Label Printing

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1.   Introduction

The purpose of this note is to describe how Horizon behaves when printing labels during Postal Services Acceptance (aka PS12). Specifically it describes the behaviour when labels fail to print.

Note that it is also possible to print a label from an AP-ADC script. The same principles apply, but no specific tests were carried out in that scenario.

2.   Overview

Postal Service Acceptance operates in a number of phases. At a high level the stages are as follows:

1. User (ie counter clerk) identifies weight of item, destination (ie UK or which foreign country), number of items and specific preferences (eg Guaranteed delivery)

2. System then presents a list of Postal Services that meet those criteria together with prices.

3. User selects the required service

4. If appropriate, any add on services are selected

5. User identifies whether item is pre-paid, or requires a label or stamps.

    Note that the available options are defined in Postal Service Reference Data (controlled by Post Office Ltd) and may depend upon the service selected and also the value and weight of the item.

6. If label is selected, a label is then printed for each item (if more than one item)

7. When all labels are printed, then a single item is added to the customer's basket and any required Certificates of Posting are printed.

8. Other items can be added to the basket, and the customer is then asked to pay for the items in the basket and appropriate tender items are added to the basket.

9. The basket is then settled.

3.   Error Handling

Clearly, when labels are being printed, failures may occur during the printing process. The following describes the process of printing a label in more detail:

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1. User requests that a label is printed

2. An Event is recorded in the audit trail that a label print has been requested and this is immediately secured to the Horizon Data Centre

3. Once the Event has been successfully recorded, the label information is sent to the printer and the User is expected to insert a label into the printer for printing.

4. Failure to insert a label or a failure during printing a label results in a failure message being displayed. Also a Rejected label report is sent to the Tally Roll on the printer and a Rejected label transaction is included in the customer's basket.

5. If the system believes that it has successfully printed the label, the User is then asked if the label printed OK, to which they need to select Yes or No. If "No" is selected, then again a Rejected Label Report is produced and a Rejected Label transaction is added to a customer's basket.

   This is to handle the case where the label may be illegible or have become unusable in spite of apparently printing OK.

6. If the user says it was printed OK, then printing is considered to be complete.

7. If the printing failed (ie at step 4) or the User indicates that no useable label was produced (at step 5) and a Rejected Label Report has been generated, then the system returns to the screen described in section 2 step 5, when the user can choose to have another attempt at printing a label, or select an alternative mechanism (such as stamps).

3.1 Posting a Single Item

In the simple case of a single item being posted, then a single Basket Entry appears on the Customer Stack visible on the clerk's screen. However should a Rejected Label Receipt have been produced, then this will be visible as a zero value transaction on the Customer's receipt (should one be printed).

If the User subsequently looks at the Transaction Log, then multiple entries will be found in each case. For example in the case where a single first class item weighing 1,000gms is processed for £3.20, and the initial label print failed, but a second attempt worked OK, then the following items will appear on the transaction log:

1. 1st Class, Qty = 1-, amount £3.20-

2. Post Label 1SP, Qty 1-, amount 3.20-

3. RM Label Balance, Qty 1, amount 3.20

4. RejPostLabel 1SP, Qty 1-, amount 3.20-

5. RM Label Balance, Qty 1, amount 3.20

6. Followed by the customer's settlement eg cash, Qty 1, amount 3.20

Note that should multiple attempts be made printing the label before a successful attempt, then there will be multiple Rejected label entries on the customer receipt (if any) and pairs of items like steps 4 and 5 above in the Transaction Log.

Should attempting to print a label be abandoned, and another option such as stamps is selected, then the item at step 2 above would be replaced by an item for product stamps again with a Qty of 1- and value of £3.20-.

3.2   Posting Multiple Items

It is possible for some services (generally those that don't require barcodes or address information, but controlled by Reference Data) to indicate that there are a number of identical items to be posted as a single basket item. This is achieved by settling Qty to a value greater than 1 at (or before) step 1 in section 2.

In this case, if the option to print a label is selected at step5 in section 2, a separate label is printed for each item (ie Qty times). Each such label print goes through the process described in section 3. This can result in a number of Rejected label receipts and corresponding items on the Customer's receipt and the Transaction Log.

Taking the case of Qty set to 2 where both labels printed eventually, but with 2 rejected labels, then the Transaction Log will look as follows:

1. 1st Class, Qty = 2-, amount £6.40-
2. Post Label 1SP, Qty 1-, amount 3.20-
3. RM Label Balance, Qty 1, amount 3.20
4. Post Label 1SP, Qty 1-, amount 3.20-
5. RM Label Balance, Qty 1, amount 3.20
6. RejPostLabel 1SP, Qty 1-, amount 3.20-
7. RM Label Balance, Qty 1, amount 3.20
8. RejPostLabel 1SP, Qty 1-, amount 3.20-
9. RM Label Balance, Qty 1, amount 3.20
10. Followed by the customer's settlement eg cash, Qty 1, amount 6.40

However should label printing be abandoned part the way through, and stamps selected for the remaining items, then 2 items will be visible in the customer's on screen basket and on the receipt (as well as an item on the receipt for each Rejected label)

Taking an example of Qty being set to 10 and the first 3 labels print OK, the 4th then fails twice and the remainder is handled by stamps, then the transaction log will be as follows:

1. 1st Class, Qty = 3-, amount £9.60-
2. Post Label 1SP, Qty 1-, amount 3.20-
3. RM Label Balance, Qty 1, amount 3.20
4. Post Label 1SP, Qty 1-, amount 3.20-

5. RM Label Balance, Qty 1, amount 3.20

6. Post Label 1SP, Qty 1-, amount 3.20-

7. RM Label Balance, Qty 1, amount 3.20

8. RejPostLabel 1SP, Qty 1-, amount 3.20-

9. RM Label Balance, Qty 1, amount 3.20

10. RejPostLabel 1SP, Qty 1-, amount 3.20-

11. RM Label Balance, Qty 1, amount 3.20

12. 1st Class, Qty = 7-, amount 22.40-

13. Stamps, Qty 1-, amount 22.40-

14. RM Label Balance, Qty 1, amount 22.40

15. Followed by the customer's settlement eg cash, Qty 1, amount 32.00

The customer's receipt will also show 2 separate items (one with Qty = 3 and the other Qty = 7) for the postage and also the 2 rejected labels.