and performance shortfalls.
- We also make five observations related to the BSM program and November 2002 expenditure plan:
  - The number of project milestones experiencing cost and schedule changes is increasing
  - BSM is entering a critical, high-risk phase as the scope and complexity of the program continue to grow



## Results in Brief

- Opportunities for using performance-based contracts are increasing
  - IRS has improved the format of its expenditure plan
  - Internal costs of the BSM program, expected to increase, are not tracked or known
- 
- To assist IRS in improving and expanding their modernization management controls and capabilities, we are making recommendations to the Acting Commissioner of Internal Revenue.
  - In commenting on a draft of this briefing, IRS officials generally agreed with our findings, conclusions, and recommendations, and indicated that they have plans in place to address these challenges.



**Objective 1:** The November 2002 plan satisfies the conditions proposed in IRS's FY 2003 appropriations bills.

Legislative Conditions	Expenditure Plan Provisions
1. Meets OMB capital planning and IT investment control review requirements.	IRS's November 2002 expenditure plan provides for managing investments as part of a portfolio through its Investment Decision Management process. This includes conducting periodic portfolio reviews to assess changes in business priorities and project schedules.



Legislative Conditions	Expenditure Plan Provisions
2. Complies with IRS's enterprise architecture (EA).	The November 2002 plan provides funds to continue definition and implementation of the enterprise architecture. For example, it provides for <ul style="list-style-type: none"> <li>• completing and issuing EA release 2.1</li> <li>• publishing updates to the EA</li> <li>• performing EA compliance certification activities</li> <li>• issuing the 2003 and 2004 release architectures</li> <li>• operating the systems engineering office</li> </ul>
3. Meets the requirements of IRS's life cycle program.	The plan provides funds for meeting the requirements in IRS's enterprise life cycle management program, which IRS refers to as ELC. For example, the plan calls for <ul style="list-style-type: none"> <li>• maintaining responsibility for coordinating, tracking, and integrating all program-wide costs, schedules, releases, issues, and risks</li> <li>• maintaining the ELC</li> </ul>

**Appendix I  
Briefing Slides from the December 18, 2002,  
Briefing to the Senate and House  
Appropriations Subcommittee Staffs**



**Results**

Legislative Conditions	Expenditure Plan Provisions
4. Approved by IRS, Treasury, and OMB.	<ul style="list-style-type: none"> <li>• IRS – October 8 and 10, 2002</li> <li>• Treasury – November 5, 2002</li> <li>• OMB – November 14, 2002 (partial approval)<sup>13</sup></li> <li>• Submitted to IRS's appropriations subcommittees – November 18, 2002</li> </ul>
5. Reviewed by GAO.	<ul style="list-style-type: none"> <li>• GAO – December 18, 2002 briefing to IRS's appropriations subcommittees</li> </ul>
6. Complies with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal Government.	As part of the ELC, IRS has defined processes, roles, responsibilities, etc. for implementing Software Engineering Institute (SEI) Software Acquisition Capability Maturity Model™ practices within the level 2 key process areas. <sup>14</sup> These practices are consistent with federal acquisition requirements and management practices, and the plan calls for implementation of the ELC on all projects. Also, all PRIME cost reimbursement task orders are subject to a final independent audit by the Defense Contract Audit Agency to ensure that costs incurred are commensurate with the physical completion of the contract.

<sup>13</sup>OMB approved only \$257 million of the \$451 million requested by IRS.

<sup>14</sup>These are Acquisition Planning, Solicitation, Requirements Development and Management, Project Management, Contract Tracking and Oversight, Evaluation, and Transition to Support.



**Objective 2: IRS has made significant progress improving controls and capabilities, although some have not been fully implemented.**

- Since we reported on IRS’s last plan,<sup>15</sup> IRS has made significant progress in improving its modernization controls and capabilities and addressing our recommendations. For example, it has implemented 20 of 23 commitments to address previously reported weaknesses and recommendations as the following illustrates:

IRS Commitments to Address Previously Reported Weaknesses and Recommendations	Completed	In Progress	Revised IRS Commitments as of November 2002 Plan
Software acquisition management			
<ul style="list-style-type: none"> <li>▪ Complete internal SA CMM level 2 capability compliance assessment by June 2002 for CADE, STIR, and e-Services projects.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>▪ Based on internal assessment, develop plan to correct identified weaknesses.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>▪ Have an external evaluation performed by an independent assessor in December 2002 to ensure compliance with SEI's SA CMM level 2 requirements.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>▪ Have all BSMO projects follow SA CMM level 2 processes by FY 2003.</li> </ul>	✓		

<sup>15</sup>GAO-02-356.

**Appendix I  
Briefing Slides from the December 18, 2002,  
Briefing to the Senate and House  
Appropriations Subcommittee Staffs**



**Results**

<b>IRS Commitments to Address Previously Reported Weaknesses and Recommendations</b>	<b>Completed</b>	<b>In Progress</b>	<b>Revised IRS Commitments as of November 2002 Plan</b>
ELC definition and implementation (Configuration Management, Quality Assurance, Risk Management)			
<b>Configuration Management:</b>			
▪ Fully define BSMO standard configuration management procedures by early 2002.	✓		
▪ Fully institutionalize BSMO standard configuration management procedures by early 2002.		✓ (See pp. 26-28)	To be completed by September 2003.
▪ Identify configuration items for current production environment impacted by 2002 modernization project releases by March 2002.	✓		
▪ Establish a centralized CM repository by early 2002.	✓		
▪ Define and implement a program-wide configuration status account reporting mechanism by March 2002.	✓		
<b>Quality Assurance:</b>			
▪ Increase level of IRS oversight, scrutiny, and quality assurance of PRIME activities.	✓		
<b>Risk Management:</b>			
▪ Include all known risks in inventory by Feb. 2002.	✓		
▪ Track and update risk plans and their disposition.	✓		
Enterprise architecture (EA) definition and implementation			
▪ Approve EA 2.0.	✓		
▪ Ensure ongoing projects are aligned with EA in accordance with compliance certification process by late-December 2001.	✓		

**Appendix I**  
**Briefing Slides from the December 18, 2002,**  
**Briefing to the Senate and House**  
**Appropriations Subcommittee Staffs**



**Results**

<b>IRS Commitments to Address Previously Reported Weaknesses and Recommendations</b>	<b>Completed</b>	<b>In Progress</b>	<b>Revised IRS Commitments as of November 2002 Plan</b>
<b>Human Capital Management</b>			
▪ Assess knowledge and skills needed to effectively perform IT.	✓		
▪ Inventory the knowledge and skills of current IT staff.	✓		
▪ Identify gaps between requirements and current staffing.	✓		
▪ Develop and implement plans to fill the gaps.		✓ (See pp. 31-33)	
<b>Cost and Schedule Estimation practices</b>			
▪ Direct PRIME to select an estimating method.	✓		
▪ Ensure PRIME develops a plan for implementing the method by mid-January 2002.	✓		
▪ Ensure PRIME begins implementation of the plan by the end of February 2002.	✓		
▪ Develop and implement an approach to oversee PRIME estimation practices by February 2002.		✓ (See pp. 34-36)	To be completed by mid- 2003.
<b>Integrated Program Schedule Development</b>			
▪ Finalize the Integrated Master Schedule for Release 2002 by late-December 2001.	✓		





## IRS and PRIME Have Accomplished Notable Achievements Related to Their Software Acquisition Practices

- The Clinger-Cohen Act requires the establishment of effective IT management processes. SEI's Software Acquisition Capability Maturity Model™ (SA-CMM) defines such processes for managing software acquisitions. Since 1995, we have recommended that IRS establish the "repeatable" level of SEI's software acquisition management processes (Level 2).<sup>16</sup>
- In December 2002, after an independent assessment, the IRS BSM office was rated SA-CMM Level 2.
- In August 2002, the PRIME systems integration contractor was rated SA-CMM Level 3. According to SEI, PRIME is the first organization in the world to achieve this rating.

<sup>16</sup>U.S. General Accounting Office, *Tax Systems Modernization: Management and Technical Weaknesses Must Be Corrected If Modernization Is to Succeed*, GAO/AIMD-95-156 (Washington, D.C.: July 26, 1995).



IRS Has Taken Steps to Balance Scope and Pace of BSM Program with Management Capacity of IRS and PRIME Contractor

- In accordance with our recommendation, IRS completed a reassessment of the FY 2002 BSM Program in May 2002 and took the following actions to better balance system acquisition project workload with management capacity:
  - IRS deferred the start of 5 new projects until FY 2003 and 2004 to reduce IRS/PRIME resource demands, including
    - Reporting Compliance,
    - Customer Account Data Engine Release 3, and
    - Enterprise Data Warehouse Release 2.
  - IRS reapplied a portion of these deferred financial resources available from these deferred projects towards PRIME management processes (\$1.1 million) and MITRE management support (\$0.75 million) to accelerate correction of modernization management control weaknesses.
- In addition, IRS has increased its own efforts and executive focus on management process improvement (not funded out of the BSM account).



## Enterprise-wide Configuration Management Processes Have Been Established, But Are Not Yet Fully Institutionalized

- Effective configuration management (CM) is an essential control for ensuring the integrity and consistency of system modernization program and project products throughout their life cycles.
- In June 2001, we reported<sup>17</sup> that BSM CM was ineffective. Accordingly, we made recommendations to address this weakness.
- In February 2002, we reported<sup>18</sup> that IRS had made important progress in addressing our recommendations, but did not yet have effective processes.

<sup>17</sup>GAO-01-716

<sup>18</sup>GAO-02-356



## Results

- Since then, IRS has implemented most of our remaining recommendations and strengthened its CM processes. For example, it has:
  - developed and implemented directives, plans, and standard operating procedures to define and establish an enterprise-wide process,
  - established a Modernization Change Control Board (CCB), project CCBs, and set approval authorities at all levels, and
  - completed compliance assessments for 5 projects to assess alignment with enterprise-wide policies and procedures.
- However, IRS has not yet fully institutionalized these processes. For example,
  - IRS has yet to complete or report on CM compliance assessments for several key projects, including the Security and Technology Infrastructure Release, Enterprise Systems Management, and Filing & Payment Compliance.



## Results

- Key activities had not been performed on 4 of the 5 projects assessed. These activities included preparing complete CM plans, clearly identifying configuration items, and resolving various configuration status accounting discrepancies.
- IRS acknowledges the importance of expanding and sustaining its progress in implementing CM processes and has committed, beginning in FY 2003, to conduct semi-annual compliance assessments for all BSM projects to verify that proper practices are being followed and to ensure that all identified discrepancies are corrected.
- Until IRS fully institutionalizes effective CM processes, it cannot adequately ensure that systems are being developed in accordance with enterprise-wide needs and requirements. Consequently, increased risk exists that projects will eventually require expensive rework.



## IRS's Enterprise Transition Strategy Lags Behind its Enterprise Architecture

- An enterprise architecture (EA) is an institutional blueprint defining, in both business and technology terms, how an enterprise operates today, how it wants to operate at some point in the future, and how it will “get there.”
- The Enterprise Transition Strategy (ETS) is the plan for migrating from the current state to the future state. To remain current and to support continued coordinated improvements across the enterprise, the ETS should be maintained and updated as time and circumstances dictate.



## Results

- However, IRS did not promptly update the transition strategy to conform to revisions in other components of the EA. For example,
  - Although IRS revised its enterprise architecture and issued version 2.0 in March 2002, it does not expect to approve ETS version 2.0 until December 2002 (9 months later).
  - IRS is currently revising its architecture and expects to approve EA version 2.1 in February 2003. IRS staff indicated that the draft ETS version 2.0 does not fully align with the content of the draft EA version 2.1 and that IRS plans to complete ETS 2.1 by March 2003.
- IRS officials intend to bring the transition strategy into closer synchronization with the rest of the architecture. IRS indicated that ETS version 2.0 was delayed because it decided to first complete its portfolio reassessment in mid-2002. IRS officials believed that close management of the 2002-2004 release plans mitigated the risk.
- By not promptly updating its transition strategy to conform to other changes in its architecture, IRS increases the risk that the implementation of modernized systems will take longer and cost more than currently planned.



## Although Progress Has Been Made, BSM Human Capital Strategy Is Not Yet Fully Implemented

- To maintain and enhance the capabilities of IT staff, organizations should develop and implement a human capital strategy that, among other things, includes the following steps
  - assess knowledge and skills needed to effectively perform IT operations to support agency mission and goals,
  - inventory the knowledge and skills of current IT staff,
  - identify gaps between requirements and current staffing, and
  - develop and implement plans to fill the gaps.
- We reported in our February 2002 report<sup>19</sup> that IRS had not defined or implemented a human capital strategy. Accordingly, we recommended that IRS address this weakness.

<sup>19</sup>GAO-02-356





## Results

- IRS has made important progress in addressing our recommendation. For example, it has
  - analyzed its current human capital state and conducted a gap assessment,
  - developed a human capital plan to better align human capital resources with the organizational business direction,
  - established a Human Factors Life Cycle Office.
- However, IRS has yet to fully implement its plan to ensure that it has sufficient human capital resources. IRS has yet to
  - hire, develop, or retain sufficient human capital resources with the required competencies, including technical skills, in specific mission areas, and
  - develop a comprehensive multiyear workforce plan in place of the current annual plan that does not encompass all phases of multiyear projects.



## Results

- IRS recognizes the importance of implementing an effective strategy, and, for FY 2003, it is committed to
  - carry-out the implementation strategy for the human capital plan,
  - establish and report on measures for the Human Factors Life Cycle in support of BSM initiative.
- Until IRS fully implements its strategy, it will not have all of the necessary IT knowledge and skills to effectively manage the BSM program or to operate modernized systems as they deploy. Consequently, the risk of BSM program and project cost, schedule, and performance shortfalls is increased.



## Although Progress Has Been Made, IRS Practices for Validating Cost and Schedule Estimates Are Not Yet Fully Implemented

- Organizations require the capability to adequately review and validate project cost and schedule estimates so that funding, resource allocation, and technical decisions can be made using credible information. This capability requires that procedures be developed, approved, and used, and that staff are sufficiently trained in their use.
- In February 2002, we reported<sup>20</sup> that IRS had not implemented a capability to effectively estimate project costs and schedules. The cost and schedule estimates in the November 2001 plan were contractor-provided, “rough order of magnitude” estimates, that had not been subjected to meaningful, reliable validation by IRS. We recommended that IRS correct this weakness.

<sup>20</sup>GAO-02-356



## Results

- Since then, IRS has assumed responsibility for validating contractor-provided cost and schedule estimates. To achieve this, IRS has developed procedures, including a detailed checklist based on an SEI cost and schedule estimation framework, for independently reviewing contractor-provided cost and schedule estimates.
- However, these procedures have not been approved or fully implemented, and staff have not been trained in their use, because IRS underestimated the amount of time and effort required to implement these procedures.
- Also, IRS has undertaken an effort to validate the PRIME's cost and schedule estimation methods, and to establish ways to leverage these methods in its validation system.



## Results

- These cost validation issues contributed to the fact that BSM projects have cost more, taken longer, and delivered less functionality than originally estimated. For example,
  - IRS reports that CADE's (Release 1) Milestone 4 date has slipped by an additional 6 months, and the cost would have increased, except the contractor has absorbed the associated increased cost. The slippage has delayed delivery of CADE functionality and related taxpayer benefits for another tax filing season.
- IRS recognizes these weaknesses and is committed for FY 2003 to:
  - completing a pilot of the new procedures in January 2003
  - providing training in PRIME cost and schedule processes and practices
  - overseeing PRIME's progress in completing/continually improving its estimating system
  - fully implementing its validation approach by mid-2003



## Objective 3: Other Observations About IRS's BSM Program and Expenditure Plan

### Observation 1: The Number of Project Milestones Experiencing Cost and/or Schedule Changes Is Increasing

- In its November 2001 plan, IRS disclosed that 18 initiatives or project milestones experienced cost and/or schedule shortfalls.
- In its November 2002 plan, IRS disclosed that 25 of 28 initiatives or project milestones have experienced cost and/or schedule shortfalls against commitments made in its November 2001 plan. Also, IRS reported cost decreases in certain milestones. A summary of cost performance follows:
  - 4 program-level initiatives had cost increases ranging from 4% to 20% (\$288,000 to \$6.4 million)
  - 14 project milestones experienced cost increases ranging from 1% to 117% (\$121,000 to \$11.7 million)
  - 4 milestones had cost decreases ranging from 1% to 20% (\$233,000 to \$4.8 million)



## Results

- A summary of schedule performance follows:
  - 12 project milestones experienced schedule delays ranging from 1.5 months to 8 months, with 9 experiencing delays of 4 months or more
  - one milestone had its schedule shortened by 1 month
  - schedule performance for four project milestones could not be determined since their commitment date for completion is listed as “to be determined”
- Appendix IV shows the details, including explanations, of the cost and schedule changes reported by IRS in its November 2002 plan. The following table illustrates three of the more significant examples:

Projects	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)
Internet Refund/ Fact of Filing (Release 1) Milestone 5	7/31/02 \$5,000	TBD \$8,304	+\$3,304 (+66%)
e-Services (Release 1.1 and 1.2) Milestone 4,5	10/31/03 \$40,191	4/18/04 \$50,146	+6 Months +\$9,955 (+25%)
HR Connect (Release 1) Milestone 4,5	12/31/02 \$10,000	TBD \$21,700	+\$11,700(+117%)



## Results

- IRS has provided a detailed explanation for each cost or schedule change in its plan.
- Subsequent to the submission of its November 2002 plan to its appropriations subcommittees, IRS reported an additional \$15-18 million cost increase for Release 1 of the Integrated Financial Systems project (milestones 4 and 5). Among the reasons given by IRS for the cost increase are
  - Additional testing resources and tools
  - Development environment build-out to support training and testing
  - Increased requirements,
  - Security enhancements to ensure EA compliance,
  - Additional training for approximately 8000 users, and
  - Prior estimate was made before IFS vendor was selected, and license fees were known and design was done.





## Observation 2: IRS's BSM Program Is Entering a Critical, High-Risk Phase

- The scope and complexity of the BSM Program are growing. The number of projects underway continues to expand and the tasks associated with those projects that are moving beyond design (milestone 3) and into development (milestone 4) are by their nature more complex and risky. The IRS November 2002 plan calls for 8 new projects or new releases of existing projects, and 10 business and data projects that are in milestone 4 or beyond. OMB has approved funding for only 3 of the new projects or releases, and 5 of the projects that are in milestone 4 or beyond.
- Several of these projects, such as CADE and core infrastructure projects, will provide the foundational infrastructure upon which later projects will depend, and have already experienced cost and schedule delays.
- Continued delays and cost increases in these projects could have a similar, cascading effect on other projects.



### Observation 3: Opportunities For Using Performance-Based Contracts Are Increasing

- Federal Acquisition Regulation indicates that performance-based contracting is the preferred method for acquiring services, should be used to the maximum extent practicable, and that fixed-price task orders are the preferred type of performance-based task order.
- In September 2002, TIGTA reported<sup>21</sup> that the use of fixed-price task orders decreased between FY 2000 and FY 2001 from nearly 57 percent of task orders issued to less than 21 percent, and recommended BSMO require the use of fixed-price task orders whenever possible and appropriate for projects in development and deployment and for any other task orders where requirements are clearly identified.
- OMB has also encouraged IRS to use performance-based, fixed price task orders to the maximum extent practicable.

<sup>21</sup>Additional Improvements Are Needed in the Application of Performance-Based Contracting to Business Systems Modernization Projects (Reference Number 2002-20-170, dated September 2002)



## Results

- According to IRS officials, under IRS's enterprise life cycle, system specifications should be reasonably definite at the detailed design checkpoint prior to exiting milestone 4. The IRS November 2002 plan shows that 9 projects will proceed towards milestone 4 or 5 for FY 2003. OMB has approved funding for 4 of these projects (e-Services, HR Connect, CADE, and Integrated Financial System).
- IRS officials state that the vast majority of development projects after detailed design, when specifications are reasonably definite, should be under either a fixed-price task order or performance-based task order that is not fixed price and stated that they are taking steps to implement such task orders, when appropriate. They also noted that such task orders may not be appropriate in certain circumstances where a type of project involve significant uncertainty as to requirements.
- IRS does not have a clearly documented process for determining the type of task order to be awarded, but recognizes the need to develop such a process.



## Observation 4: IRS Has Improved the Format of Its Expenditure Plan

- In our February 2002 report,<sup>22</sup> we observed that the November 2001 plan did not provide sufficient information on changes to project scope and interdependencies with other modernization projects. IRS has made improvements in the November 2002 plan's format. It more clearly identifies changes in project scope and cross-project dependencies.

<sup>22</sup>GAO-02-356



### Observation 5: Internal Costs of BSM Program, Expected to Increase, Are Not Tracked or Known

- As we previously reported,<sup>23</sup> IRS paid its internal modernization program costs, such as BSM program office staff costs, and certain external BSM costs from Information Systems (IS) and other non-BSM appropriations. However, the actual amounts related to the program were not tracked or known.
- IRS officials said they used “order of magnitude” estimates for capital planning purposes or developing business cases. However, they did not have actual costs to later compare or assess the accuracy of their estimates.
- IRS officials also expect funding for the BSM program from IS and other appropriations to significantly increase as more systems near deployment.
- Consequently, as funding increases, risk also increases because decision-makers may not have complete information upon which to make important decisions, such as cost-benefit analyses, developing or assessing business cases, or making funding and resource allocations.

<sup>23</sup>U.S. General Accounting Office, *Internal Revenue Service: Results of Review of IRS Spending for Business Systems Modernization*, GAO-01-920 (Washington, D.C.: August 17, 2001) 44



## Conclusions

- IRS's November 2002 plan satisfies the legislative conditions. Since our last report, IRS has made significant progress in implementing modernization management controls and capabilities. As a result, it is better-prepared to meet the challenges ahead. At the same time, certain BSM management capabilities have not been fully implemented.
- IRS faces heightened risks because (1) several key projects are entering their later stages of development and deployment, (2) some of these projects provide the foundational infrastructure upon which later projects depend, (3) an increasing number of project milestones are experiencing cost increases and schedule delays, and (4) it plans to start more projects.
- Without sustained top management involvement, improved management capabilities, and consistent oversight, the successful implementation of the BSM program could be jeopardized.



## Recommendations for Executive Action

- To improve IRS's modernization management controls and capabilities, we reiterate our prior recommendations that the Acting Commissioner of Internal Revenue direct the Chief Information Officer (CIO) to
  - institutionalize BSMO configuration management procedures;
  - implement plans for obtaining, developing, and retaining requisite human capital resources; and
  - implement effective procedures for validating contractor-developed cost and schedule estimates
- In addition, we recommend that the Acting Commissioner of Internal Revenue direct the CIO to
  - promptly update the enterprise transition strategy to conform to other changes in IRS's enterprise architecture and
  - establish and implement a process for determining the type of task order to be awarded



## Agency Comments

- In providing oral comments on a draft of this briefing, BSM executives, including the Associate Commissioner for Business Systems Modernization, stated that they generally agree with this briefing and that
  - it is a fair characterization of the progress they have made in maturing management processes and in indicating areas for further growth.
  - they appreciated GAO for their on-going support throughout the year.
  - they are making continued progress toward those areas cited in the draft briefing as needing further progress.





Appendix I:  
 BSM Program-Level Initiatives/Projects

Description of BSM Program-Level Initiatives and Projects

<u>Proposed Modernization Initiatives</u>	<u>Description</u>
<b>Program-Level Initiatives:</b>	
Architecture & Integration	Ensures that systems solutions meet IRS business needs and that the projects are effectively integrated.
Business Integration	Ensures that IRS BSM program is aligned with the business units' reengineering efforts and that business transformation plans are developed and maintained to support a seamless "transition to support".
Management Processes	Provides sustaining support for program-level management processes, including quality assurance, process improvement, training, program control, and ELC maintenance and enhancements.
FFRDC - MITRE	Provides program management and systems engineering support to BSMO.
Program Management Office	Provides overall program management for IRS-PRIME Partnership activities and deliverables, and is responsible for coordinating, tracking, and integrating all program-wide costs, schedules, and performance measures.
<b>Core Infrastructure Projects:</b>	
Development Integration & Testing Environment	Provides oversight for laboratory environments which support development, and testing: (1) Virtual Development Environment – development environment and standardized set of tools; (2) Enterprise Integration Testing Environment – integration testing environment for all projects.
Infrastructure Shared Services	Provides foundational enabling infrastructure (infrastructure technology components and strategic infrastructure services for all data and business projects: (1) Enterprise Systems Management – develops and executes a strategy to provide network and systems management to improve IT infrastructure availability and performance; (2) Security and Technology Infrastructure Release – provides infrastructure for secure telephony and electronic interaction among employees, tax practitioners, and taxpayers.

Source: IRS

**Appendix I  
Briefing Slides from the December 18, 2002,  
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**Appendix I:  
BSM Program-Level Initiatives/Projects**

<b>Data Projects:</b>	
Customer Account Data Engine	Builds the modernized database foundation to replace the existing master file processing systems.
Integrated Financial Services	Implements an integrated financial management system using a commercial off-the-shelf enterprise resource planning product.
Custodial Accounting Project / Enterprise Data Warehouse	Provides integrated, reliable tax operations and internal management information to support evolving decision analytics, performance measurement, and management information needs.
Modernized Data Access	Provides a single integrated approach and software for accessing current processing environment (legacy) data across the organization, and builds key infrastructure components that all modernization projects can share.
Information Returns Processing	Provides modernized information returns repository to link third party data directly to customer accounts to efficiently handle customer service and compliance inquiries and demands.
<b>Business Projects:</b>	
Customer Communications 2001	Improves communications infrastructure, including telephone call management, call routing, and customer self-service applications.
Internet Refund / Fact of Filing	Improves customer self-service by providing instant refund status information and instructions for resolving refund problems to taxpayers with Internet access.
Customer Account Management	Delivers an enterprise solution to support access to tax account data, contact management, case management, outbound correspondence management, and workflow management.
Customer Contact Modernization	Provides initial building blocks to transition IRS from current call center environment to new customer contact center.
e-Services	Creates a web portal and value-adding e-Services to promote the goal of conducting most of the IRS's transactions with taxpayers and tax practitioners electronically.
Filing & Payment Compliance	Provides support for detecting, scoring, and working cases in the area of non-filer (filing compliance) and delinquency (payment compliance) cases.
HR Connect	Delivers an enterprise solution to allow IRS employees to access and manage their human resources information online.
Modernized e-file	Provides a single standard for filing electronic tax returns.

Source: IRS



## Appendix II: IRS Expenditure Plan

### Detailed Summary of IRS's November 2002 Expenditure Plan (\$000)

Proposed Modernization Initiatives	Release <sup>1</sup>	Milestone <sup>2</sup>	Milestone Date	Amount Requested	OMB Approved
<b>Program Level Initiatives<sup>3</sup></b>					
Architecture & Integration		FY	Nov. 03	\$43,577	
Business Integration		FY	Nov. 03	\$11,413	
Management Processes		FY	Nov. 03	\$13,828	
FFRDC - MITRE		FY	Nov. 03	\$20,750	
Program Management Office		FY	Nov. 03	<u>\$9,908</u>	
<i>Subtotal - Prog. Mgmt. and Arch.</i>				\$99,476	\$25,000
<b>Core Infrastructure Projects<sup>3</sup></b>					
Development Integration & Testing Environment		infrastructure	Nov. 03	\$13,961	
Infrastructure Shared Services		infrastructure	Nov. 03	<u>\$85,300</u>	
<i>Subtotal - Core Infrastructure Projects</i>				\$99,261	\$99,000
<b>Data Projects</b>					
Customer Account Data Engine	R1	5	June 03	\$4,851	
Customer Account Data Engine	R1	6	Dec. 03	\$3,638	
Customer Account Data Engine	R2	infrastructure	TBD	\$6,924	
Customer Account Data Engine	R3	3	Dec. 03	\$15,289	
Customer Account Data Engine	R3	infrastructure	Dec. 03	\$581	
Customer Account Data Engine	R4	3	Aug. 04	<u>\$6,756</u>	
<i>Subtotal - CADE</i>				\$38,039	\$38,000

Source: IRS

<sup>1</sup>Releases are software versions that provide a subset of the total planned project functionality.

<sup>2</sup>Milestones correspond to phases within IRS's Enterprise Life Cycle, which is graphically depicted in the Background Section.

<sup>3</sup>Program Level Initiatives and Core Infrastructure Projects are funded on a fiscal year (FY) basis rather than by milestone.



## Appendix II: IRS Expenditure Plan

### Detailed Summary of IRS's November 2002 Expenditure Plan (\$000)

Proposed Modernization Initiatives	Release <sup>1</sup>	Milestone <sup>2</sup>	Milestone Date	Amount Requested	OMB Approved
<b>Data Projects (Cont.)</b>					
Integrated Financial Services	R1	4	Sept. 03	\$67,227	
Integrated Financial Services	R1	5	March 04	\$6,828	
Integrated Financial Services	R2	2,3a	TBD	<u>\$2,500</u>	
<i>Subtotal - IFS</i>				\$76,555	\$77,000
Custodial Accounting Project /Enterprise Data Warehouse	R1, B1	4,5	May 03	\$4,850	
Custodial Accounting Project / Enterprise Data Warehouse	R1, B1.1	4,5	Sept. 03	\$13,613	
Modernized Data Access	R1	infrastructure	Nov. 03	\$16,741	
Information Returns Processing	R1	1	TBD	<u>\$3,000</u>	
<i>Subtotal - Data Projects</i>				\$152,798	\$115,000
<b>Business Projects</b>					
Customer Account Management	R1	4	Oct 04	\$20,949	
Customer Contact Modernization	R1	2	TBD	\$2,500	
e-Services	R1.1/1.2	5	April 04	\$5,846	\$6,000
Filing & Payment Compliance	R1	4	April 04	\$26,159	
HR Connect	R1	4,5	TBD	\$11,500	\$12,000
Modernized e-file		4	Nov. 03	<u>\$27,846</u>	
<i>Subtotal - Business Projects</i>				\$94,800	\$18,000
<b>Addition to Management Reserve</b>				\$4,342	
<b>Total Business Systems Modernization Program</b>				<u>\$450,677</u>	<u>\$257,000</u>

Source: IRS



## Appendix III: Results of Past GAO Reviews

Spending Plan	Results of GAO Review
<b>1<sup>st</sup> Spending Plan            (May 1999)            (\$35 million request)</b>	<ul style="list-style-type: none"> <li>• The plan satisfied the legislative conditions for the use of ITIA funds and was consistent with our open recommendations.</li> <li>• The plan was an appropriate first step, but the key to success would be effective implementation of the plan.</li> <li>• Future plans should specify progress against prior plan commitments, and the next plan should clarify IRS/contractor roles and responsibilities. (See <i>Tax Systems Modernization: Results of Review of IRS' Initial Expenditure Plan</i>, GAO/AIMD/GGD-99-206, June 15, 1999)</li> </ul>
<b>1<sup>st</sup> Interim Spending Plan            (Dec 1999)            (\$33 million request)</b>	<ul style="list-style-type: none"> <li>• The plan raised concerns about projects that were scheduled to begin detailed design and software development before, among other things, the enterprise architecture was completed and the ELC was defined and implemented.</li> <li>• IRS should expedite completion of the architecture and implementation of the ELC.</li> <li>• Future plans should explain how IRS plans to manage the risk of performing detailed design or development work if the architecture is not sufficiently completed or the ELC is not sufficiently implemented.</li> </ul>



## Appendix III: Results of Past GAO Reviews

Spending Plan	Results of GAO Review
<b>2<sup>nd</sup> Spending Plan (Mar 2000)</b> (\$176 million request)	<ul style="list-style-type: none"> <li>• IRS met relatively few commitments in its \$35 million first ITIA spending plan, even though the Service later received an additional \$33 million and nearly 5 months of extra time to accomplish the goals set forth in the first plan.</li> <li>• The plan satisfied the legislative conditions for the use of ITIA funds, and was generally consistent with recommendations contained in our earlier reports.</li> <li>• The key to success would be whether IRS effectively implements the plan.</li> <li>• Until IRS completes its initiated actions to redirect and restructure its modernization effort, it would continue to lack key modernization and technical controls. (See <i>Tax Systems Modernization: Results of Review of IRS' March 7, 2000, Expenditure Plan</i>, GAO/AIMD-00-175, May 24, 2000)</li> </ul>
<b>2<sup>nd</sup> Interim Spending Plan (Aug 2000)</b> (\$33 million request)	<ul style="list-style-type: none"> <li>• IRS had not adhered to the approved and funded March 7, 2000, spending plan.</li> <li>• On selected initiatives, IRS had not met cost and schedule commitments made in its March 7, 2000 spending plan.</li> <li>• Most modernization initiatives had nevertheless made important progress since March 2000. IRS fully addressed two of its modernization management capability weaknesses, and it was making progress in addressing others.</li> <li>• One project, Custodial Accounting Project (CAP), had been approved for product development without sufficient definition and without a compelling business case. Further investment in CAP should be limited until IRS demonstrates sufficient business value and reports to the House and Senate committees on risk mitigation.</li> <li>• Another project, Security and Technology Infrastructure Release (STIR), was being preliminarily designed without sufficient requirements definition and economic justification. The STIR project should be directed to complete a security risk assessment as soon as possible, and ensure that STIR requirements and the proposed design solution are economically justified through a business case. (See <i>Tax Systems Modernization: Results of Review of IRS' August 2000 Interim Spending Plan</i>, GAO-01-91, November 8, 2000)</li> </ul>



## Appendix III: Results of Past GAO Reviews

Spending Plan	Results of GAO Review
<b>3rd Spending Plan (Oct 2000)            (\$200 million request)</b>	<ul style="list-style-type: none"> <li>• IRS's plan satisfied the legislative conditions for the use of ITIA funds, and was making important progress towards satisfying the congressional direction on two projects – CAP and STIR.</li> <li>• IRS was making important progress in establishing effective modernization management capability, but important and challenging work remained. Until IRS completed its initiated actions to fully implement its system life cycle methodology and business systems modernization office, and resolve issues concerning the completeness and accuracy of enterprise architecture, it continued to lack key modernization and technical controls.</li> <li>• Five modernization initiatives experienced schedule delays and/or cost increases. However, the third plan did not address whether projects' prior commitments for delivery of promised systems capabilities (requirements) and benefit/business value were being met.</li> <li>• IRS used contractor-provided "rough order-of-magnitude" estimates in preparing the third expenditure plan. IRS planned to validate the third plan's estimates as part of its process to negotiate and definitize contract task orders. Previously, this process resulted in finalized contract costs below the estimates, totaling \$9 million. (See <i>Tax Systems Modernization: Results of Review of IRS' Third Expenditure Plan</i>, GAO-01-227, January 22, 2001)</li> </ul>



## Appendix III: Results of Past GAO Reviews

Spending Plan	Results of GAO Review
<p><b>4th Spending Plan (March 2001)</b>  <b>(\$128 million request)</b></p>	<ul style="list-style-type: none"> <li>• IRS's plan satisfied the conditions specified in the appropriations acts.</li> <li>• IRS continued to make important progress in implementing modernization management controls and capabilities. Nevertheless, IRS's modernization management capacity is still not where it should be, given (1) the number of systems acquisition projects that the March 2001 plan identifies as underway and planned and (2) the fact that several of the ongoing projects are entering critical stages in their life cycles. For example, IRS did not have a sufficiently defined version of the enterprise architecture to guide and constrain projects, and employing rigorous configuration management practices.</li> <li>• Due to missing management capacity, key IRS projects were beginning to experience cost, schedule, and performance shortfalls against the commitments the agency made in its third expenditure plan. For example, deployment of the Customer Communications 2001 project was three months behind schedule, and promised system capabilities and associated benefits had been deferred. Also, a critical infrastructure project, STIR, was reported to be 1.5 months late in trying to complete its preliminary design phase (Milestone 3); and the agency was still working to finalize 6 of 19 work products needed to complete the phase. Thus, the project was actually almost five months late.</li> <li>• IRS officials recognized the need to address its modernization management capacity before key ongoing projects moved into critical life-cycle phases, and before additional projects were started. Accordingly, IRS planned or had initiated steps to address these weaknesses. In particular the Commissioner had decided to slow ongoing and new projects, giving priority to putting in place missing management capacity. We believed this decision was prudent and appropriate and made recommendations to ensure IRS followed through on this decision. (See <i>Business Systems Modernization: Results of Review of IRS' March 2001 Expenditure Plan</i>, GAO-01-716, June 29, 2001)</li> </ul>





## Appendix III: Results of Past GAO Reviews

Spending Plan	Results of GAO Review
<p><b>5th Spending Plan (Nov 2001)</b>            (\$391 million request)</p>	<ul style="list-style-type: none"> <li>• IRS's plan satisfied the conditions specified in the appropriations acts.</li> <li>• IRS continued to make important progress in implementing modernization management controls and capabilities. Nevertheless, IRS's modernization management capacity is still not where it needs to be, given (1) the number of systems acquisition projects that the November 2001 plan identifies as being underway, (2) the fact that several of these ongoing projects have already entered the critical building stage of their life cycles (milestone 3) and are to begin deployment (milestone 4) during this year, and (3) IRS's plan to begin additional projects. Examples of modernization management controls and capabilities that are not yet fully implemented include software acquisition management, configuration management, quality assurance, risk management, enterprise architecture implementation, human capital management, integrated program scheduling, and cost and schedule estimating.</li> <li>• The increased risk of IRS's proceeding without these controls and capabilities had contributed to actual project cost, schedule, and performance shortfalls. For example, deployment of the CADE Release 1 project was 6 months behind, and its cost had increased by \$5 million.</li> <li>• IRS acknowledged the need to strengthen its modernization management controls, and recognized that these controls become more critical as the size and complexity of the BSM program continues to increase. It also had actions underway to fully implement these controls and, until then, planned to compensate for their immaturity by applying experienced human capital.</li> <li>• Reliance on a combination of existing immature processes and individual expertise and heroic efforts was a short-term solution to a long-term need. We made recommendations to assist IRS in striking a proper balance between the need to quickly introduce modernized systems yet prudently manage the risks inherent in such an undertaking. (See U.S. General Accounting Office, <i>Business Systems Modernization: IRS Needs to Better Balance Management Capacity with Systems Acquisition Workload</i>, GAO-02-356 (Washington, D.C.: Feb. 28, 2002)</li> </ul>



Appendix IV:  
 IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)	IRS Explanation of Change
Customer Communications 2001 Milestone 4,5	10/31/01 \$45,174	02/26/02 \$44,796	+4 months -\$378 (-1%)	A performance award dispute (settled in February 2002) delayed Milestone 5. The IRS paid the PRIME contractor \$500K less in performance awards than the maximum allowed under the task order. Some of this extra funding was used to cover higher than expected transition to support costs.
Internet Refund/ Fact of Filing (Release 1) Milestone 3	9/30/01 \$10,696	9/28/01 \$10,817	+\$121 (+1%)	Actual costs came in \$121K higher than estimated.
Internet Refund/ Fact of Filing (Release 1) Milestone 4	3/31/02 \$5,000	TBD \$6,792	+\$1, 792 (+36%)	Additional hardware requirements (\$250k). Additional testing, transition to support needs, increased requirements, and MS4 cost overrun increase (\$1.465M). Additional FY02 requirements for help desk (\$50,000). Additional support from ESM project for performance measurement \$27,000.
Internet Refund/ Fact of Filing (Release 1) Milestone 5	7/31/02 \$5,000	TBD \$8,304	+\$3,304 (+66%)	Maintenance through the remainder of the fiscal year and enhancements for FY03 filing season (\$2.304M). Additional cost due to extension of MS5 from 07/31/02 to 09/30/02 (\$1.0M).

Source : IRS and GAO Analysis

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**Appendix IV:**  
**IRS Reported Cost / Schedule Changes**

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)	IRS Explanation of Change
e-Services (Release 1.1 and 1.2) Milestone 4,5	10/31/03 \$40,191	4/18/04 \$50,146	+6 Months +\$9,955 (+25%)	The delays occurred because infrastructure was not completed to meet the e-Services date. Did not resolve technical issues timely. Also schedule delays and cost increases because of move of Gaithersburg Computing Center environment to the Martinsburg and the Tennessee Computing Centers. Unplanned infrastructure hardware (\$4.255M). Additional STIR Integration (\$4.200M). Increased product assurance testing costs \$1.5M.
Customer Account Management (Release 1) Milestone 2	3/31/02 \$13,100	8/30/02 \$13,300	+5 months +\$200 (+2%)	New business requirements required update to future concept of operations, and to identify and prioritize their business process re-engineering opportunities before proceeding to MS3. Proposal for MS3 cost overrun due to changes in business requirements.
Customer Account Management (Release 1) Milestone 3b	10/31/02 \$24,494	6/30/03 \$19,694	+8 months -\$4,800 (-20%)	New business requirements required update to future concept of operations, and to identify and prioritize their business process re-engineering opportunities before proceeding to MS3. Decrease due to movement of work to MS3a and ITABS.
Filing and Payment Compliance (Release 1) Milestone 2,3	1/31/03 \$17,117	12/31/02 \$18,117	-1 month +\$1,000 (+6%)	\$1.0M variance to include unplanned transition to support in MS2,3 activities per new BSM program guidelines.

Source: IRS and GAO Analysis

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**Appendix IV:  
IRS Reported Cost / Schedule Changes**

<b>Program/ Project Management Initiative</b>	<b>Commitment Date and Funding as of 10/2001 (\$000)</b>	<b>Revised Commitment Date and Funding (\$000)</b>	<b>Change (%) (\$000)</b>	<b>IRS Explanation of Change</b>
HR Connect (Release 1) Milestone 4,5	12/31/02 \$10,000	TBD \$21,700	+\$11,700(+117%)	CBS ESC approval to exit MS3 was delayed until February 2002. Given Treasury's 8-9 month estimate to complete development work, this delayed the start of MS5. Deployment schedule for remainder of IRS will be determined following prototype deployment. Adjustment to previous estimate (\$200k). FY 2003 cost is \$11.5M.
Customer Account Data Engine (CADE) Release 1 Milestone 4	6/30/02 \$45,338	12/31/02 \$45,338	+6 months	Deployment delayed due to contractor delays in staffing the project, failure to acquire a business rules engine, underestimating the technical complexity of a few key software components, and late attention to critical project elements.
Customer Account Data Engine (CADE) Release 1 Milestone 5	12/31/02 \$5,795	6/30/03 \$4,851	+6 months -\$944 (-16%)	FY 2002 funding for MS5 (\$5.795M) was returned to management reserve because schedule delays moved MS5 to FY 2003. The net MS5 decrease (\$.994M) is due to revised estimates to do the same work.
Customer Account Data Engine (CADE) Release 2 Milestone 4	12/31/02 \$38,400	TBD \$46,324	+\$7,924 (+21%)	In the process of replanning Release 2 due to delays in Release 1. Begin and end dates will be determined when the task order is definitized in November. Planning for future functionality due to CAM/CADE sequencing (\$1.0M). FY03 infrastructure costs (\$6.924M)

Source: IRS and GAO Analysis

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**Appendix IV:  
IRS Reported Cost / Schedule Changes**

<b>Program/ Project Management Initiative</b>	<b>Commitment Date and Funding as of 10/2001 (\$000)</b>	<b>Revised Commitment Date and Funding (\$000)</b>	<b>Change (%) (\$000)</b>	<b>IRS Explanation of Change</b>
Customer Account Data Engine (CADE) Release 3 Milestone 3	6/30/03 \$9,779	12/31/03 \$15,870	+6 months +\$6,091 (+62%)	Deferred to FY03 to align with CAM and CADE Release 2 capabilities, which impact Release 3 scope, schedule, and costs.
Custodial Accounting Project/Enterprise Data Warehouse (CAP/EDW) Release EDW R1 B1 Milestone 4,5	3/31/03 \$51,430	5/15/03 \$62,924	+1.5 months +\$11,494 (+22%)	Delay due to temporary reassignment of IMF programmer resources to support tax filing season changes. Variance (\$6.664M FY 2002 and \$4.850M FY 2003) due to integration with STIR components, revenue interface with IFS, CAP-CADE interface, schedule delays, changes to IMF extract, MCC operational support, development of changes to the CAP/CADE interface, and requirements associated with mid-year IMF changes and CAP/IFS interface.
Integrated Financial Services/Core Financial Services (IFS/CFS) Release 1 Milestone 4A/3B	11/30/02 \$17,250	11/30/02 \$23,000	+\$5,750 (+33%)	Completed the deliverables originally scheduled for MS2,3. However, certain deliverables needed to exit Milestone 3 under Milestone Exit criteria were not planned using the COTS path through the ELC until MS4A. Extended Milestone 3 by establishing Milestone 3B so we could produce the deliverables needed to obtain Enterprise Architecture Certification and other design work and exit Milestone 3. The net MS4A/3B variance, \$5.750M (-\$17.250 + \$23.000) is due to revised estimates to complete the work and the ISS DCC communications infrastructure buildout for IFS.

Source: IRS and GAO Analysis

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## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)	IRS Explanation of Change
Infrastructure Shared Services FY 2002	11/30/02 \$39,747	11/30/02 \$48,846	+\$9,099 (+23%)	Started 3 months early to provide support to FY 2003 Release. Cost increase due to realignment of projects' schedules, increased software maintenance, decision to buy rather than lease equipment, and addition of Modernized e-file requirements. The majority of the cost overrun is as a result of OMB A-11 requirements to purchase HW/SW instead of leasing it as originally planned. Purchasing the equipment in FY 2002 saves money in the out years.
Security and Technology Infrastructure Releases (STIR) Milestone 4	10/30/01 \$31,287	1/31/02 \$31,287	+3 months	Slip in Enterprise Integration and Test Environment (EITE) Ready For Use (RFU) date caused a slip in the MS4 exit date. Late identification, ordering, and receipt of equipment caused the slip in EITE.
Security and Technology Infrastructure Releases (STIR) FY 2002	5/31/02 \$43,973	11/30/02 \$55,522	+6 months +\$11,549 (+26%)	Start date slipped 3 months due to slippage in milestone 4 exit date. End date slipped because STIR was split into two releases to accommodate projects' schedules. Sub-release 1 supports IR/FoF; Release 2 supports e-Services. Cost change due to realignment of projects' schedules, increased software maintenance, additional security requirements, and OMB A-11 requirement to purchase rather than lease equipment (+\$11.340M), and application of FY 2001 infrastructure funds to FY 2002.

Source: IRS and GAO Analysis

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## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)	IRS Explanation of Change
Enterprise Systems Management (ESM) Milestone 4	12/19/01 \$9,184	2/19/02 \$9,184	+2 months	60-day extension of MS4 exit to realign the schedule with STIR and EITE RFU, re-evaluate the system requirements document relative to the evolving needs of the modernized projects, specifically IR/FoF, evaluate the current ITS organization's ability to support the existing ESM release plan.
Enterprise Systems Management (ESM) FY 2002	7/31/02 \$11,323	11/30/02 \$11,090	+4 months -\$233 (-2%)	Start date slipped 3 months due to slippage in milestone 4 exit date. End date slipped to coincide with ESM PMAR release 1.3 to support IR/FoF. Cost decrease due to revised period of performance, enhancements in Web Hosting facilities, and Security Test & Evaluation overrun.
Development Integration and Test Environment (DITE) FY 2002	11/15/02 \$12,916	11/15/02 \$17,194	+\$4,278 (+33%)	Increased support for Help Desk, Data Modeling, Rational Tools, Customer Guide, and increase in maintenance costs. Cost of relocating projects from GCC to MCC. Cost to move Z900 from GCC to TCC for Disaster Recovery.
Program Management FY 2002	11/10/02 \$7,918	11/10/02 \$8,206	+\$288 (+4%)	Savings realized as a result of negotiation of the fee position and reaching agreement on the price for the full period of performance. New requirements requests received so late in the fiscal year are, in some cases, only achievable by extra costs, such as having contractors.

Source: IRS and GAO Analysis



## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%) (\$000)	IRS Explanation of Change
Architecture and Integration FY 2002	11/10/02 \$32,539	11/10/02 \$38,948	+\$6,409 (+20%)	Cost increase (\$6.409M) transferred from Business Integration to cover the cost of Release Management.
Management Processes FY 2002	11/10/02 \$10,082	11/10/02 \$11,190	+\$1,108 (+11%)	Cost increase (\$1.108M) needed to fund the PRIME's SA CMM activities to prepare for and conduct the SA CMM Level 3 assessment.
FFRDC – MITRE FY 2002	11/10/02 \$18,070	11/10/02 \$18,820	+\$750 (+4%)	Additional work identified to support Program Management (acquisition management), Management Processes (process improvement, ELC, risk management) and Architecture & Engineering (data management).

Source: IRS and GAO Analysis



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# Briefing Slides from the April 14, 2003, Briefing to the Senate and House Appropriations Subcommittee Staffs

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## Results of Review of IRS's Revised Fiscal Year 2003 Business Systems Modernization Expenditure Plan

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Briefing to the Staffs of  
the Senate Committee on Appropriations,  
Subcommittee on Transportation, Treasury and  
General Government  
and  
the House Committee on Appropriations,  
Subcommittee on Transportation, Treasury, and  
Independent Agencies

April 14, 2003

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## Briefing Overview

- Introduction
- Objectives
- Scope and Methodology
- Background
- Results in Brief
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- Agency Comments
- Appendices
  - I – Description of BSM Program-Level Initiatives and Projects
  - II – Detailed Summary of IRS’s March 2003 Expenditure Plan
  - III – Detailed Comparison of IRS’s Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans
  - IV – IRS Reported Cost and Schedule Changes



## Introduction

- As mandated by IRS's FY 2003 appropriations act,<sup>1</sup> Business Systems Modernization (BSM) funds are unavailable until IRS submits to the congressional appropriations committees for approval, a modernization expenditure plan that:
  - Meets the Office of Management and Budget's (OMB) capital planning and investment control review requirements;
  - Complies with IRS's enterprise architecture (EA);<sup>2</sup>
  - Conforms with IRS's Enterprise Life Cycle methodology;<sup>3</sup>
  - Is approved by IRS, Treasury, and OMB;
  - Is reviewed by GAO; and
  - Complies with federal acquisition rules, requirements, guidelines, and systems acquisition management practices.

<sup>1</sup>Consolidated Appropriations Resolution, 2003 (P. L. 108-7).

<sup>2</sup>An Enterprise Architecture (EA) is an institutional blueprint defining how an enterprise operates today, in both business and technology terms, and how it wants to operate at some point in the future. An EA also includes a roadmap for transitioning between these environments.

<sup>3</sup>IRS refers to its life cycle management program as the Enterprise Life Cycle (ELC).



## Introduction

- Since mid-1999, IRS has submitted a series of expenditure or “spending” plans requesting release of BSM appropriated funds. To date, about \$1.35 billion has been appropriated for BSM, including \$366 million for FY 2003. Of the \$1.35 billion appropriated, about \$1.2 billion has been released.
- On November 18, 2002, IRS submitted its initial FY 2003 expenditure plan for about \$451 million, seeking release of the \$257 million approved by OMB at that time.
- On January 9, 2003, IRS reduced its initial release request from \$257 million to \$231.7 million to narrow the scope of the BSM program and reduce related risks, and to focus on the timely remediation of material weaknesses.
- The relevant House and Senate appropriations subcommittees subsequently approved the release of the requested \$231.7 million on January 10 and 22, 2003, respectively.
- On March 14, 2003, IRS submitted a revised FY 2003 expenditure plan for about \$378 million, seeking release of the remaining \$146.6 million from the BSM account.



## Objectives

- As agreed with IRS's appropriations subcommittees, our objectives were to
  - determine whether the March 2003 expenditure plan satisfies the legislative conditions,
  - provide any observations about the March 2003 plan and IRS's BSM program.



## Scope and Methodology

- To accomplish our objectives, we
  - Reviewed the revised FY 2003 expenditure plan submitted by IRS in March 2003;
  - Analyzed the plan against the legislative conditions to identify any variances;
  - Compared the revised (March 2003) plan to the initial (November 2002) plan to identify changes in the scope of BSM activities planned for FY 2003;
  - Observed modernization executive steering committee and subcommittee meetings to, among other things, document how the plan was developed and reviewed;
  - Interviewed IRS program and project management officials to corroborate our understanding of the plan and other BSM activities.



## Scope and Methodology

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- Consistent with prior reviews, we did not independently validate planned initiatives' cost estimates or confirm, through system and project management documentation, the validity of IRS-provided information on the initiatives' content and progress.
- We provided a draft of this briefing on April 11, 2003, to IRS BSM program executives, and have incorporated their comments, as appropriate.
- We performed our work from March through April 2003 in accordance with generally accepted government auditing standards.



## Background

- IRS BSM program has deployed projects and reported the following benefits, including:
  - Customer Communications 2001 – improves telecommunications infrastructure, including telephone call management, call routing, and customer self-service applications
  - Customer Relationship Management Examination – provides commercial off-the-shelf software to IRS revenue agents to allow them to accurately compute complex corporate transactions
  - Internet Refund/Fact of Filing – improves customer self-service by providing instant refund status information and instructions for resolving refund problems to taxpayers with Internet access. IRS reports that this application has had over 12 million users.





## Background

- In our December 2002 briefing on the results of our review of IRS's initial FY 2003 (November 2002) BSM Expenditure Plan, we reported, among other things, that:
  - IRS had made significant progress in improving its modernization management controls and capabilities and implementing our recommendations. Further, IRS had taken steps to better balance the pace of the FY 2002 BSM program with its management capability.
  - Although significant progress had been made, certain modernization management controls and capabilities, related to configuration management, enterprise transition strategy, human capital management, and cost and schedule estimate validation, had not yet been fully implemented. Weaknesses in these controls and capabilities contributed, at least in part, to BSM project cost, schedule, and performance shortfalls.



## Background

- We also made five observations in our December 2002 briefing related to the BSM program and IRS's initial (November 2002) FY 2003 BSM Expenditure Plan:
  - The number of project milestones experiencing cost and schedule changes was increasing
  - BSM was entering a critical, high-risk phase as the scope and complexity of the program continued to grow
  - Opportunities for using performance-based contracts were increasing
  - IRS had improved the format of its expenditure plan
  - Internal costs of the BSM program, expected to increase, were not tracked or known
- To assist IRS in improving and expanding its modernization management controls and capabilities, we made several recommendations to the Acting Commissioner of Internal Revenue.



## Background

- We also reported in our December 2002 briefing that sustained top management involvement, improved management capabilities, and consistent oversight are critical to the successful implementation of the BSM program.
- Like its previous plans, IRS's March 2003 expenditure plan covers contractor costs, such as the Prime Systems Integration Support contractor (PRIME) and the systems engineering and technical services provided by the Federally Funded Research and Development Center (MITRE).
- A summary of the revised plan follows.



Background

Summary of IRS's March 2003 Expenditure Plan (\$000)<sup>4</sup>

Program-Level Initiatives	IRS Request
Architecture & Integration	\$34,000
Business Integration	\$8,000
Management Processes	\$11,476
Federally Funded Research and Development Center (FFRDC) - MITRE	\$16,688
Program Management	<u>\$10,000</u>
<i>Subtotal</i>	\$80,164
<b>Projects<sup>5</sup></b>	
Core Infrastructure Projects (e.g. Infrastructure Shared Services)	\$89,261
Data Projects (e.g. Customer Account Data Engine, Integrated Financial Systems)	\$168,251
Business Projects (e.g. e-Services, Modernized e-file)	<u>\$59,342</u>
<i>Subtotal</i>	\$316,854
<b>FY 2003 Management Reserve Request*</b>	\$11,120
<b>FY 2002 Management Reserve Carryover</b>	(\$10,146)
<b>FY 2002 CAM MS3b Unused Funds</b>	<u>(\$19,694)</u>
<b>Total</b>	\$378,298

\* - Includes \$677 from Remaining FY2001 and FY2002 Appropriated Funds.

Source: IRS

<sup>4</sup>See appendix I for a description of each program-level initiative and project, and see appendix II for a more detailed summary of the plan.

<sup>5</sup>The 3 categories under this heading include several separate projects.



- IRS's March 2003 plan satisfies each of six legislative conditions.

Legislative Conditions	Satisfies	Does Not Satisfy
1. Meets OMB capital planning and investment control review requirements.	✓	
2. Complies with IRS' enterprise architecture.	✓	
3. Conforms with IRS's Enterprise Life Cycle methodology	✓	
4. Approved by IRS, Treasury, and OMB.	✓	
5. Reviewed by GAO.	✓	
6. Complies with federal acquisition rules, requirements, guidelines, and systems acquisition management practices. <sup>6</sup>	✓	

- The revised March 2003 expenditure plan:
  - Slows the pace of BSM program
  - Shows that most initiatives/project milestones continue to experience cost increases and/or schedule delays
  - Demonstrates the impact of schedule delays on delivery of benefits
- In commenting on a draft of this briefing, the Associate Commissioner for BSM generally agreed with it and provided other comments.

<sup>6</sup>These acquisition requirements and practices are intended to establish acquisition management rigor and discipline, such as those defined in the Software Engineering Institute's software acquisition model. Our analysis of the plan focused on satisfaction of this model's tenets.



**Objective 1:** The March 2003 plan satisfies the conditions in IRS's FY 2003 appropriations act.

Legislative Conditions	Expenditure Plan Provisions
1. Meets OMB capital planning and investment control review requirements.	IRS's March 2003 expenditure plan provides for managing investments as part of a portfolio through its Investment Decision Management process. This includes conducting periodic portfolio reviews to assess changes in business priorities and project schedules.



Legislative Conditions	Expenditure Plan Provisions
2. Complies with IRS's enterprise architecture (EA).	The March 2003 plan provides funds to continue definition and implementation of the enterprise architecture. For example, it provides for <ul style="list-style-type: none"> <li>• completing and issuing EA release 2.1</li> <li>• publishing updates to the EA</li> <li>• performing EA compliance certification activities</li> <li>• issuing the 2003 and 2004 release architectures</li> <li>• operating the systems engineering office</li> </ul>
3. Conforms with IRS's Enterprise Life Cycle methodology.	The plan provides funds for meeting the requirements in IRS's enterprise life cycle management program, which IRS's refers to as ELC. For example, the plan calls for <ul style="list-style-type: none"> <li>• maintaining responsibility for coordinating, tracking, and integrating all program-wide costs, schedules, releases, issues, and risks</li> <li>• maintaining the ELC</li> </ul>

**Appendix II  
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**Results**

Legislative Conditions	Expenditure Plan Provisions
4. Approved by IRS, Treasury, and OMB.	<ul style="list-style-type: none"> <li>• IRS – January 15, 2003</li> <li>• Treasury – January 16, 2003</li> <li>• OMB – February 25, 2003</li> <li>• Submitted to IRS's appropriations subcommittees – March 14, 2003</li> </ul>
5. Reviewed by GAO.	<ul style="list-style-type: none"> <li>• GAO – April 14, 2003 briefing to IRS's appropriations subcommittees</li> </ul>
6. Complies with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal government.	As part of the ELC, IRS has defined processes, roles, responsibilities, etc. for implementing Software Engineering Institute (SEI) Software Acquisition Capability Maturity Model <sup>7</sup> practices within the level 2 key process areas. <sup>7</sup> These practices are consistent with federal acquisition requirements and management practices, and the plan calls for implementation of the ELC on all projects. Also, all PRIME cost reimbursement task orders are subject to a final independent audit by the Defense Contract Audit Agency to ensure that costs incurred are commensurate with the physical completion of the contract.

<sup>7</sup>These are acquisition planning, solicitation, requirements development and management, project management, contract tracking and oversight, evaluation, and transition to support.





## Objective 2: Observations About IRS's BSM Program and Revised Expenditure Plan

### Observation 1: Revised Plan Reduces the Scope of BSM Program

- IRS's initial (November 2002) FY 2003 plan was to (1) continue ongoing program-level initiatives through mid-November 2003 and 12 ongoing projects to their next milestones and (2) start 8 new projects or new releases of existing projects.
- However, IRS's revised (March 2003) FY 2003 plan is to (1) continue ongoing program-level initiatives at a reduced funding level through mid-November 2003 and 9 ongoing projects to their next milestones and (2) start 5 new projects or new releases of existing projects.
- See appendix I for a description of projects and initiatives.



## Results

- Since the November 2002 Plan, IRS has:
  - Reduced the funding request for BSM program by about \$72 million
  - Deferred 4 new project releases, discontinued 2 ongoing project releases, absorbed 1 new release into an ongoing project release, and transferred 1 ongoing project to another appropriation
  - Started a new project release-CAP Release 2 and funded a business case study for the Work Management project
  - Reduced funding for program-level initiatives by 19 percent and core infrastructure projects by 10 percent
- The changes in scope reduced the number of projects in the more complex and risky later stages of development. The March 2003 plan calls for 7 business and data projects that are in milestone 4 or beyond.



## Results

- IRS reduced funding for the core infrastructure projects, in part, to reflect reduced BSM scope. IRS asserts that it has taken steps to mitigate project impacts resulting from these reductions. Core infrastructure projects provide oversight for laboratory environments, which support development and testing, as well as the foundational enabling infrastructure and strategic services for all data and business projects. If core infrastructure is not sufficient or available, the risk of schedule delays for other projects increases.
- The following slide shows a comparison between the funding levels requested by the initial and revised FY 2003 plans.

**Appendix II**  
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**Results**

**Comparison of IRS's Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans (\$000)<sup>8</sup>**

	Nov. 2002 IRS Request	Mar. 2003 IRS Request	Change (%)
<b>Program-Level Initiatives</b>			
Architecture & Integration	\$43,577	\$34,000	-\$9,577 (-22%)
Business Integration	\$11,413	\$8,000	-\$3,413 (-30%)
Management Processes	\$13,828	\$11,476	-\$2,352 (-17%)
Federally Funded Research and Development Center (FFRDC) - MITRE	\$20,750	\$16,688	-\$4,062 (-20%)
Program Management	<u>\$9,908</u>	<u>\$10,000</u>	+\$92 (+1%)
<i>Subtotal</i>	\$99,476	\$80,164	-\$19,312 (-19%)
<b>Projects<sup>9</sup></b>			
Core Infrastructure Projects (e.g. Infrastructure Shared Services)	\$99,261	\$89,261	-\$10,000 (-10%)
Data Projects (e.g. Customer Account Data Engine, Integrated Financial System)	\$152,798	\$168,251	+\$15,453 (+10%)
Business Projects (e.g. e-Services, Modernized e-file)	<u>\$94,800</u>	<u>\$59,342</u>	-\$35,458 (-37%)
<i>Subtotal</i>	\$346,859	\$316,854	-\$30,005 (-9%)
<b>FY 2003 Management Reserve Request*</b>	\$4,342	\$11,120	+\$6,778 (+156%)
<b>FY 2002 Management Reserve Carryover</b>		(\$10,146)	-\$10,146
<b>FY 2002 CAM MS3b Unused Funds</b>		(\$19,694)	-\$19,694
<b>Total</b>	<u>\$450,677</u>	<u>\$378,298</u>	-\$72,379 (-16%)

\* - Includes \$677 from Remaining FY2001 and FY2002 Appropriated Funds

Source: IRS

<sup>8</sup>See appendix III for a more detailed comparison of IRS's initial and revised FY 2003 expenditure plans.

<sup>9</sup>The 3 categories under this heading include several separate projects.



## Results

- Observation 2: Most Initiatives/Project Milestones Continue to Experience Cost Increases and/or Schedule Delays
- In its March 2003 plan, IRS disclosed that 25 of 28 initiatives or project milestones have experienced cost increases and/or schedule delays against commitments made in the November 2001 plan. Of the 25, 15 were acquisition projects and 10 were program-level initiatives.
- 21 of 28 (or 75 percent) initiatives/project milestones experienced cost increases and/or schedule delays exceeding 10 percent of the estimated cost and duration stated in the November 2001 plan:
  - 12 experienced cost increases
  - 14 experienced schedule delays
- See Appendix IV for details.



## Results

- The cost increases and schedule delays were caused, in part, by:
  - Cost and schedule estimating deficiencies
  - Under-estimating the complexity of projects
  - Competing demands of projects for facilities used to test project releases
  - Project interdependencies, whereby delays with one project had a cascading effect and caused delays in another project
- In response to one of our previous recommendations, IRS and PRIME have developed new cost and schedule estimating and validation procedures. However, current variances were the result of estimates made before or during the implementation of new procedures.



### Observation 3: Schedule Delays Affect Delivery of Benefits

- Schedule slippages delay direct benefits to the public:
  - According to IRS, taxpayers covered under CADE will receive their refunds much faster than under Master File processing. However, continuing delays in deploying the first and subsequent releases of CADE will postpone delivery of this benefit to taxpayers. For example, the opportunity for the first set of taxpayers (single 1040EZ filers) to enjoy faster refunds has been delayed 13 months.
  - The e-Services project is to provide easy-to-use electronic products and services targeted at tax practitioners that inform, educate, and provide services to the taxpaying public. Schedule slippages with the first release of e-Services will delay deployment of services such as registration of electronic return originators, taxpayer identification number matching, and secure e-mail.



## Results

- Remediation of material weaknesses may be delayed:
  - IRS has reported a material weakness associated with the design of the Master Files. CADE is to build the modernized database foundation that will replace Master Files. Continuing schedule slippages will delay resolution of this material weakness.
  - CAP will address a financial material weakness and permit the tracking from submissions to disbursement of all revenues received from individual taxpayers. The first release of CAP is several months behind its May 2003 initial operating capability, primarily due to delays in availability of necessary infrastructure support functionality, delay in developing the interface to CADE, and diversion of critical staff to support filing season 2002.
  - Acceleration of the second release of CAP (milestone 4) is an attempt to resolve the financial material weakness in accordance with the IRS Financial Remediation Plan.
  - Also, IFS Release 1 is currently on schedule for October 2003.





## Conclusions

- IRS's revised (March 2003) expenditure plan satisfies the legislative conditions. Since our last briefing, IRS has reduced the scope of the BSM program.
- Despite the reduced scope of the IRS BSM program for FY 2003, it continues to face heightened risks because (1) several key projects are in or entering their later stages of development and deployment, (2) some of these projects provide the foundational infrastructure upon which later projects depend, and (3) project milestones continue to experience cost increases and schedule delays.
- Continued management attention and effort toward implementing our prior recommendations are necessary to manage these risks and sustain improvements in IRS's BSM management capabilities.



## Agency Comments

- In providing comments via e-mail on a draft of this briefing, the Associate Commissioner for Business Systems Modernization, stated that it is a fair and accurate representation of the BSM program. He also stated that
  - IRS achievements demonstrate its program-wide commitment to reach the degree of management capability to effectively run such a large, complex program
  - IRS has established a stable management team
  - IRS's major concern is the impact of inconsistent funding of the program
  - IRS appreciates GAO's continued support for the BSM program
- In addition, the Associate Commissioner for BSM provided specific comments which we have incorporated into the briefing, as appropriate.



Appendix I:  
 BSM Program-Level Initiatives/Projects

Description of BSM Program-Level Initiatives and Projects

<u>Proposed Modernization Initiatives</u>	<u>Description</u>
<b>Program-Level Initiatives:</b>	
Architecture & Integration	Ensures that systems solutions meet IRS business needs and that the projects are effectively integrated.
Business Integration	Ensures that IRS BSM program is aligned with the business units' reengineering efforts and that business transformation plans are developed and maintained to support a seamless "transition to support".
Management Processes	Provides sustaining support for program-level management processes, including quality assurance, process improvement, training, program control, and ELC maintenance and enhancements.
FFRDC - MITRE	Provides program management and systems engineering support to BSMO.
Program Management	Provides overall program management for IRS-PRIME Partnership activities and deliverables, and is responsible for coordinating, tracking, and integrating all program-wide costs, schedules, and performance measures.
<b>Core Infrastructure Projects:</b>	
Development Integration & Testing Environment (DITE)	Provides oversight for laboratory environments which support development, and testing: (1) Virtual Development Environment – development environment and standardized set of tools; (2) Enterprise Integration Testing Environment – integration testing environment for all projects.
Infrastructure Shared Services (ISS)	Provides foundational enabling infrastructure (infrastructure technology components and strategic infrastructure services for all data and business projects: (1) Enterprise Systems Management (ESM) – develops and executes a strategy to provide network and systems management to improve IT infrastructure availability and performance; (2) Security and Technology Infrastructure Release (STIR) – provides infrastructure for secure telephony and electronic interaction among employees, tax practitioners, and taxpayers.

Source: IRS

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**Appendix I:**  
**BSM Program-Level Initiatives/Projects**

**Description of BSM Program-Level Initiatives and Projects (Cont.)**

<b>Proposed Modernization Initiatives</b>	<b>Description</b>
<b>Data Projects:</b>	
Customer Account Data Engine (CADE)	Builds the modernized database foundation to replace the existing master file processing systems.
Integrated Financial Systems (IFS)	Implements an integrated financial management system using a commercial off-the-shelf enterprise resource planning product.
Custodial Accounting Project / Enterprise Data Warehouse (CAP/EDW)	Provides integrated, reliable tax operations and internal management information to support evolving decision analytics, performance measurement, and management information needs.
Modernized Data Access (MDA)	Provides a single integrated approach and software for accessing current processing environment (legacy) data across the organization, and builds key infrastructure components that all modernization projects can share.
Information Returns Processing (IRP)	Provides modernized information returns repository to link third party data directly to customer accounts to efficiently handle customer service and compliance inquiries and demands.
<b>Business Projects:</b>	
Customer Communications 2001	Improves communications infrastructure, including telephone call management, call routing, and customer self-service applications.
Internet Refund / Fact of Filing (IR/FoF)	Improves customer self-service by providing instant refund status information and instructions for resolving refund problems to taxpayers with Internet access.
Customer Account Management (CAM)	Delivers an enterprise solution to support access to tax account data, contact management, case management, outbound correspondence management, and workflow management.
Customer Contact Modernization (CCM)	Provides initial building blocks to transition IRS from current call center environment to new customer contact center.
e-Services	Creates a web portal and value-adding e-Services to promote the goal of conducting most of the IRS's transactions with taxpayers and tax practitioners electronically.
Filing & Payment Compliance (F&PC)	Provides support for detecting, scoring, and working cases in the area of non-filer (filing compliance) and delinquency (payment compliance) cases.
HR Connect	Delivers an enterprise solution to allow IRS employees to access and manage their human resources information online.
Modernized e-file	Provides a single standard for filing electronic tax returns.
Work Management	Selects and integrates software applications to improve IRS's ability to manage and allocate staffing resources and track workload more effectively.

**Source:** IRS

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Appendix II:  
 IRS Expenditure Plan

Detailed Summary of IRS's March 2003 Expenditure Plan (\$000)

Proposed Modernization Initiatives	Release <sup>a</sup>	Milestone <sup>b</sup>	Milestone Date	Amount Requested
<b>Program-Level Initiatives<sup>c</sup></b>				
Architecture & Integration		FY	Nov. 03	\$34,000
Business Integration		FY	Nov. 03	\$8,000
Management Processes		FY	Nov. 03	\$11,476
FFRDC - MITRE		FY	Nov. 03	\$16,688
Program Management		FY	Nov. 03	\$10,000
<b>Subtotal - Program-Level Initiatives</b>				<b>\$80,164</b>
<b>Core Infrastructure Projects<sup>c</sup></b>				
Development Integration & Testing Environment		infrastructure	Nov. 03	\$13,961
Infrastructure Shared Services		infrastructure	Nov. 03	\$75,300
<b>Subtotal - Core Infrastructure Projects</b>				<b>\$89,261</b>
<b>Data Projects</b>				
Customer Account Data Engine (CADE)	R1	5	Dec. 03	\$4,889
Customer Account Data Engine (CADE)	R2	4	TBD	\$6,924
Customer Account Data Engine (CADE)	R3	3	Jun. 04	\$15,870
<b>Subtotal - CADE</b>				<b>\$27,683</b>
Integrated Financial Systems (IFS)	R1	3c	Feb. 03	\$29,700
Integrated Financial Systems (IFS)	R1	4	Sep. 03	\$53,655
Integrated Financial Systems (IFS)	R1	5	Mar. 04	\$10,700
Integrated Financial Systems (IFS)	R2	2,3a	TBD	\$2,500
<b>Subtotal - IFS</b>				<b>\$96,555</b>
Custodial Accounting Project / Enterprise Data Warehouse (CAP/EDW)	R1	4,5	Feb. 04	\$29,013
Custodial Accounting Project / Enterprise Data Warehouse (CAP/EDW)	R2	4	Dec. 03	\$15,000
<b>Subtotal - CAP</b>				<b>\$44,013</b>
<b>Subtotal - Data Projects</b>				<b>\$168,251</b>

Source: IRS

<sup>a</sup>Releases are software versions that provide a subset of the total planned project functionality.

<sup>b</sup>Milestones correspond to phases within IRS's Enterprise Life Cycle.

<sup>c</sup>Program Level Initiatives and Core Infrastructure Projects are funded on a fiscal year (FY) basis rather than by milestone.



Appendix II:  
 IRS Expenditure Plan

Detailed Summary of IRS's March 2003 Expenditure Plan (\$000) (Cont.)

Proposed Modernization Initiatives	Release	Milestone	Milestone Date	Amount Requested
<b>Business Projects</b>				
e-Services	R1 & R2	4,5	Sep. 04	\$18,846
Modernized e-file	R1	4	Nov. 03	\$39,846
Work Management <sup>d</sup>		FY	Jun. 03	\$650
<b>Subtotal - Business Projects</b>				<b>\$59,342</b>
<b>FY 2003 Management Reserve Request*</b>				<b>\$11,120</b>
<b>FY 2002 Management Reserve Carryover</b>				<b>(\$10,146)</b>
<b>FY 2002 CAM MS3b Unused Funds</b>				<b>(\$19,694)</b>
<b>Total FY 2003 Release Request</b>				<b>\$378,298</b>
<b>FY 2003 Partial Release of Funds</b>				<b>\$231,700</b>
<b>Remaining Unreleased Request</b>				<b>\$146,598</b>

\* - Includes \$677 from Remaining FY 2001 and FY 2002 Appropriated Funds

Source: IRS

<sup>d</sup>The Work Management project is being funded on a level of effort or fiscal year (FY) basis rather than by milestone for FY 2003.

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## Appendix III: IRS Expenditure Plan Comparison

### Detailed Comparison of IRS's Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans (\$000)

Proposed Modernization Initiatives	Nov. 02 Milestone Date	Mar. 03 Milestone Date	Schedule Variance	Nov. 02 Amount Requested	Mar. 03 Amount Requested	Cost Variance (%)	IRS Explanation of Changes
<b>Program Level Initiatives</b>							
Architecture & Integration	Nov. 03	Nov. 03	-	\$43,577	\$34,000	-\$9,577 (-22%)	Target funding level based on reduced budget/fewer projects.
Business Integration	Nov. 03	Nov. 03	-	\$11,413	\$8,000	-\$3,413 (-30%)	Target funding level based on reduced budget/fewer projects.
Management Processes	Nov. 03	Nov. 03	-	\$13,828	\$11,476	-\$2,352 (-17%)	Target funding level based on reduced budget/fewer projects.
FFRDC - MITRE	Nov. 03	Nov. 03	-	\$20,750	\$16,688	-\$4,062 (-20%)	Target funding level based on reduced budget/fewer projects.
Program Management	Nov. 03	Nov. 03	-	\$9,908	\$10,000	+\$92 (+1%)	Refined estimate of required funding for FY 2003 initiatives.
<b>Subtotal - Program-Level Initiatives</b>				<b>\$99,476</b>	<b>\$80,164</b>	<b>-\$19,312 (-19%)</b>	
<b>Core Infrastructure Projects</b>							
DITE	Nov. 03	Nov. 03	-	\$13,961	\$13,961	-	
Infrastructure Shared Services	Nov. 03	Nov. 03	-	\$85,300	\$75,300	-\$10,000 (-12%)	Target funding level based on reduced budget/fewer projects.
<b>Subtotal - Core Infrastructure Projects</b>				<b>\$99,261</b>	<b>\$89,261</b>	<b>-\$10,000 (-10%)</b>	
<b>Data Projects</b>							
CADE R1, Milestone 5	Jun. 03	Dec. 03	+ 6 months	\$4,851	\$4,889	+\$38 (+1%)	Refined funding estimate to support FY 2003 initiatives. (See Note 1)
CADE R1, Milestone 6	Dec. 03	-	-	\$3,638	\$0	-\$3,638 (-100%)	Policy change. Milestone 6 will be funded by ISY Appropriation.
CADE R2, Milestone 4	TBD	TBD	-	\$6,924	\$6,924	-	
CADE R3, Milestone 3	Dec. 03	Jun. 04	+ 6 months	\$15,289	\$15,870	+\$581 (+4%)	Schedule delayed due to CADE R1 delays. Incorporated infrastructure costs.
CADE R3, Infrastructure	Dec. 03	-	-	\$581	\$0	-\$581 (-100%)	Infrastructure costs combined with CADE R3 Milestone 3 costs above.
CADE R4, Milestone 3	Aug. 04	TBD	-	\$6,756	\$0	-\$6,756 (-100%)	Deferred due to CADE program slippage.
<b>Subtotal - CADE</b>				<b>\$38,039</b>	<b>\$27,683</b>	<b>-\$10,356 (-27%)</b>	

Source: IRS

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## Appendix III: IRS Expenditure Plan Comparison

### Detailed Comparison of IRS's Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans (\$000) (Cont.)

Proposed Modernization Initiatives	Nov. 02 Milestone Date	Mar. 03 Milestone Date	Schedule Variance	Nov. 02 Amount Requested	Mar. 03 Amount Requested	Cost Variance (%)	IRS Explanation of Changes
<b>Data Projects (Cont.)</b>							
IFS R1, Milestone 3c	-	Feb. 03	-	\$0	\$29,700	+\$29,700 (+100%)	(See Note 2)
IFS R1, Milestone 4	Sep. 03	Sep. 03	-	\$67,227	\$53,655	-\$13,572 (-20%)	(See Note 2)
IFS R1, Milestone 5	Mar. 04	Mar. 04	-	\$6,828	\$10,700	+\$3872 (+57%)	(See Note 2)
IFS R2, Milestone 2/3a	TBD	TBD	-	\$2,500	\$2,500	-	
<i>Subtotal - IFS</i>				\$76,555	\$96,555	+\$20,000 (+26%)	
CAP/EDW R1B1, Milestone 4/5	May 03	-	-	\$4,850	\$0	-\$4,850 (-100%)	Incorporated into CAP R1 Milestone 4/5 project below.
CAP/EDW R1B1.1, Milestone 4/5	Sep. 03	-	-	\$13,613	\$0	-\$13,613 (-100%)	Incorporated into CAP R1 Milestone 4/5 project below.
CAP R1, Milestone 4/5	-	Feb. 04	+ 9 months	\$0	\$29,013	+\$29,013 (+100%)	(See Note 3)
CAP R2, Milestone 4	-	Dec. 03	-	\$0	\$15,000	+\$15,000 (+100%)	(See Note 4)
<i>Subtotal - CAP</i>				\$18,463	\$44,013	+\$25,550 (+138%)	
MDA R1, Infrastructure	Nov. 03	TBD	-	\$16,741	\$0	-\$16,741 (-100%)	Deferred pending funding.
IRP R1, Milestone 1	TBD	-	-	\$3,000	\$0	-\$3,000 (-100%)	Deferred pending funding.
<b>Subtotal - Data Projects</b>				<b>\$152,798</b>	<b>\$168,251</b>	<b>+\$15,453 (+10%)</b>	
<b>Business Projects</b>							
CAM R1, Milestone 4	Oct. 04	TBD	-	\$20,949	\$0	-\$20,949 (-100%)	Deferred pending funding.
CCM R1, Milestone 2	TBD	-	-	\$2,500	\$0	-\$2,500 (-100%)	Deferred pending funding.
e-Services R1 & R2, Milestone 4/5	Apr. 04	Sep. 04	+ 5 months	\$5,846	\$18,846	+\$13,000 (+222%)	(See Note 5)
F&PC R1, Milestone 4	Apr. 04	TBD	-	\$26,159	\$0	-\$26,159 (-100%)	Deferred pending funding.
HR Connect R1, Milestone 4/5	TBD	-	-	\$11,500	\$0	-\$11,500 (-100%)	Decision made to fund HR Connect from ISY Appropriation.
Modernized e-File R1, Milestone 4	Nov. 03	Nov. 03	-	\$27,846	\$39,846	+\$12,000 (+43%)	(See Note 6)
Work Management	-	Jun. 03	-	\$0	\$650	+\$650 (+100%)	Follow-on to FY 2002 study to develop implementation strategy/business case.
<b>Subtotal - Business Projects</b>				<b>\$94,800</b>	<b>\$59,342</b>	<b>-\$35,458 (-37%)</b>	
<b>FY 2003 Management Reserve Request</b>				<b>\$4,342</b>	<b>\$11,120</b>	<b>+\$6,778 (+156%)</b>	Increase to management reserve based on OMB guidance.
<b>FY 2002 Management Reserve Carryover</b>				<b>\$0</b>	<b>-10,146</b>	<b>-\$10,146 (-100%)</b>	Management Reserve remaining at end of FY 2002 to carryover to FY 2003
<b>FY 2002 CAM MS3b Unused Funds</b>				<b>\$0</b>	<b>-19,694</b>	<b>-\$19,694 (-100%)</b>	CAM project discontinued in FY 03. FY 2002 funds go to management reserve.
<b>Total FY 2003 Release Request</b>				<b>\$450,677</b>	<b>\$378,298</b>	<b>-\$72,379 (-16%)</b>	

Source: IRS





## Appendix III: IRS Expenditure Plan Comparison

### Detailed Comparison of IRS's Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans (\$000) (Cont.)

#### IRS Explanation of Changes:

Note 1: Deployment was delayed due to contractor delays in staffing the project, failure to acquire a business rules engine, underestimating the technical complexity of a few key software components, and late attention to critical project elements. Additional slippage was due to mandatory relocation of development site to satisfy security certification concerns.

Note 2: Infrastructure hardware and software procurements and labor to conduct IFS preliminary development activities originally planned to begin in Milestone 4 have been moved forward into a new Milestone 3c segment. This allows the project to continue to move forward on schedule for an October 1, 2003, "go live" while incomplete Milestone 3 activities are being satisfied. The net budget increase of \$20 million for Milestones 3c, 4, and 5 reflects a revised estimate of actual labor costs and an increase in infrastructure costs.

Note 3: CAP/EDW R1B1 and R1B1.1 have been combined and renamed CAP R1 as a result of a major CAP replan effort. Delays in obtaining the Infrastructure Shared Services (ISS) schedule, and other additional activities impacting the schedule, necessitated the major schedule replan. This ultimately resulted in a 9 month delay (from May 2003 to Feb. 2004) in the scheduled completion of Milestone 5. The revised total CAP R1 cost (\$29,013) consists of CAP EDW R1B1 (\$4,850), CAP EDW R1B1.1 (\$13,613), and a cost increase of \$10,550. The cost increase was due in large part to the schedule delays discussed above.



## Appendix III: IRS Expenditure Plan Comparison

### Detailed Comparison of IRS's Initial (November 2002) and Revised (March 2003) FY 2003 Expenditure Plans (\$000) (Cont.)

#### IRS Explanation of Changes (cont.):

Note 4: CAP R2 Milestone 4 was moved up from FY 2004 to FY 2003, in an attempt to resolve the custodial accounting material weakness as soon as possible and comply with the current remediation plan dates.

Note 5: Schedule delays occurred due to late completion of infrastructure, competing demand for testing resources, and additional scope of new e-Services R2. E-Services R2 will provide Modernized e-file participants access to the e-services registration and application process, tax year updates, and an enhanced Transcript Delivery System. Cost increases were due to delays in and enhancements to E-Services subreleases R1.1 and R1.2, as well as the additional scope of R2.

Note 6: Prior to being funded by BSM, Modernized e-File was made up of two Tier B projects. Many of the management and infrastructure estimates for these former Tier B projects were either inaccurate or did not reflect the additional capacity of integrating with the modernized environment. The revised cost includes increases for PRIME integration and infrastructure support, and changes to the customer database.

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**Appendix IV:**  
**IRS Reported Cost / Schedule Changes**

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
Customer Communications 2001 Milestone 4,5	10/31/01 \$45,174	02/26/02 \$44,796	+4 months (+22%) -\$378 (-1%)	CC01 went live on 07/27/01. However, a performance award dispute (settled in February 2002) delayed Milestone 5. The IRS paid the PRIME contractor \$500K less in performance awards than the maximum allowed under the Task Order. Some of this extra funding was used to cover higher than expected Transition to Support costs.
Internet Refund/ Fact of Filing (Release 1) Milestone 3	9/30/01 \$10,696	9/28/01 \$10,957	+\$261 (+2%)	Actual costs came in \$261K higher than estimated to complete MS4,5 proposal.
Internet Refund/ Fact of Filing (Release 1) Milestone 4	3/31/02 \$5,000	11/7/02 \$13,193	+7 months(+117%) +\$8,193 (+164%)	Definitization of this Task Order occurred after submission of the October 2001 Expenditure Plan. Final negotiations placed the MS 4 exit date at 05/03/02. However, the PRIME contractor experienced difficulties due to significant delays in completing release level system integration and testing (RSIT) and meeting performance requirements. MS 4 completion was delayed until the PRIME demonstrated resolution of performance problems and corrected outstanding items in the Defects Report (DR). Additional costs include \$1.465M due to Product Assurance need for contractors to perform testing, identified transition to support needs, increased RIS costs, and MS4 cost overrun, \$2.304M to cover maintenance through the end of the fiscal year and enhancements for FY03 filing season, and \$4.683M required to extend MS4 to 11/7/02.

Source : IRS and GAO Analysis



Appendix IV:  
 IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
Internet Refund/ Fact of Filing (Release 1) Milestone 5	7/31/02 \$5,000	3/12/03 \$3,049	+7 months (+175%) -\$1,951 (-39%)	The PRIME contractor experienced difficulties due to delays in completing release level system integration and testing (RSIT) and in meeting performance requirements. Milestone 5 exit moved to 3/12/03 at the request of the Business owner so that the application can be monitored during the 2003 Filing Season. IRS planned to spend \$2.304M in MS 5 to cover maintenance through the remainder of the fiscal year and enhancements for FY03 filing season. However, those funds were used in MS 4 because of the delay in exiting that Milestone. The IRS estimated the non M&E MS 5 work would cost \$6M (the original \$5M estimated plus an additional \$1.0M to extend MS 5 from 07/31/02 to 09/30/02). However, due to the late exit of MS 4, MS 5 did not begin until 1/8/02. The cost of all MS 5 activities through 3/12/03 is now estimated at \$3.049M.

Source: IRS and GAO Analysis



## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
e-Services (Release 1.1 and 1.2) Milestone 4,5	10/31/03 \$40,191	9/30/04 \$68,992	+11 Months (+41%) +\$28,801 (+72%)	The delays occurred because infrastructures were not completed to meet the e-Services date for PSIT. IR/FoF did not exit test environment on schedule, delaying e-Services. Also schedule delays and cost increases because of move of Gaithersburg Computing Center environment to the Martinsburg and the Tennessee Computing Centers. FY 2002 cost increases for unplanned infrastructure hardware (\$4,255M), additional STIR Integration (\$4,200M), and increased product assurance testing (\$1,500M). Additional costs include continued support of PRIME ISS contractors to e-services, non-prime costs for MCC support in FY 2003, and ITS and Business training for knowledge transfer needed for transitioning e-services.
Customer Account Management (Release 1) Milestone 2	3/31/02 \$13,100	8/30/02 \$13,300	+5 months (+56%) +\$200 (+2%)	New business requirements required update to future concept of operations, and to identify and prioritize their business process re-engineering opportunities before proceeding to MS3. Proposal for MS3 cost overrun (\$200K) due to changes in business requirements.

Source: IRS and GAO Analysis

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**Appendix IV:**  
**IRS Reported Cost / Schedule Changes**

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
Filing and Payment Compliance (Release 1) Milestone 2,3	1/31/03 \$17,117	12/31/02 \$18,117	-1 month (-6%) +\$1,000 (+6%)	\$1.0M variance to include unplanned transition to support in MS2,3 activities per new BSM program guidelines.
HR Connect (Release 1) Milestone 4,5	12/31/02 \$10,000	12/31/02 \$10,200	+\$200(+2%)	The initial FY 2002 amount for MS4 and 5 was based on available funds instead of usable segment cost. This was done to cover Treasury's anticipated activity in FY 2002 and not the entire MS4 and MS5 cost (i.e., MS5 work was never planned to be completed in FY 2002). The project is now broken into MS4 and MS5 usable segments. The estimate for MS4 is \$10.2M and is compared with the original plan amount of \$10M. The BSM account will no longer fund MS5 work.
Customer Account Data Engine (CADE) Release 1 Milestone 4	6/30/02 \$45,338	7/13/03 \$45,338	+13 months (+108%)	Deployment delayed due to contractor delays in staffing the project, failure to acquire a business rules engine, underestimating the technical complexity of a few key software components, late attention to critical project elements, and re-location of the development site to satisfy security certification concerns.
Customer Account Data Engine (CADE) Release 1 Milestone 5	12/31/02 \$5,795	12/31/03 \$4,889	+12 months (+200%) -\$906 (-16%)	FY 2002 funding for MS5 (\$5.795M) was returned to management reserve because schedule delays moved MS5 to FY 2003. The net MS5 decrease (\$.906M) is due to revised estimates to do the same work.

Source: IRS and GAO Analysis



## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
Customer Account Data Engine (CADE) Release 2 Milestone 4	12/31/02 \$38,400	TBD \$46,324	+\$7,924 (+21%)	In the process of replanning Release 2 and beyond due to delays in Release 1. Cost increases are for planning for future functionality due to CAM/CADE sequencing (\$1.0M) and FY03 infrastructure costs (\$6.924M).
Customer Account Data Engine (CADE) Release 3 Milestone 3	6/30/03 \$9,779	6/30/04 \$15,870	+12 months (+100%) +\$6,091 (+62%)	Focus redirected to build foundation for requirements. Deferred to FY03 to align with CADE Release 2 capabilities, which impact Release 3 scope, schedule, and costs.

Source: IRS and GAO Analysis



## Appendix IV: IRS Reported Cost / Schedule Changes

Program/ Project Management Initiative	Commitment Date and Funding as of 10/2001 (\$000)	Revised Commitment Date and Funding (\$000)	Change (%)	IRS Explanation of Change
Custodial Accounting Project (CAP) Release 1 Milestone 4,5	3/31/03 \$51,430	2/16/04 \$87,087	+11 months (+39%) +\$35,657 (+69%)	The first schedule variance resulted from temporary reassignment of IMF programmer resources to support 2002 tax filing season changes, thus delaying MS5 from 03/31/03 to 05/15/03. The next major change in the CAP schedule delayed M5 from 5/15/03 to 11/3/03. A delay in obtaining the ISS schedule, and other additional activities impacting the schedule, necessitated the major schedule replan. As a result, 11/3/03 transition to Production Environment was redesignated as Initial Operational Capability (IOC) and established MS5 as 2/16/04. FY 2002 variance (\$6.664M) due to integration with STIR components, revenue interface with IFS, CAP-CADE interface, schedule delays, mid-year IMF changes. FY03 request of \$29,013 is comprised of CY03 format changes, ISS/STIR and other schedule delays, IFS/PACER modernized interface development, ISS hardware and software to upgrade processing capacity, implementation of modernized standards to CAP in-process development.

Source: IRS and GAO Analysis



**Appendix II**  
**Briefing Slides from the April 14, 2003,**  
**Briefing to the Senate and House**  
**Appropriations Subcommittee Staffs**



**Appendix IV:**  
**IRS Reported Cost / Schedule Changes**

<b>Program/ Project Management Initiative</b>	<b>Commitment Date and Funding as of 10/2001 (\$000)</b>	<b>Revised Commitment Date and Funding (\$000)</b>	<b>Change (%)</b>	<b>IRS Explanation of Change</b>
Enterprise Data Warehouse (EDW) Milestone 2,3	5/31/02 \$6,700	12/19/02 \$6,950	+7 months (+78%) +\$250 (+4%)	Requirements expanded to include additional data sets for analysis and additional time needed to establish Business User priorities. Upon completion and formal exit of MS3 work for EDW, the IRS decided to rescope EDW to focus on the original CAP requirements. Meeting these original requirements will provide a resolution to material weaknesses that currently exist in Custodial Accounting.
Integrated Financial System/Core Financial System (IFS/CFS) Release 1 Milestone 4A/3B	11/30/02 \$17,250	11/30/02 \$23,000	+\$5,750 (+33%)	Completed the deliverables originally scheduled for MS2,3. However, certain deliverables needed to exit Milestone 3 under Milestone Exit criteria were not planned using the COTS path through the ELC. Extended Milestone 3 by establishing Milestone 3B to produce the deliverables needed to obtain Enterprise Architecture Certification and other design work and exit Milestone 3. The net MS4A/3B variance, \$5.750M (-\$17.250 + \$23.000) is due to revised estimates to complete the work and the ISS DCC communications infrastructure buildout for IFS.

Source: IRS and GAO Analysis

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Infrastructure Shared Services FY 2002	11/30/02 \$39,747	11/30/02 \$48,846	+\$9,099 (+23%)	Started 3 months early to provide support to FY 2003 Release. Cost increase due to realignment of projects' schedules, increased software maintenance, decision to buy rather than lease equipment, and addition of Modernized e-file requirements. The majority of the cost overrun is as a result of OMB A-11 requirements to purchase HW/SW instead of leasing it as originally planned. Purchasing the equipment in FY 2002 saves money in the out years.
Security and Technology Infrastructure Releases (STIR) Milestone 4	10/30/01 \$31,287	1/31/02 \$31,287	+3 months (+25%)	Slip in Enterprise Integration and Test Environment (EITE) Ready For Use (RFU) date caused a slip in the MS4 exit date. Late identification, ordering, and receipt of equipment caused the slip in EITE.
Security and Technology Infrastructure Releases (STIR) FY 2002	5/31/02 \$43,973	11/30/02 \$56,041	+6 months (+86%) +\$12,068 (+27%)	Start date slipped 3 months due to MS4 exit delay. End date slipped because STIR was split into two releases to accommodate projects' schedules. Sub-release 1 supports IR/FoF; Release 2 supports e-Services, which will be completed under ISS. Cost change due to realignment of projects' schedules, increased software maintenance, additional security requirements, and OMB A-11 requirement to purchase rather than lease equipment (+\$11.340M), and application of FY 2001 infrastructure funds to FY 2002.

Source: IRS and GAO Analysis

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<b>Program/ Project Management Initiative</b>	<b>Commitment Date and Funding as of 10/2001 (\$000)</b>	<b>Revised Commitment Date and Funding (\$000)</b>	<b>Change (%)</b>	<b>IRS Explanation of Change</b>
Enterprise Systems Management (ESM) Milestone 4	12/19/01 \$9,184	2/19/02 \$9,184	+2 months (+40%)	60-day extension of MS4 exit to realign the schedule with STIR and EITE RFU, re-evaluate the system requirements document for the evolving needs of the modernized projects, specifically IR/FoF, evaluate the current ITS organization's ability to support the existing ESM release plan.
Enterprise Systems Management (ESM) FY 2002	7/31/02 \$11,323	1/31/03 \$11,090	+6 months (+75%) -\$233 (-2%)	Start date slipped 3 months due to slippage in milestone 4 exit date. End date slipped to coincide with ESM PMAR release 1.3 to support IR/FoF. Cost decrease due to revised period of performance, enhancements in Web Hosting facilities, and Security Test & Evaluation overrun.
Development Integration and Test Environment (DITE) FY 2002	11/15/02 \$12,916	11/15/02 \$17,194	+\$4,278 (+33%)	Increased support for Help Desk, Data Modeling, Rational Tools, Customer Guide, and increase in maintenance costs. Cost of relocating projects from GCC to MCC. Cost to move Z900 from GCC to TCC for Disaster Recovery.

Source: IRS and GAO Analysis

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Program Management FY 2002	11/10/02 \$7,918	11/9/02 \$9,260	+\$1,342 (+17%)	Savings (\$14K) were realized as a result of negotiation of the fee position and reaching agreement on the price for the full period of performance and refined cost estimates. Cost increases (\$1.026M) are to fund the Executive Support Council. Unplanned requests for information services (RIS) are estimated at \$330K.
Architecture and Integration FY 2002	11/10/02 \$32,539	11/10/02 \$38,910	+\$6,371 (+20%)	Cost increase (\$6.409M) transferred from Business Integration to cover the cost of Release Management. Cost decrease (\$38K) to complete Case for Action and Project Management Plan transferred to Customer Contact Engineering Study.
Management Processes FY 2002	11/10/02 \$10,082	11/9/02 \$11,190	+\$1,108 (+11%)	Cost increase (\$1,108,000) needed to fund the PRIME's SA-CMM activities to prepare for and conduct the SA-CMM Level 3 assessment.
FFRDC – MITRE FY 2002	11/10/02 \$18,070	11/10/02 \$18,820	+\$750 (+4%)	Additional work identified to support Program Management (acquisition management), Management Processes (process improvement, ELC, risk management) and Architecture & Engineering (data management).

Source: IRS and GAO Analysis

# Comments from the Internal Revenue Service



COMMISSIONER

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

June 19, 2003

Mr. Robert F. Dacey  
Director, Information Security Issues  
U.S. General Accounting Office  
441 G Street N.W.  
Washington, DC 20548

Dear Mr. Dacey:

I have reviewed the General Accounting Office (GAO) draft report entitled IRS has Made Significant Progress In Improving its Management Controls, But Risks Remain, (GAO-03-768, June 2003). We are pleased that the GAO:

- Validated that we satisfied the six legislative conditions as specified in Congressional appropriations;
- Acknowledged the significant improvements made in the modernization management controls and capabilities and our implementation of past recommendations;
- Confirmed that we are balancing the scope and pace of the BSM program with the management capacity of the IRS and the PRIME contractor; and
- Acknowledged that the deployment of three modernized systems provides benefits to taxpayers and to our employees.

We agree with your report's findings. Both the IRS and the PRIME have appointed senior executives to coordinate within and across our respective organizations to ensure that we give priority to completing your recommendations. We believe this focus was a key factor in achieving our Level 2 rating in the Software Engineering Institute's Software Acquisition - Capability Maturity Model (SA-CMM). We are the first federal civilian agency and multi-project program to achieve a Level 2 rating distinction. The PRIME contractor is the first company in the world to achieve SA-CMM Level 3.

We will continue to provide the GAO with monthly dashboard reports on our progress in maturing these and other management processes, as we have been doing for the past 15 months. We will continue our bi-weekly meetings on specific modernization topics.

I would like to briefly comment on each of the five recommendations in your report.

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- **Institutionalize configuration management procedures for the Business Systems Modernization Office (BSMO):** We continue to make progress in this area by improving the speed with which we address change requests, the quality of impact assessments on change requests, and reporting on the causes for change requests. We are undertaking internal assessments of the effectiveness of Configuration Management (CM) procedures on each project to ensure broad program compliance. We established a MITS-wide Change Control Board about six months ago to reflect the critical connection that BSM has with the rest of our systems maintenance and operations.
- **Implement plans for obtaining, developing, and retaining requisite human capital resources:** One of the reasons I established a new Deputy Commissioner for Operations was to give attention to our human capital practices. In addition, we have made good progress in BSMO by increasing the quantity and quality of its staff to provide better services. Last February, the BSM program, in concert with the Department of Treasury, rolled out the first phase of a new Human Resources system to more than 18,000 IRS employees.
- **Implement effective procedures for validating contractor-developed cost and schedule estimates:** We are working with the PRIME contractor to develop and deploy best practice estimating capabilities consistent with Carnegie Mellon University's Software Engineering Institute (SEI). In fact, we briefed your staff on our progress just last week. Unfortunately, though critical to improving our cost and schedule estimates, implementing these capabilities is taking longer than we had hoped, but our progress to date is good.
- **Promptly update the enterprise transition strategy to conform to other changes in IRS' enterprise architecture:** The Core Business Systems Executive Steering Committee (CBS ESC), BSM's top-level governance council, approved Release 2.1 of the BSM Enterprise Architecture last week. This release brings the enterprise transition strategy to being reasonably current. Of course, it will need to be adjusted as we work through our FY04 and FY05 plans in the coming months.
- **Establish and implement a process for determining the type of task order to be awarded in acquiring modernized systems:** All new BSM contracts for applications software development of over \$1 million are now incentive-based. We are working with the PRIME in a Contracting Executive Council to institutionalize best contracting processes across the whole program.

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We appreciate your continued support, and the valuable assistance and guidance from your staff. If you have any questions, or if you would like to discuss this response in more detail, please contact Fred Forman, Associate Commissioner for Business Systems Modernization, at (202) 622-3378.

Sincerely,



Mark W. Everson

# GAO Contacts and Staff Acknowledgments

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**GAO Contact**

Gregory C. Wilshusen (202) 512-6244

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**Staff  
Acknowledgments**

In addition to the individual named above, other key contributors were Bernard R. Anderson, Timothy D. Hopkins, and Chetna Lal.



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