
POSTAL AUTOMATED REDIRECTION SYSTEM – THE USPS SOLUTION

Randall Root
Program Manager, Image and Telecommunications Technology
United States Postal Service

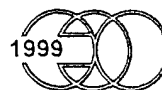
Edward J. Kuebert
Manager, Image and Telecommunications Technology
United States Postal Service

Abstract

Redirection (or forwarding) mail service is provided to U.S. Postal Service (U.S.P.S.) customers free of charge, however the cost to process and deliver redirected mail is substantial because the redirection requirement is not currently recognized until the mail reaches the carrier (destination). Additionally, the operation is mechanized and uses outdated and obsolete controls, so technical improvements are difficult to migrate into the system. Redirected letter mail incurs delivery delays greater than normal service standards. As the USPS faces increased competition from alternative communication methods, redirection is one facet of letter mail processing where efficiency can be increased with advanced technology.

Engineering studies indicate that redirected mail can be processed more efficiently if the mailpiece is identified at the *originating* plant (or at point of entry) and redirected towards the proper destination. This eliminates the cost and delay of processing and capturing the mailpiece at the initial destination, then redirecting it to the forwarded address.

The Postal Automated Redirection System (PARS) is currently in development for pilot testing in 2000. The design implements point of entry redirection and utilize the existing automated mail-processing infrastructure. PARS integrates advanced recognition system technology and automation speed transports into an automated redirection processes. This paper outlines the PARS concept, and provides insight into the redirection process expected in the future.



POSTAL AUTOMATED REDIRECTION SYSTEM – THE USPS SOLUTION

Introduction

Point of entry redirection is the goal of the U.S. Postal Service design strategy during development of the PARS. Of the more than 100 billion first class mailpieces processed by the USPS in 1998, over 3% required redirection. This provides an opportunity for significant cost savings as the redirection processes are automated and streamlined. In the past ten years, Optical Character Recognition (OCR) technology and the Remote Barcoding System (RBCS) for OCR read rejects have been fully deployed in our letter mail environment. Our automation program now gives us the capability to barcode and sort nearly all letter mail to the carrier route walk sequence, utilizing an 11 digit delivery point code. Processing technology now can be developed for potential redirection identification during initial processing, staging the physical mail, using our RBCS strategies to direct images for further computer or manual recognition, and print, label and sort redirection mail at high speeds.

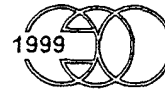
With over 300 automation capable processing facilities in the United States, any changes made to our infrastructure are serious endeavors. The strategy of the USPS is to inject our redirection process with a new state of the art strategy and technology.

Helping Others Help Us

The USPS has several programs in place to help business and individuals properly address letters to the intended destination. For every avoided redirection piece, processing costs are reduced.

Sixty five percent of letter mail volume processed by the USPS is prebarcoded by business customers using directory databases maintained by the USPS. To support redirection of the prebarcoded mailstream, the National Change Of Address (NCOA) service is supplied to major mailers to update their mailing lists periodically. This avoids the initial misdirection of letter mail to the old address.

Another service to help update mailer directory lists is the Address Correction Service (ACS). An endorsement "Address Correction Service Requested" is applied to the return address on letter mail when the mailer wants to be notified that a customer has moved. With this endorsement on a mailpiece, the USPS responds to the mailer with a new address when redirected mail is first encountered in our system. Either electronic or reply card response is available to the customer.



*also MLC
not just
presort
companies*

The most advanced product currently in use is a product called FASTforward.

- FASTforward is a device that is licensed to customers using OCR technology.
- The customers who use Fastforward are large volume presort companies. FASTforward intercepts the OCR's alphanumeric result and compares it to a redirection database. If there is a confirmed move pending, the new address is printed on the mailpiece along with the Postnet barcode.

Redirection at Point of Entry

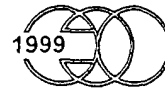
*NCOA
and strict
matching
guidelines
are
met,*

The key to a point of entry solution for redirection is recognizing a potential redirection mailpiece and obtaining 'confirmation' that a mailpiece is in fact to be redirected. In the United States, an 11-digit numeric code uniquely identifies each delivery point in the country. For redirection confirmation, the delivery point barcode and the name of the customer as addressed must be positively confirmed with an entry in the national "Change Of Address" (COA) database. If an entry exists, there is confirmation and the mailpiece can be diverted into the redirection process, which allows processing to the final, proper destination without delay. Without this crucial step, the mailpiece must be processed to the customer addressed destination, manually identified and handled by the carrier, then rehandled and sent to the redirection process in the local plant. Point of entry redirection avoids the intermediate, inefficient, time and labor consuming step in delivery.

PARS Process Flow

In a Processing and Distribution Center (P&DC), every effort is made to process letter mail with automated equipment. More than 35% of the mail that enters the mailstream will pass the scanning and OCR functions that provide the ability to automatically derive the 11digit barcode. (The other 65% arrive as prebarcoded by mailers and are directed to barcode sorters.) PARS will utilize the Advanced Facer Canceler / Optical Character Reader- Input Subsystem (AFCS/OCR-ISS) and MLOCR-ISS (Multiline Optical Character Reader - Input Subsystem) to scan the images and process the address line data. (See Figure 1)

With PARS, the automation equipment will process the customer name when the delivery point postcode is associated with a COA notification. The ISS's receive a bitmap from the National Customer Service Center (NCSC) via the Change of Address Record Server (CARS) that contains the 11 digit delivery point postcode / COA correlation. When the mailpiece is flagged as potential COA, the customer name OCR read result is compared to the expected customer name provided by CARS (containing customer name records) and a confirmation is



are these located at P&DCs only or at customer sites?

obtained. The successful identification of an intercepted mailpiece directs the OCR to flow the image to the Redirection Image Controller (RIC) for processing at the Computer Forwarding System (CFS) site. The RIC uses the Advanced Forwarding Reader (AFR) and / or the Video Coding Desks to finalize the endorsement processing (such as Address Correction Service or Do Not Forward). It should be noted that this effort is accomplished in an image processing environment. The physical mailpiece is staged while this electronic effort occurs.

At the processing facility, there is a new platform called the Combined Input / Output Subsystem (CIOSS). New high speed labelers along with ink jet printers will allow label and printing application at automation speeds, in excess of 20,000 pieces per hour. The CIOSS communicates with the RIC during intercepted mail processing, prints and applies the forwarded address information. The Image Processing Unit (IPU) also has access to the CARS, and will flag and forward images to the RIC when potential intercepted images are flagged as a result of deriving the delivery point postcode. However, the IPU will not process the customer name information, forwarding this process to the RIC and AFR and Video Coding Desks. The mailpieces with the redirection address applied at the CIOSS will then flow back into the mailstream, to Delivery Barcode Sorters (DBCS) or Carrier Sequence Barcode Sorters (CSBCS).

Changing Processes at the CFS Site

Will the "address matching" utilize the FF criteria & will it be on the P&DCs equipment?

The Computer Forwarding System site (CFS) is the current processing operation for redirection. The Forwarding Computer System server (FCS), Housekeeping Control Computer (HCC) and their terminals perform today's processes. With the introduction of PARS, their role will diminish with each success at point of entry interception, but CFS is not expected to be eliminated. PARS will expand at the P&DC to intercept increasing volumes of letter mail and possibly flats, and the image processing and coding will grow at the CFS site while manual keying is reduced. One process expected to complement the existing system is the mail identified at the local delivery unit, coming back to the local CFS site. This mail is generally pre-barcode and bypasses the OCR, etc. With a CIOSS, the process can be automated to lift the image in Input Subsystem mode, process the address using the AFR and coding desks, and apply forwarded address labels using the Output Subsystem mode. Other roles of the PARS at the CFS site will be the processing of COA forms used by the customers to notify the Postal Service of a move or scheduled move, using the CIOSS and AFR / Coding Desks and the ACS notification using a cut and paste strategy with the image. Both processes are labor intensive and are expected to become significantly more efficient with PARS.



Conclusion

The USPS provides universal mail service to every resident in the country. We are striving to become more efficient in our existing processes and develop technology that helps us maintain high standards in the face of competition and changing markets. With PARS, we are automating another part of our mail processing operation by driving research and development to implement new applications that take advantage of OCR and higher speed transport platforms. PARS will become more cost effective and will allow the USPS to take another step towards a twenty-first century Postal Service.

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