

U. S. Railroad Retirement Board



Strategic Information Resources Management Plan 2013-2017



Railroad Retirement Board Strategic Information Resources Management Plan 2013-2017

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I. AGENCY AND IRM MISSION

A. Introduction

Information Resource Management (IRM) is a critical component of the Railroad Retirement Board's (RRB) strategy for achieving its objectives in all areas of its work, including its mission programs and support operations. To meet business goals and objectives, the RRB must effectively use Information Technology (IT) to increase staff efficiency, improve program efficiency and enhance services to its customers.

The IRM Strategic Plan describes the RRB's vision, objectives and measures for long-term IT investments and management of technology resources. It ensures that technology goals are consistent with the RRB's Strategic Plan, and support mission and business needs. It additionally translates the strategic goals and visions into specific IT initiatives and activities and defines plans for focusing the RRB's resources toward implementation of these objectives.

B. Railroad Retirement Board Mission

The RRB's mission is to administer retirement/survivor and unemployment/sickness insurance benefit programs for railroad workers and their families under the Railroad Retirement Act (RRA) and the Railroad Unemployment Insurance Act (RUIA). These programs provide income protection during old age and in the event of disability, death or temporary unemployment and sickness. The RRB also administers aspects of the Medicare program and has administrative responsibilities under the Social Security Act and the Internal Revenue Code.

In carrying out its mission, the RRB will pay benefits to the right people, in the right amounts, in a timely manner, and will take appropriate action to safeguard our customers' trust funds. The RRB will treat every person who comes into contact with the agency with courtesy and concern, and respond to all inquiries promptly, accurately and clearly.

C. IRM Mission

The RRB's IRM mission is to provide increased value to the agency's business, through automated systems and technology, by enabling the RRB to achieve its strategic goals and performance objectives in the most effective and efficient manner.

D. RRB Strategic Plan Objectives

Technology and automation are key elements of the agency's strategy and ability to move successfully into the future. The following direction is provided in the agency's Strategic Plan.

Strategic Goal 1 – Provide Excellent Customer Service

Performance Actions:



- Pay benefits timely
- Provide a range of choices in service delivery methods

Strategic Goal 2 – Serve as Responsible Stewards for Our Customers’ Trust Funds and Agency Resources

Performance Actions:

- Ensure that Trust Fund Assets are Projected, Collected, Recorded and Reported Appropriately
- Ensure the Accuracy and Integrity of Benefit Programs
- Ensure Effectiveness, Efficiency and Security of Operations
- Effectively Carry Out Responsibilities with Respect to the National Railroad Retirement Investment Trust

Management Strategies - Effectively Manage Information Technology for Results

Performance Actions:

- Effectively Manage Information Technology
- Effectively Manage Human Capital
- Enhance Information Security
- Enhance Financial Reporting
- Effectively Use Competition in Contracting

E. IRM Management Structure

Executive Committee: This committee is composed of senior executives of the agency and is responsible for the day-to-day operations of the agency in conformance with existing laws, regulations, policies and orders promulgated by the Board Members. The Executive Committee makes recommendations to the Board Members on agency-related policy issues; promotes coordination and communication on matters of agency-wide policy and direction.

Chief Information Officer (CIO): The CIO is a member of the Executive Committee. The RRB’s CIO position, established in 1995, has helped to consolidate, streamline, and manage information services and operations throughout the agency. The CIO position based on the Clinger-Cohen Act and, by reference, the Paperwork Reduction Act, includes the following major duties:

- Providing advice and assistance to the head of the agency and other senior management personnel to ensure that information technology is acquired and information resources are managed consistent with the Clinger-Cohen Act and the priorities established by the head of the agency;
- Developing, maintaining, and facilitating implementation of a sound integrated information technology architecture;

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IRM Vision: The RRB is committed to provide our customers with choices to access information and services improve effectiveness of our systems and provide automated tools to our employees to better serve our customers. Our vision extends beyond the specific scope and time frame of this plan, to that point in the future when all information and services are integrated around our customers. We envision an interconnected organization that provides information and services in a seamless manner, through electronic pathways which support intra-agency, as well as inter-governmental operations.

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- Promoting effective/efficient design/operation of major IRM processes; and
- Monitoring and evaluating performance of IT programs, and making recommendations concerning the continuance, modification, or termination of such programs.

Information Technology Steering Committee: This committee is composed of senior managers representing major program and administrative organizations within the agency. It functions as an advisory board to the CIO by evaluating spending and resources to be used in the IRM area, including system development projects and capital expenditures. The committee is responsible for preparing the Strategic IRM Plan, the IT Capital Plan, and individual major project plans for approval by the CIO.

Architecture and Planning Group: The Architecture and Planning Group is headed by the Chief Enterprise Architect. The purpose of this office is to provide project direction for building the enterprise architecture, the enterprise data model, infrastructure programs and internet/intranet strategies. The office focuses on achieving effective and efficient enterprise architecture for the RRB. It is responsible for coordinating stakeholder involvement, leading to the setting of standards and policies and designing architectures to guide the introduction of technology products and services.

Project Management Office: The Project Management Office (PMO) is led by the IT Project Manager. The purpose of the PMO is to improve IT project success rates and implement and support standard project management practices. The PMO is seen as a way to improve efficiency, cut costs and improve delivery of IT projects in terms of time and budget. By having oversight to all projects and personnel, the agency's PMO can assign the appropriate people to priority projects and keep their attention focused on that project.

Standards Review Committee and Standards Approval Committee: These committees are in place to maintain and update the RRB's Information Technology related policy and procedures. They include representatives from various divisions within the Bureau of Information Services as well as representatives from the primary user organizations.

Organizational Responsibilities for Information Resources Management

Bureau of Information Services

- Management of all major information technology activities, including management of resources and evaluations of whether to continue, modify or terminate IT programs or projects
- Centralized data center and mainframe management
- Application program development/maintenance
- Database administration and data integrity monitoring
- Telecommunications support
- Computer security and controls; disaster recovery plan coordination
- Privacy Act compliance
- Safeguarding of Internal Revenue Service (IRS) tax return information



- Paperwork Reduction Act and Clinger-Cohen Act compliance
- Local and wide area network management
- Management of end-user computing environment, hardware and software
- Management and technical administration of the agency's Website
- Records retention and disposition

Office of Programs

- Project initiation based on identified business need or problem, new legislation, business partner initiative, or customer service goal
- Perform user analysis
- Definition of requirements and specifications
- Development of implementation plans and strategies
- Preparation of end-user procedures and training
- Review and monitoring of production programs and systems, and provide end-user support
- Performs authorization and ownership responsibilities for the Benefit and Payment Operations major application
- Coordination of training for personal computer and mainframe software applications

Other bureaus and offices have similar functions with respect to their systems and applications.

F. RRB Strategic Planning Process

The following figure illustrates the RRB's strategic planning process.

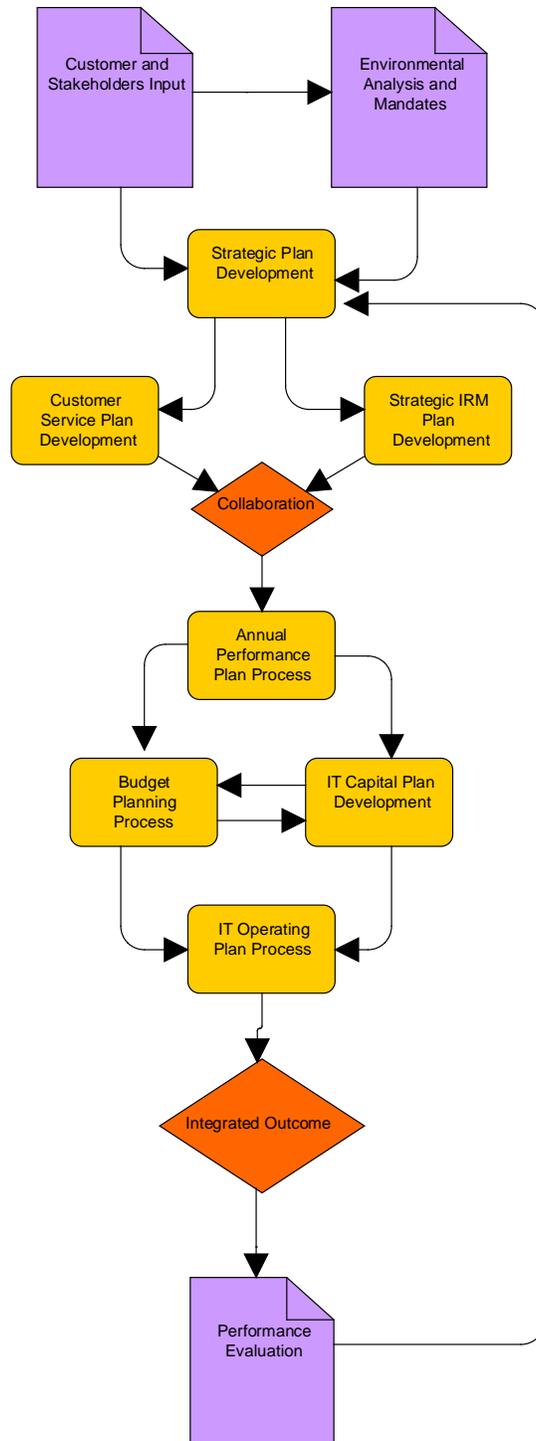


Figure 1 - RRB Strategic Planning Process



II. IRM ENVIRONMENT

The agency IRM environment is comprised of its headquarters (in Chicago, Illinois) and 54 smaller field offices disbursed across the continental United States. The five elements of the IRM environment that support the RRB’s mission are: Infrastructure, Systems and Applications, Risk Management and Privacy, Data Management, and Records Management.

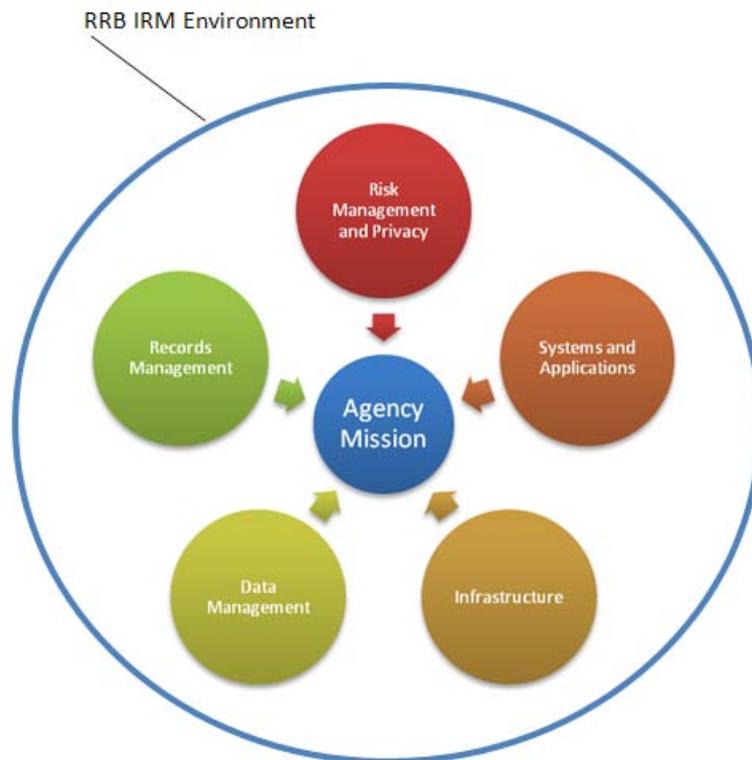


Figure 2 - RRB IRM Environment

A. Infrastructure

The RRB has one data center located in the headquarters building. In the data center resides the mainframe computer, disk and tape storage devices, data communications LAN/WAN equipment, data security devices, distributed systems (Windows) servers network servers, battery backup power, other Information Technology equipment and environmental controls (e.g. air conditioning, fire suppression).

The headquarters work areas have desktops, notebooks, printers, routers, switches and scanners (among other significant components). Field offices contain desktop and notebook computers, LAN/WAN equipment, switches, routers, servers and imaging scanners and other associated



equipment. All information technology systems in all of its locations, including work-at-home, are connected and managed through the agency's network.

The agency does leverage cloud and shared services for some of its infrastructure and operations.

B. Systems and Applications

The data center operates IBM's z-series operating system and Microsoft's operating system as its base computing platforms. In-house developed applications are developed using programming languages COBOL (mainframe) and Microsoft Windows .NET (LAN). The base relational database systems are DB2 (Mainframe) and SQL (Windows). Most Commercial-Off-the-Shelf solutions (COTS) leverage the agency's base computing platforms for their processes.

C. Risk Management and Privacy

The RRB retains primary responsibility for securing and defending its own network and critical information infrastructure from attacks. The agency relies on a sophisticated hardware and software defense that utilizes carefully monitored and maintained firewall technology, anti-virus and anti-malware software, and intrusion detection systems to prevent viruses, worms, spam and malicious content from infiltrating the agency's network, as well as to ensure that critical data and sensitive information are not compromised.

D. Data Management

Data management ensures the quality and effective use of enterprise data and that the data assets are used in the best interests of the entire agency. The agency's areas of responsibility for data management include providing stewardship for existing data, designing and maintaining data models used to create data structures, formalizing and enforcing data naming, definition, formatting, and structure standards, and coordinating data related change management processes and procedures.

E. Records Management

In accordance with National Archives and Records Administration guidelines, the RRB maintains an active continuing program for the economical and efficient management of its records including providing effective controls over the creation, maintenance and use of the records in the conduct of current business. This includes facilitating the segregation and destruction of records of temporary value and the preservation of records appropriate for preservation.



III. MAJOR OBJECTIVES DURING THE PLANNING PERIOD

Our goal, as fundamental as it is challenging, is to have IRM capabilities that:

- are well aligned with our business objectives; that are supported by integrated management processes and governance reviews;
- are guided by a comprehensive enterprise architecture;
- are cognizant of risk, security, and privacy considerations; and
- result in a robust, well-managed application portfolio and IT infrastructure for our business.

The following is a summary of some of the major enterprise-wide challenges we will face during this planning period.

A. Keeping Pace with Technology

As recognized in the agency's strategic plan, we need to ensure that we use technology and automation effectively to achieve our mission. This will involve taking advantage of both existing and emerging technologies, as appropriate.

We recognize that new technology offers the best opportunity for enhancing effectiveness and efficiency while attempting to lower the costs of service delivery and mission fulfillment. As a result, we must balance the trade-offs between the need to take advantage of emerging technological advances to meet our business needs and the need to conserve our resources.

We intend to use all levels of our management structure to continually evaluate and assess our progress in this regard. This will include the CIO and the Bureau of Information Services staff, the Information Technology Steering Committee, and the Executive Committee. The agency's capital planning process is geared to focus on those areas with the greatest potential to pay dividends (either in cost savings or in improved customer service). The agency will also need to strive to invest in improving the skills of our staff, by ensuring that appropriate training is provided to support the implementation of new technology as deployed (see Maintaining an Effective and Efficient IT Workforce).

B. Reducing Application Maintenance Costs

The term "Application Costs" applies to both in-house developed applications and Commercial-Off-the-Shelf products used to support the mission of the agency. The RRB's application architecture currently includes over 200 major distinct applications systems consisting of more than 4,200 custom programs and approximately 7 million lines of code. The uniqueness of the agency mission has required development of specialized calculations, processing adjudication, financial transactions, and other routines. We have invested heavily in application system



development to ensure the timeliness and accuracy of our mission-critical functions for our customers. Most of these legacy systems are designed for the mainframe platform. We have, however, taken great strides in recent years to create applications utilizing PC and Web platforms that integrate with server based Microsoft SQL and mainframe DB2 databases.

In addition to the claims adjudication applications, there are related application systems that perform a variety of other functions. These include suspensions and terminations, changes of address, enrollments in direct deposit, automated folder control, online referral messaging, various database corrections, specialized correspondence, and others. The RRB also maintains financial and administrative systems to support its mission.

The proprietary applications which are critical to mission support would be considered legacy applications by any measure. They have been patched and adapted over the years to meet legislative demands and to incorporate exception processing, to the extent practical. As a result, the code is complex and difficult to interpret. While we have been able to address some code inefficiencies as we revise applications, the primary objective of the Systems Modernization (see section IV System Modernization) initiative is to improve the logic and coding of the applications and systems so that the programs can run more efficiently and be better understood. As employees, who represent significant institutional knowledge, retire and new employees are hired, or programming work is contracted out, it is very important that the programs are documented and their logic made easy to understand. The agency cannot afford to allow new employees extended periods of time to analyze and interpret computer programming coding associated with our legacy systems and applications in order to discover what a program does, and how it works.

C. Improving Records Management Process

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In November 2011, President Obama released the Presidential Memorandum for Managing Government Records, a mandate to reform Records Management processes across all Executive Agencies and to develop a 21st-century framework for the management of government records.
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On August 24, 2012, National Archives and Records Administration (NARA) and the Office of Management and Budget issued OMB Bulletin 12-18, Managing Government Records Directive. The directive details how all Federal Agencies will be required to reform and improve their Records Management policies and practices, and laying out a multi-year timeline. The RRB, like other Agencies, submitted initial Plans for compliance to NARA.

This is an enormous undertaking for the RRB. The directive compels the agency to maximize its records management productivity, leverage automation, shift the culture at the RRB without sending a shock to the user community, satisfy the directive’s milestones, and reform the records management processes; all while staying within budget. The agency will need the technology, the resources and training in order to

comply with the seven-year deadline.



D. Maintaining an Effective and Efficient IT Workforce

To accomplish its mission, the RRB needs an effective and efficient IT workforce. To ensure that the agency has an IT workforce with the knowledge, skills, and abilities to operate effectively in today's rapidly changing environment, we must address two issues during this planning period. First, we need to upgrade the skills of the application development and infrastructure services staff. Second, we need to ensure that we have programs in place to hire and train replacements for our retiring workforce.

- Upgrading skills of current staff - Changing technology makes upgrading the skills of the application development and infrastructure staff a necessity. IT staff are being required to branch out into new methodologies and techniques to support the agency's ambitious business goals of improved customer service, better communications, and more efficient systems. For example, programmers who have become expert in COBOL, CICS, and other mainframe development tools are now faced with an array of new tools for use in developing Web-based application systems, real-time processing, etc. Training is planned to continue throughout the reporting period and later years. We will be assessing the skill level of the staff to determine their training needs, and will focus on providing training through the most cost-effective means available. This may include formal classroom sessions, on-the-job learning, computer- or web-based training courses, mentoring, or other techniques. This extensive retraining effort will require a significant and ongoing commitment and investment in training resources. The ongoing challenge will be to ensure that all employees receive the training support necessary to effectively use the new technology, thus making the most of our investments.
- Hiring and or augmenting replacement staff - Like much of the RRB's workforce, a large number of IRM staff is nearing retirement age. Experience has taught us that it takes considerable time to develop the essential cultural corporate knowledge needed to develop and maintain the RRB's IRM environment. To ensure that we can provide adequate maintenance of the existing mainframe and infrastructure systems and support future automation initiatives, we have begun succession planning for the technical staff. We closely monitor the attrition of staff and take hiring actions accordingly. We have also had success with supplementing the in-house application development and infrastructure staff with contractor assistance in situations where this is appropriate. A part of the succession planning also includes expansion of more operations to "cloud" services.



IV. IRM GOALS AND STRATEGIES

The agency's IRM goals and strategies are categorized into five key activities: Protect the RRB's Mission and its Information; Build Systems around the External Customer; Provide Administrative Systems and Support to the Internal Customer; Transform Legacy Systems through System Modernization; and Advance the Agency's IT Infrastructure.

A. Protect the RRB's Mission and its Information

The agency's risk management and privacy strategy is to make attacks ineffective through prevention and to detect successful attacks by enabling surveillance. This strategy is accomplished through the complementary use of technology, such as firewalls, integrity checkers, virus scanners, intrusion detection systems, anti-virus software and other special security devices, and well-trained personnel. The agency strategy is complemented by following various information security best practice federal laws and mandates, e.g. FISMA, HSPD-12, USGCB, etc. While executing this strategy, the RRB also takes the protection of privacy and civil liberties seriously.

1. Upgrade of Security Capabilities - Cyber threats are constantly evolving, requiring the agency to continually evaluate its capabilities and supporting technology. In addition, security based hardware and software tends to reach end-of-life at a faster pace than traditional hardware and software due to the evolving nature of security threats. In line with its mission, the RRB will continue to upgrade its cyber security capabilities, using both proven and emerging technologies, to secure and defend against threats both internal to the organization and from cyberspace.

- Federal Identity, Credential, and Access Management – The RRB will maintain alignment with architecture and guidance provided by authorities such as the National Institute of Standards and Technology (NIST) and the Federal CIO Council's Information Security and Identity Management Committee (ISIMC) for continued implementation of access security initiatives on agency information systems.
- Patch Management Program – The RRB will continue to improve the current Patch Management program. This includes a robust system inventory, as well as documented procedures, to ensure all agency servers, workstations, and network devices are updated in a timely manner.
- Training – The RRB will acquire a role-based, comprehensive, specialized, security training program for personnel with direct responsibilities for protecting Information Systems as required by the Presidential Information Systems Security Line of Business initiative.



- Cyber Security technologies – The RRB will upgrade its Log Correlation Collection system, Security Information and Event Management (SIEM) and Auditing appliance, and Intrusion Detection system.

2. Security Compliance – The agency will continue with projects that ensure that our systems and policies comply with the federal law, regulations and mandates.

- Risk Management Framework (RMF) Continuous Monitoring Strategy – The agency will perform a risk assessment and continuous monitoring strategy as defined in OMB Circular A-130 for the agency’s three information system major applications (Benefits, Payments, and Operations (BPO), Financial Management System, and Financial Interchange System), as well as the agency general support system (Agency Enterprise General Information System (AEGIS)). The agency will utilize specialized contractor support to accomplish or augment RRB staff as part of this process.
- Incident Response Plan – The agency will utilize specialized contractor support to develop practical guidelines to allow the RRB Computer Emergency Response Team (CERT) to respond to incidents effectively and efficiently. The primary focus of this plan will be to establish an incident response plan, allowing for detecting, analyzing, prioritizing, and handling incidents effectively.
- Configuration Management Plan – The agency will acquire resources to implement a robust, security driven Configuration Management Plan. Managing system configurations is a minimum security requirement identified in FIPS 200, and NIST SP 800-53 defines security controls that support this requirement.

3. Privacy Compliance – The agency will continue to integrate electronic privacy controls with our agency information security systems and policies.

- Data Loss Prevention (DLP) - The agency will continue to improve its DLP capabilities by protecting all network perimeter access points. Additionally, we plan on encrypting all internal agency databases to minimize the risk of data loss if there is a breach of our security controls. We will also explore the possibilities of using Self Encrypting Drives (SEDs) as an additional layer of protection for our agency IT assets.
- Cloud Computing – The agency will evaluate if utilizing cloud computing services meets mandated privacy and security controls. If so, the agency will review and recommend what cloud computing services might be worthwhile to pursue for development.
- Controlled Unclassified Information (CUI) – The agency will complete its conversion over to the national standard for handling CUI as directed by Executive Order 13556.



4. Data Management – Data management ensures data assets are managed in the best interests of the entire RRB. The focus is on how data is captured, stored, structured, optimized for performance, maintained for quality, reported, secured, and disposed.

- Archiving/Purging of Databases - The agency captures and stores a high volume of operational data across all its lines of business. Preliminary analysis has shown that it is possible to archive and/or purge significant amounts of operational data, resulting in many benefits to the agency. Among these benefits are increased system performance, reduced backup down time, improved recovery time, and, reduction of the volume of collected and retained information to the minimum amount necessary in keeping with an OMB memorandum on safeguarding PII data.

We have already implemented a successful archiving system for Payment Rate and Entitlement History data. In the reporting period we will build on that success by archiving data from other systems, e.g. Taxation and Employment Data Maintenance. We will perform further research and analysis, including meeting with business and actuary management, with the goal of identifying and taking action on data that can be either archived or purged.

B. Build Systems Around the External Customer

As stated in our IRM vision, we foresee a future in which the RRB's information architecture is integrated around our customers, rather than around systems or organizations. This strategy encompasses expansion of internet-based transaction services for beneficiaries and employers, and taking full advantage of the agency's new nationwide toll-free telephone service to provide improved interactive voice response (IVR) information and improved access and "drop off" to RRB representatives through automated call distribution. The initiatives focus on customer functions, from the initial customer contact, through the application for benefits, claims processing and payment, and finally, storage of the customer's information.

1. Internet-based transaction services for beneficiaries and employers

- IVR-WEB Identity and Access Management System – The RRB's ability to serve its customers will be enhanced by an identity and access management (IAM) system that enables a rail industry employee or RRB beneficiary to access the RRB's Interactive Voice Response (IVR) Helpline and the RRB's website services using a single PIN/Password. Currently, users must establish and maintain separate and distinct passwords on each system. The IAM system will make access to RRB systems more user-friendly by allowing the use of single password across systems and allowing users to change their password through either system.
- Employer Reporting System (ERSnet) -- In December 2003, we initiated the Internet-based Employer Reporting System (ERS) for rail and labor employers to file reports of service and compensation needed to determine eligibility under the Railroad



Retirement and Railroad Unemployment Insurance Acts. The goals of the ERS project are:

- to provide employers with electronic-based alternatives to the 74 paper-based forms exchanged between rail employers and the RRB,
- increase efficiency by reducing manual handling, and
- enhance security and protection of personally identifiable information (PII).

When ERS is complete, the Internet-based service will provide employers with a secure and efficient way to provide information to the RRB for their employees. Previously, the employers' only option to provide this information was by mail or fax.

In the reporting period, the RRB will continue to make improvements to its Employer Reporting System (ERSnet) to increase the amount of information relative to railroad compensation, employment and service that employers can exchange with the agency through the Internet. ERSnet enhancements will streamline the process by consolidating or reducing the number of forms to be submitted and providing links to allow employers to receive certain bills and recover payments through Treasury's Pay.gov website.

- Voice Recognition - We plan to evaluate the feasibility and costs of enhancing the agency's Interactive Voice Response (IVR) system to include speech recognition. Speech recognition software would allow the IVR system to recognize words in addition to touchtone signals. The advantages to using speech recognition are a flattening of the IVR menu structure for a better caller experience and the ability to take advantage of more advanced system capabilities, such as speaker verification.
- Change of Address and Electronic Funds Transfer – We will develop a system that will allow our annuitants to change their address or bank to which their electronic funds are deposited. We will provide an online Beneficiary Profile screen that will permit individuals to view and update certain data maintained by the agency, such as address and direct deposit information.
- Application for Annuity -We will develop a system that will allow individuals to file annuity applications online. This will begin with employee and spouse annuity applications. After gaining experience with these, we will evaluate survivor benefit applications as well.

2. Application Processing Enhancements

- We plan to integrate the use of attestation (signature by proxy) in the process we use to take applications for benefits from the public. This would eliminate the need for a “pen and ink” signature and result in more efficient processing and better customer service.



- We plan to automate the payment processes for all retirement applications through one calculation system (Retirement Online Calculation Systems). The completion of this project will allow for the elimination of an older legacy system and will reduce systems maintenance.

3. Medicare Systems Improvements - We plan to fully integrate collection of the Medicare PART D Income Related Monthly Adjustment Amount (PART D IRMAA) in the RRB's legacy Medicare systems. This will make it possible to bill annuitants for amounts due or withhold amounts due from benefit payments, manage rejected transactions and refer cases for manual handling. The integration of collection for Medicare Part D will also communicate with and update benefit payment and history systems.

Currently, all Part D IRMAA receivables are billed and collected through a "work around" which bridges the RRB's Medicare system to a non-Medicare system that supports debt collection. Customer service will be improved when PART D IRMAA can be withheld from annuities instead of collected through a separate billing process. In addition, the final system will better support examiner accuracy and efficiency because PART D IRMAA collection will be included in the same system of screens that display other Medicare transactions.

4. Department of the Treasury Projects - The Department of the Treasury (Treasury) is modernizing its central accounting and reporting functions and processes which include the collection and dissemination of financial management and accounting information from and to Federal program agencies such as the RRB. Treasury is also modernizing the software applications that are used to disburse Federal payments, replacing multiple COBOL programs with a single standardized application. In connection with these initiatives all Federal program agencies are required to revise their payment file formats to conform to Treasury's "Payment Automation Manager (PAM) Input File Specifications – Standard Payment Request." This change is effective October 1, 2014.

C. Provide Administrative Systems and Support to the Internal Customer

Similar to the automation initiatives discussed in the preceding section, future administrative systems development efforts will be directed toward enabling the agency's internal and administrative customers to conduct their business in the most convenient and effective manner possible. These customers include primarily RRB employees in headquarters and the field offices. They also include suppliers, vendors and contractors with whom we do business. Effective and efficient administrative systems will allow the RRB to better align its resources, lower its administrative costs, and concentrate a greater part of its resources on programmatic work, which directly serves the agency's primary external customers.

The primary internal customer-focused projects are:

1. Imaging System Improvements - We will continue to integrate the use of document imaging into our work processes. These projects include:



- Establish more effective and efficient workflow process controls,
- Transfer information between manual and automated systems,
- Analysis of the use of imaging tools in the disability decision adjudication processes, and
- Conversion of paper and electronic output files into images.

2. Overpayment Processing Improvements - We are upgrading the Overpayment Recovery Correspondence System (ORCS) which was originally written as a dBase application and is now outdated. Using Microsoft .Net, this re-write will include enhanced functionality requested by the user community including the ability to facilitate case handling by interacting directly with other RRB web and mainframe applications. This system is the gateway to examiner debt handling. The improvements we envision will provide a more efficient operating environment. We are currently converting the retirement and survivor programs to the new system with the unemployment/sickness and Medicare programs to follow.

3. Enhancements to Processing of Earnings Statements - The System to Process Excess Earnings Data (SPEED) is an automation initiative the goal of which is to process all post-entitlement annuity adjustments in both retirement and survivor cases that result from excess earnings and work deductions. The SPEED system is being designed and built using a multiphase approach which began in 2006. Once completed, SPEED will automate time consuming and complex manual processing of annuity adjustments resulting from post retirement work/earnings by employee and spouse annuitants. We expect automation of this workload to improve customer service, reduce FTEs and to reduce improper payments through more timely handling of these time-consuming, manual workloads.

4. Case Control System Improvement - The Electronic List of Managed Objectives (ELMO) will replace several legacy electronic call-up systems at the RRB as well as multiple manual systems used throughout the RRB to call-up pending work for handling or follow-up, including benefit applications. ELMO will replace these independently managed distributed systems with a single point of access for recording and viewing call-ups throughout the agency. We expect this system to improve efficiency and timeliness by replacing aging automated legacy systems and inefficient manual systems with a central automated solution. This system will also provide a necessary foundation for accepting applications on the internet.

5. Electronic Records and Content Management System - A key contributor to an enterprise's efficiency and effectiveness is how quickly and accurately its information workers can find and use content and data. Without properly designed and governed information architecture, an enterprise's effectiveness can be diminished. To address the challenges associated with preserving the vast and rapidly growing volume of agency electronic records and respond to the legal, statutory and regulatory federal requirements of holding and transferring those records, the RRB plans to develop and implement an Electronic Records and Content Management System (ERCM). ERCM system solutions



apply established record management policies to paper-based and electronic records to achieve legal compliance and ensure governance of the information assets. When complete, the ERCM system will identify, maintain, classify and dispose of RRB electronic records, including e-mail, according to specified records disposition policies.

Sub-components to a records management solution are several records and content related projects. They include:

- Digitization of Legal Opinions - The RRB has approximately 84,000 pages of Legal Opinions of the General Counsel and date back to the formation of the agency. The documents vary, including print, onion-skin, carbon copies, and photocopies. Topics are searched by using a paper digest card summary.

The RRB plans to digitize, index and catalog the Legal Opinions so they are electronically retrievable by Board staff and the public, through rrb.gov, including attorneys, claimants, railroad employers, etc. without concerns that an opinion has been compromised in any way. Storage in electronic format will preserve irreplaceable original agency reference documents. Electronic search and retrieval will increase access and reduce search time.

- Freedom of Information Act (FOIA) Management System – The RRB plans to add a web-based FOIA and Privacy Act (PA) request processing system specifically designed to automate FOIA and PA case processing. The user-friendly system will be utilized to track requests and requester information, generate correspondence letters, provide secure redaction capability, and run reports, including the Department of Justice Annual FOIA Report. The FOIA processing system will transform traditionally cumbersome and labor intensive FOIA compliance into an automated, efficient electronic process.
- Web Content Management System - The agency uses a web publishing tool that is no longer supported to manage administration and publishing tasks on the RRB's public web site rrb.gov. This type of tools approach to web publishing is primarily centered on linear, documented oriented concepts like that of a typical brochure where content is seldom changed. As the agency's website has evolved to focus on the user experience, there is now a need for more rapid revisions to branding, structure and content. We need to look for a next-generation solution that enables dynamic, results-driven and task-oriented experiences.

Such a next generation system will be content management based web-hosted service to manage the agency's website. A web content management (WCM) system is designed to simplify the publication of content to websites and mobile devices. In particular, a WCM will empower the non-technical agency employee to add content to rrb.gov and alleviate the need to develop or retain specialized web publishing technology skills. Going to a WCM system will also enhance the agency's customer experience by offering a fresher look, compliant with Section 508, and offer versions of the website for multiple devices.



- Digitization of paper-based technical and background files – Several offices and bureaus within the agency retain paper-based files for their historical significance. As a succession planning tool these files convey information about past administrative decisions to new generations of management and staff. The RRB plans to digitize, index and catalog the files so they are electronically retrievable for future reference.

6. Electronic commerce - Electronic commerce provides the RRB and its business partners the ability to conduct business via web-based systems and email. The RRB staff can receive quotes, issue purchase orders, and pay invoices via various web-based. Our strategic priority, as stated in the RRB's Strategic Plan, is to ensure that the RRB uses electronic commerce, where practicable and/or cost-effective, to consistently support payment of the lowest price for products and services commensurate with quality, service, delivery, and reliability. In particular, the following electronic commerce best practices facilitate meeting that objective.

- The RRB posts over 80% of its eligible business opportunities on the government-wide Federal Business Opportunities (FBO) website (www.fedbizopps.gov), since its inception in 2001. This practice enables the RRB to post its solicitations on FBO, making business opportunities available to the American marketplace and especially to small businesses nationwide. The RRB also uses the General Services Administration (GSA) hosted E-Buy systems to post simplified acquisition procurement opportunities to all GSA Federal Schedule Contract vendors for any given needed commodity or service, providing rapid responses and resultant swift, competitive, best value awards.
- The RRB procurement staff receives Contractor's offers in response to posted RRB business opportunities / procurements to a shared RRB mailbox. This enables the staff to best manage and track the proposals, throughout the procurement process, in accordance with federal procurement law and regulation. The RRB also issues orders and contracts to the contractors via email upon award.
- The RRB has over 90 designated employees authorized to use Smart Pay Government Purchase (Credit) Card for rapid micro-purchases or other simplified acquisitions. Agency authorized GPC cardholders place orders via vendor's web-based portals, over the phone, or through GSA's Advantage ordering system, providing just-in-time responsive support of the agency's daily operations at the point of need.
- Designated employees in all RRB organizations, acquire office supplies with next business day delivery under a competitively awarded Blanket Purchase Agreement with a commercial provider. Employing a user-friendly, web-based ordering system, employees can order and receive the office supplies that they need right from their workstations, generally within one business day.

RRB will continue to expand our use of electronic techniques to accomplish business transactions, including secure electronic mail or messaging, web-based acquisition systems, purchase cards, and electronic funds transfers. The RRB's implementation of a hosted financial management integrated system (see FMIS below), planned for FY 2014, will further enhance RRB's ability to acquire and pay for goods and services in an even more



efficient manner. The FMIS Acquisitions subsystem will interface directly with Federal Business Opportunity (FBO) and the Federal Procurement Data System (FPDS) web-sites. This system will enable the agency to post its business opportunities / procurements to FBO, maximizing marketplace responses, and will also directly transmit agency procurement data accurately and in near real time to FPDS. These enhancements will improve the efficiency and accuracy of agency procurement staff, enabling them to focus on acquiring goods and services timely and at a best value / lowest cost.

7. Federal Financial Management Information System (FMIS) - The RRB has operated a mainframe-based integrated core financial management system since October 1985. An analysis of the system performed as part of the “Federal Financial System (FFS) Assessment and Study in 2010 identified multiple performance gaps with Federal Systems Integration Office (FSIO) requirements. The results of further analysis during the study recommended that RRB management should select migration to a shared service provider (SSP) as the best alternative to close the requirements gaps in FFS. As a result, the agency is in the process of moving its financial management system to a core Federal financial management system environment hosted by an SSP. The hosting SSP will have responsibility for the administration and application management of the core financial system from their data center, and maintaining and updating its technology. With the implementation and migration to a new core financial system, the RRB will become fully compliant with all FSIO and RRB requirements and have the capability to modernize its financial operations.

The following illustration shows the RRB’s vision for its future state financial management information system (FMIS). This strategy is in alignment with the Administration’s mandate for government-wide Federal information technology shared services and cloud-first strategies.

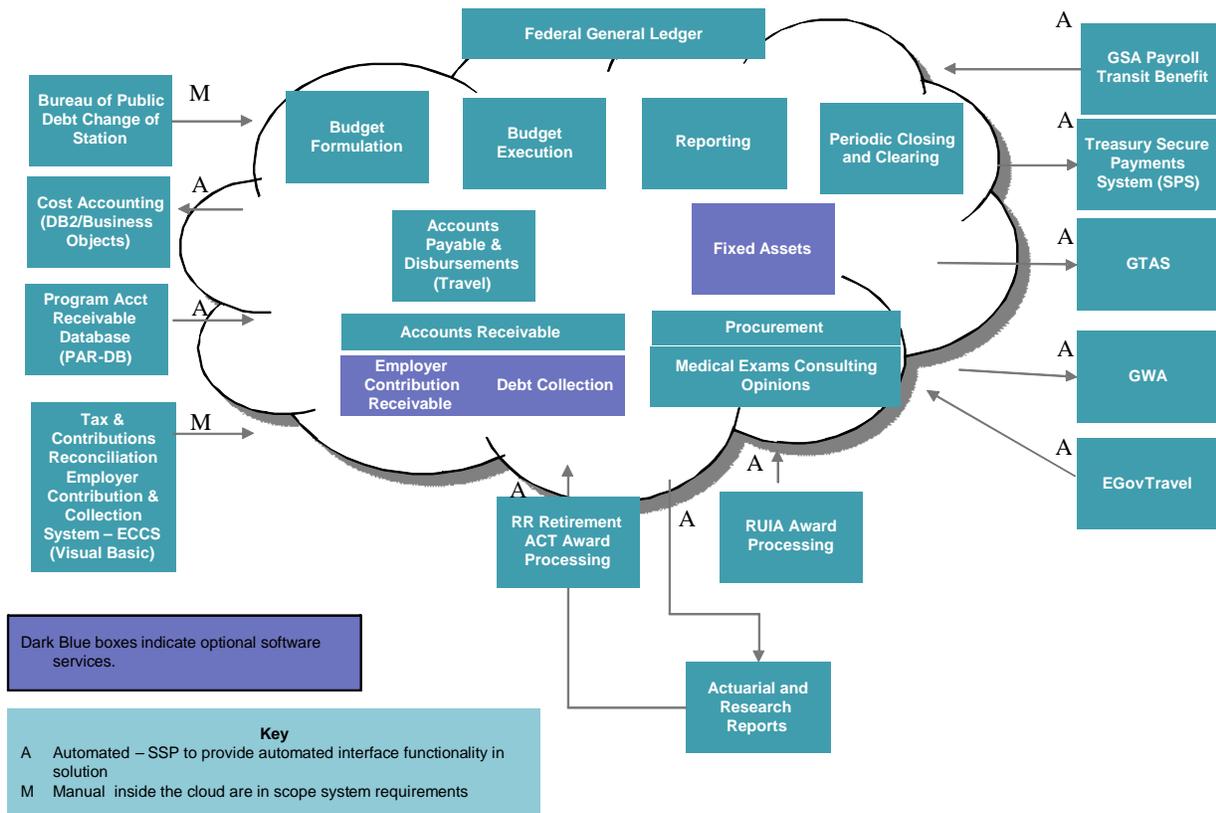


Figure 3 - Shared Service Provider “FMIS” Solution

Following on the vision of its Financial Management Information System (FMIS), the RRB will also modernize and automate its other financial management processes. Some of which include:

- Employer Contribution and Collection System (ECCS) Conversion - ECCS is an in-house developed desktop application for collection and reporting of railroad unemployment contributions under the Railroad Unemployment Insurance Act (RUIA). On an annual basis, ECCS records approximately \$175 million in unemployment contributions, interest, and penalties for approximately 650 railroad employers. ECCS receives and reconciles data from internal programs at the RRB as well as external data from Pay.gov, the Treasury Reporting System (TRS) and the Secure Data Transfer (SDT) system. ECCS is operated as a standalone system and provides deposit data that is input into the FFS general ledger through manually prepared standard vouchers (SVs).

The RRB continues to operate ECCS; however, there is limited technical support for this application. In addition, the current system does not support:

- Ability to efficiently reconcile annual data, track differences and reduce errors by establishing automated processes;
- Ability to produce custom user reports;



- Ability to account for commercial debt reported to the US Treasury on the Treasury Report of Receivables; and
- Enhanced security which might allow IRS data migration for reconciliation of the Railroad Retirement Tax Act (RRTA) information.

The RRB plans to integrate the RUIA collection system functionality into the core FMIS to improve collection activities and automate what has not been done manually to date.

- Program Accounts Receivable System Conversion (Debt Collection) – The RRB’s accounts receivables are recorded and managed in the Program Accounts Receivable (PAR) system, which generates a monthly summary trail balance that is manually recorded in the RRB’s general ledger. Approximately 40,000 new debts are established and 80,000 cash receipts are recorded annually in the PAR system. Most PAR transactions are received through interfaces with several other internal and external systems and are posted mechanically.

The RRB plans to convert the functionality and migrate the data within PAR to a debt collection system module available through the FMIS.

- General Ledger Integration of Benefit Payment Sub-Systems – Internal control and efficiency of operations would be strengthened by the integration of benefit payment systems with the general ledger via an automated interface that would provide summary benefit payment information to support the automated preparation of FMIS journal vouchers. Currently daily and monthly payment activity originating in the benefit payment major application is manually summarized and recorded in the agency’s general ledger via manually prepared journal vouchers.
- Fixed Asset Solution – The RRB currently maintains in-house a fixed asset application purchased by the RRB in 2001. The application manages both capitalized and accountable property, and contains close to 115 depreciable and 6,300 non-depreciable items valued at nearly \$2.5 million and \$670,000, respectively. Depreciation is calculated by the application and recorded manually into the core financial system.

The RRB plans to leverage a module of the new FMIS as its new fixed asset management solution to integrate asset management with the procurement and general ledger components of the new FMIS system.

8. Enterprise Human Resources Integration - Enterprise Human Resources Integration (EHRI) is one of five Office of Personnel Management (OPM) led [e-Government initiatives](#) along with e-Clearance, e-Payroll, e-Training, and Recruitment One-Stop intended to leverage the benefits of information technology. EHRI is designed to transform the way Federal HR specialists and managers access human resource information, and the way all Federal employees access their personnel file information.



OPM's vision for these initiatives, when combined with OPM's Retirement Systems Modernization initiative is that of an interlocking enterprise system based on the employee lifecycle. These interrelated initiatives reduce the amount of paper used by automating business processes, and streamline and improve the processes for moving Federal employees through the employment lifecycle. Collectively, these initiatives help make Government more citizen-centered and results oriented.

- Electronic Official Personnel Folders - OPM has advised agencies that they will have to convert the paper-based Official Personnel Folders of their employees to an electronic format (or eOPF) by December 2013. The eOPF is the digitized recreation of the paper personnel folder and contains the official records required for an employee's Federal career.

The RRB plans to contract with OPM's EHRI Project Office for the assessment, the "backfile" conversion of the paper documents to an electronic format, and for implementation services to complete the conversion to the electronic Official Personnel Folder (eOPF) solution. These services include acquisition of licenses, system configuration of the eOPF system at the hosting facility, system testing at the development and production environment, transition to support, training, and first year hosting and maintenance costs.

With eOPF, RRB employees will be able to view their own OPF through a secure web-enabled solution.

9. Unify Communications - The convergence of all communications on Internet Protocol (IP) networks and open-source software platforms is enabling a new paradigm for communications, and is changing the agency's view on how it can communicate and collaborate. Unified communications (UC) products (equipment, software and services) facilitate the use of multiple enterprise communication methods. These communication methods are divided into six broad communications goods and services:

- Voice and Telephony - This area includes fixed, mobile and soft telephony, as well as the evolution of PBXs and IP PBXs. It also includes live communications, such as video telephony.
- Conferencing - This area includes voice conferencing, video conferencing and Web conferencing capabilities, as various forms of unified conferencing capabilities.
- Messaging - This area includes email, which has become an indispensable business tool, voice mail and various approaches to unified messaging (UM).
- Presence and IM (Instant Messaging) - These will play an increasingly central role in the next generation of communications. Presence services, in particular, are expanding to enable the aggregation and publication of presence and location information between (from and to) multiple sources. This enhanced functionality is sometimes called rich presence.



- Clients - Unified clients enable access to multiple communications functions from a consistent interface. These may have different forms, including thick desktop clients, thin browser clients and clients for mobile devices, such as smartphones and tablets, as well as specialized clients embedded within business applications.
- Communications Enabled Applications - This broad group of applications has directly integrated communications functionality. Key application areas include collaboration applications, contact center applications, notification applications, and consolidated administration, reporting and/or analytics tools.

Of the communication methods, the agency will be focusing on during the reporting period the following initiatives:

- Telephony - The agency's current telephone system is 15+ years old and is approaching "end-of-life" and will soon be manufacturer discontinued. Considering available, viable replacement options as well as the current state of the Voice Communications System marketplace, the agency will benefit in the long run to convert to a managed, hosted, rather than premise-based, pure IP-PBX system. In order to convert to an IP system, three IT infrastructure pieces are needed:
 - 1.) building data cabling must be certified to be Category 5 or better;
 - 2.) the LAN switches must be able to accommodate VOIP (Note: replacement VoIP capable switches are being installed in FY2013.), and;
 - 3.) all phones and other endpoints must be upgraded to work with an IP-based system.
- Computer Telephony Integration - Customer service will be enhanced by a computer telephony integration (CTI) application. A CTI application retrieves data from automated systems and displays it to facilitate the work of customer representatives. The CTI-resulting display is commonly called a "screen pop," because of the way caller information automatically appears or "pops up" on the computers of customer service representatives as calls are connected. "Screen pop" technology would work with the RRB's toll free telephone service to eliminate manual searches for records of previous calls or benefit information.

10. Business Collaboration Platform Upgrade – The agency uses Microsoft SharePoint as its enterprise business collaboration platform. With Microsoft SharePoint, RRB employees can set up collaborative sites to share information with others, manage documents from start to finish as a source of e-documentation and reference, to publish meeting minutes, draft reports and to support the systems development life cycle to help everyone make better decisions.

The agency's current generation of SharePoint is outdated and is no longer supported by Microsoft. The upgrade will place the RRB on a supported software platform that provides advanced collaborative features for users and integration with the agency's enterprise desktop application suite, Microsoft Office. At the time of the upgrade we will determine if



it is cost effective for the SharePoint platform to continue to be supported in the agency's infrastructure or as a "cloud" service.

A newer version of the SharePoint Platform will also allow the agency to transition some homegrown solutions into a more advanced and supported platform. Examples include:

- Replacement for the agency's Intranet – Instead of the current "home grown" Intranet, a SharePoint- based Intranet will be developed with all employees assigned a "My Page" site from which they can customize the internal information they wish to see.

D. Transform Legacy Systems through System Modernization

In the context of the RRB, System Modernization is a process of understanding and evolving existing software and hardware assets. Existing software is defined as any production-enabled software system, regardless of the platform it runs on, language it's written in, or length of time it has been in production.

Legacy software systems often resist evolutionary change because their ability to adapt has diminished, and along with it, their strategic value has diminished through factors not exclusively related to the systems' functionality. Common examples of such factors are a system's inability to be maintained cost-effectively because of increasing complex code due to years of maintenance changes, a lack of understanding of the system, inability to interoperate or dependence on undesired technologies or architectures.

Over the last few years the RRB has taken significant strategic steps to improve its computer processes, first by moving to a relational database environment, and next by optimizing the data that resides in its databases. The next strategic step is to take advantage of the optimized relational database structure and modernize the agency's computer systems and processes.

Many of the RRB's existing systems are old and complex and require a large investment in maintenance from both a technical and business perspective. The data optimization process and the agency's own analysis have pointed out opportunities for modernization. Because of the complexity and size of this project, we are taking a measured multi-year, multi-phased approach. The underlying principle is that modernization is not re-engineering a particular application or system; it involves a holistic approach to building an information infrastructure to support the RRB's critical business processes. By modernizing its systems, the RRB will ultimately decrease the time and cost to develop and operate the systems, allowing us to focus on new initiatives that will improve business practices and save or control costs. The benefits of System Modernization are many. It facilitates sharing data between applications. Redundant, obsolete and inconsistent data are eliminated, improving accuracy. Standardization of names, data types and lengths, and code values simplifies access and use of data. The metadata and documentation produced during modernization will reduce development time for service requests and speed the training of new staff and contractors. Modernization also lays the groundwork for adoption of Business Intelligence tools and forms the foundation for implementing a Data Quality plan.



Some of the strategies of the System Modernization initiative will include:

1. Adopting a Service Oriented Architecture (SOA) approach to application

development - SOA is a modernization solution to designing software that breaks-up the business applications into separate reusable code assets or “services” that can be used independent of the applications of which they are a part and computing platforms on which they run. When individual services within the applications are available as discrete building blocks, the agency can integrate and group them in different ways to create completely new capabilities. The application assets produced will populate a shared repository, rather than being trapped in a narrow application-specific solution. SOA provides the ability to break traditional applications into smaller component processes, ultimately facilitating plug-and-play software that can easily change with business requirements.

Simply adopting SOA will not trim the fat from our architectural designs; nor will it instantly improve the way we develop and deliver software solutions. Adopting SOA is a lifestyle change that has to become integrated into all aspects of the agency’s culture, including business processes, software requirements development, software architecture, system development lifecycle, enterprise architecture, project management and hardware and software purchases.

2. Expanding use of Business Intelligence - The faster we move to a single master database the easier it will be to fully implement a formalized business intelligence strategy. Business Intelligence (BI) is a broad category of applications and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users make better business decisions. BI applications include the activities of decision support systems, query and reporting, online analytical processing, statistical analysis, forecasting, and data mining.

BI enables users to track, understand, and manage the wealth of information stored in the agency’s enterprise. With replacement of the standard reports that we have been generating with our COBOL programs, business units will realize how much further we can drill down for more specific information. It is at that point that the agency can fully use BusinessObjects as the BI platform.

E. Advance the Agency’s IT Infrastructure

Under near-constant pressure to adapt to change and 'innovate' with less, government agencies are seeking new ways to adapt and transform legacy IT operations. Over the last few years, the agency has taken significant strategic steps to improve computer processes and better position itself for the future. In conjunction with our System Modernization efforts and new system development, agency projects will focus on modernizing the agency’s IT infrastructure to make it simpler, less costly to manage, and more responsive to changing government and technology events. Included in this effort are the following initiatives:



1. Cloud and Shared Services Adoption - The Office of Management and Budget introduced the Federal Cloud Computing Strategy in February 2011 requiring agencies to consider the cloud as an alternative to its existing and future infrastructure. The reasons for adopting Cloud strategies are certainly compelling – faster access to services, reduced capital expenditure and simplicity of management. Federal Risk and Authorization Management Program (FedRamp) is aimed at facilitating greater adoption of these services where appropriate.

Even before the Federal Cloud Computing Strategy, the agency adopted cloud and shared service strategies as an essential part of the IT planning process for non-mission critical solutions. The agency continues to do so, however, with using caution and careful risk assessment as the primary measures for when and how to do so.

In the end, Cloud computing and shared services are no different than any other technology. They are tools, or perhaps an entire toolbox, and will be deployed where appropriate to meet specific needs.

2. Upgrade to the mainframe platform - The mainframe computer system has a vital role as the hub of the agency’s enterprise infrastructure, running mission-critical applications and databases. The agency relies on the mainframe to:

- Perform large-scale transaction processing;
- Support a large number of users and application programs concurrently accessing numerous resources;
- Manage large volumes of information in databases; and
- Handle large-bandwidth communication.

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STRATEGY: Handle capacity growth with capacity upgrades within the system first, if possible, before upgrading to a new generation of hardware. There can be significant one-time third-party software costs associated with an upgrade in capacity.

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Mainframe computers, like other server platforms, need periodic replacement. The agency’s current mainframe computer was put into operation in 2008. By 2014, the RRB’s mainframe will be more than two generations old. Operating system support, Architectural Level Sets, and withdrawal marketing and support dates are key factors in determining the maximum amount of time we plan to continue using the current generation of mainframe. In addition, maintaining the current mainframe may not be optimal from a total cost of ownership perspective.

The current mainframe computer processes at approximately 200 MIPS. Many IT industry analysts believe that any business running on less than 700 MIPS (and the threshold grows every year) can use an alternative processing platform. For example, mainframe re-hosting can lower cost and risk by migrating mainframe workloads to open systems. This would allow us to maintain existing applications with little source code modifications. Through re-hosting, applications are recompiled to run in new environments such as Microsoft



Windows, Linux, or UNIX. Re-hosting would not eliminate COBOL code but transfer it to a lower cost platform. This would gives us more time to prepare for the next generation of systems while reducing hardware and software costs. This would also give us additional time to train or hire personnel in new technologies to move to the new applications. While re-hosting offers an attractive alternative platform it will require analysis and a thorough plan before any decisions are made.

In addition, the success of the multi-phased System Modernization initiative will be one of the factors influencing any future upgrades of the mainframe. Other factors, such as faster performance, growth options for increased capacity, reduced energy requirements, or an ongoing ability to install new releases of operating system software as they are issued may also influence future mainframe replacement planning.

3. Switch to a Tapeless Disk-only Environment - The nature of the agency’s business requires near 24 x 7 data availability. Currently, mission critical mainframe-based production and recovery data – databases, application code, libraries, batch flat files, etc. are kept on physical tape. Data is stored and retrieved through a traditional Automated Tape Library system that has a combination of physical drives and cartridge media with a virtual tape disk cache that is de-staged periodically to a physical cartridge media. One of the agency’s target infrastructure architectures is to switch to a Virtual Tape Library (VTL) for all production and backup data.

A VTL solution uses RAID-protected disk cache to store tape data files. The benefits of

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STRATEGY: Deploy a tapeless VTL in the data center, and transmit backup/archive mirrored data via IP (or other network transmission) to a duplicate VTL and disk subsystems at another location, e.g. disaster recovery facility.

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moving to a VTL include storage consolidation and faster data restore processes. Since a VTL emulates tape processing, few changes will be required of current mainframe data retrieval and storage processes. The shift to VTL also eliminates streaming limitations that often impair efficiency in tape drives as disk technology does not rely on streaming and can write effectively regardless of data transfer speeds. In the event of a logical and physical failure of the primary VTL the mainframe in the agency’s data center or, at a remote facility can connect to the backup VTL and data recovery can start immediately. Also, the traditional off-site Disaster Recovery (DR) test at 3rd

party provider premises will increase in efficiency. The agency will continue a secondary backup tape data copy for storage at a National Archives Records Center through a disk-to-disk-to-tape methodology (D2D2T). Battery backup of the VTL, however, becomes critical since the disk storage is always connected to power and is never physically electronically isolated, and it is vulnerable to potential damage and corruption due to nearby building or power grid lightning strikes.



By moving to a true tapeless VTL environment, the agency positions itself in the coming years to move to a *file interface* not requiring tape library emulation at all, e.g. Common Internet File System (CIFS), Network File System (NFS) or Symantec OpenStorage (OST).

4. Storage Management - A Storage Area Network (SAN) and Network Attached Storage (NAS) make up the agency’s computer network storage infrastructure. The SAN in particular is used to centrally store both mainframe-based and distributed systems-based (personal computer) data for retirement/survivor and unemployment/sickness insurance benefit programs for railroad workers and their families. The SAN provides non-disruptive operations with automated management and protection of data.

The agency’s data center has two SAN storage devices, one of which will be nine years old in fiscal year 2014. The driver behind replacing the SAN device is not so much the age of the device but that the SAN manufacturer has informed us that the SAN device will reach its the end-of-service-life as of June 2013. This means that parts and service will no longer be available through the manufacturer. Although third-party suppliers will be available to continue to service the device, the further from end of service life a device ages the more risk there is on repair parts availability and/or, more importantly, the technical knowledge to service the device timely.

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STRATEGY: Modernize (and / or upgrade) the agency’s storage devices, scale data storage to needs and improve how agency data is stored.

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In response to these needs, the agency will purchase a new NAS and SAN device.

5. Workstation Operating System Upgrade - The enterprise operating system for all of the RRB’s desktops and notebooks is Microsoft’s Windows XP. Windows XP will not be supported by Microsoft after April 8, 2014. The RRB currently has a Microsoft Enterprise Agreement (MSEA) which includes licensing for the Windows Enterprise Operating System.

The agency intends to upgrade all of its desktop and notebook operating systems to Windows 7 operating system platform by April 8, 2014, leveraging the significant investment the agency has made in a Microsoft Enterprise Licensing Agreement. Going to a more current Windows operating system, and some of its built-in features, will save money and/or allow us to discontinue buying and maintaining other products. Most importantly, the upgrade will continue the agency’s strong security posture.

The scope of this project involves:

- A comprehensive hardware assessment
- Application Compatibility Testing
- Analysis of features of the 9 major functionality of Windows 7
- Review MDOP utilization



- A study of the utilization of 32 bit and 64 bit implementation of Windows7
- A feature feasibility study with a cost analysis
- Including Internet Explorer 9 and Office 2010 in the planning

Special Note: As part of the hardware assessment – we will be following Gartner and Microsoft’s recommendation that only systems that were certified for Windows Vista will be considered for an upgrade to Windows 7. This effectively eliminates all operating systems purchased before 2008. This means *only newer units purchased in 2009, 2010 or 2011* will be upgraded to the new operating system.

6. Capacity planning, network analysis and performance monitoring tools - We plan to expand our suite of tools to include tools with out-of-box capabilities for active monitoring, notification, and reporting of the IT infrastructure hardware, traffic and services. Such products will provide on-demand access to data to track, analyze, manage and predict problems, as well as improve capacity utilization and meet service quality commitments.

7. Virtualization of Desktop Computers – Desktop virtualization (or Virtual Desktop Infrastructure – VDI) is a server-centric computing model that borrows from the traditional thin-client model, but is designed to give both system administrators and end-users efficient computing capabilities: the ability to host and centrally manage desktop virtual machines in the data center while giving end-users a full personal computer experience. In a typical VDI solution, the once self-contained desktop is now split into three distinct entities: the desktop Operating System, the thin client and storage.

The intended pilot project will involve a small number of users from both headquarters and the agency’s field offices. The pilot will allow us to gauge network latency; analyze what other resources will share the pilot virtualized desktop with the wide-area network; measure capacity around actual peaks and not averages, and; protect the performance integrity of other applications sharing the network. We intend to research the possible use of virtualized desktop PCs in the agency’s desktop computing environment. From our current perspective, virtualization is the centralization of desktop computing onto a much smaller number of server platforms. Virtualization holds potential to enable us to better leverage underutilized resources by running multiple logical environments on a single physical environment.

Virtualization can enable the RRB to meet a number of business, technical, and security objectives.

8. Infrastructure Replacement - An information technology (IT) infrastructure provides a critical foundation for the RRB’s business. Desktops, notebooks, mainframe, servers, printers, routers, scanners, and other IT equipment make up the agency’s IT infrastructure. We know from our history that the cost of keeping the old technology and staff to support the older equipment, in addition to indirect, hidden costs such as lost end-user productivity and downtime, is higher than the costs associated with the replacement or upgrade of the IT components. Core IT infrastructure elements identified in the *IT Equipment Replacement*



Policy include network servers, computer workstations, monitors, printers, routers/switches, and scanners.

9. One Computer Model - During FY2009, the RRB initiated the *One Computer Model*. The RRB provides approved telecommuters (those whose work requires them to work with Personally Identifiable Information (PII) off-site) with a standard RRB approved notebook computer; RRB approved standard office system software, and a docking station for use at the RRB facility that includes a keyboard, monitor, notebook security cable and external mouse. The notebook with docking station replaces the employee’s desktop computer as the employee’s RRB workstation. The *One Computer Model* will be expanded in subsequent fiscal years to telecommuters who work on non-PII related agency work.

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STRATEGY: systematically replace IT components according to industry standards in order to provide a stable technology environment for the agency based on the RRB’s *IT Equipment Replacement Policy*.

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10. Core Switch Modernization - The core switches in the RRB’s datacenter provide for the central connection point for all network attached equipment in the agency. The older of the two switches is over 12 years old and is in need of replacement. In addition, the more than 15 year old switch configuration architecture only provides for partial automatic fault tolerance. Plans are to replace both core switches, move the core switch equipment to a newly constructed telecommunications room to co-locate them with like-communications equipment, and adopt a technically advanced configuration so that the switches have full automatic redundancy.

11. IPv6 Adoption - On August 2, 2005, the Office of Management and Budget (OMB) issued a Memorandum stating all agencies’ infrastructure must be IPv6 (Internet Protocol version 6) and agency networks must interface with this infrastructure. In 2010, OMB set two goals for all agencies to meet concerning IPv6. First, agencies must upgrade their public facing servers and services (e.g. web, email, DNS, ISP services) to use native IPv6. The second objective is for agencies to upgrade internal client applications that communicate with public Internet servers and supporting enterprise networks to use native IPv6.

The RRB has met the first goal, but is still running services using both IPv4 and IPv6 for internal applications. To meet the second objective, the agency’s approach is a phased conversion of its internal LAN-based applications until fully converted IPv6.

12. IT Test Lab – The RRB built and will continue to improve upon its IT test lab. The lab, which is a micro-version of the agency’s IT infrastructure and network, allows for the testing of certifications, component interoperability, compatibility and test customization of IT products the agency has in its IT environment or would like to have. It also allows for the verification of the operational readiness of purchased IT component in a production-like environment.



RRB Strategic IRM Plan Projects Summary 2013-2017

Appendix A

Goal	RRB Strategic Goal	Project	How Service Delivery Is Improved	2013	2014	2015	2016	2017
Protect the RRB's Mission and its Information		Upgrade of Security Capabilities / <i>Federal Identity, Credential, and Access Management</i>	Maintain alignment with architecture and guidance provided by authorities such as the National Institute of Standards and Technology (NIST) and the Federal CIO Council's Information Security and Identity Management Committee (ISIMC) for continued implementation of access security initiatives on agency information systems.					
		Upgrade of Security Capabilities / <i>Patch Management Program</i>	Improve the current Patch Management program including a robust system inventory and documented procedures, to ensure all agency servers, workstations, and network devices are updated in a timely manner.					
		Upgrade of Security Capabilities / <i>Training</i>	Acquisition of a role-based, comprehensive, specialized, security training program for personnel with direct responsibilities for protecting Information Systems as required by the Presidential Information Systems Security Line of Business initiative.					
		Upgrade of Security Capabilities / <i>Log Correlation Collection, Security Information and Event Management (SIEM) and Auditing Appliance</i>	Acquisition of a new Log Correlation/SIEM appliance to replace the current system.					
		Upgrade of Security Capabilities / <i>Intrusion Detection System (IDS)</i>	Acquisition of new IDS to replace the current system.					
		Security Compliance / <i>Risk Management Framework (RMF) Continuous Monitoring Strategy</i>	Performing a risk assessment and continuous monitoring strategy for the agency's 3 information system major applications.					
		Security Compliance / <i>Incident Response Plan</i>	Utilizing contractor support to develop practical guidelines to allow the RRB Computer Emergency Response Team (CERT) to establish an effective incident response plan, allowing for detecting, analyzing, prioritizing, and handling incidents effectively.					
		Security Compliance / <i>Configuration Management Plan</i>	Acquisition of resources to implement a robust, security driven Configuration Management Plan.					



RRB Strategic IRM Plan Projects Summary 2013-2017

Appendix A

Goal	RRB Strategic Goal	Project	How Service Delivery Is Improved	2013	2014	2015	2016	2017
		Privacy Compliance / <i>Data Loss Prevention (DLP)</i>	Improved RRB DLP capabilities by protecting all network perimeter access points, encrypting all internal agency databases to minimize the risk of data loss if there is a breach of our security controls, and possibly using Self Encrypting Drives (SEDs) as an additional layer of protection for our agency IT assets.					
		Privacy Compliance / <i>Cloud Computing</i>	Evaluation of utilizing cloud computing services that meet mandated privacy and security controls to review and recommend what cloud computing services might be worthwhile to pursue for development.					
		Privacy Compliance / <i>Controlled Unclassified Information (CUI)</i>	Complete the RRB's conversion over to the national standard for handling CUI as directed by Executive Order.					
		Data Management	Data Management ensures data assets are managed in the best interests of the entire RRB. The focus is on how data is captured, stored, structured, optimized for performance, maintained for quality, reported, secured, and disposed.					
Build Systems Around the External Customer		Internet-based transaction services for beneficiaries and employers / <i>IVR-WEB Identity and Access Management (IAM) System</i>	Enhanced ability to serve customers by using an IAM system that enables a rail industry employee or RRB beneficiary to access the RRB's Interactive Voice Response (IVR), Helpline and the RRB's website services using a single PIN/Password making access to RRB systems more user-friendly and allowing users to change their password through either system.					
		Internet-based transaction services for beneficiaries and employers / <i>Employer Reporting System (ERSnet)</i>	Continued improvements to RRB's ERS to increase the amount of information relative to railroad compensation, employment and service that employers can exchange with the agency through the Internet.					
		Internet-based transaction services for beneficiaries and employers / <i>Voice Recognition</i>	Evaluating the feasibility and costs of enhancing the agency's Interactive Voice Response (IVR) system to include speech recognition allowing the IVR system to recognize words in addition to touchtone signals, flattening of the IVR menu structure for a better caller experience and the ability to take advantage of more advanced system capabilities, such as speaker verification.					
		Internet-based transaction services for beneficiaries and	Development of a system that will allow our annuitants to change their address or bank to which their electronic funds are deposited.					



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Goal	RRB Strategic Goal	Project	How Service Delivery Is Improved	2013	2014	2015	2016	2017
		employers / <i>Change of Address and Electronic Funds Transfer</i>						
		Internet-based transaction services for beneficiaries and employers / <i>Application for Annuity</i>	Development of a system that will allow individuals to file annuity applications online					
		Application Processing Enhancements	Eliminate the need for a “pen and ink” signature and result in more efficient processing and better customer service through use of attestation (signature by proxy). Elimination of an older legacy system and reduce systems maintenance by automation of the payment processes for all retirement applications through one calculation system.					
		Medicare Systems Improvements	Integrate collection of the Medicare PART D Income Related Monthly Adjustment Amount (PART D IRMAA) through within the RRB’s legacy Medicare systems making it possible to bill annuitants for amounts due or withhold them from benefit payments, manage rejected transactions, refer cases for manual handling and communicate with and update benefit payment and history systems.					
		Department of Treasury Projects	The Department of the Treasury (Treasury) is modernizing its central accounting and reporting functions and processes and with these initiatives all Federal program agencies are required to revise their payment file formats to conform to Treasury’s “Payment Automation Manager (PAM) Input File Specifications – Standard Payment Request.”					
Provide Administrative Systems and Support to the Internal Customer		Imaging System Improvements	Continue to integrate the use of document imaging to create more effective and efficient control workflow processes, transfer information between manual and automated systems, analysis of the use of imaging tools in the disability decision adjudication processes, and conversion of paper and electronic output files into images.					
		Overpayment Processing Improvements	Upgrade of the Overpayment Recovery Correspondence System (ORCS) using Microsoft .NET that will include enhanced functionality requested by the user community including the ability to facilitate case handling by interacting directly with other RRB web and calculation systems.					
		Enhancements to	The System to Process Excess Earnings Data (SPEED) initiative will					



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		Processing of Earnings Statements	automate time consuming and complex manual processing of annuity adjustments resulting from post retirement work/earnings by employee and spouse annuitants.					
		Case Control System Improvement	The Electronic List of Managed Objectives (ELMO) will replace several legacy electronic call-up systems as well as multiple manual systems with a single point of access for recording and viewing call-ups throughout the agency.					
		Electronic Records and Content Management (ERCM) System / <i>Digitization of Legal Opinions</i>	The RRB plans to digitize, index and catalog the Legal Opinions so they are electronically retrievable by Board staff and the public, through rrb.gov, including attorneys, claimants, railroad employers, etc. without concerns that an opinion has been compromised in any way.					
		Electronic Records and Content Management (ERCM) System / <i>Freedom of Information Act (FOIA) Management System</i>	The RRB plans to add a web-based FOIA and Privacy Act (PA) request processing system specifically designed to automate FOIA and PA case processing.					
		Electronic Records and Content Management (ERCM) System / <i>Web Content Management System</i>	As the agency's website has evolved to focus on the user experience, there is now a need for more rapid revisions to branding, structure and content. We need to look for a next-generation solution that enables dynamic, results-driven and task-oriented experiences.					
		Electronic commerce	Electronic commerce provides the RRB, its business partners the ability to efficiently conduct business via online systems, email, and electronic data interchange.					
		Federal Financial Management Information System / <i>Employer Contribution and Collection System (ECCS) Conversion</i>	ECCS is an in-house developed desktop application for collection and reporting of railroad unemployment contributions under the Railroad Unemployment Insurance Act (RUIA). The RRB plans to integrate the RUIA collection system functionality into the core Federal Financial Management Information System to improve collection activities and automate what has been done manually to date.					
		Federal Financial	The RRB's accounts receivables are recorded and managed in the					



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		Management Information System / <i>Program Accounts Receivable System Conversion</i>	Program Accounts Receivable (PAR) system, which generates a monthly summary trial balance that is manually recorded in the RRB's general ledger. The RRB plans to convert the functionality and migrate the data within PAR to a debt collection system module available through the Federal Financial Management Information System.					
		Federal Financial Management Information System / <i>General Ledger Integration of Benefit Payment Sub-Systems</i>	Strengthen internal control and efficiency of operations by the integration of benefit payment systems with the general ledger through implementation of a system that summarizes payment information directly from source data and automates preparation of journal vouchers.					
		Federal Financial Management Information System / <i>Fixed Asset Solution</i>	The RRB plans to leverage a module of the Federal Financial Management Information System as its new fixed asset management solution to advance budget development and analysis of fixed assets, meet and adjust more quickly to Federal Government Standards, Inspector General audit standards, and alleviate the manual recording and updating of assets and the maintenance and infrastructure required to maintain such an application in the agency's datacenter.					
		Enterprise Human Resources Integration / <i>Electronic Official Personnel Folder</i>	The RRB plans to contract with OPM's EHRI Project Office for the assessment, the "backfile" conversion of the paper documents to an electronic format, and for implementation services to complete the conversion to the electronic Official Personnel Folder_(eOPF) solution.					
		Unify Communications / <i>Telephony</i>	Considering available, viable replacement options as well as the current state of the Voice Communications System marketplace, the agency will benefit in the long run to convert to a managed, hosted, rather than premise-based, pure IP-PBX system.					
		Unify Communications / <i>Computer Telephony Integration</i>	Reduces manual searches for records of previous calls or benefit information					
		Business Collaboration Platform Upgrade	Increased collaboration and efficient business process to improve customer support services.					



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Transform Legacy Systems through System Modernization		Adopting a Service Oriented Architecture (SOA) approach to application development	SOA provides the ability to break traditional applications into smaller component processes, ultimately facilitating plug-and-play software that can easily change with business requirements.					
		Expanding use of Business Intelligence	BI enables users to track, understand, and manage the wealth of information stored in the agency's enterprise.					
Advance the Agency's IT Infrastructure		Cloud and Shared Services Adoption	Benefits of cloud and shared services include faster access to services, reduced capital expenditure and simplicity of management.					
		Upgrade to the mainframe platform	Perform large-scale transaction processing.					
		Switch to a Tapeless Disk-only Environment	Deploy a tapeless VTL in the data center, and transmit backup/archive mirrored data via IP (or other network transmission) to a duplicate VTL and disk subsystems at another location, e.g. disaster recovery facility.					
		Storage Management	Efficient storage and processing of constituent data.					
		Computer Workstation Operating System Upgrade	Going to a more current Windows operating system, and some of its built-in features, will save money and / or allow us to discontinue buying and maintaining other products.					
		Capacity planning, network analysis and performance monitoring tools	Such products will provide on-demand access to data to track, analyze, manage and predict problems, as well as improve capacity utilization and meet service quality commitments.					
		Virtualization of Desktop Computers	Virtualization holds potential to enable us to better leverage underutilized resources by running multiple logical environments on a single physical environment.					
		Infrastructure Replacement	Increased efficiency of IT equipment to support customer service.					
		One Computer Model	Consistency and resultant efficiency of operations to support workstations required to the operations of the agency.					
		Core Switch Modernization	Because of the age of the current Core Switches plans are to replace both core switches, move the core switch equipment to a newly					



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			constructed telecommunications room to co-locate them with like-communications equipment, and adopt a technically advanced configuration so that the switches have full automatic redundancy.					
		IPv6 Adoption	The RRB has met the first goal, but is currently still dual stacking or running services using both IPv4 and IPv6 for internal applications. To meet the second objective, the agency's approach is a phased conversion of its internal LAN-based applications until fully converted IPv6 (Internet Protocol version 6).					
		Test Environment	Maintain a systems lab that allows us to prototype and engineer new IT components, services, and capabilities - and verify the operational readiness of purchased IT component in a production-like environment.					