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OFFICE OF PERSONNEL MANAGEMENT

Retirement Modernization Planning and Management Shortcomings Need to Be Addressed

GAO

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OFFICE OF PERSONNEL MANAGEMENT

Retirement Modernization Planning and Management Shortcomings Need to Be Addressed

Why GAO Did This Study

For the past two decades, the Office of Personnel Management (OPM) has been working to modernize the paper-intensive processes and antiquated systems used to support the retirement of federal employees. By moving to an automated system, OPM intends to improve the program's efficiency and effectiveness. In January 2008, GAO recommended that the agency address risks to successful system deployment. Nevertheless, OPM deployed a limited initial version of the modernized system in February 2008. After unsuccessful efforts to address system quality issues, OPM suspended system operation, terminated a major contract, and began restructuring the modernization effort, also referred to as RetireEZ. For this study, GAO was asked to (1) assess the status of OPM's efforts to plan and implement the RetireEZ program and (2) evaluate the effectiveness of the agency's management of the modernization initiative. To do this, GAO reviewed OPM program documentation and interviewed agency and contractor officials.

What GAO Recommends

To improve OPM's effort to plan and implement its retirement modernization program, GAO is recommending that OPM correct management weaknesses. In written comments on a draft of this report, the Director of OPM agreed with GAO's recommendations and described steps the agency is taking to address them.

To view the full product, including the scope and methodology, click on GAO-09-529. For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

What GAO Found

OPM remains far from achieving the modernized capabilities it had planned. Specifically, the agency has partially implemented two of eight planned capabilities:
*   an integrated database of retirement information accessible to OPM and agency retirement processing personnel and
*   enhanced customer service capabilities that support customer needs and provide self-service tools.

However, the remaining six capabilities have yet to be implemented because they depended on deliverables that were to be provided by a contract that is now terminated. Examples of these missing capabilities include:
*   automated submission of retirement information through interfaces with federal agencies and
*   Web-accessible self-service retirement information for active and retired federal employees.

Further, OPM has not yet developed a complete plan that describes how the program is to proceed without the system that was to be provided under the terminated contract. Although agency documents describe program implementation activities, they do not include a definition of the program, its scope, lines of responsibility and authority, management processes, and a schedule. Also, modernization program documentation does not describe results-oriented performance goals and measures. Until the agency completes and uses a plan that includes all of the above elements to guide its efforts, it will not be properly positioned to move forward with its restructured retirement modernization initiative.

Further, OPM has significant weaknesses in five key management areas that are vital for effective development and implementation of its modernization program: cost estimating, earned value management (a recognized means for measuring program progress), requirements management, testing, and oversight. For example, the agency has not developed a cost estimating plan or established a performance measurement baseline—prerequisites for effective cost estimating and earned value management. Further, although OPM is revising its previously developed system requirements, it has not established processes and plans to guide this work or addressed test activities even though developing processes and plans, as well as planning test activities early in the life cycle, are recognized best practices for effective requirements development and testing. Finally, although OPM's Executive Steering Committee and Investment Review Board have recently become more active regarding RetireEZ, these bodies did not exercise effective oversight in the past, which has allowed the aforementioned management weaknesses to persist and OPM has not established guidance regarding how these entities are to intervene when corrective actions are needed. Until OPM addresses these weaknesses, many of which GAO and others made recommendations to correct, the agency's retirement modernization initiative remains at risk of failure. Institutionalizing effective management is critical not only for the success of this initiative, but also for that of other modernization efforts within the agency.

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United States Government Accountability Office

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United States Government Accountability Office
Washington, DC 20548

April 21, 2009

The Honorable Richard J. Durbin
Chairman
The Honorable Susan Collins
Ranking Member
Subcommittee on Financial Services
   and General Government
Committee on Appropriations
United States Senate

The Honorable José E. Serrano
Chairman
The Honorable Jo Ann Emerson
Ranking Member
Subcommittee on Financial Services
   and General Government
Committee on Appropriations
House of Representatives

For the past two decades, the Office of Personnel Management (OPM) has been attempting to modernize the paper-intensive processes and antiquated systems it uses to support the retirement of federal employees, in part because the current process does not provide prompt and complete benefit payments upon retirement. The agency's retirement modernization initiative, also referred to as RetireEZ, was intended to address this situation and improve the efficiency and effectiveness of the retirement program, which serves federal employees who are eligible to receive benefits in the future, employees who are already retired, and their survivors and beneficiaries.

In January 2008, we reported on challenges that OPM faced in deploying RetireEZ, noted a number of concerns regarding the agency's management of the initiative, and recommended corrective actions.[1] In late February 2008, OPM deployed a version of the modernized retirement system; however, the agency suspended the system's operation in May 2008. After 5 months of attempting to address system quality issues, the agency

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[1]GAO, *Office of Personnel Management: Improvements Needed to Ensure Successful Retirement Systems Modernization*, GAO-08-345 (Washington, D.C.: Jan 31, 2008).

terminated its contract with the primary modernization vendor in October 2008 and began restructuring the retirement modernization initiative in November 2008.

At your request, we conducted a follow-up study of OPM's management of RetireEZ. Specifically, our objectives were to

- assess the status of OPM's efforts toward planning and implementing the RetireEZ program and
- evaluate the effectiveness of the agency's management of the modernization initiative.

To accomplish our objectives, we reviewed relevant program documentation and interviewed appropriate OPM and contractor officials. Specifically, to assess the status of the program, we reviewed documentation such as the retirement modernization program management plan and supporting documents. We also visited OPM's retirement operations facilities in Washington, D.C., and Boyers, Pennsylvania. To evaluate the effectiveness of the agency's management of the modernization initiative, we reviewed OPM's cost estimation, earned value management (EVM), requirements management, test management activities, and oversight. We compared OPM's plans and activities to best practices and assessed the agency's progress toward implementing our prior recommendations.

We conducted this performance audit from May 2008 through March 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. See appendix II for a more complete description of our objectives, scope, and methodology.

Background

OPM's mission is to ensure that the federal government has an effective civilian workforce. In this regard, one of the agency's major human resources tasks is to manage and administer the retirement program for federal employees. According to the agency, the program serves federal employees by providing (1) retirement compensation and (2) tools and options for retirement planning. OPM's Center for Retirement and Insurance Services administers the two defined benefit retirement plans

that provide retirement, disability, and survivor benefits to federal employees. The first plan, the Civil Service Retirement System (CSRS), provides retirement benefits for most federal employees hired before 1984. The second plan, the Federal Employees Retirement System (FERS), covers most employees hired in or after 1984 and provides benefits that include Social Security and a defined contribution system.[2]

According to OPM, there are approximately 2.9 million active federal employees and nearly 2.5 million retired federal employees. The agency's March 2008 analysis of federal employment retirement data estimates that nearly 1 million active federal employees will be eligible to retire and almost 600,000 will most likely retire by 2016.[3] Figure 1 summarizes the estimated number of employees eligible and likely to retire.

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[2]The Social Security Administration is responsible for administering Social Security, and the Federal Retirement Thrift Investment Board administers the defined contribution system known as the Thrift Savings Plan. Defined benefit plans calculate benefit amounts in advance of retirement based on factors such as salary level and years of service, and defined contribution plans calculate benefit amounts based on how the amount is invested by the employee and employer.

[3]OPM, *An Analysis of Federal Employee Retirement Data: Predicting Future Retirements and Examining Factors Relevant to Retiring from the Federal Service* (March 2008).

Figure 1: Estimated Federal Employees Eligible and Likely to Retire by 2016

Number

1,200,000	
1,000,000	
800,000	
600,000	
400,000	
200,000	
0	

2009   2010   2011   2012   2013   2014   2015   2016

Fiscal year

—————— Likely to retire

– – – – Eligible to retire
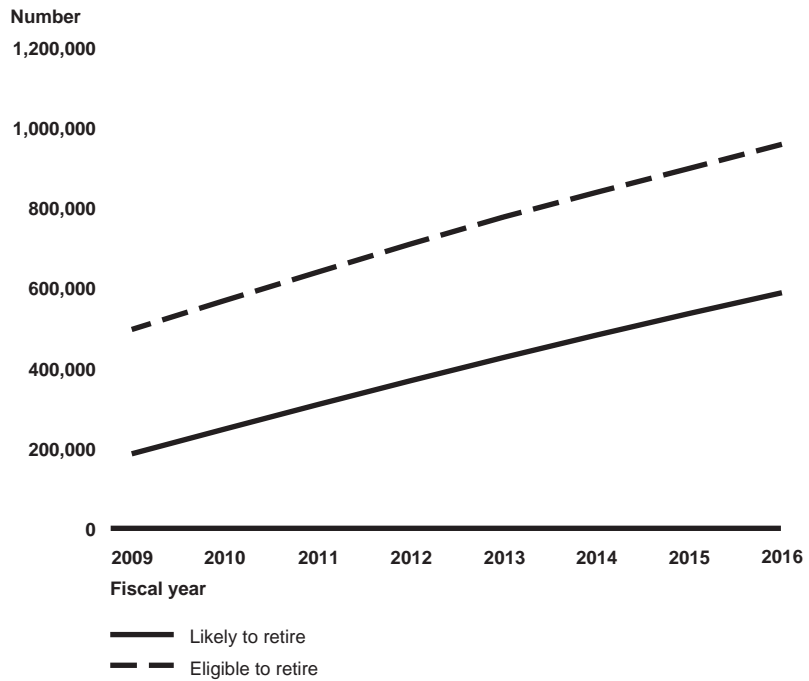
Source: OPM.

Federal Employee Retirement Application Processing

OPM and employing agencies' human resources and payroll offices are responsible for processing federal employees' retirement applications. The process begins when an employee submits a paper retirement application to his or her employer's human resources office and is completed when the individual begins receiving regular monthly benefit payments (as illustrated in fig. 2).

Figure 2: Simplified View of Retirement Application Process
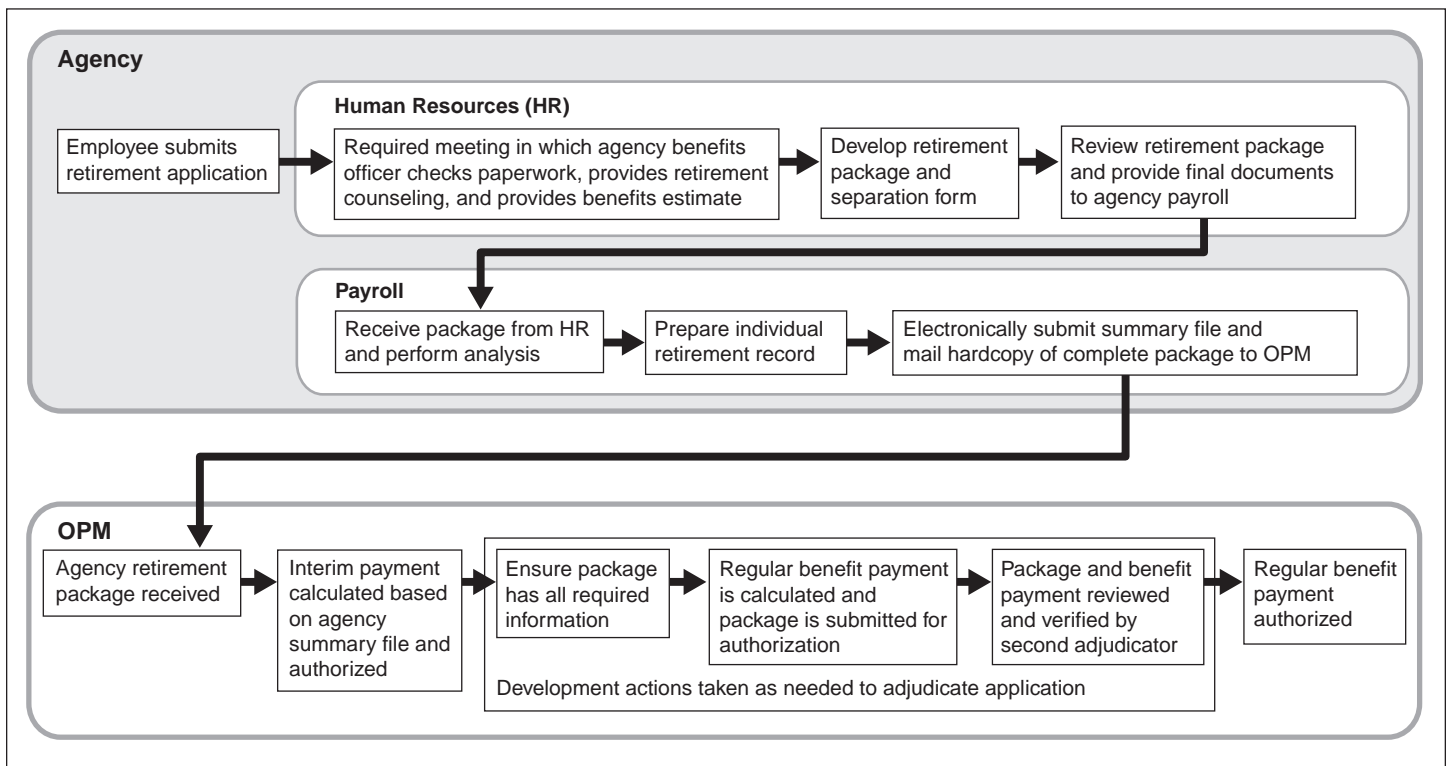
Source: GAO analysis of OPM data.

Once an employee submits an application, the employing agency's human resources office provides retirement counseling services to the employee and augments the retirement application with additional paperwork, such as a separation form that finalizes the date the employee will retire. Then the agency provides the retirement package to the employee's payroll office. After the employee separates for retirement, the payroll office is responsible for reviewing the documents for correct signatures and information, making sure that all required forms have been submitted, and adding any additional paperwork that will be necessary for processing the retirement package. Once the payroll office has finalized the paperwork, the retirement package is mailed to OPM to continue the retirement process. Payroll offices are expected to submit the package to OPM within 30 days of the retiree's separation date.

Upon receipt of the retirement package, OPM calculates an interim payment based on information provided by the employing agency. The interim payments are partial payments that typically provide retirees with

80 percent of the total monthly benefit they will eventually receive.[4] OPM then starts the process of analyzing the retirement application and associated paperwork to determine the total monthly benefit amount to which the retiree is entitled. This process includes collecting additional information from the employing agency's human resources and payroll offices or from the retiree to ensure that all necessary data are available before calculating benefits. After OPM completes its review and authorizes payment, the retiree begins receiving 100 percent of the monthly retirement benefit payments. OPM then stores the paper retirement folder at the Retirement Operations Center in Boyers, Pennsylvania.

According to the agency's 2008 performance report, the average processing time from the date OPM receives the initial application to the time the retiree receives a full payment is 42 days. According to the Deputy Associate Director for the Center of Retirement and Insurance Services, about 200 employees are directly involved in processing the approximately 100,000 retirement applications OPM receives annually. This processing includes functions such as determining retirement eligibility, inputting data into benefit calculators, and providing customer service. The agency uses over 500 different procedures, laws, and regulations, which are documented on the agency's internal Web site, to process retirement applications. For example, the site contains memorandums that outline new procedures for handling special retirement applications, such as those for disability or court orders. Further, OPM's retirement processing involves the use of over 80 information systems that have approximately 400 interfaces with other internal and external systems. For instance, 26 internal systems interface with the Department of the Treasury to provide, among other things, information regarding the total amount of benefit payments to which an employee is entitled.

OPM has stated that the federal employee retirement process currently does not provide prompt and complete benefit payments upon retirement, and that customer service expectations for more timely payments are increasing. The agency also reports that a greater workload is expected due to an anticipated increase in the number of retirement applications over the next decade, yet current retirement processing operations are at full capacity. Further, the agency has identified several factors that limit

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[4]OPM reported in November 2008 that it has made improvements to this process and is currently providing retirees with interim payments that are about 90 percent of the monthly payment which they are entitled.

its ability to process retirement benefits in an efficient and timely manner. Specifically, it noted that

- current processes are paper-based and manually intensive, resulting in a higher number of errors and delays in providing benefit payments;

- the high costs, limited capabilities, and other problems with the existing information systems and processes pose increasing risks to the accuracy of benefit payments;

- current manual capabilities restrict customer service;

- federal employees have limited access to their retirement records, making planning for retirement difficult; and

- attracting qualified personnel to operate and maintain the antiquated retirement systems, which have about 3 million lines of custom programming, is challenging.

OPM Has a Long History of Retirement Modernization Initiatives

In the late 1980s, OPM recognized the need to automate and modernize its retirement processing and began retirement modernization initiatives that have continuously called for automating its antiquated paper-based processes. The agency's previously established program management plans included the objectives of having timely and accurate retirement benefit payments and more efficient and flexible processes. For example, the agency's plans call for processing retirement applications and providing retirees 100 percent of their monthly benefit payments the day it is due versus providing interim monthly payments. Its initial modernization vision called for providing prompt and complete benefit payments by developing an integrated system and automated processes. However, the agency has faced significant and long-standing challenges in doing so.

In early 1987, OPM began a program called the FERS Automated Processing System (FAPS). However, after 8 years of planning, the agency decided it needed to reevaluate the program, and the Office of Management and Budget (OMB) requested that an independent board conduct a review to identify critical issues impeding progress and recommend ways to address the issues. The review identified various management weaknesses, including the lack of an established strategic plan, cost estimation methodologies, and baseline; improperly defined and ineffectively managed requirements; and no clear accountability for

decision making and oversight.[5] Accordingly, the board suggested areas for improvement and recommended terminating the program if immediate action was not taken. In mid-1996, OPM terminated the program.

In 1997, OPM began planning a second modernization initiative, called the Retirement Systems Modernization (RSM) program. The agency originally intended to structure the program as an acquisition of commercially available hardware and software that would be modified in-house to meet its needs. From 1997 to 2001, OPM developed plans and analyses and began developing business and security requirements for the program. However, in June 2001, it decided to change the direction of the retirement modernization initiative.

In late 2001, retaining the name RSM, the agency embarked upon its third initiative to modernize the retirement process and examined the possibility of privately sourced technologies and tools. To this end, OPM issued a request for information to obtain private sourcing options and determined that contracting was a viable alternative that would be cost efficient, less risky, and more likely to be completed on time and on budget. In 2006, the agency awarded three contracts for: (1) a commercially available, defined benefits technology solution (DBTS) to automate retirement processing; (2) services to convert paper records to electronic files; and (3) consulting services to support the redesign of its retirement operations. The contract for DBTS was awarded to Hewitt Associates, and the additional contracts to support the technology were awarded to Accenture Ltd. and Northrop Grumman Corporation, as reflected in table 1.

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[5]OPM Retirement Insurance Service, *FERS Automated Process System Information Technology Resources Board Review* (Washington, D.C., July 16, 1996). Executive Order 13011, Section 5 (July 1996), established that the Information Technology Resources Board was to provide independent assessments to assist in the development, acquisition, and management of selected major information systems and to provide recommendations to agency heads and OMB as appropriate. Executive Order 13011 was revoked by Executive Order 13403 (May 2006).

Table 1: Key Retirement Modernization Contracts

Contractor	Award date	Contract value at award (in millions)	Deliverables
Hewitt Associates	May 2006	$290.0	A defined benefits technology solution (DBTS) that enables automating retirement processes
Accenture Ltd.	May 2006	40.0	Redesigned retirement processes to support DBTS
Northrop Grumman Corporation	September 2006	30.7	Converting paper retirement records to electronic files

Source: OPM.

OPM produced a December 2007 program management plan that, among other things, described capabilities the agency expected to implement as outcomes of retirement modernization. Among these capabilities, the agency expected to implement retirement benefit modeling and planning tools for active federal employees, a standardized retirement benefit calculation system, and a consolidated system to support all aspects of retirement processing.

In February 2008, OPM renamed the program RetireEZ and deployed a limited initial version of DBTS. As the foundation of the modernization initiative, DBTS was to be a comprehensive technology solution that would provide capabilities to substantially automate retirement processing. This technology was to be provided by the contractor for a period of 10 years and was intended to provide, among other things, an integrated database with calculation functionality for retirement processing. In addition to calculating retirement benefit amounts, DBTS was intended to provide active and retired federal employees with self-service, Internet-based tools for accessing accounts, updating retirement records, submitting transactions, monitoring the status of claims, and forecasting retirement income. The technology was also expected to enhance customer service by providing OPM and agency personnel with the capability to access retirement information online. Further, the technology was expected to be integrated with OPM and federal agency electronic retirement records and processes. When fully implemented, the modernized program was expected to serve OPM retirement processing personnel, federal agency human resources and payroll offices, active federal employees, retirees, and the beneficiaries of retirees.

According to the agency, in late February 2008, the DBTS was deployed with limited functionality to 26,000 federal employees serviced by the General Services Administration's (GSA) payroll offices. In April 2008,

OPM reported that 13 of the 37 retirement applications received from GSA's payroll office had been processed through DBTS with manual intervention and provided the retirees 100 percent of their monthly benefits within 30 days from their retirement date. However, a month later, the agency determined that DBTS had not worked as expected and suspended system operation. In October 2008, after 5 months of attempting to address system quality issues, the agency terminated the contract.

In November 2008, OPM began restructuring the program and reported that its efforts to modernize retirement processing would continue. Figure 3 illustrates the timeline of retirement modernization initiatives from 1987 to the present.

Figure 3: Timeline of Retirement Modernization Initiatives
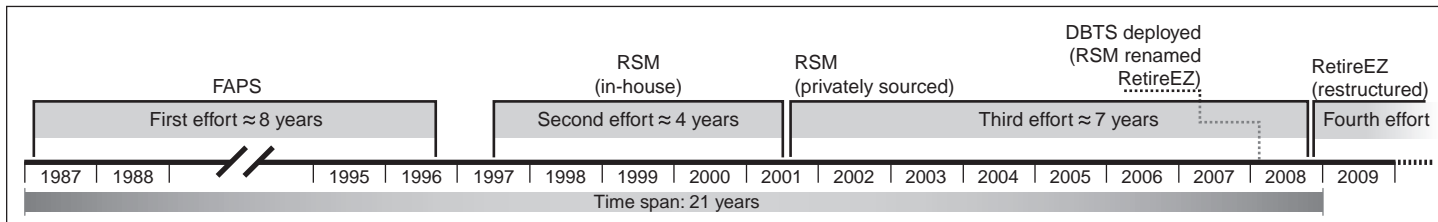
Source: GAO analysis of OPM data.

Current Retirement Modernization Management

Various entities within OPM are responsible for managing RetireEZ. Specifically, the management is composed of committees, a program office, and operational support, as reflected in table 2.

Table 2: Retirement Modernization Management Entities

Title	Description
Executive Steering Committee	The Executive Steering Committee is responsible for overall program direction and decision making. The committee is chaired by the Director of the Office of Modernization and Human Resources Line of Business.
Investment Review Board	The Investment Review Board is responsible for monitoring the progress of continued investment in the program and determining appropriate corrective action when necessary. The board is chaired by the agency's Chief Information Officer.
Office of Modernization and Human Resources Line of Business	The Office of Modernization and Human Resources Line of Business is responsible for overseeing the program office for the retirement modernization. The Director of Modernization and Human Resources Line of Business maintains overall administration of program activities and resources.

Title	Description
Center for Information Services	The Center for Information Services (CIS), within the Management Services Division, is responsible for providing support and oversight for acquisition, systems, contract, and security management. The Deputy Associate Director of CIS (also the Chief Information Officer) oversees the maintenance and operation of legacy retirement systems.
Center for Retirement and Insurance Services	The Center for Retirement and Insurance Services (CRIS), within the Human Resources Products and Services Division, is responsible for retirement processes and is expected to assume ownership of the retirement modernization. The Deputy Associate Director of CRIS oversees current operations and allocates resources as necessary to support the program office.

Source: GAO analysis of OPM data.

Prior GAO Reviews of OPM's Retirement Modernization Initiatives

Since 2005, we have conducted several studies of OPM's retirement modernization noting weaknesses in its management of the initiative. In February of that year, we reported that the agency lacked processes for retirement modernization acquisition activities, such as determining requirements, developing acquisition strategies, and implementing a risk program. Further, the agency had not established effective security management, change management, and program executive oversight.[6] We recommended that the Director of OPM ensure that the retirement modernization program office expeditiously establish processes for effective oversight of the retirement modernization in the areas of system acquisition management, information security, organizational change management, and information technology (IT) investment management. In response, between 2005 and 2007, the agency initiated steps toward establishing management processes for retirement modernization and demonstrated the completion of activities with respect to each of our nine recommendations.

However, in January 2008, we reported that the agency still needed to improve its management of the program to ensure a successful outcome for its modernization efforts.[7] Specifically, we reported that initial test results had not provided assurance that DBTS would perform as intended, the testing schedule increased the risk that the agency would not have sufficient resources or time to ensure that all system components were tested before deployment, and trends in identifying and resolving system defects had indicated a growing backlog of problems to be resolved prior

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[6]GAO, *Office of Personnel Management: Retirement Systems Modernization Program Faces Numerous Challenges*, GAO-05-237 (Washington, D.C.: Feb. 28, 2005).

[7]GAO-08-345.

to deployment. Further, we reported that although the agency had established a risk management process, it had not reliably estimated the program costs, and its progress reporting was questionable because it did not reflect the actual state of the program. We recommended that the Director of OPM address these deficiencies by conducting effective system tests and resolving urgent and high priority system defects prior to system deployment, in addition to improving program cost estimation and progress reporting.

In response to our report, OPM stated that it concurred with our recommendations and was taking steps to address them. However, in March 2008, we determined that the agency was moving forward with system deployment and had not yet implemented its planned actions.[8] OPM subsequently affirmed its agreement with our recommendations in April 2008 and reported that it had implemented or was in the process of implementing each recommendation. As of March 2009, however, these recommendations still had not been fully addressed.

Few Planned Capabilities Have Been Implemented, and Future Efforts Are Not Guided by a Complete Plan

OPM remains far from fully implementing the retirement modernization capabilities described when it documented its plans for RetireEZ in 2007. The agency only partially implemented two of eight capabilities that it identified to modernize retirement processing. The remaining six capabilities, which were to be delivered through the DBTS contract, have not been implemented, and OPM's plans to continue implementing them are uncertain. While the agency has taken steps to restructure the RetireEZ program without the DBTS contract, it has not developed a plan to guide its future modernization efforts.

Few Retirement Modernization Capabilities Have Been Implemented

OPM's retirement modernization plans from 2007 described eight capabilities that were to be implemented to achieve modernized processes and systems. As of late March 2009, the agency had partially implemented two of these capabilities while the remaining six had not been implemented (see table 3).

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[8]GAO, *Comments on the Office of Personnel Management's February 20, 2008 Report to Congress Regarding the Retirement System Modernization*, GAO-08-576R (Washington, D.C.: Mar. 28, 2008).

Table 3: Status of Implementing Retirement Modernization Capabilities

Capability	Implemented
An integrated database of retirement information accessible to OPM and agency retirement processing personnel	Partially
Enhanced customer service that support customer needs and self-service tools	Partially
Automated submission of retirement information through interfaces with federal agencies	No
Web-accessible, self-service retirement information for active and retired federal employees	No
A consolidated system to support all aspects of retirement processing	No
Electronic case management system to manage retirement applications and processes	No
Standardized systems for determining and calculating retirement benefit that is integrated with the retirement information database and is accessible to OPM and federal agencies	No
Retirement benefit modeling and planning tools for active federal employees	No

Source: GAO analysis of OPM data.

Specifically, it had achieved partial implementation of an integrated database of retirement information that was intended to be accessible to OPM and agency retirement processing personnel. In this regard, the agency implemented a new database, populated with images of retirement information, which is accessible to OPM retirement processing personnel online. This database contains over 8 million files which, according to agency officials, represent approximately 80 to 90 percent of the available retirement information for all active federal employees. However, the capability for the information in the database to be integrated with OPM's legacy retirement processing systems and to be accessible to other agency retirement processing personnel has not yet been implemented.

OPM has also partially implemented enhanced customer service capabilities. Specifically, the agency acquired a new telephone infrastructure (i.e., additional lines) and hired additional customer service representatives to reduce wait times and abandonment rates. However, the agency has not yet developed the capabilities for OPM retirement processing personnel to provide enhanced customer support to active and retired federal employees through online account access and management.

Moreover, six other capabilities have not been implemented—and plans to implement them are uncertain—because they were to be delivered

through the now-terminated DBTS contract, which had been expected to provide a single system that would automate the processing of retirement applications, calculations, and benefit payments.

Among the capabilities not implemented was one for other agencies' automated submissions of retirement information to OPM that could be used to process retirement applications. While OPM began developing this capability by establishing interfaces with other agencies as part of its effort to implement DBTS, it discontinued the use of the interfaces for processing retirement applications when the DBTS contract was terminated. Thus, federal agencies that submit retirement information to OPM continue to provide paper packages and information when employees are ready to retire.

Further, OPM has not implemented a planned capability for active and retired federal employees to access online retirement information through self-service tools. While the agency provided demonstrations of DBTS in April 2008 that showed the ability for employees to access information online, including applying for retirement and modeling future retirement benefits, this capability was to be provided by DBTS, and thus, no longer exists. The contractor had also been expected to deliver a consolidated system to support all aspects of retirement processing and an electronic case management system to support retirement processing. In the absence of these capabilities, the agency continues to manage cases through paper tracking and stand-alone systems. Additionally, OPM and federal agencies continue to rely on nonstandardized systems to determine and calculate retirement benefits, and federal retirees currently have only limited online, self-service tools.

OPM Does Not Have a Complete Plan for the Future of the RetireEZ Program

Program management principles and best practices emphasize the importance of using a program management plan that, among other things, establishes a complete description that ties together all program activities.[9] An effective plan includes a description of the program's scope, implementation strategy, lines of responsibility and authority, management processes, and a schedule. Such a plan incorporates all the critical areas of system development and is to be used as a means of determining what needs to be done, by whom, and when. Furthermore,

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[9]Institute of Electrical and Electronics Engineers (IEEE), *IEEE/EIA Guide for Information Technology*, IEEE/EIA 12207.1-1997 (April 1998).

establishing results-oriented (i.e., objective, quantifiable, and measurable) goals and measures, that can be included in a plan, provides stakeholders with the information they need to effectively oversee and manage programs.

A plan for the future of the RetireEZ program has not been completed. In November 2008, OPM began restructuring the program and reported it was continuing toward retirement modernization without the DBTS contract. The restructuring efforts have resulted in a wide variety of documentation, including multiple descriptions of the program in formal agency reports, budget documentation, agency briefing slides, and related documents.

For example, OPM's November Fiscal Year 2008 Agency Financial Report described what the RetireEZ program is expected to achieve (e.g., provide retirement modeling tools for federal employees) once implemented. The agency's Annual Performance Report, dated January 2009, outlined that the new vision for the restructured program is "to support benefit planning and management throughout a participant's lifecycle through an enhanced federal retirement program." The agency also presented information to OMB that identified eight fiscal year 2009 program initiatives, as listed in table 4.

Table 4: Fiscal Year 2009 Initiatives

Initiative
Determine next steps for technology tools and develop an execution plan
Increase customer contact center capacity
Complete conversion of paper records
Work with agencies to improve the quality, timeliness, and completeness of retirement data
Begin activities to provide agencies access to electronic data
Improve performance metrics for interim payments
Partner with the Enterprise Human Resources Integration initiative[a] for data storage, cleansing, and transmission of recurring data
Begin imaging all incoming paper records

Source: OPM data.

[a]OPM's Enterprise Human Resources Integration initiative is intended to provide federal agencies access to personnel folders online.

The agency has developed a variety of informal program documents and briefing slides that describe retirement modernization activities. For instance, one document prepared by the program office describes a five-

phased approach that is intended to replace its previous DBTS-reliant strategy. The approach includes the following activities: (1) collecting electronic retirement information, (2) automating the retirement application process, (3) integrating retirement information, (4) developing retirement calculation technologies and tools, and (5) improving post-retirement processes through a technology solution. In addition, briefing slides also prepared by the program office outline a schedule for efforts to identify new technologies to support retirement modernization by drafting a request for information, which OPM expects to issue in late April 2009.

Regardless, OPM's various reports and documents describing its planned retirement modernization activities do not provide a complete plan for its restructured program. Specifically, although agency documents describe program implementation activities, they do not include a definition of the program, its scope, lines of responsibility and authority, management processes, and schedule. Also, the modernization program documentation does not describe results-oriented (i.e., objective, quantifiable, and measurable) performance goals and measures. According to the RetireEZ program manager, the agency is developing plans, but they will not be ready for release until the new OPM director has approved them, which is expected to occur in April 2009. Until the agency completes and uses a plan that includes all of the above elements to guide its efforts, it will not be properly positioned to obtain agreement with relevant stakeholders (e.g., Congress, OMB, federal agencies, and OPM senior executives) for its restructured retirement modernization initiative. Further, the agency will also not have a key mechanism that it needs to help ensure successful implementation of future modernization efforts.

OPM Is Not Positioned to Effectively Manage Its Retirement Modernization Initiative

OPM has significant management weaknesses in five areas that are important to the success of its retirement modernization program: cost estimating, EVM, requirements management, testing, and program oversight. For example, the agency has not performed key steps, including the development of a cost estimating plan or completion of a work breakdown structure, both of which are necessary to develop a reliable program cost estimate. Also, OPM has not established and validated a performance measurement baseline, which is essential for reliable EVM. Further, although OPM is revising its previously developed system requirements, it has not established processes and plans to guide this work. Nor has the agency addressed test activities, even though developing processes and planning test activities early in the life cycle are recognized best practices for effective testing. Furthermore, although OPM's Executive Steering Committee and Investment Review Board have

recently become more active regarding RetireEZ, these bodies did not exercise effective oversight in the past, which has allowed the aforementioned management weaknesses to persist. Notably, OPM has not established guidance regarding how these entities are to engage with the program when corrective actions are needed. Until OPM addresses these weaknesses, many of which we and others made recommendations to correct, the agency's retirement modernization initiative remains at risk of failure.

OPM Has Yet to Complete Key Steps in Developing a Reliable Cost Estimate for Retirement Modernization

The establishment of a reliable cost estimate is a necessary element for informed investment decision making, realistic budget formulation, and meaningful progress measurement. A cost estimate is the summation of individual program cost elements that have been developed by using established methods and validated data to estimate future costs. According to federal policy, programs must maintain current and well-documented estimates of program costs, and these estimates must span the full expected life of the program.[10] Our *Cost Estimating and Assessment Guide* includes best practices that agencies can use for developing and managing program cost estimates that are comprehensive, well-documented, accurate, and credible, and provide management with a sound basis for establishing a baseline to measure program performance and formulate budgets.[11] This guide identifies a cost estimating process that includes initial steps such as defining the estimate's purpose (i.e., its intended use, scope, and level of detail); developing the estimating plan (i.e., the estimating approach, team, and timeline); defining the program (e.g., technical baseline description); and determining the estimating structure (e.g., work breakdown structure). According to best practices, these initial steps in the cost estimating process are of the utmost importance, and should be fully completed in order for the estimate to be considered valid and reliable.

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[10]OMB, Circular No. A-11, *Preparation, Submission, and Execution of the Budget* (Washington, D.C., Executive Office of the President, June 2008); Circular No. A-130 Revised, *Management of Federal Information Resources* (Washington, D.C., Executive Office of the President, Nov. 28, 2000); and *Capital Programming Guide: Supplement to Circular A-11, Part 7: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C., Executive Office of the President, June 2006).

[11]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009).

OPM officials stated that they intend to complete a modernization program cost estimate by July 2009. However, the agency has not yet fully completed initial steps for developing the new estimate. Specifically, the agency has not yet fully defined the estimate's purpose, developed the estimating plan, defined program characteristics in a technical baseline description, or determined the estimating structure.

- With respect to the estimate's purpose, agency officials stated that the estimate will inform the budget justification of RetireEZ for fiscal year 2011 and beyond. However, the agency has not clearly defined the scope or level of detail of the estimate.

- Regarding the estimating plan, agency officials stated that they have created a timeline to complete the estimate by July 2009. However, the agency has not documented an estimating plan that includes the approach and resources required to complete the estimate in the time period identified.

- With respect to the technical baseline description, agency officials stated that they are in the advanced stages of developing a request for information and a concept of operations that will serve as the basis for a technical baseline description. These documents are expected to be reviewed for approval in April 2009.

- Regarding the estimating structure, the agency has developed a work breakdown structure that identifies elements of the program to be estimated. However, the agency has not yet developed a work breakdown structure dictionary that clearly defines each element.

Weaknesses in the reliability of OPM's retirement modernization cost estimate have been long-standing. We first reported on the agency's lack of a reliable cost estimate in January 2008 when we noted that critical activities, including documentation of a technical baseline description, had not been performed, and we recommended that the agency revise the estimate.[12] Although OPM agreed to produce a reliable program cost estimate, the agency has not yet done so. Until OPM fully completes each of the steps, the agency increases the risk that it will produce an unreliable estimate and will not have a sound basis for measuring program performance and formulating retirement modernization program budgets.

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[12]GAO-08-345.

OPM Is Not Prepared to Perform Reliable Earned Value Management for Retirement Modernization

OMB and OPM policies require major IT programs to use EVM to measure and report program progress.[13] EVM is a tool for measuring program progress by comparing the value of work accomplished with the amount of work expected to be accomplished. Such a comparison permits actual performance to be evaluated, based on variances from the planned cost and schedule, and future performance to be forecasted. Identification of significant variances and analysis of their causes helps program managers determine the need for corrective actions. Before EVM analysis can be reliably performed, developing a credible cost estimate is necessary. In addition to developing a cost estimate, an integrated baseline review must be conducted to validate a performance measurement baseline and attain agreement of program stakeholders (e.g., agency and contractor officials) before reliable EVM reporting can begin. The establishment of a baseline depends on the completion of a work breakdown structure, an integrated master schedule, and budgets for planned work.

Although the agency plans to begin reporting on the restructured program's progress using EVM in April 2009, the agency is not yet prepared to do so because initial steps have not been completed and are dependent on decisions about the program that have not been made. Specifically,

- the agency has not yet developed a reliable cost estimate for the program; such an estimate, which is critical for establishing reliable EVM, is not expected to be complete until July 2009;
- the agency does not plan to conduct an integrated baseline review to establish a reliable performance measurement baseline before beginning EVM reporting; and
- the work breakdown structure and integrated master schedule that agency officials report they have developed may not accurately reflect the full scope and schedule because key program documentation, such as the concept of operations, has not been completed.

This situation resembles the state of affairs that existed in January 2008, when we reported that OPM's EVM was unreliable because an integrated baseline review had not been conducted to validate the program baseline.[14]

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[13]OMB issued policy guidance (M-05-23) to agency chief information officers on improving technology projects that includes requirements for reporting performance to OMB using EVM (August 2005). OPM, *Earned Value Management Policy* (June 2005).

[14]GAO-08-345.

At that time we recommended, among other things, that the agency establish a basis for effective use of EVM by validating a program performance measurement baseline through a program-level integrated baseline review. Although the agency stated that it agreed, it did not address this recommendation.

Until the agency has developed a reliable cost estimate, performed an integrated baseline review, and validated a performance measurement baseline that reflect its program restructuring, the agency is not prepared to perform reliable EVM. Engaging in EVM reporting without first performing these fundamental steps could again render the agency's assessment unreliable.

OPM Has Not Established Processes Needed to Effectively Develop and Manage Retirement Modernization Requirements

Well-defined and managed requirements are a cornerstone of effective system development and acquisition. According to recognized guidance, disciplined processes for developing and managing requirements can help reduce the risks of developing a system that does not meet user and operational needs.[15] Such processes include (1) developing detailed requirements that have been derived from the organization's concept of operations[16] and are complete and sufficiently detailed to guide system development and (2) establishing policies and plans, including defining roles and responsibilities, for managing changes to requirements and maintaining bidirectional requirements traceability.[17]

OPM's retirement modernization requirements processes include some, but not all, of the elements needed to effectively develop and manage requirements. The agency began an effort to better develop its retirement modernization requirements in November 2008. This effort was in response to the agency's recognition that its over 1,400 requirements

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[15]Carnegie Mellon Software Engineering Institute, *Capability Maturity Model® Integration for Development*, Version 1.2 (Pittsburgh, Pa., August 2006), and *Software Acquisition Capability Maturity Model®* (SA-CMM®) version 1.03, CMU/SEI-2002-TR-010 (Pittsburgh, Pa., March 2002); and the Institute of Electrical and Electronic Engineers (IEEE), 1362-1998, *IEEE Guide for Information Technology—System Definition— Concept of Operations Document* (New York, N.Y.,1998).

[16]A concept of operations is a user-oriented document that describes the characteristics of a proposed system from the users' viewpoint.

[17]Maintaining bidirectional requirement traceability means that system-level requirements can be traced both backward to higher level business or operational requirements, and forward to system design specifications and test plans.

lacked sufficient detail, were incomplete, and required further development. The agency intends to complete this requirements development effort in April 2009. However, the requirements will not be derived from OPM's concept of operations because the agency is revising the concept of operations expected to be completed by April 2009, to reflect the program restructuring. Further, OPM documentation indicates that the agency has not yet determined the level of detail to which requirements should be developed. Additionally, agency officials stated that OPM is developing a requirements development process for retirement modernization. With respect to requirements management, OPM developed an organizational charter that outlined roles and responsibilities for supporting efforts to manage requirements. However, the agency does not yet have a requirements management plan.

OPM's prior experience with DBTS illustrates the importance of effective requirements development and management. According to RetireEZ program officials, insufficiently detailed requirements, poorly controlled requirements changes, and inadequate requirements traceability were factors that contributed to DBTS not performing as expected. Moreover, these requirements development and management weaknesses were identified, and recommendations for improvement were made by OPM's independent verification and validation contractor before DBTS deployment. However, the agency has not yet corrected these weaknesses.

Until OPM fully establishes requirements development and management processes, the agency increases the risk that it will (1) identify requirements that are neither complete nor sufficiently detailed and (2) not effectively manage requirements changes or maintain bidirectional traceability, thus further increasing agency risk that it will produce a system that does not meet user and operational needs.

OPM Is Not Positioned to Effectively Manage Retirement Modernization Testing

Effective testing is an essential component of any program that includes developing systems. Generally, the purpose of testing is to identify defects or problems in meeting defined system requirements and satisfying user needs. To be effectively managed, testing should be planned and conducted in a structured and disciplined fashion that adheres to recognized guidance and is coordinated with the requirements

development process.[18] Beginning the test planning process in the early stages of a program life cycle can reduce rework later in the program. Early test planning in coordination with requirements development can provide major benefits. For example, planning for test activities during the development of requirements may reduce the number of defects identified later and the costs related to requirements rework or change requests. Further, planning test activities early in a program's life cycle can inform requests for proposals and help communicate testing expectations to potential vendors.

OPM has not begun to plan test activities in coordination with developing its requirements for the RetireEZ program. According to OPM officials, the agency intends to begin its test planning by revising the previously developed DBTS test plans after requirements have been developed. However, the agency has not yet added test planning to its project schedule.

Early test planning is especially important to avoid repeating the agency's experience during DBTS testing when it identified more defects than it could resolve before system deployment. In January 2008, we reported that an unexpectedly high number of defects were identified during testing; yet, the deployment schedule had increased the risk of not resolving all defects that needed to be corrected before deploying DBTS. According to the RetireEZ program officials, the failure to fully address these defects contributed to the limited number of federal employees who were successfully processed by the system when it was deployed in February 2008.

If it does not plan test activities early in the life cycle of RetireEZ, OPM increases the risk that it will again deploy a system that does not satisfy user expectations and meet requirements (i.e., accurately calculate retirement benefits) because of its potential inability to address a higher number of defects than expected. Moreover, criteria used to develop requests for proposals and communicate testing expectations to potential vendors could be better informed if the agency plans RetireEZ test activities early in the life cycle.

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[18]See for example, Carnegie Mellon Software Engineering Institute, *Software Acquisition Planning Guidelines*, CMU/SEI-2005-HB-006 (Pittsburgh, Pa., December 2005); IEEE Standard 829-2008, *Standard for Software and System Test Documentation* (July 2008); and IEEE Standard 1044-1993, *Standard Classification for Software Anomalies* (December 1993).

OPM Is Not Providing Effective Oversight for Retirement Modernization

GAO and OMB guidance calls for agencies to ensure effective oversight of IT projects throughout all life-cycle phases. Critical to effective oversight are investment management boards made up of key executives who regularly track the progress of IT projects such as system acquisitions or modernizations. These boards should maintain adequate oversight and track project performance and progress toward predefined cost and schedule goals, as well as monitor project benefits and exposure to risk. Another element of effective IT oversight is employing early warning systems that enable management boards to take corrective actions at the first sign of cost, schedule, and performance slippages.

OPM's Investment Review Board was established to ensure that major investments are on track by reviewing their progress and determining appropriate actions when investments encounter challenges. Despite meeting regularly and being provided with information that indicated problems with the retirement modernization, the board did not ensure that the investment was on track, nor did it determine appropriate actions for course correction when needed. For example, from January 2007 to August 2008 the board met and was presented with reports that described problems the retirement modernization program was facing, such as the lack of an integrated master schedule and earned value data that did not reflect the "reality or current status" of the program. However, meeting minutes indicate that no discussion or action was taken to address these problems. According to a member of the board, OPM guidance regarding how the board is to communicate recommendations and corrective actions when needed for the investments it is responsible for overseeing has not been established.

In addition, OPM established an Executive Steering Committee to oversee retirement modernization. According to its charter, the committee is to provide strategic direction, oversight, and issue resolution to ensure that the program maintains alignment with the mission, goals, and objectives of the agency and is supported with required resources and expertise. However, the committee was inactive for most of 2008 and, consequently, did not exercise oversight of the program during a crucial period in its development. For example, from January 2008 until October 2008, the committee discontinued its formal meetings, and as a result, it was not involved in key program decisions, including the deployment of DBTS. Further, a member of the committee noted that OPM guidance for making recommendations and taking corrective actions also has not been provided.

The ineffectiveness of the board and the inactivity of the committee allowed program management weaknesses in the areas of cost estimation, EVM, requirements management, and testing to persist and raise concerns about OPM's ability to provide meaningful oversight as the agency proceeds with its retirement modernization. Without fully functioning oversight bodies, OPM cannot monitor modernization activities and make the course corrections that effective boards and committees are intended to provide.

Conclusions

OPM's retirement modernization initiative is in transition from a program that was highly dependent on the success of a major contract that no longer exists, to a restructured program that has yet to be fully defined. Although the agency has been able to partially implement a database of retirement information and improvements to customer service, it remains far from implementing six other key capabilities. Recognizing that much work remains, OPM has undertaken steps to restructure the retirement modernization program, but it has not yet produced a complete description of its planned program, including fundamental information about the program's scope, implementation strategy, lines of responsibility and authority, management processes, and schedule. Further, OPM's retirement modernization program restructuring does not yet include definitions of results-oriented goals and measures against which program performance can be objectively and quantitatively assessed.

In addition, OPM has not overcome managerial shortcomings in key areas of program management, including areas that we have previously reported. Specifically, the agency is not yet positioned to develop a reliable program cost estimate or perform reliable EVM, both of which are critical to effective program planning and oversight. Nor has OPM overcome weaknesses in its management of system testing and defects, two activities that proved problematic as the agency was preparing to deploy the RetireEZ system that subsequently was terminated. Adding to these long-standing concerns are weaknesses in OPM's process to effectively develop and manage requirements for whatever system or service it intends to acquire or develop. Finally, these weaknesses have been allowed to persist by entities within the agency that were ineffective in overseeing the retirement modernization program.

As a consequence, the agency is faced with significant challenges on two fronts: defining and transitioning to its restructured program, and addressing new and previously identified managerial weaknesses. Until OPM addresses these weaknesses, many of which were previously

identified by GAO and others, the agency's retirement modernization initiative remains at risk of failure. Institutionalizing effective planning and management is critical not only for the success of this initiative, but also for that of other modernization efforts within the agency.

Recommendations for Executive Action

To improve OPM's effort toward planning and implementing its retirement modernization program by addressing management weaknesses, we recommend that the Director of the Office of Personnel Management provide immediate attention to ensure the following six actions are taken:

- Develop a complete plan for the restructured program that defines the scope, implementation strategy, lines of responsibility and authority, management processes, and schedule. Further, the plan should establish results-oriented (i.e., objective, quantifiable, and measurable) goals and associated performance measures for the program.

- Develop a reliable cost estimate by following the best practice steps outlined in our *Cost Estimating and Assessment Guide*, including definition of the estimate's purpose, development of an estimating plan, definition of the program's characteristics, and determination of the estimating structure.

- Establish a basis for reliable EVM, when appropriate, by developing a reliable program cost estimate, performing an integrated baseline review, and validating a performance measurement baseline that reflects the program restructuring.

- Develop a requirements management plan and execute processes described in the plan to develop retirement modernization requirements in accordance with recognized guidance.

- Begin RetireEZ test planning activities early in the life cycle.

- Develop policies and procedures that would establish meaningful program oversight and require appropriate action to address management deficiencies.

Agency Comments and Our Evaluation

The Director of the Office of Personnel Management provided written comments on a draft of this report. (The comments are reproduced in app. II.) In the comments, OPM agreed with our recommendations and stated that it had begun to address them. To this end, the Director stated that the agency had, among other actions, begun revising its retirement modernization plans, developing a new program cost estimate, planning for accurate EVM reporting, incorporating recognized guidance in

requirements management planning, and planning test activities during requirements development. If the recommendations are properly implemented, they should better position OPM to effectively manage its retirement modernization initiative. The agency also provided comments on the draft report regarding our description of the federal retirement application process, as well as our characterizations of OPM's EVM and requirements management capabilities vis-à-vis the retirement modernization program. In each of these instances, we made revisions as appropriate.

We are sending copies of this report to the Director of the Office of Personnel Management, appropriate congressional committees, and other interested parties. In addition, the report is available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staffs have questions about this report, please contact me at (202) 512-6304 or melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

Valerie C. Melvin
Director, Information Management and
   Human Capital Issues

Appendix I: Objectives, Scope, and Methodology

As requested, the objectives of our study were to (1) assess the status of the Office of Personnel Management's (OPM) efforts toward planning and implementing the RetireEZ program and (2) evaluate the effectiveness of the agency's management of the modernization initiative.

To assess the status of OPM's efforts toward planning and implementing the RetireEZ program, we

- reviewed and analyzed program documentation, including program management plans, briefing slides, and project status documentation, to identify planned retirement modernization capabilities and determine to what extent these capabilities have been implemented;

- evaluated the agency's documentation about restructuring the program and analyzed the extent to which the documentation describes current and planned RetireEZ program activities;

- identified and evaluated the agency's program goals and measures and compared them to relevant guidance to determine the extent to which the goals and measures are described in results-oriented terms;

- supplemented agency program documentation and our analyses by interviewing agency and contractor officials, including the OPM Director, Chief Information Officer, Chief Financial Officer, Director of Modernization, Associate Director for Human Resources Products and Services Division, and executives from Hewitt Associates and Northrop Grumman Corporation; and

- observed retirement operations and ongoing modernization activities at OPM and contractor facilities in Washington, D.C.; Boyers, Pennsylvania; and Herndon, Virginia.

To determine the effectiveness of OPM's management of the retirement modernization initiative, we evaluated the agency's management of program cost estimating, earned value management (EVM), requirements, test planning, and oversight and compared the agency's work in each area with recognized best practices and guidance. Specifically,

- to evaluate whether OPM effectively developed a reliable program cost estimate, we analyzed the agency's program documentation and determined to what extent the agency had completed key activities described in our *Cost Estimating and Assessment Guide*;

- to assess OPM's implementation of EVM, we reviewed program progress reporting documentation and compared the agency's plans for restarting

its EVM-based progress reporting against relevant guidance, including our *Cost Estimating and Assessment Guide*;

- regarding requirements management, we evaluated OPM's processes for developing and managing retirement systems modernization requirements and compared the effectiveness of those processes against recognized guidance;

- to determine the effectiveness of the agency's test planning for the retirement modernization, we reviewed program activities and test plans against best practices and evaluated the extent to which the agency has begun planning for these activities; and

- we reviewed and analyzed documentation from program oversight entities and evaluated the extent to which these entities took actions toward ensuring the RetireEZ program was being effectively overseen.

We also evaluated OPM's progress toward implementing our open recommendations and interviewed OPM and contractor officials as noted.

We conducted this performance audit at OPM headquarters in Washington, D.C., the Retirement Operations Center for OPM in Boyers, Pennsylvania, and contractor facilities in Herndon, Virginia, from May 2008 through April 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT
Washington, DC 20415

APR 1 5 2009

The Director

Valerie C. Melvin
Director, Information Management and
   Human Capital Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Melvin:

Thank you for the opportunity to provide comments in response to the Government
Accountability Office's (GAO) draft report entitled *Office of Personnel Management:
Retirement Modernization Planning and Management Shortcomings Need to Be Addressed*
(GAO-09-529). The Office of Personnel (OPM) agrees with the six recommendations outlined
in the draft report and has already begun to address them.

As you are aware, the primary objectives of retirement business transformation are: 1. to migrate
from a paper-based environment to an electronic system of retirement data management; 2. to
improve retirement processing and post-retirement processing efficiency; and 3. to enhance
customer service. To that end, the Program Management Office (PMO), Executive Steering
Committee (ESC), and program stakeholders continue to refine the retirement systems
modernization program five-phased implementation plan to ensure each phase and its initiatives
directly align to retirement systems modernization end-state capabilities. Progress continues on
the fundamental requirements of the plan – automating data collection, conversion of data from
paper records to electronic media and the re-orientation of agency staff concerning their critical
role in improving data quality and improving the retirement experience. These critical,
foundational steps are needed to prepare the way for retirement modernization going forward.
Progress has also been made in the establishment of basic performance measures and their
monthly reporting. These measures are related to the fundamental requirement for
improvements and allow the agency to ensure that current investments result in better services
and reductions in future cost increases.

As OPM's new Director, I consider one of my first and most important responsibilities to get this
program fixed and working so that the retirement experience for government employees is as
simple and seamless as current technology allows.

To ensure success moving forward, I will solicit the views of experts at Federal agencies that
have undertaken similarly ambitious efforts to modernize federal business processes and
systems. Their views and experiences may be useful to OPM in shaping the technology way
ahead for retirement systems modernization. We will discuss best practices and pitfalls to avoid

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with agencies that changed their business models and supporting systems to deliver services that
are citizen-focused, agile, responsive and accessible. This infusion of input from agencies with
expertise and experience with similarly large systems, combined with a planned request for
information to the private sector will enhance OPM's ability to incorporate innovative
approaches to our efforts to modernize and improve retirement services for federal retirees.

In addition, OPM has engaged agencies to be part of the solution, i.e. to improve the quality and
completeness of retirement applications submitted to OPM. With them as full participants, they
are far more likely to buy in to the concept of shared responsibility for the retirement process.
Awareness and appreciation has increased to the point that it is now clearly recognized as a joint
endeavor among the employee's agency at retirement, the employee, and OPM. One example of
this was a Retirement Symposium OPM hosted for more than 175 human resource and payroll
employees from throughout the federal government on January 28th, 2009. In addition to the
Symposium, OPM continues to work one-on-one with agencies to improve their individual
processes based on the data collected on their retirement applications in the 2008 quality audit.
Following an initial quality audit review meeting, agencies developed and submitted to OPM
action plans to improve quality based on feedback from OPM quality audits. OPM is developing
plans for regular retirement application quality audits to ensure continued feedback to agencies
to help them make improvement on their retirement application submissions.

OPM has reached out to over 40 organizations by conducting kick-off meetings and working
sessions on a series of activities designed to trigger data gathering on the agency's systems, data,
and business structure; discussions on secure electronic data transfer; and data requirements.
The bottom line is that OPM has established partnerships with the agencies to ensure their
support and buy-in moving forward.

I agree with the characterization that meaningful oversight is needed and that is the first issue
addressed this past November with designation of the new Project Manager, Deputy Project
Manager and a reconvened Executive Steering Committee. I want to assure you, however, that
the shortcomings identified within retirement systems modernization are not indicative of all
acquisition programs at OPM. Moreover, it is important to emphasize that, late in 2007 and
early in 2008, there was a determination to directly align the day-to-day oversight of the program
under the Director to ensure critical milestones could be closely monitored and met.
Unfortunately, the desire to achieve success within an overly ambitious timeframe resulted in
shortcuts that proved to be somewhat short-sighted. Nonetheless, this agency takes GAO's
findings very seriously and is addressing each of the six recommendations with specific actions
as outlined below:

I.   **Complete Project Plan**

       OPM recognizes the value of strong program management plans and through
       implementation of previous GAO recommendations, the retirement systems
       modernization program developed a robust set of program planning and management
       documentation. The program recognizes that the current baselined versions of the
       program documents do not fully reflect the state of the program, as they were based on a

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single Defined Benefits Technology Solution (DBTS) with supporting implementing
vendors. OPM began the process of updating the documents in December 2008.

Program documentation for retirement systems modernization includes a program
management plan (PMP) that defines the scope and objectives of retirement systems
modernization. It also describes the overall governance structure for retirement systems
modernization, including lines of responsibility and authority, and documents the
complete set of management processes for the program. This set of management
processes includes planning and earned value management, funds management, contract
management, configuration management, and integration with OPM's Information
Technology System Manager (ITSM) system development methodology. Also included
are risk management, requirements management, quality management, communication
and security management. In a number of these areas, such as, risk management and
requirements management, further details are provided in separate documents referenced
in the PMP.

A host of other program documents are fundamentally linked to the PMP and provide
further structure to the program, such as the program concept of operations (CONOPS),
the Work Breakdown Structure (WBS) and Integrated Master Schedule. Examples of
these linkages are the inclusion of significant milestones from the program's Integrated
Master Schedule in the PMP, and the program's five phase implementation approach
which is detailed in the CONOPS and described in the PMP.

The PMP and associated documents are currently undergoing a thorough revision based
on a change in program approach and updates to the processes and documents described
above. The table below provides the list of documents that are undergoing revisions:

Program Management Documentation	Date of Current Version	Projected Completion of Update
Concept of Operations	2/20/07	May 2009 (in development)
Configuration Management Process Guide	6/25/07	April 2009 (completed)
Program Management Plan	12/4/07	June 2009 (in development)
Requirements Management Plan	6/25/07	May 2009 (in coordination)
Risk Management Plan	12/4/07	May 2009 (in coordination)
Program Cost Estimate	12/19/08	June 2009 (in development)
Test Management Plan	10/16/07	June 2009 (in development)
Work Breakdown Structure (WBS)	3/3/09	March 2009 (completed)
WBS Dictionary	7/17/07	May 2009 (in development)

As outlined above, updates to the PMP are ongoing and are not likely to be completed
until the other underlying documents are finalized, due to the linkages among them. I
anticipate this process to be completed by June 2009. OPM is currently developing goals
which tie to the capabilities the program is working to make a reality. Establishing
results-oriented program goals and measures requires coordinating with multiple
stakeholders within OPM. This ensures harmonization with overall agency strategic and

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operational goals, which are developed under their own timetables, and as a result, are anticipated to take longer.

When the updates currently underway are completed, and with the input we are seeking from other agencies and the private sector, I am confident that the retirement systems modernization program will have a solid foundation to guide its efforts and be properly positioned to deliver modernized retirement capabilities and systems.

II.   Reliable Cost Estimate

OPM recognizes the importance of a comprehensive, well-documented, accurate and credible cost estimate for managing the retirement systems modernization program. Previous cost estimates were based primarily on the value of vendor, firm-fixed price contracts (which comprised the vast majority of program costs), rather than a build-up of program costs. This was deemed to be the most accurate approach at the time. However, given the substantial changes to the program in the past year, and recognition of the benefits of a more rigorous approach to cost estimation, the weaknesses in previous estimates are being actively addressed. Specifically, OPM is using the GAO Cost Estimating and Assessment Guide (published in March 2009) and on-going program efforts to develop a comprehensive CONOPS and the program integrated master schedule (IMS) as a guide to developing a comprehensive cost estimate for the program.

The cost estimation work is part of a broader business case analysis that is re-examining all aspects of the program and engaging stakeholders throughout OPM to ensure that program replanning provides the proper foundation for the program. The GAO Cost Estimating and Assessment Guide are being used during every stage of the business case analysis and will complete each of the twelve recommended steps. OPM has made considerable progress in the initial stages of developing the cost estimate, including:

- **Define estimate purpose** — The purpose of the estimate is to inform budget planning for the program, inform the justification for continued investment in the program, and provide the basis for measuring program performance. The level of detail has been established at level 4 in the program work breakdown structure (WBS), and the overall scope of the estimate matches the scope laid out in the draft program concept of operations (CONOPS) and is consistent with OPM's 5 phase implementation approach.
- **Develop estimating plan** — The cost estimating team was established in mid-February and has developed the master schedule and associated timeline for completion of the estimate. The estimating approach is being tailored to specific program initiatives. Preparations to conduct the independent cost estimate are underway.
- **Define program characteristics** — The program has been developing documentation such as an updated CONOPS and has developed an RFI, the results of which will help to inform the technical baseline description. Additionally, interviews with program stakeholders have collected a wealth of

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information on program needs, the current environment, alternatives for going
forward, and the associated risks.

- **Determine estimating structure** — The estimating structure for the cost
  estimate is the updated program WBS which was approved by the program
  change control board in early March. The WBS divides program work into
  phases and initiatives and work packages detail the full system development
  lifecycle for each initiative. Leveraging the approved WBS as the structure for
  the cost estimation will ensure an end-to-end cost estimate for the program that
  reflects dependencies across initiatives. Development of the program WBS
  dictionary is underway to ensure clear understanding of each element of the WBS
  and appropriate classification of work and resources within the program's
  Integrated Master Schedule (IMS). Specific technical components of each
  initiative are being outlined in the CONOPS and will provide additional detail for
  the cost estimate.

The work underway will position us to establish a credible, comprehensive, and
defensible cost estimate for retirement systems modernization in the coming months.
OPM is working with internal and external stakeholders to ensure all parties are in
agreement with the approach for developing the cost estimate. It is clear that a good cost
estimate is a living artifact and that processes must be developed to update the cost
estimate throughout the life of the program in order to maintain its accuracy over time.

III. Earned Value Management

OPM agrees with GAO on the importance of Earned Value Management (EVM) for
measuring and reporting program progress. As a measure of the importance OPM places
on reliable EVM reporting, the deficiency of quality EVM data was a major factor in the
decision to stop work on the DBTS contract. Retirement system modernization has
invested considerable resources in EVM processes and has required vendors to provide
detailed EVM data for measuring program progress. Cessation of work on the DBTS
contract rendered it impossible to continue program-level EVM reporting.[1] Given these
deficiencies, OPM was unable to conduct an integrated baseline review as recommended
by GAO in its January 2008 report.

OPM recognizes the value of a reliable cost estimate and is currently developing one in
order to establish a new program baseline upon which to report future progress. In the
interim, OPM is restarting EVM reporting based on an updated Integrated Master
Schedule (IMS) as a means to capture program status information and to acclimate
program vendors and business owners to the process of providing and statusing program
EVM data. This is a significant effort requiring frequent meetings with initiative owners
and other OPM stakeholders to decompose work packages into constituent tasks and
identifying cross-program dependencies. OPM recognizes that the value of the resulting
data will be limited until the cost estimate is complete and the program can formally
establish the performance measurement baseline (PMB). As such, OPM will be working

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[1] Project level EV reporting for the program's PDCC vendor continued without interruption and continues
to be used to track project performance.

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to baseline the program throughout the cost estimation process outlined above. Program
EVM status for FY2009 and FY2010 will be statused and reported on a monthly basis
while OPM completes the cost estimation and establishes a comprehensive, credible
PMB. OPM plans to execute an integrated baseline review as soon as reasonably
possible after completing the cost estimate and establishing the PMB.

OPM has invested considerable effort in creating the artifacts necessary for accurate
EVM reporting, having developed an IMS with over 1,000 activities. At the same time,
OPM has updated and refined other program artifacts, such as the program CONOPS.
Given the concurrent development of these artifacts, OPM has worked to ensure that
updates in one document are applied across the full set of program artifacts, through
continuous communication within the project team, thus minimizing gaps or conflicting
information.

In addition, OPM is finalizing a briefing on the EVMS to share with program
stakeholders and initiative owners in the next month. This presentation will review the
expectations for EVM statusing and reporting and the importance of robust EVM.
Additionally, the PMO will provide training to federal and vendor initiative owners who
will be expected to provide status on a monthly basis and will be responsible for
developing variance reports.

IV.   Requirements Management

OPM supports the implementation of recognized best practices to develop and manage
detailed retirement modernization requirements. Previous requirements development
efforts focused on tailoring requirements to the Defined Benefits Technology Solution
(DBTS), resulting in requirements that were oriented to commercial-off-the-shelf
software, but which lacked specific detail about complex federal retirement business
processes. As GAO noted, lacking an adequate degree of specificity, previous OPM
requirements efforts were unable to trace software specifications and functionality to the
complex federal retirement business processes the technology solutions were designed to
support. This lack of traceability was one factor that contributed to the unsuccessful
DBTS technology solution. Current requirements management efforts are based on
industry best practices and technology standards and clearly assign responsibilities across
the organization. They also establish repeatable procedures for all phases of
requirements process and ensure the management of the requirements baseline through
standard Configuration Management (CM) and Configuration Control Board (CCB)
processes.

Leveraging Carnegie Mellon's Software Engineering Institute (SEI) Capability Maturity
Model Integration (CMMI)-Development v1.2 and Institute of Electrical and Electronics
Engineers (IEEE) Standard 1233 - 1998, IEEE Guide for Developing System
Requirements Specifications, OPM has developed a requirements management
framework and procedures which will ensure future clarity, traceability, and accuracy.
The CMMI-Development framework provides standard process steps for Requirements
Management. Also, OPM's Information Technology Systems Manager (ITSM)

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incorporates both CMMI and IEEE requirements standards as part of OPM's System
Development Life Cycle. These steps have been incorporated into the Retirement
Requirements Management process as follows.

- **Develop Business Requirements** - The operational concepts captured in the
  Concept of Operations (CONOPS) will be articulated as business processes, data
  and requirements. These requirements are not technical but represent the
  operational user's views of the business processes. Retirement systems cannot be
  developed from these requirements as they lack technical specificity. Once these
  requirements are documented and validated by the stakeholders, they will be
  further deconstructed into technical system requirements.

- **Develop System Specifications** - User business requirements need to be
  translated into product requirements articulated in technical terms before system
  design can begin. The system specifications transform the user requirements into
  technical language, detailed enough to support system design. The system
  requirements are then organized by system components. An integral part of the
  development of these system specifications is the elicitation of interface
  requirements for connecting related systems with each other so that they are
  interoperable and can exchange data.

- **Testing** - Test procedures are developed to verify each system specification and
  that system function meets the business need stated in the requirements. OPM is
  in the process of implementing a Test Management Plan to ensure that test
  procedures verify that developed systems meets the documented system and
  business requirements. The test procedures will be tracked as part of the
  requirements management process in order to ensure that the requirements they
  represent can be tested and verified.

- **Requirements Management and Traceability** - The goal of Requirements
  Management is to ensure that requirements are elicited, developed and tracked in
  a systematic manner and managed through standard Configuration Management
  and Configuration Control Board processes. Requirements traceability provides a
  method to link business requirements and technical specifications in order to
  validate that the system design meets the user's business requirements.

OPM acknowledges that previous requirements management efforts were geared
specifically to the implementation of a single commercial system and did not describe
complex federal retirement business processes and requirements to the necessary level of
detail. Thus, the CMMI-Development (Requirements Management) Framework and
processes will enable OPM to develop business requirements and specifications, based on
an approved Concept of Operations, that reliably produce modern systems and system
components that meet the Retirement program's business needs.

V.   **Test Planning**

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OPM recognizes that effective testing, based on established standards and best practices, is an essential component in the delivery of federal Retirement capabilities and systems. System testing can identify defects early enough in the development process to allow for corrections before deployment, verify that the developed system matches system requirements and specifications, and validate that the system meets user needs. In the case of Retirement Modernization testing, basic test management plans and processes were in place to guide and evaluate system testing. OPM test management processes generally conformed to established software engineering standards. However, a number of factors impacted the timely execution of testing and correction of system defects. These factors contributed to a deployed system which did not fully deliver required Retirement Modernization capabilities.

The Retirement Modernization program issued a Retirement System Modernization Test Approach and User Acceptance Testing (UAT) Execution Plan in 2007 with updates in early 2008. In line with testing best practices described in Institute of Electrical and Electronics Engineering (IEEE) standard 829, IEEE Standard for Software Test Documentation, the OPM testing approach included test scope and methodology, timeline, test entry and exit criteria, guidance for defect tracking and provisions for independent validation and verification of test results.

As GAO notes, the project test plans were issued midway through the development cycle, rather than at the inception of the process, thus compressing the time allocated for testing into an extremely narrow window. Complicating the shortened testing timeline, system requirements and system specifications that drove development did not capture, at a detailed level, a number of highly complex federal retirement business processes required to fully deliver clean data required for successful annuity calculations. Additionally, interface specifications and reporting requirements were still in the development phase three months before the system deployed, leaving the delivered system unable to pass data to legacy systems critical to retiree and annuitant services. Due to the compressed testing schedule, system component testing was conducted in parallel or concurrently vice sequentially, which did not allow developers to identify interoperability issues or defects among the various system components.

As the testing cycle proceeded, using structured scenarios, system defects were identified and documented and defect tracking and assessments provided as the Test Plans required. Given the compressed test window and the complexity of implementing a commercial system for the federal sector, the system deficiencies could not be effectively resolved prior to the system deployment date. The DBTS was deployed with reduced initial operating capability, but with the hope that further rapid development would follow. The system was deployed and subsequently manual intervention was required to augment retirement calculations.

OPM acknowledges that planning test activities early in the retirement systems modernization lifecycle in conjunction with the requirements development process will potentially reduce future system defects. While the DBTS Test Approach and User Acceptance Test Execution Plan were tailored specifically to the DBTS solution, OPM

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will release an updated Retirement Systems Modernization Test Management Plan,
consistent with best practices and industry standards, and fully correlated with the
Requirements Management Plan. Retirement systems modernization test activities will be
included in the Project Management Plan, and test activities will be fully integrated with
the requirements development process. OPM is confident that planning and integrating
test management activities with requirements development will preclude the level of
defects experienced in previous development efforts and result in retirement systems
modernization capabilities that are fully consistent and supportive of federal retirement
services.

VI. **Policy/Procedures for Program Oversight**

OPM has established different types of oversight groups to ensure that acquisition
programs remain on track to meet the requirements, cost, and schedule aligned to the
selected programs. For retirement systems modernization, OPM leadership initially
determined that an Executive Steering Committee would be the proper oversight group
for the retirement system modernization program. Over the course of time, however, it
was determined that the program office would report directly to the OPM Director to
streamline the process and to accelerate the program. Therefore, the GAO report is
correct in saying that the ESC was suspended during the period of January 2008 to
October 2008.

With the change in leadership at OPM in August 2009, the new Acting Director who
headed the agency at that time quickly established a senior level working group (Sunrise
Group) to oversee the management of the retirement modernization program. To quickly
get the retirement program back on track, the Sunrise Group established a series of
actions and each stakeholder took responsibility for progress on their respective actions.
Based on this oversight, many actions quickly occurred, including increasing the number
of personnel at the call center, engagements with the shared service centers, and the
imaging of documents at the Retirement Operations Center, to name a few. After an
extensive Federal search a program manager and a deputy program manager were
selected to take responsibility for the day-to-day operation of the program. One of the
first duties of the program manager was to craft a revised charter for the Executive
Steering Committee to take over direct oversight of the program. The committee is made
up of senior level (SES) stakeholders that meet on monthly basis, in addition to the
weekly meetings that continue.

OPM also has an Information Technology (IT) Investment Review Board (IRB) which
was established according to Clinger-Cohen Act requirements to advise the agency head
on issues related to the selection and evaluation of IT investments. The Board, which
includes as its members senior executives of the agency, met consistently from 2005 to
evaluate investments and recommend approval or disapproval of funding. In addition,
the Board members received independent assessments of investment status, including the
status of retirement system modernization. Board members, who met routinely with the
agency Director in their capacities as her direct reports, provided feedback and advice to

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the Director, influenced by the independent assessments as well as the project manager's reports provided at meetings of the Board. Because the Clinger-Cohen Act assigns responsibility for capital planning and investment control and other requirements of the Act to the agency head, OPM's Investment Review Board advised the Director, but the IRB was not established to decide how the agency would resolve concerns and risks associated with the retirement system modernization program that were brought to its attention. Such decisions were made by the Director per the Clinger-Cohen Act.

In addition, OPM specifically submits the following comments for GAO's consideration:
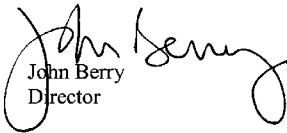
1. "Employing agency's" should be added to clarify the first sentence on page 7 of the draft report, thus changing it to read, "Once an employee submits an application, the *employing agency's* human resources office provides retirement counseling services to the employee and augments the retirement application with additional paperwork.

2. Regarding the statement at the bottom of page 7 of the draft report, "Payroll offices are required to submit the package to OPM within 30 days of the retiree's separation date.", we recommend clarifying that this is currently only a timeliness standard for this information. This standard is being augmented by the Agency Retirement Record Improvement Plan which emphasizes the shared responsibility between OPM and agencies to have complete and accurate information on which to base the adjudication.

3. Regarding the statement in the 9th line of the 2nd paragraph on page 8, "Retirement processing includes functions such as determining retirement eligibility, inputting data into benefit calculators, and providing customer service," we wish to emphasize that the referenced customer service is in relation to the initial adjudication. This does not include the customer service group included in the call centers that provide service to existing annuitants and survivors.

4. Regarding the heading on page 23, we recommend modifying the section header to refer to retirement systems modernization to be consistent with the content of this section and the scope of the report. In this section of the report, the authors refer to the application of Earned Value Management (EVM) techniques in the retirement systems modernization program. However, OPM has successfully managed several IT investments using EVM techniques. Those projects and the agency's EVM program as a whole were not addressed in this study and are not the subject of this report. Therefore, OPM requests that you change the section header to more explicitly articulate your concerns about the implementation of EVM in the retirement systems modernization program, since the concerns you have raised are related to retirement system modernization rather than the agency as a whole.

5. Regarding the section title in the middle of page 24, this title similarly extrapolates from the retirement modernization analysis to an agency-wide issue. OPM recommends that this wording be changed to reflect areas of concern specifically related to requirements management for retirement modernization. In addition, as referenced above, OPM does have an established system development life cycle (SDLC) process called IT Systems Manager (ITSM) that has clear, established processes for development and management of requirements.

6. Similarly, OPM recommends modifying the statement in the middle of page 25 that currently reads, "Additionally, agency officials stated that OPM is developing a

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requirements development process but did not specify when it will be finalized." to indicate that the requirements process under development is specifically related to retirement modernization. OPM has a requirements development process included in the IT Systems Manager (ITSM) that has been in existence since 2003.

Thank you for this opportunity to comment on GAO's draft report. I am excited about meeting the challenges that lie ahead and look forward GAO's guidance in addressing them.

Sincerely,

John Berry
Director

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Appendix III: GAO Staff Contact and Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, key contributions to this report were made by Mark T. Bird, Assistant Director; Barbara S. Collier; Neil J. Doherty; David A. Hong; Thomas J. Johnson; Rebecca E. LaPaze; Lee A. McCracken; Teresa M. Neven; Melissa K. Schermerhorn; Donald A. Sebers; and John P. Smith.