



Testimony before the Subcommittee on
Oversight and Management Efficiency,
Committee on Homeland Security,
House of Representatives

For Release on Delivery
Expected at 10:00 a.m. ET
Thursday, February 25, 2016

HOMELAND SECURITY

Weak Oversight of Human Resources Information Technology Investment Needs Considerable Improvement

Statement of Carol R. Cha, Director, Information
Technology Acquisition Management Issues



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HOMELESSNESS AND SECURITY

GAO
U.S. GOVERNMENT PRINTING OFFICE
2016

HEARINGS
ON THE
COMMITTEE ON HOMELAND SECURITY
HOUSE OF REPRESENTATIVES

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GAO Highlights

Highlights of GAO-16-407T, a testimony before the Subcommittee on Oversight and Management Efficiency, Committee on Homeland Security, House of Representatives

Why GAO Did This Study

DHS's human resources information technology environment includes fragmented systems, duplicative and paper-based processes, and little uniformity of data management practices, which according to DHS, are compromising the department's ability to effectively carry out its mission. DHS initiated HRIT in 2003 to consolidate, integrate, and modernize DHS's human resources information technology infrastructure. In 2011, DHS redefined HRIT's scope and implementation time frames.

This statement summarizes GAO's report that is being released at today's hearing (GAO-16-253) on, among other objectives, the progress DHS has made in implementing the HRIT investment and how effectively it managed the investment.

What GAO Recommends

In its report that is being released today, GAO made 14 recommendations to DHS to, among other things, address HRIT's poor progress and ineffective management. For example, GAO recommended that the HRIT executive steering committee be consistently involved in overseeing and advising the investment, and that DHS establish time frames for re-evaluating HRIT and develop a complete life-cycle cost estimate for the investment. DHS concurred with the 14 recommendations and provided estimated completion dates for implementing each of them.

View GAO-16-407T. For more information, contact Carol R. Cha at (202) 512-4456 or ChaC@gao.gov.

February 25, 2016

HOMELAND SECURITY

Weak Oversight of Human Resources Information Technology Investment Needs Considerable Improvement

What GAO Found

The Department of Homeland Security (DHS) has made very little progress in implementing its Human Resources Information Technology (HRIT) investment over the last several years. This investment includes 15 improvement areas; as of November 2015, DHS had fully implemented only 1.

Status and Planned Completion Dates for Implementing the 15 Strategic Improvement Areas, as of November 2015

Strategic improvement area	Status	Original planned completion ^a	Current expected completion date
1. Data management and sharing	●	September 2014	Unknown
2. Performance measures tracking and reporting	○	December 2012	Unknown
3. Personnel action processing	●	September 2013	Unknown
4. Human resources document management	●	September 2014	Unknown
5. End-to-end hiring	○	December 2016	Unknown
6. Performance management	●	December 2012	Unknown
7. Off-boarding process	○	December 2012	Unknown
8. Policy issuances and clarification	○	June 2015	Unknown
9. Payroll action processing	●	June 2014	Unknown
10. HRIT deployment process	○	September 2012	Unknown
11. Knowledge management	○	December 2014	Unknown
12. Training	○	June 2015	Unknown
13. Communication and collaboration among components	○	December 2012	Unknown
14. On-boarding process	○	December 2012	Unknown
15. HRIT intake process	●	December 2011	Implemented October 2011

Key: ●Fully implemented ○Partially implemented ○Not yet started

Source: GAO analysis of data provided by DHS officials. | GAO-16-407T

^aDates reflect the last month of the quarter in which the areas were planned to be complete.

HRIT's limited progress was due in part to the lack of involvement of its executive steering committee—the investment's core oversight and advisory body. Specifically, this committee was minimally involved with HRIT, such as meeting only once during a nearly 2-year period when major problems were occurring, including schedule delays and the lack of a life-cycle cost estimate. As a result, key governance activities, such as approval of HRIT's operational plan, were not completed. Officials acknowledge that HRIT should be re-evaluated. They have met to discuss it; however, specific actions and time frames have not yet been determined. Until DHS takes key actions to manage this neglected investment, it is unknown when its human capital management weaknesses will be addressed.

February 25, 2016

Chairman Perry, Ranking Member Watson Coleman, and Members of the Subcommittee:

I am pleased to be here today to discuss the Department of Homeland Security's (DHS) efforts to implement the Human Resources Information Technology (HRIT) investment. Since DHS was created in 2002 and merged 22 agencies into one department with eight components, its human resources environment has included fragmented systems, duplicative and paper-based processes, and little uniformity of data management practices. According to DHS, these limitations in its human resources environment are compromising the department's ability to effectively and efficiently carry out its mission.¹ To address these issues, DHS initiated HRIT in 2003 to consolidate, integrate, and modernize the department's information technology (IT) infrastructure that supports human resources.

The information in my testimony is based on our report being released at today's hearing on the results of our review of DHS's implementation of HRIT.² Specifically, my remarks today summarize key findings from that study, which (1) evaluated the progress DHS has made in implementing the HRIT investment and how effectively DHS managed the investment, (2) determined whether the Performance and Learning Management System (PALMS)—HRIT's only ongoing program—is being implemented enterprise-wide, and (3) evaluated the extent to which PALMS is implementing selected IT acquisition best practices.

For our report, we, among other things, compared HRIT's goals, scope, and implementation time frames to the investment's actual accomplishments. Additionally, we analyzed HRIT and PALMS documentation, such as program management briefings, the PALMS acquisition plan, and cost and schedule estimates, and compared them against relevant IT acquisition best practices identified by GAO, the Software Engineering Institute at Carnegie Mellon University, and the

¹DHS, *Human Capital Segment Architecture Blueprint, Version 1.0* (Aug. 9, 2011).

²GAO, *Homeland Security: Oversight of Neglected Human Resources Information Technology Investment Is Needed*, GAO-16-253 (Washington, D.C.: Feb. 11, 2016).

Project Management Institute, Inc.³ More details on the objectives, scope, and methodology are provided in the report. The work on which this statement is based was conducted in accordance with generally accepted government auditing standards.

Background

According to DHS, the limitations in its human resources environment, which includes fragmented systems and duplicative and paper-based processes, were compromising the department's ability to effectively and efficiently carry out its mission.⁴ For example, according to DHS, the department does not have information on all of its employees, which reduces its abilities to strategically manage its workforce and best deploy people in support of homeland security missions. Additionally, according to DHS, reporting and analyzing enterprise human capital data are currently time-consuming, labor-intensive, and challenging because the department's data management largely consists of disconnected, standalone systems, with multiple data sources for the same content.

To address these issues, in 2003, DHS initiated the HRIT investment, which is intended to consolidate, integrate, and modernize the department's and its components' human resources IT infrastructure. These components include U.S. Customs and Border Protection, the Federal Emergency Management Agency, the Federal Law Enforcement Training Center, U.S. Immigration and Customs Enforcement, the Transportation Security Administration, U.S. Citizenship and Immigration Services, the U.S. Coast Guard, and the U.S. Secret Service.

HRIT is managed by DHS's Human Capital Business Systems unit, which is within the Office of the Chief Human Capital Officer and has overall responsibility for HRIT. Additionally, the Office of the Chief Information Officer plays a key supporting role in the implementation of HRIT by

³GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009); GAO *Schedule Assessment Guide: Best Practices for Project Schedules*, GAO-16-89G (Washington, D.C.: Dec. 22, 2015); Software Engineering Institute, *Capability Maturity Model® Integration for Acquisition (CMMI-ACQ), Version 1.3* (Pittsburgh, Pa.: November 2010); and Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition*, (Newton Square, Pa.: 2013). "PMBOK" is a trademark of the Project Management Institute, Inc.

⁴DHS, *Human Capital Segment Architecture Blueprint, Version 1.0* (Aug. 9, 2011).

reviewing headquarters' and components' human resources investments, identifying redundancies and efficiencies, and delivering and maintaining enterprise IT systems.

From 2003 to 2010, DHS made limited progress on the HRIT investment, as reported by DHS's Inspector General.⁵ This was due to, among other things, limited coordination with and commitment from DHS's components. To address this problem, in 2010 the DHS Deputy Secretary issued a memorandum emphasizing that DHS's wide variety of human resources processes and IT systems inhibited the ability to unify DHS and negatively impacted operating costs. Accordingly, the Deputy Secretary memorandum prohibited component spending on enhancements to existing human resources systems or acquisitions of new solutions, unless those expenditures were approved by the Offices of the Chief Human Capital Officer or Chief Information Officer. The memorandum also directed these offices to develop a department-wide human resources architecture.

In 2011, in response to the Deputy Secretary's direction, the department developed a strategic planning document referred to as the Human Capital Segment Architecture blueprint, which redefined the HRIT investment's scope and implementation time frames. As part of this effort, DHS conducted a system inventory and determined that it had 422 human resources systems and applications, many of which were single-use solutions developed to respond to a small need or links to enable disparate systems to work together. DHS reported that these numerous, antiquated, and fragmented systems inhibited its ability to perform basic workforce management functions necessary to support mission critical programs.

To address this issue, the blueprint articulated that HRIT would be comprised of 15 strategic improvement opportunity areas (e.g., enabling seamless, efficient, and transparent end-to-end hiring) and outlined 77 associated projects (e.g., deploying a department-wide hiring system) to implement these 15 opportunities.

⁵DHS Office of Inspector General, *Management Oversight and Component Participation Are Necessary to Complete DHS' Human Resource Systems Consolidation Effort*, OIG-10-99 (Washington, D.C.: July 1, 2010).

HRIT's only ongoing program is called PALMS and is intended to fully address the Performance Management strategic improvement opportunity area and its three associated projects. PALMS is attempting to implement a commercial off-the-shelf software product that is to be provided as a service⁶ in order to enable, among other things, comprehensive enterprise-wide tracking, reporting, and analysis of employee learning and performance for DHS headquarters and its eight components. Specifically, PALMS is expected to deliver the following capabilities:

- *Learning management.* The learning management capabilities are intended to manage the life cycle of learning activities for all DHS employees and contractors. It is intended to, among other things, act as a gateway for accessing training at DHS and record training information when a user has completed a course. Additionally, it is expected to replace nine disparate learning management systems with one unified system.
- *Performance management.* The performance management capabilities are intended to move DHS's existing primarily paper-based performance management processes into an electronic environment and capture performance-related information throughout the performance cycle (e.g., recording performance expectations discussed at the beginning of the rating period and performance ratings at the end of it).

Each component is responsible for its own PALMS implementation project, and is expected to issue a task order using a blanket purchase agreement that was established in May 2013 with an estimated value of \$95 million.⁷ The headquarters PALMS program management office is responsible for overseeing the implementation projects across the

⁶For software provided as a service, a consumer uses a provider's applications that are accessible from various client devices through an interface such as a web browser (e.g., web-based e-mail). The consumer does not manage or control the underlying infrastructure or the individual application capabilities.

⁷A blanket purchase agreement is a method of filling anticipated repetitive needs for supplies or services by establishing "charge accounts" with qualified sources of supply. These agreements between agencies and vendors have terms in place for future use and agencies issue individual orders to fulfill requirements for goods and services as they arise; funds are obligated when orders are placed.

department. Additionally, the Office of the Chief Information Officer is the Component Acquisition Executive responsible for overseeing PALMS.⁸

In addition, according to DHS officials, as of September 2014, PALMS was expected to address part of our High Risk Series on strengthening DHS's management functions.⁹ Specifically, PALMS is intended to address challenges in integrating employee training management across all the components, including centralizing training and consolidating training data into one system.

DHS Has Made Very Little Progress in Implementing HRIT; Investment Lacked Effective Management

DHS has made very limited progress in addressing the 15 strategic improvement opportunities and the 77 associated projects included in HRIT. According to the Human Capital Segment Architecture Blueprint, DHS planned to implement 14 of the 15 strategic improvement opportunities and 68 of the 77 associated projects by June 2015; and the remaining improvement opportunity and 9 associated projects by December 2016. However, as of November 2015, DHS had fully implemented only 1 of the strategic improvement opportunities, which included 2 associated projects. Table 1 summarizes the implementation status and planned completion dates of the strategic improvement opportunities—listed in the order of DHS's assigned priority—as of November 2015.

⁸DHS classifies its acquisition programs into three levels to determine the extent and scope of required project and program management, the level of reporting requirements, and the acquisition decision authority. Component Acquisition Executives are the senior acquisition officials within the components, responsible for, among other things, acting as the acquisition decision authority for Level 3 programs (including PALMS) and establishing component-level acquisition policy and processes.

⁹GAO, *High-Risk Series: An Update*, GAO-03-119 (Washington, D.C.: Jan. 1, 2003).

Table 1: Status and Planned Completion Dates for Implementing the 15 Strategic Improvement Opportunities, as of November 2015

Strategic improvement opportunity name (number of associated projects)	Status	Original planned completion date in Human Capital Segment Architecture Blueprint ^a	Current expected completion date
1. Data management and sharing (5)	◐	September 2014	Unknown
2. Performance measures tracking and reporting (3)	○	December 2012	Unknown
3. Personnel action processing (10)	◐	September 2013	Unknown
4. Human resources document management (8)	◐	September 2014	Unknown
5. End-to-end hiring (9)	○	December 2016	Unknown
6. Performance management (3)	◐	December 2012	Unknown
7. Off-boarding process (1)	○	December 2012	Unknown
8. Policy issuances and clarification (4)	○	June 2015	Unknown
9. Payroll action processing (6)	◐	June 2014	Unknown
10. Human Resources Information Technology deployment process (4)	○	September 2012	Unknown
11. Knowledge management (7)	○	December 2014	Unknown
12. Training (4)	○	June 2015	Unknown
13. Communication and collaboration among components (5)	○	December 2012	Unknown
14. On-boarding process (6)	○	December 2012	Unknown
15. Human Resources Information Technology intake process (2)	●	December 2011	Implemented in October 2011

Key:

- Fully implemented, meaning that the objective of the opportunity area was met.
- ◐ Partially implemented, meaning that officials identified at least one project that was underway or completed related to the opportunity area, but did not report that the opportunity area was fully implemented.
- Not yet started, meaning that officials did not identify any projects that were underway or completed related to the opportunity area.

Source: GAO analysis of data provided by DHS officials. | GAO-16-407T.

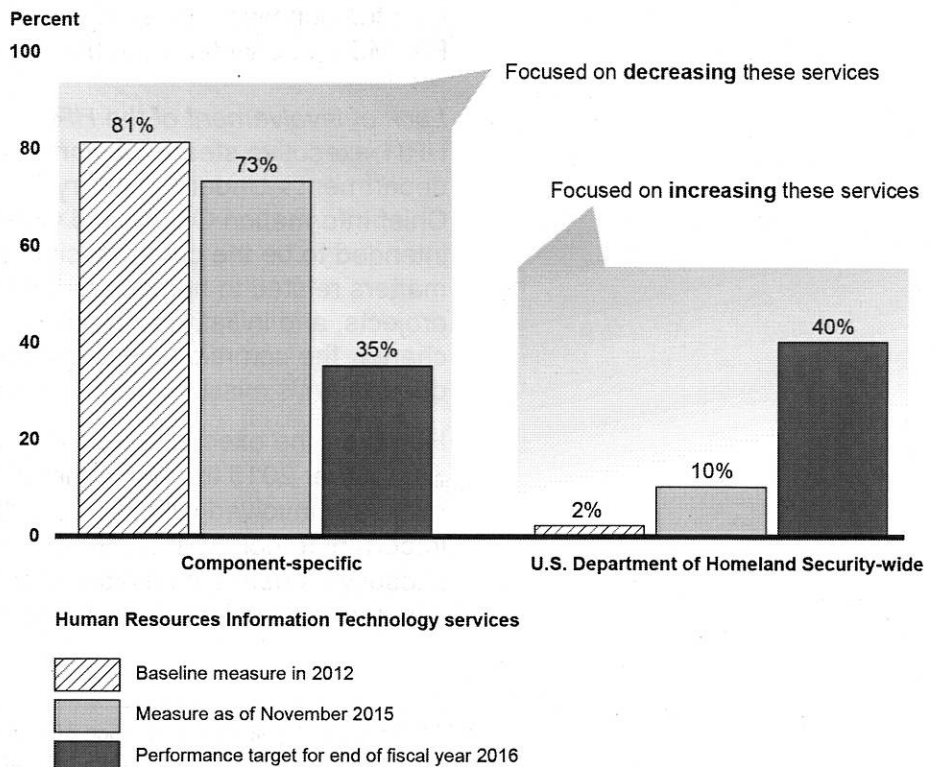
^aThese dates reflect the last month of the quarter in which the strategic improvement opportunities were planned to be complete, as identified in the Human Capital Segment Architecture Blueprint.

DHS has partially implemented five of the other strategic improvement opportunities, but it is unknown when they will be fully addressed. Further, HRIT officials stated that DHS has not yet started to work on the remaining nine improvement opportunities, and the officials did not know when they would be addressed.

Additionally, DHS developed an HRIT strategic plan for fiscal years 2012 through 2016 that outlined the investment's key goals and objectives, including reducing duplication and improving efficiencies in the department's human resources processes and systems. The strategic plan identified, among other things, two performance metrics that were focused on reductions in the number of component-specific human resources IT services provided and increases in the number of department-wide HRIT services provided by the end of fiscal year 2016.

However, DHS has also made limited progress in achieving these two performance targets. Figure 1 provides a summary of HRIT's progress towards achieving its service delivery performance targets.

Figure 1: Human Resources Information Technology's Progress towards Achieving Its Performance Targets, as of November 2015



Source: GAO analysis of data provided by U.S. Department of Homeland Security officials. | GAO-16-407T

Key causes for DHS's lack of progress in implementing HRIT and its associated strategic improvement opportunities include unplanned resource changes and the lack of involvement of the HRIT executive steering committee. These causes are discussed in detail below:

- *Unplanned resource changes.* DHS elected to dedicate the vast majority of HRIT's resources to implementing PALMS and addressing its problems, rather than initiating additional HRIT strategic improvement opportunities. Specifically, PALMS—which began in July 2012—experienced programmatic and technical challenges that led to years-long schedule delays.¹⁰ For example, while the PALMS system for headquarters was originally planned to be delivered by a vendor in December 2013, as of November 2015, the expected delivery date was delayed until the end of February 2016—an over 2-year delay. HRIT officials explained the decision to focus primarily on PALMS was due, in part, to the investment's declining funding. However, in doing so, attention was concentrated on the immediate issues affecting PALMS and diverted from the longer-term HRIT mission.
- *Lack of involvement of the HRIT executive steering committee.* The HRIT executive steering committee—which is chaired by the department's Under Secretary for Management and co-chaired by the Chief Information Officer and Chief Human Capital Officer—is intended to be the core oversight and advisory body for all DHS-wide matters related to human capital IT investments, expenditures, projects, and initiatives. In addition, according to the committee's charter, the committee is to approve and provide guidance on the department's mission, vision, and strategies for the HRIT program.

However, the executive steering committee only met once from September 2013 through June 2015—in July 2014—and was minimally involved with HRIT for that almost 2 year period. It is important to note that DHS replaced its Chief Information Officer (the executive steering committee's co-chair) in December 2013—during this gap in oversight. Also during this time period HRIT's only ongoing

¹⁰PALMS program management office officials attributed these slippages to multiple causes, including, among other things, the vendor's commercial off-the-shelf system not meeting certain requirements that it was expected to meet, thereby requiring the vendor to customize the system to meet those requirements. As of November 2015, according to PALMS headquarters officials, DHS had 483 baseline requirements, 32 of which needed customizations, and 5 of these 32 requirements still needed to be fully addressed by the vendor. DHS expected these requirements to be met by the end of February 2016.

program—PALMS—was experiencing significant problems, including schedule slippages and frequent turnover in its program manager position (i.e., PALMS had five different program managers during the time that the HRIT executive steering committee was minimally involved). As a result of the executive steering committee not meeting, key governance activities were not completed on HRIT. For example, the committee did not approve HRIT's notional operational plan for fiscal years 2014 through 2019.¹¹ Officials from the Offices of the Chief Human Capital Officer and Chief Information Officer attributed the lack of HRIT executive steering committee meetings and committee involvement in HRIT to the investment's focus being only on the PALMS program to address its issues, as discussed earlier. However, by not regularly meeting and providing oversight during a time when a new co-chair for the executive steering committee assumed responsibility and PALMS was experiencing such problems, the committee's guidance to the troubled program was limited.

More recently, the HRIT executive steering committee met in June and October 2015, and officials from the Offices of the Chief Human Capital Officer and Chief Information Officer stated that the committee planned to meet quarterly going forward. However, while the committee's charter specified that it meet on at least a monthly basis for the first year, the charter does not specify the frequency of meetings following that year. Furthermore, the committee's charter has not been updated to reflect the increased frequency of these meetings.

As a result of the limited progress in implementing HRIT, DHS is unaware of when critical weaknesses in the department's human capital environment will be addressed, which is, among other things, impacting DHS's ability to carry out its mission. For example, the end-to-end hiring strategic improvement opportunity (which has an unknown implementation date) was intended to streamline numerous systems and multiple hand-offs in order to more efficiently and effectively hire appropriately skilled personnel, thus enabling a quicker response to emergencies, catastrophic events, and threats.

¹¹HRIT's notional operational plan for fiscal years 2014 through 2019 identified the high-level projects and activities that HRIT planned to fund each year and the planned phase of each project (e.g., planning, acquisition, operations and maintenance).

We recommended in our report that DHS's Under Secretary for Management update the HRIT executive steering committee charter to establish the frequency with which the committee meetings are to be held, and ensure that the committee is consistently involved in overseeing and advising HRIT. DHS agreed with both of these recommendations and stated that the executive steering committee charter would be updated accordingly by the end of February 2016; and that by April 30, 2016, the Under Secretary plans to ensure that the committee is consistently involved in overseeing and advising HRIT.

HRIT Lacked a Current Schedule, Life-Cycle Cost Estimate, and Cost Tracking

According to the *GAO Schedule Assessment Guide*, a key activity in effectively managing a program and ensuring progress is establishing and maintaining a schedule estimate. Specifically, a well maintained schedule enables programs to gauge progress, identify and resolve potential problems, and forecast dates for program activities and completion of the program.¹²

In August 2011, DHS established initiation and completion dates for each of the 15 strategic improvement opportunities within the Human Capital Segment Architecture Blueprint. Additionally, HRIT developed a slightly more detailed schedule for fiscal years 2014 through 2021 that updated planned completion dates for aspects of some strategic improvement opportunities, but not all.

However, DHS did not update and maintain either schedule after they were developed. Specifically, neither schedule was updated to reflect that DHS did not implement 13 of the 15 improvement opportunities by their planned completion dates—several of which should have been implemented over 3 years ago. HRIT officials attributed the lack of schedule updates to the investment's focus shifting to the PALMS program when it started experiencing significant schedule delays. Without developing and maintaining a current schedule showing when DHS plans to implement the strategic improvement opportunities, DHS and Congress will be limited in their ability to oversee and ensure DHS's progress in implementing HRIT.

¹²GAO-16-89G.

HRIT Did Not Have a Life-Cycle Cost Estimate

We recommended that the department update and maintain a schedule estimate for when DHS plans to implement each of the strategic improvement opportunities. In response, DHS concurred with our recommendation and stated that, by April 30, 2016, the DHS Chief Information Officer will update and maintain a schedule estimate for each of the strategic improvement opportunities.

The Office of Management and Budget (OMB) requires that agencies prepare total estimated life-cycle costs for IT investments.¹³ Program management best practices also stress that key activities in planning and managing a program include establishing a life-cycle cost estimate and tracking costs expended.¹⁴ A life-cycle cost estimate supports budgetary decisions and key decision points, and should include all costs for planning, procurement, and operations and maintenance of a program.¹⁵

Officials from the Office of the Chief Human Capital Officer stated that a draft life-cycle cost estimate for HRIT was developed, but that it was not completed or finalized because detailed projects plans for the associated projects had not been developed or approved. According to the Human Capital Segment Architecture blueprint, the Office of the Chief Human Capital Officer roughly estimated that implementing all of the projects could cost up to \$120 million. However, the blueprint specified that this figure did not represent the life-cycle cost estimate; rather it was intended to be a preliminary estimate to initiate projects. Without a life-cycle cost estimate, DHS has limited information about how much it will cost to implement HRIT, which hinders the department's ability to, among other things, make budgetary decisions and informed milestone review decisions.

Accordingly, we recommended that DHS develop a complete life-cycle cost estimate for the implementation of the HRIT investment. DHS agreed with our recommendation and stated that, by June 30, 2016, the DHS Chief Information Officer will direct development of a complete life-cycle cost estimate for the implementation of HRIT's strategic improvement opportunities.

¹³OMB, *Fiscal Year 2016, Capital Planning Guidance* (Washington, D.C.: May 2014).

¹⁴CMMI-ACQ, *Project Planning and Project Monitoring and Control Process Areas*; PMBOK® Guide, *Project Cost Management*; and GAO-09-3SP.

¹⁵GAO-09-3SP.

DHS Did Not Track All Costs Incurred on HRIT

According to CMMI-ACQ and the PMBOK® Guide, programs should track program costs in order to effectively manage the program and make resource adjustments accordingly. In particular, tracking and monitoring costs enables a program to recognize variances from the plan in order to take corrective action and minimize risk.¹⁶

However, DHS has not tracked the total actual costs incurred on implementing HRIT across the enterprise to date. Specifically, while the investment received line item appropriations for fiscal years 2005 through 2015 which totaled at least \$180 million,¹⁷ DHS was unable to provide all cost information on HRIT activities since it began in 2003, including all government-related activities and component costs that were financed through the working capital fund, which, according to DHS officials from multiple offices, were provided separately from the at least \$180 million appropriated specifically to HRIT.¹⁸ Officials from the Office of the Chief Human Capital Officer attributed the lack of cost tracking to, among other things, the investment's early reliance on contractors to track costs, and said that the costs were not well maintained nor centrally tracked, and included incomplete component-provided cost information. The components were also unable to provide us with complete information.

Consequently, we recommended that the department document and track all costs, including components' costs, associated with HRIT. DHS concurred and stated that, by October 31, 2016, the DHS Chief Information Officer will direct the HRIT investment to document and track all costs associated with HRIT.

¹⁶CMMI-ACQ, *Project Monitoring and Control Process Area*; PMBOK® Guide, *Project Cost Management*.

¹⁷Appropriations acts passed for fiscal years 2003 through 2004 did not include a line item appropriating specific funds to HRIT and DHS officials were unaware of how much had been appropriated for those years.

¹⁸The working capital fund is available to DHS for expenses and equipment necessary for maintenance and operations of administrative services that the Secretary of Homeland Security determines would be performed more advantageously as central services. Pub. L. No. 108-90, 117 Stat. 1137, 1153, § 506(2003).

HRIT's 2011 Blueprint May Not Be Valid and Reflective of DHS's Current Priorities and Goals

According to the HRIT executive steering committee's charter, the Under Secretary for Management (as the chair of the committee) is to ensure that the department's human resources IT business needs are met, as outlined in the blueprint. Additionally, according to the GPRA (Government Performance and Results Act) Modernization Act of 2010, agency strategic plans should be updated at least every 4 years. While this is a legal requirement for agency strategic plans (the Human Capital Segment Architecture blueprint does not fall under the category of an "agency strategic plan"), it is considered a best practice for other strategic planning documents, such as the blueprint.

However, the department issued the blueprint in August 2011 (approximately 4.5 years ago) and has not updated it since. As a result, the department does not know whether the remaining 14 strategic improvement opportunities and associated projects that it has not fully implemented are still valid and reflective of DHS's current priorities, and are appropriately prioritized based on current mission and business needs. Additionally, DHS does not know whether new or emerging opportunities or business needs need to be addressed.

Officials stated that the department is still committed to implementing the blueprint, but agreed that it should be re-evaluated. To this end, following a meeting we had with DHS's Under Secretary for Management in October 2015, in which we expressed concern about HRIT's lack of progress, officials from the Offices of the Chief Human Capital Officer and Chief Information Officer stated that HRIT was asked by the Deputy Under Secretary for Management in late October 2015 to re-evaluate the blueprint's strategic improvement opportunities and to determine the way forward for those improvement opportunities and the HRIT investment. However, officials did not know when this re-evaluation and a determination for how to move forward with HRIT would occur, or be completed.

Further, according to officials from the Office of the Chief Information Officer, DHS has not updated its complete systems inventory since it was originally developed as part of the blueprint effort, in response to a 2010 Office of Inspector General report that stated that DHS had not identified all human resource systems at the components. This report also emphasized that without an accurate inventory of human resource systems, DHS cannot determine whether components are using

redundant systems.¹⁹ Moreover, the officials from the Office of the Chief Information Officer were unable to identify whether and how its inventory of human resources systems had changed.

Until DHS establishes time frames for re-evaluating the blueprint to reflect DHS's HRIT current priorities and updates its human resources system inventory, the department will be limited in addressing the inefficient human resources environment that has plagued the department since it was first created. As a result, we recommended that DHS establish time frames for re-evaluating the strategic improvement opportunities and associated projects in the blueprint and determining how to move forward with HRIT; evaluate the opportunities and projects to determine whether the goals of the blueprint are still valid and update the blueprint accordingly; and update and maintain the system inventory. DHS agreed with these recommendations and expects to address them by February 2016, April 2016, and October 2016, respectively.

Selected PALMS Capabilities Have Been Deployed to Headquarters and Two Components; but Full Implementation Is Not Currently Planned

As previously mentioned, PALMS is intended to provide an enterprise-wide system that offers performance management capabilities, as well as learning management capabilities to headquarters and each of its components. As such, DHS's headquarters PALMS program management office and the components estimate that, if fully implemented across DHS, PALMS's learning management capabilities would be used by approximately 309,360 users, and its performance management capabilities would be used by at least 217,758 users.²⁰

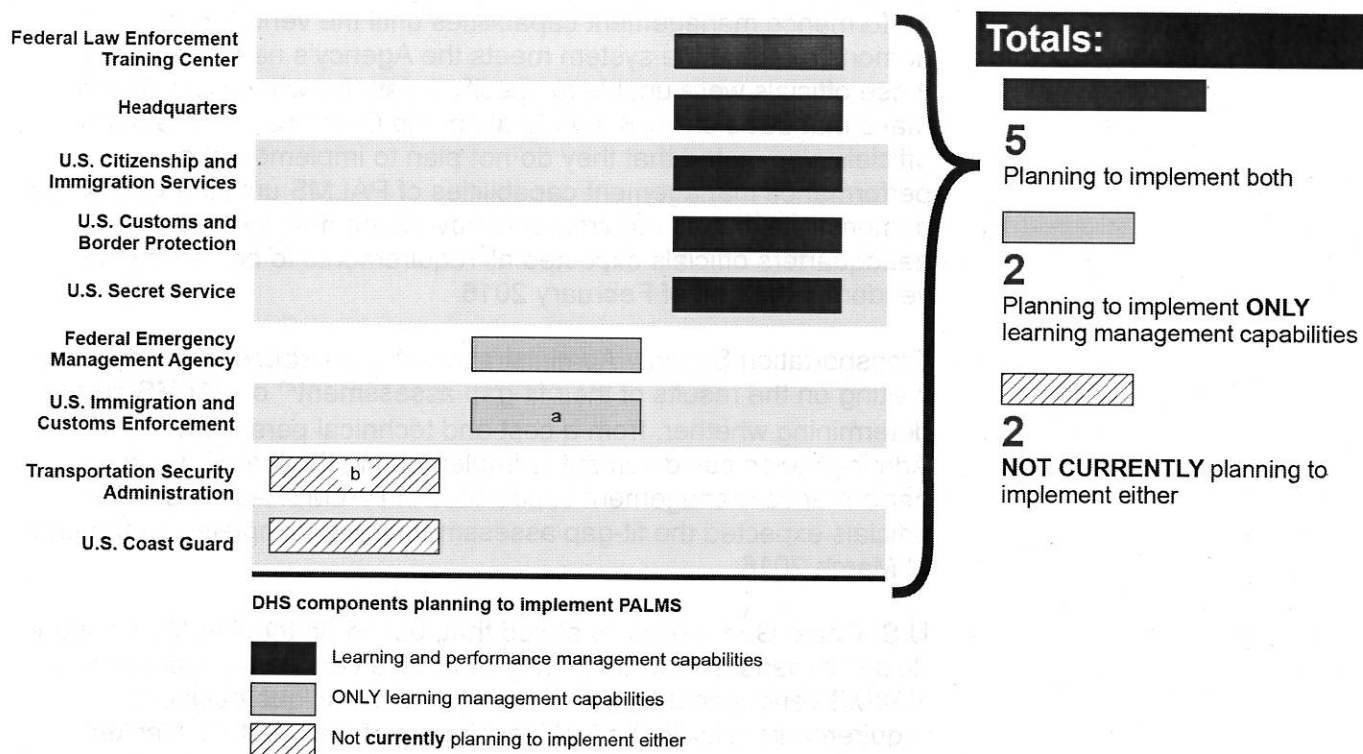
However, there is uncertainty about whether the PALMS system will be used enterprise-wide to accomplish these goals. Specifically, as of November 2015, of the eight components and headquarters, five are planning to implement both PALMS's learning and performance management capabilities (three of which have already implemented the learning management capabilities—discussed later), two are planning to

¹⁹DHS Office of Inspector General, *Management Oversight and Component Participation Are Necessary to Complete DHS' Human Resource Systems Consolidation Effort*, OIG-10-99 (July 2010).

²⁰According to Federal Emergency Management Agency officials, the number of PALMS performance management users would be substantially higher if the system is able to accommodate the Agency's performance management requirements for Reservists, which are a type of incident management responder, hired as temporary, intermittent employees.

implement only the learning management capabilities, and two components are not currently planning to implement either of these PALMS capabilities, as illustrated in figure 2.

Figure 2: Components Planning to Implement the Performance and Learning Management System (PALMS), as of November 2015



Source: GAO analysis of data provided by U.S. Department of Homeland Security (DHS). | GAO-16-407T

^aU.S. Immigration and Customs Enforcement officials stated that, before they will decide whether to implement PALMS's performance management capabilities, they are waiting for the vendor to demonstrate that all requirements have been met—which is expected to occur by the end of February 2016.

^bAccording to Transportation Security Administration officials, as of January 2016, the administration was in the process of conducting its fit-gap analysis to determine whether it will implement PALMS's learning and/or performance management capabilities. Officials expected the fit-gap assessment to be completed by the end of March 2016.

Officials from the Federal Emergency Management Agency, U.S. Immigration and Customs Enforcement, the Transportation Security Administration, and the U.S. Coast Guard cited various reasons for why their components were not currently planning to fully implement PALMS, which include:

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- Federal Emergency Management Agency and U.S. Immigration and Customs Enforcement officials stated that they were not currently planning to implement the performance management capabilities because the program had experienced critical deficiencies in meeting the performance management-related requirements. Federal Emergency Management Agency officials stated that they do not plan to make a decision on whether they will or will not implement these performance management capabilities until the vendor can demonstrate that the system meets the Agency's needs; as such, these officials were unable to specify a date for when they plan to make that decision. U.S. Immigration and Customs Enforcement officials also stated that they do not plan to implement the performance management capabilities of PALMS until the vendor can demonstrate that all requirements have been met. PALMS headquarters officials expected all requirements to be met by the vendor by the end of February 2016.
 - Transportation Security Administration officials stated that they were waiting on the results of their fit-gap assessment²¹ of PALMS before determining whether, from a cost and technical perspective, the Administration could commit to implementing the learning and performance management capabilities of PALMS. Administration officials expected the fit-gap assessment to be completed by the end of March 2016.
 - U.S. Coast Guard officials stated that, based on the PALMS schedule delays experienced to date, they have little confidence that the PALMS vendor could meet the component's unique business requirements prior to the 2018 expiration of the vendor's blanket purchase agreement. Additionally, these officials stated that the system would not meet all of the Coast Guard's learning management requirements, and likely would not fully meet the performance management requirements for all of its military components. Due to the component's uncertainty, the officials were unable to specify when they plan to ultimately decide on whether they will implement one or both aspects of PALMS.

²¹Before implementing PALMS, each component is completing a fit-gap assessment to, among other things, identify any requirements and critical processes that cannot be met by the preconfigured, commercial off-the-shelf system. If such component-specific requirements are identified, the component must then decide whether to have the vendor customize the system.

As a result, it is unlikely that the department will meet its goal of being an enterprise-wide system. Specifically, as of November 2015, the components estimate 179,360 users will use the learning management capabilities of PALMS (not the 309,360 expected, if fully implemented), and 123,200 users will use the performance management capabilities of PALMS (not the 217,758 expected, if fully implemented).

Of the seven components and headquarters that are currently planning to implement the learning and/or performance management aspects of PALMS, as of December 2015, three have completed their implementation efforts of the learning management capabilities and deployed these capabilities to users (deployed to U.S. Customs and Border Protection in July 2015, headquarters in October 2015, and the Federal Law Enforcement Training Center in December 2015); two have initiated their implementation efforts on one or both aspects, but not completed them; and two have not yet initiated any implementation efforts.

As a result, PALMS's current trajectory is putting the department at risk of not meeting its goals to perform efficient, accurate, and comprehensive tracking and reporting of training and performance management data across the enterprise; and consolidating its nine learning management systems down to one. Accordingly, until the Federal Emergency Management Agency decides whether it will implement the performance management capabilities of PALMS and the Coast Guard decides whether it will implement the learning and/or performance management capabilities of PALMS, the department is at risk of implementing a solution that does not fully address its problems. Moreover, until DHS determines an alternative approach if one or both aspects of PALMS is deemed not feasible for U.S. Immigration and Customs Enforcement, the Transportation Security Administration, the Federal Emergency Management Agency, or the Coast Guard, the department is at risk of not meeting its goal to enable enterprise-wide tracking and reporting of employee learning and performance management.

We recommended that the department establish a time frame for deciding whether PALMS will be fully deployed at the Federal Emergency Management Agency and the Coast Guard, and determine an alternative approach if the learning and/or performance management capabilities of PALMS are deemed not feasible for the Federal Emergency Management Agency, U.S. Immigration and Customs Enforcement, the Transportation Security Administration, or the Coast Guard. DHS concurred with our

PALMS Program Had Made Mixed Progress in Implementing Key IT Acquisition Best Practices

recommendation and stated that the PALMS program office will establish a time frame for a deployment decision of PALMS for these components.

According to GAO's *Cost Estimating and Assessment Guide*, having a complete life-cycle cost estimate is a critical element in the budgeting process that helps decision makers to evaluate resource requirements at milestones and other important decision points.²² Additionally, a comprehensive cost estimate should include both government and contractor costs of the program over its full life cycle, from inception of the program through design, development, deployment, and operation and maintenance to retirement of the program.

However, according to PALMS program management office officials, they did not develop a life-cycle cost estimate for PALMS. In 2012, DHS developed an independent government cost estimate to determine the contractor-related costs to implement the PALMS system across the department (estimated to be approximately \$95 million); however, this estimate was not comprehensive because it did not include government-related costs. PALMS program office officials stated that PALMS did not develop a life-cycle cost estimate because the program is a Level 3 acquisition program and DHS does not require such an estimate for a Level 3 program. However, while DHS acquisition policy does not require a life-cycle cost estimate for a program of this size, we maintain that such an estimate should be prepared because of the program's risk and troubled history. Without developing a comprehensive life-cycle cost estimate, DHS is limited in making future budget decisions related to PALMS.

Accordingly, we recommended that the department develop a comprehensive life-cycle cost estimate, including all government and contractor costs, for the PALMS program. DHS concurred with our recommendation and stated that, by May 30, 2016, the PALMS program office will update the program's cost estimate to include all government and contractor costs.

²²GAO-09-3SP.

PALMS's Schedule Was Incomplete and Inaccurate

As described in *GAO's Schedule Assessment Guide*, a program's integrated master schedule is a comprehensive plan of all government and contractor work that must be performed to successfully complete the program. Additionally, such a schedule helps manage program schedule dependencies.²³ Best practices for developing and maintaining this schedule include, among other things, capturing all activities needed to do the work and reviewing the schedule after each update to ensure the schedule is complete and accurate.

While DHS had developed an integrated master schedule with the PALMS vendor, it did not appropriately maintain this schedule. Specifically, the program's schedule was incomplete and inaccurate. For example, while DHS's original August 2012 schedule planned to fully deploy both the learning and performance management capabilities in one release at each component by March 2015, the program's September 2015 schedule did not reflect the significant change in PALMS's deployment strategy and time frames. Specifically, the program now plans to deploy the learning management capabilities first and the performance management capabilities separately and incrementally to headquarters and the components. However, the September 2015 schedule reflected the deployment-related milestones (per component) for only the learning management capabilities and did not include the deployment-related milestones for the performance management capabilities.

In September 2015, PALMS officials stated that the deployments related to performance management were not reflected in the program's schedule because the components had not yet determined when they would deploy these capabilities. Since then two components have determined their planned dates for deploying these capabilities, but seven (including headquarters) remain unknown. As a result, the program does not know when PALMS will be fully implemented at all components with all capabilities.

Moreover, the schedule did not include all government-specific activities, including tasks for employee union activities (such as notifying employee

²³GAO-16-89G.

unions and bargaining with them, where necessary) related to the proposed implementation of the performance management capabilities.²⁴

Without developing and maintaining a single comprehensive schedule that fully integrates all government and contractor activities, and includes all planned deployment milestones related to performance management, DHS is limited in monitoring and overseeing the implementation of PALMS, and managing the dependencies between program tasks and milestones to ensure that it delivers capabilities when expected. Consequently, we recommended that DHS develop and maintain a single comprehensive schedule. DHS agreed and stated that, by May 30, 2016, the PALMS program office will develop and maintain a single, comprehensive schedule that includes all government and contractor activities, and all planned milestones related to deploying the PALMS system's performance management capabilities.

The PALMS Program Management Office Did Not Monitor Total Costs

According to CMMI-ACQ and the PMBOK® Guide, a key activity for tracking a program's performance is monitoring the project's costs by comparing actual costs to the cost estimate.²⁵ The PALMS program management office—which is responsible for overseeing the PALMS implementation projects across DHS, including all of its components—monitored task order expenditures on a monthly basis. As of December 2015, DHS officials reported that they had issued approximately \$18 million in task orders to the vendor.

However, the program management office officials stated that they were not monitoring the government-related costs associated with each of the PALMS implementations. The officials stated that they were not tracking government-related implementation costs at headquarters because many of the headquarters program officials concurrently work on other acquisition projects and these officials are not required to track the amount of time spent working specifically on PALMS. The officials also

²⁴In accordance with Title 5, Chapter 71 of the United States Code, implementing regulations and relevant Executive Order, federal agencies are to notify their unions and offer them the opportunity to negotiate on policies and practices that would affect working conditions. As such, each DHS component must determine whether implementing PALMS would affect working conditions and, if so, notify their unions.

²⁵CMMI-ACQ, *Project Monitoring and Control Process Area*, and the PMBOK® Guide, *Project Cost Management*.

said that they were not monitoring the government-related costs for each of the component PALMS implementation projects because it would be difficult to obtain and verify the cost data provided by the components. We acknowledge the department's difficulties associated with obtaining and verifying component cost data; however, monitoring the program's costs is essential to keeping costs on track and alerting management of potential cost overruns. As such, we recommended that DHS track and monitor all costs associated with the PALMS program. DHS concurred with our recommendation and stated that it plans to have the PALMS program office track and monitor all costs associated with the PALMS program by March 30, 2016.

In summary, although the HRIT investment was initiated about 12 years ago with the intent to consolidate, integrate, and modernize the department's human resources IT infrastructure, DHS has made very limited progress in achieving these goals. HRIT's minimally involved executive steering committee during a time when significant problems were occurring was a key factor in the lack of progress. Moreover, DHS's lack of use of program management best practices for HRIT and PALMS also contributed to the neglect this investment has experienced. Implementing our recommendations is critical to the department addressing its fragmented and duplicative human resources environment that is hindering the department's ability to efficiently and effectively perform its mission.

Chairman Perry, Ranking Member Watson Coleman, and Members of the Subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have.

Contact and Acknowledgments

If you have any questions concerning this statement, please contact Carol Cha, Director, Information Technology Acquisition Management Issues, at (202) 512-4456 or chac@gao.gov. Other individuals who made key contributions include Rebecca Gambler, Director; Shannin O'Neill, Assistant Director; Christopher Businsky; Rebecca Eyler; Javier Irizarry; Emily Kuhn; and David Lysy.

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