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INFORMATION TECHNOLOGY:

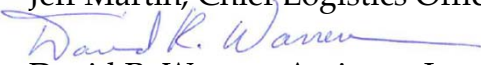
Opportunities Exist to Improve Services, Economies, and Contract Performance

Report No. OIG-A-2013-013 | April 16, 2013





Memorandum

To: Jason Molfetas, Chief Information Officer
Jeff Martin, Chief Logistics Officer


From: David R. Warren, Assistant Inspector General, Audits

Date: April 16, 2013

Subject: *Information Technology: Opportunities Exist to Improve Services, Economies, and Contract Performance (Report No. OIG-A-2013-013)*

We have completed our performance audit of the Information Technology Infrastructure Initiative (ITII) program. As you know, this program is the company's most significant information technology (IT) infrastructure support program. This program, at an estimated cost of \$607 million over 7 years, was initiated to improve service levels and disaster recovery capability; lower operating and capital costs; and rationalize the service delivery model by reducing asset ownership, consolidating the workforce, and improving cross-vendor communication. As part of this program, in 2009, Amtrak competitively selected International Business Machines Corporation (IBM) to provide Data Center and Seat Management (i.e., desktop support and help desk) services, and American Telephone & Telegraph, Incorporated (AT&T) for Voice and Data Network services.

Our audit objectives were to determine whether the IT Department (ITD) has (1) developed an adequate strategic plan and contract design for acquiring IT services, (2) established adequate processes and controls to accomplish contract administration and oversee performance of service providers, and (3) received services that meet the contract terms and conditions. For a discussion of our audit scope and methodology, see Appendix I.

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SUMMARY OF RESULTS

While achieving some of the expected program results, the ITD could have more effectively planned and managed its approach to acquiring IT services; better administered the contracts; and held the contractors—particularly IBM—more accountable for meeting contract terms. As a result, the ITD has not consistently received the level of IT support services it contracted for, continues to incur higher than necessary IT support costs, and faces an increased risk of costly interruptions to key business operations.

For example, while program savings, and contract and internal costs were not fully tracked by the ITD, we noted that the contract's original scope of services was reduced to meet approved budget levels. Further, we identified up to \$27 million in potential savings through the end of the contract and \$4.4 million in payments that could have been avoided with closer management attention.

These conditions exist primarily because the ITD had not established sound management controls, including business processes, to (1) ensure that the program's strategic goals were achieved, (2) monitor program execution to track costs and measure IT support service results, and (3) oversee the contract to ensure that IBM was meeting contract terms. When compared with industry best practices for managing IT support service operations, ITD's processes and capabilities are relatively weak.

During the course of our work, we discussed these program weaknesses with you, the newly appointed Chief Information Officer (CIO), and are encouraged that you recognized the nature and significance of these weaknesses and quickly began working aggressively to address them. Correcting these weaknesses will take time and require focused management attention and action, in the near and long term. The attached briefing (Appendix II) provides the detailed results of our work and specific recommendations, which are summarized in this letter.

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PROGRAM INITIATION AND STATUS

Amtrak first selected IBM to provide Data Center, Seat Management, Voice Network, and Data Network services in 1994. The original contract was renegotiated in 2002 due to numerous service delivery issues and noncompetitive pricing. Even with the new contract in 2002, as we reported, ITD did not improve its internal processes for overseeing IBM's contractual performance. For example, ITD's disaster recovery planning was inadequate, and the contract was not sufficiently defined to measure and control IBM's delivery of disaster recovery services. For more information on our prior audit results in this area, see Appendix I.¹

To address IT performance issues, the ITD started the ITII program in 2007 and conducted a competitive bidding process in 2008. Amtrak signed a 5-year, \$ [REDACTED] contract with AT&T for Voice and Data Networks services in April 2009; and a 5-year, \$ [REDACTED] contract with IBM for Data Center and Seat Management services in June 2009. ITD officials stated that they chose IBM again because it was the lowest bidder and it committed to improving performance under the new contract.

The new services contracts transferred the ownership of most Amtrak IT assets to the contractors when assets were replaced. It also increased reliance on the contractors for server support in the data centers. Further, it called for improved disaster recovery capabilities, with a primary data center in [REDACTED], and a secondary data center in [REDACTED]. In Fiscal Year (FY) 2012, in exchange for mostly lower pricing, the ITD extended the AT&T and IBM contracts until April and June 2016, respectively. The contract extensions from 5 to 7 years increased the contract value for IBM to \$ [REDACTED] and AT&T to \$ [REDACTED]—a combined value increase of \$ [REDACTED] for the contracts. The ITD reports spending at least \$ [REDACTED] on IBM services and \$ [REDACTED] on AT&T services from August 2009 through September 2012.

¹ The following prior audit reports discussed the outsourcing of IT services: OIG Report No. 107-2003, *Disaster Recovery Readiness Audit* (September 15, 2004); OIG Report No. 97-105, *Information Systems Outsourcing* (March 31, 1997); and OIG Report No. 96-101, *Information Systems Outsourcing Activity: Implementation of the Outsourcing Contract* (March 8, 1996).

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CAUSES AND EFFECTS OF PROGRAM IMPLEMENTATION WEAKNESSES

The ITD has not consistently received the support services it contracted for, primarily because it has not established sound management controls, including business processes, to (1) strategically plan, design, and manage the program; (2) monitor program execution to track costs and measure IT support service results; and (3) effectively oversee the IBM contract to ensure that contract terms are met. When compared with industry best practices for managing IT operations, the ITD's processes and capabilities are relatively weak. The primary causes and effects of these issues are discussed below.

Program Strategic Planning and Contract Design Weaknesses Led to Significant Contract Implementation, Service Delivery, and Cost Increase Issues

While ITD incorporated some of the lessons learned from weaknesses in the prior service delivery contracts, the current contracts with IBM and AT&T still have gaps that affect the quality and cost-effectiveness of service delivery. These gaps exist because ITD did not adequately plan for and define contract terms and conditions. There have been 42 amendments to the contracts (22 for IBM and 20 for AT&T) in approximately 3 years to address service delivery gaps and new service needs. The most significant weaknesses in terms and conditions are in the IBM contract, as summarized below:

- *Lack of a shared IT vision affected vendor service delivery.* The service contract required IBM to follow IT Infrastructure Library (ITIL)² standards but the ITD Application Support groups do not follow ITIL standards. This lack of a shared vision between the ITD Operations and Application Support groups made it difficult to implement a complete Configuration Management Database (CMDB),³ which is essential for delivering high-quality application support services. This condition still exists.
- *Inadequate performance measurements or Service Level Agreements (SLAs) were included in the IBM contract.* The ITD did not develop SLAs for certain support services such as

² *IT Infrastructure Library (ITIL)* is a well-established standard for information technology service delivery.

³ *Configuration Management Database (CMDB)* is an ITIL standard for documenting device and application configuration settings.

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server backup and antivirus, which are essential for effective system operations. Further, the current SLA metric in the contract for server availability is not well designed. The availability of servers is measured as [REDACTED] of similar type. This [REDACTED] allows IBM to meet its SLA availability metric even when critical servers such as Amtrak.com are down for more than 1 day a month. In addition, without an SLA, Requests for Services (RFSs) are taking about a year to complete from the time they are originally requested. According to ITD officials, 1 year is too long, and they are attempting to get IBM to reduce this processing time.

- *Business requirements were not fully defined in the contract.* The baseline for storage requirements in the IBM contract was set too low when compared with Amtrak's needs. Later, this resulted in unplanned costs and delays in obtaining needed capacity for new systems such as Strategic Asset Management (SAM). Also, security monitoring requirements were not adequately defined in the AT&T contract, which made it difficult [REDACTED] and/or [REDACTED]
[REDACTED]

Weak Contract Administration and Oversight Resulted in Inadequate Cost Tracking, Reduced Services, and Lost Savings

When compared with industry best practices for managing IT operations, ITD's business processes, including contract administration and oversight, are relatively weak. The ITD started the ITII program to improve service levels (including disaster recovery), reduce costs, and rationalize the service delivery model. However, weaknesses in IT processes and management controls have prevented ITD from fully achieving these goals. This is primarily because ITD has not committed to adopting commonly used best practices for achieving capability maturity such as COBIT,⁴

⁴ COBIT (*Control Objectives for Information and related Technology*) is an IT governance framework developed by the Information Systems Audit and Control Association (ISACA).

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Six Sigma,⁵ or Capability Maturity Model Integration (CMMI)⁶ to systematically improve its processes and capabilities, including contract administration and oversight. The following issues illustrate how weak contract administration and oversight are adversely affecting cost-effectiveness, business continuity, and delivery of IT support services to the business areas:

- *Program costs are not adequately tracked.* The ITD did not implement an effective cost accounting and monitoring structure to track program expenditures by major service areas such as Data Center, Seat Management, Voice Network, and Data Network. Also, internal costs such as salaries of Amtrak employees working on the ITII program are not fully tracked. Further, certain program costs were absorbed by the business units instead of ITD. Without complete and accurate cost information, the ITD cannot effectively manage the program and make informed business decisions based on return on investment.
- *Significant cost-saving opportunities are being missed.* While ITD has taken significant steps to contain service costs, additional cost-saving opportunities exist that have not been fully realized. For example, our comparative analysis with General Services Administration (GSA)⁷ rates shows that ITD has an opportunity to save up to \$14.4 million through the end of the contract by reducing Storage Area Network (SAN) costs. Similarly, there is an opportunity to reduce costs by moving IT services such as nonproduction and noncritical systems to lower-cost alternatives such as Cloud Computing,⁸ where processing and storage needs can be scaled up or down based on demand. The ITD is in the process of addressing this issue and estimates that moving e-mail to the cloud will save about \$1.3 million by the end of the IBM contract in FY 2016. Further, up to \$11.4 million can be saved by removing inactive

⁵ *Six Sigma* is a business improvement methodology focused on knowing customer requirements; aligning key processes; minimizing variation of process through performance reporting; and driving rapid, sustainable process improvements.

⁶ *CMMI* is a widely used framework developed by the Carnegie Mellon University for its Software Engineering Institute. IT organizations that are committed to continuously improving their performance adopt a CMMI framework and periodically assess their maturity level against the CMMI standards for further improvement.

⁷ GSA (General Services Administration) is a federal agency whose function is to procure goods and services for the government.

⁸ *Cloud Computing* is a highly scalable computing resource provided as an external service on a pay-as-you-go basis.

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desktops/laptops from the Seat Management asset inventory, as well as implementing a Bring Your Own Device program for contractors. The ITD has already requested that IBM remove suspected inactive desktops/laptops from the IT asset inventory, and is currently planning to require IT contractors to supply their own computers.

Further, the ITD has not effectively leveraged the cost benchmarking provisions in the contracts. These provisions require the contractor to reduce its pricing if market rates are found to be lower during benchmarking. ITD also lost an opportunity to save \$4.4 million by not identifying in a timely manner 30 data circuits eligible for discounted rates in the AT&T contract. Amtrak sought the refund of \$4.4 million it overpaid, but AT&T declined. ITD officials stated that they ultimately resolved this billing dispute by negotiating lower costs with a contract amendment in June 2012. But, as part of this negotiation, Amtrak extended the AT&T contract an additional 2 years.

- *Actual scope and level of services, particularly disaster recovery, were reduced.* To contain rapidly rising contract services costs and make up for a budget shortfall, the ITD, in June 2011, started reducing the scope and level of services required under the contract. A primary goal of the program was to expand disaster recovery services for all systems, especially critical revenue and business systems such as Amtrak.com, Quik-Trak, Maximo, and SAP. However, ITD reduced the scope of disaster recovery services to the reservation system, e-mail, and active directory services only. This decision was made unilaterally by ITD without involving or communicating with its business customers.

While reduced disaster recovery services saved ITD about \$10.6 million in FY 2012, it put \$1.3 billion in annual Internet sales and critical business operations at risk. In addition, the IBM contract does not provide for floor space in the secondary data center in [REDACTED] to facilitate recovery of noncritical systems, and does not include a backup data circuit with diverse routing between the two data centers. These deficiencies could significantly impair recovery of business operations in case of a major outage in the primary data center.

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The Risk of Service Failures Increased due to Concerns about IBM Services

In 2009, ITD had the opportunity to choose a different vendor. However, it again selected IBM, largely based on IBM's commitment to significantly improve service quality and value proposition under the new contract. Since that decision, ITD has raised numerous concerns related to contract performance, service quality, and cost-effectiveness issues with IBM. Even after several attempts on both sides to address these issues, they continue to persist, and business unit needs are not consistently being met.

For example, an ongoing analysis by ITD shows that IBM is not meeting about 13 percent of its contract obligations for data center services and about 23 percent for seat management services. In addition, an IBM Service Management Review in November 2011 identified 100 issues, 53 of which were classified as high severity and 33 as medium severity. However, IBM's progress in resolving these issues has been slow. A few of the concerns related to IBM's *data center services* are as follows:

- IBM's virtual server⁹ infrastructure has been problematic, and at times has taken several systems out of operation simultaneously. And the recovery time for IBM's virtual servers has been slow when its host servers fail. For example, in October 2012, IBM's virtual server infrastructure failed, which caused several mission-critical applications to be unavailable for about 10 hours.
- ITD had a strategic goal of virtualizing more servers to reduce cost and improve availability, but several issues facing the virtual environment are causing business application owners to demand the use of physical servers, which are more expensive. For example, according to ITD Operations officials, the SAP Application Support group asked for physical instead of virtual servers to ensure the stability of its system.
- IBM has not consistently provided well-qualified labor resources to perform IT support services. For example, over the last 3 years, ITD has asked IBM to replace its transition team and asset-refresh manager. As a result, the program faced several delays in moving systems to new data centers, and caused service disruptions to other ITD programs, such as SAM.

⁹ *Virtual servers* are logically separated server environments supporting different applications on one physical (host) server.

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As discussed, issues are not getting resolved in an efficient and timely manner. Some ITD officials expressed the view that IBM is taking Amtrak's business for granted. Officials explained that IBM is the single service provider of many critical ITD support services. As a result, in the absence of competitive service alternatives, IBM has significant leverage over ITD. To the extent that ITD does not hold IBM accountable for meeting service requirements and making service improvements, Amtrak continues to remain vulnerable to IT-related business process disruptions.

SUMMARY OF RECOMMENDATIONS

While achieving some service improvements, the ITII program is currently not providing support services in an effective and efficient manner. To address this situation, we are recommending that you take a number of short- and long-term actions. Chief among these is developing a strategic approach to providing support services that includes taking steps to create a more competitive environment for acquiring IT support services. A complete listing of our recommendations is presented in Appendix II. Our key recommendations are summarized below:

In the short term, we recommend that, working with business partners as appropriate, you:

- Form an IT steering committee comprising senior executives from key business units to improve program governance, communication, and strategic decision-making.
- Adopt a capability maturity model to help develop sound IT business processes and controls related to planning, operations, procurement, and contract administration and oversight.
- Perform benchmarking of IBM and AT&T contracts where appropriate.
- Plan to take advantage of cost-saving opportunities such as reducing the SAN storage rate, removing inactive computers from support, and leveraging lower-cost cloud technology for services such as hosting nonproduction systems.
- Amend the IBM contract or explore other options to restore the disaster recovery capabilities for critical and noncritical systems and infrastructure.
- Create new SLAs or improve the design of existing SLAs for services such as RFSs, system availability, server backup, antivirus, and processor monitoring.

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- Engage IBM to establish specific time frames and secure dedicated resources for the resolution of service delivery and contract performance issues identified in IBM's most recent Service Management Review report.
- Review existing management controls for administering and overseeing the IT services contracts with a focus on controls that help to ensure that contract terms and conditions are actively monitored, and that delivery/performance issues are raised and resolved in a timely manner. This review should also include determining whether there is a sufficient number of adequately trained staff to perform these activities.

In the long term, based on lessons learned from the ITII program, for ongoing and future IT service needs, we recommend that, working with business partners as appropriate, you:

- Strategically introduce greater competition for IT services to help improve performance, and to provide for alternative service providers if the existing ones are not meeting service expectations.
- Require all ITD groups to consistently follow standards such as ITIL, Six Sigma, COBIT, and CMMI.
- Establish and follow a disciplined process to capture complete and accurate ITII program costs.
- Improve the capacity planning process to estimate IT infrastructure needs based on the demands of ongoing and future IT programs.
- Improve the quality of requests for proposals, statements of work, and contract terms and conditions; and develop policies and procedures for ensuring that business requirements are fully identified before the IT competitive process is started.
- Plan to take advantage of a cost-saving opportunity by requiring contractors to supply their own computers.

MANAGEMENT COMMENTS AND OIG ANALYSIS

We provided Amtrak officials with a draft of this report for their review and comment. Management agreed with all of our recommendations. As Amtrak is currently in the process of organizational change, certain assignments of responsible parties will be

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handled by new roles as defined in each response. Additionally, one focus of the organizational change is to enable Amtrak to govern more effectively while optimizing for success. In that context, management identified planned and ongoing actions to address our recommendations, as well as the officials responsible for implementing them. We believe management's comments are consistent with the intent of our recommendations.

Management's complete comments appear as Appendix III. Management also provided technical comments on certain aspects of the report for our consideration. We considered those comments and incorporated them into this report where appropriate.

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Appendix I

SCOPE AND METHODOLOGY

The focus of our work was to review ITD's management and oversight of IT services contracts with IBM and AT&T valued at a combined total of \$607 million. We conducted our audit from March 2012 through March 2013. Certain information in this report has been redacted due to its confidential nature.

To perform our work, we:

- Visited IBM data centers in [REDACTED] and [REDACTED] the IBM delivery center in [REDACTED]; and AT&T delivery centers in [REDACTED] and [REDACTED]
- Interviewed Amtrak employees in the IT, Finance, Law, Transportation, Engineering, and Mechanical departments; and interviewed IBM and AT&T contractors as necessary. The employees and contractors were executives, middle managers, IT technical resources, and business users.
- Reviewed IBM and AT&T contracts, amendments, purchase requisitions, invoices, and payments to analyze the cost data. In addition, we reviewed process documents, e-mail, server inventory records, and service performance records to analyze vendor performance. Documents were obtained from Amtrak's Law, IT, Finance, and Procurement departments. We did not perform any substantive system testing.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Use of Computer-Processed Data

To analyze ITII cost data, we reviewed the vendor invoice, payment, and internal cost data recorded in Amtrak's financial information system, but were not able to accurately identify and segregate all of the program costs. These issues are discussed in Appendix

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II of this report. We, therefore, relied on the reports obtained from the IT and Procurement departments, AT&T, and IBM. To verify the accuracy of cost numbers in those reports, we compared the vendor invoices with the cost sheets maintained by ITD and the payment reports independently obtained from the vendors. Since the differences identified were not material, we concluded that these reports were sufficiently reliable to be used in meeting our audit objectives. For another audit objective, we reviewed the server listing in the Configuration Management Database (CMDB) managed by IBM. We identified issues with the accuracy of the CMDB during our [REDACTED], data center visit. This issue is discussed in Appendix II of this report.

Internal Controls

In conducting this work, we focused on reviewing ITD's internal controls for contract administration and oversight related to the ITII program. We also reviewed financial controls for tracking expenditures related to the ITII program. The weaknesses and gaps that we identified in these controls are discussed in Appendix II.

Prior Coverage

We reviewed the following prior audit reports and used information from them in conducting our review:

- *Disaster Recovery Readiness Audit* (OIG Report No. 107-2003, September 15, 2004)

The objectives of this audit were to assess the adequacy of ITD's readiness to successfully recover from a disaster at Washington, D.C.-area facilities, and determine whether IBM is delivering disaster recovery services in compliance with its agreement signed in 2002. The audit found that the internal controls over disaster recovery planning, testing, and outsourcing processes were weak; and therefore, the audit was unable to provide reasonable assurance on Amtrak's ability to recover all mission-critical systems in the event of a disaster. The report also referred to three prior audits that found significant issues concerning insufficient disaster recovery planning and testing at Amtrak. Left unaddressed, these gaps leave Amtrak vulnerable to business disruptions that could reduce revenues, increase costs, and negatively affect customer service.

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Our key recommendations were that the disaster recovery management processes be improved by performing a complete business impact analysis of the applications; disaster recovery plans be kept current; more critical applications be included in the planning and testing; the rigorousness of the recovery testing be improved; and the contract with IBM be better defined to effectively measure and manage the services received and the corresponding costs. Management generally agreed with these recommendations.

- *Information Systems Outsourcing* (OIG Report No. 97-105, March 31, 1997) and *Information Systems Outsourcing Activity: Implementation of the Outsourcing Contract* (OIG Report No. 96-101, March 8, 1996)

This audit (interim and final reports) addressed the effectiveness of the outsourcing contract of April 1994 with IBM's wholly-owned subsidiary, Integrated Systems Solutions Corporation (ISSC).

The 1996 interim report covered general implementation issues such as lack of policy and guidance to administer the outsourcing contract, suggested implementation of better performance measures that focus on availability of systems to users rather than uptime of systems, and identified opportunities to improve the relationship between ISSC and Amtrak.

The 1997 final report covered matters pertaining to voice network services in the outsourcing agreement with ISSC. The audit found over \$7 million in potential savings by identifying several areas where ISSC was overcharging Amtrak for its voice network services; and opportunities to save money with benchmarking exercises. We recommended that Amtrak establish a process of measuring and monitoring total IT expenditures, reopen negotiations with ISSC for reduction in 800-service call rates, and seek refunds from ISSC for Help Desk-related calls and other overbilled amounts. Management agreed with most of our recommendations and committed to implementing them.

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Appendix II

BRIEFING

On November 13, 2012, we provided a preliminary briefing on the results of our work to that point to the CIO. The following briefing provides the final results of our work.

Office of Inspector General



Appendix II

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Certain information in this report has been redacted due to its confidential nature.

Scope and Objectives

Scope

The focus of our work was to review the IT Department's (ITD) management and oversight of Information Technology (IT) services contracts with IBM and AT&T, valued at a combined total of \$607 million. We conducted our audit work from March 2012 to March 2013.

Objectives

Our audit objectives were to determine whether the ITD has

1. developed an adequate strategic plan and contract design for acquiring IT services,
2. established adequate processes and controls to accomplish contract administration and oversee performance of service providers, and
3. received services that meet the contract terms and conditions.



Findings

- 1. Program strategic planning and contract design weaknesses led to significant contract implementation, service delivery, and cost increase issues.*
- 2. Weak contract administration and oversight resulted in inadequate cost tracking, reduced services, and lost savings.*
- 3. The risk of service failures increased due to concerns about IBM services.*



Program Management and Contract Design Weaknesses

Best practices for IT outsourcing require (1) good understanding of current and future business needs, (2) clear contract terms to define and obtain services that will meet business needs, (3) appropriate measures to evaluate vendor performance, and (4) strong and aligned internal processes to meet contractual obligations and realize benefits.

While ITD incorporated some of the lessons learned from weaknesses in the prior service delivery contracts, the current contracts with IBM and AT&T still have gaps that affect the quality and cost-effectiveness of service delivery. These gaps exist because ITD did not adequately plan for and define contract terms and conditions. Amtrak signed 42 contract amendments (22 for IBM and 20 for AT&T) in approximately 3 years to address service delivery gaps and new service needs. The most significant weaknesses in terms and conditions are in the IBM contract:

- Lack of shared IT vision affected vendor service delivery,
- Inadequate performance measures or Service Level Agreements (SLAs) were included in the IBM contract, and
- Business requirements were not fully defined in the contract.



Lack of shared IT vision affected vendor service delivery

Many of the service issues experienced are due to gaps in the contract terms, which are the result of ITD's unclear vision for its IT processes. For example, the service contract required IBM to follow IT Infrastructure Library (ITIL)¹ standards and implement a Configuration Management Database (CMDB)—an ITIL standard for documenting device and application configuration settings. For ITD to effectively use CMDB, all groups involved such as IBM, ITD Application Support, and ITD Operations, should follow ITIL standards. However, the ITD Application Support group does not follow ITIL standards and, therefore, does not consistently document application configuration settings.

Also, requirements to fully document application configuration settings in the CMDB were not included in the IBM contract. Since IBM is only responsible for supporting server hardware and software but not Amtrak applications, it did not ensure that application configuration settings were adequately documented in CMDB. As a result, neither IBM nor the Application Support groups did their part to make CMDB complete to meet Amtrak's needs. This hinders IBM's support of Amtrak servers because it must validate application requirements with the ITD Application Support groups first before making any changes to servers.

¹ *IT Infrastructure Library (ITIL)* is a well-established standard for information technology service delivery.



Program Management and Contract Design Weaknesses

In the long term, we recommend that the Chief Information Officer (CIO):

1. Require all ITD groups to consistently follow standards such as ITIL, Six Sigma,² COBIT,³ and CMMI.⁴
2. Implement a complete CMDB that includes application configuration setting information.

² *Six Sigma* is a business improvement methodology focused on knowing customer requirements, aligning key processes, minimizing variation of process through performance reporting, and driving rapid sustainable process improvements.

³ *COBIT (Control Objectives for Information and related Technology)* is an IT governance framework developed by the Information Systems Audit and Control Association (ISACA).

⁴ *Capability Maturity Model Integration (CMMI)* is a widely used framework created by the Carnegie Mellon University for its Software Engineering Institute.



Program Management and Contract Design Weaknesses

Inadequate performance measurements or Service Level Agreements (SLAs) were included in the IBM contract

The ITD did not develop SLAs for certain support services such as Request For Services (RFS), server backup, and antivirus tools, which are essential for effective system operations. Further, the current SLA metric in the contract for system availability and processor monitoring is not well designed. Examples of such SLAs:

- Certain application data were required to be backed up, but backup did not occur for up to 18 months. ITD had no knowledge of these backup issues because SLAs were not developed to measure backup performance. This put application restoration at risk. Had an SLA existed for backup service, this issue would have been discovered and resolved much sooner.
- IBM is responsible for supporting a select group of 458 Sun servers with an *average* availability of 99.99 percent. A 0.01 percent allowance for unplanned outage translates into about 1.4 days/month of aggregated downtime for all (critical *and* noncritical) Sun servers. This method of averaging server availability has allowed IBM to meet its SLA while applications have been down for an extended amount of time. Critical servers supporting revenue systems such as Amtrak.com and Quik-Trak are included in this group.



Program Management and Contract Design Weaknesses

- An SLA does not exist for RFSs in the IBM contract. This gap has resulted in the following conditions:
 - ✓ On average, RFSs are taking about a year to complete from the time they were originally requested. A request as simple as adding memory to a server took about 6 months to complete; prior to ITIL, such requests took about 1 month. According to ITD's analysis, RFSs are currently taking about 136 days to become approved work orders. IBM is taking 101 of these 136 days, and Amtrak the rest. Our analysis of existing RFSs shows that it takes about 7 months to implement the services after the work orders have been approved. IBM's matrix organization creates bureaucracy that makes coordination of handoffs between service groups difficult for timely completion of RFSs. According to ITD officials, 1 year is too long, and they are attempting to get IBM to reduce this processing time.
 - ✓ Our analysis of existing RFSs show that IBM plans to take about 7 months to complete Amtrak's requests that would reduce costs (for example, decommissioning of servers). Without an SLA, the ITD was unable to require IBM to complete such cost-saving changes more quickly. Later, contract amendment 15 required IBM to reduce its billing on cost-saving RFSs after 60 days from approval, even if IBM had not implemented them. As a result, in July 2012, Amtrak withheld \$484,000 from an IBM payment for services billed beyond the 60-day period. However, IBM only agreed to credit about half (\$248,000) because Amtrak caused delays in some cases.



Program Management and Contract Design Weaknesses

In the short term, we recommend that the CIO:

3. Create new SLAs or improve the design of existing SLAs for services such as RFS, server backup, antivirus, and processor monitoring.
4. Improve the SLA for system availability by creating a specific SLA for each critical system instead of relying on averages for group of servers.
5. Consistent with business needs, establish a precise time requirement for IBM to complete cost-saving RFSs.



Program Management and Contract Design Weaknesses

Business requirements were not fully defined in the contract

ITD's delay in beginning the RFP process, combined with IBM's \$ [REDACTED] incentive for Amtrak to sign the contract by June 30, 2009, did not allow sufficient time to collect complete business requirements. The following are examples of contract gaps and their business impact:

- ITD did not adequately plan for future capacity requirements; as a result, the baseline for storage requirements in the IBM contract was set too low compared with Amtrak's needs. When the IBM contract was being developed, major IT programs such as Strategic Asset Management (SAM), ResNG, eTicketing, and ARRA projects were ramping up. ITD estimated an annual growth rate of 3 percent, but the actual rate has been much higher. Later, this resulted in unplanned costs and delays in obtaining needed capacity for new systems.
- Security monitoring requirements were not adequately defined in the AT&T contract. As a result, Information Security currently does not have the same [REDACTED] capabilities (for example, [REDACTED] to the end-user machine) that it had prior to the new contract. Under the new contract, Amtrak's [REDACTED] to the Internet was replaced with the AT&T [REDACTED], which is shared by multiple customers. AT&T could not share the [REDACTED] with Amtrak because of the conflict with [REDACTED]. Later, [REDACTED] provided by AT&T was too [REDACTED] to be helpful for [REDACTED].



Program Management and Contract Design Weaknesses

- The IBM contract does not provide for floor space in the secondary data center for disaster recovery of noncritical systems. This could significantly impair recovery of most applications in case of major outage in the primary data center.
- The IBM contract does not provide for supporting systems that require high availability. Prior to ITII, the SAP ERP system was available 24x7. Since migrating to the new data center, SAP servers have experienced several unplanned outages. High availability of the SAP system is critical to Amtrak's business operations.
- The IBM contract does not include a backup data circuit with diverse routing between the two data centers. ITD chose to exclude backup data circuit capability to save cost. However, on October 28, 2012, the only data circuit between [REDACTED] and [REDACTED] was accidentally cut, and e-mail communication between the [REDACTED] data centers was partially lost. Ironically, Amtrak employees were working in an emergency situation due to Hurricane Sandy, therefore the e-mail capability was not fully available when it was needed the most.



Program Management and Contract Design Weaknesses

In the short term, we recommend that the CIO:

6. Evaluate the business case for requiring IBM to provide enhanced support for high-availability systems such as SAP.
7. Assess the need for a backup data circuit between the data centers to ensure resiliency and continuity of operations.

In the long term, we recommend that the CIO, working with business partners:

8. Improve the capacity planning process to estimate the IT infrastructure needs based on the demands of ongoing and future IT programs.
9. Improve the quality of requests for proposals, statements of work, and contract terms and conditions; and develop policies and procedures for ensuring that business requirements are fully identified before the IT competitive process is started.



Findings

- 1. Program strategic planning and contract design weaknesses led to significant contract implementation, service delivery, and cost increase issues.*
- 2. Weak contract administration and oversight resulted in inadequate cost tracking, reduced services, and lost savings.***
- 3. The risk of service failures increased due to concerns about IBM services.*



Weak Contract Administration and Oversight

When compared with industry best practices for managing IT operations, ITD's business processes, including contract administration and oversight, are relatively weak. To achieve strong processes, an organization must track, analyze, and continuously improve its performance. IT organizations that are committed to continuously improving their performance adopt capability maturity models such as COBIT, CMMI, or Six Sigma (see slide 6); and periodically assess their maturity level for further improvement. However, ITD has not committed to adopting any commonly used best practices for capability maturity to systematically improve its processes and capabilities, including contract administration and oversight. This is evidenced in the weak performance of the ITII program.

The ITD started its ITII program to improve service levels (including disaster recovery), reduce costs, and rationalize the service delivery model. However, weaknesses in ITD processes and management controls have prevented it from fully achieving these goals. The following areas illustrate how ITD's weak contract administration and oversight are adversely affecting cost-effectiveness and delivery of high-quality IT support services to business:

- Program costs are not adequately tracked,
- Significant cost saving opportunities are being missed, and
- Actual scope and level of services, particularly disaster recovery, were reduced.

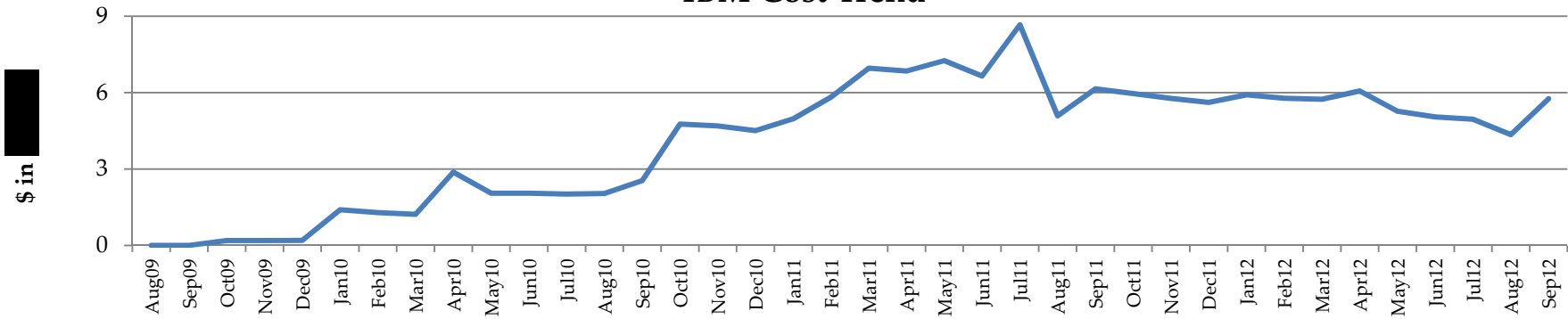


Weak Contract Administration and Oversight

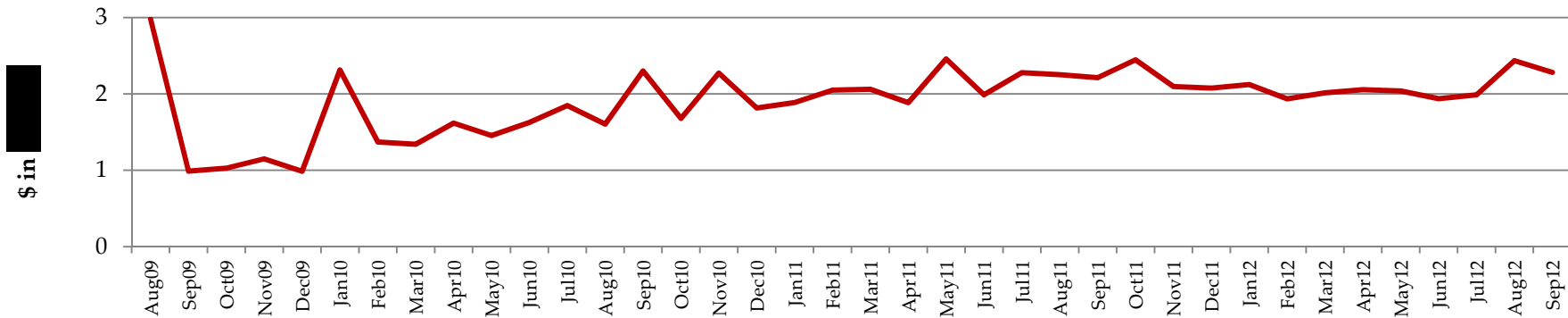
Program costs are not adequately tracked

In approximately 3 years, ITD has spent at least \$ [REDACTED] on the ITII program. The following charts and table show the cost trend for IBM and AT&T services. The actual cost of the program is understated because of incomplete capturing of costs. The demand for IT services started to increase significantly in FY 2011 due to implementation of major systems such as SAM and eTicketing. In FY 2012, budget issues forced ITD to reduce the scope and level of services considerably from the original plan.

IBM Cost Trend



AT&T Cost Trend



Note: Annual credits were evenly distributed to previous 12-month payments through July 2012.



Certain information in this report has been redacted due to its confidential nature.

Weak Contract Administration and Oversight

Actual costs through September 2012 (\$ in [REDACTED])

	FY 2009	FY 2010	FY 2011	FY 2012	Total	Reasons for understated costs and reduced scope/level of services
IBM	-	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	<ul style="list-style-type: none"> FY 2009-10 – Certain testing cost for migration was absorbed by business.
AT&T	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	<ul style="list-style-type: none"> FY 2009-12 – Internal costs (e.g., employee salaries) are not fully tracked.
Total	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	\$(REDACTED)	<ul style="list-style-type: none"> FY 2011-12 – Scope and level of services were reduced due to budget issues.

ITD did not implement an effective cost accounting and monitoring structure to track program expenditures by major service areas such as Data Center, Seat Management, Voice Network, and Data Network. Also, internal costs such as salaries of Amtrak employees working on the ITII program are not fully tracked. Further, certain program costs were absorbed by the business units instead of ITD. For example, according to an official in the Engineering Department, it paid about \$275,000 for three contractors to manage the server move to the new data center. Without complete and accurate cost information, ITD cannot effectively manage the program and make informed business decisions based on return on investment.

In the long term, we recommend that the CIO:

- Establish and follow a disciplined process to capture complete and accurate ITII program costs.



Weak Contract Administration and Oversight

Significant cost-saving opportunities are being missed

Recently ITD has taken significant steps to contain service costs such as reduction in mainframe processing capacity (counted as MIPS—Million Instructions Per Second), off-site storage of mainframe tapes, and 2-year IBM and AT&T contract extensions with reduced rates for certain services. However, the following are examples of additional cost-saving opportunities that have not been fully realized:

- **High SAN storage rate**—Our comparative analysis shows that IBM's rate of \$[REDACTED]/month for 1 terabyte (TB) of Storage Area Network (SAN) is much higher than its GSA⁵ schedule rate of \$623/month, but IBM's rate includes data center and backup replication capacity, which are not included in the GSA rate. However, even if we adjust the GSA rate to \$1,200/month/TB to account for these value-added services, ITD still has an opportunity to save up to \$14.4 million through the end of the contract on [REDACTED] terabytes of SAN storage currently in use.
- **Excessive data retention**—Some business units require excessive data to be available on a real-time basis. Historical data not used regularly can be archived and stored in slower but less expensive media such as disk or tape.

⁵ GSA (General Services Administration) is a federal agency whose function is to procure goods and services for government.



Weak Contract Administration and Oversight

- **Multiple sets of production data**—Some application owners require ITD to maintain multiple copies of full production data for systems such as SAP and FinGate. ITD may be paying for storage space not required on a regular basis.
- **Excessive storage space**—ITD believes that some applications have blocked large amounts of SAN storage space that exceed peak processing needs. ITD may be paying for excessive storage space not regularly utilized.
- **Support for inactive computers**—An ITD review of personal computer usage revealed that 3,453 computers had not connected to the network in over 180 days. ITD recently requested IBM to remove 2,952 computers from the Seat Management asset inventory, which is estimated to save up to \$5.1 million through the end of the contract.
- **Contractors not supplying their own computers**—ITD has determined that Amtrak is providing 2,895 personal computers for contractor use. Amtrak can potentially save up to \$6.3 million through the end of the IBM contract if contractors were required to supply their own computers.
- **Higher price for standard products and services**—ITD and IBM have not jointly developed a service catalog for standard products and services (such as adding memory to a server). Therefore, a time-consuming and expensive RFS process is currently used.



Weak Contract Administration and Oversight

- **Not taking advantage of low-cost alternatives such as Cloud Computing⁶**—ITD has an opportunity to reduce costs by moving IT services such as nonproduction and noncritical systems to a virtual private cloud, where processing and storage needs can be scaled up or down based on demand. Cloud technology allows ITD to reduce the cost of operating nonproduction systems by switching to an as-needed basis. For example, SAP training, development, and test systems have been moved to the cloud to save costs and ITD estimates that moving e-mail to the cloud will save about \$1.3 million by the end of the IBM contract in FY 2016.
- **Not leveraging benchmarking provisions**—Both the IBM and AT&T contracts allow annual [REDACTED] beginning in year 3 of the contract. Vendors would have to reduce their pricing if market rates are found to be lower during benchmarking. However, in year 3, ITD chose to accept a credit of \$ [REDACTED] from IBM in exchange for [REDACTED]. [REDACTED] ITD management decided to take the credit because it believed that the IBM rates were competitive. But, as we discussed earlier in case of SAN storage, ITD has the potential to save significantly more than the \$ [REDACTED] credit it received.

⁶ *Cloud Computing* is a highly scalable computing resource provided as an external service on a pay-as-you-go basis.



Weak Contract Administration and Oversight

Continued weaknesses in ITD processes, particularly in the area of contract administration, have resulted in missed cost-saving opportunities. Two such examples:

- Inadequate invoice reviews resulted in lost savings of \$4.4 million**—During transition of network services, Amtrak’s list of data circuits eligible for a discounted rate from AT&T did not include 30 circuits. As a result, Amtrak missed receiving \$4.4 million in discounts on these 30 circuits. This omission was discovered 29 months later, when a significant increase in the tariff rates triggered ITD to conduct a detailed review of vendor invoices. This omission would have been detected at the contract signing if ITD had performed a proactive review of vendor invoices. Amtrak sought the refund of \$4.4 million it overpaid, but AT&T declined. ITD officials stated that they ultimately resolved this billing dispute by negotiating lower costs with a contract amendment in June 2012. But, as part of this negotiation, Amtrak extended the AT&T contract an additional 2 years.
- Finance’s review of AT&T invoices found oversight issues**—The Finance Department conducted a review of AT&T billing in April 2012 and found a number of issues, such as inadequate support for invoices and questionable validation of units and rates billed. Finance also questioned why ITD was paying ██████████⁷ \$ ██████████ each month for pass-through invoices without asking for and properly reviewing invoice details. The Finance report recommended benchmarking of the AT&T contract, and noted potential liability of \$ ██████████ ██████████ to buy AT&T-owned equipment at the end of the contract. ITD is currently undertaking a similar assessment of IBM’s invoice review and payment processes.

⁷ ██████████ is a telecom billing consolidator that accepts and pays bills from local exchange carriers for a percentage add-on fee.



Weak Contract Administration and Oversight

In the short term, we recommend that the CIO:

11. Adopt a capability maturity model to help develop sound IT business processes and controls related to planning, operations, procurement, and contract administration and oversight.
12. Working with business partners, plan to take advantage of cost-saving opportunities in the following areas:
 - a. Reducing SAN storage rate by renegotiating with IBM
 - b. Reducing the amount of data retained
 - c. Controlling multiple sets of production data
 - d. Reducing excessive storage space not needed
 - e. Removing inactive computers from support
 - f. Developing a service catalog for standard, repeatable products and services
 - g. Leveraging lower cost cloud technology where feasible
13. Perform benchmarking of IBM and AT&T contracts where appropriate.
14. Apply the lessons learned from Finance's review of AT&T invoices to improve the monitoring of IBM invoices.

In the long term, we recommend that the CIO, working with business partners:

15. Plan to take advantage of a cost-saving opportunity by requiring contractors to supply their own computers.



Weak Contract Administration and Oversight

Actual scope and level of services, particularly disaster recovery, were reduced

Inadequate capacity planning during contract negotiations later resulted in data center and data network cost overruns. Also, ITD management responded to a budget shortfall of \$25 million in FY 2012 by taking cost-reduction measures in the services contracts. For example, a primary goal of ITII was to expand disaster recovery services for all Amtrak systems, especially critical revenue and business systems such as Amtrak.com, Quik-Trak, Maximo, and SAP. However, ITD reduced the scope of disaster recovery services to the reservation system, e-mail, and active directory services only. This decision was made unilaterally by ITD without involving or communicating with its business customers. While reduced disaster recovery services saved ITD about \$10.6 million in FY 2012, it put \$1.3 billion in annual Internet sales and critical business operations at risk. Further, ITD management decided to reduce the level of support (e.g., time to repair) for certain locations/systems, as well as remove the test and development environments of many Amtrak systems.

In the short term, we recommend that the CIO, working with business partners:

16. Amend the IBM contract or explore other options to restore the disaster recovery capabilities for critical and noncritical systems and infrastructure.
17. Form an IT steering committee comprising senior executives from key business units to improve program governance, communication, and strategic decision-making.



Findings

- 1. Program strategic planning and contract design weaknesses led to significant contract implementation, service delivery, and cost increase issues.*
- 2. Weak contract administration and oversight resulted in inadequate cost tracking, reduced services, and lost savings.*
- 3. The risk of service failures increased due to concerns about IBM services.**



Concerns About IBM Services

The risk of service failures increased due to concerns about IBM services

In 2009, ITD had the opportunity to choose a different vendor. However, it again selected IBM, largely based on IBM's commitment to significantly improve service quality and value proposition under the new contract. Since that decision, ITD has raised numerous concerns related to contract performance, service quality, and cost-effectiveness issues with IBM. Even after several attempts on both sides to address these issues, they continue to persist, and business unit needs are not consistently being met.

Some ITD officials expressed the view that IBM is taking Amtrak's business for granted. Officials explained that IBM is the single service provider of many critical ITD support services. As a result, in the absence of competitive service alternatives, IBM has significant leverage over ITD. To the extent that ITD does not hold IBM accountable for meeting service requirements and making service improvements, Amtrak continues to remain vulnerable to IT-related business process disruptions.



Concerns About IBM Services

An ongoing analysis by ITD shows that IBM is not meeting about 13 percent of its contract obligations for data center services and about 23 percent for seat management services. In addition, an IBM Service Management Review in November 2011 identified 100 issues, 53 of which were classified as high severity and 33 as medium severity. However, IBM's progress in resolving these issues has been slow. A few of the concerns related to IBM's *data center services* are as follows:

- IBM's virtual server⁸ infrastructure has been problematic, and at times has taken several systems out of operation simultaneously. And, the recovery time for IBM's virtual servers has been slow when its host servers fail. For example, in October 2012, IBM's virtual server infrastructure failed, causing several mission-critical applications to be unavailable for about 10 hours. This happened primarily because IBM does not regularly perform visual verification of server and disk failure warning lights. These lights are illuminated well before the failure occurs.
- ITD had a strategic goal of virtualizing more servers to reduce cost and improve availability, but several issues facing the virtual environment are causing business application owners to demand the use of physical servers which are more expensive. For example, according to ITD Operations officials, the SAP Application Support group asked for physical instead of virtual servers to ensure the stability of its system.

⁸ *Virtual servers* are logically separated server environments supporting different applications on one physical (host) server.



Concerns About IBM Services

- The contract requires that IBM keep [REDACTED] running Amtrak systems. However, we found the required tracking was not always occurring. We judgmentally selected 26 critical servers for review at the [REDACTED] data center. IBM could only identify the physical location of 11 servers. The remaining 15 were not found in the recorded locations. IBM officials attributed these inaccurate records to their technicians not updating documentation when servers were moved from one location to another. If IBM cannot locate servers when a system issue occurs, Amtrak faces the risk of extended outages.
- IBM has not consistently provided well-qualified labor resources to perform IT support services. For example, over the last 3 years, ITD has asked IBM to replace its transition team, and asset-refresh manager. The lack of well-qualified support staff contributes to ITD service issues not getting resolved in an efficient and timely manner.
- IBM Root Cause Analysis reports on problem resolutions were inadequate, and did not contain useful corrective actions. The purpose of these reports was to help in making required changes to business processes, with the goal of preventing the recurrence of problems.

A few of the concerns related to IBM's *seat management services* are as follows:

- An accurate inventory of Amtrak's assets is not maintained.
- Proactive and meaningful technology recommendations to address recurring problems are not always offered.



Concerns About IBM Services

In the short term, we recommend that the CIO:

18. Engage IBM to establish specific timeframe and secure dedicated resources for the resolution of service delivery and contract performance issues identified in IBM's most recent Service Management Review report.
19. Review existing management controls for administering and overseeing the IT services contracts with a focus on controls that help to ensure contract terms and conditions are actively monitored; and delivery/performance issues are raised and resolved in a timely manner. This review should also include whether there is a sufficient number of adequately trained staff to perform these activities.

In the long term, we recommend that the CIO:

20. Strategically introduce greater competition for IT services to help improve performance, and to provide for alternative service provider if the existing ones are not meeting service expectations.



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Report No. OIG-A-2013-013, April 16, 2013

Appendix III

COMMENTS FROM AMTRAK'S CHIEF INFORMATION OFFICER AND CHIEF LOGISTICS OFFICER

NATIONAL RAILROAD PASSENGER CORPORATION

10 G Street, NE, Washington, DC 20002

March 14, 2013



To: David R. Warren, Assistant Inspector General, Audits

Subject: OIG Draft Evaluation
report Information Technology:
Opportunities Exist to Improve
Services, Economies, and
Contract Performance

From: Jason Molfetas, Chief Information Officer,
Jeff Martin, Chief Logistics Officer

Thank you for the Draft Evaluation report *Information Technology: Opportunities Exist to Improve Services, Economies, and Contract Performance*, dated February 7, 2013.

Management understands the short (6-12 months) and long (1-5 years) term recommendations outlined in the report. As Amtrak is currently in the process of organizational change, certain assignments of responsible parties will be handled by new roles as defined in each response. Additionally, one of the focuses of the organizational change is to enable Amtrak to govern more effectively while optimizing for success. Management's response to each of the recommendations is detailed below. Management has also provided technical comments under separate cover for your consideration.

Recommendation 1: (Long Term)

Require all ITD groups to consistently follow standards such as ITIL, Six Sigma, COBIT, and CMMI.

Management response:

Management agrees with the recommendation. ITD's strategy on standards is to implement a hybrid model utilizing a subset of COBIT, ITIL, CMMI standards, and Lean Six Sigma toolsets. This will create an optimal IT environment that is focused on delivering quality services to the business which it supports. Management will introduce a program that moves the organization through training into compliance. The newly created roles of Chief Technology Officer (CTO) and Chief Business Strategy Officer (CSO) are responsible for developing the plan by April 2014.

Certain information in this report has been redacted due to its confidential nature.

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Recommendation 2: (Long Term)

Implement a complete CMDB that includes application configuration setting information.

Management response:

Management agrees with the need for a CMDB solution that includes application configuration information and plans to implement this full solution. This will be a complex endeavor, utilizing discovery, integration of other data sets, and vendor information. As such, implementing this process to manage configuration items will be done in phases. ITD plans to have Phase One for critical applications completed by the end of 2014 due to current budgets. The newly created role of Chief Technology Officer (CTO) is responsible for developing the plan by December 2013.

Recommendation 3: (Short Term)

Create new SLAs or improve the design of existing SLAs for services such as RFS, server backup, antivirus, and processor monitoring.

Management response:

Management agrees with this recommendation and plans to implement a redesign of the current SLAs to focus on service delivery across the IBM contractual environment. In some cases, IT plans to consider implementing a multiple sourcing strategy for new requests to increase the speed of delivery. The newly created role of Chief Operations Officer (COO) is responsible for the redesign of SLAs and plan for negotiations on the new SLAs by December 2013.

Recommendation 4: (Short Term)

Improve the SLA for system availability by creating specific SLA for each critical system instead of relying on averages for group of servers.

Management response:

Management agrees with the need for system availability SLAs at a more granular level. As stated in the response to Recommendation #3, plans are underway to redesign the current SLAs. A specific focus on critical system environments will be addressed in the redesign with the understanding that these SLAs may cause additional contract negotiations once the risk assessment is performed. The newly created role of Chief Operations Officer (COO) is responsible for starting a redesign of SLAs and plan for negotiations on the new SLAs by December 2013.



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Recommendation 5: (Short Term)

Consistent with business needs, establish a precise time requirement for IBM to complete cost saving RFSs.

Management response:

Management agrees with this recommendation. Currently there is a time requirement associated with cost saving RFSs which allows Amtrak to receive the savings after 60 days whether or not the RFS is completed. For purposes of auditability, Management will work with IBM to validate completion in a timely manner consistent with business needs. The newly created role of Chief Operations Officer (COO) is responsible for enabling auditability of RFS data to be completed by January 2014.

Recommendation 6: (Short Term)

Evaluate the business case for requiring IBM to provide enhanced support for high availability systems such as SAP.

Management response:

Management agrees with this recommendation. Through the delivery of a configuration management solution, Management plans on utilizing that information to focus on system groups, such as SAP, to enable high availability and reduce the effect of changes implemented across the environment. Management will also undertake a business case that would weigh increased / enhanced support versus costs. The newly created roles of Chief Technology Officer (CTO) and Chief Operations Officer (COO) are responsible for the analysis of the business case by February 2014.

Recommendation 7: (Short Term)

Assess the need for backup data circuit between the data centers to ensure resiliency and continuity of operations.

Management response:

Management agrees with this recommendation and is in the process of pricing a solution through AT&T to enable an additional circuit between the data centers. This circuit will act as a business continuity circuit rather than just a backup to ensure resiliency. The newly created role of Chief Operations Officer (COO) is responsible for the expected implementation of an additional circuit by August 2013.



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Recommendation 8: (Long Term)

Improve the capacity planning process to estimate the IT infrastructure needs based on the demands of ongoing and future IT programs.

Management response:

Management agrees with this recommendation. Utilizing the model done for RES-NG, which enables capacity planning and performance throughout the SDLC (Software Development Lifecycle), Management will further promote those policies, procedures, and automated systems across the enterprise. The newly created roles of Chief Technology Officer (CTO) and Chief Relationship Officer (CRO) are responsible for the development of a plan by May 2014.

Recommendation 9: (Long Term)

Improve the quality of requests for proposals, statements of work, and contract terms and conditions; and develop policies and procedures for ensuring business requirements are fully identified before the IT competitive process is started.

Management response:

Management agrees with this recommendation, and will work across Amtrak departments (ITD, Procurement, Law, Finance, and Amtrak lines of business) to enable an agile process to focus on an efficient and competitive method to acquire products and services. To effect change and improve the contracting process, Amtrak ITD and Procurement will collaborate to put in place effective policies and procedures that address the rapidly changing IT ecosystem. An additional option could include final statement of work reviews provided by an independent party under contract. Finally, a reasonable schedule for the procurement cycle is to be established for each project which will require more robust planning on the part of IT in ensuring that all of their requirements will be accounted for in the scheduled plan. The newly created role of the Chief Business Officer (CBO) and the Director of Procurement are responsible for the development of a plan by August 2014.



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Recommendation 10: (Long Term)

Establish and follow a disciplined process to capture complete and accurate ITII program costs.

Management response:

Management agrees with this recommendation and is requesting capital funds for FY2014 to implement an IT Financial Management System. This will allow ITD to capture all IT costs including usage by end user. The implementation of this system will take 12-18 months to deliver functionality tied to this recommendation. The newly created roles of Chief Technology Officer (CTO) and the Chief Business Officer (CBO) are responsible for the development of a plan by September 2014.

Recommendation 11: (Short Term)

Adopt a capability maturity model to help develop sound IT business processes and controls related to planning, operations, procurement, and contract administration and oversight.

Management response:

Management agrees with this recommendation. Per Recommendation #1, Management plans to implement a hybrid standards management strategy. The newly created roles of Chief Technology Officer (CTO) and Chief Business Strategy Officer (CSO) are responsible for developing the plan by April 2014.

Recommendation 12: (Short Term)

Working with business partners, plan to take advantage of cost saving opportunities in the following areas:

- a. Reducing SAN storage rate by renegotiating with IBM
- b. Reducing the amount of data retained
- c. Controlling multiple sets of production data
- d. Reducing excessive storage space not needed
- e. Removing inactive computers from support
- f. Developing Service Catalog for standard repeatable products and services
- g. Leveraging lower cost cloud technology where feasible



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Management response:

- a. Reducing SAN storage rate by renegotiating with IBM

Management agrees with this recommendation, but will approach the renegotiation with IBM by looking for a new service model to implement a new storage type to deliver SAN storage more efficiently through IBM or other providers. The newly created roles of Chief Operations Officer (COO) and Chief Technology Officer (CTO) are responsible for the creation of the new delivery model or storage type by December 2013.

- b. Reducing the amount of data retained

Management agrees with this recommendation. This is currently underway through policies which now require an end of life date for data retention. The newly created role of Chief Operations Officer (COO) is responsible for the creation of the new policy by December 2013.

- c. Controlling multiple sets of production data

Management agrees with this recommendation and will institute policies and procedures to ensure compliance across the enterprise in accordance with mandated legal requirements and regulations. The newly created roles of Chief Operations Officer (COO) and Chief Relationship Officer (CRO) are responsible for the creation of the new policy by December 2013.

- d. Reducing excessive storage space not needed

Management agrees with this recommendation and will institute policies and procedures to ensure compliance across the enterprise. The newly created role of Chief Operations Officer (COO) is responsible for the creation of the new policy by December 2013.

- e. Removing inactive computers from support

Management agrees with this recommendation and has already instituted policies and procedures to remove inactive devices from support. The newly created role of Chief Operations Officer (COO) is responsible for the continued management of the policies and procedures.

- f. Developing Service Catalog for standard repeatable products and services

Management agrees with this recommendation and is currently analyzing the feasibility and cost to deliver a robust service catalog for repeatable IT services. A service catalog is constantly refreshing as new services are created. The process and management must be detailed and well governed. The newly created roles of Chief Technology Officer (CTO) and Chief Operations Officer (COO) are responsible for developing the plan by March 2014.

- g. Leveraging lower cost cloud technology where feasible

Management agrees with this recommendation, and is currently implementing this technology. Two current examples are SAP non-production in the cloud and Exchange cloud messaging services. Amtrak will continue to utilize cloud technology where feasible and the newly created role of Chief Technology Officer (CTO) is responsible for continuing the efforts to utilize the cloud.



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Recommendation 13: (Short Term)

Perform benchmarking of IBM and AT&T contracts where appropriate.

Management response:

Management agrees with the recommendation and will perform benchmarking where necessary. Management will utilize predefined benchmarks, widely available from organizations like Gartner, to enable the approach for services needing full benchmark analysis. To control the costs associated with benchmarking while also managing the return on investment, certain areas will follow a multi-sourcing strategy rather than undertaking the benchmark process. This will create competition for a better price rather than analysis for a possible, but not guaranteed better price. The newly created roles of Chief Technology Officer (CTO) and Chief Operations Officer (COO) are responsible for developing the plan by August 2013.

Recommendation 14: (Short Term)

Apply the lessons learned from Finance's review of AT&T invoices to improve the monitoring of IBM invoices.

Management response:

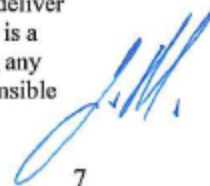
Management agrees with this recommendation. The monitoring of IBM invoices is tracked on a schedule and has checkpoints and validation engineered into the process. We will enforce additional measures where necessary based on the lessons learned from Finance's review of AT&T invoices. The newly created roles of Chief Business Officer (CBO) and Chief Operations Officer (COO) are responsible for the development of a plan by September 2013.

Recommendation 15: (Long Term)

Plan to take advantage of cost saving opportunity by requiring contractors to supply their own computers.

Management response:

Management agrees conceptually with this recommendation and understands the benefits to require contractors to supply their own devices. We are currently analyzing the benefits and risks involved in Bring Your Own Device (BYOD), to understand the requirements needed to deliver this service. Additionally, the full implementation of the Network Access Control (NAC) is a prerequisite. The feasibility in implementing this requirement is dependent on mitigating any risks to the business. The newly created role of Chief Technology Officer (CTO) is responsible for developing the plan by March 2014.



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Recommendation 16: (Short Term)

Amend the IBM contract or explore other options to restore the disaster recovery capabilities for critical and non-critical systems and infrastructure.

Management response:

Management agrees with this recommendation and is currently analyzing the options for DR capabilities across systems and infrastructure. Management expects to use a multi-sourcing approach to provide for this capability, utilizing the cloud, co-location, etc. As this is a major budget consideration, appropriate funding needs to be procured along with business support. The newly created roles of Chief Technology Officer (CTO), Chief Operations Officer (COO) and Chief Business Strategy Officer (CSO) are responsible for developing the plan by October 2013. Any amendment to the existing IBM contract will be accomplished in conjunction with the Procurement Department.

Recommendation 17: (Short Term)

Form an IT steering committee comprised of senior executives from key business units to improve program governance, communication, and strategic decision-making.

Management response:

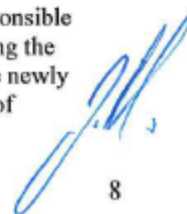
Management agrees with this recommendation. As part of the design for the new ITD organization becomes focused, a robust PMO will be responsible for implementing a steering committee comprised of senior executives from key business units to carry out this recommendation. The newly created role of Chief Business Officer (CBO) is responsible for the development of a plan by November 2013, with the understanding that Amtrak is targeting an October 1, 2013 completion for the reorganization.

Recommendation 18: (Short Term)

Engage IBM to establish specific timeframes and secure dedicated resources for the resolution of service delivery and contract performance issues identified in IBM's most recent Service Management Review report.

Management response:

Management agrees with this recommendation and is working with IBM to place responsible resources across the delivery team. These resources will be charged with implementing the resolutions identified in the report along with improving overall service delivery. The newly created role of Chief Operations Officer (COO) is responsible for validating the plan of implementation by January 2014.



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Recommendation 19: (Short Term)

Review existing management controls for administering and overseeing the IT services contracts with a focus on controls that help to ensure contract terms and conditions are actively monitored; and delivery/performance issues are raised and resolved in a timely manner. This review should also include whether there is a sufficient number of adequately trained staff to perform these activities.

Management response:

Management agrees with this recommendation. The vendor and contracts management team will monitor and manage the day to day delivery of contracted services with the operations team. Additionally, the creation of the strategic vendor management function within the organization will act as an escalation point to enable timely delivery and resolution of issues for procured services. The newly created roles of Chief Technology Officer (CTO), Chief Business Officer (CBO) and Chief Operations Officer (COO) are responsible for the development of a plan by December 2013.

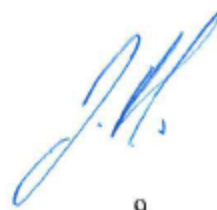
Recommendation 20: (Long Term)

Strategically introduce greater competition for IT services to help improve performance, and to provide for alternative service provider if the existing ones are not meeting service expectations.

Management response:

Management agrees with this recommendation and has already introduced competition to improve performance, as demonstrated by the move of non-production SAP environments to the cloud. Management will continue developing multi-sourcing strategies to further enable cost optimized service delivery across the enterprise. The newly created roles of Chief Technology Officer (CTO), Chief Business Strategy Officer (CSO), and Chief Operations Officer (COO) are responsible for developing the plan by June 2014.

cc: Gordon L. Hutchinson, Acting Chief Financial Officer
Eleanor D. Acheson, Vice President, General Counsel
DJ Stadler, Vice President, Operations
Matthew F. Hardison, Chief Marketing and Sales Officer
Joseph H. McHugh, Vice President, Government Affairs and Communications
William H. Herrmann, Managing Deputy General Counsel
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Appendix IV

ABBREVIATIONS

ARRA	American Recovery and Reinvestment Act of 2009
AT&T	American Telephone & Telegraph, Incorporated
CIO	Chief Information Officer
CMDB	Configuration Management Database
CMMI	Capability Maturity Model Integration
COBIT	Control Objectives for Information and related Technology
GSA	General Services Administration
IBM	International Business Machines Corporation
ISSC	Integrated Systems Solutions Corporation
IT	Information Technology
ITD	Information Technology Department
ITII	Information Technology Infrastructure Initiative
ITIL	Information Technology Infrastructure Library
OIG	Office of Inspector General
ResNG	Reservation Next Generation
RFS	Request for Services
SAM	Strategic Asset Management
SAN	Storage Area Network
SAP	Systems Applications and Products
SLA	Service Level Agreement

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Appendix V

OIG TEAM MEMBERS

Vipul Doshi	Senior Director, Audits
Vijay Chheda	Audit Manager
Mike Baker	Senior Auditor, IT
Ben Davani	Senior Auditor, IT
Asha Sriramulu	Senior Auditor, IT
Ashish Tendulkar	Senior Auditor, IT
Michael Fruitman	Principal Communications Officer

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OIG MISSION AND CONTACT INFORMATION

Amtrak OIG's Mission	The Amtrak OIG's mission is to provide independent, objective oversight of Amtrak's programs and operations through audits, inspections, evaluations, and investigations focused on recommending improvements to Amtrak's economy, efficiency, and effectiveness; preventing and detecting fraud, waste, and abuse; and providing Congress, Amtrak management, and Amtrak's Board of Directors with timely information about problems and deficiencies relating to Amtrak's programs and operations.
Obtaining Copies of OIG Reports and Testimony	Available at our website: http://www.amtrakoig.gov .
To Report Fraud, Waste, and Abuse	Report suspicious or illegal activities to the OIG Hotline (you can remain anonymous): Web: www.amtrakoig.gov/hotline Phone: (800) 468-5469
Congressional and Public Affairs	David R. Warren Assistant Inspector General, Audits Mail: Amtrak OIG 10 G Street, N.E., 3W-300 Washington, DC 20002 Phone: (202) 906-4742 E-mail: david.warren@amtrakoig.gov
