



OFFICE OF  
**INSPECTOR  
GENERAL**  
UNITED STATES POSTAL SERVICE

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# **Availability of Critical Applications**

## **Audit Report**

September 25, 2013

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**Report Number IT-AR-13-008**



OFFICE OF  
**INSPECTOR  
GENERAL**  
UNITED STATES POSTAL SERVICE

# HIGHLIGHTS

September 25, 2013

## Availability of Critical Applications

Report Number IT-AR-13-008

### **BACKGROUND:**

To align with its 2013 plan, the U.S. Postal Service is striving to expand its business by increasing the availability of its critical applications to its customers. This expansion is being met through technology and process enhancements of critical business system performance.

Our objective was to assess the availability of critical Postal Service applications and related monitoring activities, and we judgmentally selected four critical applications for review — Facility Access and Shipment Tracking, usps.com, Point-of-Service (POS)—Retail, and *Posta/One!*—Business Customer Support System. We did not assess customers' experiences with the services provided by these applications.

### **WHAT THE OIG FOUND:**

The Postal Service is proactive in monitoring the Facility Access and Shipment Tracking, *Posta/One!*—Business Customer Support System, and usps.com applications to ensure they meet established availability targets. It has implemented and continues to update processes that maintain incident, change, and availability data.

However, the Postal Service has not been as effective in ensuring that its POS terminal operations meet availability targets. Employees at Postal Service sites do not always report

terminals disconnected from the network to the designated help desk. Employees are not properly following policy or receiving formal communication materials on reporting POS terminal outages. Further, the Postal Service does not monitor the availability of POS terminals during business hours or track how long terminals are unavailable. No group has been assigned to conduct real-time monitoring or to develop and maintain reports and metrics on the availability of POS terminals, unlike the other critical applications we reviewed.

In fiscal year [REDACTED] [REDACTED]. We identified annual revenue at risk totaling \$809,403 related to 92 outages from February through May 2013.

### **WHAT THE OIG RECOMMENDED:**

We recommended the Postal Service develop, and require POS users to review, updated guidance on system outages, and immediately report all outages to the designated help desk. We also recommended management assign a group to conduct real-time monitoring and develop a process for timely reporting of outages. The Postal Service should also maintain reports and metrics on the availability of POS terminals.

[Link to review the entire report](#)



OFFICE OF INSPECTOR GENERAL  
UNITED STATES POSTAL SERVICE

September 25, 2013

**MEMORANDUM FOR:** JOHN T. EDGAR  
VICE PRESIDENT, INFORMATION TECHNOLOGY

KELLY M. SIGMON  
VICE PRESIDENT, CHANNEL ACCESS

EDWARD F. PHELAN  
VICE PRESIDENT, DELIVERY AND POST OFFICE  
OPERATIONS



**FROM:** John E. Cihota  
Deputy Assistant Inspector General  
for Financial and Systems Accountability

**SUBJECT:** Audit Report – Availability of Critical  
Applications (Report Number IT-AR-13-008)

This report presents the results of our audit of the Availability of Critical Applications (Project Number 12XG033IT000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Paul L. Kuennen, director, Information Technology, or me at 703-248-2100.

Attachment

cc: Corporate Audit and Response Management

**TABLE OF CONTENTS**

Introduction .....	1
Conclusion .....	2
Availability and Monitoring of Facility Access and Shipment Tracking, <i>PostalOne!</i> -Business Customer Support System, and usps.com .....	2
Point-of-Service Terminal Operations .....	3
Point-of-Service Monitoring Activities During Customer Business Hours .....	4
Recommendations .....	5
Management's Comments .....	6
Evaluation of Management's Comments.....	7
Appendix A: Additional Information .....	9
Background .....	9
Objective, Scope, and Methodology .....	12
Prior Audit Coverage .....	13
Appendix B: Other Impacts .....	14
Appendix C: Management's Comments .....	15

## Introduction

This report presents the results of our self-initiated audit of the availability of the U.S. Postal Service's critical applications (Project Number 12XG033IT000). Our audit objective was to assess the availability of critical Postal Service applications and related monitoring activities. See [Appendix A](#) for additional information about this audit.

The Postal Service is committed to building a solid foundation of service and operational excellence with new gains in service and efficiency. This commitment is driven by an overriding principle that the Postal Service exists to serve the customers for whom its services and operations were created. Therefore, it is imperative that key Postal Service systems are reliable and available to support the business and mission critical functions that will provide and promote increased service and efficiency.

The Postal Service is striving to expand its business by providing increased availability of its critical applications. Availability ensures there is timely and reliable access to information resources<sup>1</sup> for authorized users or other systems when required. Improving system reliability involves extreme scalability<sup>2</sup> of information technology (IT) platforms to deliver increased availability and support. The target availability level for most applications is 99.7 percent and, as of January 2013, the target availability level for online applications increased to 99.9 percent.

We focused on four critical<sup>3</sup> applications that support operations and services — Facility Access and Shipment Tracking (FAST),<sup>4</sup> Point-of-Service (POS)—Retail,<sup>5</sup> *PostalOne!*—Business Customer Support System (BCSS),<sup>6</sup> and usps.com.<sup>7</sup> Although we assessed availability and terminal outage data on the four applications, we did not assess customers' experiences with the services provided by these applications.

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<sup>1</sup> Information resources include such things as systems and equipment, single-user computer equipment, hardware, software, data and information, and products and services.

<sup>2</sup> The ability of a computer application or product to continue to function well when it is changed in size or volume in order to meet a customer's needs.

<sup>3</sup> According to the Postal Service's own Business Impact Assessments, these applications are deemed critical. Criticality reflects the need for continuous availability of information.

<sup>4</sup> FAST is the external scheduling and notification engine for drop ship customers and sending automatic updates to FAST users. Currently, FAST has no impact on the Postal Service's financial reporting.

<sup>5</sup> POS is also referred to as POS ONE. The POS terminal is the primary hardware and software system used to conduct sales transactions during the Post Office's check-out process. The system is a retail program that plays a major role in reaching Postal Service goals for improving customer service and empowers front-line personnel to deliver the level of service and satisfaction that customers expect and demand. In fiscal year [REDACTED] generated over [REDACTED] in revenue.

<sup>6</sup> *PostalOne!*-BCSS provides mailers with an efficient, cost-effective, and seamless process from mail preparation to mail delivery; facilitates the integration of mailer and Postal Service business processes to expedite and better support mail acceptance and operations; and offers businesses the capability for electronic access, electronic documentation, business mail management, and electronic payment. In [REDACTED] generated over [REDACTED] in revenue.

<sup>7</sup> usps.com is the home page of the Postal Service's external website and provides customers with an online, one-stop shopping experience. From January 2012 to April 2013, usps.com recorded over 12 million visits to its website per day.

## Conclusion

The Postal Service is proactive in its efforts to monitor the FAST, *PostalOne!-BCSS*, and *usps.com* applications to ensure they meet established availability targets. Overall availability rates for these systems have ranged from 99.81 to 99.93 percent. Management implemented — and is continuing to update — the monitoring processes and tools<sup>8</sup> that maintain incident, change, and availability data.

However, the Postal Service has not been as effective in ensuring that its POS terminal operations meet availability targets. Specifically, employees at Postal Service sites did not always promptly or properly report POS terminals that were disconnected from the network to the designated help desk or identify the reasons for these outages. In addition, the Postal Service was not effectively monitoring the availability of POS terminals during customer business hours, unlike the other applications we reviewed. Further, the Postal Service did not have a mechanism to determine the duration of POS terminal outages and to ascertain whether POS is meeting the Postal Service's availability target level. As a result, we identified annual revenue at risk totaling \$809,403 related to POS outages. See [Appendix B](#) for additional details.

### **Availability and Monitoring of Facility Access and Shipment Tracking, *PostalOne!-Business Customer Support System*, and *usps.com***

The Postal Service is proactive in its efforts to monitor the FAST, *PostalOne!-BCSS*, and *usps.com* applications. Although external issues outside the Postal Service's control can occur,<sup>9</sup> management monitors these critical applications to ascertain that it maintains availability targets<sup>10</sup> and addresses issues immediately. Our analysis of availability data indicates these applications met established targets,<sup>11</sup> with availability levels ranging from 99.81 percent to 99.93 percent from FY 2011 through April 2013, as noted in Table 1.

**Table 1. Application Availability — FY 2011 to April 2013**

Application Name	Total Outage Hours	Availability
FAST	73	99.81%
<i>PostalOne!-BCSS</i>	48	99.87%
<i>usps.com</i>	37	99.93%

Source: CSR data.

<sup>8</sup> The Postal Service is replacing the application that manages change and incident issues (Remedy Information Technology Service Management [RITSIM]) to a system (Remedy Incident and Change Management) with the capability of tracking incidents, problems, changes, known errors, work arounds, and IT system releases.

<sup>9</sup> On June 19, 2013, an external Internet issue occurred which affected some services provided externally through *usps.com*; however, this issue did not adversely impact availability targets.

<sup>10</sup> Information on critical applications identified on the *Chief Information Officer (CIO) Watch List* is maintained in the CIO Scorecard Reporting System (CSR). The CSR application provides scorecards for measuring performance to the CIO organization.

<sup>11</sup> As of January 2013, the target availability level for online applications changed from 99.7 to 99.9 percent.

The Enterprise Systems Monitoring (ESM) group uses several monitoring tools<sup>12</sup> to identify system outages and has implemented an immediate response system for notifying appropriate stakeholders to triage and resolve outage issues. In addition, management implemented an effective process for overseeing, documenting, and reporting the daily performance, availability, and origin of outage issues associated with these critical applications.

Our review of change, incident, and availability data revealed that management can improve the documentation process to enable consistent and accurate tracking and trend reporting. However, the IT Performance Achievement and IT Strategy and Compliance groups<sup>13</sup> are updating their processes and tools that maintain incident, change, and availability data. In addition, improvements are underway for monitoring and collecting availability data on critical applications.<sup>14</sup> Therefore, we did not make any recommendations in this report, but encourage management to continue their efforts regarding these matters.

## Point-of-Service Terminal Operations

Employees at Postal Service sites do not always promptly or properly report POS terminals that are disconnected from the network<sup>15</sup> to the designated help desk. In reconstructing the POS terminal outage information, we determined there were at least 92 POS terminals disconnected from the network during an 8-week period from February through May 2013.<sup>16</sup> The minimum outage timeframes<sup>17</sup> for these POS terminals ranged from 2 to 22 days. Sixty-five of these 92 terminals (or 71 percent) did not have help desk tickets within the RITSM<sup>18</sup> application noting the outage, and the Retail Business Technology group<sup>19</sup> did not provide a help desk ticket for these 65 terminal outages. Further, they could only identify the current status for six of 92 of the disconnected terminals (or 7 percent).

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<sup>12</sup> ESM, under the IT Performance Achievement group, uses the Webmetrics and TMART tools to monitor critical Postal Service applications.

<sup>13</sup> See [Appendix A](#).

<sup>14</sup> The IT Performance Achievement group recently implemented and is continuing to develop its IT Service Management (ITSM) program. The program is the coordinated design, implementation and operation of several widely accepted frameworks, methods, and standards for continuous service improvement of the IT enterprise.

<sup>15</sup> POS terminals disconnected from the network or that do not respond to a ping are considered terminal outages in this report.

<sup>16</sup> We requested FY 2011 through May 2013 outage information on POS terminals; however, the Postal Service could only provide information for 8 non-consecutive weeks from February through May 2013.

<sup>17</sup> We determined the minimum outage timeframes based on the last reported Enterprise Desktop Manager (EDM) connection date to the date of Retail Business Technology emails sent to the site inquiring about the outage. The actual POS outage time was likely more than the outage timeframes. A program runs on the POS terminals when the system is booted nightly and connects to the EDM system. The last EDM connection is tracked to identify machines which have not connected to the network.

<sup>18</sup> RITSM (Version 5) contains problem management (help desk) and change management modules.

<sup>19</sup> This group manages the POS terminals to support retail business needs related to providing customers with easy access to products and services, customer service, data transactions, and policies.

Postal Service policy<sup>20</sup> states that if a POS terminal becomes unavailable, including time spent in a degraded mode,<sup>21</sup> the help desk should be notified and a ticket opened. Policy also states that all problems must be recorded to capture the issues, identify the root causes, provide quick resolution, and minimize the business impact on operations.<sup>22</sup>

This occurred because sites are not properly following policy to report POS terminal outages to the designated help desk. Also, the Retail Business Technology group is not providing sufficient guidance<sup>23</sup> on outage issues, including how and when to report POS terminal outages.

Timely resolution of POS terminal outages assists in restoring the ability to process debit and credit card transactions and reducing overall customer wait times. Also, the inability to process debit and credit card transactions could result in a reduction in the annual [REDACTED] generated revenue. We identified annual revenue at risk totaling \$809,403 relating to POS outages. See [Appendix B](#) for additional details.

### **Point-of-Service Monitoring Activities During Customer Business Hours**

The Postal Service is not effectively monitoring the availability of POS terminals during customer business hours. Policy states that managers must ensure that information resources are available and continuously monitored.<sup>24</sup> The Desktop Computing<sup>25</sup> group pings<sup>26</sup> the POS terminals and compiles a daily *State of Health* report,<sup>27</sup> and the EDM process<sup>28</sup> gathers information nightly on the POS terminals' last EDM connection. However, during customer business hours, management cannot assess the availability of POS terminals because there is no real-time monitoring that alerts management of POS terminal outages or terminals operating in degraded mode. Also, management does not have a way to track how long POS terminals are unavailable or if POS is meeting the Postal Service's availability target level.<sup>29</sup>

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[REDACTED] | POS ONE Procedures Guide, Section 14, Degraded/Stand-Alone Mode, dated January 15, 2013; and Management Instruction PO-130-2003-1, *POS One Manual Workaround: Business Contingency and Continuity Plan Documentation*, pages 9-10, dated August 18, 2003.

<sup>21</sup> When a terminal goes into a degraded mode, there is no connectivity and it cannot accept debit and credit card transactions.

<sup>22</sup> *Problem Management Policy*, Version 1.0, page 1, dated August 17, 2012; and *Problem Management Process*, Version 1.0, pages 1-4, dated August 17, 2012.

<sup>23</sup> There is online training, which covers three areas (POS One Front Office Web-Based; POS One Back Office Administration; and POS One Back Office Close-Out); however, the training does not include important details on how and when to report outages and this information is not communicated regularly to the sites.

<sup>24</sup> Handbook AS-805, *Information Security*, Section 2-2.10, Officers and Managers; Section 9-9, Availability; and Section 9-9.6, High Availability, dated July 2012.

<sup>25</sup> See [Appendix A](#).

<sup>26</sup> Each script that collects data from a POS terminal begins with a ping to ensure the target machine is reachable.

<sup>27</sup> The *State of Health* report contains data on all POS terminals nationwide and is used as a post-review of the POS environment as captured during the daily ping process.

<sup>28</sup> A program runs on the POS terminals when the system is booted nightly and connects to the EDM system. The last EDM connection is tracked to identify machines which have not connected to the network.

<sup>29</sup> The current target availability level for critical applications is 99.7 percent.

This occurred because there is no group assigned to conduct real-time monitoring and reporting of POS terminal outages to the designated help desk and no one is tasked with developing and maintaining metrics on the availability of POS terminals over time.<sup>30</sup> Without timely detection and resolution of POS terminal outages, the Postal Service could be losing revenue and access to services.

The Postal Service plans to deploy new software<sup>31</sup> for POS terminals in January 2014. Although recommendations in this report are specific to POS, the POS monitoring and availability issues identified relate to Postal Service POS retail operations and are applicable to the new software. Therefore, we encourage the Postal Service to strengthen POS monitoring and reporting capabilities during the planning and implementation process for the new replacement software.

## Recommendations

We recommend the vice president, Channel Access, direct the manager, Retail Business Technology, to:

1. Develop guidance for all Point-of-Service (POS)–Retail associates on responding to an outage or a POS terminal in degraded mode.

We recommend the vice president, Delivery and Post Office Operations:

2. Provide the guidance developed by the Retail Business Technology group for Point-of-Service (POS)–Retail users on how to respond to an outage or a POS terminal in degraded mode.
3. Document and provide oversight to ensure users of Point-of-Service–Retail terminals at all Postal Service sites immediately report all terminal outages and issues to the designated help desk.

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<sup>30</sup> As a result of this audit, the Supply Management group commissioned the vendor to obtain metrics needed to calculate POS availability for the past year.

<sup>31</sup> Retail Systems Software (RSS) will replace various established retail solutions, including the software currently in the POS terminals.

We recommend the vice president, Channel Access, in coordination with the vice president, Information Technology:

4. Assign responsibility for conducting real-time monitoring of Point-of-Service—Retail terminals and developing a process for timely reporting outages and degraded issues.
5. Develop and maintain metrics and reports on the availability of Point-of-Service—Retail terminals over time.

### **Management's Comments**

Management neither agreed nor disagreed with the findings and recommendation 5; disagreed with recommendations 1, 3, and 4; and agreed with recommendation 2.

Regarding recommendation 2, management agreed to remind employees of the proper procedures on how to respond to an outage or POS terminals in degraded mode. The target date for this reminder is October 30, 2013.

Regarding recommendation 1, management noted the existence of guidance in the form of FAQs (frequently asked questions), procedures, guides, and contingency plans.

Regarding recommendation 3, management stated the data provided to the U.S. Postal Service Office of Inspector General (OIG) indicates that employees call the help desk when there is an issue, substantiating their awareness of procedures.

Regarding recommendation 4, management indicated that end users are an effective way to monitor POS and enable the help desk to effectively and efficiently troubleshoot and resolve issues. They also stated that real-time monitoring represents a major effort; it is not feasible to run the current technical capability used in support of POS more than five times per day under normal conditions; and implementing a real-time monitoring system would be costly and the benefits not justifiable.

Regarding recommendation 5, management noted they currently use a help desk ticket case rate to measure issues with POS. Management reviews the case rate quarterly with the vendor to continuously improve system availability.

Management also noted that our audit methodology did not measure the POS application, but rather factors that may affect the full functionality of retail point of sale. Management also noted that the report did not take into account terminals that were unavailable due to planned reasons and that their summary information identified help desk tickets for many of the terminal outages. See [Appendix C](#) for management's comments, in their entirety.

## Evaluation of Management's Comments

The OIG considers management's comments responsive to recommendation 2 and the corrective action should resolve the issue identified in the report.

We consider management's comments regarding recommendations 1, 3, 4, and 5 to be non-responsive. The intent of recommendation 1 is to ensure direct, detailed, and periodic communication is developed for reporting POS terminal outages timely. This could include important details on how and when to report outages and how often information is communicated to the sites.

Regarding recommendation 3, the data provided did not show that all POS terminal outages had a corresponding help desk ticket. Also, we examined the additional data provided after our exit conference and could not use it for report purposes because of errors in the data. As such, we reported our findings based on the supporting evidence.

Regarding recommendation 4, we believe management cannot solely rely on end users for monitoring availability because all outages do not have a help desk ticket. Also, while we understand there is a cost to real-time monitoring, the benefit of monitoring more than five times per day may be beneficial for ensuring that all POS terminal services and tender types are provided to Postal Service customers in a timely manner.

Management's response to recommendation 5 did not address the intent of the recommendation, which was to maintain metrics on the availability of the POS terminals over time. While we understand they have a help desk ticket case rate, this does not measure the availability of POS terminals, but only reflects the outage category for reported help desk tickets. Management does not maintain a metric that is in line with Delivering Results, Innovation, Value, and Efficiency (DRIVE) Initiative 19, which targets meeting availability requirements for critical applications. Also, management does not generate POS outage reports which reflect the unavailability of POS terminals.

Regarding management's comments about our audit methodology, we disagree. As stated earlier in this report, our objective was to assess the availability of four critical Postal Service applications (including POS) and the related monitoring activities. We understand the POS application alone cannot provide the full functionality of services customers expect at the retail counters (use of all tender types) without the availability of the network and hardware. Therefore, the availability of all point of sale components together enable the availability of point of sale services to Postal Service customers. During our review we requested, but did not receive, information to explain the reasons for the POS terminal outages identified and were told this information was not maintained or available. Therefore, we relied on help desk tickets in Remedy; however, the data did not correlate with the data we had on the terminal machines (POS terminal machine name). Further, the additional information provided in the summary document during our exit did not correlate with the information gathered during our audit. As a

result, we reported our findings based on supporting evidence (as discussed in our response to recommendation 3).

The OIG considers recommendation 2 significant, and, therefore, requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective action is completed. This recommendation should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendation can be closed. Due to the small percentage of terminal outages, we do not plan to elevate significant recommendations 1, 3, 4, and 5 for formal audit resolution.

## Appendix A: Additional Information

### Background

The Postal Service's 2013 plan<sup>32</sup> focuses on strengthening core operations and services, while recognizing that its sole existence is to serve its customers. This involves services that allow customers to shop more efficiently and provide innovative solutions that meet their business or personal needs. It also involves leveraging Postal Service strengths by building on the reach and capability of its network and making full use of the power of information to enhance its services.

Currently, the Postal Service is striving to expand its business with customers by providing increased availability of its critical applications. The target availability level for most applications is 99.7 percent and for online applications is 99.9 percent. The DRIVE initiative consists of 24 initiatives for improving business strategies while providing streamlined reporting and accountability. Initiative 19,<sup>33</sup> assigned to the IT group, targets meeting evolving critical business system scalability, performance, and availability requirements through technology and process enhancements. IT groups assisting in this initiative include:

- **IT Performance Achievement**  
Responsible for elevating availability, capacity, and performance transformation to 99.9 percent; and identifying an extreme scale computing roadmap for achieving more than 99.9 percent availability. Typically this group oversees incident and change management (including the IT service desk), capacity and performance, enterprise system monitoring, problem management processes, and related policies. This group recently implemented the ITSM process, which is the coordinated design, implementation, and operation of several widely accepted frameworks, methods, and standards as part of an enterprise IT continuous service improvement program.
- **ESM**  
Reports directly to IT Performance Achievement and provides IT customers with both infrastructure and application monitoring services for distributed systems. They also provide incident management and operations support services for system administrators and application support staff. In addition, they provide 24 hours a day/7 days a week monitoring, notification, information, and operations support services. Although they monitor *PostalOne!-BCSS*, FAST, and usps.com, they do not monitor the POS terminals.

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<sup>32</sup> Vision 2013, *Five-Year Strategic Plan for 2009-2013*, dated October 2008.

<sup>33</sup> DRIVE 19, Achieve Six Sigma IT System Reliability.

- **Solutions Development and Support**

Responsible for baseline IT services, architecture, metrics, and risks, including identification of clear IT value services to business. Specifically, this group is responsible for developing, maintaining, and enhancing of business systems, including overseeing the transition of systems developed by business partners to an internal supported environment and supporting ongoing changes and new functionality.

- **Business Relationship Management**

Responsible for developing the Postal Service's business services map, business needs targets, and business cases. This involves identifying process governance, architectures, and the component tools of the IT services needed to meet the business needs for a range of best-in-class availability; providing specific cost models and implementation roadmaps for availability models; and determining the roadmap and costs for IT services to achieve the business requirements. Typically, this group is responsible for managing the planning, development, deployment, and maintenance of integrated business systems solutions for Finance, Human Resources, Marketing, Enabling, Field Relations, and other administrative support function customers.

- **IT Strategy and Compliance**

Responsible for managing the governance and compliance functions for Postal Service IT for quality continuous improvement. They standardize IT processes and procedures, improve IT processes that drive effective service delivery, and align IT programs with approved strategies for integrated results. In addition, they develop, audit, and define compliance against IT policies, procedures, and standards. This group is also responsible for maintaining and providing the *USPS Office of the CIO Daily Flash Report*<sup>34</sup> for key Postal Service applications that are on the *CIO Watch List* and reported in the CSR system.

POS, with over 45,000 terminals, is the primary hardware and software system used to conduct sales transactions. POS automates retail transactions, enhances the customer experience, and captures transactional data related to products and services sold. As a major revenue reporting system, POS plays a major role in improving customer service and providing employees with the tools required to efficiently and easily provide services. POS terminals can function in stand-alone mode during emergencies and transmit when full network connections are reestablished. Without POS, the Postal Service would have limited ability to service customers and perform accurate analysis of retail activities.

If a POS terminal is not functioning properly, users should report the issue immediately. This would also include a POS failure or a POS terminal in degraded mode. If a terminal is in degraded mode, the retail associate will not be able to accept credit and debit cards transactions via the terminal or perform end-of-the-day closeouts. To report an

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<sup>34</sup> This report is provided to the vice president, IT, to share with the Executive Leadership Team.

issue, a user should contact the designated help desk (currently staffed by a contractor). The help desk troubleshoots the issue and opens a ticket within RITSM. There is no manual process available to cover all of the POS functions; therefore, customers, business partners, and Postal Service revenue may be impacted if the terminals are not fully functional.

The Postal Service plans to replace the current software on all retail systems, including the POS terminals, with RSS in 2014. RSS will provide employees and business partners with tools to perform their jobs, sell retail products, and serve customers more efficiently.

Groups with responsibilities related to POS terminal operations and monitoring activities include:

- Retail Business Technology<sup>35</sup>  
Responsible for managing the development, implementation, maintenance, review, and operation oversight of retail service equipment. The group also manages the lifecycle of multiple platforms of hardware and software solutions such as the POS terminals to support retail business needs related to providing customers with easy access to products and services, customer service, data transactions, and policies. In addition, they manage the Retail Data Mart (RDM),<sup>36</sup> including methodologies for analysis and use of the data collected. Retail managers use RDM reports for operations planning, sales, and market analysis to improve management of product inventory, staffing levels, customer service, and overall store performance. The Retail Business Technology group oversees the vendor contract and works directly with the vendor to manage the POS terminals.
- Desktop Computing<sup>37</sup>  
Responsible for supporting the overall POS network by running scripts that ping the POS terminals to determine network connection. In addition, they develop the *State of Health* reports that provide the overall state of the POS terminals.
- IT Software, Services, and Retail Systems Category Management Centers<sup>38</sup>  
Responsible for managing the contract between the Postal Service and the vendor. The vendor provides support for both the hardware and software of the POS terminals and their help desk troubleshoots any POS terminal-related issues. The help desk uses RITSM, which is the problem tracking and reporting system that is used to keep track of customer reported problems and requests.

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<sup>35</sup> Retail Business Technology is under the Channel Access group.

<sup>36</sup> RDM is a data storage system that houses retail customer transaction information from all POS offices. Daily transmittals of data from offices into the RDM enable the retail organization to track and analyze customer preferences and purchase trends.

<sup>37</sup> Desktop Computing is one of four areas that make up the Enterprise Access Infrastructure group under IT.

<sup>38</sup> IT Software, Services, and Retail Systems Category Management Center is under the Supply Management group.

## Objective, Scope, and Methodology

Our objective was to assess the availability of critical Postal Service applications and related monitoring activities. To accomplish our objective, we reviewed policies, procedures, and processes related to problem, incident, and change management as well as the availability of critical systems. We obtained additional information (Business Impact Assessment, relevant contracts, solution development release schedules, *Yearly National Flash* reports, and *Pulse Check* documents) regarding the in-scope applications from officials in the following areas:

- Channel Access, representing Retail Business Technology and usps.com.
- Consumer and Industry Affairs, representing Enterprise Customer Care.
- Delivery and Post Office Operations, representing Customer Services Operations.
- IT, representing Enterprise Access Infrastructure, Performance and Achievement, Solutions Development and Support, and IT Strategy and Compliance.
- Mail Entry and Payment Technology and Product Information, representing Address Management.

During the survey phase, we obtained and reviewed incident and change data<sup>39</sup> from Remedy; availability information from the *CIO 8-Week Trend*, *Daily Flash*, *Weekly IT* reports and the CSR module; and general and security information documented in the Enterprise Information Repository (EIR) system.<sup>40</sup> As a result, we judgmentally selected four applications for review — FAST, POS, *PostalOne!-BCSS*, and usps.com.

We also reviewed and responded to information obtained via the OIG blog titled *Your Experience with the Customer Experience*. We also collected and analyzed additional incident, change, outage, and availability data<sup>41</sup> on the four judgmentally selected applications to identify systemic issues related to outages and opportunities for improvement. We analyzed CSR availability data and manual adjustment information<sup>42</sup> to verify availability targets were met for FAST, *PostalOne!-BCSS*, and usps.com for specific periods from FY 2011 through April 2013. We also analyzed POS terminal outages listed in emails to determine whether they had corresponding help desk tickets and the reason for the outage. We conservatively calculated the outage duration from the last ping date of the POS terminal to the date the notification email was provided to

<sup>39</sup> Change and incident data for FY 2011 to January 2013.

<sup>40</sup> The EIR provides a centralized storage and access location for standard corporate information resource objects.

<sup>41</sup> Change, incident, and outage data on FAST, *PostalOne!-BCSS*, and usps.com for the period FY 2011 through April 2013 extracted from Remedy, and availability data extracted from the CSR module in the Enterprise Data Warehouse. For POS, we obtained change and incident data from Remedy, data on terminal ping results, *State of Health* reports from the Desktop Computing group, and outage information from the Retail Business Technology group.

<sup>42</sup> We analyzed information on blackout requests, which required adjustments to CSR availability data.

the area coordinators. We reviewed the Enterprise Data Portal (EDP)<sup>43</sup> for pertinent POS information and the *Request Time Out* and *State of Health* reports. Although we assessed availability and terminal outage data on the four applications and reviewed comments from the OIG blog, we did not assess customers' experiences with the services provided by these applications.

We conducted this performance audit from September 2012 through September 2013 in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We discussed our observations and conclusions with management on August 14, 2013, and included their comments where appropriate.

We assessed the reliability of the reported availability levels of the FAST, *PostalOne!*-BCSS, and *usps.com* applications by reviewing the detailed outage data (including outage dates, time, and duration) from CSR, along with blackout reports for FYs 2011 through 2013. We also interviewed agency officials knowledgeable about the data and determined that the data were sufficiently reliable for the purposes of this audit.

### Prior Audit Coverage

In our report titled *Fiscal Year 2010 PostalOne! Outage* (Report Number [FF-AR-10-205](#), dated August 5, 2010), we reported that the February 2010 *PostalOne!* outage impacted mail acceptance operations and revenue collection efforts nationwide. Although the Postal Service implemented a contingency plan during this period, it was not adequately prepared to manually support operations during such an extended outage. In addition, employees did not record revenue for mailings received during this period until the system returned to full operation. Further, the Postal Service's reliance on a system that has frequent interruptions in availability could impact successful remediation of an existing significant deficiency related to business mail acceptance. We identified monetary impact totaling \$355,107.

We made two recommendations to update and test the contingency plan to provide for the performance of key mail acceptance procedures in the absence of *PostalOne!* and test the remediation controls identified to address gaps related to *PostalOne!* interruptions that affected efforts to remediate the significant deficiency. Management agreed with both recommendations.

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<sup>43</sup> The EDP provides information on the POS terminals such as facility location, machine name, last ping date, and last EDM connection date.

## Appendix B: Other Impacts

Recommendation	Impact Category	Amount
3	Revenue at Risk <sup>44</sup>	\$2,319,253
4, 5	Improved Service <sup>45</sup>	None

We estimated revenue at risk of \$2,319,253 by calculating the average daily debit and credit walk-in revenue for a POS terminal.

- We calculated the average debit walk-in revenue for a POS terminal by dividing the total FY 2012 debit tender walk-in revenue of [REDACTED] by 365 days and by 45,853 terminals, which equals [REDACTED].
- We calculated the average credit walk-in revenue for a POS terminal by dividing the total FY 2012 credit tender walk-in revenue of [REDACTED] by 365 days and by 45,853 terminals, which equals [REDACTED].

We projected the total revenue at risk for the 8-week period back 2 years and forward through December 31, 2013 (see Table 2).

**Table 2: Other Impact, Revenue at Risk**

Tender Type	Average Daily Rate	Revenue at Risk for 8-Week Period	Annual Revenue at Risk	Total Revenue at Risk
Debit	[REDACTED]	[REDACTED]	[REDACTED]	\$ 798,904
Credit	[REDACTED]	[REDACTED]	[REDACTED]	1,520,349
<b>Total</b>		<b>\$124,523.63</b>	<b>\$809,403</b>	<b>\$2,319,253</b>

Source: OIG calculation.

<sup>44</sup> Revenue the Postal Service is at risk of losing (for example, when a mailer seeks alternative solutions for services currently provided by the Postal Service).

<sup>45</sup> Initiatives aimed at expanding and improving the quality of and access to products and services that serve the entire spectrum of the Postal Service customer base.

## Appendix C: Management's Comments

KELLY M. SIGMON  
VICE PRESIDENT, CHANNEL ACCESS



September 16, 2013

Judith Leonhardt  
Director, Audit Operations  
Office of Inspector General  
1735 North Lynn Street  
Arlington, VA 22209-2020

SUBJECT: OIG Report Number IT-AR-13-DRAFT – Availability of Critical Applications

This letter is in response to Draft Management Advisory Report – Availability of Critical Applications (Report Number IT-AR-13-DRAFT) dated August 23, 2013.

Management notes that the audit methodology did not measure the availability of the POS One application as stated in the introduction, but rather measured the availability of the network, the hardware, and other factors that may influence the full functionality of retail point of sale. For example, of the 82 helpdesk tickets provided to the OIG, 52 (57%) were for network outages. In addition, the report did not take into account terminals that were offline (not available) due to planned reasons such as special events, mobile vans, and post office closures or relocations. The USPS summary data indicates that 89% (82) of the terminals identified had helpdesk tickets.

Management does not agree with the assessment of \$809,403 revenue at risk due to the unavailability of the POS One application. As part of our Standard Operating Procedures, our Sales and Service Associates are able to conduct cash transactions either in degraded mode on the POS terminal or manually.

Specific responses to the report's recommendations are listed below:

Recommendation 1:

We recommend the vice president, Channel Access, direct the manager, Retail Business Technology, to:

Develop guidance for all Point-of-Service (POS)–Retail associates on responding to an outage or a POS-Retail terminal in degraded mode.

475 L'ENFANT PLAZA SW  
WASHINGTON DC 20260  
202-268-2252  
Fax: 202-268-6269  
[www.usps.com](http://www.usps.com)

Management Response/Action Plan:

Management disagrees. Guidance currently exists in the form of FAQs, Procedures Guides, and Contingency Plans.

Recommendation 2:

We recommend the vice president, Delivery and Post Office Operations:

Provide the guidance developed by the Retail Business Technology group for Point-of-Service (POS)–Retail users on how to respond to an outage or a POS–Retail terminal in degraded mode.

Management Response/Action Plan:

Management agrees to distribute communication via the Retail Digest reminding employees of the proper procedures referencing the guidance that currently exists.

Recommendation 3:

Document and provide oversight to ensure users of Point-of-Service–Retail terminals at all Postal Service sites immediately report all terminal outages and issues to the designated help desk.

Management Response/Action Plan:

Management disagrees: The data provided the OIG by RBT prior to the issuance of this report indicates that employees call the helpdesk when there is an issue with a POS terminal per established procedure. The POS One helpdesk receives 600-700 call per day further substantiating that employees are aware of the procedures.

Recommendation 4:

We recommend the vice president, Channel Access, in coordination with the vice president, Information Technology:

Assign responsibility for conducting real-time monitoring of Point-of-Service–Retail terminals and developing a process for timely reporting outages and degraded issues.

Management Response/Action Plan:

Management disagrees. End users are an effective way to monitor POS One systems when they are needed for use. Their experience with the system and the issue reported enables the helpdesk to more effectively and efficiently trouble shoot and resolve the issue.

Further, establishing an accurate and comprehensive technical solution to provide real-time monitoring of 45,000+ terminals at 17,000+ locations represents a major effort. The current technical capabilities used in support of POS are based upon a central system attempting to connect to each of the 45,000+ terminals. This is a batch process that is not feasible to run more often than once every two hours and under normal circumstances runs five times per day. Failure to connect would not

necessarily imply the terminal was offline or in a degraded mode. Implementing a real-time monitoring system/approach would require the acquisition or development of new software to run both at the terminal level and at multiple server levels. This would be a costly effort, both in acquisition or development and also in operating such a process. And the benefits to be gained compared to the information provided by the current batch monitoring do not justify such costs.

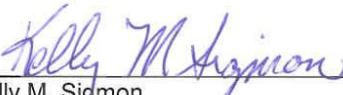
Recommendation 5:

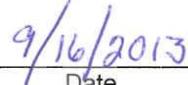
Develop and maintain metrics and reports on the availability of Point-of-Service—Retail terminals over time.

Management Response/Action Plan:

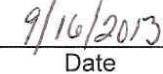
Management currently uses a helpdesk ticket case rate to measure any issues experienced with the POS One system. The case rate is reviewed on a quarterly basis and the details analyzed and reviewed with the vendor to continuously improve system availability.

Any revenue data in this report should be exempt from disclosure under the Freedom of Information Act (FOIA) due to its confidential nature as under good business practices, it would not be publically disclosed.

  
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Kelly M. Sigmon  
Vice President, Channel Access

  
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Date

  
\_\_\_\_\_  
John T. Edgar  
Vice President, Information Technology

  
\_\_\_\_\_  
Date

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cc:    Ellis Burgoyne  
      Nagisa M. Manabe  
      John T. Edgar  
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      Robert Dixon  
      Larry K. Wills  
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