

May 2004

HOMELAND SECURITY

First Phase of Visitor and Immigration Status Program Operating, but Improvements Needed



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Highlights

Highlights of [GAO-04-586](#), a report to the Subcommittees on Homeland Security, Senate and House Committees on Appropriations

Why GAO Did This Study

The Department of Homeland Security (DHS) has established a program—the United States Visitor and Immigrant Status Indicator Technology (US-VISIT)—to collect, maintain, and share information, including biometric identifiers, on selected foreign nationals who travel to the United States. By congressional mandate, DHS is to develop and submit for approval an expenditure plan for US-VISIT that satisfies certain conditions, including being reviewed by GAO. Among other things, GAO was asked to determine whether the plan satisfied these conditions, and to provide observations on the plan and DHS's program management.

What GAO Recommends

To better ensure that the US-VISIT program is worthy of investment, GAO is reiterating its previous recommendations aimed at establishing effective program management capabilities. Additionally, GAO is making several new recommendations designed to encourage stronger management of the initial phases of the US-VISIT program, including implementing effective test management practices and assessing the full impact of future US-VISIT deployment on land port of entry workforce levels and facilities. DHS agreed with all of GAO's recommendations and most of its observations.

www.gao.gov/cgi-bin/getrpt?GAO-04-586.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Randolph C. Hite at (202) 512-3439 or hiter@gao.gov.

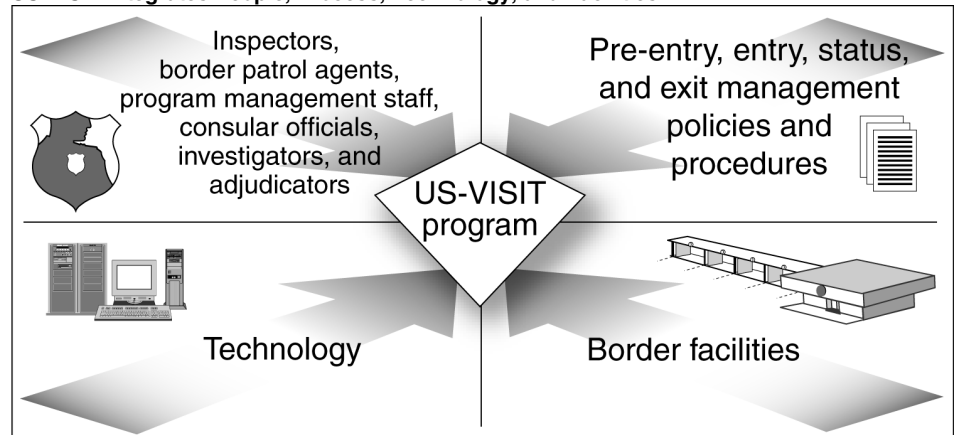
HOMELAND SECURITY

First Phase of Visitor and Immigration Status Program Operating, but Improvements Needed

What GAO Found

DHS's fiscal year 2004 US-VISIT expenditure plan and related documentation at least partially satisfies all conditions imposed by the Congress, including meeting the capital planning and investment control review requirements of the Office of Management and Budget (OMB). For example, DHS developed a draft risk management plan and a process to implement and manage risks. However, DHS does not have a current life cycle cost estimate or a cost/benefit analysis for US-VISIT. The US-VISIT program merges four components into one integrated whole to carry out its mission (see figure).

US-VISIT Integrates People, Process, Technology, and Facilities



Sources: GAO (analysis), Nova Development Corp. (images).

GAO also developed a number of observations about the expenditure plan and DHS's management of the program. These generally recognize accomplishments to date and address the need for rigorous and disciplined program practices. For example, US-VISIT largely met its commitments for implementing an initial operating capability, known as Increment 1, in early January 2004, including the deployment of entry capability to 115 air and 14 sea ports of entry. However, DHS has not employed rigorous, disciplined management controls typically associated with successful programs, such as test management, and its plans for implementing other controls, such as independent verification and validation, may not prove effective. More specifically, testing of the initial phase of the implemented system was not well managed and was completed after the system became operational. In addition, multiple test plans were developed during testing, and only the final test plan, completed after testing, included all required content, such as describing tests to be performed. Such controls, while significant for the initial phases of US-VISIT, are even more critical for the later phases, as the size and complexity of the program will only increase. Finally, DHS's plans for future US-VISIT resource needs at the land ports of entry, such as staff and facilities, are based on questionable assumptions, making future resource needs uncertain.

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Abbreviations

ADIS	Arrival Departure Information System
APIS	Advance Passenger Information System
CBP	U.S. Customs and Border Protection
CCD	Consular Consolidated Database
CIO	Chief Information Officer
CIS	U.S. Citizenship and Immigration Services
CLAIMS 3	Computer Linked Application Information Management System 3
DHS	Department of Homeland Security
FFRDC	Federally Funded Research and Development Center
IBIS	Interagency Border Inspection System
ICE	U.S. Immigration and Customs Enforcement
IDENT	Automated Biometric Identification System
INS	Immigration and Naturalization Service
IRB	Investment Review Board
IV&V	independent verification and validation
OMB	Office of Management and Budget
POE	port of entry
RF	radio frequency
RFP	request for proposal
SA-CMM [®]	Software Acquisition Capability Maturity Model [®]
SAT	system acceptance test
SEI	Software Engineering Institute
SER	security evaluation report
SEVIS	Student Exchange Visitor Information System
US-VISIT	U.S. Visitor and Immigrant Status Indicator Technology

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

May 11, 2004

The Honorable Thad Cochran
Chairman
The Honorable Robert C. Byrd
Ranking Minority Member
Subcommittee on Homeland Security
Committee on Appropriations
United States Senate

The Honorable Harold Rogers
Chairman
The Honorable Martin Olav Sabo
Ranking Minority Member
Subcommittee on Homeland Security
Committee on Appropriations
House of Representatives

Pursuant to the Department of Homeland Security Appropriations Act, 2004,¹ the Department of Homeland Security (DHS) submitted to the Congress in January 2004 its fiscal year 2004 expenditure plan for the United States Visitor and Immigrant Status Indicator Technology (US-VISIT) program. US-VISIT is a governmentwide program to collect, maintain, and share information on foreign nationals.² The program's goals are to enhance national security, facilitate legitimate trade and travel, contribute to the integrity of the U.S. immigration system, and adhere to U.S. privacy laws and policies. On January 5, 2004, DHS began operating the first stage of its planned US-VISIT operational capability, known as Increment 1, at 115 air and 14 sea ports of entry (POE).

As required by the appropriations act, we reviewed US-VISIT's fiscal year 2004 expenditure plan. Our objectives were to (1) determine whether the

¹Pub. L. 108-90 (Oct. 1, 2003).

²The US-VISIT program has a large number of government stakeholders, including the Departments of State, Transportation, Commerce, Justice, and the General Services Administration. State will play a significant role in creating a coordinated and interlocking network of border security by gathering biographic and biometric data during the application process for visas, grants of visa status, and the issuance of travel documentation. DHS inspectors will use this information at ports of entry to verify the identity of the foreign national.

expenditure plan satisfies the legislative conditions specified in the act,³ (2) determine the status of our US-VISIT open recommendations,⁴ and (3) provide any other observations about the expenditure plan and DHS's management of US-VISIT.

On March 2, 2004, we provided your offices with a written briefing detailing the results of our review. This report summarizes and transmits this briefing; the full briefing, including our scope and methodology, is reprinted as appendix I. The purpose of this report is to provide the published briefing slides to you and to officially transmit our recommendations to the Secretary of Homeland Security.

Compliance with Legislative Conditions

DHS satisfied or partially satisfied each of the applicable legislative conditions specified in the act. In particular, the plan, including related program documentation and program officials' statements, satisfied or provided for satisfying all key aspects of (1) compliance with the DHS enterprise architecture;⁵ (2) federal acquisition rules, requirements, guidelines, and systems acquisition management practices; and (3) review and approval by DHS and the Office of Management and Budget (OMB). Additionally, the plan, including program documentation and program officials' statements, satisfied or provided for satisfying many, but not all, key aspects of OMB's capital planning and investment review requirements. For example, DHS fulfilled the OMB requirement that it justify and describe its acquisition strategy. However, DHS does not have current life cycle costs or a current cost/benefit analysis for US-VISIT.

³The legislative conditions are that the plan (1) meet the capital planning and investment control review requirements established by the Office of Management and Budget (OMB), including those in OMB Circular A-11, part 3 (capital investment and control requirements are now found in part 7, rather than part-3); (2) comply with DHS's enterprise architecture; (3) comply with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal government; (4) be reviewed and approved by DHS and OMB; and (5) be reviewed by GAO.

⁴Our previous recommendations regarding US-VISIT's expenditure plans were published in U.S. General Accounting Office, *Information Technology: Homeland Security Needs to Improve Entry Exit System Expenditure Planning*, [GAO-03-563](#) (Washington, D.C.: June 9, 2003) and *Homeland Security: Risks Facing Key Border and Transportation Security Program Need to Be Addressed*, [GAO-03-1083](#) (Washington, D.C.: Sept. 19, 2003).

⁵Enterprise architectures are blueprints, or models, simplifying the complexity of how agencies operate today, how they want to operate in the future, and how they will get there.

Status of Open Recommendations

DHS has implemented one, and either partially implemented or has initiated action to implement most of the remaining recommendations contained in our reports on the fiscal year 2002 and fiscal year 2003 expenditure plans. Each recommendation, along with its current status, is summarized below:

- *Develop a system security plan and privacy impact assessment.*

The department has *partially implemented* this recommendation. As to the first part of this recommendation, the program office does not have a system security plan for US-VISIT. However, the US-VISIT Chief Information Officer (CIO) accredited Increment 1 based upon security certifications⁶ for each of Increment 1's component systems and a review of each component's security-related documentation. Second, although the program office has conducted a privacy impact assessment for Increment 1, the assessment does not satisfy all aspects of OMB guidance for conducting an assessment. For example, the assessment does not discuss alternatives to the methods of information collection, and the system documentation does not address privacy issues.

- *Develop and implement a plan for satisfying key acquisition management controls, including acquisition planning, solicitation, requirements management, program management, contract tracking and oversight, evaluation, and transition to support, and implement the controls in accordance with the Software Engineering Institute's (SEI) guidance.⁷*

The department *plans to implement* this recommendation. The US-VISIT program office has assigned responsibility for implementing the recommended controls. However, it has not yet developed explicit plans or time frames for defining and implementing them.

⁶Accreditation is the authorization and approval granted to a system to process sensitive data in an operational environment; this is made on the basis of a compliance certification by designated technical personnel of the extent to which design and implementation of the system meet defined technical requirements for achieving data security. Certification is the evaluation of the extent to which a system meets a set of security requirements.

⁷Carnegie Mellon University Software Engineering Institute, *Software Acquisition Capability Maturity Model*[®], Version 1.03 (March 2002) defines acquisition process management controls for planning, managing, and controlling software-intensive system acquisitions.

-
- *Ensure that future expenditure plans are provided to the department's House and Senate Appropriations Subcommittees in advance of US-VISIT funds being obligated.*

With respect to the fiscal year 2004 expenditure plan, DHS *implemented* this recommendation by providing the plan to the Senate and House subcommittees on January 27, 2004. According to the program director, as of February 2004 no funds had been obligated to US-VISIT.

- *Ensure that future expenditure plans fully disclose US-VISIT capabilities, schedule, cost, and benefits.*

The department has *partially implemented* this recommendation. Specifically, the plan describes high-level capabilities, high-level schedule estimates, categories of expenditures by increment, and general benefits. However, the plan does not describe planned capabilities by increment and provides only general information on how money will be spent in each increment. Moreover, the plan does not identify all expected benefits in tangible, measurable, and meaningful terms, nor does it associate any benefits with increments.

- *Establish and charter an executive body composed of senior-level representatives from DHS and each US-VISIT stakeholder organization to guide and direct the program.*

The department has *implemented* this recommendation by establishing a three-entity governance structure. The entities are (1) the Homeland Security Council, (2) the DHS Investment Review Board, and (3) the US-VISIT Federal Stakeholders Advisory Board. The purpose of the Homeland Security Council is to ensure the coordination of all homeland security-related activities among executive departments and agencies, and the Investment Review Board is expected to monitor US-VISIT's achievement of cost, schedule, and performance goals. The advisory board is chartered to provide recommendations for overseeing program management and performance activities, including providing advice on the overarching US-VISIT vision; recommending changes to the vision and strategic direction; and providing a communications link for aligning strategic direction, priorities, and resources with stakeholder operations.

- *Ensure that human capital and financial resources are provided to establish a fully functional and effective program office.*

The department is *in the process of implementing* this recommendation. DHS has determined that US-VISIT will require 115 government personnel and has filled 41 of these, including 12 key management positions. However, 74 positions have yet to be filled, and all filled positions are staffed by detailees from other organizational units within the department.

- *Clarify the operational context in which US-VISIT is to operate.*

The department is *in the process of implementing* this recommendation. DHS released Version 1 of its enterprise architecture in October 2003,⁸ and it plans to issue Version 2 in September 2004.

- *Determine whether proposed US-VISIT increments will produce mission value commensurate with cost and risks.*

The department *plans to implement* this recommendation. The fiscal year 2004 expenditure plan identifies high-level benefits to be delivered, but the benefits are not associated with specific increments. Additionally, the plan does not identify the total cost of Increment 2. Program officials expected to finalize a cost-benefit analysis this past March and a US-VISIT life cycle cost estimate this past April.

- *Define program office positions, roles, and responsibilities.*

The department is *in the process of implementing* this recommendation. Program officials are currently working with the Office of Personnel Management to define program position descriptions, including roles and responsibilities. The program office has partially completed defining the competencies for all 12 key management areas. These competencies are to be used in defining the position descriptions.

- *Develop and implement a human capital strategy for the program office.*

The department *plans to implement* this recommendation in conjunction with DHS's ongoing workforce planning, but stated that they have yet to develop a human capital strategy. According to these officials, DHS's

⁸Department of Homeland Security Enterprise Architecture Compendium Version 1.0 and Transitional Strategy.

departmental workforce plan is scheduled for completion during fiscal year 2004.

- *Develop a risk management plan and report all high risks areas and their status to the program's governing body on a regular basis.*

The department has *partially implemented* this recommendation. The program has completed a draft risk management plan, and is currently defining risk management processes. The program is creating a risk management team to operate in lieu of formal processes until these are completed, and also maintains a risk-tracking database that is used to manage risks.

- *Define performance standards for each program increment that are measurable and reflect the limitations imposed by relying on existing systems.*

The department is *in the process of implementing* this recommendation. The program office has defined limited performance standards, but not all standards are being defined in a way that reflects the performance limitations of existing systems.

Observations on the Expenditure Plan

Our observations recognize accomplishments to date and address the need for rigorous and disciplined program management practices relating to system testing, independent verification and validation, and system change control. An overview of specific observations follows:

- *Increment 1 commitments were largely met.* An initial operating capability for entry (including biographic and biometric data collection) was deployed to 115 air and 14 sea ports of entry on January 5, 2004, with additional capabilities deployed on February 11, 2004. Exit capability (including biometric capture) was deployed to one air and one sea port of entry.
- *Increment 1 testing was not managed effectively and was completed after the system became operational.* The Increment 1 system acceptance test plan⁹ was developed largely during and after test

⁹The purpose of system acceptance testing is to verify that the complete system satisfies functional, performance, and security requirements and is acceptable to end users.

execution. The department developed multiple plans, and only the final plan, which was done after testing was completed, included all required content, such as tests to be performed and test procedures. None of the test plan versions, including the final version, were concurred with by the system owner or approved by the IT project manager, as required. By not having a complete test plan before testing began, the US-VISIT program office unnecessarily increased the risk that the testing performed would not adequately address Increment 1 requirements and failed to have adequate assurance that the system was being fully tested. Further, by not fully testing Increment 1 before the system became operational, the program office assumed the risk of introducing errors into the deployed system. In fact, post-deployment problems surfaced with the Student and Exchange Visitor Information System (SEVIS) interface as a result of this approach, and manual work-arounds had to be implemented.

- *The independent verification and validation contractor's roles may be in conflict.*¹⁰ The US-VISIT program plans to use its contractor to review some of the processes and products that the contractor may be responsible for defining or executing. Depending on the products and processes in question, this approach potentially impedes the contractor's independence, and thus its effectiveness.
- *A program-level change control board has not been established.*¹¹ Changes related to Increment 1 were controlled primarily through daily coordination meetings (i.e., oral discussions) among representatives from Increment 1 component systems teams and program officials, and the various boards already in place for the component systems. Without a structured and disciplined approach to change control, program officials do not have adequate assurance that changes made to the component systems for non-US-VISIT purposes do not interfere with US-VISIT functionality.

¹⁰The purpose of independent verification and validation (IV&V) is to provide an independent review of system processes and products. To be effective, the IV&V function must be performed by an entity that is independent of the processes and products that are being reviewed.

¹¹The purpose of configuration management is to establish and maintain the integrity of work products (e.g., hardware, software, and documentation). A key ingredient to effectively controlling configuration change is the functioning of a change control board.

-
- *The fiscal year 2004 expenditure plan does not disclose management reserve funding.*¹² Program officials, including the program director, stated that reserve funding is embedded within the expenditure plan's various areas of proposed spending. However, the plan does not specifically disclose these embedded reserve amounts. By not creating, earmarking, and disclosing a specific management reserve fund in the plan, DHS is limiting its flexibility in addressing unexpected problems that could arise in the program's various areas of proposed spending, and it is limiting the ability of the Congress to exercise effective oversight of this funding.
 - *Plans for future US-VISIT increments do not call for additional staff or facilities at land ports of entry.* However, these plans are based on various assumptions that potential policy changes could invalidate. These changes could significantly increase the number of foreign nationals who would require processing through US-VISIT. Additionally, the Data Management Improvement Act Task Force's 2003 *Second Annual Report to Congress*¹³ has noted that existing land port of entry facilities do not adequately support even the current entry and exit processes. Thus, future US-VISIT staffing and facility needs are uncertain.

Conclusions

The fiscal year 2004 US-VISIT expenditure plan (with related program office documentation and representations) at least partially satisfies the legislative conditions imposed by the Congress. Further, steps are planned, under way, or completed to address most of our open recommendations. However, overall progress on all of our recommendations has been slow, and considerable work remains to fully address them. The majority of these recommendations are aimed at correcting fundamental limitations in the program office's ability to manage US-VISIT in a way that reasonably ensures the delivery of mission value commensurate with costs and provides for the delivery of promised capabilities on time and within budget. Given this background, it is important for DHS to implement the

¹²The creation and use of a management reserve fund to earmark resources for addressing the many uncertainties that are inherent in large-scale systems acquisition programs is an established practice and a prudent management approach.

¹³Data Management Improvement Act Task Force, *Second Annual Report to Congress* (Washington, D.C., December 2003).

recommendations quickly and completely through active planning and continuous monitoring and reporting. Until this occurs, the program will continue to be at high risk of not meeting expectations.

To the US-VISIT program office's credit, the first phase of the program has been deployed and is operating, and the commitments that DHS made regarding this initial operating capability were largely met. However, this was not accomplished in a manner that warrants repeating. In particular, the program office did not employ the kind of rigorous and disciplined management controls that are typically associated with successful programs, such as effective test management and configuration management practices. Moreover, the second phase of US-VISIT is already under way, and these controls are still not established. These controls, while significant for the initial phases of US-VISIT, are even more critical for the later phases, because the size and complexity of the program will only increase, and the later that problems are found, the harder and more costly they are to fix.

Also important at this juncture in the program's life are the still open questions surrounding whether the initial phases of US-VISIT will return value to the nation commensurate with their costs. Such questions warrant answers sooner rather than later, because of the program's size, complexity, cost, and mission significance. It is imperative that DHS move swiftly to address the US-VISIT program management weaknesses that we previously identified, by implementing our remaining open recommendations. It is equally essential that the department quickly corrects the additional weaknesses that we have identified. Doing less will only increase the risk associated with US-VISIT.

Recommendations for Executive Action

To better ensure that the US-VISIT program is worthy of investment and is managed effectively, we are reiterating our prior recommendations, and we further recommend that the Secretary of Homeland Security direct the Under Secretary for Border and Transportation Security to ensure that the US-VISIT program director takes the following actions:

- Develop and approve complete test plans before testing begins. These plans, at a minimum, should (1) specify the test environment, including test equipment, software, material, and necessary training; (2) describe each test to be performed, including test controls, inputs, and expected outputs; (3) define the test procedures to be followed in conducting the

tests; and (4) provide traceability between test cases and the requirements to be verified by the testing.

- Establish processes for ensuring the independence of the IV&V contractor.
- Implement effective configuration management practices, including establishing a US-VISIT change control board to manage and oversee system changes.
- Identify and disclose to the Appropriations Committees management reserve funding embedded in the fiscal year 2004 expenditure plan.
- Ensure that all future US-VISIT expenditure plans identify and disclose management reserve funding.
- Assess the full impact of a key future US-VISIT increment on land port of entry workforce levels and facilities, including performing appropriate modeling exercises.

To ensure that our recommendations addressing fundamental program management weaknesses are addressed quickly and completely, we further recommend that the Secretary direct the Under Secretary to have the program director develop a plan, including explicit tasks and milestones, for implementing all of our open recommendations, including those provided in this report. We further recommend that this plan provide for periodic reporting to the Secretary and Under Secretary on progress in implementing this plan. Lastly, we recommend that the Secretary report this progress, including reasons for delays, in all future US-VISIT expenditure plans.

Agency Comments and Our Evaluation

In written comments on a draft of this report signed by the US-VISIT Director (reprinted in app. II, along with our responses), DHS agreed with our recommendations and most of our observations. It also stated that it appreciated the guidance that the report provided and described actions that it is taking or plans to take in response to our recommendations.

However, DHS stated that it did not fully agree with all of our findings, specifically offering comments on our characterization of the status of one open recommendation and two observations. First, it did not agree with our position that it had not developed a security plan and completed a

privacy impact assessment. According to DHS, it has completed both. We acknowledge DHS's activity on both of these issues, but disagree that completion of an adequate security plan and privacy impact assessment has occurred. As we state in the report, the department's security plan for US-VISIT, titled *Security and Privacy: Requirements & Guidelines Version 1.0*, is a draft document, and it does not include information consistent with relevant guidance for a security plan, such as a risk assessment methodology and specific controls for meeting security requirements.¹⁴ Moreover, much of the document discusses guidelines for developing a security plan, rather than specific contents of a plan. Also, as we state in the report, the Privacy Impact Assessment was published but is not complete because it does not satisfy important parts of OMB guidance governing the content of these assessments, such as discussing alternatives to the designed methods of information collection and handling.

Second, DHS stated that it did not fully agree with our observation that the Increment 1 system test plan was developed largely during and after testing, citing several steps that it took as part of Increment 1 requirements definition, test preparation, and test execution. However, none of the steps cited address our observations that DHS did not have a system acceptance test plan developed, approved, and available in time to use as the basis for conducting system acceptance testing and that only the version of the test plan modified on January 16, 2004 (after testing was completed) contained all of the required test plan content. Moreover, DHS's comments acknowledge that the four versions of its Increment 1 test plan were developed during the course of test execution, and that the test schedule did not permit sufficient time for all stakeholders to review, and thus approve, the plans.

Third, DHS commented on the roles and responsibilities of its various support contractors, and stated that we cited the wrong operative documentation governing the role of its independent verification and validation contractor. While we do not question the information provided in DHS's comments concerning contractor roles, we would add that its comments omitted certain roles and responsibilities contained in the statement of work for one of its contractors. This omitted information is

¹⁴Office of Management and Budget Circular Number A-130, Revised (Transmittal Memorandum No. 4), Appendix III, "Security of Federal Automated Information Resources" (Nov. 28, 2000) and National Institute of Standards and Technology, *Guide for Developing Security Plans for Information Systems*, NIST Special Publication 800-18 (December 1998).

important because it is the basis for our observation that the program office planned to task the same contractor that was responsible for program management activities with performing independent verification and validation activities. Under these circumstances, the contractor could not be independent. In addition, we disagree with DHS's comment that we cited the wrong operative documentation, and note that the document DHS said we should have used relates to a different support contractor than the one tasked with both performing program activities and performing independent verification and validation activities.

The department also provided additional technical comments, which we have incorporated as appropriate into the report.

We are sending copies of this report to the Chairmen and Ranking Minority Members of other Senate and House committees and subcommittees that have authorization and oversight responsibilities for homeland security. We are also sending copies to the Secretary of State and the Director of OMB. Copies of this report will also be available at no charge on our Web site at www.gao.gov.

Should you or your offices have any questions on matters discussed in this report, please contact me at (202) 512-3439 or at hiter@gao.gov. Another contact and key contributors to this report are listed in appendix III.



Randolph C. Hite
Director, Information Technology Architecture
and Systems Issues

Briefing to the Staffs of the Subcommittees on Homeland Security, Senate and House Committees on Appropriations



Homeland Security: First Phase of Visitor and Immigration Status Program Operating, but Improvements Needed

Briefing to the Staffs of the
Subcommittees on Homeland Security
Senate and House Committees on Appropriations

March 2, 2004



Briefing Overview

- Introduction
- Objectives
- Results in Brief
- Background
- Results
 - Legislative Conditions
 - Status of Open Recommendations
 - Observations
- Conclusions
- Recommendations for Executive Action
- Agency Comments
- Attachment 1. Scope and Methodology



The United States Visitor and Immigrant Status Indicator Technology (US-VISIT) program of the Department of Homeland Security (DHS) is a governmentwide program to collect, maintain, and share information on foreign nationals. The goals of the US-VISIT program are to

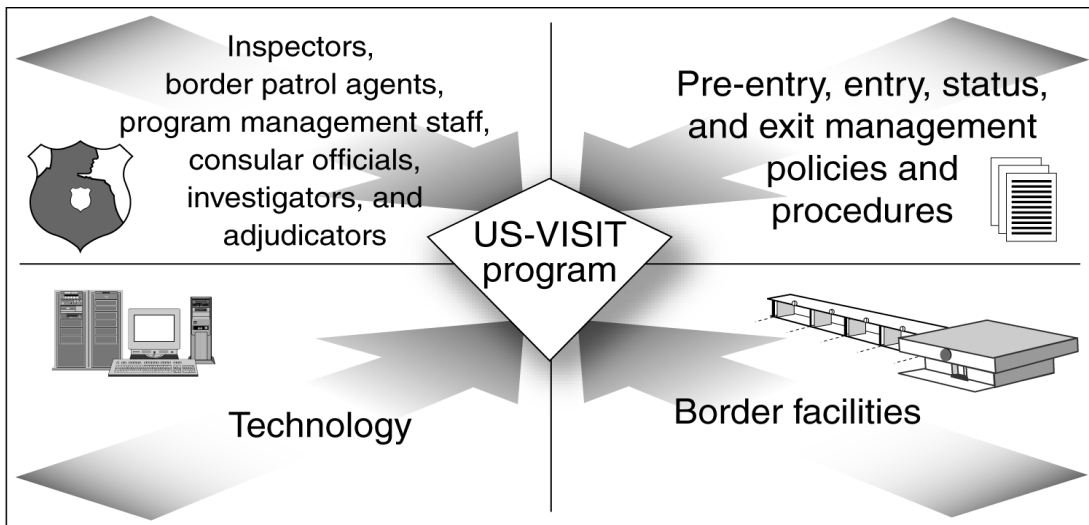
- enhance national security,
- facilitate legitimate trade and travel,
- contribute to the integrity of the U.S. immigration system,¹ and
- adhere to U.S. privacy laws and polices.

US-VISIT capability is planned to be implemented in four increments. Increment 1 began operating on January 5, 2004, at major air and sea ports of entry (POEs).

¹ This goal has been added since the last expenditure plan.



The US-VISIT program involves the interdependent application of people, processes, technology, and facilities.



Sources: GAO (analysis), Nova Development Corp. (images).
Note: GAO analysis based on DHS data.



The Department of Homeland Security Appropriations Act, 2004,¹ prohibits DHS from obligating any funds appropriated in the act for the US-VISIT program until it submits a plan for expenditure that satisfies the following legislative conditions.

- Meets the capital planning and investment control review requirements established by the Office of Management and Budget (OMB), including OMB Circular A-11, part 3.²
- Complies with DHS's enterprise architecture.
- Complies with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal government.
- Is reviewed and approved by DHS and OMB.
- Is reviewed by GAO.

¹ Pub. L. 108-90 (Oct. 1, 2003).

² OMB Circular A-11 establishes policy for planning, budgeting, acquisition, and management of federal capital assets.

Appendix I
Briefing to the Staffs of the Subcommittees
on Homeland Security, Senate and House
Committees on Appropriations



Introduction

In the Department of Homeland Security Appropriations Act, 2004, the Congress appropriated \$330 million in fiscal year 2004 funds for the US-VISIT program.¹

DHS submitted its fiscal year 2004 expenditure plan for \$330 million on January 27, 2004, to the House and Senate Appropriations Subcommittees on Homeland Security.

¹ Pub. L. 108-90 (Oct. 1, 2003).



Objectives

As agreed, our objectives were to

1. determine whether the US-VISIT fiscal year 2004 expenditure plan satisfies the legislative conditions,
2. determine the status of our US-VISIT open recommendations, and
3. provide any other observations about the expenditure plan and DHS's management of US-VISIT.

We conducted our work at DHS's headquarters in Washington, D.C., and at its Atlanta Field Operations Office (Atlanta's William B. Hartsfield International Airport) from October 2003 through February 2004 in accordance with generally accepted government auditing standards. Details of our scope and methodology are given in attachment 1.



Results in Brief: Objective 1
Legislative Conditions

Fiscal Year 2004 US-VISIT Expenditure Plan's Satisfaction of Legislative Conditions

Legislative conditions	Status
1. Meets the capital planning and investment control review requirements established by OMB, including OMB Circular A-11, part 7. ^a	Partially satisfies ^b
2. Complies with the DHS enterprise architecture.	Satisfies ^c
3. Complies with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal government.	Satisfies
4. Is reviewed and approved by DHS and OMB.	Satisfies
5. Is reviewed by GAO.	Satisfies

Source: GAO.

^a Capital investment and control requirements are now found in OMB Circular A-11, part 7, rather than part 3.

^b Satisfies or provides for satisfying many, but not all, key aspects of the condition that we reviewed.

^c Satisfies or provides for satisfying every aspect of the condition that we reviewed.



Results in Brief: Objective 2
Open Recommendations

Status of Actions to Implement Our 12 Open Recommendations

GAO open recommendations	Status
1. Develop a system security plan and privacy impact assessment.	Partially complete ^a
2. Develop and implement a plan for satisfying key acquisition management controls, including acquisition planning, solicitation, requirements development and management, project management, contract tracking and oversight, evaluation, and transition to support, and implement the controls in accordance with SEI ^c guidance.	Planned ^b
3. Ensure that future expenditure plans are provided to DHS's House and Senate Appropriations Subcommittees in advance of US-VISIT funds being obligated.	Complete ^{d,e}
4. Ensure that future expenditure plans fully disclose US-VISIT system capabilities, schedule, cost, and benefits to be delivered.	Partially complete ^e

^a Actions are under way to implement the recommendation.

^b Actions are planned to implement the recommendation.

^c The Software Acquisition Capability Maturity Model® developed by Carnegie Mellon University's Software Engineering Institute (SEI) defines acquisition process management controls for planning, managing, and controlling software-intensive system acquisitions.

^d Actions have been taken to fully implement the recommendation.

^e With respect to the fiscal year 2004 expenditure plan.



Results in Brief: Objective 2
Open Recommendations

Status of Actions to Implement Our 12 Open Recommendations

GAO open recommendations	Status
5. Establish and charter an executive body composed of senior-level representatives from DHS and each stakeholder organization to guide and direct the US-VISIT program.	Complete
6. Ensure that human capital and financial resources are provided to establish a fully functional and effective US-VISIT program office.	In progress ^f
7. Clarify the operational context in which US-VISIT is to operate.	In progress
8. Determine whether proposed US-VISIT increments will produce mission value commensurate with costs and risks.	Planned
9. Define US-VISIT program office positions, roles, and responsibilities.	In progress
10. Develop and implement a human capital strategy for the US-VISIT program office that provides for staffing positions with individuals who have the appropriate knowledge, skills, and abilities.	Planned
11. Develop a risk management plan and report all high risks and their status to the executive body on a regular basis.	Partially complete
12. Define performance standards for each US-VISIT increment that are measurable and reflect the limitations imposed by relying on existing systems.	In progress

Source: GAO.

^f Actions have been initiated to implement the recommendation.



Results in Brief: Objective 3
Observations

Summary of Observations

Increment 1

Commitments were largely met; the system is deployed and operating.

Testing was not managed effectively; if continued, the current approach to testing would increase risks.

- The system acceptance test (SAT) plan was developed largely during and after test execution.
- The SAT plan available during testing was not complete.
- SAT was not completed before the system became operational.

Future increments

Key program issues exist that increase risks if not resolved.

- Independent verification and validation (IV&V) contractor's roles may be conflicting.
- Program-level change control board has not been established.



Results in Brief: Objective 3
Observations

- Expenditure plan does not disclose management reserve funding.
- Land POE workforce and facility needs are uncertain.

To assist DHS in managing US-VISIT, we are making eight recommendations to the Secretary of DHS.

In their comments on a draft of this briefing, US-VISIT program officials stated that they generally agreed with the briefing and that it was fair and balanced.



Background US-VISIT Overview

The US-VISIT program is a governmentwide endeavor intended to enhance national security, facilitate legitimate trade and travel, contribute to the integrity of the U.S. immigration system, and adhere to U.S. privacy laws and policies by

- collecting, maintaining, and sharing information on certain foreign nationals who enter and exit the United States;
- identifying foreign nationals who (1) have overstayed or violated the terms of their visit; (2) can receive, extend, or adjust their immigration status; or (3) should be apprehended or detained by law enforcement officials;
- detecting fraudulent travel documents, verifying traveler identity, and determining traveler admissibility through the use of biometrics; and
- facilitating information sharing and coordination within the border management community.



Background US VISIT Organization

Within DHS, organizational responsibility for the US-VISIT program lies with the Border and Transportation Security Directorate.

In July 2003, DHS established a US-VISIT program office with responsibility for managing the acquisition, deployment, operation, and sustainment of the US-VISIT system and supporting people (e.g., inspectors), processes (e.g., entry exit policies and procedures), and facilities (e.g., inspection booths).

For the initial increments, DHS is using existing system contractors and additional program support contractors.

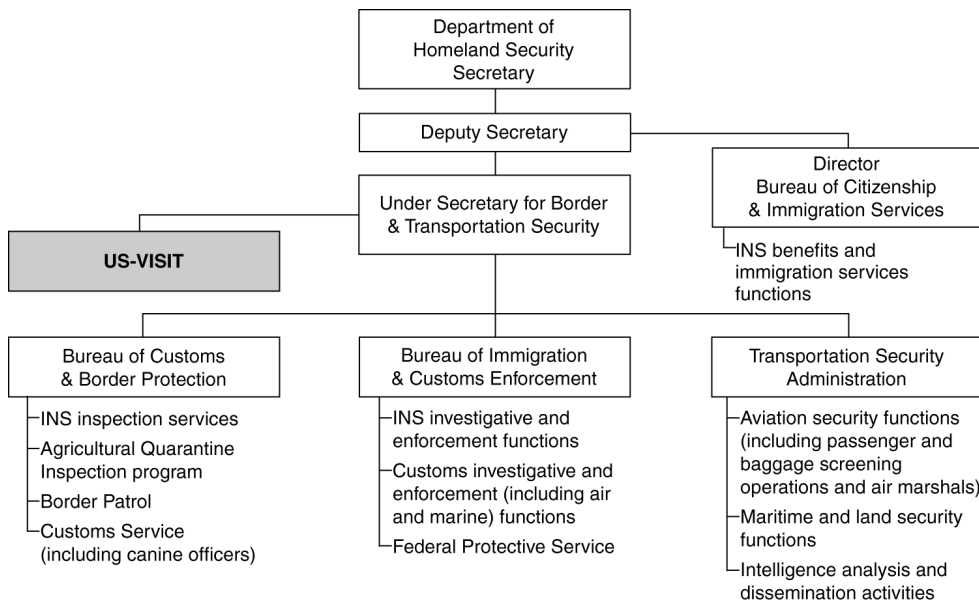
The following graphic shows the organizational placement for the US-VISIT program.

Appendix I
Briefing to the Staffs of the Subcommittees
on Homeland Security, Senate and House
Committees on Appropriations



Background
US VISIT Organization

Organizational Placement of US-VISIT Program (Partial DHS Organization Chart)



Source: GAO.

Note: GAO analysis based on DHS data.



Acquisition Strategy

DHS plans to deliver US-VISIT capability incrementally. Currently, DHS has defined four increments, with Increments 1 through 3 being interim, or temporary, solutions, and Increment 4 being the yet-to-be-defined end vision for US-VISIT. Increments 1 through 3 include the interfacing and enhancement of existing system capabilities and the deployment of these capabilities to air, sea, and land POEs.



Background Acquisition Strategy

Increment 1 Status

Increment 1 includes the electronic collection and matching of biographic and biometric information at all major air and some sea POEs for selected foreign travelers with visas.¹

Increment 1 *entry* capability was deployed to 115 airports and 14 seaports on January 5, 2004. Increment 1 *exit* capability was deployed as a pilot to two POEs on January 5, 2004.² According to the Program Director, US-VISIT is developing other exit alternatives and criteria for evaluating and selecting the alternatives. According to the Director, US-VISIT expects to select one or more of the alternatives by December 31, 2004.

¹ Classes of travelers that are not subject to US-VISIT are foreign nationals admitted on A-1, A-2, C-3 (except for attendants, servants, or personal employees of accredited officials), G-1, G-2, G-3, G-4, NATO-1, NATO-2, NATO-3, NATO-4, NATO-5, or NATO-6 visas, unless the Secretary of State and the Secretary of Homeland Security jointly determine that a class of such aliens should be subject to the rule; children under the age of 14; and persons over the age of 79.

² The Miami Royal Caribbean seaport and the Baltimore/Washington International Airport.



Background Acquisition Strategy

Increment 1

- included the development of policies, procedures, and associated training for implementing US-VISIT at the air and sea POEs;
- included outreach efforts, such as brochures, demonstration videos, and signage at air and sea POEs;
- did not include additional inspector staff at air and sea POEs; and
- did not include the acquisition of additional *entry* facilities. For *exit*, DHS is in the process of assessing facilities space and installing conduit, electrical supply, and signage.

Increment 2 Plans

Increment 2 is divided into two Increments—2A and 2B.

- Increment 2A is to include at all POEs the capability to process machine-readable visas and other travel and entry documents that use biometric identifiers. This increment is to be implemented by October 26, 2004.



Background Acquisition Strategy

- Increment 2B is to expand the Increment 1 solution for *entry* to secondary inspection¹ at the 50 highest volume land POEs by December 31, 2004. According to the expenditure plan, 2B is also to include the capability to read radio frequency (RF)² enabled documents at the 50 busiest land POEs for both *entry* and *exit* processes.
- According to the US-VISIT Deputy Director:
 - Each of the 745 *entry* and *exit* traffic lanes at these 50 land POEs is to have the infrastructure, such as underground conduit, necessary to install the RF technology.

¹ Secondary inspection is used for more detailed inspections that may include checking more databases, conducting more intensive interviews of the individual, or both.

² RF technology would require proximity cards and card readers. RF readers read the information contained on the card when the card is passed near the reader, and could be used to verify the identity of the card holder.



Background Acquisition Strategy

- RF technology is to be installed and operating at an undetermined number of lanes to collect biographic information. The US-VISIT program plans to install the technology, at a minimum, to one *entry* and one *exit* lane for each of the 50 land POEs. Collecting the biographic information for *exit* would require that some form of RF-enabled documentation be provided to the foreign national upon *entry* into the country.
- For *exit* lanes without RF, US-VISIT will continue to rely upon the collection of manually completed I-94 forms¹ from exiting travelers.

Increment 3 Plans

Increment 3 is to expand Increment 2B system capability to the remaining 115 land POEs. It is to be implemented by December 31, 2005.

¹ I-94 forms have been used for years to track foreign nationals' arrivals and departures. Each form is divided into two parts: an entry portion and an exit portion. Each form contains a unique number printed on both portions of the form for the purposes of subsequent recording and matching the arrival and departure records on nonimmigrants.



Background Acquisition Strategy

Increment 4 Plans

Increment 4 is the yet-to-be-defined end vision of US-VISIT program capability, which will likely consist of a series of releases.

DHS plans to award a single, indefinite-delivery/indefinite-quantity¹ contract to a prime contractor capable of integrating existing and new business processes and technologies. DHS issued a request for proposal (RFP) for the prime contractor in November 2003, as planned. DHS plans to award a contract by the end of May 2004. According to the RFP, the prime contractor's scope of work is to include, but is not limited to, Increments 2B, 3, and 4.

According to the expenditure plan, the prime contractor will support the integration and consolidation of processes, functionality, and data, and will develop a strategy to build on the technology and capabilities already available to fully support the US-VISIT vision. Meanwhile, the US-VISIT program will continue deploying the interim solution as planned and use the prime contractor to assist in the planning and deployment of the system, as appropriate.

¹ An indefinite-delivery/indefinite-quantity contract provides for an indefinite quantity, within stated limits, of supplies or services during a fixed period of time. The government schedules deliveries or performance by placing orders with the contractor.



Background Acquisition Strategy

For facilities, DHS is working with the General Services Administration to install the infrastructure, such as underground conduit, to support the RF technology at primary vehicle inspection lanes. US-VISIT is installing the infrastructure for the collection of biometric and biographical information in secondary inspection areas.

For human capital, DHS does not plan to acquire any additional inspection staff for Increment 2.



Component Systems

US-VISIT (Increments 1 through 4) will potentially include the interfacing of over 16 existing systems. Examples of systems included in Increment 1 are

- Arrival Departure Information System (ADIS), a database that stores traveler arrival and departure data received from air and sea carrier manifests and that provides query and reporting functions;
- Advance Passenger Information System (APIS), a system that captures arrival and departure manifest information provided by air and sea carriers;
- Interagency Border Inspection System (IBIS), a system that maintains lookout (i.e., watchlist) data,¹ interfaces with other agencies' databases, and is currently used by inspectors at POEs to verify traveler information and modify data;

¹ IBIS lookout sources include: DHS's Customs and Border Protection and Immigration and Customs Enforcement; the Federal Bureau of Investigation; legacy Immigration and Naturalization Service and Customs information; the U.S. Secret Service; the U.S. Coast Guard; the Internal Revenue Service; the Drug Enforcement Agency; the Bureau of Alcohol, Tobacco & Firearms; the U.S. Marshals Service; the U.S. Office of Foreign Asset Control; the National Guard; the Treasury Inspector General; the U.S. Department of Agriculture; the Department of Defense Inspector General; the Royal Canadian Mounted Police; the U.S. State Department; Interpol; the Food and Drug Administration; the Financial Crimes Enforcement Network; the Bureau of Engraving and Printing; and the Department of Justice Office of Special Investigations. This footnote has been modified to include additional information obtained since the briefing's delivery to the Committees.



Background Component Systems

- Automated Biometric Identification System (IDENT), a system that collects and stores biometric data about foreign visitors;¹
- Student Exchange Visitor Information System (SEVIS), a system that contains information on foreign students;
- Computer Linked Application Information Management System (CLAIMS 3), a system that contains information on foreign nationals who request benefits, such as change of status or extension of stay; and
- Consular Consolidated Database (CCD), a system that includes information on whether a visa applicant has previously applied for a visa or currently has a valid U.S. visa.

¹ Includes data such as: Federal Bureau of Investigation information on all known and suspected terrorists, selected wanted persons (foreign-born, unknown place of birth, previously arrested by DHS), and previous criminal histories for high-risk countries; DHS Immigration and Customs Enforcement information on deported felons and sexual registrants; DHS information on previous criminal histories and previous IDENT enrollments. Information from the bureau includes fingerprints from the Integrated Automated Fingerprint Identification System. This footnote has been modified to include additional information obtained since the briefing's delivery to the Committees.



Increment 1 Process

According to DHS, Increment 1 includes the following four processes and capabilities:

Pre-Entry Process:

Pre-entry processing begins with initial petitions for visas, grants of visa status, or the issuance of travel documentation. When the Department of State issues the travel documentation, biographic (and in some cases biometric) data are collected and made available to border management agencies. The biometric data are transmitted from State to DHS, where the prints are run against the US-VISIT biometric database to verify identity and to check the biometric watchlist. The results of the biometric check are transmitted back to State.

Commercial air and sea carriers are required by law to transmit crew and passenger manifests before arriving in the United States. These manifests are transmitted through APIS. The APIS lists are run against the biographic lookout system and identify those arrivals who have biometric data available.



In addition, POEs review the APIS list for a variety of factors that would target certain arriving crew and passengers for additional processing.

Entry Process:

When the foreign national arrives at a primary POE inspection booth, the inspector, using a document reader, scans the machine-readable travel documents. IBIS/APIS returns any existing records on the foreign national, including manifest data matches and biographic lookout hits. When a match is found in the manifest data, the foreign national's name is highlighted and outlined on the manifest data portion of the screen.

Biographic information, such as name and date of birth, is displayed on the bottom half of the screen, as well as the photograph from State's CCD. IBIS also returns information about whether there are, within IDENT, existing fingerprints for the foreign national.



Background Increment 1 Process

The inspector switches to the IDENT screen and scans the foreign national's fingerprints (left and right index fingers) and photograph. The system accepts the best fingerprints available within the 5-second scanning period. This information is forwarded to the IDENT database, where it is checked against stored fingerprints in the IDENT lookout database. If no prints are currently in the IDENT database, the foreign national is enrolled in US-VISIT (i.e., biographic and biometric data are entered). If the foreign national's fingerprints are already in IDENT, the system performs a 1:1 match (a comparison of the fingerprint taken during the primary inspection to the one on file) to confirm that the person submitting the fingerprints is the person on file. If the system finds a mismatch of fingerprints or a watchlist hit, the foreign national is sent to secondary inspection for further screening or processing.

While the system is checking the fingerprints, the inspector questions the foreign national about the purpose of his or her travel and length of stay. The inspector adds the class of admission and duration of stay information into the IBIS system, and stamps the "admit until" date on the I-94 form.



Background Increment 1 Process

If the foreign national is ultimately determined to be inadmissible, the person is detained, the appropriate lookouts are posted in the databases, and appropriate actions are taken.

Two hours after a flight lands and all passengers have been processed, IBIS sends the records showing the class of admission and the admit until date that had been modified by the inspector to ADIS.

Status Management Process:

The status management process manages the foreign national's temporary presence in the United States, including the adjudication of benefits applications and investigations into possible violations of immigration regulations. ADIS matches entry and exit manifest data to ensure that each record showing a foreign national entering the United States is matched with a record showing the foreign national exiting the United States. ADIS receives status information from CLAIMS 3 and SEVIS on foreign nationals.



Background Increment 1 Process

Exit Process:

The exit process includes the carriers' submission of electronic manifest data to IBIS/APIS. This biographic information is passed to ADIS, where it is matched against entry information. At the two POEs where the exit pilot is being conducted, foreign nationals use a self-serve kiosk where they are prompted to scan their travel documentation and provide their fingerprints (right and left index fingers). On a daily basis, the information collected on departed passengers is downloaded to a CD-ROM.¹

The CD is then express mailed to a DHS contractor facility to be uploaded into IDENT, where a 1:1 match is performed (i.e., the fingerprint captured during entry is compared with the fingerprint captured at exit). ADIS provides the ability to run queries on foreign nationals who have entry information but no corresponding exit information.

The following graphic shows Increment 1, as deployed on January 5, 2004.²

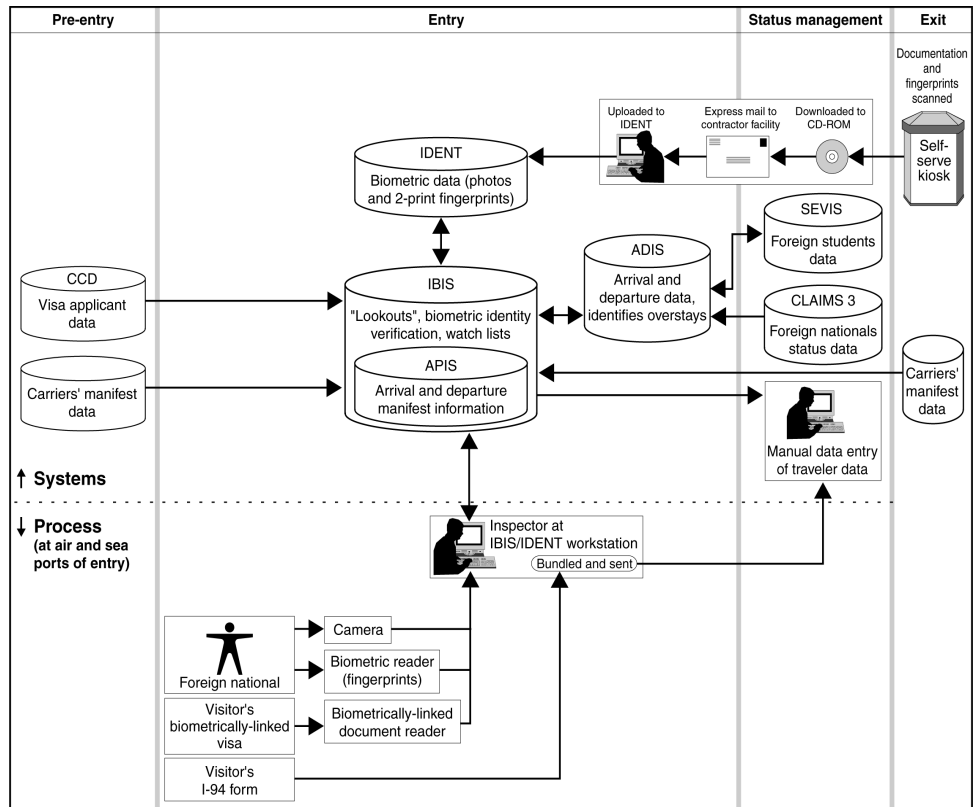
¹ A CD-ROM is a digital storage device that is capable of being read, but not overwritten.

² CLAIMS 3's interface with ADIS was deployed and implemented on February 11, 2004.



Background
Increment 1 Process

Simplified Diagram of
US-VISIT Increment
1 System
Components and
Process



Sources: GAO (analysis), Nova Development Corp. (images).



GAO's Review of Fiscal Year 2003 Expenditure Plan

In our report on the fiscal year 2003 expenditure plan,¹ we reported on 10 risk factors associated with the US-VISIT program, and we made recommendations, as appropriate, to address them.

- Mission is critical.
- Scope is large and complex.
- Milestones are challenging.
- Potential cost is significant.
- Existing systems have known problems.
- Governance structure is not established.
- Program management capability is not implemented.

¹ U.S. General Accounting Office, *Homeland Security: Risks Facing Key Border and Transportation Security Program Need to Be Addressed*, GAO-03-1083 (Washington, D.C.: Sept. 19, 2003).



Background
GAO Prior Review Results

- Operational context is unsettled.
- Near-term facilities solutions pose challenges.
- Mission value of first increment is currently unknown.



Background
GAO Prior Review Results

GAO's Review of Fiscal Year 2002 Expenditure Plan

In our report on the fiscal year 2002 expenditure plan,¹ we reported that

- INS intended to acquire and deploy a system with functional and performance capabilities consistent with the general scope of capabilities under various laws;
- the plan did not provide sufficient information to allow Congress to oversee the program;
- INS had not developed a security plan and privacy impact assessment; and
- INS had not implemented acquisition management controls in the area of acquisition planning, solicitation, requirements development and management, project management, contract tracking and oversight, and evaluation consistent with SEI guidance.

We made recommendations to address these areas.

¹ U.S. General Accounting Office, *Information Technology: Homeland Security Needs to Improve Entry Exit System Expenditure Planning*, GAO-03-563 (Washington, D.C.: June 9, 2003).



Background
Review of Current Expenditure Plan

Fiscal Year 2004 Expenditure Plan Summary (see next slides for descriptions)

Area of expenditure	Amount
Increment 1—Air and Sea	\$45,000,000
Increment 2A—Air, Sea, and Land	73,000,000
Increment 2B—Land	81,000,000
Increment 3—Land	3,000,000
Program Management	70,000,000
Operations and Maintenance	58,000,000
Total	\$330,000,000

Source: DHS.



Background Current Expenditure Plan

Description of How Funds Are to Be Used

Increment 1—Air and Sea: This expenditure area includes costs to develop, field test, and initiate deployment of an initial *exit* solution (e.g., self-service kiosks), while evaluating additional alternative approaches, such as hand-held devices.

Increment 2A—Air, Sea, and Land: This area includes costs to deploy the capability to all POEs to read biometrically enabled travel documents at secondary inspection facilities.

Increment 2B—Land: This area includes costs required for the development of land infrastructure upgrades, system development and testing, and RF technology to the 50 busiest land POEs.



Background Current Expenditure Plan

Increment 3—Land: This expenditure area includes costs to begin technical infrastructure planning and development for the remaining 115 land POEs.

Program Management: This area includes costs incurred to maintain the program management structure and baseline operations.

Operations and Maintenance: This area includes operations and maintenance of existing information systems. After deployment, this cost is to be transferred to the organizations that are responsible for the individual systems. This transfer of costs is expected by fiscal year 2006.



Summary of US-VISIT Appropriations and Reported Obligations

Fiscal year	Available appropriations (millions) ^a	Obligated (millions) ^b
2002	\$13.3	\$7.7 ^c
2003	367.0	367.0
2004	330.0 ^d	—
Total	\$710.3	\$374.7

Source: DHS.

^a The conference report (H.R. Conf. Rep. No. 107-350, at 416 (2001)) recommended that INS use \$13.3 million in appropriations for the entry exit system (now US-VISIT). This amount is available until expended. The conference report (H.R. Conf. Rep. No. 108-10, at 623 (2003)) recommended that INS use \$362 million in fiscal year 2003 funds for what is now US-VISIT. These funds expired at the end of fiscal year 2003. According to DHS officials, an additional \$5 million in base resources was available from a user fee account. In the Department of Homeland Security Appropriations Act, 2004, Congress appropriated \$330 million for US-VISIT. This amount is available until expended.

^b As of February 2004.

^c Before August 2003, DHS had obligated \$3.2 million of the \$13.3 million in fiscal year 2002 funds. In November 2003, DHS requested, and in December 2003, the House and Senate Appropriations Subcommittees approved DHS's plan to spend the remaining \$10.1 million in no-year funds from fiscal year 2002. According to the US-VISIT Budget and Financial Manager, as of February 23, 2004, US-VISIT had obligated \$4.5 million of the \$10.1 million.

^d On January 26, DHS submitted to the Senate and House Appropriations Subcommittees on Homeland Security a request for the release of \$25 million from the fiscal year 2004 appropriations.



Objective 1 Results Legislative Conditions

The US-VISIT expenditure plan satisfies or partially satisfies each of the legislative conditions.

Condition 1. The plan, including related program documentation and program officials' statements, *partially satisfies* the capital planning and investment control review requirements established by OMB, including OMB Circular A-11, part 7, which establishes policy for planning, budgeting, acquisition, and management of federal capital assets.

The table that follows provides examples of the results of our analysis.



Objective 1 Results
 Legislative Conditions

Examples of A-11 conditions	Results of our analysis
Provide justification and describe acquisition strategy.	US-VISIT has completed an Acquisition Plan dated November 28, 2003. The plan provides a high-level justification and description of the acquisition strategy for the system.
Summarize life cycle costs and cost/benefit analysis, including the return on investment.	DHS does not have current life cycle costs nor a current cost/benefit analysis for US-VISIT. According to program officials, US-VISIT has a draft life cycle cost estimate and cost/benefit analysis. Both are expected to be completed in March 2004. ^a
Provide performance goals and measures.	The plan identifies planned performance metrics. However, US-VISIT has not developed a baseline against which to measure progress or actual performance. ^a
Address security and privacy.	A security plan for US-VISIT has not been developed. Instead, US-VISIT was certified and accredited based upon the updated security certification for each of Increment 1's component systems. The US-VISIT program published a privacy impact assessment on January 5, 2004. ^a
Provide risk inventory and assessment.	US-VISIT has developed a draft risk management plan and a process to implement and manage risks. US-VISIT also maintains a risk and issues tracking database. ^a

Source: GAO.
^a Our objective 2 results provide additional information on these areas.
 Note: GAO analysis based on DHS data.



Objective 1 Results Legislative Conditions

Condition 2. The plan, including related program documentation and program officials' statements, *satisfies* this condition by providing for compliance with DHS's enterprise architecture.

DHS released version 1 of the architecture in October 2003.¹ It plans to issue version 2 in September 2004.

According to the DHS Chief Information Officer (CIO), DHS is developing a process to align its systems modernization efforts, such as US-VISIT, to its enterprise architecture. Alignment of US-VISIT to the enterprise architecture has not yet been addressed, but DHS CIO and US-VISIT officials stated that they plan to do so.

¹ Department of Homeland Security Enterprise Architecture Compendium Version 1.0 and Transitional Strategy.



Objective 1 Results Legislative Conditions

Condition 3. The plan, including related program documentation and program officials' statements, *satisfies* the condition that it comply with the acquisition rules, requirements, guidelines, and systems acquisition management practices of the federal government. These criteria provide a management framework based on the use of rigorous and disciplined processes for planning, managing, and controlling the acquisition of IT resources, including acquisition planning, solicitation, requirements development and management, project management, contract tracking and oversight, and evaluation.

The table that follows provides examples of the results of our analysis.



Objective 1 Results Legislative Conditions

Examples of process Results of our analysis

Acquisition planning. Ensures that reasonable preparation for the acquisition is conducted, including, among other things, developing an acquisition strategy and plan, estimating life cycle cost and schedule, and defining roles and responsibilities.

The US-VISIT program has developed and documented an acquisition strategy and plan for a prime contractor to perform activities for modernizing US-VISIT business processes and systems, calling for, among other things, these activities to meet all relevant legislative requirements. Activities identified include U.S. border management-related work and support; other DHS-related strategic planning, and any associated systems development and integration, business process reengineering, organizational change management, information technology support, and program management work and support; and other business, technical, and management capabilities to meet the legislative mandates, operational needs, and government business requirements.

The strategy defines a set of acquisition objectives, identifies key roles and responsibilities, sets general evaluation criteria, and establishes a high-level acquisition schedule.

The plan describes initial tasking, identifies existing systems with which to interoperate/interface, defines a set of high-level risks, and lists applicable legislation.

Solicitation. Prepares a solicitation package that identifies the needs of a particular acquisition and selects a supplier who can best satisfy the requirements of the contract.

The RFP for the prime contractor acquisition was issued on November 28, 2003. A selecting official has been assigned responsibility, and a team, including contract specialists, has been formed and has received training related to this acquisition. A set of high-level evaluation factors have been defined for selecting the prime integrator, and the team plans to define more detailed criteria.

Source: GAO.

Note: GAO analysis based on DHS data.



Objective 1 Results Legislative Conditions

Condition 4 met. The plan, including related program documentation and program officials' statements, *satisfies* the requirement that it be reviewed and approved by DHS and OMB.

DHS and OMB reviewed and approved the US-VISIT fiscal year 2004 expenditure plan. Specifically, the DHS IRB¹ approved the plan on December 17, 2003, and OMB approved the plan on January 27, 2004.

¹ The IRB is the executive review board that provides acquisition oversight of DHS level 1 investments and conducts portfolio management. Level 1 investment criteria are contract costs exceeding \$50 million; importance to DHS strategic and performance plans; high development, operating, or maintenance costs; high risk; high return; significant resource administration; and life cycle costs exceeding \$200 million. According to the DHS CIO, US-VISIT is a level 1 investment.



Objective 1 Results
Legislative Conditions

Condition 5 met. The plan *satisfies* the requirement that it be reviewed by GAO.
Our review was completed on March 2, 2004.



Objective 2 Results Open Recommendations

Open Recommendation 1: Develop a system security plan and privacy impact assessment.

Status: Partially complete

Security Plan. DHS does not have a security plan for US-VISIT. Although program officials provided us with a draft document entitled *Security & Privacy: Requirements & Guidelines Version 1.0*,¹ this document does not include information consistent with relevant guidance for a security plan.

The OMB and the National Institute of Standards and Technology have issued security planning guidance.² In general, this guidance requires the development of system security plans that (1) provide an overview of the system security requirements, (2) include a description of the controls in place or planned for meeting the security requirements, (3) delineate roles and responsibilities of all individuals who access the system, (4) discuss a risk assessment methodology, and (5) address security awareness and training.

¹ *Security & Privacy: Requirements & Guidelines Version 1.0 Working Draft*, US-VISIT Program (May 15, 2003).

² Office Management and Budget Circular Number A-130, Revised (Transmittal Memorandum No. 4), Appendix III, "Security of Federal Automated Information Resources" (Nov. 28, 2000) and National Institute of Standards and Technology, *Guide for Developing Security Plans for Information Systems*, NIST Special Publication 800-18 (December 1998).



Objective 2 Results Open Recommendations

The draft document identifies security requirements for the US-VISIT program and addresses the need for training and awareness. However, the document does not include (1) specific controls for meeting the security requirements, (2) a risk assessment methodology, and (3) roles and responsibilities of individuals with system access. Moreover, with the exception of the US-VISIT security requirements, much of the document discusses guidelines for developing a security plan, rather than specific contents of US-VISIT security plan.

Despite the absence of a security plan, the US-VISIT CIO accredited Increment 1 based upon updated security certifications¹ for each of Increment 1's component systems (e.g., ADIS, IDENT, and IBIS) and a review of the documentation, including component security plans, associated with these updates. According to the security evaluation report (SER), the risks associated with each component system were evaluated, component system vulnerabilities were identified, and component system certifications were granted.

¹Certification is the evaluation of the extent to which a system meets a set of security requirements. Accreditation is the authorization and approval granted to a system to process sensitive data in an operational environment; this is made on the basis of a compliance certification by designated technical personnel of the extent to which design and implementation of the system meet defined technical requirements for achieving data security.



Objective 2 Results Open Recommendations

Based on the SER, the US-VISIT security officer certified Increment 1, and Increment 1 was accredited and granted an interim authority to operate for 6 months. This authority will expire on June 18, 2004.

Additionally, this authority would not extend to a modified version of Increment 1. For example, the SER states that US-VISIT exit functionality was not part of the Increment 1 certification and accreditation, and that it was to be certified and accredited separately from Increment 1. The SER also notes that the Increment 1 certification will require updating upon the completion of security documentation for the exit functionality.

Privacy Impact Assessment. The US-VISIT program has conducted a privacy impact assessment for Increment 1. According to OMB guidance,¹ the depth and content of such an assessment should be appropriate for the nature of the information to be collected and the size and complexity of the system involved.

¹OMB Guidance for Implementing the Privacy Provisions of the E-Government Act of 2002, OMB M-03-22 (Sept. 26, 2003).



Objective 2 Results Open Recommendations

The assessment should also, among other things, (1) identify appropriate measures for mitigating identified risks, (2) discuss the rationale for the final design or business process choice, (3) discuss alternatives to the designed information collection and handling, and (4) address whether privacy is provided for in system development documentation.

The OMB guidance also notes that an assessment may need to be updated before deploying a system in order to, among other things, address choices made in designing the system or in information collection and handling.

The Increment 1 assessment satisfies some, but not all, of the above four OMB guidance areas. Specifically, it identifies Increment 1 privacy risks, discusses mitigation strategies for each risk, and briefly discusses the rationale for design choices. However, the assessment does not discuss alternatives to the designed methods of information collection and handling. Additionally, the Increment 1 systems documentation does not address privacy issues.

According to the Program Director, the assessment will be updated for future increments.



Objective 2 Results Open Recommendations

Open Recommendation 2: Develop and implement a plan for satisfying key acquisition management controls, including acquisition planning, solicitation, requirements development and management, project management, contract tracking and oversight, evaluation, and transition to support, and implement the controls in accordance with SEI guidance.

Status: Planned

According to the US-VISIT Program Director, the program office has established a goal of achieving SEI Software Acquisition Capability Maturity Model (SA-CMM®) level 2, and the office's Acquisition and Program Management Lead has responsibility for achieving this status. To facilitate attaining this goal, the Acquisition and Program Management Lead's organization includes functions consistent with the management controls defined by the SA-CMM®, such as acquisition planning and requirements development and management.



Objective 2 Results Open Recommendations

According to the Acquisition and Program Management Lead, an approach for achieving level 2 will be defined as part of a strategy that has yet to be developed. However, the lead could not provide a date for when the strategy would be developed. The expenditure plan indicates that the US-VISIT program office will solicit SEI's participation in achieving level 2.



Objective 2 Results Open Recommendations

Open Recommendation 3: Ensure that future expenditure plans are provided to the Department's House and Senate Appropriations Subcommittees on Homeland Security in advance of US-VISIT funds being obligated.

Status: Complete

The Congress appropriated \$330 million in fiscal year 2004 funds for the US-VISIT program.¹

On January 27, 2004, DHS provided its fiscal year 2004 expenditure plan to the Senate and House Appropriations Subcommittees on Homeland Security.

On January 26, 2004, DHS submitted to the Senate and House Appropriations Subcommittees on Homeland Security a request for the release of \$25 million from the fiscal year 2004 appropriations.

¹ Department of Homeland Security Appropriations Act, 2004, Pub. L. 108-90 (Oct. 1, 2003).



Objective 2 Results Open Recommendations

Open Recommendation 4: Ensure that future expenditure plans fully disclose US-VISIT system capabilities, schedule, cost, and benefits to be delivered.

Status: Partially complete

Capabilities

The expenditure plan identifies high-level capabilities, such as

- record arrival of foreign nationals,
- identify foreign nationals who have stayed beyond the authorized period, and
- use biometrics to verify identity of foreign nationals.

The plan does not associate these capabilities with specific increments.

Schedule

The plan identifies a high-level schedule for implementing the system. For example, Increment 2A is to be implemented by October 26, 2004; Increment 2B by December 31, 2004; and Increment 3 by December 31, 2005.



Objective 2 Results Open Recommendations

Costs

The plan identifies total fiscal year 2004 costs by each increment. For example, DHS plans to obligate \$73 million in fiscal year 2004 funds for Increment 2A. However, the plan does not break out how the \$73 million will be used to support Increment 2A, beyond indicating that the funds will be used to read biometric information in travel documents, including fingerprints and photos, at all ports of entry. Also, the plan does not identify any nongovernment costs.

Benefits

The plan identifies seven general benefits and planned performance metrics for measuring three of the seven benefits. The plan does not associate the benefits with increments.

The following table shows US-VISIT benefits and whether associated metrics have been defined.



Objective 2 Results
 Open Recommendations

Extent to Which Planned Performance Metrics Are Defined for Each Benefit

Benefits	Planned performance metric defined?	
	Yes	No
Prevention of entry of high-threat or inadmissible individuals through improved and/or advanced access to data before the foreign national's arrival	X	
Improved enforcement of immigration laws through improved data accuracy and completeness	X	
Reduction in foreign nationals remaining in the country under unauthorized circumstances		X
Improved facilitation of legitimate travel and commerce through improved timeliness and accuracy of determination of traveler status	X	
Reduced threat of terrorist attack and illegal immigration through improved identification of national security threats and inadmissible individuals		X
Improved accuracy and timeliness of the determination of foreign national admissibility		X
Improved cooperation across federal, state, and local agencies through improved access to foreign national data		X

Source: GAO.
 Note: GAO analysis based on DHS data.



Objective 2 Results Open Recommendations

Open Recommendation 5: Establish and charter an executive body composed of senior-level representatives from DHS and each stakeholder organization to guide and direct the US-VISIT program.

Status: Complete

DHS has established a three-entity governance structure. The entities are (1) the Homeland Security Council (HSC), (2) the DHS Investment Review Board (IRB), and (3) the US-VISIT Federal Stakeholders Advisory Board.

- The HSC is tasked with ensuring the coordination of all homeland security-related activities among executive departments and agencies and is composed of senior-level executives from across the federal government. According to the expenditure plan, the HSC helps to set policy boundaries for the US-VISIT program.



Objective 2 Results Open Recommendations

- According to DHS's investment management guidance,¹ the IRB is the executive review board that provides acquisition oversight of DHS level 1 investments² and conducts portfolio management. The primary function of the IRB is to review level 1 investments for formal entry into the budget process and at key decision points. The plan states that the IRB is to monitor the US-VISIT program's achievement of cost, schedule, and performance goals.

¹DHS Management Directive 1400, *Investment Review Process* (undated).

²Level 1 investment criteria are contract costs exceeding \$50 million; importance to DHS strategic and performance plans; high development, operating, or maintenance costs; high risk; high return; significant resource administration; and life cycle costs exceeding \$200 million. According to the DHS CIO, US-VISIT is a level 1 investment.



Objective 2 Results Open Recommendations

- According to its charter, the Advisory Board provides recommendations for overseeing US-VISIT management and performance activities, including
 - providing advice on the overarching US-VISIT vision;
 - recommending the overall US-VISIT strategy and its responsiveness to all operational missions, both within DHS and with its participating government agencies;
 - recommending changes to the US-VISIT vision and strategic direction;
 - providing a communication link for aligning strategic direction, priorities, and resources with stakeholder operations;
 - reviewing and assessing US-VISIT programwide institutional processes to ensure that business, fiscal, and technical priorities are integrated and carried out in accordance with established priorities; and
 - reviewing and recommending new US-VISIT program initiatives, including the scope, funding, and programmatic resources required.



Objective 2 Results Open Recommendations

The Advisory Board is chaired by the Under Secretary for Border and Transportation Security and held its first meeting on January 26, 2004. The board is composed of representatives from key US-VISIT stakeholder organizations, including the following members:

- Chief Information Officer, Chief Financial Officer, Chief Privacy Officer, DHS
- Chief Information Officer, U.S. Department of Justice
- Office of International Affairs, DHS
- Assistant Secretary for Transportation Policy, U.S. Department of Transportation
- Assistant Commandant Marine Safety, Security and Environmental Protection, U.S. Coast Guard
- Assistant Secretary for Policy and Planning, Border and Transportation Security Directorate
- Assistant Secretary, Science and Technology Directorate, DHS
- Administrator, Transportation Security Administration
- Assistant Director, Investigations, Immigrations and Customs Enforcement
- Director, Office of International Enforcement, Border and Transportation Security Directorate
- Deputy Assistant Secretary, Service Industries, Tourism and Finance, U.S. Department of Commerce
- Deputy Assistant Secretary, Passport Services, U.S. Department of State
- Associate Director of Operations, Citizenship and Immigration Services¹
- Advisory Board Counsel

¹ Title changed to reflect agency comments.



Objective 2 Results Open Recommendations

Open Recommendation 6: Ensure that human capital and financial resources are provided to establish a fully functional and effective program office.

Status: In progress

DHS established the US-VISIT program office in July 2003 and determined the office's staffing needs to be 115 government and 117 contractor personnel.

As of February 2004, DHS had filled all the program office's 12 key management and 29 other positions, leaving 74 positions to be filled. All filled positions are currently staffed by detailees from other organizational units within DHS, such as Immigration and Customs Enforcement.

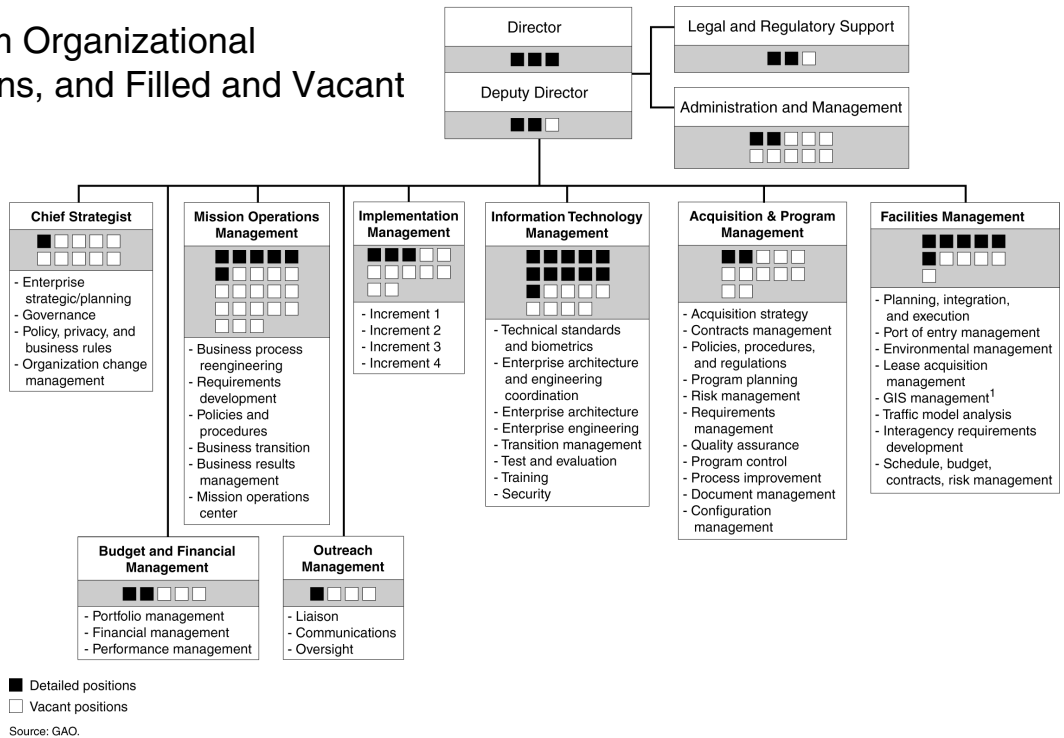
The graphic on the next page shows the US-VISIT program office organization structure and functions, the number of positions needed by each office, and the number of positions filled by detailees.

Appendix I
Briefing to the Staffs of the Subcommittees
on Homeland Security, Senate and House
Committees on Appropriations



Objective 2 Results
Open Recommendations

US-VISIT Program Organizational
Structure, Functions, and Filled and Vacant
Positions



Note: GAO analysis based on DHS data.

¹A geographic information system (GIS) is a system of computer software, hardware, and data used to manipulate, analyze, and graphically present a potentially wide array of information associated with geographic locations.



Objective 2 Results
Open Recommendations

In addition to the 115 government staff anticipated, the program anticipated 117 contractor support staff. As of February 2004, program officials told us they had filled 97.5 of these 117.



Objective 2 Results Open Recommendations

Open Recommendation 7: Clarify the operational context in which US-VISIT is to operate.

Status: In progress

DHS is in the process of defining the operational context in which US-VISIT is to operate. In October 2003, DHS released version 1 of its enterprise architecture, and it plans to issue version 2 in September 2004.¹ We are currently reviewing DHS's latest version of its architecture at the request of the House Committee on Government Reform's Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census.

¹ Department of Homeland Security Enterprise Architecture Compendium Version 1.0 and Transitional Strategy.



Objective 2 Results Open Recommendations

Open Recommendation 8: Determine whether proposed US-VISIT increments will produce mission value commensurate with cost and risks.

Status: Planned

The expenditure plan identifies high-level benefits to be provided by the US-VISIT program, such as the ability to prevent the entry of high-threat or inadmissible individuals through improved and/or advanced access to data before the foreign national's arrival. However, the plan does not associate these benefits with specific increments. Further, the plan does not identify the total estimated cost of Increment 2. Instead, the plan identifies only fiscal year 2004 funds to be obligated for Increments 2A and 2B, which are \$73 million and \$81 million, respectively. In addition, the plan does not include any nongovernmental costs associated with US-VISIT. The RFP indicates that the total solution for Increment 2 has not been determined and will not be finalized until the prime contractor is on board. Until that time, DHS is not in a position to determine the total cost of Increments 2A and 2B, and thus whether they will produce mission value commensurate with costs.



Objective 2 Results Open Recommendations

According to program officials, they have developed a life cycle cost estimate and cost-benefit analysis that are currently being reviewed and are to be completed in March 2004. According to these officials, the cost-benefit analysis will be for Increment 2B.



Objective 2 Results Open Recommendations

Open Recommendation 9: Define US-VISIT program office positions, roles, and responsibilities.

Status: In progress

The US-VISIT program is working with the Office of Personnel Management (OPM) through an interagency agreement to, among other things, assist the program office in defining its position descriptions (including position roles and responsibilities), issuing vacancy announcements, and recruiting persons to fill the positions.

The US-VISIT program is also working with OPM to define the competencies that are to be used in defining the position descriptions. As of February 2004, the program office reported that it has partially completed defining the competencies for its 12 offices and has partially completed position descriptions for 4 of the 12 offices.

The following slide shows the competencies defined and position descriptions written.



Objective 2 Results
 Open Recommendations

Program Office Written Position Descriptions and Core Competencies Developed

Office	Written position descriptions	Core competencies developed
Director	●	●
Deputy Director	○	●
Legal and Regulatory	○	●
Chief Strategist	○	●
Mission Operations Management	○	●
Information Technology Management	●	●
Implementation Management	●	●
Facilities Management	○	●
Budget and Financial Management	●	●
Outreach Management	○	●
Acquisition/Program Management	○	●
Administration and Management	○	●

- No
- Partial

Source: GAO.

Note: GAO analysis based on DHS data.



Objective 2 Results Open Recommendations

Open Recommendation 10: Develop and implement a human capital strategy for the US-VISIT program office that provides for staffing positions with individuals who have the appropriate knowledge, skills, and abilities.

Status: Planned

The US-VISIT program office has not yet defined a human capital strategy, although program officials stated that they plan to develop one in concert with the department's ongoing workforce planning. As part of its effort, DHS is drafting a departmental workforce plan that, according to agency officials, will likely be completed during fiscal year 2004.

According to the Program Director, the Director of Administration and Management is responsible for developing the program's strategic human capital plan. However, descriptions of the Administration and Management office functions, including those provided by the program office and those in the expenditure plan, do not include strategic human capital planning.



Objective 2 Results Open Recommendations

Open Recommendation 11: Develop a risk management plan and report all high risks and their status to the executive body on a regular basis.

Status: Partially complete

The program office has developed a draft risk management plan, dated June 2003. The draft defines plans to develop, implement, and institutionalize a risk management program. The program's primary function is to identify and mitigate US-VISIT risks.

The expenditure plan states that the program office is currently defining risk management processes. In the interim, the program office is creating a risk management team to assist the program office in proactively identifying and managing risks while formal processes and procedures are being developed.



Objective 2 Results Open Recommendations

The expenditure plan also states that the US-VISIT program office currently maintains a risk and issue tracking database and conducts weekly risk and schedule meetings. Within the risk database, each risk is assigned a risk impact rating and an owner. The database also gives the date when the risk is considered closed. In addition, the US-VISIT program office has staff dedicated to tracking these items and meeting weekly with the various integrated project teams to mitigate potential risks.



Objective 2 Results Open Recommendations

Open Recommendation 12: Define performance standards for each US-VISIT increment that are measurable and reflect the limitations imposed by relying on existing systems.

Status: In progress

US-VISIT has defined limited, measurable performance standards. For example:

- System availability¹—the system shall be available 99.5 percent of the time.
- Data currency—(1) US-VISIT Increment 1 Doc Key² data shall be made available to any interfacing US-VISIT system within 24 hours of the event (enrollment, biometric encounter, departure, inspector modified data); (2) IBIS/APIS arrival manifests, departure manifests, and inspector-modified data shall be made available to ADIS within 24 hours of each stated event; and (3) IDENT shall reconcile a biometric encounter within 24 hours of the event.

¹ System availability is defined as the time the system is operating satisfactorily, expressed as a percentage of time that the system is required to be operational.

² DocKey includes such information as biographical data and the fingerprint identification number, and is used to track a foreign national's identity as the information is shared between systems.



Objective 2 Results Open Recommendations

However, not all performance standards are being defined in a way that reflects the performance limitations of existing systems.

In particular, US-VISIT documentation states that the system performance standard for Increment 1 is 99.5 percent. However, Increment 1 availability is the product of its component system availabilities. Given that US-VISIT system documentation also states that the system availability performance standard for IDENT and ADIS is 99.5 percent, Increment 1 system availability would have to be something less than 99.5 percent (99.5 x 99.5 x other component systems' availability).



Objective 3 Results
Observations: Increment 1

Observation 1: Increment 1 commitments were largely met; the system is deployed and operating.

According to DHS, Increment 1 was to deliver an initial operating capability to all air and sea POEs by December 31, 2003, that included

- recording the arrival and departure of foreign nationals using passenger and crew manifest data,
- verifying foreign nationals' identity upon entry into the United States through the use of biometrics and checks against watchlists at air POEs and 13 of 42 sea POEs,
- interfacing with seven existing systems that contain data about foreign nationals,
- identifying foreign nationals who have overstayed their visits or changed their visitor status, and
- potentially including an exit capability beyond the capture of the manifest data.



Objective 3 Results Observations: Increment 1

Generally, an initial operating capability was delivered to air and sea POEs on January 5, 2004. In particular, Increment 1 *entry* capability (including biographic and biometric data collection) was deployed to 115 airports and 14 seaports on January 5, 2004. Further, while the expenditure plan states that an Increment 1 *exit* capability was deployed to 80 air and 14 sea POEs on January 5, 2004, *exit* capability (including biometric capture) was deployed to only one air POE (Baltimore/Washington International Airport) and one sea POE (Miami Royal Caribbean seaport).

DHS's specific satisfaction of each commitment is described on the following slides.

¹INS Data Management Improvement Act of 2000, Pub. L. 106-215 (June 15, 2000).



Objective 3 Results Observations: Increment 1

Recording the arrival and departure of foreign nationals using passenger and crew manifest data:

- *Satisfied:* Carriers submit electronic arrival and departure manifest data to IBIS/APIS.

Verifying foreign nationals' identity upon entry into the United States through the use of biometrics and checks against watchlists at air POEs and 13 sea POEs:

- *Satisfied:* After carriers submit electronic manifest data to IBIS/APIS, IBIS/APIS is queried to determine whether there is any biographic lookout or visa information for the foreign national. Once the foreign national arrives at a primary POE inspection booth, the inspector, using a document reader, scans the machine-readable travel documents. IBIS/APIS returns any existing records on the foreign national, including manifest data matches and biographic lookout hits. When a match is found in the manifest data, the foreign national's name is highlighted and outlined on the manifest data portion of the screen.



Objective 3 Results Observations: Increment 1

(Verifying foreign nationals' identity, cont'd)

- Biographic information, such as name and date of birth, is displayed on the bottom half of the screen, as well as the picture from the scanned visa. IBIS also returns information about whether there are, within IDENT, existing fingerprints for the foreign national.
- The inspector switches to the IDENT screen and scans the foreign national's fingerprints (left and right index fingers) and photograph. The system accepts the best fingerprints available within the 5-second scanning period. This information is forwarded to the IDENT database, where it is checked against stored fingerprints in the IDENT lookout database. If no prints are currently in the IDENT database, the foreign national is enrolled in US-VISIT (i.e., biographic and biometric data are entered). If the foreign national's fingerprints are already in IDENT, the system performs a 1:1 match (a comparison of the fingerprint taken during the primary inspection to the one on file) to confirm that the person submitting the fingerprints is the person on file. If the system finds a mismatch of fingerprints or a watchlist hit, the foreign national is sent to secondary inspection for further screening or processing.



Objective 3 Results
Observations: Increment 1

Interfacing seven existing systems that contain data about foreign nationals:

- *Largely satisfied:* As of January 5, 2004, US-VISIT interfaced six of seven existing systems. The CLAIMS 3 to ADIS interface was not operational on January 5, 2004, but program officials told us that it was subsequently placed into production on February 11, 2004.

Identifying foreign nationals who have overstayed their visits or changed their visitor status:

- *Largely satisfied:* ADIS matches *entry* and *exit* manifest data provided by air and sea carriers. The *exit* process includes the carriers' submission of electronic manifest data to IBIS/APIS. This biographic information is passed to ADIS, where it is matched against entry information.



Objective 3 Results
Observations: Increment 1

(Verifying foreign nationals who overstay or change status, cont'd)

- US-VISIT was to rely on interfaces with CLAIMS 3 and SEVIS to obtain information regarding changes in visitor status. However, as of January 5, 2004, the CLAIMS 3 interface was not operational; it was subsequently placed into production on February 11, 2004. Further, although the SEVIS to ADIS interface was implemented on January 5, 2004, after January 5, problems surfaced, and manual workarounds had to be implemented. According to the program officials, the problems are still being addressed.



Objective 3 Results Observations: Increment 1

Potentially include an *exit* capability beyond the capture of the manifest data:

- *Not satisfied:* Biometric *exit* capability was not deployed to the 80 air¹ and 14 sea POEs that received Increment 1 capability. Instead, biometric *exit* capability was provided to two POEs for pilot testing. Under this testing, foreign nationals use a self-serve kiosk where they are prompted to scan their travel documentation and provide their fingerprints (right and left index fingers). On a daily basis, the information collected on departed passengers is downloaded to a CD-ROM.² The CD is then express mailed to a DHS contractor facility to be uploaded into IDENT, where a 1:1 match is performed (i.e., the fingerprint captured during entry is compared with the one captured at *exit*).
- According to program officials, biometric capture for exit was deployed at two POEs on January 5, 2004, as a pilot. According to these officials, this *exit* capability was deployed to only two POEs because US-VISIT decided to evaluate other *exit* alternatives.

¹ Only 80 of the 115 air POEs are departure airports for international flights.

² A CD-ROM is a digital storage device that is capable of being read, but not overwritten.



Objective 3 Results Observations: Testing

Observation 2: The system acceptance test (SAT) plan was developed largely during and after test execution.

The purpose of SAT is to identify and correct system defects (i.e., unmet system functional, performance, and interface requirements) and thereby obtain reasonable assurance that the system performs as specified before it is deployed and operationally used. To be effective, testing activities should be planned and implemented in a structured and disciplined fashion. Among other things, this includes developing effective test plans to guide the testing activities. According to relevant systems development guidance,¹ SAT plans are to be developed before test execution.

However, this was not the case for Increment 1. Specifically, the US-VISIT program provided us with four versions of a test plan, each containing more information than the previous version. While the initial version was dated September 18, 2003, which is before testing began, the three subsequent versions (all dated November 17, 2003) were modified on November 25, 2003, December 18, 2003, and January 16, 2004, respectively.

¹ According to US-VISIT officials, in the absence of a DHS Systems Development Life Cycle (SDLC), they followed the former Immigration and Naturalization Service's SDLC, version 6.0, to manage US-VISIT development.



Objective 3 Results Observations: Testing

According to the program office, the version modified on January 16, 2004, is the final plan. According to the SAT Test Analysis Report (dated January 23, 2004), testing began on September 29, 2003, and was completed on January 7, 2004, meaning that the plans governing the execution of testing were not sufficiently developed before test execution.¹

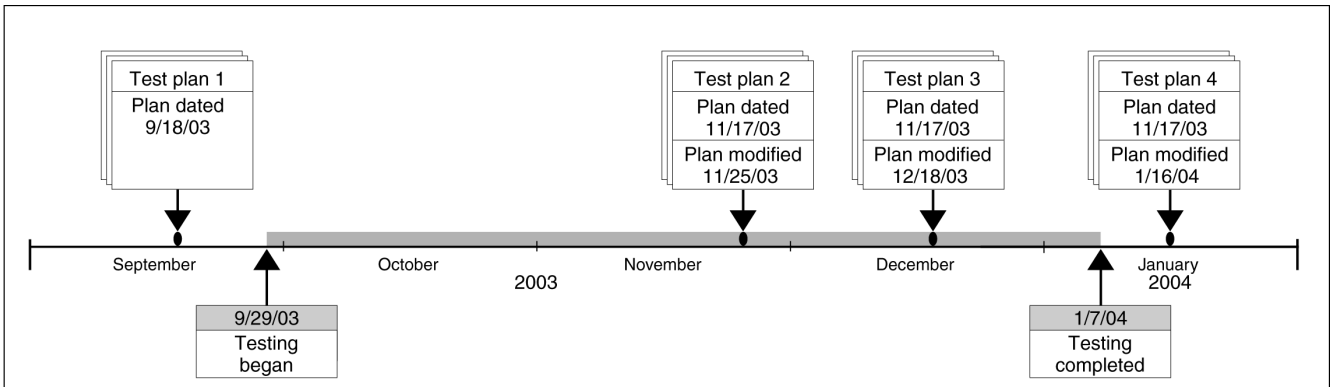
The following timeline compares test plan development and execution.

¹According to an IT management program official, although the Test Analysis Report was marked "Final," it is still being reviewed.



Objective 3 Results
Observations: Testing

Timeline Comparing Test Plan Development and Test Execution



Source: GAO.

Note: GAO analysis based on DHS data.



Objective 3 Results Observations: Testing

According to US-VISIT officials, SAT test plans were not completed before testing began because of the compressed schedule for testing. According to these officials, a draft test plan was developed and periodically updated to reflect documentation provided by the component contractors.

In the absence of a complete test plan before testing began, the US-VISIT program office unnecessarily increased the risk that the testing performed would not adequately address Increment 1 requirements, which increased the chances of either having to redo already executed tests or deploy a system that would not perform as intended. In fact, postdeployment problems surfaced with the SEVIS interface, and manual workarounds had to be implemented. According to the program officials, the problems are still being addressed.



Objective 3 Results Observations: Testing

Observation 3: SAT plan available during testing was not complete.

To be effective, testing activities should be planned and implemented in a structured and disciplined fashion. Among other things, this includes developing effective test plans to guide the testing activities. According to relevant systems development guidance, a complete test plan (1) specifies the test environment, including test equipment, software, material, and necessary training; (2) describes each test to be performed, including test controls, inputs, and expected outputs; (3) defines the test procedures to be followed in conducting the tests; and (4) provides traceability between test cases and the requirements to be verified by the testing.¹ This guidance also requires that the system owner concur with, and the IT project manager approve, the test plan before SAT testing.

¹ According to US-VISIT officials, in the absence of a DHS Systems Development Life Cycle (SDLC), they followed the former Immigration and Naturalization Service's SDLC, version 6.0, to manage US-VISIT development.



Objective 3 Results Observations: Testing

As previously noted, the US-VISIT program office provided us with four versions of the SAT test plan. The first three versions of the plan were not complete. The final plan largely satisfied the above criteria.

- The September 18, 2003, test plan included a description of the test environment and a brief description of tests to be performed, but the description of the tests did not include controls, inputs, and expected outputs. Further, the plan did not include specific test procedures for implementing the test cases and provide traceability between the test cases and the requirements that they were designed to test.
- Similarly, the November 25, 2003, test plan included a description of the test environment and a brief description of tests to be performed, but the description of the tests did not include controls, inputs, and expected outputs. Further, the plan did not include specific test procedures for implementing the test cases **or** provide traceability between the test cases and the requirements they were designed to test.



Objective 3 Results Observations: Testing

- The December 18, 2003, test plan included a description of the test environment and a brief description of 55 tests to be performed. The plan also described actual test procedures and controls, inputs, and expected outputs for 24 of the 55 test cases. The plan included traceability between the test cases and requirements.
- The January 16, 2004, test plan included a description of the test environment; the tests to be performed, including inputs, controls, and expected outputs; the actual test procedures for each test case; and traceability between the test cases and requirements.

None of the test plan versions, including the final version, indicated concurrence by the system owner or approval by the IT project manager.

The following graphic shows the SAT plans' satisfaction of relevant criteria.



Objective 3 Results
Observations: Testing

SAT Plans' Satisfaction of Relevant Criteria

		Test plan criteria				
		Test environment	Tests to be performed	Test procedures	Test case traceability to requirements	Test plan approved
Test plan version	9/18/03	●	◐	○	○	○
	11/25/03	●	◐	○	○	○
	12/18/03	●	◐	◐	◐	○
	1/16/04	●	●	●	●	○

- Not satisfied
- ◐ Partially satisfied
- Satisfied

Source: GAO.



Objective 3 Results Observations: Testing

According to US-VISIT officials, SAT test plans were not completed before testing began because the compressed schedule necessitated continuously updating the plan as documentation was provided by the component contractors. According to an IT management official, test cases were nevertheless available for ADIS and IDENT in these systems' regression test plans or in a test case repository.

Without a complete test plan for Increment 1, DHS did not have adequate assurance that the system was being fully tested, and it unnecessarily assumed the risk that errors detected would not be addressed before the system was deployed, and that the system would not perform as intended when deployed. In fact, postdeployment problems surfaced with the SEVIS interface, and manual workarounds had to be implemented. According to the program officials, the problems are still being addressed.



Objective 3 Results Observations: Testing

Observation 4: SAT was not completed before the system became operational.

The purpose of SAT is to identify and correct system defects (i.e., unmet system functional, performance, and interface requirements) and thereby obtain reasonable assurance that the system performs as specified before it is deployed and operationally used. SAT is accomplished in part by (1) executing a predefined set of test cases, each traceable to one or more system requirements, (2) determining if test case outcomes produce expected results, and (3) correcting identified problems. To the extent that test cases are not executed, the scope of system testing can be impaired, and thus the level of assurance that the system will perform satisfactorily is reduced.

Increment 1 began operating on January 5, 2004. However, according to the SAT Test Analysis Report, testing was completed 2 days after Increment 1 began operating (January 7, 2004). Moreover, the Test Analysis Report shows that important test cases were not executed. For example, none of the test cases designed to test the CLAIMS 3 and SEVIS interfaces were executed.



Objective 3 Results Observations: Testing

According to agency officials, the CLAIMS 3 to ADIS interface was not ready for acceptance testing before January 5, 2004. Accordingly, deployment of this capability and the associated testing were deferred; they were completed on February 11, 2004.

Similarly, the SEVIS to ADIS interface was not ready for testing before January 5, 2004. However, this interface was implemented on January 5, 2004, without acceptance testing. According to program officials, the program owner and technical project managers were aware of the risks associated with this approach.

By not fully testing Increment 1 before the system became operational, the program office assumed the risk of introducing errors into the deployed system and potentially jeopardizing its ability to effectively perform its core functions. In fact, postdeployment problems surfaced with the SEVIS interface as a result of this approach, and manual workarounds had to be implemented. According to the program officials, the problems are still being addressed.



Objective 3 Results Observations: IV&V

Observation 5: Independent verification and validation (IV&V) contractor's roles may be conflicting.

As we have previously reported,¹ the purpose of independent verification and validation (IV&V) is to provide an independent review of system processes and products. The use of IV&V is a recognized best practice for large and complex system development and acquisition projects like US-VISIT. To be effective, the IV&V function must be performed by an entity that is independent of the processes and products that are being reviewed.

The US-VISIT program plans to use its IV&V contractor to review some of the processes and products that the contractor may be responsible for. For example, the contractor statement of work, dated July 18, 2003, states that it shall provide program and project management support, including providing guidance and direction and creating some of the strategic program and project level products. At the same time, the statement of work states that the contractor will assess contractor and agency performance and technical documents.

¹ U.S. General Accounting Office, *Customs Service Modernization: Results of Review of First Automated Commercial Environment Expenditure Plan*, GAO-01-696 (Washington, D.C.: June 5, 2001).



Objective 3 Results
Observations: IV&V

Depending on the products and processes in question, this approach potentially does not satisfy the independence requirements of effective IV&V, because the reviews conducted could lack independence from program cost and schedule pressures. Without effective IV&V, DHS is unnecessarily exposing itself to the risk that US-VISIT increments will not perform as intended or be delivered on time and within budget.



Objective 3 Results Observations: Configuration Management

Observation 6: Program-level change control board has not been established.

The purpose of configuration management is to establish and maintain the integrity of work products (e.g., hardware, software, and documentation). According to relevant guidance,¹ system configuration management includes four management tasks: (1) identification of hardware and software parts (items/components/subcomponents) to be formally managed, (2) control of changes to the parts, (3) periodic reporting on configuration status, and (4) periodic auditing of configuration status. A key ingredient to effectively controlling configuration change is the functioning of a change control board (CCB); using such a board is a structured and disciplined approach for evaluating and approving proposed configuration changes.

¹ SEI's *Capability Maturity Model® Integration (CMMISM) for Systems Engineering, Software Engineering, Integrated Product and Process Development, and Supplier Sourcing*, Version 1.1 (Pittsburgh: March 2002).



Objective 3 Results Observations: Configuration Management

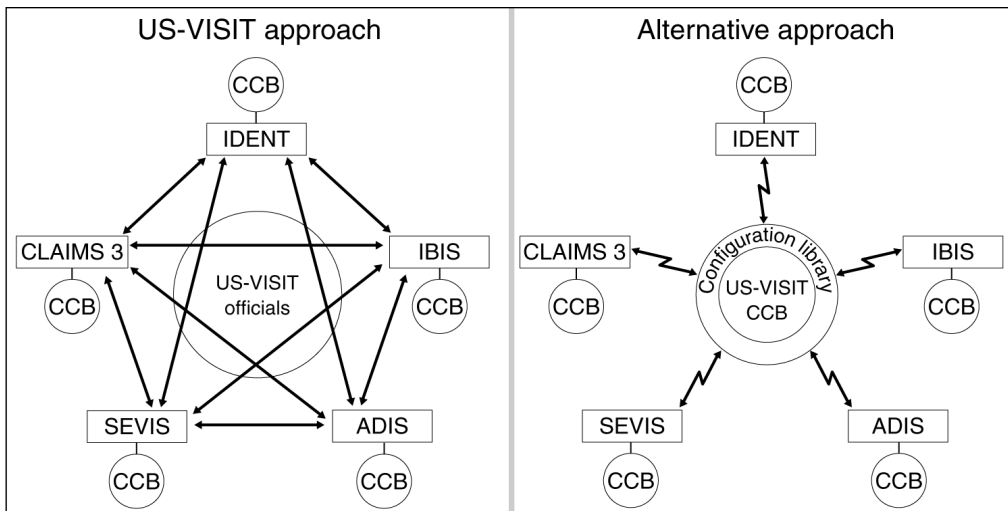
According to the US-VISIT CIO, the program does not yet have a change control board. In the absence of one, program officials told us that changes related to Increment 1 were controlled primarily through daily coordination meetings (i.e., oral discussions) among representatives from Increment 1 component systems (e.g., IDENT, ADIS, and IBIS) teams and program officials, and the CCBs already in place for the component systems.

The following graphic depicts the US-VISIT program's interim change control board approach compared to a structured and disciplined program-level change control approach. In particular, the interim approach requires individuals from each system component to interface with as many as six other stakeholders on system changes. Moreover, these interactions are via human-to-human communication. In contrast, the alternative approach reduces the number of interfaces to one for each component system and relies on electronic interactions with a single control point and an authoritative configuration data store.



Objective 3 Results
Observations: Configuration Management

Simplified Diagram Comparing US-VISIT and Alternative Approach



Human communication link
 Electronic communication link

Source: GAO.



Objective 3 Results
Observations: Configuration Management

Without a structured and disciplined approach to change control, the US-VISIT program does not have adequate assurance that approved system changes are actually made; that approved changes are based, in part, on US-VISIT impact and value rather than solely on system component needs; and most importantly, that changes made to the component systems for non-US-VISIT purposes do not interfere with US-VISIT functionality.



Objective 3 Results
Observations: Management Reserve

Observation 7: Expenditure plan does not disclose management reserve funding.

The creation and use of a management reserve fund to earmark resources for addressing the many uncertainties that are inherent in large-scale systems acquisition programs is an established practice and a prudent management approach. The appropriations committees have historically supported an explicitly designated management reserve fund in expenditure plans submitted for such programs as the Internal Revenue Service's Business Systems Modernization and DHS's Automated Commercial Environment. Such explicit designation provides the agency with a flexible resource source for addressing unexpected contingencies that can inevitably arise in any area of proposed spending on the program, and it provides the Congress with sufficient understanding about management reserve funding needs and plans to exercise oversight over the amount of funding and its use.



Objective 3 Results Observations: Management Reserve

The fiscal year 2004 US-VISIT expenditure plan does not contain an explicitly designated management reserve fund. According to US-VISIT officials, including the program director, reserve funding is instead embedded within the expenditure plan's various areas of proposed spending. However, the plan does not specifically disclose these embedded reserve amounts. We requested but have yet to receive information on the location and amounts of reserve funding embedded in the plan.¹

By not creating, earmarking, and disclosing a specific management reserve fund in its fiscal year 2004 US-VISIT expenditure plan, DHS is limiting its flexibility in addressing unexpected problems that could arise in the program's various areas of proposed spending, and it is limiting the ability of the Congress to exercise effective oversight of this funding.

¹ In agency comments on a draft of this report, US-VISIT stated that it supported establishing a management reserve and would be revising its fiscal year 2004 expenditure plan to identify a discrete management reserve amount.



Objective 3 Results
Observations: Workforce and Facilities

Observation 8: Land POE workforce and facility needs are uncertain.

Effectively planning for program resource needs, such as staffing levels and facility additions or improvements, depends on a number of factors, including the assumptions being made about the scope of the program and the sufficiency of existing staffing levels and facilities. Without reliable assumptions, the resulting projections of resource needs are at best uncertain.

For *entry* at land POEs, DHS plans for Increment 2B do not call for additional staff or facilities. The plans do not call for acquiring and deploying any additional staff to collect biometrics while processing foreign nationals through secondary inspection areas. Similarly, these plans provide for using existing facilities, augmented only by such infrastructure improvements as conduits, electrical supply, and signage. For *exit* at land POEs, DHS's plans for Increment 2B also do not call for additional staff or facilities, although they do provide for installation of RF technology at yet-to-be-defined locations in the facility area to record exit information.



Objective 3 Results Observations: Workforce and Facilities

US-VISIT Increment 2B workforce and facility plans are based on various assumptions, including (1) no additional foreign nationals will need to go to secondary inspection and (2) the average time needed to capture the biometric information will be 15 seconds, based on the Increment 1 experience at air POEs. However, these assumptions raise questions for several reasons.

- According to DHS program officials, including the Acting Increment 2B Program Manager, the Director of Facilities and Engineering, and the Program Director, any policy changes that could significantly increase the number of foreign nationals who would require processing through US-VISIT could impact these assumptions and thus staffing and facilities needs.
- According to the Increment 1 pilot test results, the average time needed to capture biometric information is 19 seconds. Moreover, DHS facilities told us that they have yet to model the impact of even the additional 15 seconds for secondary inspections.



Objective 3 Results Observations: Workforce and Facilities

Moreover, according to a report from the Data Management Improvement Act Task Force,¹ existing land POE facilities do not adequately support even the current entry and exit processes. In particular, more than 100 land POEs have less than 50 percent of the required capacity (workforce and facilities) to support current inspection processes and traffic workloads.

To assist in its planning, the US-VISIT program office has begun facility feasibility assessments and space utilization studies at each land POE. Until such analysis is completed, the assumptions being used to support Increment 2B workforce and facility planning will be questionable, and the projected workforce and facility resource needs will be uncertain.

¹ Data Management Improvement Act Task Force, *Second Annual Report to the Congress* (Washington, D.C., December 2003).



Conclusions

The fiscal year 2004 US-VISIT expenditure plan (with related program office documentation and representations) either partially satisfies or satisfies the legislative conditions imposed by the Congress. Further, steps are planned, under way, or completed to address most of our open recommendations. However, overall progress on all our recommendations has been slow, and considerable work remains to fully address them. The majority of these recommendations are aimed at correcting fundamental limitations in the program office's ability to manage US-VISIT in a way that reasonably ensures the delivery of mission value commensurate with costs and provides for the delivery of promised capabilities on time and within budget. Given this background, it is important for DHS to implement the recommendations quickly and completely through active planning and continuous monitoring and reporting. Until this occurs, the program will continue to be at high risk of not meeting expectations.

To the US-VISIT program office's credit, the first phase of the program has been deployed and is operating, and the commitments that DHS made regarding this initial operating capability were largely met. However, this was not accomplished in a manner that warrants repeating.



Conclusions

In particular, the program office did not employ the kind of rigorous and disciplined management controls that are typically associated with successful programs, such as effective test management and configuration management practices. Moreover, the second phase of US-VISIT is already under way, and these controls are still not established. These controls, while significant for the initial phases of US-VISIT, are even more critical for the later phases, because the size and complexity of the program will only increase, and the later problems are found, the harder and more costly they are to fix.

Also important at this juncture in the program's life are the still open questions surrounding whether the initial phases of US-VISIT will return value to the nation in line with their costs. Such questions warrant answers sooner rather than later, because of the program's size, complexity, cost, and mission significance.

It is imperative that DHS move swiftly to address the US-VISIT program management weaknesses that we previously identified by implementing our remaining open recommendations. It is equally paramount that the department quickly correct the additional weaknesses that we have identified. To do less increases the risk associated with US-VISIT.



Recommendations for Executive Action

To better ensure that the US-VISIT program is worthy of investment and is managed effectively, we are reiterating our prior recommendations, and we further recommend that the Secretary of DHS direct the Under Secretary for Border and Transportation Security to ensure that the US-VISIT program director takes the following actions:

- Develop and approve complete test plans before testing begins. These plans, at a minimum, should (1) specify the test environment, including test equipment, software, material, and necessary training; (2) describe each test to be performed, including test controls, inputs, and expected outputs; (3) define the test procedures to be followed in conducting the tests; and (4) provide traceability between test cases and the requirements to be verified by the testing.
- Establish processes for ensuring the independence of the IV&V contractor.
- Implement effective configuration management practices, including establishing a US-VISIT change control board to manage and oversee system changes.



Recommendations for Executive Action

- Identify and disclose management reserve funding embedded in the fiscal year 2004 expenditure plan to the Appropriations Committees.
- Ensure that all future US-VISIT expenditure plans identify and disclose management reserve funding.
- Assess the full impact of Increment 2B on land POE workforce levels and facilities, including performing appropriate modeling exercises.

To ensure that our recommendations addressing fundamental program management weaknesses are addressed quickly and completely, we further recommend that the Secretary direct the Under Secretary to have the program director develop a plan, including explicit tasks and milestones, for implementing all our open recommendations, including those provided in this report. We further recommend that this plan provide for periodic reporting to the Secretary and Under Secretary on progress in implementing this plan. Last, we recommend that the Secretary report this progress, including reasons for delays, in all future US-VISIT expenditure plans.



Agency Comments

We provided this briefing to and discussed its contents with the US-VISIT program officials, including the Program Director. These officials stated that they generally agreed with our findings, conclusions, and recommendations, and stated that the briefing was fair and balanced. The department also provided some technical comments, which we have incorporated into the briefing, as appropriate.



Attachment 1
Scope and Methodology

To accomplish our objectives, we

- analyzed the expenditure plan against legislative conditions and other relevant federal requirements, guidance, and best practices to determine the extent to which the conditions were met;
- analyzed key acquisition management controls documentation and interviewed program officials to determine the status of our open recommendations;
- analyzed supporting documentation and interviewed program officials to determine capabilities in key program management areas, such as acquisition planning, enterprise architecture, and project management;
- analyzed Increment 1 systems and software testing documentation and compared them to relevant guidance to determine completeness;
- observed the Increment 1 pilot test in Atlanta;
- attended program working group meetings; and



Attachment 1
Scope and Methodology

- assessed DHS's plans and ongoing and completed actions to establish and implement the US-VISIT program (including acquiring the US-VISIT system, expanding and modifying existing port of entry facilities, and developing and implementing policies and procedures) and compared them to existing guidance to assess risks.

For DHS-provided data that we did not substantiate, we have made appropriate attribution indicating the data's source.

We conducted our work at DHS's headquarters in Washington, D.C., and at its Atlanta Field Operations Office (Atlanta's William B. Hartsfield International Airport) from October 2003 through February 2004 in accordance with generally accepted government auditing standards.

Comments from the Department of Homeland Security

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

U.S. Department of Homeland Security
Washington, DC 20528



**Homeland
Security**

27 April 2004

Randolph C. Hite
Director, Information Technology Architecture
And Systems Issues
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Hite:

Thank you for the opportunity to review the draft report, *Homeland Security: First Phase of Visitor and Immigration Status Program Operating, but Improvements Needed* (GAO-04-586). The Department of Homeland Security largely agrees with GAO on the majority of the findings. However, there are some findings with which we cannot agree, and we have provided appropriate comments in the enclosure. You will also note that we have concurred with, and addressed, the new recommendations generated by this review.

As you know, US-VISIT represents the greatest advancement in border technology in three decades. The Department of Homeland Security established US-VISIT to achieve the following goals:

- Enhance the safety of our citizens and visitors;
- Facilitate legitimate travel and trade;
- Ensure the integrity of our immigration system; and
- Protect the privacy of travelers to the United States.

The first increment of US-VISIT was deployed on time and within budget, and has exceeded the mandate established by Congress as it includes biometrics ahead of schedule. On January 5, 2004, US-VISIT entry procedures were operational at 115 airports and 14 seaports and by the end of this year US-VISIT will be in operation at our 50 busiest land ports of entry. In addition, we began pilot testing biometric exit procedures at one airport and one seaport and will be expanding to additional pilot locations later this summer.

As of April 20, 2004, more than three million foreign visitors have been processed through the US-VISIT entry procedures – without any increase in wait times. On average, US-VISIT procedures take less than 15 seconds during the inspection process.

US-VISIT has already matched over 300 persons against criminal databases and prevented more than 100 known or suspected criminals from entering the country. Over 200 were matched while applying for a visa at a State Department post overseas.

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Appendix II
Comments from the Department of Homeland
Security


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Through the US-VISIT biometric process, the Departments of Homeland Security and State have identified many individuals who are the subjects of lookout records. These included rapists, drug traffickers, convicted criminals, and those who have committed immigration offenses or visa fraud.

US-VISIT is critical to our national security as well as our economic security, and its implementation is already making a significant contribution to the efforts of the Department to provide a safer and more secure America. We recognize that we have a long way still to go. We will build upon the initial framework and solid foundation to ensure that we continue to meet our goals of enhancing the security of our citizens and visitors while facilitating travel for the millions of visitors we welcome each year.

For all the successes of US-VISIT, the Department realizes, and your report supports the fact, that we need to improve the management of the program. We have already established a great deal of the foundation for meeting future challenges and will continue to improve the necessary disciplines for excellent program management. We realize that much needs to be done, and we appreciate the guidance that reports such as this provide.

Sincerely,


James A. Williams

Enclosure

**Enclosure: Proposed Changes, Clarifications, and Responses to Recommendations
for Draft Report GAO-04-586**

Letter to Sen. Cochran and Rep. Rogers:

Page 3, Status of Open Recommendations:

1. Develop a system security plan and privacy impact assessment.

The US-VISIT program does have an existing security plan. In addition, as GAO notes in the explanation of this action item, US-VISIT did complete a Privacy Impact Assessment for Increment 1. As US-VISIT proceeds with future increments, these documents will be updated to reflect changes in the program.

Pages 3 – 6, Status of Open Recommendations 2 through 12:

With respect to recommendations 2 through 12, we recognize GAO' acknowledges that US-VISIT has implemented, partially implemented, or plans to implement them. While we could offer minor clarifications to the status of these issues, we agree in general with the recommendations and therefore provide no further comment.

Page 6, Observations on the Expenditure Plan

A management reserve fund has been identified in the amount of \$33 million in fiscal year 2004. However, this was not specifically detailed in the FY 2004 Expenditure Plan. While we concur with the concept for such a reserve, our concern lies with any potential restrictions and/or new approval processes that may accompany such a set-aside.

Page 10 - Recommendations for Executive Action:

1. Develop and approve complete test plans before testing begins. These plans, at a minimum, should (1) specify the test environment, including test equipment, software, material, and necessary training; (2) describe each test to be performed, including test controls, inputs, and expected outputs; (3) define the test procedures to be followed in conducting the tests; and (4) provide traceability between test cases and the requirements to be verified by the testing.

We concur. Complete test plans will be developed and approved before future testing begins. Corrective action completed.

2. Establish processes for ensuring the independence of the IV & V contractor.

We concur. US-VISIT is aggressively researching IV&V resources that will be utilized to independently evaluate any future development work to be performed by the US-VISIT prime integrator and future increments. Corrective action completed.

See comment 1.

See comment 2.

Appendix II
Comments from the Department of Homeland
Security

2

3. Implement effective configuration management practices, including establishing a US-VISIT change control board to manage and oversee system changes.

We concur. Effective configuration management practices for US-VISIT will be implemented. Corrective action in progress.

4. Identify and disclose management reserve funding embedded in the fiscal year 2004 expenditure plan to the Appropriations Committees.

We concur. The FY 2004 Expenditure Plan has been revised to identify a \$33 million management reserve, separate from incremental spending. Corrective action completed.

5. Ensure that all future US-VISIT expenditure plans identify and disclose management reserve funding.

We concur. All future expenditure plans will identify and disclose management reserve funding. Corrective action completed.

6. Assess the full impact of a key future US-VISIT increment [2B] on land port of entry workforce levels and facilities, including performing appropriate modeling exercises.

We concur. A full reassessment of the impact of Increment 2B will be performed with the new prime contractor, pending award of the contract in May 2004. Corrective action in progress.

Slides:

Slide 58

The listing of membership for the US-VISIT Advisory Board needs correction. The "Associate Director of Operations, Customs and Immigration Services" needs to be changed to "...Citizenship and Immigration Services." In addition, the "Assistant Commissioner, Office of Field Operations, Customs and Border Protection" needs to be added.

Slide 70, Observation 2: The system test (SAT) plan was developed largely during and after testing (and Recommendations, Slide 103).

US-VISIT does not fully concur with the observation that the systems test plan was developed largely during and after testing. A comprehensive test strategy outlining the work pattern to be following for independent end-to-end testing was developed in a structured and disciplined fashion and was approved by the US-VISIT Chief Information Officer in May 2003. This document outlined the environment and interfaces to be tested, as well as assumptions and constraints. Coordination between the US-VISIT IV&V contractor and the component development teams (CPB/ICE/TSA/CIS) took place from July through September 2003 to ensure that Use Cases were documented from the US-VISIT Functional Requirements Document and that technical requirements regarding the environment were resolved prior to the commencement

See comment 3.

See comment 4.

See comment 5.

of testing in September 2003. These Use Cases were the basis for the development of the Draft Test Plan that was delivered on September 19, 2003. Furthermore, since US-VISIT Increment 1 leveraged established systems, test cases were available in previous test plans and were established in the test cases repository of Test Director (the software toolset/application utilized by the independent testers). Additional versions of the Test Plan were developed throughout the Systems Assurance Testing period due to corrections or inclusion of clarifying data provided by the component development teams. Throughout this iterative process the overarching Use Cases were never modified. US-VISIT does agree with GAO's observation that the compressed timeline did not allow ample time for all US-VISIT stakeholders to review the draft Test Plan, although daily status reports were provided as a basis for validating that all Use Cases were fully tested, as documented in the Test Analysis Report.

Slide 90-91

The US-VISIT program office was established in July 2003 and acquired two contractors, PEC (Program Office Support) and the MITRE Corporation (FRDC), to initially help with the implementation of the program office (PO), acquisition of a prime contractor, and establishment of SA-CMM compliant processes and procedures to guide and manage the US-VISIT program acquisition.

During the initiation phase, PEC is responsible for helping the PO with the establishment of plans, processes, and procedures for program planning and program/project management and control. Once these processes are established, PEC will assist in executing these processes, under PO direction. MITRE is responsible for assisting with strategic planning for the program and PO. MITRE is also responsible for assisting the PO in the acquisition and source selection of the prime contractor, and for working with PEC to ensure that the program planning, management, and control processes being developed are SA-CMM compliant and that an effective process improvement program is being put in place.

As the program moves to the execution phase, PEC will continue to provide program management planning and process execution support. MITRE will focus on providing oversight of the prime contractor and PO support contractor to ensure that:

- SA-CMM compliant processes are being followed
- The plans, designs, and products being developed by the prime contractor address the program requirements, conform to the DHS enterprise architecture, and are cost-effective for the government
- The program risks are being identified and managed
- The performance of the program (US-VISIT mission goals and program management controls) is being measured and validated

Slide 90, Observation 5: Independent verification and validation (IV&V) contractor's roles may be conflicting.

The US-VISIT program office endorses the concept of Independent Validation and Verification (IV&V) as a mechanism to provide an independent review of system processes and work products. Furthermore, US-VISIT recognizes the need for the IV&V to be independent of the

See comment 6.

See comment 7.

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processes and products that are being developed. US-VISIT utilized an existing IV&V vehicle for Increment 1 that was available through the Bureau of Immigration and Customs Enforcement (ICE) and identified by DHS as a center of excellence. Unit testing was performed by component system owners and their respective application development contractors under distinctly separate task orders, while end-to-end, security, and performance testing was completed by SAIC. The technology IV&V work completed under this contract vehicle was provided by SAIC under Task Order 02-SM/I-IRM-417, dated September 25, 2003. GAO incorrectly cited the July 18, 2003, statement of work for other general program and project management support. The scope of the September 25, 2003, task order specifically addressed the provision for technical governance, systems assurance standards and direction, as well as independent end-to-end testing.

See comment 8.

Slide 92, Observation 6: Program-level change control board has not been established (and Recommendations, Slide 103).

The US-VISIT program office endorses a structured and disciplined approach to change control and is actively building a process to establish and maintain the integrity of work products with its stakeholders. While the principles of software configuration management were followed based on the ICE Enterprise Systems Assurance Plan (i.e., the establishment of a Functional Baseline [FB] and Allocated Baseline [AB], versioned naming conventions for software, and recording all documentation to an Enterprise Library) a formal Change Control Board was not established prior to the implementation of Increment 1. It is the intention of the US-VISIT Program Office to institute a CM process that will define policy for any modifications or System Change Requests for any future releases of software.

The following are GAO's comments on the Department of Homeland Security's letter dated April 27, 2004.

GAO Comments

1. We do not agree that the US-VISIT program has a security plan. In response to our request for the US-VISIT security plan, DHS provided a draft document entitled *Security and Privacy: Requirements & Guidelines Version 1.0*. However, as we state in the report, this document does not include information consistent with relevant guidance for a security plan.¹ For example, this guidance states that a system security plan should (1) provide an overview of the system security requirements, (2) include a description of the controls in place or planned for meeting the requirements, (3) delineate roles and responsibilities of all individuals who have access to the system, (4) describe the risk assessment methodology to be used, and (5) address security awareness and training. The document provided by DHS addressed two of these requirements—security requirements and training and awareness. As we state in the report, the document does not (1) describe specific controls to satisfy the security requirements, (2) describe the risk assessment methodology, and (3) identify roles and responsibilities of individuals with system access. Further, much of the document discusses guidelines for developing a security plan, rather than providing the specific content expected of a plan.
2. Although DHS has completed a Privacy Impact Assessment for Increment 1, the assessment is not consistent with the Office of Management and Budget guidance.² This guidance says that a Privacy Impact Assessment should, among other things, (1) identify appropriate measures for mitigating identified risks, (2) discuss the rationale for the final design or business process choice, (3) discuss alternatives to the designed information collection and handling, and (4) address whether privacy is provided for in system development and documentation. While the Privacy Impact Assessment for US-VISIT

¹Office of Management and Budget Circular Number A-130, Revised (Transmittal Memorandum No. 4), Appendix III, "Security of Federal Automated Information Resources" (Nov. 28, 2000) and National Institute of Standards and Technology, *Guide for Developing Security Plans for Information Systems*, NIST Special Publication 800-18 (December 1998).

²OMB Guidance for Implementing the Privacy Provisions of the E-Government Act of 2002, OMB M-03-22 (Sept. 26, 2003).

Increment 1 discusses mitigation strategies for identified risks and briefly discusses the rationale for design choices, it does not discuss alternatives to the designed information collection and handling. Further, Increment 1 system documentation does not address privacy.

3. DHS's comments did not include a copy of its revised fiscal year 2004 expenditure plan because, according to an agency official, OMB has not yet approved the revised plan for release, and thus we cannot substantiate its comments concerning either the amount or the disclosure of management reserve funding. Further, we are not aware of any unduly burdensome restrictions and/or approval processes for using such a reserve. We have modified our report to reflect DHS's statement that it supports establishing a management reserve and the status of revisions to its expenditure plan.
4. We have modified the report as appropriate to reflect these comments and subsequent oral comments concerning the membership of the US-VISIT Advisory Board.
5. We do not believe that DHS's comments provide any evidence to counter our observation that the system acceptance test plan was developed largely during and after testing. In general, these comments concern the Increment 1 test strategy, test contractor and component system development team coordination, Increment 1 use cases, and pre-existing component system test cases, none of which are related to our point about the completeness of the four versions of the test plan. More specifically, our observation does not address whether or not an Increment 1 test strategy was developed and approved, although we would note that the version of the strategy that the program office provided to us was incomplete, was undated, and did not indicate any level of approval. Further, our observation does not address whether some unspecified level of coordination occurred between the test contractor and the component system development teams; it does not concern the development, modification, and use of Increment 1 "overarching" use cases, although we acknowledge that such use cases are important in developing test cases; and it does not address the pre-existence of component system test cases and their residence in a test case repository, although we note that when we previously asked for additional information on this repository, none was provided.

Rather, our observation concerns whether a sufficiently defined US-VISIT Increment 1 system acceptance test plan was developed,

approved, and available in time to be used as the basis for conducting system acceptance testing. As we state in the report, to be sufficient such a plan should, among other things, define the full complement of test cases, including inputs and outputs, and the procedures for executing these test cases. Moreover, these test cases should be traceable to system requirements. However, as we state in our report, this content was added to the Increment 1 test plan during the course of testing, and only the version of the test plan modified January 16, 2004, contained all of this content. Moreover, DHS's comments recognize that these test plan versions were developed during the course of test execution and that the test schedule did not permit sufficient time for all stakeholders to review the versions.

6. We do not disagree with DHS's comments describing the roles and responsibilities of its program office support contractor and its Federally Funded Research and Development Center (FFRDC) contractor. However, DHS's description of the FFRDC contractor's roles and responsibilities do not cover all of the taskings envisioned for this contractor. Specifically, DHS's comments state that the FFRDC contractor is to execute such program and project management activities as strategic planning, contractor source selection, acquisition management, risk management, and performance management. These roles and responsibilities are consistent with the FFRDC contractor's statement of work that was provided by DHS. However, DHS's comments omit other roles and responsibilities specified in this statement of work. In particular, the comments do not cite that this contractor is also to conduct audits and evaluations in the form of independent verification and validation activities. It is this audit and evaluation role, particularly the independence element, which is the basis for our concern and observation. As we note above and state in the report, US-VISIT program plans and the contractor's statement of work provide for using the same contractor both to perform program and project management activities, including creation of related products, and to assess those activities and products. Under these circumstances, the contractor could not be sufficiently independent to effectively discharge the audit and evaluation tasks.
7. We do not agree with DHS's comment that we cited the wrong operative documentation pertaining to US-VISIT independent verification and validation plans. As discussed in our comment No. 6, the statement of work that we cite in the report relates to DHS plans to use the FFRDC contractor to both perform program and project management activities

and develop related products and to audit and evaluate those activities and products. The testing contractor and testing activities discussed in DHS comments are separate and distinct from our observation about DHS plans for using the FFRDC contractor. Accordingly, our report does not make any observation regarding the independence of the testing contractor.

8. We agree that US-VISIT lacks a change control board and support DHS's stated commitment to establish a structured and disciplined change control process that would include such a board.

GAO Contact and Staff Acknowledgments

GAO Contact

Deborah Davis, (202) 512-6261

**Staff
Acknowledgments**

In addition to the individual named above, Barbara Collier, Gary Delaney, Neil Doherty, Tamra Goldstein, David Hinchman, Thomas Keightley, John Mortin, Debra Picozzi, Karl Seifert, and Jessica Waselkow made key contributions to this report.

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