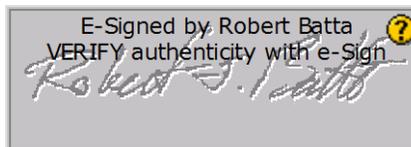




August 6, 2013

MEMORANDUM FOR: EDWARD F. PHELAN, JR.
VICE PRESIDENT, DELIVERY AND
POST OFFICE OPERATIONS

MICHAEL J. AMATO
VICE PRESIDENT, ENGINEERING



FROM: Robert J. Batta
Deputy Assistant Inspector General
for Mission Operations

SUBJECT: Management Alert – Delivery Data Transmission
(Report Number DR-MA-13-003)

This management alert presents an issue regarding delivery data transmission that came to our attention during our review of the U.S. Postal Service's scanning technology (Project Number 13XS002DR000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Rita F. Oliver, director, Delivery and Post Office Operations, or me at 703-248-2100.

Attachment

cc: Megan J. Brennan
Ellis A. Burgoyne
Scott R. Bombaugh
Corporate Audit and Response Management

Introduction

While collecting information about scanning technology, we came across a data transmission problem that requires action. The U.S. Postal Service is deploying cell phones for carriers to use in conjunction with Intelligent Mail™ Data (IMD)¹ scanners to provide wireless transmission of data.² The cell phones will enable transmittal of the IMD's delivery scan information to customers within about 15 minutes of the actual package delivery scan event — the same amount of time that it takes other package delivery companies.

The Postal Service has been proactive in investing in cell phones as an interim solution for providing real-time delivery information. The cell phone and IMD scanner combination is an interim step between the stand-alone Intelligent Mail Device Acquisition System (IMDAS) and a fully integrated next generation, single device scanner. This step is a critical and necessary enhancement for providing the Postal Service with real-time scanning capability in order to remain competitive and grow its package business. The Postal Service has no established date for purchasing the single device scanner.

Conclusion

Providing cell phones for carriers has been a huge undertaking for the Postal Service and it has made tremendous strides. However, the Postal Service has not been able to transmit all package delivery data³ collected by carriers because phones were not always paired with a scanner (ranging from about 55 percent to 29 percent of the time, over a 10-day deployment). This occurred because scanners do not have the proper wireless connection⁴ to the associated cell phone each day to ensure data is transmitted. The ability to monitor these carrier connections is currently limited. Without this connectivity capability, the Postal Service could be at a competitive disadvantage because it cannot provide real-time delivery information to its customers. This could cause a loss of the parcel market share and in revenue as well as adversely impact its brand image.

¹ A handheld scanner with a barcode reader and built-in imager.

² In November 2012, a Decision Analysis Report was approved for \$26.2 million to purchase and deploy 173,310 clamshell cell phones (cell phones) to rural and city carriers to provide customers with near real-time delivery information. By the fall of 2013, carriers will use the cell phones along with the IMD scanners to scan packages on about 80 percent of 211,911 letter carrier routes. Deployment is ongoing and is scheduled to conclude by the end of fiscal year 2013.

³ Real-time visibility is defined for this review as “delivery scan information transmitted to the customers within about 15 minutes of the actual scan event.”

⁴ Delivery personnel use the IMD scanner to scan the barcode on the cell phone and wirelessly connect the two devices via Bluetooth technology.

Scanning Connectivity

The development and deployment of cell phones for carriers has been a huge undertaking for the Postal Service and it has made tremendous strides fielding the initiative. However, the Postal Service has not been able to always timely transmit the status of package delivery to customers. We found that the percentage of cell phones not paired with scanners ranged from 29 to 55 percent between May 6 and June 20, 2013. The Postal Service deployed 101,632 cell phones during this time period. This occurred because the cell phones and IMD scanners were not always properly connected.

In February 2013, the Postal Service gave an IMD wireless introduction stand-up talk describing the process for pairing cell phones with scanners for real-time delivery visibility. To pair or connect a cell phone with an IMD scanner, the carrier must use the scanner to read the barcode on the phone (see Figure 1) and then complete the rest of the scanner setup process. Once the cell phone is paired with the scanner, carriers are required to carry the cell phone at all times as they use their IMD scanner while performing delivery or pick-up duties.

Figure 1. Pairing Scanner and Cell Phone



Source: U.S. Postal Service Office of Inspector General (OIG) photograph taken April 4, 2013.

Furthermore, we visited delivery units in three districts and found that it was difficult for delivery unit management to know whether carriers had paired their cell phones with scanners; therefore, they could not address the issue.

This condition has occurred because:

- Refresher training is required. Carriers were not always ensuring that cell phone/scanner connections were successful by checking the display messages showing whether or not the connection was made. This could be a training issue for some carriers; however, when managers can monitor connectivity more easily at the route level, they can determine the causes of non-connectivity and address them appropriately.

- There are equipment software issues. Neither the cell phones nor the IMD scanners have an indicator on the screen showing that the two devices are connected. Management informed us that an onscreen indicator will be a part of a software release in the summer of 2013.
- There is a lack of simplified reports for monitoring status. The IMDAS contains a report showing the total number of cell phones not paired with IMD scanners for the day. Postal Service Engineering officials⁵ had been providing a report periodically to area and district personnel; however, this report does not identify by route those cell phones that do not timely transmit data. As of June 2013, a web link is available to view the daily report; but it is only available to delivery unit-level and not route-level. The current reporting data also does not show whether a cell phone assigned to a carrier/route connected with the scanner, which disconnected and stayed disconnected. Engineering currently only tracks whether the two devices connected at least once during the day. Engineering officials stated this data would be helpful and will add the data to their future reporting, at our suggestion.

Recommendations

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

1. Issue guidance on conducting a refresher stand-up talk to carriers showing how to connect cell phones and Intelligent Mail Data Devices and noting the importance of the connection.

We recommend the vice president, Engineering:

2. Ensure that an onscreen connectivity indicator is installed on either carrier cell phones or Intelligent Mail Data Device scanners.
3. Modify the *Intelligent Mail Device Acquisition System* report for delivery unit management to provide unit- and route-specific information on cell phones and Intelligent Mail Data Device scanner connectivity.

Management's Comments

Management agreed with the findings and recommendations. Management noted that during meetings with OIG, these issues were discussed and corrective actions were being developed by the program offices.

For recommendation 1, Delivery and Post Office Operations has taken corrective action during July 2013. Management stated the initial stand-up talk issued on scanners has been updated, deleting information on the previous technology and including the new

⁵ Engineering officials told us they want to improve reporting for delivery unit management that would more easily detail pairing status by route. They are planning to include this in part of a future software release.

IMDAS technology enhancements. Management also stated they reissued the directive to all districts to utilize for new deployments. They also directed all districts to re-issue the stand-up talks on cell phone pairing to previously deployed sites by the end of August 2013. Furthermore, all future cell phone shipments from the vendor will include "kitting" that includes the most current version of the stand-up talk.

For recommendation 2, management stated they implemented corrective action in June 2013. They installed an onscreen connectivity indicator on the scanner to allow the user to readily identify the status of the pairing.

For recommendation 3, Engineering stated they provided an initial website in May 2013 for area and district level delivery management to monitor cell phone use and connectivity on a daily basis. The website is being modified with new and ongoing developments. Management also stated in the new release of the Regional Intelligent Mail System, they are modifying and updating the IMDAS reporting software to include unit and route specific information on cell phone and scanner connectivity. The target implementation date is October 2013.

See [Appendix A](#) for management's comments, in their entirety.

Evaluation of Management's Comments

The OIG considers management's comments responsive to the recommendations and corrective actions should resolve the issues identified in the report.

Management indicated in their comments they provided a website for area and district level delivery management to monitor cell phone and scanner connectivity in May 2013. As of June 2013, a web link was made available to view the daily report, but the report showed data at the delivery unit-level and not route-level. Further, the report did not show whether a cell phone assigned to a carrier/route were connected or disconnected with the scanners. Once management fully implements recommendation 3 it will address these deficiencies.

The OIG considers all the recommendations significant, and therefore requires OIG concurrence before closure. Management has completed corrective actions on recommendations 1 and 2 and these can be closed with the issuance of this report. The OIG requests written confirmation when corrective action is completed for recommendation 3. 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.

Appendix A: Management's Comments



July 24, 2013

JUDITH LEONHARDT
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Draft Management Alert-Delivery Data Transmission Issue
Report #-DR-MA-13-DRAFT

USPS management representatives from both Delivery Operations and Engineering Systems met with the Office of Inspector General (OIG) to discuss wireless transmission efforts underway in FY 2013. During these meetings the USPS offered information and raised concerns regarding the deployment of the wireless device and described fixes that were already in development by the program office to correct known challenges facing the deployment.

The Management Alert-Delivery Data Transmission Issue is simply a recap of information about the issue as told to the OIG by USPS management during these meetings. Also, the fixes already being put into place at the time of those initial meetings, as well as those planned for the October 2013 software update are what the OIG has put into this Management Alert as "Recommendations". Therefore USPS management agrees with the recommendations and has already implemented fixes in several instances, and continues to work on others to further improve the deployment and mitigate data transmission issues. A more detailed response by recommendation is below:

Recommendation #1:

We recommend the vice-president, Delivery and Post Office Operations: Issue guidance on conducting a refresher stand-up talk to carriers showing how to pair the devices and noting its significance

Management response: Agree. The carrier stand-up talk on the initial deployment of scanners has been updated to include technology enhancements captured in the Intelligent Mail Device Acquisition System (IMDAS) v5.2 release that occurred the week of June 21, 2013. The stand-up was modified to delete references to old procedures and updated to include the new processes and enhancements. We re-issued the service talk with directions for Districts to utilize for all new deployments. Additionally, Delivery and Post Office Operations will direct districts to re-issue the stand-up talk on cell-phone pairing, to all previously deployed sites with a completion date of end of August 2013. Additionally, all future deployments of IMD wireless technology shipped from the vendor (AT&T) will include "kitting" that represents the most current version of the

stand-up talk. This will help minimize any version issues relative to stand-up talks as well as ensuring the most current dissemination of information.

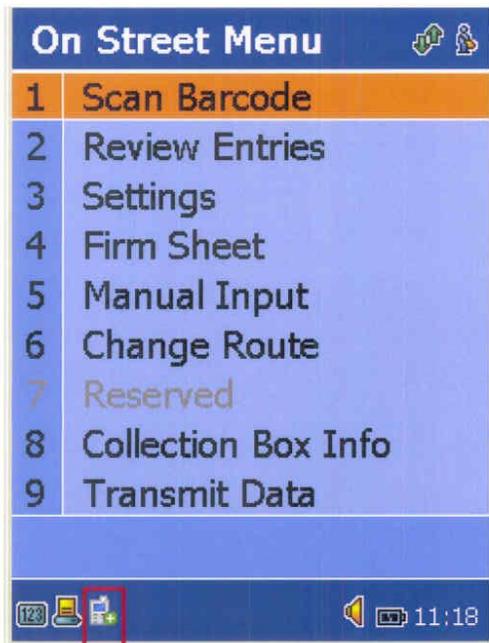
Target Implementation Date: Completed July 2013

Responsible Manager: Philip F. Knoll, Jr.

Recommendation #2:

We recommend the vice-president, Engineering: Ensure that an indicator is installed on the equipment.

Management response: Agree. Pairing indicator was included in the IMDAS v5.2 release of this past June. IMDAS scanners, when successfully paired with an IMD wireless device, display an icon on the IMDAS (fig.1) to indicate a visual representation of a successful "pairing". Additionally, an icon will appear on the IMD to indicate when communications between the IMD and the cell phone is in progress. This will allow the user to more readily identify the status of the pairing and communications start, progress and termination. These icons did not appear on the IMD in the previous version of software.



Icon to indicate the Bluetooth connection between IMD and Cell phone



Icon to indicate background wireless communication is in progress

Target Implementation Date: Completed June 2013

Responsible Manager: Charles P. McLellan

Recommendation #3:

We recommend the vice-president, Engineering: Modify the IMDAS report for delivery unit management to provide unit and route specific information on cell phone and scanner connectivity.

Management response: Agree. Engineering has provided an initial website for delivery unit management to use at the Area and District level to verify scanner use and cell phone connectivity on a day by day basis. The site can be accessed at: <http://engtools-web1.eng.usps.gov/Ethos>

The site allows users to monitor site deployment activity at the site/district/Area level. The website was initially deployed in May of 2013 and is undergoing modification and updates as development is ongoing.

In the upcoming release of the RIMS, Regional Intelligent Mail System, the supervisor will have access to the unit and route specific information on cell phone and scanner connectivity. This software is currently undergoing testing and is scheduled for an October 2013 release to field operations.

Target Implementation Date: October 2013

Responsible Manager: Charles P. McLellan

This report and management's response do not contain information that may be exempt from disclosure under the Freedom of Information Act (FOIA).

for 
Edward F. Phelan, Jr.
Vice President
Delivery and Post Office Operations


Michael J. Amato
Vice President
Engineering Systems

cc: Megan J. Brennan
Ellis A. Burgoyne
Scott R. Bombaugh
Corporate Audit and Response Management