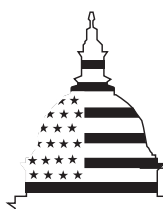


December 2000

INFORMATION  
TECHNOLOGY

INS Needs to  
Strengthen Its  
Investment  
Management  
Capability



G A O

Accountability \* Integrity \* Reliability



---

# Contents

---

---

Letter		5
Executive Summary		8
Chapter 1		20
Introduction	INS' Current IT Investment Efforts	20
	Recent Reviews Have Identified IT Project Management Weaknesses	21
	Overview of INS' Current Approach to IT Investment Management	22
	Framework for Assessing Agencies' IT Investment Management	24
	Objectives, Scope, and Methodology	28
Chapter 2		32
INS Lacks Foundation	INS Has Established an IRB, But Has Not Developed Policies and	
Capabilities Upon	Procedures to Govern IRB Operations	34
Which to Build IT	INS Is Not Effectively Overseeing Its Ongoing IT Projects	36
Investment	INS Is Not Tracking and Using IT Asset Information for Investment	
Management Maturity	Management Purposes	38
	INS Has Not Defined Business Needs for All Its IT Projects	40
	INS Has a Structured Process for Selecting New IT Proposals But Has	
	Not Consistently Analyzed Them According to Established Criteria	42
Chapter 3		44
INS Is Not Managing Its	INS Has Not Created Useful Portfolio Selection Criteria	46
IT Investments as a	INS Does Not Analyze Its IT Investments Based on Cost, Benefit,	
Complete Portfolio	Schedule, and Risk Data When Making Investment Decisions	48
	INS Does Not Comparatively Assess All Its IT Projects When Making	
	Selections for Funding	50
	INS Does Not Oversee IT Investments' Cost, Benefit, Schedule, and	
	Risk Performance	52
Chapter 4		54
The Department of		
Justice Is Not Guiding		
and Overseeing INS'		
Investment		
Management Approach		

---

---

<b>Chapter 5 Conclusions, Recommendations, and Agency Comments</b>		55
	Recommendations for Executive Action	55
	Agency Comments and Our Evaluation	57
<hr/>		
<b>Appendixes</b>	Appendix I: Comments From the Immigration and Naturalization Service	60
	Appendix II: GAO Contacts and Staff Acknowledgments	64
<hr/>		
<b>Tables</b>	Table 1: Summary of Stage Two Critical Process Ratings	33
	Table 2: Summary of Ratings and Evidence for the IT Investment Board Operation Critical Process	35
	Table 3: Summary of Ratings and Evidence for the IT Project Oversight Critical Process	37
	Table 4: Summary of Ratings and Evidence for the IT Asset Tracking Critical Process	39
	Table 5: Summary of Ratings and Evidence for the Business Needs Identification for IT Projects Critical Process	41
	Table 6: Summary of Ratings and Evidence for the Proposal Selection Critical Process	43
	Table 7: Summary of Stage Three Critical Process Ratings	45
	Table 8: Summary of Ratings and Evidence for the Portfolio Selection Criteria Definition Critical Process	47
	Table 9: Summary of Ratings and Evidence for the Investment Analysis Critical Process	49
	Table 10: Summary of Ratings and Evidence for the Portfolio Development Critical Process	51
	Table 11: Summary of Ratings for the Portfolio Performance Oversight Critical Process	53
<hr/>		
<b>Figures</b>	Figure 1: The Five Stages of Maturity Within ITIM	11
	Figure 2: Current INS New IT Proposal Selection Process	23
	Figure 3: The ITIM Stages of Maturity With Critical Processes	26
	Figure 4: ITIM Component Relationships	27

---

**Abbreviations**

CBSR	Cost, Benefit, Schedule, and Risk
CIO	Chief Information Officer
CIPRIS	Coordinated Interagency Partnership Regulating International Students
CIS	Central Index System
CLAIMS	Computer-Linked Application Information Management System
ESC	Executive Steering Committee
IG	Inspector General
INS	Immigration and Naturalization Service
IRB	Investment Review Board
ISIS	Integrated Surveillance Intelligence System
IT	information technology
ITIB	Information Technology Investment Board
ITIM	Information Technology Investment Management
LMI	Logistics Management Institute
SDLC	Systems Development Life Cycle

---

---



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

December 29, 2000

The Honorable Janet Reno  
The Attorney General

Dear Madam Attorney General:

This report addresses the Immigration and Naturalization Service's (INS) management of information technology (IT) investments. Each year INS invests hundreds of millions of dollars on IT systems and activities. We found that INS has established some important capabilities for managing these investments, but it has considerable work ahead to fully implement mature and effective processes. We are making recommendations to strengthen INS' investment management capabilities.

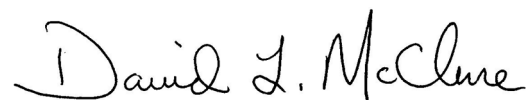
We are sending copies of this report to Senator Judd Gregg, Chairman, and Senator Ernest F. Hollings, Ranking Minority Member, Senate Appropriations Subcommittee on Commerce, Justice, State, and Judiciary; Senator Spencer Abraham, Chairman, and Senator Edward M. Kennedy, Ranking Minority Member, Senate Judiciary Subcommittee on Immigration; Representative Harold Rogers, Chairman, and Representative Jose E. Serrano, Ranking Minority Member, House Appropriations Subcommittee on Commerce, Justice, State, and the Judiciary; Representative Lamar Smith, Chairman, and Representative Sheila Jackson Lee, Ranking Minority Member, House Judiciary Subcommittee on Immigration and Claims; the Honorable Jacob J. Lew, Director, Office of Management and Budget; and Mary Ann Wyrsh, Acting Commissioner of the Immigration and

---

Naturalization Service. Copies will also be made available to others upon request.

A handwritten signature in black ink that reads "Randolph C. Hite". The signature is written in a cursive style with a large, looping initial "R".

Randolph C. Hite  
Director, IT Systems Issues

A handwritten signature in black ink that reads "David L. McClure". The signature is written in a cursive style with a large, looping initial "D".

David L. McClure  
Director, IT Management Issues



---

---

---

# Executive Summary

---

---

## Purpose

The Immigration and Naturalization Service (INS), an agency of the Department of Justice, invests hundreds of millions of dollars each year in information technology (IT) to carry out its core missions of (1) preventing aliens from entering the United States illegally and removing aliens who succeed in doing so and (2) providing services or benefits to facilitate entry, residence, employment, and naturalization of legal immigrants.

The Clinger-Cohen Act requires agency heads to implement a process for maximizing the value and assessing and managing the risks of its IT investments.<sup>1</sup> Our research of leading private and public sector organizations' IT management practices indicates that effective investment management requires the use of defined and disciplined investment management processes.<sup>2</sup> Such structured processes provide a systematic method for agencies to minimize risks while maximizing the return on investments. Given the importance of IT investment management to INS, GAO determined whether (1) INS is effectively managing its IT investments and (2) the Department of Justice is effectively promoting, guiding, and overseeing INS' investment management activities.

---

## Background

Each year INS invests hundreds of millions of dollars on IT systems and activities. According to INS, in fiscal year 2000, it obligated about \$327 million on IT activities, including about \$94 million for development and deployment and the remaining amount for operations and maintenance, including major enhancements to existing systems. For fiscal year 2001, INS plans to spend about \$226 million on IT for operations and maintenance activities.<sup>3</sup>

Recent studies have identified significant weaknesses in INS' management of its IT resources. In August 1998, the Logistics Management Institute (LMI) reported that INS did not track and manage projects to a set of cost,

---

<sup>1</sup>The fiscal year 1997 Omnibus Consolidated Appropriations Act, P. L. 104-208, renamed both Division D (the Federal Acquisition Reform Act) and E (the Information Technology Management Reform Act) of the 1996 DOD Authorization Act, P. L. 104-106, as the Clinger-Cohen Act of 1996.

<sup>2</sup>*Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology* (GAO/AIMD-94-115, May 1994).

<sup>3</sup>INS has not yet decided how much it will spend in fiscal year 2001 on IT for development and deployment activities.

schedule, technical, and benefit baselines.<sup>4</sup> LMI noted that while INS had defined good procedures for the development of IT projects, it did not consistently follow them. Similarly, in July 1999, the Justice Inspector General (IG) reported that INS was not adequately managing its information systems.<sup>5</sup> In particular, the IG reported that (1) estimated completion dates for some IT projects had been delayed without explanation for the delays, (2) project costs continued to spiral upward with no justification for how funds are spent, and (3) projects were nearing completion with no assurance that they will meet performance and functional requirements. More recently, in August 2000, GAO reported that INS did not have an enterprise architecture (or agencywide blueprint) to guide the development of its new and the evolution of its existing information systems, and it had not yet established the management structure and controls to develop one.<sup>6</sup> An enterprise architecture is a Clinger-Cohen Act requirement and a practice of successful public and private sector organizations. Until INS has such an architecture, it will be unable to fully ensure that the hundreds of millions of dollars it spends each year on new and existing information systems will optimally support mission needs. As a result, GAO recommended that INS develop a complete enterprise architecture, including both a current and target architecture and a plan for moving between the two, and that it manage the development of the architecture as an agencywide priority.

The Clinger-Cohen Act of 1996 was enacted to address longstanding problems related to federal IT management. Among other things, it requires agency heads to implement a process for maximizing the value and assessing and managing the risks of its acquisitions. A key goal of the Clinger-Cohen Act is that agencies have processes and information in place to help ensure that IT projects are being implemented at acceptable costs, within reasonable and expected time frames, and are contributing to tangible, observable, improvements in mission performance.

---

<sup>4</sup>*Reengineering Information Technology Management at the Immigration and Naturalization Service*, Logistics Management Institute, August 1998. LMI is a private, nonprofit corporation that provides management consulting, research, and analysis to governments and other nonprofit organizations.

<sup>5</sup>*Follow-up Review: Immigration and Naturalization Service Management of Automation Programs*, Office of the Inspector General, Audit Division, U.S. Department of Justice, July 1999.

<sup>6</sup>*Information Technology: INS Need to Better Manage the Development of Its Enterprise Architecture* (GAO/AIMD-00-212, August 1, 2000).

In May 2000, GAO issued an Information Technology Investment Management (ITIM) maturity framework, which identifies critical processes for successful IT investment and organizes these processes into a framework of increasingly mature stages.<sup>7</sup> ITIM supports the fundamental requirements of the Clinger-Cohen Act, which calls for IT investment and capital planning processes and IT performance measurement. ITIM is intended to provide a tool for implementing these processes incrementally and effectively. ITIM has been favorably reviewed by federal Chief Information Officers (CIOs) and members of GAO's advisory council on IT management.

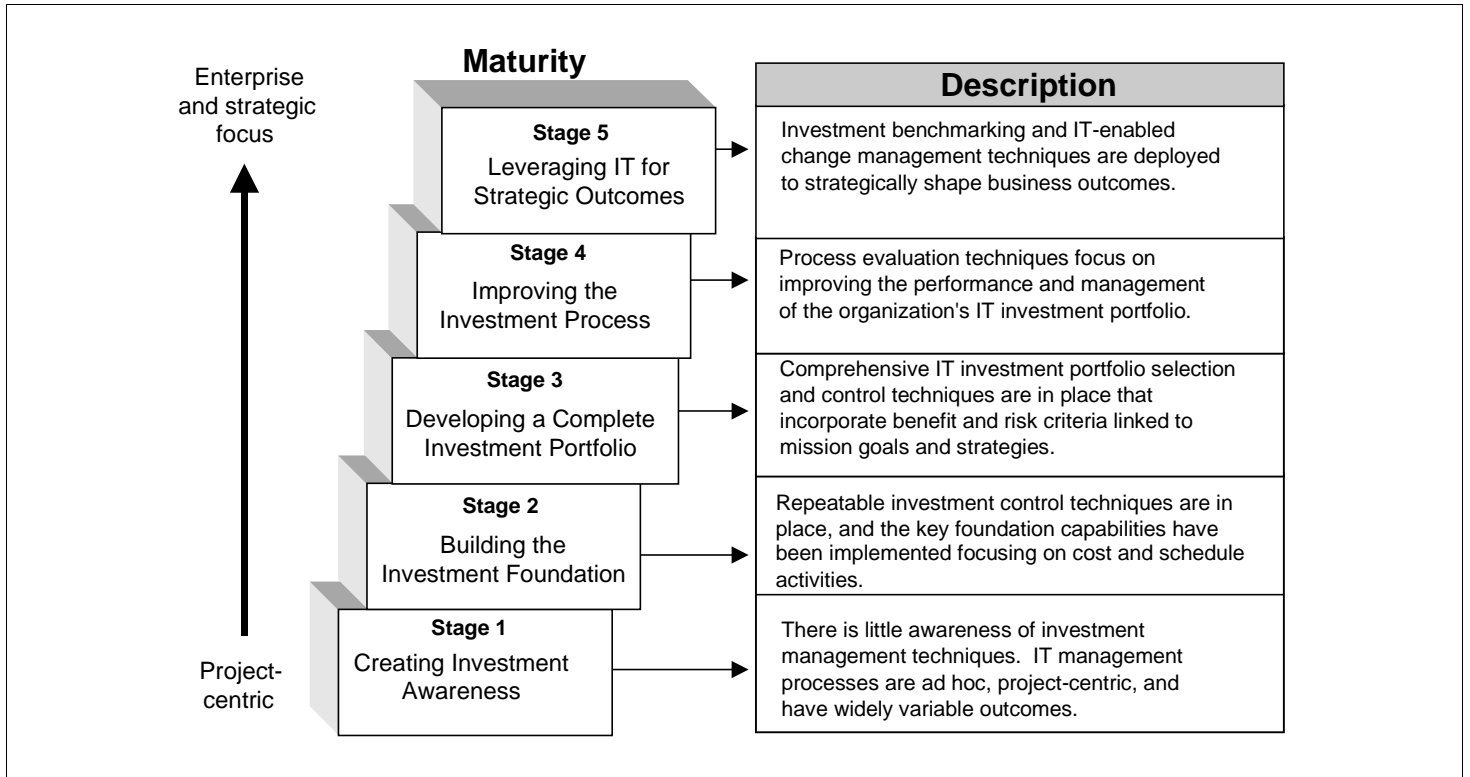
ITIM is a hierarchical model comprising five different maturity stages. Each stage builds upon the lower stages and represents a step toward achieving both stable and effective IT investment management processes. With the exception of the first stage—which reflects a general absence of investment management processes—each maturity stage is composed of critical processes that must be implemented and institutionalized for the organization to satisfy the requirements of that stage and be able to advance to the next stage. These critical processes are further broken down into key practices. Key practices are the specific tasks and conditions that must be in place for an organization to effectively implement the necessary critical processes. Using ITIM, GAO evaluated relevant processes in maturity stages two and three.<sup>8</sup> GAO did not assess stages four and five because INS acknowledged that it did not have any stage four and five capabilities. Figure 1 shows the five ITIM stages and a brief description of each stage.

---

<sup>7</sup>*Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity* (Exposure Draft) (GAO/AIMD-10.1.23, May 2000).

<sup>8</sup>Stage two critical processes are IT investment board operations, IT project oversight, IT asset tracking, business needs identification for IT projects, and proposal selection. Stage three critical processes that GAO reviewed are portfolio selection criteria definition, investment analysis, portfolio development, and portfolio performance oversight.

Figure 1: The Five Stages of Maturity Within ITIM



## Results in Brief

INS has limited capability to effectively manage its planned and ongoing IT investments. To its credit, INS has some important IT investment management capabilities in place to build upon and establish effective investment management processes. However, it has considerable work ahead to fully implement mature and effective processes. Until INS fully implements such processes, it will not know whether it is making the best investment decisions to optimize mission performance, whether its selected mix of investments best meets its overall mission and business priorities, or whether it is adequately managing the risks associated with these investments.

The first major step to building a sound IT investment management process is to be able to measure the progress of existing IT projects to identify variances in cost, schedule, and performance expectations, and take corrective action, if appropriate, and to establish basic capabilities for

selecting new IT proposals. INS has made some progress in establishing basic selection capabilities. For example, INS has an investment review board (IRB), which is comprised of both IT and business senior executives and functions as INS' central decision-making body for IT projects. However, INS has not yet implemented investment control processes and thus does not know if its IT projects are meeting cost, schedule, and performance expectations. For example, INS executives do not regularly track and monitor the progress of INS' projects toward achieving stated commitments by comparing up-to-date progress data with expectations. Without this information, INS executives do not have adequate assurance that IT projects are being developed on schedule and within budget, and whether INS' investments will deliver promised capabilities and benefits.

The second major step toward effective IT investment management requires that an organization continually assess proposed and ongoing projects as an integrated and competing set of investment options. This enables the organization to consider the relative costs, benefits, and risks of new proposals along with previously funded investments and identify the appropriate mix of IT investments that best meets its mission, strategies, and goals. However, INS has not yet implemented a process to compare both proposed and ongoing IT investments to determine priorities and to make decisions about what projects to fund based on their relative costs, benefits, schedule, and risks. As a result, INS executives are unable to assess and make trade-offs about the relative merits of spending funds to develop new systems, enhance current systems, or continue operating and maintaining existing systems.

Further, the Department of Justice has a vital leadership role to play in ensuring that its component agencies, like INS, have effective IT investment management capabilities. However, Justice has not issued any directive to its bureaus, including INS, on the need to institutionalize effective IT investment management capabilities, nor has it issued guidance on how to accomplish this, and it has not provided oversight on its bureaus' investment management development efforts. During the course of our work, however, Justice began drafting IT investment management policy and guidance. Justice officials stated that they plan to issue the final policy by the end of December 2000 and the guidance by March 2001.

---

## Principal Findings

---

### INS Lacks Foundation Capabilities Upon Which to Build IT Investment Management Maturity

To develop overall sound IT investment management capabilities, an organization must first be able to control its investments so that they finish predictably within established schedule and budget expectations and to establish basic capabilities for selecting new IT proposals. To INS' credit, it has made some progress in establishing basic selection capabilities. For example, INS has established an IRB, which comprises both IT and business senior executives. The IRB functions as INS' central decision-making body for IT projects and has broad support across the agency for its investment decisions. In addition, the IRB has followed a structured process for developing and selecting new IT proposals.

INS has not yet implemented investment control processes needed to adequately ensure that its IT projects meet established cost and schedule expectations. In particular, INS has not (1) consistently developed and maintained project management plans that include cost and schedule controls, (2) regularly tracked and monitored its IT projects' performance to determine whether they are meeting their cost and schedule expectations, and (3) acted to address identified cost and schedule performance problems. In addition, INS has not clearly identified business needs for each of its projects or trained IT project staff in business needs identification.

According to INS, this lack of effective investment control capabilities exists because it has not viewed the need for them as an institutional priority. This is evidenced by the fact that INS is still experiencing some of the same weaknesses that were identified in earlier reviews. For example, INS is still not consistently developing and maintaining project management plans and regularly tracking its IT projects' performance to determine whether they are meeting their cost and schedule expectations. As a result, INS' limited investment control capabilities significantly increase the chances that its IT projects will be late, cost more than expected, not perform as intended, and not deliver promised business value.

---

---

## INS Is Not Managing IT Investments as a Complete Portfolio

Once new proposals can be selected and developed on schedule and on budget, organizations need to continually assess and manage all of their IT projects (i.e., projects that are proposed, under development, and in operation) based on expected cost, benefits, schedule, and risk to create a complete strategic investment portfolio. Taking such a portfolio perspective enables the organization to consider its investments comprehensively, considering new proposals along with previously funded investments, and identifying the mix of IT investments that best meet its mission needs.

However, INS is not effectively managing its IT investments as a complete portfolio. While INS has defined portfolio categories and assigned each investment (including new and ongoing investments) to one of these categories, it has not defined the cost, benefits, schedule, and risk criteria to best support its mission and business priorities, and it does not use these criteria to select IT projects for funding. Without the use of such criteria, INS lacks critical information to examine the mix of new proposals and ongoing investments within and across its investment portfolios in order to select those investments that best align with mission needs and priorities. Further, INS executives have not monitored the performance of each of INS' IT investments in its portfolio by comparing actual cost, benefits, schedule, and risk data against expectations. According to INS, it has not established these investment management capabilities because IT investment management has not been an institutional priority. In the absence of such investment management capabilities, INS is unable to consider the relative merits of all investments, including both new and ongoing, to select those investments that best meet its mission needs and priorities.

---

## Justice Is Not Guiding and Overseeing INS' Investment Management Approach

The Clinger-Cohen Act requires that, among other things, the head of each agency implement a process for maximizing the value of the agency's IT investments and assessing and managing the risks of its IT investments, and that the agency CIO work with the agency head in implementing such a process. However, Justice has not provided INS, or any other Justice component, direction, guidance, and oversight on IT investment management activities. According to Justice officials, Justice had not done so because of other competing department priorities, even though the department and its components spent about \$3 billion on IT in fiscal years 1999 and 2000.



During the course of our work, Justice began drafting IT investment management policy and guidance documents in collaboration with an intercomponent working group. The draft policy directs Justice components to establish and use an IT investment management process and directs the Justice CIO to monitor the components' investment management processes through periodic briefings. A supplemental guidance document provides procedures for developing an investment management process. Justice officials stated that they plan to issue the final policy by the end of December 2000 and the guidance by March 2001. Without effective guidance and oversight, Justice does not have adequate assurance that INS, as well as its other components, have the necessary investment management processes in place to maximize the value of their IT investments and manage the risks associated with them.

---

## Recommendations for Executive Action

To strengthen INS' investment management capability and address the weaknesses discussed in this report, GAO recommends that you direct the Commissioner of INS to designate development and implementation of effective IT investment management processes as an agencywide priority and manage it as such. Specifically, you should direct the Commissioner to do the following:

- Develop a plan, within 9 months, for implementing IT investment management process improvements that is based on stages two and three critical processes and specifies measurable goals and time frames, ranks initiatives, defines a management structure for directing and controlling the improvements, establishes review milestones, and recognizes any direction and guidance that Justice issues. This plan should first focus on those critical processes in stage two of ITIM because, collectively, they provide the foundation for building a mature IT investment management process.
- Submit the plan to the Justice CIO for review and approval.
- Implement the approved plan and report to the Justice CIO, according to established review milestones, on progress made against the plan's goals and time frames.

Further, because the absence of effective investment management processes and an enterprise architecture<sup>9</sup> severely limits INS' ability to

---

<sup>9</sup>*Information Technology: INS Needs to Better Manage the Development of Its Enterprise Architecture* (GAO/AIMD-00-212, August 1, 2000).

effectively manage its IT investments, GAO recommends that until INS develops a complete enterprise architecture and implements the key practices associated with stages two and three critical processes, as described in this report, you direct the Commissioner to limit requests for future appropriations for IT only to efforts that

- support ongoing operations and maintenance, but not major enhancements, of existing systems;
- support INS efforts to develop and implement IT investment management processes and an enterprise architecture;
- are small, represent low technical risk, and can be delivered in a relatively short period of time; or
- are congressionally mandated.

Further, to improve Justice's guidance and oversight of components' IT investment management process activities, GAO also recommends that you direct the Justice CIO to follow through on the department's plans to issue an IT investment management policy and guidance to the components and to ensure that the policy and guidance

- directs Justice components and bureaus, including INS, to develop and implement IT investment management processes.
- instructs Justice components and bureaus on how to develop an investment management process. This guidance should be based on the investment management guidance contained in this report and, at a minimum, should include component roles, responsibilities, authorities, and policies and procedures for developing an IT investment management process.
- directs the Justice CIO to monitor the components' progress in developing and establishing an IT investment management process and take appropriate action if they are not progressing sufficiently.

---

## Agency Comments and GAO's Evaluation

In written comments on a draft of this report, Justice generally agreed with our recommendations. However, it offered minor wording modifications on two recommendations that it said would increase its ability to fully implement them. Justice also disagreed with our finding that Justice is not guiding and directing INS' investment management approach.

Justice generally agreed with our recommendation that INS develop and submit to Justice a plan for implementing investment management process improvements. However, Justice suggested that the time frame for

developing the plan be clarified such that INS has 6 months to develop and submit its plan to Justice once Justice issues its new IT investment management guidance. Because GAO's recommendation directed INS to consider any Justice guidance and direction in developing its investment management process improvement plan, GAO has modified the recommendation to include an additional 3 months to allow time for Justice to issue its guidance, which it plans to do in March 2001.

Justice also concurred with GAO's recommendation for INS to limit future appropriation requests for IT to certain investment categories because it lacks an enterprise architecture and effective investment management processes, but it suggested that GAO specify that this recommendation is in effect until INS completes its architecture and implements investment management processes. Because this is the intent of GAO's recommendation, GAO has clarified the recommendation to make this explicit.

Further, while INS agreed with GAO's recommendation for Justice to issue an investment management policy and guidance to its components, including INS, it disagreed with GAO's finding that Justice is not guiding and directing INS' investment management approach. According to Justice, it has established guidance for all aspects of IT management that its components are expected to follow and has a process for overseeing components' management of their investments. To support its position, Justice cited several examples, such as Justice approval authority of all component IT investments with life-cycle cost over \$1 million, Justice establishment of an IT Investment Board, and Justice meetings with components.

GAO does not agree with Justice's position. While GAO concurs that the examples cited by Justice represent important IT management functions to be performed in providing management oversight of individual IT investments, such management oversight is not the focus of GAO's findings, conclusions, and recommendations. Rather, GAO's report addresses Justice's efforts to ensure that its components, including INS, have each defined and implemented effective IT investment management processes. As such, GAO sought evidence from Justice demonstrating that it has directed its components to establish such processes, provided guidance to its components on how to develop and implement these processes, and monitored its components' progress to determine whether they are implementing such processes. However, besides the steps that Justice initiated during the course of GAO inquiries and plans to take,

---

which GAO has described in this report, GAO found no such evidence. Moreover, Justice stated in its written comments that it agreed with GAO's recommendation for it to provide investment management process direction, guidance, and oversight to its components.

Justice's written comments are discussed in further detail in chapter 5, and the full text of its comments is reproduced in appendix I.

---

---

---

# Introduction

---

The mission of INS, an agency of the Department of Justice, is to administer and enforce the immigration laws of the United States. To accomplish this, INS is organized into three core business areas—enforcement, immigration services, and corporate services. Enforcement includes, among other things, conducting inspections of travelers entering the United States as they arrive at more than 300 land, sea, and air ports of entry; detecting and preventing the smuggling and illegal entry of aliens; and identifying and removing persons who have no lawful immigration status in the United States. Immigration services, which involve regulating permanent and temporary immigration to the United States, include granting legal permanent residence status, nonimmigrant status (e.g., tourists and students), and naturalization. Corporate services include records management, financial management, personnel management, and inventory management support for INS activities.

INS' IT assets play a significant role in (1) receiving and processing naturalization and other benefit applications, (2) processing immigrants and nonimmigrants entering and leaving the United States, and (3) identifying and removing people who have no lawful immigration status in the United States. For example, the Computer-Linked Application Information Management System (CLAIMS 4) is a centralized case management tracking system, that offers support for a variety of tasks associated with processing and adjudicating naturalization benefits. In addition, the Deportable Alien Control System (DACS) automates many of the functions associated with tracking the location and status of illegal aliens in removal proceedings, including detention status.

---

## INS' Current IT Investment Efforts

INS has multiple efforts underway to develop and acquire new information systems and to maintain existing ones. According to INS, in fiscal year 2000, it obligated about \$327 million on IT activities, including about \$94 million for new development and the remaining amount, which includes enhancing existing systems, for operations and maintenance. For example, INS obligated \$14.5 million in fiscal year 2000 to continue development of CLAIMS 4, which supports the processing of applications and petitions for immigrant benefits and is intended to fully replace CLAIMS 3. In addition, INS obligated about \$18 million in fiscal year 2000 to further deploy its Integrated Surveillance Intelligence System (ISIS), which includes the deployment of intelligent computer aided detection systems, unattended ground sensors, and fixed cameras along the northern and southern borders to provide around-the-clock visual coverage of the border. For fiscal year 2001, INS plans to spend about \$226 million on IT for

operations and maintenance activities.<sup>1</sup> INS funds most of its IT efforts with operation and maintenance funds and currently is developing or maintaining 74 information systems.

---

## Recent Reviews Have Identified IT Project Management Weaknesses

Recent reviews have identified several weaknesses in INS' management of its IT projects. For example, in August 1998, the Logistics Management Institute (LMI)<sup>2</sup> reported that INS' Office of Information Resources Management (OIRM) (1) did not maintain accurate cost estimates for the complete life cycle of projects and (2) did not track and manage projects to a set of cost, schedule, technical, and benefit baselines.<sup>3</sup> Further, LMI noted that while INS' System Development Life Cycle (SDLC) manual provides a good model for systems development projects, OIRM did not consistently follow it, often bypassing key SDLC phases.<sup>4</sup>

Similarly, in July 1999, the Justice Inspector General (IG) reported that (1) estimated completion dates for some INS IT projects had been delayed without explanation for the delays, (2) project costs continued to spiral upward with no justification for how funds are spent, and (3) projects were nearing completion with no assurance that they would meet performance and functional requirements.<sup>5</sup>

Recognizing the need to address these weaknesses, INS established an Operational Assessment Team to analyze reported weaknesses and recommend specific actions to address them. The Operational Assessment Team validated the deficiencies identified in the LMI and Justice IG reports and identified additional ones. For example, the team found that system

---

<sup>1</sup>INS has not yet decided how much it will spend in fiscal year 2001 on IT for development and deployment activities.

<sup>2</sup>LMI is a private, nonprofit corporation that provides management consulting, research, and analysis to governments and nonprofit organizations.

<sup>3</sup>*Reengineering Information Technology Management at the Immigration and Naturalization Service*, Logistics Management Institute, August 1998.

<sup>4</sup>"System development life cycle" is a term used to refer to the phases of a system's development from beginning to end (i.e., from perceived need for a system extending through systems design, development, implementation, operations, and maintenance).

<sup>5</sup>*Follow-up Review: Immigration and Naturalization Service Management of Automation Programs*, Office of the Inspector General, Audit Division, U.S. Department of Justice, July 1999.

requirements were not consistently collected, recorded, documented, tracked, and controlled. To illustrate, of 105 projects reviewed by the team, fewer than 50 percent had documented requirements and most of the requirements that had been documented were not current.

Further, in August 2000, we reported that INS did not have an enterprise architecture to guide the development and evolution of its information systems.<sup>6</sup> An enterprise architecture is an institutional systems blueprint that defines in both business and technological terms the organization's current and target operating environments and provides a road map for moving from one to the other. It is required by the Clinger-Cohen Act and is a recognized practice of successful public and private sector organizations. INS had initiated some limited efforts to document its current architecture, but it had not yet begun developing a target architecture or a plan to move from the current to the target environment. Moreover, INS had not yet established the management structure and controls to develop the architecture. The absence of such an enterprise architecture increases the risk that the hundreds of millions of dollars INS spends each year on information systems will not be well integrated or compatible and will not effectively support mission needs and priorities.

---

## Overview of INS' Current Approach to IT Investment Management

In 1997, INS established an investment review board (IRB). The IRB consists of four voting members—the Deputy Commissioner (Chair) and INS' three Executive Associate Commissioners—and advisory or supporting members, including the Director of the Budget Office and the Acting Associate Commissioner of the Office of Information Resources Management. In November 1998, INS also established the Executive Steering Committee (ESC) to support the IRB. The ESC comprises portfolio managers and advisory members, which analyze investment proposals and make recommendations on these proposals to the IRB.<sup>7</sup>

The IRB has established a process for selecting new IT proposals. According to INS officials, new proposals are developed throughout the

---

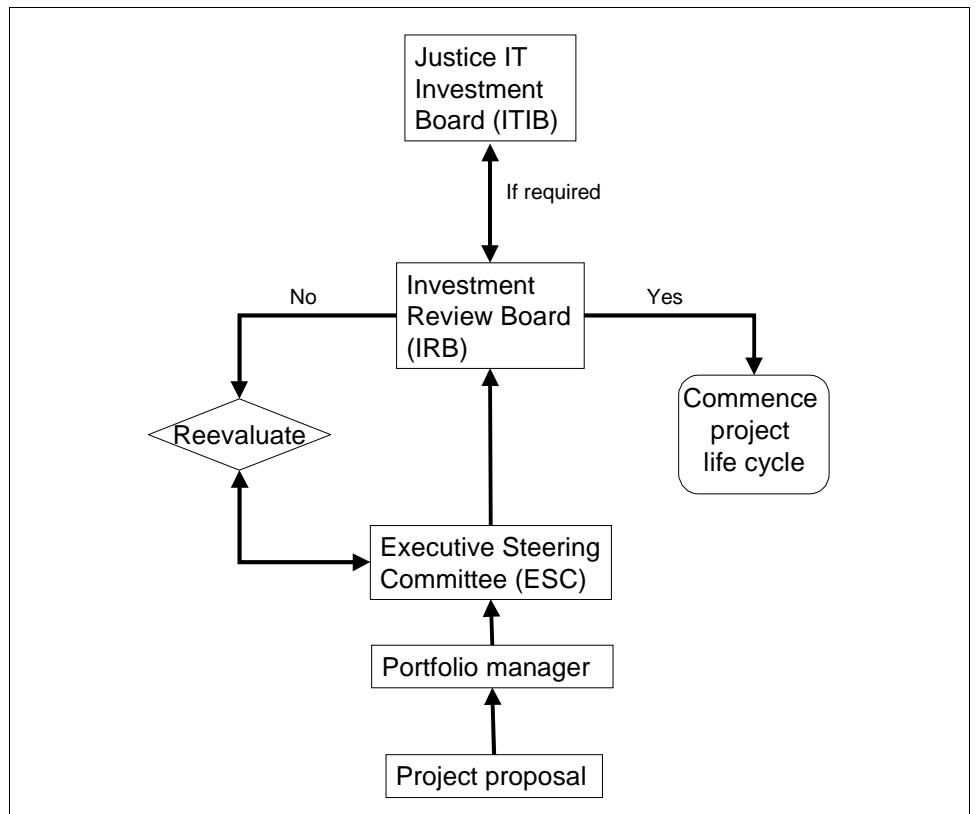
<sup>6</sup>*Information Technology: INS Needs to Better Manage the Development of Its Enterprise Architecture* (GAO/AIMD-00-212, August 1, 2000).

<sup>7</sup>Portfolio managers are individuals who are responsible for managing a group of systems within a particular business area or portfolio. INS has defined eight portfolio categories: Biometrics, Corporate, Enforcement, Examination, Infrastructure, Inspections, IRM Operations, and Management.



year as business needs are identified and are forwarded to the appropriate portfolio manager for review. After reviewing the proposal, the portfolio manager forwards it to the ESC for consideration for funding. The ESC examines the proposals submitted and determines the appropriate funding for each project. Once funding is determined, the ESC forwards the proposed funding levels to the IRB, which makes the final investment selections and budget formulation decisions. See figure 2 for INS' new proposal selection process.

Figure 2: Current INS New IT Proposal Selection Process



Source: INS.

As part of INS' annual budget execution process, the IRB considers the funding requests of ongoing and new projects. Project managers define requirements for their ongoing projects, which they submit to the responsible portfolio managers for review. After reviewing the

requirements and funding requests, each portfolio manager submits them to the ESC for review and to the IRB for approval. The approved funding is submitted to the Budget Office for inclusion into its budget execution process. According to INS officials, new proposals are considered for funding only after ongoing projects have been funded.

---

## Framework for Assessing Agencies' IT Investment Management

Several recent management reforms—including the revision to the Paperwork Reduction Act and the passage of the Clinger-Cohen Act of 1996, the Government Performance and Results Act of 1993, and the Chief Financial Officers Act of 1990—have introduced requirements emphasizing the need for federal agencies to improve their management processes for selecting and managing IT resources. In particular, the Clinger-Cohen Act requires that the head of each agency implement a process for maximizing the value of the agency's IT investments and for assessing and managing the risks of its acquisitions. A key goal of the Clinger-Cohen Act is that agencies have processes and information in place to help ensure that projects are being implemented at acceptable costs within reasonable and expected time frames and that they are contributing to tangible, observable improvements in mission performance.

We and the Office of Management and Budget (OMB) have developed guidance to assist federal agencies in managing IT investments. One such guide, *Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making*, incorporates our analysis of the management practices of leading private and public sector organizations as well as the provisions of major federal legislation (e.g., Clinger-Cohen Act) and executive branch guidance that address investment decision-making.<sup>8</sup> The guide provides a method for determining how well a federal agency is selecting and managing its IT resources and identifies specific areas where improvements can be made.

To enhance this guidance, we issued an Information Technology Investment Management (ITIM) maturity framework in May 2000.<sup>9</sup> ITIM provides a common framework for assessing IT capital planning and investment management practices by describing the organizational

---

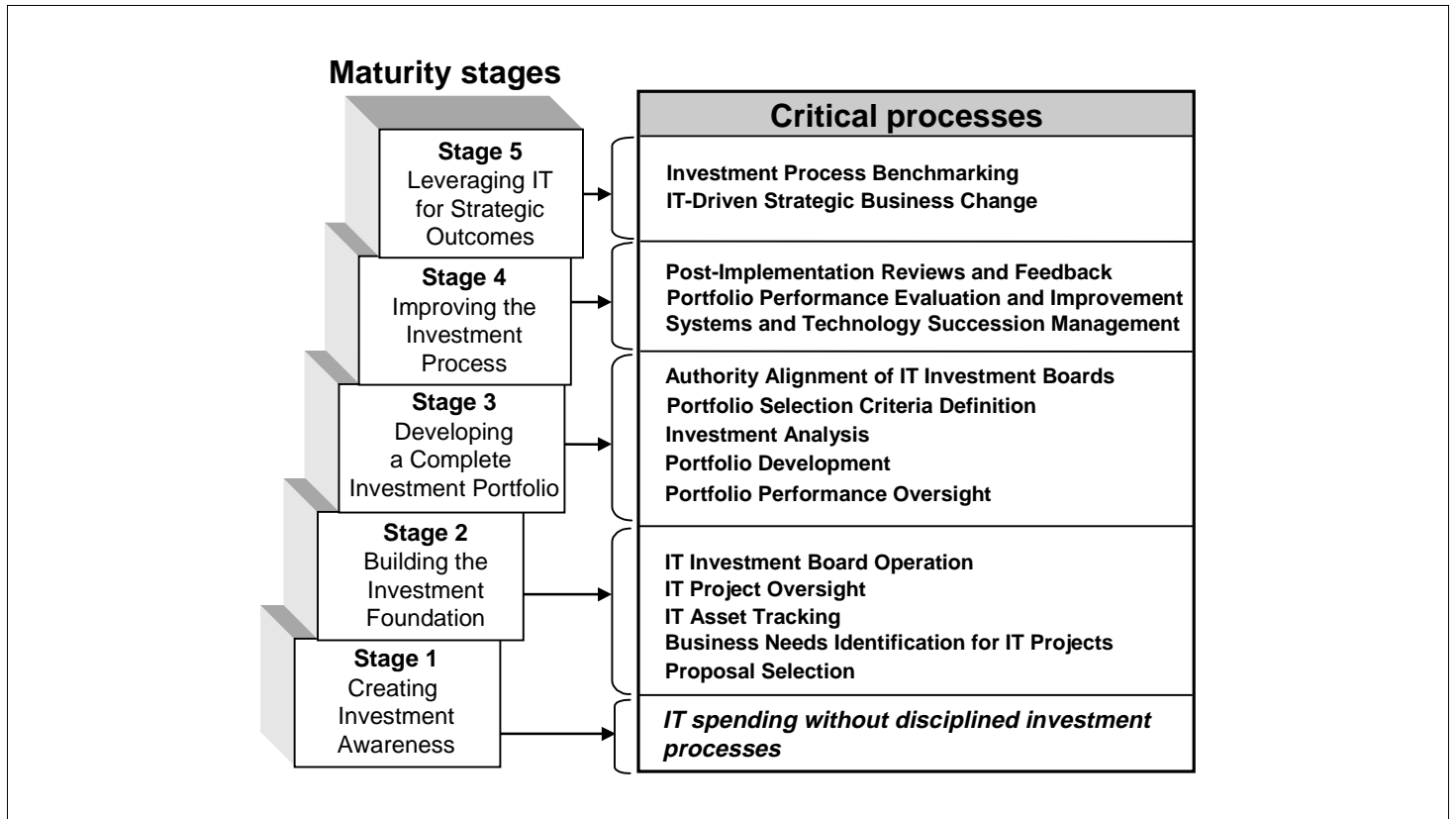
<sup>8</sup>GAO/AIMD-10.1.13, February 1997.

<sup>9</sup>*Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity (Exposure Draft)* (GAO/AIMD-10.1.23, May 2000).

processes, and their interrelationships that are the tenets of good investment management. ITIM is based on the best-practices work done as part of our ongoing research into the IT management practices of leading organizations.

ITIM is a hierarchical model comprising five maturity stages. These maturity stages represent steps toward achieving stable and mature investment management processes. As agencies advance through the model's stages, their capability to manage IT increases. Each stage builds upon the lower stages and enhances the organization's ability to manage its investments. With the exception of the first stage, each maturity stage is composed of critical processes that must be implemented and institutionalized for the organization to satisfy the requirements of that stage. These critical processes are further broken down into key practices that describe the types of activities that an agency should be engaged in to successfully implement each critical process. An organization that has these critical processes in place is in a better position to successfully invest in IT. (See figure 3 for the five stages and associated critical processes).

Figure 3: The ITIM Stages of Maturity With Critical Processes



As established by the model, each critical process contains five core elements that indicate whether the implementation and institutionalization of a process can be effective and repeated. The five core elements are:

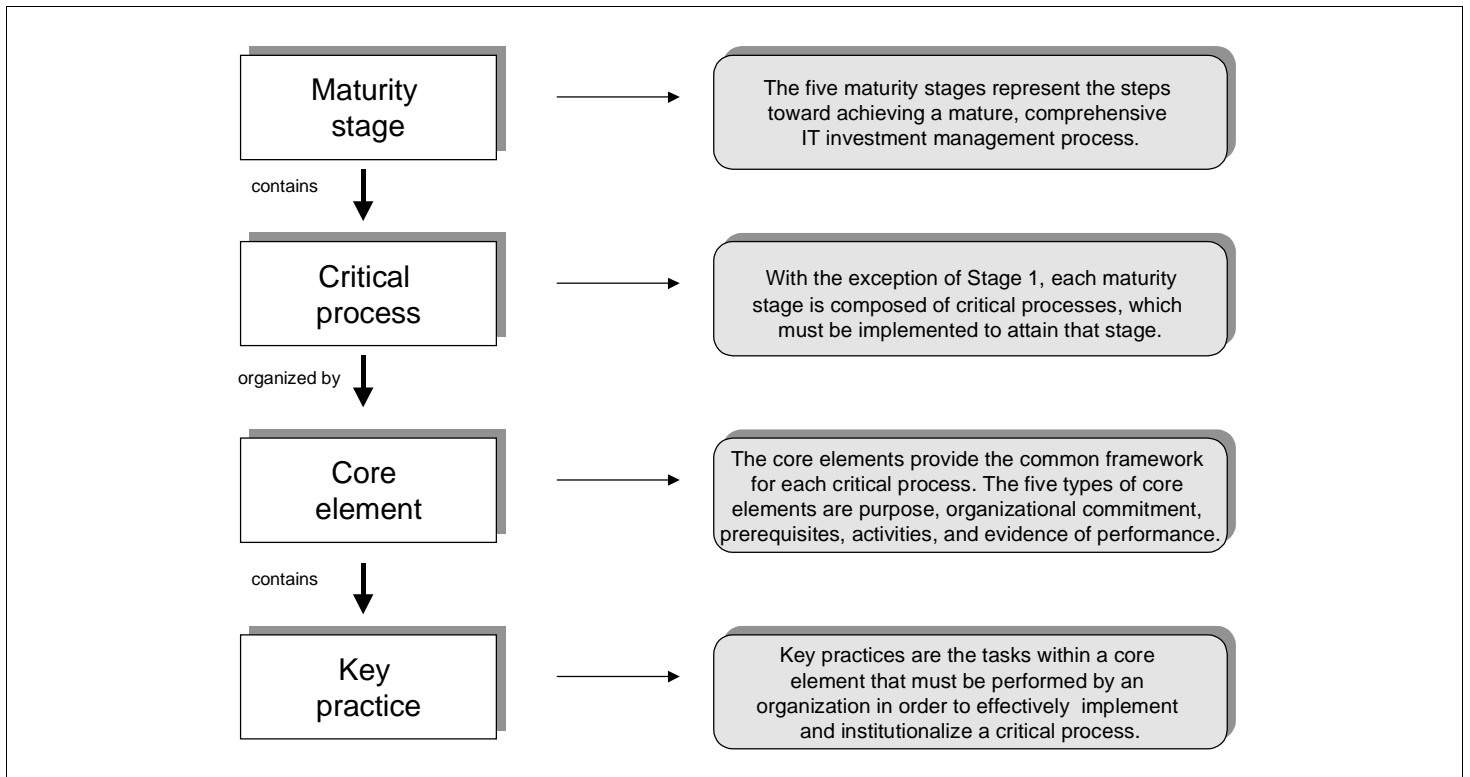
- Purpose: This is the primary reason for engaging in the critical process and states the desired outcome for the critical process.
- Organizational commitment: This comprises management actions that ensure that the critical process is established and will endure. Key practices typically involve establishing organizational policies and engaging senior management sponsorship.
- Prerequisites: These are the conditions that must exist within an organization to successfully implement a critical process. This typically involves allocating resources, establishing organizational structures, and providing training.
- Activities: These are the key practices necessary to implement a critical process. An activity occurs over time and has recognizable results. Key

practices typically involve establishing procedures, performing and tracking the work, and taking corrective actions as necessary.

- Evidence of performance: This comprises artifacts, documents, or other evidence that supports a contention that the key practices within a critical process have or are being implemented. This core element typically consists of the collection and verification of physical, documentary, or testimonial evidence and typically involves reviews by objective parties.

With the exception of the purpose core element, each of the other core elements contains key practices. The key practices are the attributes and activities that contribute most to the effective implementation and institutionalization of a critical process. (Figure 4 shows the relationship between the various ITIM components.)

Figure 4: ITIM Component Relationships



---

## Objectives, Scope, and Methodology

Our objectives were to determine whether (1) INS is effectively managing its IT investments and (2) the Department of Justice is effectively promoting, guiding, and overseeing INS' investment management activities.

To determine whether INS is effectively managing its investments, we applied our ITIM framework and the associated assessment method. As part of the ITIM assessment method, INS conducted a self-assessment of its IT investment management activities using the ITIM framework. In its self-assessment, INS indicated whether it executed each of the key practices in stages two through five. INS asserted that it executed many of the key practices within stages two and three but only four key practices in all of stages four and five. Accordingly, we did not include ITIM stages four and five in the scope of our review. Also, we did not evaluate the key practices within stages two and three that INS stated it had not executed.

We evaluated INS against 9 of the 10 critical processes in stages two and three. We did not evaluate INS against the stage three critical process Authority Alignment of IT Investment Boards. This critical process is only relevant if an organization has more than one IT investment board and INS has only one. The nine critical processes we examined focus primarily on INS' ability to effectively select and control its IT investments.

To determine whether INS had implemented these nine critical processes, we evaluated policies, procedures, and guidance related to INS' IT investment management activities. In particular, we analyzed the following: organizational charters, INS' System Development Life Cycle manual, requirements management process guide, and administrative manuals (e.g., *Personal Property Handbook*). We also reviewed documentation associated with specific investment management activities, such as IRB and ESC meeting minutes, project management plans, system deployment plans, budget formulation and execution plans, quarterly reports to Justice, and contractor statements of work.

In addition, we reviewed four IT projects to verify the execution of INS-defined processes, procedures, and practices. The four projects were selected based on the following criteria: (1) the projects should represent different life cycle phases (e.g., requirements definition, design, operations and maintenance), (2) the projects should support different INS business areas (e.g., Examinations, Enforcement), (3) at least one project should be considered high risk, and (4) at least one project should have been

reviewed by Justice's Information Technology Investment Board (ITIB). The projects we evaluated are:

- *Coordinated Interagency Partnership Regulating International Students (CIPRIS)*: CIPRIS is an Internet-based system that is intended to modernize and streamline the current process for collecting information relating to nonimmigrant foreign students and other exchange program participants. It is intended to enable U. S. universities, schools, and cultural exchange programs to report and share information electronically with INS and other government regulatory agencies. INS has implemented an operational prototype of CIPRIS at 21 educational institutions. CIPRIS is a concept exploration project that supports the Examinations business area within INS. INS has designated CIPRIS as a high-risk project and it has been reviewed by Justice's ITIB. According to INS, it obligated about \$3.1 million for CIPRIS in fiscal year 2000.
- *Computer-Linked Application Information Management System (CLAIMS) 4.0*: According to INS, CLAIMS 4 is intended to improve delivery of naturalization services by fully automating INS' case management system. According to INS, CLAIMS 4 supports the Immigration Services Program within INS and is currently operational at 59 sites. According to INS, it obligated \$14.5 million for CLAIMS 4 in fiscal year 2000.
- *Integrated Surveillance Intelligence System (ISIS)*: ISIS was established to detect and deter illegal intruders and to safely apprehend illegal aliens on the U.S.-Mexico and U.S.-Canada borders. ISIS is designed to provide all-weather sensor and video surveillance of the U.S. borders 24 hours a day, 7 days a week. The major components of ISIS are the Intelligent Computer-Assisted Detection system, ground sensors, and the Remote Video Surveillance system. ISIS supports the Enforcement program area within INS and has been reviewed by Justice's ITIB. According to INS, it obligated about \$18 million for ISIS in fiscal year 2000 to further deploy the system.
- *Central Index System (CIS)*: CIS provides INS with information about persons of interest to the INS. According to INS, CIS also interacts with various INS databases to provide the data necessary for INS operations. CIS currently maintains approximately 45 million detailed records on individuals of interest to INS. CIS supports the INS' Corporate business area and is in the operations and maintenance phase of its life cycle. According to INS, it obligated about \$2.6 million for CIS in fiscal year 2000.

We did not validate INS' IT spending obligations for fiscal year 2000 and IT spending estimates for fiscal year 2001.

To supplement our document reviews, we interviewed senior INS officials, including the Deputy Commissioner, who chairs the IRB, and the Executive Associate Commissioner for Management, who is the Chief Information Officer (CIO) and an IRB member. We also interviewed the Acting Associate Commissioner for Information Resources Management, who chairs the ESC; the Director of INS' Investment Management Team; portfolio managers; the Director of the Office of Strategic Information and Technology Development; IT project managers; program managers; Office of Budget representatives; and officials involved with the development and maintenance of INS' asset tracking systems.

We compared the evidence collected from our document review and interviews to the key practices and critical processes in ITIM. Because ITIM is a hierarchical framework, the rating of each critical process is dependent on the key practices below it. Therefore, we first rated the key practices. In accordance with the ITIM assessment method, we rated a key practice as “executed” when we determined, by consensus, that INS was executing the key aspects of the practice. A key practice was rated as “not executed” when we determined that there were significant weaknesses in INS' execution of the key practice and INS offered no adequate alternative, or when the team found no evidence of a practice during the review.

Once the key practices were rated, we rated each of the nine critical processes we reviewed. A critical process was rated as “implemented” if all of the underlying key practices were rated as being executed. A critical process was rated as “not implemented, but improvements underway” if over half, but not all, of its underlying key practices were rated as being executed. A critical process was rated as “not implemented” when there were significant weaknesses (i.e., fewer than 50 percent of the key practices had been implemented) in INS' implementation of the underlying key practices and no adequate alternative was in place.

To determine whether the Department of Justice is effectively promoting, guiding, and overseeing INS' investment management activities, we interviewed officials within the Office of Information Management and Security Staff, the organization that plays a leading role in Justice's investment management activities. We also reviewed Justice's January 2000 investment management guidance, draft policy and guidance documents, INS project proposals, ITIB review and decision documentation, and



---

quarterly briefing documents. We also discussed Justice's oversight activities with various officials within INS.

We conducted our work at INS and Justice headquarters in Washington, D.C., from May 2000 through October 2000 in accordance with generally accepted government auditing standards. Justice's Assistant Attorney General for Administration provided written comments of a draft of this report. These comments are presented in chapter 5 and are reprinted in appendix I.

# INS Lacks Foundation Capabilities Upon Which to Build IT Investment Management Maturity

---

The primary purpose of ITIM stage two maturity is to attain repeatable, successful IT project-level investment control processes and basic selection processes. For an organization to develop an overall sound IT investment management process, it must first be able to control its investments so that it can identify expectation gaps early and correct them. According to ITIM, stage two maturity includes (1) defining IRB operations, (2) developing a basic process for selecting new IT proposals, (3) developing project-level investment control processes, (4) creating an IT asset inventory, and (5) identifying the business needs for each IT project.

INS has not fully implemented any of the critical processes associated with stage two; however, it has improvements underway and is close to fully implementing two of these processes. INS has (1) established an IRB, which comprises both IT and business senior executives and functions as INS' central decision-making body for IT projects, and (2) the IRB has followed a structured process for developing and selecting new IT proposals and making initial funding decisions for these proposals.

However, INS has not yet developed some of the capabilities necessary to build a sound IT investment management process. For example, INS has not (1) established basic project-level control processes to ensure that its IT projects are performing as expected, (2) created an IT asset inventory for investment management, and (3) defined business needs for all of its IT projects. According to INS, it lacks these critical investment capabilities because it has not yet made IT investment management an institutional priority. Table 1 summarizes INS' stage two maturity.

**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 1: Summary of Stage Two Critical Process Ratings**

<b>Critical process</b>	<b>Rating</b>	<b>Key practices</b>	<b>Key practices executed</b>
IT Investment Board Operation	Not implemented, but improvements underway	6	4
IT Project Oversight	Not implemented	11	2
IT Asset Tracking	Not implemented	8	2
Business Needs Identification for IT Projects	Not implemented	8	4
Proposal Selection	Not implemented, but improvements underway	6	5
<b>Total</b>		<b>39</b>	<b>17</b>

INS' capabilities for each of the stage two critical processes are discussed below.

---

## INS Has Established an IRB, But Has Not Developed Policies and Procedures to Govern IRB Operations

The purpose of this critical process is to define and establish the governing board or boards responsible for selecting, controlling, and evaluating IT investments. This includes defining the membership, guiding policies, operations, roles and responsibilities, and authorities for the investment board and, if appropriate, each board's support staff. These policies, roles and responsibilities, and authorities also provide the basis for the board's investment selection, control, and evaluation activities.

According to ITIM, effective IT investment board operations require, among other things, that (1) the board membership include both IT and business knowledge, (2) the organization's executives and line managers support and carry out board decisions, (3) the organization create an organization-specific process guide that includes policies and procedures to direct the board's operations, and (4) the IRB operate according to these written policies and procedures.

INS is executing many of the practices in this critical process. For example, INS has an IRB that functions as a central decision-making body for IT investments and is composed of senior executives from both INS' IT and business areas. During our discussions with agency officials, we found broad support within the organization for the IRB's decisions. For example, three of the four program/project managers we interviewed acknowledged the IRB's role in investment decision-making. The IRB is chaired by the Deputy Commissioner and includes INS' three Executive Associate Commissioners. The IRB is supported by an ESC, which is comprised of senior representatives who manage INS' eight IT portfolios. The ESC reviews and analyzes IT investments and makes recommendations to the IRB for final approval. This senior level involvement and the breadth of representation help to demonstrate executive sponsorship of the process and support for the projects selected.

While INS has an IRB, it is not functioning according to written policies and procedures. Instead, the IRB operates according to undocumented procedures for selecting new IT proposals. According to the Director of INS' Investment Management Team, INS has begun developing written policies and procedures and plans to complete them about March 2001. However, until INS develops and implements these policies and procedures, key IT investment activities may not be done consistently, if at all. Table 2 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 2: Summary of Ratings and Evidence for the IT Investment Board Operation Critical Process**

<b>Key practice</b>	<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. An organization-specific IT investment process guide is created to direct each board's operations.	Not executed INS does not have an organization-specific IT investment process guide to direct the board's operations. According to the Director of INS' Investment Management Team, INS is developing a process guide and plans to complete it by March 2001.
	2. Organization executives and line managers support and carry out IT investment board decisions.	Executed INS executives and line managers support the IRB's decisions. Three of the four program/project managers we interviewed acknowledged the IRB's role in investment decision-making.
Prerequisites	1. Adequate resources are provided for operating each IT investment board.	Executed INS has adequate resources for operating the investment board. Resources include both internal staff support and contractor-provided support. Also, the IRB has been operating as a decisional body since the Fall of 1998.
	2. Board members understand the investment board's policies and procedures and exhibit core competencies in using the IT investment approach via training, education, or experience.	Executed IRB members understand the IRB's informal practices for investing in IT and exhibit competencies in using the IT investment approach.
Activities	1. Each investment board is created and defined with board membership integrating both IT and business knowledge.	Executed IRB membership includes representatives from both IT and business areas within INS.
	2. Each IT investment board operates according to written policies and procedures in the organization-specific IT investment process guide.	Not executed The IRB does not operate according to written procedures. INS does not have an organization-specific IT investment process guide (See organizational commitment 1). However, the IRB operates according to undocumented, established procedures for selecting new IT proposals.

---

## INS Is Not Effectively Overseeing Its Ongoing IT Projects

The purpose of project oversight is to ensure that the IRB provides effective oversight for its ongoing IT projects throughout all phases of their life cycle. Under stage 2 maturity, the IRB should review each project's progress toward predefined cost and schedule expectations, using established criteria, and take corrective actions when cost estimates and project milestones are not achieved. Implementing this critical process provides the basis for evolving the organization's IT investment control activities.

According to ITIM, effective project oversight requires, among other things, (1) having written policies and procedures for project management, (2) developing and maintaining an approved project management plan for each IT project, (3) having written policies and procedures for oversight of IT projects, (4) making up-to-date cost and schedule data for each project available to the IRB, (5) reviewing each project's performance by comparing actual cost and schedule data to expectations regularly, and (6) ensuring that corrective actions for each underperforming project are defined, implemented, and tracked until the desired outcome is achieved.

INS is not effectively overseeing its IT projects. While INS has documented policies and procedures for project management in its System Development Life Cycle (SDLC) manual, it is not following its own procedures. For example, INS has not developed and maintained project management plans that include cost and schedule controls for each of its IT projects, an SDLC requirement. In fact, only two of the four projects that we reviewed had current project management plans.

Furthermore, INS does not have written policies and procedures for oversight of its IT projects. Without written policies and procedures, INS increases the risk that project oversight activities will not be performed effectively. For example, the IRB does not (1) receive up-to-date cost and schedule data for each project, (2) oversee each project's performance regularly by comparing actual cost and schedule data to expectations, and (3) ensure that corrective actions are implemented and tracked for underperforming projects. In the absence of effective oversight, INS executives do not have adequate assurance that IT projects are being developed on schedule and within budget. Table 3 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 3: Summary of Ratings and Evidence for the IT Project Oversight Critical Process**

<b>Key practice</b>	<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. The organization has written policies and procedures for project management.	Executed INS' SDLC manual contains policies and procedures for project management.
	2. The organization has written policies and procedures for management oversight of IT projects.	Not executed INS indicated in its self-assessment that this key practice was "not executed."
Prerequisites	1. Adequate resources are provided to assist the board(s) in overseeing IT projects.	Not executed According to INS, it does not have adequate resources to assist the board in overseeing IT projects.
	2. Each IT project has and maintains an approved project management plan that includes cost and schedule controls.	Not executed According to INS' officials, not all projects have project management plans. Two of the four case study projects we reviewed did not have project management plans.
	3. An IT investment board is operating.	Executed The IRB is functioning as the central decision-making body for IT projects, although it is not operating according to written policies and procedures (See IT Investment Board Operation: organizational commitment 1).
	4. Information from the IT asset inventory is used by the IT investment board as applicable.	Not executed The IRB does not use information from an IT asset inventory.
Activities	1. Each project's up-to-date cost and schedule data are provided to the appropriate IT investment board.	Not executed Up-to-date cost and schedule data are not provided to the IRB for each project. Three of the four projects we reviewed did not provide up-to-date cost and schedule data to the IRB.
	2. Using established criteria, the IT investment board oversees each IT project's performance regularly by comparing actual cost and schedule data to expectations.	Not executed INS indicated in its self-assessment that this key practice was "not executed."
	3. The IT investment board performs special reviews of projects that have not met predetermined performance standards.	Not executed INS indicated in its self-assessment that this key practice was "not executed."
	4. Appropriate corrective actions for each under performing project are defined, documented, and agreed to by the IT investment board and the project manager.	Not executed INS indicated in its self-assessment that this key practice was "not executed."
	5. Corrective actions are implemented and tracked until the desired outcome is achieved.	Not executed INS indicated in its self-assessment that this key practice was "not executed."

---

## INS Is Not Tracking and Using IT Asset Information for Investment Management Purposes

The purpose of the asset tracking critical process is to create and maintain an IT asset inventory to assist in managerial decision-making. To make good investment decisions, an organization must know where its IT assets (i.e., personnel, systems, applications, hardware, software licenses, etc.) are located and how funds are being expended toward acquiring, maintaining, and deploying them. This critical process identifies IT assets within the organization and creates a comprehensive inventory of them. This inventory can take many forms, but regardless of form, the inventory should identify each asset and its associated components.

Beyond identifying IT assets, this process is used to support other ITIM critical processes by serving as an investment information and data repository that contains such items as the list of systems and projects and data on each project's progress toward achieving its plans. To support investment decision-making, this inventory should also be accessible where it is of the most value to decisionmakers.

According to ITIM, effectively tracking IT assets requires, among other things, (1) making investment information available on demand to decisionmakers, (2) developing and maintaining an IT asset inventory according to written procedures, (3) overseeing the development and maintenance of the asset tracking process, and (4) assigning responsibility for managing this tracking process.

INS has not implemented an effective IT asset tracking process for investment management. While investment information from various sources has been available to the IRB on an ad hoc basis, it is not available on demand and INS has not developed and maintained an inventory for investment management purposes according to written policies and procedures. In addition, the IRB does not oversee IT asset tracking activities and has not assigned responsibility for managing this tracking process to support investment decision-making. In the absence of standard, documented procedures for developing and maintaining the inventory, INS executives do not have adequate assurance that timely, complete, and consistent asset data are available to them. Table 4 summarizes the ratings for each key practice and the specific findings supporting the ratings.



**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 4: Summary of Ratings and Evidence for the IT Asset Tracking Critical Process**

IT Asset Tracking	Rating	Summary of evidence
Organizational commitment	Not executed	INS does not have written policies and procedures for developing and maintaining an IT asset inventory to support investment management.
	Not executed	INS has not assigned responsibility for managing the IT asset tracking process to support IT investment decision-making.
Prerequisites	Executed	According to INS, it has adequate resources for performing IT asset-tracking activities.
	Not executed	The IRB does not oversee the development and maintenance of IT asset-tracking activities.
Activities	Not executed	INS has not developed an IT asset inventory to support IT investment decision-making.
	Not executed	INS has not developed an IT asset inventory to support IT investment decision-making.
	Executed	Investment information is available to decisionmakers on an ad hoc basis from various repositories.
	Not executed	INS has not developed an IT asset inventory to support IT investment decision-making.

---

## INS Has Not Defined Business Needs for All Its IT Projects

The purpose of defining business needs for each IT project is to ensure that each project supports the organization's business needs and meets users' needs. Thus, this critical process creates the link between the organization's business objectives and its IT management strategy. According to ITIM, effectively identifying business needs requires, among other things, (1) defining the organization's business needs or stated mission goals, (2) identifying users for each project who will participate in the project's development and implementation, (3) defining business needs for each project, and (4) training IT staff in business needs identification.

INS has executed some of the key practices associated with effectively defining business needs for IT projects. For example, INS has (1) defined its business needs and mission goals in its annual performance plan and (2) identified users for its projects who participate in the project's development and implementation. However, INS has not clearly defined specific business needs for each project. In addition, only one of the four project managers that we interviewed stated that he or she had been trained in business needs identification. In the absence of documented business needs, the IRB cannot ensure that it is selecting IT investments that meet its mission needs and priorities. Table 5 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 5: Summary of Ratings and Evidence for the Business Needs Identification for IT Projects Critical Process**

Key practice		Rating	Summary of evidence
Organizational commitment	1. The organization has written policies and procedures for identifying the business needs (and the associated users) of each IT project.	Executed	The SDLC manual and a requirements management process guide contain written policies and procedures for identifying the business needs and associated users of each IT project. The <i>Technical Bulletin for Chartering User Groups for Automation Projects</i> defines procedures for identifying the associated users of IT projects. However, three of the four program managers whom we interviewed were not aware of these policies and procedures.
Prerequisites	1. Adequate resources are provided for identifying business needs and associated users.	Not executed	According to INS, it does not have adequate resources to identify business needs and associated users. While the Office of Strategic Information and Technology Development has been assigned responsibility for doing this, it is not fully staffed.
	2. The organization has defined business needs or stated mission goals.	Executed	INS' mission goals are defined in its annual performance plan.
	3. IT staff are trained in business needs identification.	Not executed	IT staff are not consistently trained in business needs identification. Only one of the four IT project managers whom we interviewed stated that he or she was trained in business needs identification.
	4. All IT projects are identified in the IT asset inventory.	Not executed	INS has a list of IT projects. However, it is not maintained as part an IT asset inventory.
Activities	1. The business needs for each IT project are clearly identified and defined.	Not executed	According to INS officials, business needs for each IT project are not always identified and identified business needs are not always clear. Two of the four case study projects we reviewed did not have identified business needs.
	2. Specific users are identified for each IT project.	Executed	The four case study projects we reviewed did have identified users.
	3. Identified users participate in project management throughout a project's life cycle.	Executed	For the four case study projects we reviewed, identified users do participate in project management throughout the life cycle.

---

**INS Has a Structured  
Process for Selecting  
New IT Proposals But  
Has Not Consistently  
Analyzed Them  
According to  
Established Criteria**

The purpose of proposal selection is to establish a structured process for selecting new IT proposals. According to ITIM, effective proposal selection requires, among other things, (1) designating an official to manage the proposal selection process, (2) using a structured process to develop new IT proposals, (3) making funding decisions for new IT proposals according to an established selection process, and (4) analyzing and ranking new IT proposals according to established selection criteria, including cost and schedule criteria.

INS has established a structured process for selecting new IT proposals. The Deputy Commissioner, as the Chair of the IRB, is designated to manage INS' proposal selection process. In addition, INS uses a structured process to develop new proposals and makes initial funding decisions for these proposals. However, INS has not consistently analyzed and ranked these proposals according to established selection criteria. Established selection criteria would assist IT managers in creating proposals that best meet the needs and priorities of INS. Table 6 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 2**  
**INS Lacks Foundation Capabilities Upon**  
**Which to Build IT Investment Management**  
**Maturity**

**Table 6: Summary of Ratings and Evidence for the Proposal Selection Critical Process**

<b>Key practice</b>		<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. Executives and managers follow an established selection process.	Executed	INS' IRB follows an established process for submitting and selecting IT proposals.
	2. An official is designated to manage the proposal selection process.	Executed	INS' Deputy Commissioner, as Chair of the IRB, is designated to manage the proposal selection process.
Prerequisites	1. Adequate resources are provided for proposal selection activities.	Executed	According to INS, it has adequate resources for proposal selection activities. These resources include the ESC members, IRB support staff, and contractor support.
Activities	1. The organization uses a structured process to develop new IT proposals.	Executed	INS uses a structured process to develop new IT proposals. This process involves submitting new proposal templates (IRB presentation packages) to portfolio managers who evaluate them and forward them to the ESC. The ESC recommends proposals to the IRB for review and approval.
	2. Executives analyze and prioritize new IT proposals according to established selection criteria.	Not executed	Executives do not consistently analyze and rank new IT proposals according to established selection criteria.
	3. Executives make funding decisions for new IT proposals according to an established process.	Executed	An established process has been used to make funding decisions.

# INS Is Not Managing Its IT Investments as a Complete Portfolio

---

An IT investment portfolio is a collection of investments that are assessed and managed based on common criteria. While an organization may have more than one level of investment portfolios, it should always have an enterprisewide portfolio. Managing investments as a portfolio is a conscious, continuous, and proactive approach to expending limited resources on all competing initiatives in light of the relative beneficial effects of these investments. Taking an enterprisewide portfolio perspective enables an organization to consider its investments comprehensively so that the investments address its mission, strategic goals, and objectives. A portfolio approach also allows an organization to determine priorities and make decisions about which projects to fund based on analyses of the relative costs, benefits, and risks of all projects, including projects that are proposed, under development, and in operation.

The purpose of ITIM stage three maturity is to create and manage IT investments as a complete enterprise investment portfolio. Once ongoing projects can be implemented on schedule and within budget as is emphasized in stage two, the organization is capable of managing its projects as an investment portfolio. According to ITIM, stage three maturity includes (1) defining portfolio selection criteria, (2) engaging in project-level investment analysis, (3) developing a complete portfolio based on the investment analysis, and (4) maintaining oversight over the investment performance of the portfolio.

INS has not implemented any of the critical processes in stage three. In general, INS has not created the associated policies and procedures to initiate or perpetuate any of the critical processes, and as a result, it has not systematically collected and analyzed the data needed to make sound and informed decisions about competing investment choices, which consciously consider value and risk. In addition, while INS has established eight portfolio categories, it has not established an enterprisewide investment portfolio. Therefore, decisions may be made between competing investments within a business area, but INS cannot make trade-offs between investments across the enterprise to determine which projects contribute most to the agency mission and priorities. According to INS officials, INS has not yet made IT investment management an institutional priority. Table 7 summarizes INS' stage three maturity.

---

**Chapter 3**  
**INS Is Not Managing Its IT Investments as a**  
**Complete Portfolio**

---

---

**Table 7: Summary of Stage Three Critical Process Ratings**

<b>Critical process</b>	<b>Rating</b>	<b>Key practices</b>	<b>Key practices executed</b>
Portfolio Selection Criteria Definition	Not implemented	6	1
Investment Analysis	Not implemented	7	1
Portfolio Development	Not implemented	9	4
Portfolio Performance Oversight	Not implemented	9	0
<b>Total</b>		<b>31</b>	<b>6</b>

INS' capabilities for each of the stage three critical processes are discussed below.

---

## INS Has Not Created Useful Portfolio Selection Criteria

Portfolio selection criteria make up a necessary part of an IT investment management process. Developing an enterprisewide investment portfolio involves defining appropriate investment cost, benefit, schedule, and risk criteria to ensure that the selected investments will best support the organization's strategic goals, objectives, and mission. Thus, portfolio selection criteria need to reflect the enterprisewide and strategic focus of the organization. In addition, the criteria should (1) include cost, benefit, schedule, and risk elements, which serve to create a common set of criteria that are used to compare projects of different types to one another and (2) be clearly communicated to project managers throughout the organization so that these managers can take the criteria into account when developing proposals. Without portfolio selection criteria, projects may be selected on the basis of isolated business needs, the type and availability of funds, or the receptivity of management to a specific project proposal.

Thus, according to ITIM, developing portfolio selection criteria requires, among other things, that (1) an investment board approve the criteria, including cost, benefit, schedule, and risk criteria; (2) the criteria be distributed throughout the organization; (3) adequate resources be provided for selection criteria definition activities; and (4) a working group be responsible for creating and modifying the criteria.

INS developed criteria for selecting new proposals; however, the criteria had not been approved by the IRB and did not consistently include cost, schedule, benefit, and risk criteria. Furthermore, INS had not distributed the criteria throughout INS. For example, none of the IT project and program managers that we interviewed were aware of the selection criteria that had been developed. In addition, while INS indicated that it has adequate resources to develop complete portfolio selection criteria, it has not designated a working group to create and modify the criteria. Without useful selection criteria, INS is missing a critical means of ensuring that selected investments best support the organization's mission and priorities. Table 8 summarizes the ratings for each key practice and the specific findings supporting the ratings.



**Chapter 3**  
**INS Is Not Managing Its IT Investments as a**  
**Complete Portfolio**

**Table 8: Summary of Ratings and Evidence for the Portfolio Selection Criteria Definition Critical Process**

<b>Key practice</b>		<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. The organization has written policies and procedures for creating and modifying IT portfolio selection criteria.	Not executed	INS does not have written policies and procedures for creating and modifying IT portfolio selection criteria.
Prerequisites	1. Adequate resources are provided for selection criteria definition activities.	Executed	According to INS, it has adequate resources and staff for selection criteria definition activities. These resources include the ESC members.
	2. A working group is designated to be responsible for creating and modifying the IT portfolio selection criteria.	Not executed	Responsibility for creating and modifying IT portfolio selection criteria is not designated.
Activities	1. The enterprisewide IT investment board approves the core IT portfolio selection criteria, including cost, benefit, schedule, and risk (CBSR) criteria, based on the organization's mission, goals, strategies, and priorities.	Not executed	INS has not developed selection criteria that consistently included CBSR criteria and that have been applied to all IT investments, including ongoing investments.
	2. The IT portfolio selection criteria are distributed throughout the organization.	Not executed	Selection criteria have not been distributed throughout the organization. None of the four project managers who we interviewed were aware of criteria used by the IRB to select IT investments.
	3. The IT portfolio selection criteria are reviewed using cumulative experience and event-driven data and modified, as appropriate.	Not executed	INS has reviewed its IT portfolio selection criteria. However, the criteria have not been developed for all investments (See activity 1).

---

## INS Does Not Analyze Its IT Investments Based on Cost, Benefit, Schedule, and Risk Data When Making Investment Decisions

The purpose of investment analysis is to ensure that all IT investments are consistently analyzed and prioritized according to the organization's portfolio selection criteria, which should include cost, benefit, schedule, and risk criteria. According to ITIM, effective investment analysis includes, among other things, that (1) portfolio selection criteria have been developed; (2) the IRB ensures that cost, benefit, schedule, and risk data are assessed and validated for each investment; (3) the IRB compares each investment against the organization's portfolio selection criteria; and (4) the IRB creates a ranked list of investments using the portfolio selection criteria.

INS' IRB does not analyze and rank proposed and ongoing investments based on their expected cost, benefit, schedule, and risk. As mentioned previously, INS has not developed selection criteria that include these elements, nor has it ensured that cost, benefit, schedule, and risk data are assessed and validated for each IT investment. For example, none of the four projects we reviewed provided cost, benefit, schedule, or risk data to INS' IRB for consideration during the selection process. Instead, the IRB focused on the near-term cost (e.g., annual budget dollars) of each project and the perceived importance of the project to INS' mission. In the absence of portfolio selection criteria and good investment-related data (i.e., cost, benefit, schedule, and risk data), the IRB cannot compare and analyze its investments based on their cost, benefit, schedule, and risk expectations and create a ranked list of investments that best align with mission improvement goals and organizational direction. As a result, INS is missing critical information for making sound IT investment decisions. Table 9 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 3**  
**INS Is Not Managing Its IT Investments as a**  
**Complete Portfolio**

**Table 9: Summary of Ratings and Evidence for the Investment Analysis Critical Process**

<b>Key practice</b>		<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. The organization has written policies and procedures for analyzing IT investments.	Not executed	INS does not have written policies and procedures for analyzing IT investments.
Prerequisites	1. Adequate resources are provided for investment analysis activities.	Executed	According to INS, it has adequate resources for investment analysis activities. These resources include the ESC members.
	2. IT investment portfolio selection criteria have been developed.	Not executed	IT investment portfolio selection criteria have not been developed for all investments (See the Portfolio Selection Criteria Definition critical process).
	3. Information from the IT asset inventory is used by the IT investment board.	Not executed	The IRB does not use information from an IT asset inventory.
Activities	1. Each IT investment board ensures that the CBSR data and other required data are validated for each investment within its span of control.	Not executed	The IRB does not ensure that cost, benefit, schedule, or risk data are validated. None of the four project managers that we interviewed provided this data to the IRB.
	2. Each IT investment board assesses each of its IT investments with respect to the IT portfolio selection criteria.	Not executed	The IRB does not assess each of its IT investments with respect to IT portfolio selection criteria (See prerequisite 2).
	3. Each IT investment board prioritizes its full portfolio of IT investments using the portfolio selection criteria.	Not executed	The IRB does not prioritize its full portfolio of IT investments using portfolio selection criteria (See prerequisite 2).

---

---

## INS Does Not Comparatively Assess All Its IT Projects When Making Selections for Funding

The purpose of the portfolio development process is to ensure that the IRB analyzes and compares all IT investments to select and fund those with manageable risks and returns and that best address the strategic business direction and priorities of the organization. Once this is accomplished, investments can be compared to one another within and across the portfolio categories and the best overall portfolio can then be selected for funding.

According to ITIM, portfolio development requires, among other things, (1) defining common portfolio categories and assigning each investment to a portfolio category; (2) ensuring that investments have been analyzed and their cost, benefit, schedule, and risk data validated; and (3) examining the mix of investments across the portfolio categories in making funding decisions.

INS does not assess all its IT projects in making selections for funding. While INS has defined common portfolio categories, it is not using them to manage its investments. INS has created eight portfolio categories and assigned all of its investments to one of the portfolios. However, the IRB has not analyzed these investments, including both proposed and ongoing projects, based on validated cost, benefit, schedule, and risk data. Without these meaningful data, the IRB cannot compare its investments across portfolio categories. As a result, the IRB cannot make trade-offs between investment alternatives, determine which projects contribute most to agency performance, or eliminate redundant systems. Table 10 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 3**  
**INS Is Not Managing Its IT Investments as a**  
**Complete Portfolio**

**Table 10: Summary of Ratings and Evidence for the Portfolio Development Critical Process**

<b>Key practice</b>		<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. The organization has written policies and procedures for establishing and maintaining the portfolio development process.	Not executed	INS does not have written policies or procedures for establishing and maintaining the portfolio development process.
Prerequisites	1. Adequate resources are provided for executing the portfolio development process.	Executed	According to INS, it has adequate resources available to execute the portfolio development process. These resources include the ESC members.
	2. Board members exhibit core competencies in portfolio development.	Not executed	The IRB/ESC members do not collectively analyze all IT investments using portfolio selection criteria and thus have not exhibited core competencies in portfolio development.
	3. Individual IT investments have been analyzed and their CBSR data have been validated.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	4. The organization has defined its common portfolio categories.	Executed	INS has defined the following eight portfolio categories. They are Enforcement, Inspections, Examinations, Corporate, Management, Infrastructure, Biometrics, and IRM Operations.
Activities	1. Each IT investment board assigns investment proposals to a portfolio category.	Executed	Each IT project is assigned to a portfolio category.
	2. Each IT investment board examines the mix of proposals and investments across the common portfolio categories and makes selections for funding.	Not executed	INS does not examine the mix of investments across all portfolio categories.
	3. Each IT investment board approves or modifies the annual CBSR expectations for each of its selected IT investments.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	4. A repository of portfolio development information is established, updated, and maintained.	Executed	A repository of portfolio information has been created and is being maintained.

---

## INS Does Not Oversee IT Investments' Cost, Benefit, Schedule, and Risk Performance

The purpose of the portfolio performance oversight critical process is to ensure that each IT investment achieves its cost, benefit, schedule, and risk expectations. This critical process builds upon the IT Project Oversight critical process by adding the elements of benefit measurement and risk management to an organization's investment control capacity. Executive-level oversight of project-level risk and benefit management activities provides the organization with increased assurance that each investment will achieve the desired cost, benefit, schedule, and risk results.

According to ITIM, effective portfolio performance oversight requires, among other things, that the IRB (1) have access to up-to-date cost, benefit, schedule, and risk data; (2) monitor the performance of each investment in its portfolio by comparing actual project-level cost, benefit, schedule, and risk data to the predefined expectations for the project; and (3) correct poorly performing projects.

INS does not monitor its investments' performance to ensure that they are meeting cost, benefit, schedule, and risk performance expectations. As mentioned previously, up-to-date cost, benefit, schedule, and risk data are not available. Without these data, the IRB is unable to monitor the performance of its investments to ensure that they are achieving their cost, benefit, schedule, and risk expectations and to act when performance problems arise. Table 11 summarizes the ratings for each key practice and the specific findings supporting the ratings.

**Chapter 3**  
**INS Is Not Managing Its IT Investments as a**  
**Complete Portfolio**

**Table 11: Summary of Ratings for the Portfolio Performance Oversight Critical Process**

<b>Key practice</b>		<b>Rating</b>	<b>Summary of evidence</b>
Organizational commitment	1. The organization has written policies and procedures for monitoring and controlling portfolio performance.	Not executed	INS has no policies and procedures for monitoring and controlling portfolio performance.
Prerequisites	1. Adequate resources are provided for monitoring and controlling the portfolio's performance.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	2. Annual CBSR expectations are agreed upon for each IT investment.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	3. The IT investment board has access to up-to-date actual and expected CBSR data in the repository.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
Activities	1. Each IT investment board monitors the performance of each investment in its portfolio by comparing actual CBSR data to expectations.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	2. Using established criteria, the IT investment board identifies its investments that have not met predetermined CBSR performance expectations.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	3. The IT investment board and the project manager determine the root cause of the poor performance.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	4. The IT investment board and the project manager develop an action plan designed to remedy the identified cause(s) of poor performance.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."
	5. Corrective actions are initiated and outcomes are tracked.	Not executed	INS indicated in its self-assessment that this key practice was "not executed."

---

# The Department of Justice Is Not Guiding and Overseeing INS' Investment Management Approach

---

The Clinger-Cohen Act of 1996 imposed rigor and structure on how agencies approach the selection and management of IT projects.<sup>1</sup> Among other things, it requires the head of each agency to implement a process for maximizing the value of the agency's IT investments and assess and manage the risks of its IT investments. It also requires that the agency CIO work with the agency head in implementing this process. As such, Justice is responsible for ensuring that its bureaus and components, including INS, implement an effective IT investment management process.

Justice has not provided INS, or any other Justice component, sufficient direction, guidance, and oversight of IT investment management activities. While Justice issued guidance in January 2000 describing its high-level investment management process, the guidance does not address the need or requirement for Justice's components to implement an IT investment management process. Specifically, this guidance does not instruct the components to establish IT investment management processes nor does it establish expectations for doing so. According to Justice officials, Justice had not established these processes because of other competing department priorities, even though the department and its components spent about \$3 billion on IT in fiscal years 1999 and 2000.

During the course of our work, Justice began drafting IT investment management policy and guidance documents in collaboration with an intercomponent working group. The draft policy directs Justice components to establish and use an IT investment management process and directs the Justice CIO to monitor the components' investment management processes through periodic briefings. A supplemental guidance document provides procedures for developing an investment management process. Justice officials stated that they plan to issue the final policy by the end of December 2000 and the guidance by March 2001. Until Justice issues its policy and guidance and begins monitoring its components' progress, it has no assurance that it has the necessary investment management processes in place to maximize the value of its IT investments and manage the risks associated with them.

---

<sup>1</sup>The fiscal year 1997 Omnibus Consolidated Appropriations Act, P. L. 104-208, renamed both Division D (the Federal Acquisition Reform Act) and E (the Information Technology Management Reform Act) of the 1996 DOD Authorization Act, P. L. 104-106, as the Clinger-Cohen Act of 1996.



---

# Conclusions, Recommendations, and Agency Comments

---

IT is critical to INS' ability to provide vital services, such as granting naturalization benefits and detecting and preventing the illegal entry of aliens into the United States. Effectively and efficiently managing IT requires, among other things, a structured approach for minimizing the risk and maximizing the return on IT investments. However, INS executives are making investment decisions involving hundreds of millions of dollars without vital data about these investments' relative costs, benefits, and risks. As a result, INS cannot adequately know whether it is making the right investment decisions, whether it has selected the mix of investments that best meets its overall mission and business priorities, or whether these investments are living up to expectations.

INS has initiated efforts to establish an IT investment management foundation. However, it is lacking many important foundational investment management capabilities, particularly those relating to controlling projects against predetermined expectations and addressing variances. As a result, it runs the serious risk that its IT projects will be late, cost more than expected, and not perform as intended.

INS' use of portfolio categories and portfolio managers provides some structure to its portfolio development process and provides each business area the opportunity to identify the projects that it determines to be the most important to its performance. However, INS' lack of performance data from ongoing projects handicaps the IRB's ability to perform its portfolio oversight function. In addition, the absence of any project-to-project comparison limits the IRB's ability to judge whether its mix of investments best meets its mission needs and priorities. As a result, INS can have little confidence that its chosen mix of IT investments best meets mission goals and priorities and that these investments will be developed within an acceptable level of risk, on time, and within budget.

Further, Justice has a statutory role under the Clinger-Cohen Act to ensure that its component agencies, including INS, have effective investment management processes. Until Justice fulfills this role, it has little assurance that INS, or its other components, are investing the department's limited IT resources to maximize return on investment, minimize risk, and best support mission needs.

---

## Recommendations for Executive Action

To strengthen INS' investment management capability and address the weaknesses discussed in this report, we recommend that you direct the Commissioner of the Immigration and Naturalization Service to designate

development and implementation of effective IT investment management processes as an agencywide priority and manage it as such. Specifically, you should direct the Commissioner to do the following:

- Develop a plan, within 9 months, for implementing IT investment management process improvements that is based on stages two and three critical processes and specifies measurable goals and time frames, ranks initiatives, defines a management structure for directing and controlling the improvements, establishes review milestones, and recognizes any direction and guidance that Justice issues. This plan should first focus on those critical processes in stage two of ITIM because, collectively, they provide the foundation for building a mature IT investment management process.
- Submit the plan to the Justice CIO for review and approval.
- Implement the approved plan and report to the Justice CIO, according to established review milestones, on progress made against the plan's goals and time frames.

Further, because the absence of effective investment management processes and an enterprise architecture<sup>1</sup> severely limits INS' ability to effectively manage its IT investments, we recommend that until INS develops a complete enterprise architecture and implements the key practices associated with stages two and three critical processes, as described in this report, you direct the Commissioner to limit requests for future appropriations for IT only to efforts that

- support ongoing operations and maintenance, but not major enhancements, of existing systems;
- support INS efforts to develop and implement IT investment management processes and an enterprise architecture;
- are small, represent low technical risk, and can be delivered in a relatively short period of time; or
- are congressionally mandated.

Further, to improve Justice's guidance and oversight of components' IT investment management process activities, we also recommend that you direct the Justice CIO to follow through on the department's plans to issue

---

<sup>1</sup> *Information Technology: INS Needs to Better Manage the Development of Its Enterprise Architecture* (GAO/AIMD-00-212, August 1, 2000).

---

an IT investment management policy and guidance to the components and to ensure that the policy and guidance:

- Directs Justice components and bureaus, including INS, to develop and implement IT investment management processes.
- Instructs Justice components and bureaus on how to develop an investment management process. This guidance should be based on the investment management guidance contained in this report and, at a minimum, should include component roles, responsibilities, authorities, and policies and procedures for developing an IT investment management process.
- Directs the Justice CIO to monitor the components' progress in developing and establishing an IT investment management process and take appropriate action if they are not progressing sufficiently.

---

## Agency Comments and Our Evaluation

In written comments on a draft of this report, Justice's Assistant Attorney General for Administration generally agreed with our recommendations, although he offered minor wording modifications on two recommendations that he said would increase Justice's ability to fully implement them. The Assistant Attorney General for Administration also disagreed with our finding that Justice is not guiding and directing INS' investment management approach.

Justice generally agreed with our recommendation that INS develop and submit to Justice a plan for implementing investment management process improvements. However, Justice suggested that the time frame for developing the plan be clarified such that INS has 6 months to develop and submit its plan to Justice once Justice issues its new IT investment management guidance. Because our recommendation directed INS to consider any Justice guidance and direction in developing its investment management process improvement plan, we modified the recommendation to include an additional 3 months to allow time for Justice to issue its guidance, which it plans to do in March 2001.

Justice also concurred with our recommendation that INS limit future appropriation requests for IT to certain investment categories because it lacks an enterprise architecture and effective investment management processes, but suggested that we specify that this recommendation is in effect until INS completes its architecture and implements investment management processes. Because this is the intent of our recommendation, we clarified the recommendation to make this explicit.

Also in its comments, Justice agreed that, while INS has some important investment management capabilities, INS still needs to develop effective investment management processes. Further, Justice agreed with our recommendation for Justice to issue an investment management policy and guidance to its components, including INS, that (1) directs components to develop and implement IT investment management processes, (2) instructs components on how to develop and implement these processes based on the investment management framework in our report, and (3) ensures that components' progress in doing so is monitored. Moreover, Justice stated, which we note in our report, that it is now working with its components to develop an IT investment management policy and process, and it has made this a department priority for this year.

However, Justice stated that our draft report fails to recognize the extent of Justice's oversight of INS' IT investment management process. Further, it disagreed with our finding that Justice is not guiding and directing INS' investment management approach. Justice stated that it has established guidance for all aspects of IT management that its components are expected to follow and has a process for overseeing components' management of their investments. Justice cited six examples to illustrate its point, such as Justice approval authority of all component IT investments with life-cycle cost over \$1 million, Justice establishment of an IT investment board, Justice meetings with components, including Attorney General meetings with the INS Commissioner, and Justice forwarding of OMB budget requirements to components.

We do not agree with Justice's position. While we concur that the examples cited by Justice represent important IT management functions to be performed in providing management oversight of individual IT investments, such management oversight is not the focus of our findings, conclusions, and recommendations. Rather, our report addresses Justice's efforts to ensure that its components, including INS, have each defined and implemented effective IT investment management processes. As such, we sought evidence from Justice demonstrating that it has directed its components to establish such processes, provided guidance to its components on how to develop and implement these processes, and monitored its components' progress to determine whether they are implementing such processes. However, besides the steps that Justice initiated during the course of our inquiries and plans to take, which we have described in this report, we found no such evidence. Moreover, Justice stated in its written comments that it agreed with our

---

recommendation for it to provide investment management process direction, guidance, and oversight to its components.

Justice's written comments and our evaluation of them are presented in appendix I.

# Comments From the Immigration and Naturalization Service

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



U.S. Department of Justice

Washington, D.C. 20530

NOV 16 2000

Mr. Randolph C. Hite  
Director  
Information Technology Issues  
U.S. General Accounting Office  
441 G Street, NW  
Washington, DC 20548

Dear Mr. Hite:

On October 25, 2000 you submitted the General Accounting Office (GAO) draft report entitled "Information Technology: INS Needs to Strengthen Its Investment Management Capability" to the Department of Justice (DOJ) with a request for its review and comment. While we are pleased that the GAO has recognized that the Immigration and Naturalization Service (INS) has developed some important capabilities that are the basis for establishing an effective information technology investment management (ITIM) process, we are concerned that the GAO failed to recognize the extent of DOJ oversight of the INS ITIM process. We do not agree with the GAO's finding that the DOJ is not adequately guiding and overseeing INS' investment management approaches.

The Department has an established system of guidance for all aspects of information technology (IT) management that its components are expected to follow and has a process for overseeing components' management of their investments. Specifically:

- DOJ policy requires components to obtain approval from the Department's Chief Information Officer (CIO) for all IT acquisitions with a life-cycle cost over \$1 million. This requirement is contained in DOJ Order 2830.1D, with the revised threshold of \$1 million documented in a memorandum from the DOJ CIO on April 10, 2000.

See comment 1.

**Appendix I  
Comments From the Immigration and  
Naturalization Service**

Mr. Randolph C. Hite

2

- The DOJ CIO and senior staff meet with management representatives of the major components quarterly to review project status and address problem issues as they occur.
- The Department has established an IT Investment Board chaired by the Deputy Attorney General which addresses major cross-cutting IT management issues.
- As part of the annual DOJ budget call, DOJ CIO staff inform components of specific information required to justify support for new and ongoing IT investments and to meet the Office of Management and Budget Exhibit 53 and Exhibit 300B requirements.
- In March 2000, DOJ CIO staff developed and distributed to all components an extensive IT Systems Development Life Cycle guide.

In addition, the Attorney General meets regularly with the Commissioner for INS to discuss a range of INS management issues. In particular, the Attorney General asked the INS Commissioner to provide a list of INS IT investment priorities which the INS has provided. The Attorney General regularly reviews the IT investment priorities with the Commissioner.

Although we are in general agreement with the GAO recommendations, we believe the DOJ would be better able to fully implement these recommendations if the GAO accepts our suggested modifications. With respect to the recommendation that INS develop a plan to implement comprehensive IT investment management practices and that they submit the plan to the Department's CIO for review and approval, however, we would suggest that the time frame for developing the new INS ITIM plan be adjusted so that INS has six months to submit its plan after the Department CIO issues his new IT investment guidance. This would allow the INS time to develop a plan consistent with that guidance and thereby meet with DOJ approval.

We concur with the GAO recommendation that INS limit its new IT investments until it has completed its IT architecture and implemented its IT investment management processes. However, to allow the INS to direct its near-term funding in accordance with the recommendations and to make future requests once it has satisfied the requirements of an advanced capability maturity model, we request that the GAO add language to show that the GAO

See comment 2.

---

**Appendix I  
Comments From the Immigration and  
Naturalization Service**

---

Mr. Randolph C. Hite

3

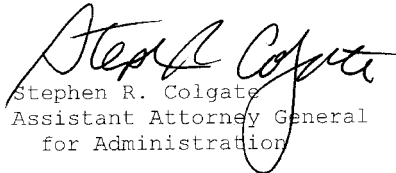
See comment 3.

recommendation to the Attorney General is in effect only until INS has developed its enterprise architecture plan and its IT investment management process. As currently written, the recommendation limits the INS from making any future requests for IT enhancements unless they meet the criteria contained in the recommendation.

Finally, we concur with the GAO recommendation that the DOJ CIO issue new policy and guidance on IT investment management and enforce that policy. The Department has been working with components to develop a new Department IT investment management policy and process and has made this a management priority for this year.

We hope you will find these comments beneficial in completing your report. If you have any questions regarding these comments, please contact Vickie L. Sloan, Director, Audit Liaison Office, Justice Management Division.

Sincerely

  
Stephen R. Colgate  
Assistant Attorney General  
for Administration



---

The following are GAO's comments on the Department of Justice's letter dated November 16, 2000.

---

## GAO Comments

1. We do not agree with Justice's statement that it has established guidance for all aspects of IT management that its components are expected to follow and has a process for overseeing components' management of their investments. While we concur that the examples cited by Justice represent important IT management functions to be performed in providing management oversight of individual IT investments, such management oversight is not the focus of our findings, conclusions, and recommendations. Rather, our report addresses Justice's efforts to ensure that its components, including INS, have each defined and implemented effective IT investment management processes. To this end, we sought evidence from Justice demonstrating that it has directed its components to establish such processes, provided guidance to its components on how to develop and implement these processes, and monitored its components' progress to determine whether they are implementing such processes. Besides the steps that Justice initiated during the course of our inquiries and plans to take, which we have described in our report, we found no such evidence. Moreover, Justice stated in its written comments that it agrees with our recommendation for it to provide investment management process direction, guidance, and oversight to its components.
2. Because our recommendation directed INS to consider any Justice guidance and direction in developing its investment management process improvement plan, we have modified our recommendation to incorporate Justice's suggestion that INS have 6 months to develop and submit its plan to Justice after Justice issues its new IT investment management guidance.
3. It was our intent that INS limit its future appropriation requests for IT to certain investment categories only until it completes its architecture and implements investment management processes. As a result, we have clarified the recommendation to make this explicit.

# GAO Contacts and Staff Acknowledgments

---

---

## GAO Contacts

Randolph C. Hite, (202) 512-3870  
David L. McClure, (202) 512-6408

---

---

## Acknowledgments

Deborah Davis, Lester Diamond, Tamra Goldstein, Kelly Hlavka, Sabine Paul, and John Rehberger made key contributions to this report.

---

---

## Ordering Information

The first copy of each GAO report is free. Additional copies of reports are \$2 each. A check or money order should be made out to the Superintendent of Documents. VISA and MasterCard credit cards are accepted, also.

Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

*Orders by mail:*  
U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013

*Orders by visiting:*  
Room 1100  
700 4th St. NW (corner of 4th and G Sts. NW)  
U.S. General Accounting Office  
Washington, DC

*Orders by phone:*  
(202) 512-6000  
fax: (202) 512-6061  
TDD (202) 512-2537

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

*Orders by Internet:*  
For information on how to access GAO reports on the Internet, send an e-mail message with "info" in the body to:

[info@www.gao.gov](mailto:info@www.gao.gov)

or visit GAO's World Wide Web home page at:

<http://www.gao.gov>

---

## To Report Fraud, Waste, or Abuse in Federal Programs

*Contact one:*

- Web site: <http://www.gao.gov/fraudnet/fraudnet.htm>
- e-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)
- 1-800-424-5454 (automated answering system)



---

**United States  
General Accounting Office  
Washington, D.C. 20548-0001**

**Official Business  
Penalty for Private Use \$300**

**Address Correction Requested**

---

<p><b>Bulk Rate Postage &amp; Fees Paid GAO Permit No. GI00</b></p>
---

