UNITED STATES OFFICE OF PERSONNEL MANAGEMENT

Strategic Information Technology Plan

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT
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Executive Summary

On July 16, 2013, during my confirmation hearing, I made a commitment to Chairman Tester, Ranking Member Portman, and members of the U.S. Senate Committee on Homeland Security and Governmental Affairs to work with my senior management team to create a plan for modernizing information technology (IT) at the U.S. Office of Personnel Management (OPM) within 100 days of assuming office. I further committed to identifying new IT leadership, using existing agency expertise, and seeking advice from government experts.

This plan fulfills my commitment and more. It provides a framework that is rooted in the use of human resources (HR) data throughout a lifecycle ("strategy to separation"), allowing for reuse of that data in our HR systems to support agile HR policies; establishes enabling successful practices and initiatives, and enterprise and business initiatives that define OPM's IT modernization efforts; and creates a flexible and sustainable Chief Information Officer (CIO) organization led by a strong senior executive with Federal experience in information technology, program management, and HR policy. Our CIO is supported by a Chief Technology Officer (CTO) with private sector and academic expertise, along with a team of dedicated business unit experts within OPM and in our partnering Federal agencies.

In developing this plan, we focused on our current operations, especially retirement programs and USAJOBS®, while orienting ourselves toward our vision. In particular, we considered the necessity to bridge the current systems to our vision of a shared platform using infrastructure that promotes an enterprise, rational, secure, scalable and cost effective way to manage information flows among systems. We seek to simplify USAJOBS® to ease the burden on applicants and build the most diverse, highly talented workforce. We also seek to ensure data availability and accuracy across the lifecycle for faster retirement processing, increased accuracy of annuity calculations, and a reduced backlog of cases.

We will measure the performance of our IT program using three basic metrics:

- Compliance with laws, policies and successful practices;
- User and stakeholder satisfaction with improved IT capabilities; and
- Cost per IT service or transaction.

While a plan is just a plan, the true value we provide to our customers will be derived from our ability to deliver high quality, modern IT services and capabilities that enable us to fulfill our mission (Recruit, Retain, and Honor a World-Class Workforce to Serve the American People) and implement our Strategic Plan. By structuring our IT modernization around the HR lifecycle using the "strategy to separation" approach created by the HR line of business (HR LOB) effort, we can ensure our mission is carried out by:

- Improving policy regarding a wide range of HR functions by enabling it to be more business process focused, data driven, agile, and responsive;

- Aiding agencies in strategic HR planning so they fill the right jobs;
- Helping agencies recruit and hire the most talented and diverse Federal workforce possible to serve the American people;
- Ensuring our Federal workforce is properly investigated and can be trusted to serve our great nation;
- Providing the training, benefits, and work/life balance necessary for Federal employees to serve, prosper, and advance in their careers;
- Ensuring the Federal workforce and its leaders are fully accountable, are fairly appraised, and have the tools, systems, and resources to perform at the highest levels to achieve superior results;
- Ensuring recognition and reward for exemplary performance of current employees and honoring the careers of Federal retirees; and
- Ensuring our Federal workforce and retirees, their families, and their beneficiaries and survivors receive appropriate benefits, such as retirement payments, life insurance, and health benefits.

Additionally, Congress recognized OPM's success in making healthcare options available to the Federal workforce and made us responsible for warehousing health claims data under the Affordable Care Act. For that effort, we take a data lifecycle approach. While this initiative is not immediately relevant to the HR lifecycle, we will leverage the efforts described in this document to benefit healthcare data warehousing.

By coupling the "strategy to separation" HR lifecycle with successful practices in the six areas of IT Leadership, IT Governance, Enterprise Architecture (EA), Agile IT, Data Analytics, and Information Security, we can ensure our business units have integrated and shared accountability with their processes, data, and technology:

- **IT Leadership** will structure OPM's IT organization for optimal performance outcomes, ensuring appropriate partnerships with the business community and other stakeholders, and providing career-enhancing challenges for our workforce to enable them to remain competitive in the IT field.
- **IT Governance** will enable us to: (1) align business and technology leadership to identify investment priorities, (2) properly and proactively manage our IT program, (3) ensure we invest wisely in technologies, and (4) identify and transparently manage our IT budget while we seek cost avoidance and savings opportunities in sustainment areas, thereby enabling scarce resources to be used for new efforts.
- **Enterprise Architecture** will ensure our innovative solutions integrate to support our

desired performance outcomes and that we adopt solutions that provide benefit throughout OPM and the Federal government rather than unique solutions in each business unit.

— **Agile IT** principles will more quickly and efficiently deploy innovative solutions, whether they are enterprise or business-unique capabilities, lowering risks by delivering capabilities in smaller segments with incremental investment, and allowing better stakeholder engagement and feedback throughout the solutions development process.

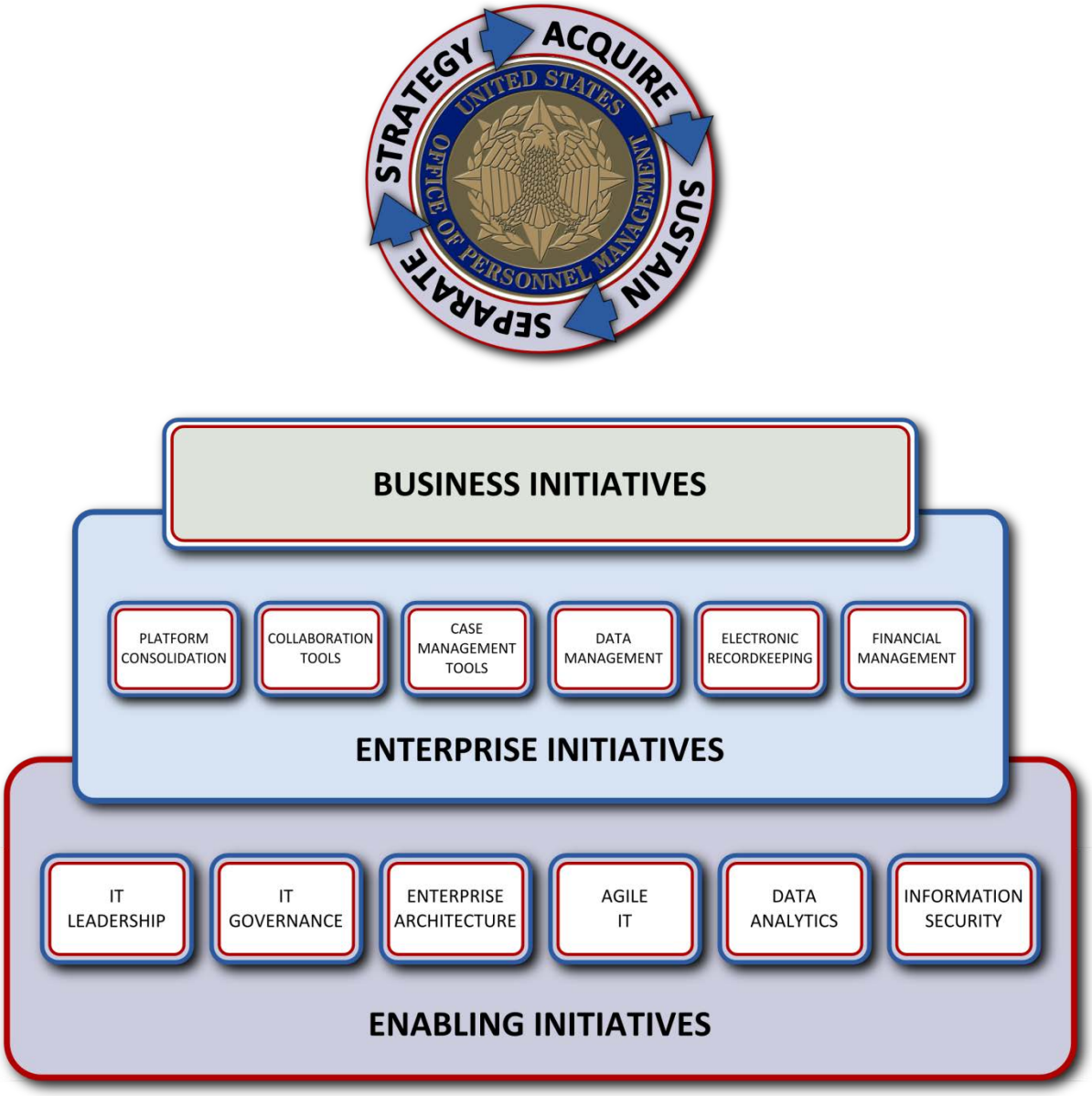
— **Data Analytics** will ensure data is structured and standardized, synthesized and analyzed to produce information, which can be made available to agency leaders and HR specialists, hiring managers, jobseekers, and other stakeholders to better inform our decisions.

— **Information Security** will ensure we protect the identity and privacy of our citizens and employees by implementing and actively monitoring standard security controls in our IT systems that effectively protect the large volume of sensitive personal data collected and stored by OPM IT systems.

Taking a "strategy to separation" approach, we will adopt an HR lifecycle IT framework as a concept for sharing information among the various existing IT solutions and future capabilities at OPM, at other agencies, and in industry. We will provide a set of standards that will span the HR lifecycle and support information exchange. This framework will drive government and industry in creating solutions and supporting processes that provide high-quality, modern IT services and capabilities to citizens, Federal employees, and agencies, in a way that also ensures information sharing. HR IT solutions, whether developed by government or industry, will be able to share information while they support business processes and decisions.

Figure 1 illustrates the HR lifecycle IT framework. The enabling initiatives provide the strong foundation necessary for successful operation, development, and management of IT that increases accountability, efficiency, and innovation. The enterprise initiatives allow us to organize and leverage resources across OPM to benefit all programs by laying the groundwork for fundamental capabilities. All of these initiatives together enable the success of current and future business initiatives.

Figure 1: HR Lifecycle IT Framework



Introduction: HR Lifecycle IT Framework – Strategy to Separation: Aligning IT to Business

This plan provides a framework for standardizing and integrating government-wide HR IT, modernizing OPM's IT offerings, and ensuring the government-wide HR IT environment is aligned with and supports the HR business process as documented in the HR LOB Business Reference Model (BRM) [1].

In this introduction, we explain the dual roles of our CIO in supporting OPM's mission. Also, we introduce our overall vision and plan for a collection of modern, integrated HR IT standards and capabilities, an HR lifecycle IT framework. In Chapter 1, we introduce the six successful practices and enabling initiatives that underpin the HR lifecycle IT framework: IT Leadership, IT Governance, Enterprise Architecture, Agile IT, Data Analytics, and Information Security. These initiatives form the foundation of an organizational culture and behavior that focuses resources on shared, high-priority problems through collaboration and increased transparency in decision-making. In Chapter 2, we present six enterprise initiatives that will make use of economies of scale to fill needs common to multiple business units at OPM. In Chapter 3, we describe key HR lifecycle IT framework business initiatives, including retirement programs and USAJOBS®. In Chapter 4, we describe OPM's enterprise-wide shared platform, which will serve to bring together our many other technologies and enable us to achieve our HR lifecycle IT framework vision. Finally, in Chapter 5, we explain how we will prepare our workforce for these changes.

Our CIO directly supports OPM's vision that "the Federal government will become America's model employer for the 21st century." The CIO has a dual role: (1) setting government-wide HR IT strategic direction and standards for HR IT service providers, including OPM, and (2) delivering IT solutions to support OPM's programs, Federal agencies, and other stakeholders, such as applicants, retirees, and beneficiaries.

In the broader, government-wide role, OPM's CIO collaborates with Federal partners to ensure HR IT supports the HR business process from strategy to separation. This effort will culminate in an HR lifecycle IT framework, a set of standards and expectations for HR IT service delivery and operations, including those developed by other agencies and industry, that will result in a modern and interoperable Federal HR IT environment. As a result of this HR lifecycle IT framework, Federal stakeholders will experience a standardized, integrated HR IT environment that will dramatically improve HR business

[1] U.S. Office of Personnel Management. Human Resources Line of Business. *Business Reference Model*. Version 2. Retrieved Jan. 11, 2014 from http://www.opm.gov/services-for-agencies/hr-line-of-business/enterprise-architecture/brm_report_v2.pdf.

outcomes such as an optimized retirement process, an efficient investigations process that is responsive to 21st Century IT challenges and opportunities, and an enhanced data analytics environment to support agile government decision-making.

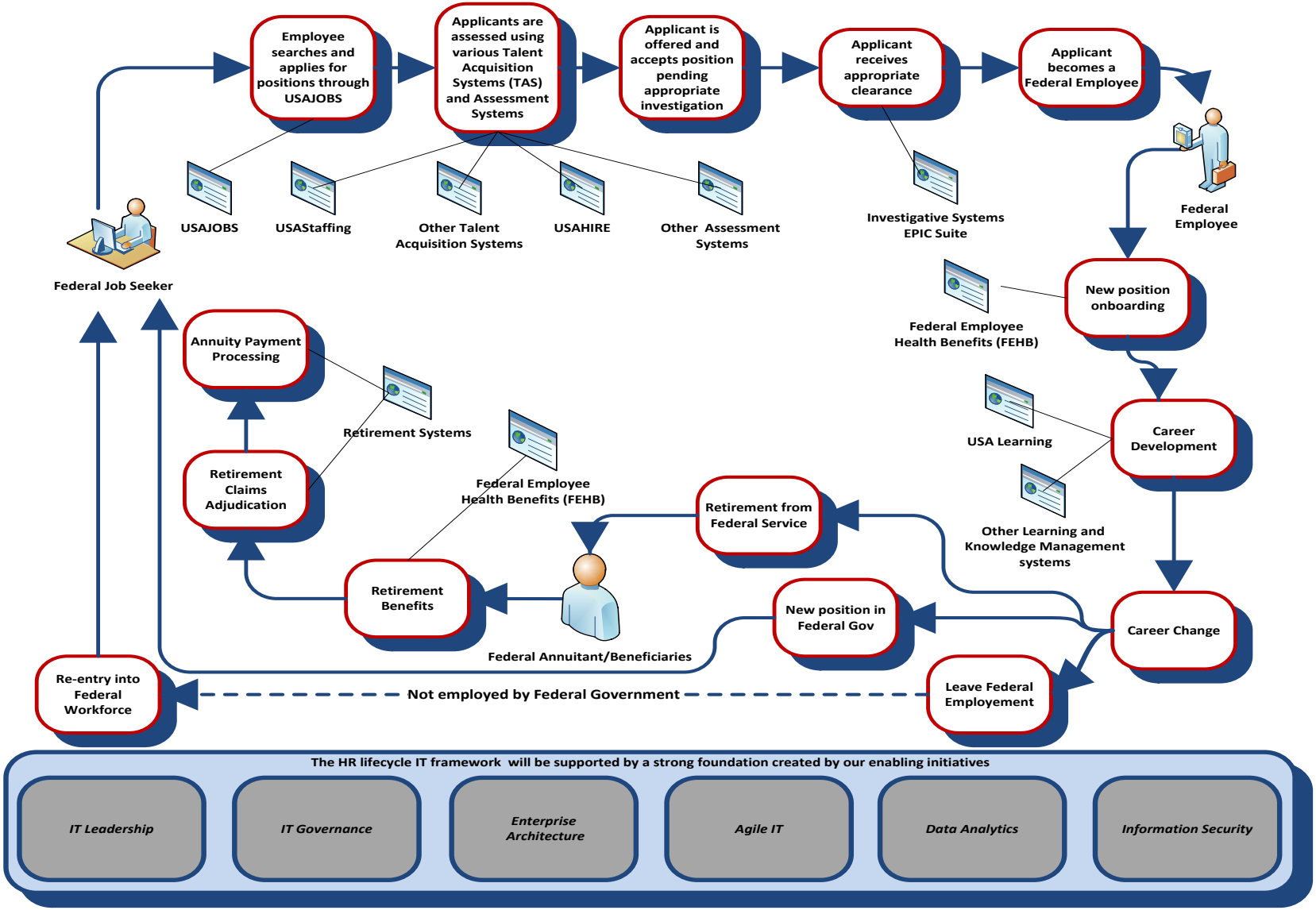
We envision an end-state IT environment that:

- Enables strategic workforce planning and competency management;
- Informs talent acquisition strategies;
- Empowers agencies to develop policies in more responsive and agile ways;
- Enables agencies to attract and hire highly qualified and diverse Federal employees;
- Enables Federal employees to prepare for challenging situations throughout their careers;
- Enables regular and critical assessments of employees' performance; and
- Provides benefits to them and their beneficiaries throughout their lives.

As a service provider, our CIO will continue to develop, maintain, and offer innovative, cost-effective, and secure IT solutions and services to Federal stakeholders that meet the standards and expectations established by the HR lifecycle IT framework, while seamlessly and cost-effectively interoperating with other critical HR IT service providers such as payroll providers, Federal shared service centers, and agency-specific systems. For this reason, we approach each of the business initiatives described in Chapter 3 in terms of the BRM stage in which they begin. Figure 2 depicts the workflow associated with the HR lifecycle IT framework at a high level.

Figure 2: HR Lifecycle IT Framework Workflow

Note: This is a high-level workflow and does not incorporate all processes or systems.



To ensure we consider all Federal HR IT functions, the CIO will take a lifecycle approach and adopt the HR LOB BRM as the centerpiece for enterprise architecture. The HR LOB BRM is recognized by the Office of Management and Budget (OMB) and Federal agencies as a means of describing the full array of HR services. Additionally, it serves to describe the interconnection of the HR business functions to numerous other business functions, such as financial management. Using this lifecycle model will ensure we share data within the breadth of the HR function and across the Federal government in a multi-disciplinary manner.

The HR LOB BRM has four phases. In the Strategy phase, agencies conduct such activities as workforce planning, succession planning, and position management. During the Acquire phase, agencies recruit and hire employees and ensure their eligibility to serve in public trust positions. The Sustain phase encompasses the majority of HR functions, including performance management, training, benefits, and compensation. In the fourth phase, Separation, employees conclude their Federal service with many of them and their family members or survivors receiving retirement annuities and other benefits.

We have developed and currently operate numerous IT systems providing a wide array of functions across the HR lifecycle. These systems are concentrated in the areas of Attain, Sustain, and Separate, which together cover the "hire to retire" portion of the HR lifecycle. To fully inform workforce structuring and hiring needs for today and into the future, agencies need robust data and tools to plan for the future and make smart decisions about the mix of skills their employees will need in the near, mid, and long terms. We capture this data in different ways, often manually, and must better harmonize, synthesize, and associate this data to inform the way ahead.

As an example of our vision, during the Strategy phase, jobseekers need better ways to understand the Federal government's needs to inform their education and career decisions. Strategic workforce planning results, when presented via a user-friendly, publicly accessible portal, can help them make these decisions. For example, such information can inform college-bound students of the degrees and courses they should take to qualify for rewarding Federal positions. That same information portal can help them choose a college by informing them of opportunities for Federal internships in their career fields as they attend school. A data-rich portal can also show college graduates where jobs matching their degrees are located to inform their decisions about where to live and begin their careers, and it can help people with more established careers decide what new skills they should acquire to ensure they remain competitive in the job market.

Similarly, in an era of declining resources, better analytics and reporting capabilities are essential for agencies to meet their goals. For example, labor market information coupled with government workforce information can help agencies plan their recruitment efforts and target communities where there is rich, diverse talent. This information can be used to foster the interchange of government employment with private sector employment, enriching both environments with employees who have broader experiences and perspectives and are able to address challenging issues throughout our government.

This lifecycle approach also ensures we fully engage shared service centers (SSCs) and industry in a cost-effective, meaningful way that supports our strategy and end-state vision. SSCs provide significant capability already, and will continue to grow their offerings in Federal agencies. Private industry partners also provide a varied assortment of capabilities in a wide range of ways to meet the many needs of agencies. By defining standards for data collection and interchange, we will enable SSCs and private industry solutions to interoperate with OPM-provided systems. This approach will foster innovation while ensuring we remain focused on the strategy.

To allow data to move seamlessly through the business processes and IT systems represented by the phases of the BRM and to allow critical analyses of our data throughout the lifecycle, we need to adhere to data standards and improve process integration. That fact, coupled with the need to provide flexibility to agencies and program offices and a better user experience, drives us toward a comprehensive HR lifecycle IT framework. Along with standards that will enable OPM, agencies, and industry to work within the same framework and share information seamlessly, OPM and SSCs will continue to provide technology solutions to other agencies in the form of a modular, integrated, and streamlined set of solutions and supporting processes. For example, this sort of integrated solution will enable standardized data sharing across the federal space so we can receive all retirement data seamlessly from agencies, resulting in faster and more accurate retirement processing. Responsibility for the IT systems will rest with our CIO, and ownership of associated business processes will remain with program offices, ensuring a partnership in the successful achievement of our vision. Each stage of the HR lifecycle has mature solutions that, while not all interoperable, meet the criteria to be reported as major investments on an annual basis. OPM has identified 11 capital asset programs and hundreds of other systems. Our current capital asset programs are:

1. Consolidated Business Information System (CBIS)
2. EHRI (Enterprise Human Resources Integration) Data Warehouse
3. EHRI electronic Official Personnel Folder (eOPF)
4. Enterprise Infrastructure Operations (EIO)
5. EPIC Operations and Maintenance (O&M)
6. EPIC Transformation
7. Health Claims Data Warehouse and Analysis (HCDW)
8. Human Resources Line of Business (HR LOB)
9. Multi-State Plan Portal
10. USA Staffing® System
11. USAJOBS®

To better serve the American public, Federal employees and retirees, Federal hiring managers, and agencies, we must (1) employ successful practices and adhere to an architecture based on OMB's Federal Enterprise Architecture (FEA), and (2) leverage OPM's HR LOB. The FEA will provide the acquisition framework required for an IT solution of this size and ensure the end-state solution complies with the Clinger-Cohen Act[2]. HR LOB will provide the HR business process and framework required to complement the rigor imposed by the FEA. Together, the FEA and HR LOB frameworks will provide OPM with the architecture approach required by the HR lifecycle IT framework.

The HR lifecycle IT framework will succeed by strictly adhering to successful practices, such as IT Governance, EA, and Information Security to build a strong foundation. This foundation will allow the HR lifecycle IT framework to remain agile and adapt to changes in policies or regulations. Finally, the HR lifecycle IT framework will provide data analytics at the enterprise level. Building this strong foundation will enable OPM to address long standing challenges, particularly those related to retirement and USAJOBS®.

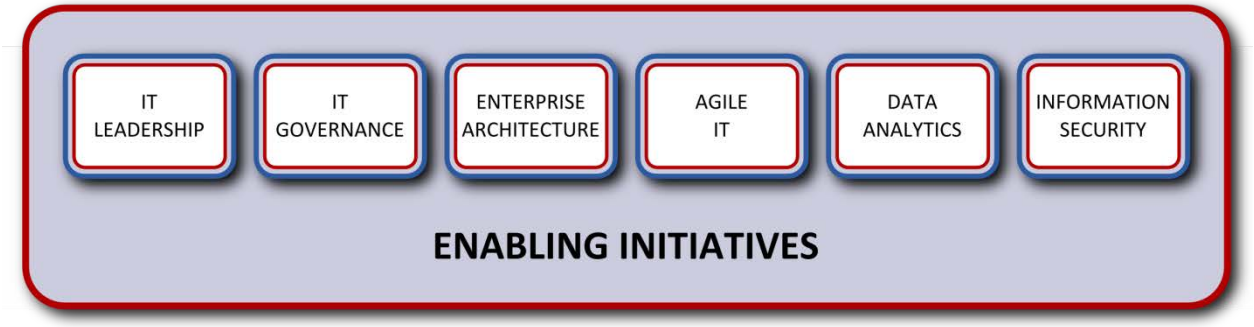
As we begin to implement the initiatives identified in this strategic plan, we will identify efficiencies through synergies of effort and focused leadership of our priorities. We will implement the enabling initiatives without additional resource allocations. OPM is already resourced for some of the enterprise and business initiatives as well, while some of these initiatives will require us to identify additional resources. We will do this through the budget process to ensure rigorous planning and evaluation of our efforts.

[2] 40 U.S.C. §11101 *et seq*.

Chapter 1: Successful Practices and Enabling Initiatives

Successful Practices and Enabling Initiatives support and guide the Plan for 21st Century IT

Figure 3: Enabling Initiatives



We will adopt six successful practices and undertake associated enabling initiatives to ensure our IT supports and aligns to OPM's Strategic Plan. They will allow us to operate, manage, and develop IT solutions with greater accountability and efficiency while supporting innovation:

1. Through strengthened IT leadership, we will create a flexible and sustainable CIO organization and IT program that will focus on accountability, responsiveness, engagement, transparency, and innovation. IT leadership will set the expectation that OPM will take a lifecycle approach to IT (especially IT integration) and data.

2. Via a renewed and comprehensive IT governance, we will (1) align IT planning and execution, (2) ensure proper oversight and quality and cost control of IT services, and (3) support strategic decision-making by leadership and innovation throughout the Federal government.

3. A robust enterprise architecture (EA) will provide the fundamental process, structure, and quality to ensure our technology is aligned to meet OPM's complex, integrated business and data requirements.

4. We will adopt agile IT principles to ensure speed in adapting to evolving policies and business needs. We will design for the HR lifecycle and increased integration of IT solutions and interchange of data.

5. We will inform decisions and drive policy throughout the Federal government as we properly manage data and strengthen our data analytics capabilities. We will also enable citizens to better understand Federal career opportunities and Federal agencies to better understand where the best, most diverse talent is located and what motivates them to Federal service.

6. Finally, we will improve information security to continue to protect the data, and therefore identities, of Federal employees and their beneficiaries, as well as applicants to Federal positions, just as they expect and deserve.

We will use an iterative approach to plan, implement, and assess our progress in adopting these successful practices throughout OPM.

IT Leadership

Raising the bar, setting a new standard

Our IT leadership will raise the bar and set a new standard for HR IT practices and performance outcomes in the Federal government. Our new CIO is a strong senior executive with extensive experience in information technology, human resources management, and program management. The CIO will create a flexible and sustainable CIO organization and IT program. We also have a CTO with private industry and academic expertise to ensure we make informed decisions about our technology investments so they can be leveraged throughout the HR lifecycle and across the Federal government.

The CIO and CTO will partner with OPM's team of dedicated business experts to implement an inclusive, transparent IT governance model to drive investment decisions that align with a robust enterprise architecture and data analytics strategy while protecting sensitive personnel information. Our investment decisions will prioritize initiatives that achieve the best performance outcomes and greatest benefit so funding and other resources currently dedicated to operations and maintenance efforts can be recapitalized and invested in modernization efforts.

To achieve these goals, the CIO will implement an improved organizational structure, ensure our personnel are properly trained to take on these new challenges, and enable accountability through detailed work plans that allow progress and performance tracking.

To achieve our far-reaching goals, we will optimize and integrate IT capabilities throughout OPM, proactively engage stakeholders at all levels, and innovatively address the needs of the public and jobseekers. The CIO will ensure partnership with business leaders for mutual accountability and adherence to data standards and enterprise architecture that will be required for the successful adoption of the HR lifecycle IT framework.

Through stronger IT leadership, we will attain clear accountability for achieving goals and resolving complex IT issues. Business and technology leaders at OPM and across the Federal space will collaborate to achieve shared IT-related goals that support shared business outcomes. Finally, we will streamline responsibilities throughout OPM, which will allow business leaders to concentrate on the higher-level activities of developing policy, business strategies, and processes, and overseeing business outcomes rather than the minute details of IT implementation.

We will update agency policy to establish clear authority and delegations of the CIO, establish performance objectives for the CIO and staff, and consolidate IT functions across OPM into the CIO organization.

Phase 1 – Plan (June 2014): We will (1) review and establish policies for alignment of CIO authorities and delegations commensurate with accountability, (2) establish training and performance objectives for the CIO and first-level supervisors in the office of the CIO, and (3) complete an assessment of IT functions that are currently distributed throughout OPM. We will also review our IT workforce and programs to enable better alignment of IT program and project management skills with our highest risk IT programs.

Phase 2 – Implement (September 2014): We will implement a functionally-aligned CIO organization to support IT strategies and establish training (including certification) and performance objectives for the remainder of the CIO staff.

Phase 3 – Assess (December 2014): We will baseline and begin routinely reporting against our performance outcomes:

- Compliance with laws, policies, and successful practices;
- User and stakeholder satisfaction with improved IT capabilities; and
- Cost per IT service or transaction.

No additional funding or manpower is required to implement these initiatives. Stronger IT leadership will result in cost avoidance and cost savings that will allow us to shift valuable, scarce resources to high priority programs.

IT Governance

Taking a structured approach to IT

We will implement a comprehensive IT governance structure to support top-down (leadership) strategy and decisions and bottom-up (program office) innovation and partnership that includes all the activities of the business units and aligns CIO planning and execution with agency priorities and available resources. The governance process is critical to building an effective management and oversight capability.

By realigning our internal IT governance boards and establishing clear processes for prioritizing requirements and reporting, we will position ourselves to hold program offices accountable for working collaboratively to achieve the level of interoperability needed to share lifecycle HR data across the agency, throughout the Federal sector, and with the public, from strategy to separation.

We will align our internal governance boards to ensure collaboration across the Federal government with other boards, such as the Chief Human Capital Officers (CHCO) Council (especially its HR IT

Workgroup), the CIO Council, the Chief Financial Officers (CFO) Council, and the Chief Acquisition Officers (CAO) Council. We will also continue to partner with other agencies and SSCs on the HR LOB. Collaborating with these boards and agency partners will ensure our funding and contracting strategies are sound and enable us to partner with other agencies wherever possible.

An enhanced IT governance capacity will identify and ensure we fund IT investments that are more tightly aligned with business unit needs, including current and future policy. It will also allow us to manage, evaluate, measure, and monitor IT services, and the resulting work and deliverables, in a more consistent and repeatable manner. The result will be services that deliver effective business outcomes and quality, along with cost control of these services.

We will manage IT investments with better testing, risk management, Earned Value Management (EVM), and cost accounting – and with greater transparency, accountability, and responsibility. We will operationalize IT leadership's commitment to align all IT functions with the principles of the Digital Government Strategy[3] and adhere to the requirements of the Federal-wide Open Data Policy[4], which provides a framework for managing information as an asset throughout its lifecycle. This idea of an information or data lifecycle underpins our approach to the HR lifecycle IT framework.

Phase 1 – Plan (June 2014): We will institutionalize an Investment Review Board (IRB) and supporting governance structure, including the revision of charters for continuing IT boards and sunsetting of other boards, to improve acquisition and fiscal management accountability. We will also establish decision criteria for investment decisions that consider EA, costs, and repurposing of existing solutions and tools rather than acquiring new ones, in addition to mission outcome.

Phase 2 – Implement (September 2014): We will establish a centralized technical Project Management Office (PMO) to provide oversight for all IT projects using standard review and reporting procedures such as PortfolioStat and TechStat to measure the performance and compliance of projects.

Phase 3 – Assess (December 2014): We will baseline and begin routinely reporting on the performance of our projects, including compliance with Federal-wide requirements such as the Digital Government Strategy.

No additional funding is required to implement these initiatives. This effort, like the changes to IT leadership, will require the reallocation of existing manpower and other resources. Enhanced IT

[3] White House. (May 23, 2012). *Digital Government: Building a 21st Century Platform to Better Serve the American People*. Retrieved Jan. 11, 2014 from http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf.

[4] See OMB Memorandum M-13-13, *Open Data Policy – Managing Information as an Asset*, of May 9, 2013, and Project Open Data (http://project-open-data.github.io/).

governance will result in cost avoidance and cost savings through better IT management and oversight, identifying funds for high-priority programs.

Enterprise Architecture (EA)

Aligning, standardizing, optimizing

IT leadership and governance form the foundation for strategic decision-making and efficient use of resources in pursuit of our mission. Likewise, enterprise architecture further reinforces this critical foundation, rendering a cohesive environment to modernizing IT at OPM.

The Government Accountability Office (GAO) calls EA a "blueprint for organizational change" that is "defined in models that describe (in both business and technology terms) how the entity operates today and how it intends to operate in the future; it also includes a plan for transitioning to this future state."[5] GAO contends that the effective use of EA leads to organizational success and is important in achieving operational and technology environments that support business, performance, and outcomes. In addition, GAO stresses that using an EA can lead to cost savings through shared services, elimination of redundancies, data standardization and reuse, data sharing and integration, and streamlining business processes and operations. The Clinger-Cohen Act and OMB require the use of architectures.[6]

The Federal Enterprise Architecture (FEA) includes 5 models:

1. The Performance Reference Model (PRM) provides standard ways of measuring performance and determining which IT investments for the various business initiatives lead to the best outcomes. The goal is improved resource allocation and the identification of performance improvement opportunities across the HR lifecycle IT framework.

2. The Business Reference Model (BRM) organizes OPM business operations in terms of function (i.e., Strategy, Acquire, Sustain, Separate) and mode of delivery rather than by business unit. It is a mechanism that will allow OPM to move away from the long-established "stovepipe" way of doing business and developing solutions.

3. The Service Component Reference Model (SRM) is a horizontal, IT-level view that provides a common foundation for reusing applications, application capabilities, components, and business

[5] Government Accountability Office. (Sept. 2012). *Organizational Transformation: Enterprise Architecture Value Needs to Be Measured and Reported*, p. 1. Report to Congressional Committees, GAO-12.791. Retrieved Jan. 8, 2014 from http://www.gao.gov/assets/650/648827.pdf.

[6] 40 U.S.C. §11315; The E-Government Act of 2002 also provided a more detailed definition of the concept and elements of enterprise architecture. See 44 U.S.C. §§ 3601(4) and 3602; OMB Circular A-130 (Nov. 30, 2000); and Chief Information Officers Council. (February 2001). *A Practical Guide to Federal Enterprise Architecture*, Version 1.0. Retrieved Jan. 8, 2014 from http://www.gao.gov/assets/590/588407.pdf.

services. The highest levels here are service domains such as "Customer Services," "Process Automation," and "Back Office Services" that are entirely independent of OPM's specific business functions.

4. The Technical Reference Model (TRM) is a super-framework (there are numerous agency-level technical models) for categorizing in a uniform way the standards and technologies used by the government, with an eye toward encouraging reuse, interoperability, and economies of scale. A typical category here is "Service Requirements," which includes legislative/compliance, authentication/single sign-on, and hosting.

5. The Data Reference Model (DRM) is a standardized way to describe, categorize, and share data. The standard description and discovery of common data and the promotion of uniform data management practices are extremely important to the implementation of the HR lifecycle IT framework.

We depend a great deal on our IT capability to solve complex business challenges and promote innovation. A robust EA will ensure these capabilities are: (1) aligned with OPM's business strategy, (2) standardized to promote data sharing, and (3) optimized for maximum resource sharing across the Federal space to manage costs, all of which will bolster the HR lifecycle IT framework. As recommended in *The Common Approach to Federal Enterprise Architecture*[7], we view EA as a collaborative methodology or process that will enable us to control the growing complexity and requirements of OPM's infrastructure. By setting agency-wide IT standards and collaborating with our business partners and external stakeholders, we can minimize costs, maximize resources, and truly take a lifecycle approach to HR IT.

Implementing the suggested common approach to Federal EA will yield four primary outcomes: (1) service delivery to ensure mission performance, (2) functional integration, meaning interoperability of programs, systems, and services, (3) resource optimization, and (4) the introduction of an authoritative reference. As an authoritative reference or standard, "EA is uniquely positioned as the management best practice which can provide a consistent view across all program and service areas to support planning and decision-making."[8] Additionally, the EA will provide a blueprint that will inform the governance process by enabling decision-makers to see the current state and, as it evolves, the long-term view of organizational processes, solutions, and technologies. This will enable process innovation that will improve value and drive down costs.

[7] White House. (May 2, 2012). *The Common Approach to Federal Enterprise Architecture.* Retrieved Jan. 14, 2014, from http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/common_approach_to_federal_ea.pdf.

[8] *Common Approach*, p. 5.

A robust EA will support business units within OPM and external Federal agencies and partners by providing the fundamental process and structure to ensure our technology is aligned to meet our complex, integrated business and data requirements. With a robust EA, we will achieve the right balance between IT efficiency and business innovation. It will create within the HR lifecycle IT framework the flexibility required to allow the business units to innovate their business practices in pursuit of their mission and goals while considering the organization as a whole with regard to shared IT platforms, data, and other resources. The EA will drive an integrated HR IT strategy, enabling the greatest possible cooperation and synthesis across the Federal enterprise. This integrated EA will allow us to recoup spending from duplicate IT technologies and services so we can invest in improved infrastructure and services that better serve OPM's mission throughout the HR lifecycle.

Phase 1 – Plan (September 2014): We will complete a thorough review of OPM's business strategies to identify gaps in the HR LOB BRM that are a critical part of the FEA approach and the HR lifecycle. We will prioritize our efforts across the BRM to focus on high priority work streams that will yield tangible results for OPM and other agencies. For example, we are already working on ways to ensure we receive HR data at critical points throughout an employee's career that enables us to more quickly and more accurately calculate retirement annuities and benefits rather than waiting until an employee retires to collect this necessary data. We will inventory the available technology capabilities and adopt core architecture principles from industry to drive an assessment of current capabilities and identify future needs. During this phase, we will also develop the performance reference model.

Phase 2 – Implement (iterative, beginning October 2014): We will create detailed architectures for each of the prioritized work streams identified in phase 1. This effort will consist of creating or updating the reference models. This phase will bring together application, information (data), organization, and technology planning to bridge between the current and future states. For each gap we find, we will identify alternative solutions to "fill" the gap, e.g., new or repurposed applications, databases, technologies, skills, or management processes, and use a business case and our IT governance structure to prioritize and fund projects to achieve our end-state architecture. The result will be an enterprise-wide architecture and a definitive modernization plan with documented priorities and interdependencies, as well as resource requirements.

Phase 3 – Assess (iterative, beginning April 2015): We will continue to evolve our EA by assessing our current state against the PRM developed in phase 1. Where our technologies are not providing the expected results, we will identify or update our desired end-state to adopt new or updated technologies, exercise our governance structure, and implement plans to achieve the desired end-state. We will make certain all IT solutions at OPM are integrated within the EA to support business needs and the desired performance outcomes across the agency.

Systematically assessing and rethinking our IT programs and projects will take considerable time, and OPM has many functions that must continue while we complete our assessment and make needed changes. Using an iterative approach, we will expand our EA implementation and assessment work until we have a full picture of our current state, desired state, gaps, and solutions, while continuing to maintain existing systems and putting new ones into use in accordance with the requirements

developed through our governance structure and EA. OPM will require additional funds to acquire tools and additional resources for implementation of this initiative.

Agile IT

Attaining speed, flexibility, and compliance

Excellent IT leadership, IT governance, and EA will provide the foundation for developing and maintaining the IT assets that will function within the HR lifecycle IT framework. Agile IT will enable us to make effective use of those foundational blocks and quickly adapt to changes in business needs, policy, and advances in technology.

Agile IT requires policies and procedures that support iterative development, a flexible EA, and dedicated empowered teams. Benefits include:

- The ability to adapt more quickly to changes in business needs resulting from changes in policy;
- Adoption of new technology throughout a project's lifecycle;
- Detection and correction of flaws earlier in the project's lifecycle with more frequent and earlier testing;
- Increased collaboration between project sponsors and technical staff, which creates common expectations, thereby increasing overall satisfaction by all stakeholders; and
- Opportunities for the entire project team to enhance their knowledge and skills throughout the project's lifecycle, contributing to the ultimate success of the project.

We will leverage existing resources and capacities at OPM, including our Project Management Community of Practice (PMCoP) and the Lab@OPM (for human centered design), to define OPM's agile IT policies and procedures. We will review the OPM System Development Life Cycle (SDLC)[9] policy and standards and related templates, OPM's IT Security and Privacy (ITSP) policy and procedures, and successful practices from industry. We will also document tools and techniques used by OPM project teams that are already using agile IT principles. Deliverables will include: (1) updated procedures and templates supporting agile IT and (2) an inventory of current tools used by OPM's agile project teams, including current licensing agreements.

Many of OPM's IT projects use EVM, an approach to program planning and control that looks at schedule, cost, and work scope in an integrated fashion. We have had an EVM System (EVMS) in place since 2004 and have already begun using it in conjunction with agile development. Since EVM is about

[9] http://www.opm.gov/about-us/our-people-organization/support-functions/cio/opm-system-development-life-cycle-policy-and-standards.pdf.

management processes, reporting, forecasting, and actions, it helps us make good funding and programmatic decisions at each iteration within the agile IT process.

Phase 1 – Plan (September 2014): We will review and refine policies, procedures, and tools for agile IT. We will identify programs and projects already using agile IT principles (through April 2014) and take advantage of existing skill sets to provide specialized training to our Federal employees. Also, we will evaluate our current contracts to ensure our contractors also have the right skill sets (June 2015). As we identify gaps in our needs, we will use our governance structure to prioritize our requirements.

Phase 2 – Implement (June 2015): We will implement agile IT principles in two stages. In stage one (January 2015), we will provide training on the agile standards to defined pilot groups within the CIO. We will monitor the pilot groups' projects for two quarters (through June 2015) and identify successes and challenges in using the standards, then adjust standards as necessary. In subsequent stages, based on what we learn in stage one, we will develop a plan to drive agile IT principles into other initiatives. We will procure and implement tools to provide needed functionality as approved through our governance process.

Phase 3 – Assess (ongoing): We will monitor the pilot groups' projects to identify successes and challenges in using the agile standards and adjust standards as necessary. As we implement changes, we will continue to assess our progress.

Creating an agile IT environment at OPM will allow for more efficient response to changing needs. The ability to adapt quickly will provide opportunities for savings; reduce the risks and associated costs of implementing outdated technologies; lead to more focused efforts, thereby eliminating unnecessary activities and, with them, their costs; and provide savings in licensing fees through the consolidation of tools. OPM will require additional funds to acquire tools and additional resources for implementation of this initiative.

Data Analytics

Better informing business strategy

Data analytics – associating, accessing, and analyzing many data sources – is all about turning data into information and presenting it in a way that makes it easier to parse and understand, as well as see trends, which, in turn, informs decisions and drives better outcomes. OPM and other Federal agencies alike need HR data analytics capabilities to (1) better inform policy, decision-making, and business strategies and (2) measure, analyze, and improve performance. Data analytics enables leaders to answer big business questions, such as "How much and what kind of education, training, and experience increases the likelihood that a supervisor will be able to successfully manage a small staff or large staff, a geographically dispersed staff, or a high performing staff?" This information then might be useful in budgeting for learning and development. It might be helpful in identifying the best set of candidates for a supervisory position. Data analytics will allow us to adopt a rational, fact-based approach to explore hypotheses and ideas that can transform our business in ways we might not readily imagine.

OPM collects a vast amount of data on the Federal workforce. This data must be properly associated and presented to enable analysis, depict trends, and identify perspectives that should be explored for cause and effect. Agencies can use trustworthy, accessible, and complete data to develop roadmaps to understand their future skill requirements or enable responsive, agile policy-making. Agency leaders should want to use the data to compare and contrast their agency's workforce with the rest of the Federal workforce, and even private industry. If an agency consistently demonstrates high performance, perhaps there are lessons that can be harvested and shared to increase the performance in all agencies. Also, if one agency is increasing its dependence on one occupation and another agency is decreasing its focus in the same area, data will disclose this and resources may be shared to the benefit of both agencies and the employees. The success of the HR lifecycle strategy is heavily dependent on our ability to use the right data at the right time for it to inform important decision-making. Across the HR lifecycle, there are multiple places where administrators, officials, agencies, and Federal employees must make important decisions and need access to the right kind of information.

Phase 1 – Plan (November 2014): We have already begun the process of creating an enterprise data inventory and public data listing[10] as prescribed by the Open Data Policy. We will develop a data management policy to increase transparency, complete an initial inventory of data, engage business owners to identify problems we can solve with data-driven solutions, identify business rules to ensure data standards inform future investment decisions, and capture current processes and documents so we can share the most effective techniques.

Phase 2 – Implement (June 2015): We will enforce the business rules to improve analytics and promote interoperability, make technical adjustments to existing data to enable sharing, and increase the availability of the data to various Federal and public stakeholders.

Phase 3 – Assess (ongoing): We will assess our data outputs by maintaining the inventory and public data listing, identifying additional data that can be made available as part of the data analytics framework, and collecting feedback from our stakeholder community to validate the quality of our data outputs.

The return on this investment will come from the cost savings derived from enterprise wide operational or maintenance processes, less manual data input, and reuse of data already in legacy systems. Also, data will be more structured and readily available across the enterprise to enable better, faster decision-making. OPM will require additional funds to acquire tools and additional resources for implementation of this initiative.

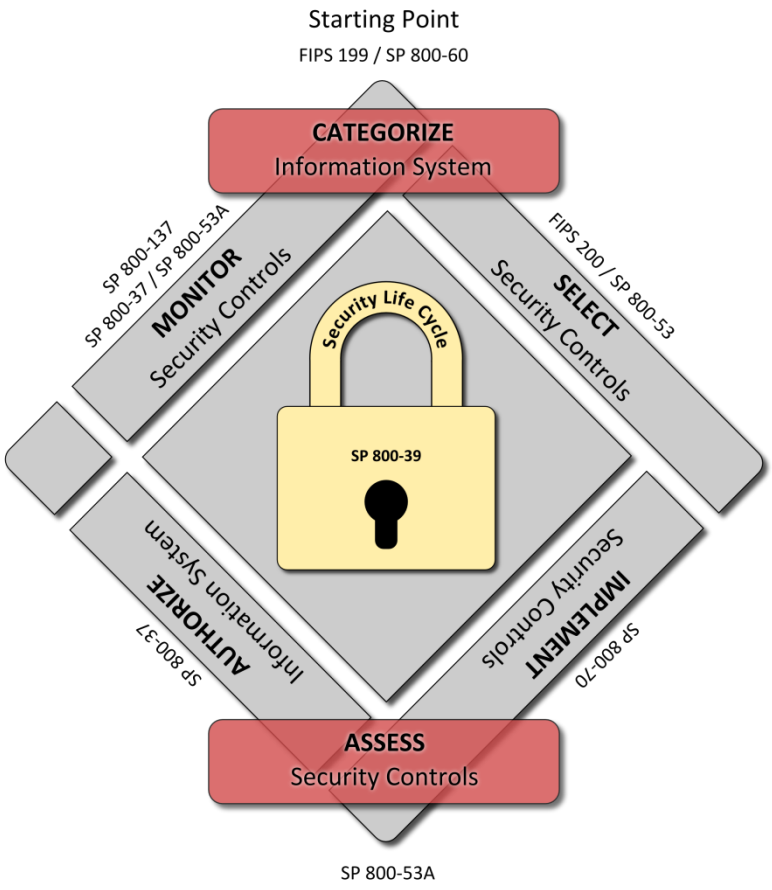
[10] http://www.opm.gov/data.json; see also our Digital Government Strategy page, http://www.opm.gov/about-us/open-government/digital-government-strategy/.

Information Security

Protecting Americans' information

OPM is responsible for IT systems used to recruit, investigate, hire, and manage Federal employees. These systems contain Personally Identifiably Information (PII) and Protected Health Information (PHI) of Federal jobseekers, Federal employees, Federal retirees, and their survivors. To ensure the protection of these systems and their data, we follow guidance from the Federal Information Security Management Act (FISMA),[11] NIST 800-53,[12] and OMB. We manage our systems according to NIST's Security Life Cycle:[13]

Figure 4: NIST's Security Life Cycle



[11] 44 U.S.C. §3541 *et seq.*

[12] See http://csrc.nist.gov/publications/PubsSPs.html.

[13] National Institute of Standards and Technology. Computer Security Division. Computer Security Resource Center. (2013). *Risk Management Framework (RMF) – Frequently Asked Questions (FAQ's), Roles and Responsibilities & Quick Start Guides (QSG's)*. Retrieved Jan. 27, 2014 from http://csrc.nist.gov/groups/SMA/fisma/Risk-Management-Framework/.

We are also working with the Department of Homeland Security (DHS) to implement Continuous Diagnostics and Mitigation (CDM) using government-wide Information Security Continuous Monitoring (ISCM) tools to enhance our ability to identify and respond, in real time or near real time, to the risk of emerging cyber threats.[14] Through this implementation, we will automate the following information security capabilities: software and hardware inventories, configuration management, and vulnerability assessments. We will also make data available via a Federal-wide dashboard established by DHS.

We will implement Independent Verification and Validation (IV&V) for high-risk OPM systems taking advantage of a wealth of information security expertise. The goal of IV&V is to provide an independent review as an extra check to ensure our systems are secure. This added precaution will reduce the risk of oversights during the engineering, development, and deployment phases of the system lifecycle. We have held initial discussions with DHS to identify how they can support IV&V at OPM.

We will centralize security management and accountability into the Office of the CIO and staff it with security professionals who are fully trained and dedicated to information security on a full-time basis. This will ensure standard application of OPM IT security policies and procedures for all systems and allow quicker adoption of new and improved policies, procedures, and templates.

We will work with OMB, NIST and others to ensure our information security policies are rigorous and cost effective based on a risk assessment methodology that considers both current and potential threats.

Phase 1 – Plan (May 2014): We will enhance our current ISCM strategy and plan and identify resource and skill requirement gaps to manage and coordinate our internal ISCM program. We will develop limited procedure guidance and continue to gather requirements for ISCM. We will assess our plan against industry benchmarks, including right-sizing of resources (junior- and senior-level security specialists) based on current systems and planned initiatives. Taking a scorecard approach, we will measure our information security program against compliance criteria.

Phase 2 – Implement (December 2014): We will complete major policy and procedure updates required by NIST 800-53 revision 4 and OMB guidance. We will begin deploying DHS security products to support ISCM for in-house systems. We will begin to provide training and implement the updated policies and procedures related to the ISCM.

Phase 3 – Assess (December 2015): We will assess the ISCM program and make necessary adjustments to improve the effectiveness of the program.

We will require additional resources to hire and train security professionals, implement Continuous Monitoring, and perform IV&V.

[14] See Office of Management and Budget. (Nov. 18, 2014). Memorandum M-14-03. *Enhancing the Security of Federal Information and Information Systems*. Retrieved Jan. 27, 2014 from http://www.whitehouse.gov/sites/default/files/omb/memoranda/2014/m-14-03.pdf.

Continuous Monitoring and Assessments will eliminate the need for ongoing three-year Security Assessments and Authorizations (SA&As). All new systems will still require the SA&A to create a baseline. Continuous monitoring should reduce the total cost of ownership for OPM systems by reducing the need for subsequent SA&As. Continuous Monitoring will also reduce the risk and associated costs of data breaches. OPM will require additional funds to acquire tools and additional resources for implementation of this initiative.

Chapter 2: Enterprise Initiatives

To achieve interoperability, take advantage of synergies across OPM and throughout the Federal government, and best use our resources, we identified six enterprise-level initiatives for programs and systems throughout OPM.

The enabling initiatives described in Chapter 1 will help us organize to take advantage of the synergies described in Chapter 2. This work to combine efforts and leverage similarities will, in turn, support the business initiatives described in Chapter 3 by laying much the groundwork for fundamental capabilities. Please see Appendix A for a summary of the benefits these enterprise-level initiatives will provide.

Figure 5: Enterprise Initiatives

Platform Consolidation

We will take a "shared first"[15] approach to our systems. EA, with its focus on integration and standardization, will drive platform consolidation. We will incrementally align legacy applications and systems to the new platform. Through platform consolidation, we will:

- Enhance interoperability, increasing data sharing;
- Reduce duplication, saving on licensing fees;
- Support agile IT principles and modular design; and
- Comply with the Digital Government Strategy (separating the information, platform, and presentation layers).

[15] White House. (May 2, 2012). *Federal Information Technology Shared Services Strategy*. Retrieved Jan. 13, 2014 from http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/shared_services_strategy.pdf.

Examples of activities under this initiative will include re-hosting legacy mainframe systems, increasing the use of shared service centers, and modernizing our automated suite of investigative systems known as EPIC to make it more agile, adaptable, and capable of rapid change to meet current and evolving needs. Please see Chapter 4 for more information on our shared platform approach.

Phase 1 – Plan (December 2014): We will complete an evaluation of our existing mainframe systems to understand the feasibility of and resources required for moving them to a shared distributed environment.

Phase 2 – Implement (December 2015): We will begin modernization of our IT systems to move them into a shared distributed environment, eventually eliminating the need for the mainframe.

While some funding is available for this effort, additional funding will be necessary to completely eliminate the need for the mainframe. These resource needs will be documented as part of our evaluation in phase 1.

Collaboration Tools

On this platform we will host collaboration tools that will enable teams and other groups to share documents and perform work virtually in a secure and easy-to-use manner. These collaboration tools will:

- Support efforts to strengthen collaboration between program offices, making data management, and therefore data analytics, easier to achieve;
- Make work processes seamless for employees, reducing barriers to collaboration and increasing productivity, for example, among personnel who process retirement claims;
- Enable us to better fulfill business requirements; and
- Enable two initiatives under consideration that would provide career maps, training curricula, courses, and other developmental resources to employees throughout the Federal Government and would provide a government-wide space for talent matching, project-based collaboration, and resource sharing.

Phase 1 – Plan (December 2014): We will complete documentation of our needs across OPM and an evaluation of available commercial solutions against those needs. We will create an acquisition plan for procuring licenses and services necessary for implementing a solution.

Phase 2 – Implement (August 2015): We will create an implementation plan and begin implementing the solution in OPM.

Resource requirements for this effort are not yet defined. They will be documented as part of phase 1 and will be requested as part of the regular budgeting process.

Business Process Management and Case Management Tools

Many, if not most, program offices would benefit from business process management and case management tools. Currently, offices with documented processes and automated workflows have them in the form of custom engineered code. By providing these tools at the enterprise level, we will:

- Track and report on cases, such as applications for retirement, at a more granular level than we are currently capable of doing;
- Enable offices to collaborate on workflows. For example, we will better manage our correspondence and review process, thereby improving our responsiveness;
- Save on licensing costs;
- Improve standardization which reduces training costs;
- Flatten the learning curves for new employees and existing employees who move into new positions;
- Support shorter and more agile implementation of rule changes; and
- Surface excellent processes for reuse or emulation throughout the agency. For example, many offices have Resource Management Officers (RMOs) with different collaboration tools and business process management tools. With standard tools, they will be better able to learn from each other's processes.

Business process management will be particularly beneficial to large offices or those with many remote workers to maintain consistency of work products. Case management will primarily benefit our retirement and investigations operations by enhancing their ability to track and report on cases.

Phase 1 – Plan (December 2014): We will complete documentation of our needs across OPM and an evaluation of available commercial solutions against those needs. We will create an acquisition plan for procuring licenses and services necessary for implementing a solution.

Phase 2 – Implement (August 2015): We will create an implementation plan and begin implementing the solution in OPM.

Resource requirements for this effort are not yet defined. They will be documented as part of phase 1 and will be requested as part of the regular budgeting process.

Data Management and Warehousing

We are responsible for several data warehouses, as identified below, and with improved data analytics capabilities, our requirements will continue to grow:

- Health Claims Data Warehouse;
- EHRI Data Warehouse;
- Retirement Data Repository; and
- Electronic Retirement Records.

We will leverage economies of scale by coordinating our work on each of these data warehouses and reusing technologies and controls where possible. A robust data management and warehousing architecture will allow us to eliminate redundant data and better associate data to meet business information needs. As a result, we will be positioned to collect information from other agencies more efficiently and avoid redundant requests for information from agencies. Our architecture will include robust security controls to enable strict information security access and protections.

Phase 1 – Plan (September 2014): We will complete a detailed plan to implement a data-centric environment in OPM.

Phase 2 – Implement (September 2014): In fiscal year (FY) 2014,[16] we will replace aged infrastructure and relocate our eastern data center to Boyers, PA. In FY 2015, we will begin to consolidate our databases and begin the transformation to a data-centric environment.

Additional funding will be required to move beyond the efforts currently planned. They will be documented as part of phase 1 and will be requested as part of the regular budgeting process.

Electronic Recordkeeping

The August 24, 2012 Managing Government Records Directive, signed by the Acting Director of OMB and the Archivist of the United States, "requires that to the fullest extent possible, agencies eliminate paper and use electronic recordkeeping. It is applicable to all executive agencies and to all records, without regard to security classification or any other restriction."[17]

[16] Federal fiscal years begin on October 1 of the previous year and end on September 30, so FY 2014 runs from October 2013 through September 2014.

[17] Office of Management and Budget and National Archives and Records Administration. (August 24, 2012). Memorandum M-12-18. *Managing Government Records Directive*, p. 2. Retrieved February 10, 2014 from http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-18.pdf

We will leverage our consolidated platform, robust business process management, and improved data management to automate recordkeeping and integrate electronic recordkeeping into employees' everyday workflows. We will ensure our electronic records, especially email, are captured and maintained effectively so they are usable and retrievable. We will also put in place plans to migrate records to new storage media to avoid data loss due to media decay or technological obsolescence.

Electronic recordkeeping will not only ensure compliance with the Managing Government Records Directive, but also facilitate openness by making it easier to respond to Freedom of Information Act (FOIA) and Privacy Act (PA) requests and easing the burden of the discovery phase in litigation. For example, our offices frequently receive requests from current or former employees and their survivors for their case files.

With seamless electronic recordkeeping, much of our work to manage our records will happen without employees' intervention and, where employees must take action, recordkeeping will occur within the flow of employees' work. This will make recordkeeping less onerous for employees and increase the likelihood of compliance. Finally, by destroying records on time (at the appropriate point in their lifecycle and according to the records schedule approved by the Archivist of the United States) and no sooner, we will save on server costs, further reduce the burden of legal discovery, and have the records we need to work efficiently and effectively.

Phase 1 – Plan (September 2014): We will develop the requirements for an Electronic Records Management Application (ERMA).

Phase 2 – Implement (December 2016): We will complete implementation of our ERMA.

Resource requirements for implementing an ERMA will be documented as part of phase 1 and will be requested as part of the regular budgeting process.

Financial Management

Traditionally, Federal financial management systems have effectively supported budgeting. We need even better cost accounting with increased data fidelity that enables us to better understand our planned and actual expenditures so we can better allocate our costs by customer and project. By taking a platform approach, we will further modernize our financial systems to:

- Provide a comprehensive source of financial, budget, and performance information;
- Improve cost control for the benefit of other agencies that use our services;
- Manage our resources more effectively, which will help us make informed decisions about realigning resources to fund high-priority initiatives;
- Improve support for key trust fund-related business processes, such as communicating with benefit carriers via a web portal, efficiently managing cash balances and investments to achieve

the best possible returns, automating and streamlining processes, and increasing transparency in reporting; and

- Adapt more quickly to changes in government-wide financial management requirements and mandates.

We will improve the following processes for Federal retirees, payroll providers, and agencies:

- Collection of retirement, health benefits, and life insurance withholdings and contributions information from Federal payroll providers;
- Collection of service credit deposits, voluntary contributions, direct premium remittances, and debt repayments through Pay.gov;
- Cash management and asset allocation;
- Payment disbursements and tracking of payment confirmations and history;
- Financial oversight of Experience Rated Carriers (ERCs) and life insurance carriers;
- Management of improper payments; and
- Management of service credit deposits and voluntary contributions.
- By increasing our financial management capabilities, we will more accurately account for costs and better attribute efficiencies enterprise-wide to make the best possible use of taxpayer money.

In short, through the enhancement of our financial management systems and processes, OPM's leadership team will be able to manage resources more collaboratively, easily, and effectively.

Phase 1 – Plan (September 2014): OPM will develop a plan for piloting a Cost Accounting Model (CAM). Once the model is created and data is analyzed, we will develop the baseline costs for limited activities, such as an investigation.

Phase 2 – Implement (2015): We will continue to create baseline costs for additional activities, will analyze our costs in those areas, and seek ways to gain efficiencies.

Additional funding will be required to move beyond the efforts currently planned. They will be documented as part of our efforts and will be requested as part of the regular budgeting process.

Chapter 3: Business Initiatives

From Strategy to Separation

Our many systems provide functionality to agencies across the areas of Acquire, Sustain, and Separate. Agencies use our systems to post vacancies, recruit and hire employees, rate applications, rank and assess qualified applicants, process investigations, conduct on boarding, retain employee records, manage performance, and train and educate employees. We also provide self-service benefit systems, and we accept and process retirement applications. Increasingly, the interaction and potential data exchange between these separate systems has become critical to servicing the Federal workforce. Other Federal systems, systems developed in the private sector, and OPM systems must be able to share data throughout the HR lifecycle.

The comprehensive, common, and integrated Federal HR lifecycle IT framework will:

- Provide a base offering of OPM mandated systems that can seamlessly integrate with other optional OPM, shared service center, and private sector systems;
- Streamline the entire employment lifecycle, achieving efficiencies and economies of scale across the Government, thereby providing better value to Federal agencies;
- Enhance the value to our users through improved access to information;
- Offer single sign-on and user authentication to multiple systems to ease the burden on employees and improve security;
- Deliver enhanced ability to modify system functionality quickly to align with changes in Federal HR policy;
- Drive an employee-centric approach for easier use and elimination of duplicate data entry; and
- Allow all data to flow easily between systems that provide hiring information (e-QIP,[18] eOPF, payroll, etc.), employee management information (Performance Based Management, Learning Management Systems), and retirement information.

In recent years, many of our systems have made remarkable advances in integration, interoperability and data exchange. For example, we rebuilt and implemented USAJOBS®, the Federal Government's official source for Federal job listings and employment opportunity information with a “universal trailer hitch,” that is, a standard integration technique using Human Resources Extensible Markup Language (HR XML) standards. The OPM Talent Acquisition System (TAS), USA Staffing®, also developed and implemented an on-boarding feature that integrates seamlessly with OPM's eOPF, providing data flow and record retention capability for Federal employees.

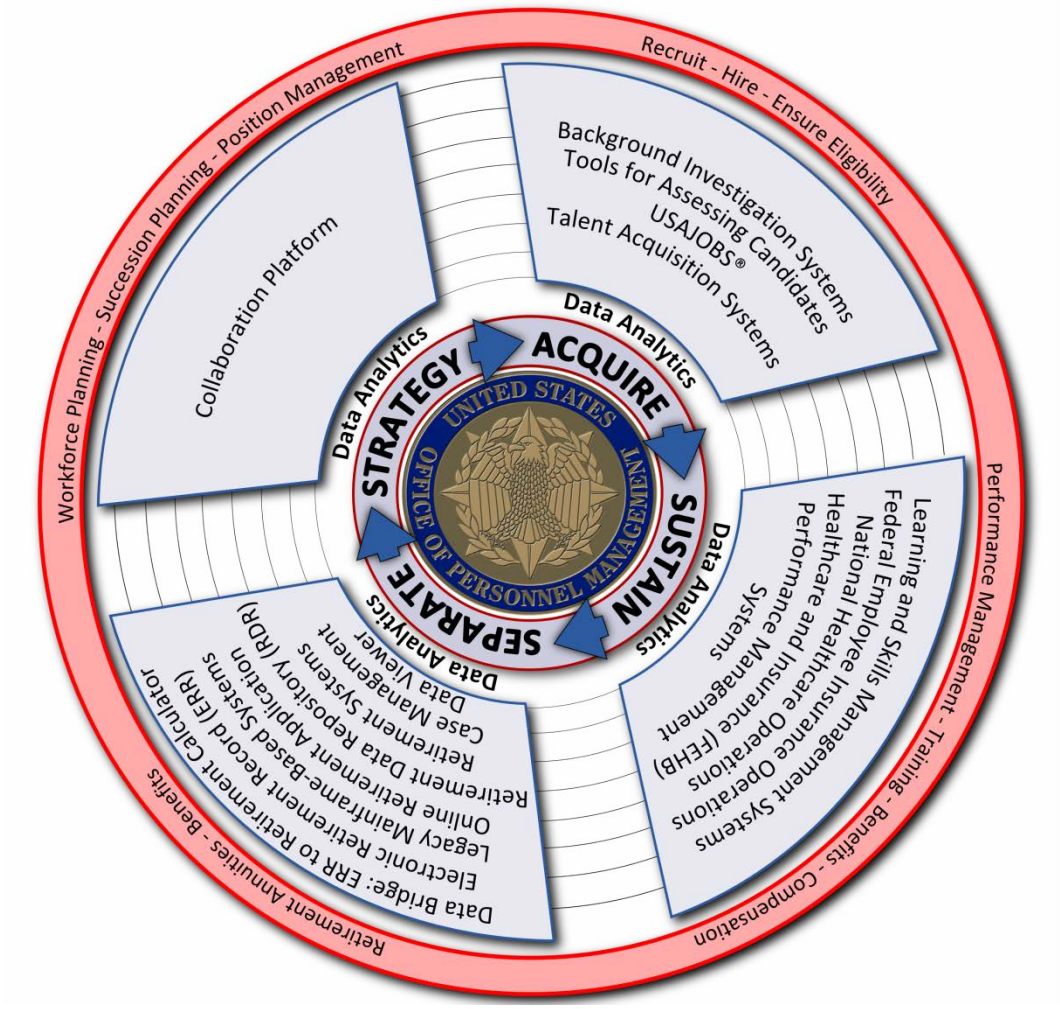
[18] Electronic Questionnaires for Investigations Processing.

To address agreed upon, standardized security requirements, we will follow NIST and FISMA standards and guidance. The modular design of the HR lifecycle IT framework will assist in further refining security. A modular system approach permits more control and allows choices for the most secure method of segmenting and securing the data.

One of the most critical components of the success of the HR lifecycle IT framework is having a universal technical "language" all participants can use to communicate. The data convention already used in USAJOBS® and USA Staffing® is based on the industry-accepted HR XML; we will leverage this work. The HR lifecycle IT framework will also incorporate existing OPM data standards as established in the Guide to Human Resources Reporting (GHRR) and Guide to Retirement Data Reporting (GRDR). These data standards are crucial to the successful electronic data exchange between the systems using the HR lifecycle IT framework. Additionally, these standards are already in production within HR LOB.

In the remainder of this chapter, we present a range of business initiatives, placed along the HR lifecycle (see Figure 6). See also Appendix B for a list of benefits of these business initiatives organized by major stakeholder group.

Figure 6: Business Initiatives Placed Along the HR Lifecycle



Strategy

In the Strategy phase of the BRM, agencies strategize, organize, plan, and develop strategies for managing their workforce. The Strategy phase has two sub-functions: HR Strategy and Organization and Position Management. The sub-functions, in turn, have associated processes.

HR Strategy "includes: conducting both internal and external environmental scans; developing human resources and human capital strategies and plans; establishing human resources policy and practices; managing current and future workforce competencies; developing workforce plans; developing succession plans; managing the human resources budget; providing human resources and human capital consultative support; and measuring and improving human resources performance."[19] Organization and Position Management "designs, develops, and implements organization and position structures that create a high-performance, competency-driven framework that both advances the agency mission and serves agency human capital needs."[20]

The Strategy phase focuses on policy, both OPM policies and agencies' policies. Successful policy requires accurate and timely information. Therefore, we are exploring many ways to use data analytics to support both sub-functions of the Strategy phase.

For example, as discussed in the Data Analytics section, OPM collects information on agencies' performance; harvesting and sharing this information can be immensely powerful. Agencies could learn from one another and improve performance. Agencies could also look at the intersection of education or training with performance to draw conclusions about what kinds of training are most likely to be effective in improving individuals' performance. This would help low-performing improve and contribute more effectively to their agencies and high-performing individuals might be given training to help them adjust to new, greater responsibilities.

Robust data analytics capabilities provide agencies the ability to analyze trends in their workforce and use that information to plan their hiring strategies collaboratively within and across departments. For example, if one agency noticed that it would soon need fewer employees with particular competencies or in a certain job series while another agency expected to hire more such employees, the agencies could use HR flexibilities to transfer some people. Organizations within the same agency could perform similar analyses and make similar decisions. Such arrangements are more cost-effective for agencies and less disruptive for employees than some alternative workforce shaping tools.

Indeed, rich and easily available information about employees' competencies and agencies' current and future needs for employees with particular competencies has nearly endless possibilities. Jobseekers could more easily map their skills to the competencies required by various job series and particular jobs,

[19] *BRM*, p. *4.*

[20] *BRM*, *ibid*.

which would help them better target their job searches. Agencies could more easily find skilled personnel from other agencies for important short-term projects that would advance the agencies' missions while enhancing the employees' career and network. The Senior Executive Service (SES) is designed for mobility of Federal executives. While members of the SES must share the same basic competencies, they all have rich resumes; detailed information about their competencies could help match executives to new positions.

Data becomes even more powerful when combined with information from other sources. For example, agencies could combine regional or geographic information regarding where Federal employees live and work with HR data to forecast their need for office space or identify looming labor shortages in particular job series in specific locations even when the job series is unlikely to present a shortage problem in the government as a whole.

Acquire

In the Acquire phase, agencies recruit and hire employees. This phase has one sub-function, Staff Acquisition, which "includes: developing a staffing strategy and plan; establishing an applicant evaluation approach; announcing the vacancy, sourcing and evaluating candidates against the competency requirements for the position; initiating pre-employment activities; and hiring employees."[21]

OPM systems that support these activities include USAJOBS® for posting job announcements, USA Staffing® for staffing and assessment, USA Hire for testing both during and after the hiring process, and the group of background investigation systems known as "EPIC." Trends we identify from data in these systems can help agencies see which kinds of positions are of greatest interest, which ones will be harder to fill with excellent candidates, and what skills applicants possess or lack. This information can inform HR strategy and position management.

USAJOBS®

USAJOBS.gov is a web-based job board enabling Federal jobseekers free access to thousands of job opportunities across hundreds of Federal agencies and organizations. USAJOBS® enables agencies to post public notice for Federal employment opportunities[22].

For USAJOBS® to be the most effective, its universal trailer hitch must be as modern and complete as possible so it can integrate fully with the TASs that agencies use for accepting and evaluating applications. For the best user experience possible, these TASs must provide a similar look and feel to

[21] *BRM*, *ibid*.

[22] 5 U.S.C. §3327 and 5 U.S.C. §3330.

USAJOBS® and not request redundant information, which allows users to feel they are using a single system rather than disparate ones. Therefore, we must update the universal trailer hitch and insist on a minimum level of standardization. Improvements to USAJOBS® will proceed in four potentially overlapping phases. We will:

1. Update the universal trailer hitch;
2. Establish or revise standards
3. Develop policy for the universal trailer hitch and revised standards, along with a scorecard to gauge agencies' progress toward complying with the standards; and
4. Conduct an evaluation of the usability of the USAJOBS® interface.

During fiscal year (FY 2014), we will implement profile and resume builder enhancements for USAJOBS®, pilot a resume mining feature, implement an application wizard, and implement reporting and analytics features. In addition to regular software updates, we will begin facilitating planning and analysis activities in support of the next iteration of USAJOBS®. These activities will begin at the end of the second quarter of FY 2014 and continue through the end of the fiscal year.

During FY 2015, we will maintain the current iteration of USAJOBS® and will continue planning and analysis activities to design a proof of concept, delivered iteratively using agile IT, for the next iteration of USAJOBS®. Specifically, through 3-week sprints incorporated into releases that occur every 6 to 9 weeks, we will deliver a proof-of-concept that allows time for approval processes such as that of the Paperwork Reduction Act while enabling us to respond rapidly to policy changes.

Talent Acquisition and Candidate Assessment

USA Staffing®

USA Staffing® is OPM's Talent Acquisition System and enables federal agencies to recruit, assess, certify, and onboard qualified candidates efficiently and cost effectively. USA Staffing® currently accounts for over 83% of all Federal Agency job postings on USAJOBS®.

USA Staffing® is currently in the midst of a multi-year project to rebuild or transform the system using agile software development methods. We are transforming USA Staffing®'s underlying system technologies for improved assessment capability, increased system capacity, improved usability, and expanded metrics. These improvements will not only help agencies in the Acquire phase of the HR LOB BRM, but they will also assist in planning during the Strategy phase.

Benefits of the new USA Staffing® include:

- Workload Management and Timeliness Tracking

- Hiring Manager Interface Improvements – Includes Request Creation/Tracking, Integrated Reviews of Assessments and Announcements, and Improvements to Certificate Reviews
- Improved Applicant Maintenance with Flexible Applicant filtering, Inline editing from Lists and New Review Capabilities
- USAJOBS® Preview – Without Having to Release
- Visible Audit Trail
- Completely Redesigned Applicant Notifications
- Data Self Service for Complete Control Over Data Interconnections and Improved and Standardized Request Processing and Workload Tracking Interconnections
- Fully Integrated Onboarding
- Improved Usability – Tabbed Interface, Better Report Integration, Auto Complete, Filtering, Dashboards, Optimized Page Designs and More!
- Eligibilities with Adjudication Integrated with the Applicant's USAJOBS® Profile
- Competency and Item Libraries and Improved Organization and Sharing of Library Items via Tagging
- Improved Assessment Capability – New Weight-Based Rating Method for Easier and More Accurate Assessment Development; Tracking of Competency Scores, Integrated HR Manager Data
- Requests Linked to and Tracked Across Multiple Vacancies Across Different Offices

In the summer of 2014, we will begin planning the transition to the new technology and software. We will run the legacy and new versions in parallel for about two years to allow for a full and orderly transition. We expect to complete the technology and software upgrade in FY 2015.

USA Hire

USA Hire provides an online assessment suite of products and services supported by industrial and organizational psychologists, HR specialists, and IT specialists. In a nutshell, USA Hire offers secure, proctored and unproctored Web-based testing services for agencies' hiring, employee development, and leadership assessment and development.

USA Hire is helping to standardize testing capabilities across the Federal space and is used to administer three kinds of tests: (1) OPM and commercial off-the-shelf assessments, individually or in combination; (2) automated versions of agencies' own tests; and (3) custom-made tests.

USA Hire is used by a wide range of agencies of all sizes. This includes high stakes testing for the selection processes for civilian positions and provides assessments for programs such as the Presidential Management Fellows (PMF) and Administrative Law Judges (ALJ) Programs.

Benefits of USA Hire include:

- The ability to administer any type of online assessment, ranging from multiple-choice to sophisticated simulations, video-based assessments, and computer scored writing and language translation assessments;
- Access to a growing suite of OPM-owned and commercially-owned off-the-shelf assessments for dozens of occupational series and hundreds of competencies or skills;
- Better, more valid assessments, especially of job applicants;
- Efficiencies and economies of scale gained from agencies' not having to stand up and maintain their own testing systems;
- Reduced burden on both applicants and agencies by allowing applicants to self-schedule (proctored testing) or access required assessments from the comfort of their home or another location, such as a public library or job training center (unproctored testing); and
- Ease of use. For example, when agencies use USA Hire for assessing job applicants, they can provide a link right in the job announcement on USAJOBS®, thereby providing a seamless experience for applicants.

Furthermore, user satisfaction with USA Hire is exceptionally high: most applicants who completed a post-assessment survey expressed satisfaction with the testing process and agreed the platform is user friendly.

The data collected by USA Hire will provide countless insights into the skills agencies are hiring for or developing in their employees. Data on such trends is invaluable for workforce planning.

Background Investigation Systems

OPM's Federal Investigative Services (FIS) conducts background investigations to support Executive Branch hiring, security clearance, and credentialing determinations. In fact, FIS conducts over 95% of the Government's background investigations. The processes supporting these investigative activities are highly integrated, automated, and consistently measured against quality and timeliness performance standards for Federal hiring and security clearance process reform. Performance data for these background investigation products are regularly reported to the Director of National Intelligence, Executive Branch agencies, OMB, and Congress.

The growing security threat and critical need for quick, valid, and detailed vetting of individuals for national security and Federal employment demands a responsive and agile process for background investigations. We are continuously enhancing our automated suite of background investigation systems (collectively referred to as EPIC) designed to meet our current and future investigative and personnel security process needs.

The initiative will also support reform in the investigative process and, drawing on the enabling initiative of information security, protect and secure the volumes of sensitive information in the EPIC systems.

The remainder of FY 2014 will be spent implementing various phases of the EPIC Transformation. We will assess the success of the above initiatives throughout FY 2014 and FY 2015. Metrics will be defined to measure the accuracy and completeness of the data exchanges and track efficiencies.

Sustain

Employees spend most of their time in the Sustain phase, and most HR systems and functions pertain to this phase, which has by far the most sub-functions, six:

- Performance Management involves "managing employee performance at the individual level and evaluating the overall effectiveness of the agency's employee development approach," as well as creating and implementing performance management strategies.
- Compensation Management encompasses "developing and implementing compensation programs; administering bonus and monetary awards programs; administering pay changes; managing time, attendance, leave and pay; and managing payroll."
- Benefits Management entails "establishing and communicating benefits programs; processing benefits actions; and interacting as necessary with third party benefits providers."
- Human Resources Development "includes conducting employee development needs assessments; designing employee development programs; administering and delivering employee development programs; and evaluating the overall effectiveness of the agency's employee development approach."
- Employee Relations involves "addressing employee misconduct; addressing employee performance problems; managing administrative grievances; providing employee accommodation; administering employees assistance programs; participating in administrative third party proceedings; and determining candidate and applicant suitability."
- Labor Relations "includes negotiating and administering labor contracts and collective bargaining agreements; managing negotiated grievances; and participating in negotiated third party proceedings."[23]

OPM programs that support the Sustain phase include USA Performance for performance management, learning management, and skills tracking tools, as well as the benefits systems Federal Employee Insurance Operations (FEIO) and National Healthcare Operations (NHO). Data generated by these systems can be used for forecasting. For example, we can compare the skills employees have or are acquiring to those skills we believe, based on other data, our workforce will need in the future.

[23] *BRM*, pp. 4-5.

Performance Management

USA Performance℠

USA Performance℠ has a wide range of functionality. It enables agencies to automate their performance appraisal process throughout the entire performance rating cycle. Through USA Performance℠, we will:

- Increase efficiencies by streamlining processes and providing both dashboard views and standardized reports. These features will reduce paper, printing, and postage costs;
- Increase the visibility and transparency of the performance management process;
- Enhance accountability of the existing performance management process;
- Improve alignment between individual and organizational performance and between individuals' performance and development; and
- Enable better, faster decision-making.

USA Performance℠ is undergoing final security evaluation currently, and we expect the system to be in production in summer 2014. It is funded through FY 2015

Learning Management and Skills Tracking

USALearning®

USALearning® (previously known as GoLearn) is the Federal Government's online education and training platform. This program was established under the E-Gov (E-Training) initiative as the principal resource for Federal online training. The program has two business lines: Learning Management System (LMS) Service branch and The Knowledge Portal (TKP), which provides an array of services for small and medium agencies. TKP's open-source tools allow small agencies to operate in a shared environment and share in the reduced costs of hosting, helpdesk, and the development and implementation of enhancements that are unique to a particular agency. TKP's offerings provide users access via the Internet.

USALearning® provides a breadth and depth of data on employees' training and skills that, when combined and analyzed, will paint a rich picture of the Federal workforce. While USALearning® is in a steady state with only minor enhancements and is currently funded, additional capabilities under consideration would result in an even richer experience for the user. These additional capabilities, if adopted, would be reimbursably funded by agencies.

Benefits: Healthcare and Insurance

Federal Employee Insurance Operations (FEIO)

FEIO is responsible for the government-wide administration of health benefits through the Federal Employees Health Benefits Program (FEHBP) and insurance programs and services for Federal employees, retirees, and their families.

Our current FEIO IT initiatives include the rollout of the Benefits Plus system to internal and external users, a collaboration wiki for internal Healthcare and Insurance resources, and automation of various Open Season applications and products, including the Guides to Federal Benefits and Brochure Creation tools.

Benefits Plus will eliminate the multiple data entry and storage points for identical data from insurance carriers and consolidate the data into a single central repository. We have conducted user research and are in the initial stages of development. We plan to present the concept at the March 2014 Carrier Conference to the FEHB plans. Benefits Plus will:

- Reflect the structure of modern FEHB plans;
- Be flexible in supporting new plan structures and more easily maintained;
- Gather and manage a range of metrics for program and health plan performance evaluation;
- Generate plan comparison data for consumers;
- Reduce the complexity of contract and program management operations in this area; and
- Enhance data availability to actuaries and provide a range of reports for program and contract oversight.

In short, these changes will (1) make data entry easier for insurance carriers, (2) make data available to Federal employees and annuitants to inform their decisions about benefits, and (3) make data about programs and contracts easier for us to manage and adapt. These changes will be accomplished in FY 2014 and FY 2105 and are funded.

National Healthcare Operations (NHO)

NHO was established by OPM in response to the Affordable Care Act (ACA) and is the OPM component responsible for implementing and overseeing the Multi-State Plan Program (MSPP). Multi-state plans are one of several health insurance options from which small employers and uninsured individuals will be able to choose. In total, health care exchanges are expected to provide health insurance coverage for 31 million Americans.

NHO also helps to administer the Federally-run Pre-Existing Conditions Insurance Plans (PCIP) in states that do not establish PCIP programs themselves. NHO does this on behalf of the U.S. Department of Health and Human Services, which has primary responsibility for the PCIP program. PCIP operates in 24 states and the District of Columbia and covers more than 45 percent of the U.S. population.

Our Multi-State Plan Portal (also MSPP) is designed to:

- Provide external customers with a mechanism to file a request for external review, file a complaint, or offer other acceptable communication;
- Process and track incoming communications; and
- Produce a range of administrative reports to enable oversight.

Agile development and numerous stakeholder interviews have played a key role in the successful completion and implementation of the various phases of the MSPP:

- Since October 2013, we have accepted State Level Issuers (SLIs) plan data has been accepted via a web-facing portal with data transfer functionality to the Department of Health and Human Services (HHS);
- We have also completed two stages of contract modification functionality. Users and testers have reported satisfactory ratings; and
- The MSPP Expedited External Review and Complaints Systems phase of the system is in progress. This initial release will be internally facing and the next phase will be an externally facing web application that enrollees or their authorized representative can use to send NHO an expedited external review, complaint, disputed claim, or other acceptable case type.

The Expedited External Review system's design was approved in mid-December and the internally facing functions of the External Review system are scheduled to go live with various iterations of the tool being rolled out on 30-90 day intervals, depending on the scale of development being done for that particular phase.

Plan recertification functionality and reporting capabilities will be in the next phase of development, testing, and implementation in calendar year 2014, which is funded.

Separation

Separation is the final phase of the BRM. Employees depart from the Federal service, usually for another job or to retire. The term "separation" should not be taken too literally. This phase is one of transition; "separating" employees may later return to Federal service, and many of them and their family members or survivors receive retirement and other benefits. For example, they may continue to receive the healthcare they began receiving in the previous phase, Sustain. Separation also involves knowledge transfer from departing employees, which our collaboration tools will facilitate.

This phase has a single sub-function:

> Separation Management conducts efficient and effective employee separation programs that assist employees in transitioning to non-Federal employment; facilitates

the removal of unproductive, non-performing employees; and assists employees in transitioning to retirement.[24]

Our IT efforts for this phase focus on processing retirement claims of various kinds and providing benefits to retirees and their survivors. Through enhanced data analytics, the data we collect and create in the course of our retirement work can be used to inform the workforce planning efforts of the Strategy phase at OPM and throughout the Federal space.

Retirement Systems

We are responsible for administering benefits and services for Federal employees, retirees, and their families under the Civil Service Retirement System (CSRS) and the Federal Employees Retirement System (FERS). The IT we use to support and administer retirement benefits is for all practical purposes a set of legacy systems.

A variety of system activities focused on making changes to our existing retirement systems are ongoing. For instance, current changes mandated by law or regulation include:

- Conversion of all retirement payments to Electronic Fund Transfers;
- Updating annuity calculators to factor increased retirement contributions for certain Federal Employees Retirement System-Revised Annuity Employees and Federal Employees Retirement System-Further Revised Annuity Employees (FERS-RAE and FERS-FRAE) employees;
- Updating annuity calculators to increase phased credit for unused Sick Leave for FERS;
- Updating annuity calculators for voluntary Roth contributions; and
- Numerous updates to existing calculators or support systems to automate complex business rules.

We envision transitioning the retirement program to a paperless system that will truly honor a Federal employee's service by authorizing accurate retirement benefits on the day they are due, answering customers' questions in a timely manner, and promoting self-service account maintenance.

We will use agile IT to incrementally implement the following initiatives, with each iteration building on previous enhancements so service improves on a consistent and continuous basis.

electronic Individual Retirement Record

The eIRR system is a repository of limited historical retirement data submitted to us by agencies that have closed out their payroll systems. The eIRR system eliminated the need for payroll offices to provide hundreds of thousands of paper IRRs each year. It is now time to merge this data with other pre-retirement data we receive from agencies and payroll providers to provide a more comprehensive

[24] *BRM*, p. 5.

record of employees' service and provide savings from decommissioning a redundant system. This will consolidate various sources of retirement data into a single Retirement Data Repository (RDR).

During FY 2014, we will develop requirements and co-locate data from the eIRR to the RDR, making it more broadly available to Retirement Services adjudication specialists and agency Benefits Officers through the Retirement Data Viewer (RDV). This work is dependent on additional funding as it is only partially funded through an appropriation that supports development work for all stakeholders in the EHRI Data Warehouse.

Re-Hosting of Legacy Mainframe-Based Systems

The mainframe hardware and software systems that support retirement processes are expensive to maintain. We anticipate cost increases at magnitudes of 10 percent to 15 percent annually as personnel with the necessary coding expertise retire and cannot easily be replaced. With other OPM programs already transitioning away from mainframe environments, escalation of future costs would need to be taken from discretionary sources, reducing flexibility for other program areas. As part of our enterprise platform consolidation effort, we will transition retirement systems to a distributed environment. Additional funding will be needed for this effort and will be requested as part of the budgeting process.

Retirement Data Repository (RDR)

We have established the RDR, which is a centralized data repository to store employee retirement-related data defined in the Guide to Retirement Data Reporting and submitted via the Electronic Retirement Record (ERR) feed and will make that data available to other OPM systems and processes. The RDR will include retirement-ready data from agency HR and payroll systems, applicant data submitted via the online retirement application, and any scanned documents necessary for retirement adjudication. There are several benefits to the RDR:

- We will migrate from a paper-based environment to an electronic system, thereby saving money on printing, moving, and storing paper and making it possible to improve processing times;
- Integration with the major Federal payroll centers will provide valuable data for the Retirement Data Repository; and
- Data stored in the RDR is required for integration with our retirement calculator – that is, we need the information to calculate annuities.

In FY 2014, OPM and the Interior Business Center (IBC) SSC will continue testing of IBC test files to ensure that GRDR-compliant data is being sent to the RDR. During FY 2015, we will expand the technical compliance to other SSCs as they make changes to their systems to provide GRDR-compliant data. This work is dependent on additional funding as it is supported through an appropriation that supports development work for all stakeholders in the EHRI Data Warehouse.

Data Bridge from the ERR to the Retirement Calculator

A data bridge is an essential component in our iterative process toward retirement automation, mapping ERR data to the fields in our Retirement Calculator. Almost all data needed for retirement is

contained in the ERR files. Once this bridge is built, we will receive automated data feeds to the Calculator with information on retiring employees. This will reduce data entry and increase data accuracy.

During FY 2014, we will create a web service and interface to enable the retirement calculator to pull RDR data. Additionally, we will support testing to ensure the data is pulled correctly and accurately. This work is dependent on additional funding as it is only partially funded through an appropriation that supports development work for all stakeholders in the EHRI Data Warehouse.

Case Management

As noted under "Enterprise Initiatives," business process management and case management solutions will benefit most organizations within OPM. For retirement processing, having a state-of-the-art case management system will mean being able to easily track and report on documents and cases as they are processed through various operating sections. The investment will significantly reduce manual data entry. The upgraded functionality will provide process monitoring and analysis, workflow definition and execution, and administration oversight and capabilities. It will support interactions with real time results and provide user-friendly reports. It will therefore enable better management oversight, process analysis, reporting, and monitoring.

Retirement Data Viewer (RDV)

The RDV is a web-based application in OPM's Enterprise Human Resources Integration (EHRI) retirement data repository environment. It enhances productivity and reduces errors by aggregating information from multiple systems and enabling users to see retirement-related data submitted via data feeds and imaged documents based on the users' defined roles and responsibilities in the system. Employees use it to review test submissions from providers as a part of the technical compliance process, view scanned documents, and access data in other systems through a single interface while adjudicating a retirement case file. Several agencies participated in a pilot to use the Data Viewer in fiscal year 2013 (October 2012-September 2013). The results of the pilot indicate that continued investment in the RDV will result in a significant drop in incompleteness of retirement cases or inaccurate dates within case files from these agencies. These results will translate to better service for retirees and more efficient use of staff time at OPM and participating agencies. We plan to add more agencies and enhance the RDV's functionality.

During FY 2014, we will determine the support and functional requirements for a broader deployment of the RDV to agencies. Development of the RDV is dependent on funding as it is funded through an appropriation that supports development work for all stakeholders in the EHRI Data Warehouse. Funding for the support of a government-wide deployment of the RDV has not been identified.

Online Retirement Application

We are developing requirements for an Electronic Retirement Application. With this application, employees who are planning to retire will have access to more accurate counseling and a more refined annuity estimate based on more and better data. Employees will also be able to complete,

electronically sign, and submit their retirement applications using this web-based tool. This will make the application process easier for employees to complete.

During FY 2014, we will develop technical and functional requirements to ensure that data collected through an online application is accurately interfaced with other retirement data in the RDR. In FY 2015, we will develop an interface and validations to receive and store data collected through an online retirement application. This work is dependent on additional funding.

Chapter 4: OPM Enterprise-Wide Shared Platform

We manage and operate a large portfolio of IT systems constructed on different platforms with a diverse mix of technologies, standards, and protocols that have been developed over decades. Some systems have point-to-point integrations; that is, some of them share data, but these connections are not managed holistically. While these systems serve a valuable purpose and contribute significantly to the mission, the point-to-point integration approach is costly to maintain, is difficult to modify, and does not meet our needs in the future.

OPM will invest in infrastructure that promotes an enterprise, rational, secure, scalable and cost effective way to manage information flows among systems. We will plan and design an enterprise-wide shared platform that will constitute the first steps in operationalizing the HR lifecycle IT framework approach. Deploying a capability-based shared platform is an industry proven approach to address the data management, integration, and analytics challenges we face today.

What is an enterprise-wide shared platform? Think of the information we exchange electronically every day as cargo that is shipped across the Earth's oceans. Now think of the systems or services sending and receiving that information as the business units engaged in sending and receiving the cargo packages. The shared platform would simply be the port facility. A shipping port facility is a critical transportation hub designed to facilitate the sorting, inspection, routing, and delivery of massive amounts of cargo. An effective port allows organizations to streamline shipping by using a dedicated, optimized facility to take care of logistical details and for transferring cargo between transports (e.g., moving shipping containers from ships to trucks). A shared platform provides a common hub for passing information. Just as ports enable a nation to effectively manage its commerce at a massive scale, an enterprise-wide shared platform enables organizations to effectively manage their information flows across the enterprise and beyond.

Imagine OPM has a new agency-wide IT initiative involving multiple business units that must exchange data with each other. Each of the business units could start its own integration project with every other business unit, which would quickly result in a web of point-to-point connections. Instead, they will use an enterprise-wide shared platform and each program will integrate with that same platform – once and only once. All data routing and notification will be performed on the platform, and business units will be free to decide on the type of data and message formats they use to deliver information or receive information, so they will maintain flexibility while reducing costs and complexity.

Our platform will adhere to eight simple, common architecture principles:

1. Think of security first and always;
2. Provide a shared integration platform;

3. Promote operational efficiency;
4. Promote service agility;
5. Promote service resilience;
6. Promote data transparency;
7. Promote innovation; and
8. Promote simplification.

The platform will help meet many of the needs associated with our vision for an HR lifecycle IT framework, including enhancing our retirement application processing; finding a technical solution for breaking down silos and allowing data integration; identifying and providing for data sharing opportunities amongst business applications; ensuring that OPM's leaders feel they have ownership of and a stake in the HR lifecycle IT framework from the beginning; operationalizing the lifecycle concept and the enabling initiatives; driving an overall timeline for implementing this plan; and promoting data standards and exchange.

By implementing an enterprise-wide shared platform, we will meet a number of more technical needs, such as:

- Streamlining data exchange between applications, both within and outside OPM, thus avoiding multiple point-to-point connections;
- Enabling data providers and consumers to choose a native format that works best for them while still allowing their systems to exchange data;
- Enabling incremental adoption of an architecture with minimal disruption to existing business operations;
- Enabling reliable, asynchronous messaging to build highly available and fault tolerant applications – that is, applications that are almost always available for use, even when something goes wrong;
- Providing non-functional (logistical and "housekeeping") capabilities such as security, error handling, and auditing tools, as well as a management dashboard in a manner that alleviates this burden from individual applications;
- Applying standard and consistent authentication, security, and monitoring policies across applications; and
- Improving auditing of data movement and tracking of financial agreements between services.

Benefits will accrue at an enterprise level. The platform will rely on standardized technology and provide shared infrastructure to all business units. This will support IT governance, data governance, and a strong information security framework that will enable us to improve our IT-related business

processes and systems, such as retirement processing and USAJOBS®. The platform will allow efficiencies by avoiding duplicative architectures

Phase 1 – Plan: We will build a foundation. The development team will largely consist of the CIO technical team. Others will consult on the installation, configuration, and deployment of the platform infrastructure. We will assemble a fully functional shared platform team to perform program management, development, quality assurance (QA) testing, integration consulting, and support. We will document the platform architecture, prepare a plan and budget, and prototype and conduct acquisitions.

Phase 2 – Implement: We will conduct prototyping, application integration, and deployment of middleware services for several major initiatives, starting with retirement systems and including EHRI, SSCs, and all appropriate business systems. We will also scale the service and potentially integrate additional applications.

Phase 3 – Assess: We will better understand and assess the potential for additional opportunities throughout the OPM enterprise and with the SSCs. We will plan and implement in an iterative fashion. This approach allows us to continue to meet the mission needs of the organization while implementing a flexible, modern approach to data sharing that will serve OPM and the Federal agencies for many years to come.

Chapter 5: Preparing the Workforce

As we work to implement this plan, we know there will be necessary changes, including structural ones that will impact the workforce across our agency, and especially those in the CIO. We must engage our people in open dialogue throughout this process to help them see the new vision, appreciate that they play a very important role in its success, understand the new ways they will need to do things, and perhaps learn new skills. This plan truly presents an opportunity for our employees to grow professionally in ways they may not have thought possible to fulfill new roles and take on new responsibilities so we can meet the IT demands of the 21st Century.

Organizational change, workforce development activities, and strategic hiring for a workforce that is diverse in background, skills, and thought will help OPM address talent management needs and also provide employees with opportunities for development. This approach to workforce development includes career paths, succession plans, proactive competency management, and performance management. Implementing this type of approach results in OPM's being better able to hire, develop, and retain employees with critical competencies needed for organizational success.[25]

Professional development, conducted in collaboration with the OPM Center for Innovative Learning and Professional Growth and Communities of Practice, enables the following outputs and outcomes:

- Transparent and clearly defined IT career paths with criteria for progression to the next level in both technical and leadership positions;
- Employees' ability to plan their professional development within clearly defined career paths;
- A comprehensive view of critical IT positions and positions that may become vacant in the next 3-5 years;
- Specific, actionable steps to fill each critical IT position;
- Strategies to prepare for loss of critical talent;
- A process to track progress and update succession plans on a regular basis;
- A consistent approach to meeting career development, training, and certification needs across the CIO for (1) Project Management Professionals (partnered with Project Management Institute, PMI) and (2) Federal Acquisition Institute (FAI) Program Managers. OPM's Project Management Community of Practice and related courses in our LMS are accredited by PMI for certification and continuing education units;

[25] U.S. Office of Personnel Management. Retirement Systems Modernization. (April 15, 2008). *Change Plan Analysis*. Draft.

- The opportunity to document transition strategies and processes for those employees who are planning to retire;
- Employees empowered to proactively manage their own careers by working with the Innovative Learning and Professional Development Center; and
- Opportunities for employees to develop leadership skills.

Talent management results in:

- The ability to identify and redeploy staff with the requisite skills to appropriate positions;
- Documented processes that will enable OPM to identify and respond to potential knowledge loss with staff nearing retirement or leaving the agency;
- New career development opportunities for staff, which will be effective in recruiting and retaining employees;
- Greater visibility of employees' strengths and developmental needs, which enables managers to provide more targeted and timely coaching and training;
- More effective alignment of skill sets with job requirements; and
- A catalog of IT, and specifically project management, skill gaps that can be used to develop existing employees and also inform recruitment efforts.

Performance Management leads to:

- Stronger links between individual and organizational performance goals specifically related to this plan;
- Clearer understandings of critical performance behaviors;
- More frequent, timely, and relevant performance feedback;
- A common language for performance and skill assessment that is explicitly connected to strategic goals and career plans;
- An environment that promotes teamwork and continuous improvement;
- Incentives tied to IT strategic goals; and
- An incentive program aligned with new business processes and desired outcomes of this plan.

Above all else, for employees to know and understand the vision, the value they bring to the organization, what new skills are needed, and how their many talents can be used to ensure successful implementation of this plan, communication and open dialog will be essential. To this end, we will work closely with our union partners, as well as OPM's Labor-Management Transformation Forum and the National Council on Federal Labor-Management Relations.

Appendix A: Enterprise Initiatives: Summary of Benefits

Table 1: Benefits of the Enterprise Initiatives

Platform Consolidation	Collaboration Tools	Business Process and Case Management	Data Management and Warehousing	Electronic Recordkeeping	Financial Management
- Take a "shared first" approach to our systems - Enhance interoperability, increasing data sharing - Reduce duplication, saving on licensing fees - Support agile IT and modular design - Comply with the Digital Government Strategy (separating the information, platform, and presentation layers) - Creation of new business value from existing applications, incrementally transforming legacy systems into new reusable business components, or leveraging existing enterprise skills and improving productivity - Retirement solution will be optimized for maximum resource sharing across the Federal space to manage costs, all of which will enable the HR lifecycle framework to thrive	- Support efforts to strengthen collaboration between program offices, making data management, and therefore data analytics, easier to achieve - Enable two initiatives under consideration that would provide career maps, training curricula, courses, and other developmental resources to employees throughout the Federal Government and would provide a government-wide space for talent matching, project-based collaboration, and resource sharing - Make work processes seamless for employees, reducing barriers to collaboration and increasing productivity	- Track and report on cases, such as applications for retirement, at a more granular level than we are currently capable of doing - Enable offices to collaborate on workflows. For example, we will better manage our correspondence and review process, thereby improving our responsiveness - Save on licensing costs - Improve standardization which reduces training costs - Flatten the learning curves for new employees and existing employees who move into new positions - Support shorter and more agile implementation of rule changes - Surface excellent processes for reuse or emulation throughout the agency. For example, many offices have Resource Management Officers (RMOs) with different collaboration tools and business process management tools. With standard tools, they will be better able to learn from each other's processes	- Our architecture will include robust security controls to enable strict information security access and protections - A robust data management and warehousing architecture will allow us to eliminate redundant data and better associate data to meet business information needs - Leverage economies of scale by coordinating our work on each of these data warehouses and reusing technologies and controls where possible	- Integrate electronic recordkeeping into employees' everyday workflows - Ensure electronic records, especially email, are captured and maintained effectively so they are usable and retrievable - Ensure compliance with the Managing Government Records Directive - Facilitate openness by making it easier to respond to Freedom of Information Act (FOIA) requests and easing the burden of the discovery phase in litigation - Implement records migration to new storage media to avoid data loss due to media decay or technological obsolescence - Seamless electronic recordkeeping, much of our work to manage our records will happen without employees' intervention and, where employees must take action, recordkeeping will occur within the flow of employees' work	- Provide a comprehensive source of financial, budget, and performance information - Improve cost control for the benefit of other agencies that use our services - Manage our resources more effectively, which will help us make informed decisions about realigning resources to fund high-priority initiatives - Improve support for key trust fund-related business processes, such as communicating with benefit carriers via a web portal, efficiently managing cash balances and investments to achieve the best possible returns, automating and streamlining processes, and increasing transparency in reporting - Improve collection of retirement, health benefits, and life insurance withholdings and contributions information from Federal payroll providers - Enhance management of improper payments - Improve financial oversight of Experience Rated Carriers (ERCs) and life insurance carriers

Appendix B: Business Initiatives: Summary of Benefits

Table 2: Benefits of the Business Initiatives

Stakeholders	Benefits
Federal Job Seekers	Enhancements to USAJOBS®'s universal trailer hitch increase the information available from the Talent Acquisition and Assessment Systems, giving Job Seekers more visibility into information throughout the process. OPM's partnering with other Agencies to drive adoption of the integration standard will provide a consistent applicant experience across the Federal Government.
Federal HR Professionals	The enhancements to USA Staffing® and USA Hire improve assessment capabilities and overall usability. These will provide the HR Professional more flexibility with assessments. Expanded metrics and updating the connection to USAJOBS® through the standard integration, will allow full integration with TASs that agencies use and more efficient access to data needed by reducing the need to log into multiple systems.
Federal Employees	Updated content combined with enhancements to USALearning®, provide the Federal workforce access to up to date curriculums which assist with career development. USA Performance℠ will allow federal employees better visibility into their performance throughout the appraisal period. Note: access to USALearning® and USA Performance℠ is based on Agencies agreements with OPM.
CHCOs	Enhancements to systems supporting the HR lifecycle and increased integration between the systems, will allow for the capture of valuable data. The CHCOs can use this data to determine trends to assist in strategic planning.
OPM Investigators	Enhancements to the EPIC suite will increase the timely availability of relevant data throughout the investigation process. For instance, updates to data exchanges with external sources will increase the data available and frequency of exchanges providing investigators more timely access to valuable information, increasing the efficiency and thoroughness of the investigation.
Federal Retirees, Families, and Survivors	The availability of an On-line Application to complete the data stored in the Retirement Data Repository will automate the transition from employment to retirement, and most importantly, increase the accuracy and timeliness of benefits by relying on electronic data as we move from a paper-dependent system. Enhancements to Services Online to include a status viewer based on a modern case management system will provide transparency of the claims process for the Federal retiree and promote self-service account maintenance beyond retirement.

Stakeholders	Benefits
OPM Retirement Specialists	Enhancements to the Retirement Data Viewer will help adjudicators enhance productivity and reduce efforts by aggregating information from multiple systems, increasing the accuracy and completeness of the case files. The Data Bridge from the ERR to the Retirement Calculator, will reduce data entry by the Retirement Specialist and increase accuracy of the data. The Case Management System will result efficiencies in processing claims by streamlining, standardizing and automating work processes.
OPM Retirement Leadership	The enhancements to the various systems supporting the Retirement Process will increase the data captured throughout. This provides Retirement Leadership, a greater wealth of information that will be used to help manage day to day operations, strategic planning, and backlog reduction.

Appendix C: Timelines

Table 3: Enabling Initiatives Timeline

	INITIATIVE	RESOURCE STATUS	2014 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2015 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ENABLING INITIATIVES	IT Leadership	Fully Resourced	PLAN																						
							IMPLEMENT																		
							ASSESS																		
	IT Governance	Fully Resourced	PLAN																						
							IMPLEMENT																		
							ASSESS																		
	Enterprise Architecture	Partially Resourced	PLAN								IMPLEMENT - Phase 1														
													PLAN		IMPLEMENT - Phase 2										
																PLAN		IMPLEMENT - Phase 3							
																			PLAN		IMPLEMENT - Phase 4				
																	ASSESS								
	Agile IT	Partially Resourced	PLAN																						
														IMPLEMENT - Phase 1											
																PLAN		IMPLEMENT - Phase 2							
																			PLAN		IMPLEMENT - Phase 3				
												ASSESS													
	Data Analytics	Partially Resourced	PLAN																						
								IMPLEMENT - Phase 1																	
								ASSESS																	
	Information Security	Partially Resourced	PLAN																						
				IMPLEMENT																					
						ASSESS																			

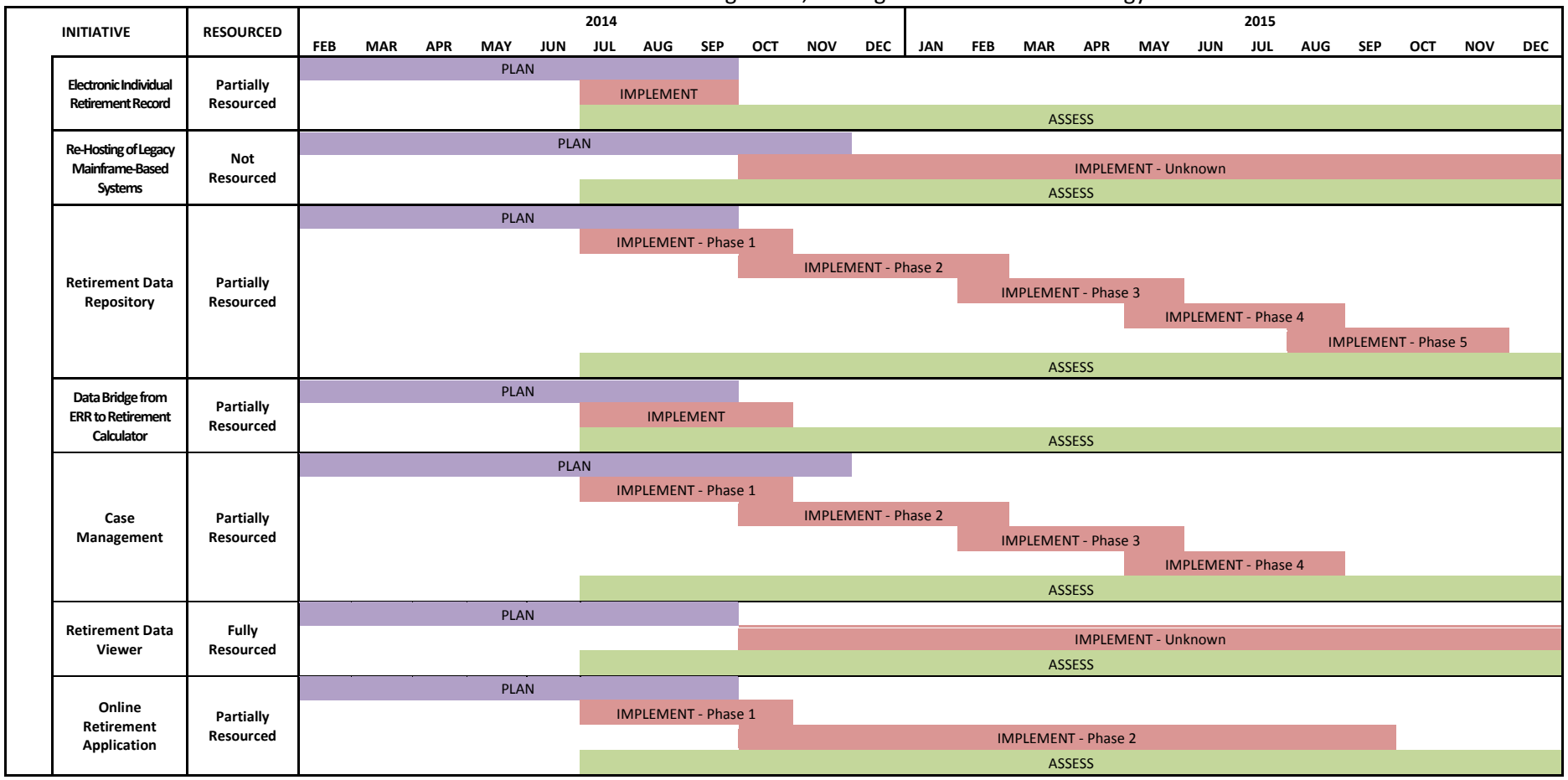
Table 4: Enterprise Initiatives Timeline

	INITIATIVE	RESOURCED	2014 FEB–DEC	2015 JAN–DEC
ENTERPRISE INITIATIVES	Platform Consolidation	Partially Resourced	PLAN; IMPLEMENT; ASSESS	
	Collaboration Tools	Partially Resourced	PLAN; IMPLEMENT; ASSESS	
	Case Management Tools	Partially Resourced	PLAN; IMPLEMENT - Phase 1; IMPLEMENT - Phase 2; IMPLEMENT - Phase 3; IMPLEMENT - Phase 4; ASSESS	
	Data Management	Partially Resourced	PLAN; Implement - Phase 1; IMPLEMENT - Phase 2; ASSESS	
	Electronic Recordkeeping	Partially Resourced	PLAN; IMPLEMENT; ASSESS	
	Financial Management	Partially Resourced	PLAN; IMPLEMENT; ASSESS	

Table 5: Business Initiatives Timeline

	INITIATIVE	RESOURCED	2014 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2015 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BUSINESS INITIATIVES	USAJOBS	Fully Resourced	PLAN																						
				Release 4.2																					
					Release 4.3																				
							Release 4.4																		
								Release 4.5																	
											Sprint 1														
														Sprint 2											
																	Sprint 3								
																				Sprint 4					
																							Sprint 5		
								ASSESS																	
	USA Staffing	Fully Resourced	PLAN																						
								IMPLEMENT - Phase 1																	
											IMPLEMENT - Phase 2														
															IMPLEMENT - Phase 3										
																		IMPLEMENT - Phase 4							
								ASSESS																	
	USA Hire	Partially Resourced	PLAN																						
								IMPLEMENT																	
								ASSESS																	
	Background Investigation Systems	Partially Resourced	PLAN																						
								IMPLEMENT - Phase 1																	
											IMPLEMENT - Phase 2														
															IMPLEMENT - Phase 3										
																		IMPLEMENT - Phase 4							
								ASSESS																	
	USA Performance	Fully Resourced	PLAN																						
								IMPLEMENT																	
								ASSESS																	
	USALearning	Partially Resourced	PLAN																						
											IMPLEMENT - Unknown														
								ASSESS																	
	Federal Employee Insurance Operations	Fully Resourced	PLAN																						
								IMPLEMENT																	
								ASSESS																	
	National Healthcare Operations	Fully Resourced	PLAN																						
								IMPLEMENT																	
								ASSESS																	

U.S. Office of Personnel Management, Strategic Information Technology Plan



Appendix D: Developing This Plan

Our CIO and CTO led the effort to develop this plan with the substantive help and input of a group of employees with expertise in both IT and strategic planning who represent all of OPM's associate directors (ADs) and office heads (OHs). The team sought to understand OPM's biggest IT challenges, as well as business unit plans, aspirations, and challenges. The CIO and CTO shared numerous drafts of this plan with OPM's Director, ADs, and OHs, and worked closely with OPM's Chief of Staff (CoS) and Chief Operating Officer (COO) to ensure all perspectives were reflected. A briefing was also provided at an OPM Director's Priorities Meetings to promote discussion, enable clarification, and garner support. We would like to thank the following individuals for making this plan possible:

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Appendix E: Acronyms and Initialisms

ACA: Affordable Care Act

BRM: Business Reference Model

CAO: Chief Acquisitions Officer

CBIS: Consolidated Business Information System

CDM: Continuous Diagnostics and Mitigation

CFO: Chief Financial Officer

CHCO: Chief Human Capital Officer

CIO: Chief Information Officer

CTO: Chief Technology Officer

DHS: Department of Homeland Security

DRM: Data reference Model

EA: Enterprise Architecture

EHRI: Enterprise Human Resources Integration

EIO: Enterprise Infrastructure Operations

eIRR: electronic Individual Retirement Record

eOPF: electronic Official Personnel Folder

EPIC: Group of background investigation systems; term now stands on its own

e-QIP: Electronic Questionnaires for Investigations Processing

ERC: Experience Rated Carrier

ERMA: Electronic Records Management Application

ERR: Electronic Retirement Record

EVM: Earned Value Management

EVMS: Earned Value Management System

FAI: Federal Acquisition Institute

FEA: Federal Enterprise Architecture

FEHBP: Federal Employees Health Benefits Program

FEIO: Federal Employee Insurance Operations

FERS: Federal Employees Retirement System

FERS-RAE: Federal Employees Retirement System-Revised Annuity Employees

FISMA: Federal Information Security Management Act

FOIA: Freedom of Information Act

GAO: Government Accountability Office

GHRR: Guide to Human Resources Reporting

GRDR: Guide to Retirement Data Reporting

HCDW: Health Claims Data Warehouse
HHS: Department of Health and Human Services
HR LOB: Human Resources Line of Business
HR XML: Human Resources eXtensible Markup Language
HR: Human Resources
IBC: interior Business Center
ISCM: Information Security Continuous Monitoring
IT: Information Technology
ITSP: Information Technology Security and Privacy
IV&V: Independent Verification and Validation
LMS: Learning Management System
MSPP: Multi-State Plan Program or Multi-State Plan Portal
NHO: National Healthcare Operations
NIST: National Institute of Standards and Technology
O&M: Operations and Maintenance
OMB: Office of Management and Budget
OPM: U.S. Office of Personnel Management
PCIP: Pre-Existing Conditions Insurance Plans
PHI: Protected Health Information
PII: Personally Identifiable Information
PMCoP: Project Management Community of Practice
PMI: Project Management Institute
PMO: Project Management officer
PRM: Performance Reference Model
QA: Quality Assurance
RDR: Retirement Data Repository
RDV: Retirement Data Viewer
RMO: Resource Management Officer
SA&A: Security Assessment and Authorization
SDLC: System Development Life Cycle
SES: Senior Executive Service
SLI: State Level Issuer (regarding insurance)
SRM: Service Component Reference Model
SSC: Shared Service(s) Center (used in both the singular and plural)
TAS: Talent Acquisition System
TKP: the Knowledge Portal
TRM: Technical Reference Model

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