

## POCL Horizon Programme Bringing Technology to Post Offices and Benefit Payments

# CONTINGENCY OPTIONS FOR NON-AVAILABILITY OF EPOSS FEED TO TIP

Author:Bob Booth/Jeremy FolkesVersion: Issue 1.0Authority:John Meagher12th January 1999

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### 1. PURPOSE

- 1.1. This paper explores various contingency options which could be considered to allow Horizon New Release 2 to go ahead in the absence of a proven capability of the ICL Pathway solution to feed the POCL iTIP system.
- 1.2. Nothing contained within this paper shall be deemed or construed as affecting existing contractual obligations between ICL Pathway, the DSS and/or POCL.
- 1.3. Given the sensitive nature of the paper, it has not been subject to widespread consultation, and in particular this work has not involved ICL Pathway. The assistance of Peter Jones and Martin Box of the TIP project is, however, gratefully acknowledged.

#### 2. BACKGROUND

#### 2.1. Overview

- 2.1.1. The EPOS service being developed by ICL Pathway as part of the Horizon programme includes in its design a feed of data to the POCL back end systems via the TIP interface. This interface consists of various file types that contain transactions, client summaries, BES summary transactions, stock information and an electronic version of the Cash Account. EPOSS is intended to be, in part, data driven, through data provided to ICL Pathway from the POCL Reference Data Project (RDP) which ties into the TIP system that is also fed by RDP.
- 2.1.2. During the Model Office and End to End test phases with the ICL Pathway Horizon solution, significant problems have been experienced in using the data stream provided by ICL Pathway. It is believed that ICL Pathway may not be able to fix these problems within the necessary timescales to enable the full data feed to TIP to be proven without causing a severe impact on the New Release 2 timescales.
- 2.1.3. Given the political and commercial imperatives around these timescales, it has therefore been deemed prudent to consider possible contingency arrangements involving alternative feeds to the POCL back end systems should these problems not be resolved for New Release 2.



### 2.2. Errors being experienced

- 2.2.1. The problems that have been experienced include:
  - inability to make files available to TIP;
  - no balanced cash accounts in first phases of testing;
  - files containing wrongly dated transactions;
  - files containing incorrect versions of reference data;
  - files containing 'spurious' outlets, not known to RDP or TIP;
  - files containing transactions that cannot be performed according to the submitted reference data and business rules - causing TIP to abnormally end (abend) processing;
  - files resubmission taking several days and then being rejected as the 'hand crafted' fixes invalidate the file integrity - totals etc..
- 2.2.2. As can be seen, the problems being experienced appear to be occurring across the board and are not confined to one or two specific areas. This means that that there is not just one area that is deficient and in need of attention but several.
- 2.2.3. The problems are believe to be wholly within the ICL Pathway domain, in that the output files from Pathway are non-compliant with the agreed Application Interface Specification. To date, during the Model Office Rehearsal and End to End phases, there have been no significant faults raised on TIP as a result of the testing with ICL Pathway.
- 2.2.4. There is no evidence to suggest that the 'content' errors are confined to the feed to TIP. Indeed the nature of the problems would suggest that the paper reports and processing within the outlet would be suffering many of the same faults as the resultant feed to TIP. The computerised nature of TIP makes such faults easier to find and more rigorous than any manual checking that may be being performed.
- 2.2.5. It is also possible that transactions can be performed outside of POCL's expectations by non-enforcement of the reference data rules. The resultant transaction will not have a place on in-outlet reports including the cash account and may therefore 'disappear', only appearing on the TIP transaction stream.



### 2.3. Mitigation

2.3.1. Work is ongoing to address the faults in the system. Several faults are attributable to the testing environment itself and would not be anticipated in true running. However, MOR/MOT and E2E are not user acceptance testing, and the Horizon Service should have been functionally tested before entry to this phase and thus several of the faults should not have occurred.

## 2.4. Interim vs. Operational TIP

- 2.4.1. Interim TIP (iTIP) was conceived as a short term stop gap to prove the interface between POCL and ICL Pathway. As an interim system, originally developed to meet a much earlier go-live date, it has limited functionality, however, it was designed to accept the interface that the long term Operational TIP (OpTIP) would require.
- 2.4.2. OpTIP has a wider remit than just the ICL Pathway feed, as it will additionally subsume several POCL legacy systems, and utilise the data that is received from ICL Pathway (rather than just passing it on).
- 2.4.3. iTIP can therefore be considered as a stop gap solution that pre-proves the ICL Pathway feed, and provides some limited business gains.

#### 2.5. Summary of data sent to TIP

2.5.1. There are four main file types specified to pass from ICL Pathway to TIP, as summarised in the following table:

File type	Contents	Usage within TIP
BES Summary	BES Settlement Reports	BES Settlement reports to PMSR
Transaction files	Individual record for each PoS transaction. These include elements of the services such as BES to allow POCL to maintain its accounting integrity.	BES supporting documentation (ABED equivalent)      Royal Mail Management Information (RMMI) for former ECCO offices
Client Summary	Client summaries	Not used by iTIP
Cash Account and Stock	Electronic cash account	Feed of Cash Account to CBDB



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#### 3. ASSUMPTIONS

For the avoidance of doubt, the following assumptions have been made about the ICL Pathway/TIP working environment:

- EPOSS encompasses the POCL PoS functions which support APS, BES and OBCS as well as the 'pure' POCL stock movements;
- the interface that Interim TIP has defined will be taken over by Operational TIP<sup>1</sup>; for the purpose of this document there is no difference between the two systems as far as the ICL Pathway system feed is concerned;
- the TIP interface has been agreed for many months, with only minor clarification and additions of new functions e.g. 2/3 week cash accounts.
- The existing counter functions will not be any less at NR2 than they are at 1c.
- TIP has several business functions, the main ones being:
  - 1) electronic transmission of the cash account.
  - TIP presents the Horizon electronic cash account to CBDB as if it had come from the DPU, effectively spoofing the DPU interface to CBDB;
  - CBDB can receive Cash Account data for an office from either the DPU or TIP. CBDB will accept the first instance for a particular cash account week, and raise an exception if a second copy is received;
  - during the Release 1c → New Release 2 migration period, the DPU will key ICL Pathway produced paper Cash Accounts<sup>2</sup> (prior to the availability of the electronic NR2 feed from ICL Pathway);
  - once an office has successfully migrated to Horizon, the paper Cash Account from that office will not be routinely keyed, and therefore no comparison will be done against the electronic feed. The paper copy will, however, be received and filed.<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> There are opportunities to increase the efficiency of OpTIP by changes to the interface and potentially to ease the workload on ICL Pathway by changes, however the underlying data requirement that has been stated for iTIP will be sufficient to feed OpTIP which is scheduled for October 1999.

<sup>&</sup>lt;sup>2</sup> This is subject to the acceptability of the presentation of the ICL Pathway cash account, currently there are issues surrounding the size of type face which DPU require to move from 8 point to 12 point.

<sup>&</sup>lt;sup>3</sup> It is unclear whether any checks are in place to handle "manual amendments" if the sub-postmaster annotates the document with corrections prior to signature.



- 2) TIP produces the supporting BES documentation from the EPOSS transaction elements i.e. effectively takes over the function performed by ABED in Release 1c.
- 3) TIP provides the rolling BES settlement reports which feed into PMSR for information on reconciliation;
- 4) TIP supports the Royal Mail Management Information (RMMI) feed that is currently taken from ECCO+ outlets;
- 5) TIP receives all the transactions performed on the Horizon system and validates them against the reference data that it has received from the POCL RDP system the same system that feeds ICL Pathway Horizon.



## 4. OPTIONS CONSIDERED

The following table summaries potential options based on the availability of various proven aspects of the ICL Pathway solution.

NOTE: For the purposes of this discussion, EPOSS has been (slightly artificially) divided into "data capture/reporting" and "cash account production".

Taking each of the major business functions identified in turn, i.e.

- 1) Cash account
- 2) Supporting BES documentation
- 3) BES settlement reports
- 4) RMMI
- 5) Transaction warehousing

Given the scope of the paper the cash account issue will receive most attention.

# 4.1. Cash Account Options

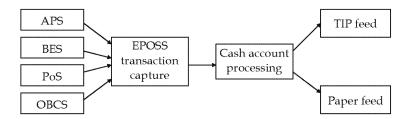
	Option	EPOSS Data Capture/ Report	EPOSS paper CA	EPOSS electronic TIP CA feed	Comments
1.	Full NR2	✓	✓	<b>✓</b>	The target NR2 status.
2.	No TIP feed	<b>√</b>	✓	*	Assumes paper cash account is correct.
3.	No ICL Pathway Cash Account - but still key all transactions	<b>√</b>	×	×	Assumes ICL Pathway EPOSS is solid .
4.	No ICL Pathway Cash Account - keying of automated transactions only	partial	×	*	EPOSS supporting the performance of APS and BES transactions.
5.	No ICL Pathway Cash Account - no EPOSS to support automated transactions	×	*	×	Effectively the R1c BES solution, with APS added.

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## 4.1.1. Option 1 - full solution

This is the target NR2 contracted-for status, with full implementation of the TIP interface. It should be noted that the cash account processing is an office function.



This paper is to address the contingency should the above not be achievable.

Functional boxes are shown lightly shaded, with data flows indicated by the arrows.

Where an option precludes a link, the link is crossed out.

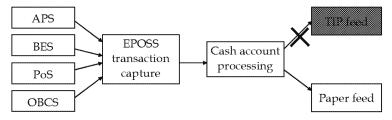
Where an option precludes a functional box, the box is shaded dark.

Where an option changes a functional box, the box is inverted (white on black).

Where an option introduces new functions, these are shown in unshaded boxes.



#### 4.1.2. Option 2 - no electronic cash account



In this option the feed to TIP is considered unworkable but the remainder of the solution is deemed to be fit for use. The EPOSS solution would have to be capable of producing a valid paper cash account and of correctly accounting for business within the office, enforcing all the relevant business rules.

#### Assumes:

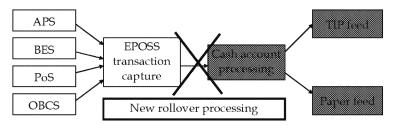
• EPOSS operates in all areas apart from interface to TIP.

DN: Given that the electronic and paper cash accounts are both produced from the same data source in EPOSS - a necessity if one is to accurately reflect the other - it seems unlikely this option will actually occur; for this to be of use, the "problem" would need to be within the data transfer to TIP, rather than its processing at the counter. Evidence to date suggests that the problems are within the counter in the correct adherence to business rules - what a product can be used for - and the processing of the Cash Account mapping. Such problems are believed to apply equally to both electronic and paper Cash Accounts in the ICL Pathway domain.

Pros	Cons
Keying from EPOSS paper cash account is an existing activity that will be proven during Release 1c→2 migration period. DPU entry is low risk.	When the feed is established, DPU procedures would need amending.
Allows the same counter procedures to be used from Day 1. When the feed is enabled only DPU procedures change.	Feed to TIP would not be proven in Live Trial (until full service offered)



### 4.1.3. Option 3 - no cash account, full EPOSS



In this option, neither the paper nor the electronic Cash Accounts from EPOSS are deemed to be fit for purpose. However, EPOSS would continue to be used for transaction capture, summary production and stock control. Some method would be necessary to handle the rollover of Cash Account Periods (to enable the correct reporting of transactions);

### Assumes:

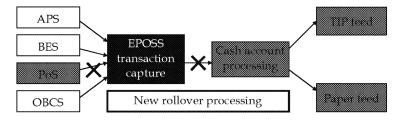
- that the deficiencies in EPOSS are restricted to the Cash Account production process and are not "structural";
- that the carrying forward of data from week to week, the feed of data to APS and for BES etc. is sound;
- the correct implementation of business rules, including those within reference data, is proven;
- current output has all the data for a manual cash account.

Pros	Cons
Allows offices to switch to NR2	Considerable training is likely to be required to enable users to complete a Cash Account from the EPOSS output
Allows EPOSS training to be given and used in live operation	Difficult to sell to users - why key transactions if no Cash Account is produced from such effort ?
	Difficult to roll over ECCO offices - it offers less functionality than ECCO and these offices would need to revert to manual Cash Accounting for which they are not experienced.
	Integrity of EPOSS may be compromised when new rollover processing introduced
	Need to cut over to the full solution at a later date,





### 4.1.4. Option 4 - no cash account, core EPOSS, automated transactions only



In this option, EPOSS would not be used for non-automated transactions, and the Cash Account would be produced manually from standard paper records. The user would only use portions of the EPOSS engine to transact APS, BES and OBCS transactions, possibly settling to "cash" at each point. Customer sessions would cease to have real meaning and the majority of reports would therefore be meaningless, however reports could be run for APS and BES to contribute to the manual cash account.

#### Assumes:

- EPOSS can perform the transactions and produce the relevant reports needed for APS, BES and OBCS entries on the manual cash account;
- solutions exist to handling cash account rollover etc.;
- current output has all the data for a manual cash account.

### DN: how would reconciliation and settlement be affected?

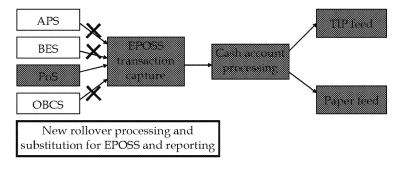
Pros	Cons
Minimal changes to application software.	Compromises the solution with key elements remaining unproven - invalidates the purpose of a live trial
	Still need to migrate to full use - will need a "second" migration to move over the stock position etc.
	Difficult to roll over ECCO offices - it offers less functionality
	May need to revert to R1c processes for reconciliation etc.
	Training will need to cater for this solution, would need to have to re-educate the users to use the full system.



Ability to produce meaningless reports may discredit
system and/or weaken financial controls on office



### 4.1.5. Option 5 - no cash account, no core EPOSS



In this option, EPOSS would not be present at all as an accounting engine (although presumably the Access Control functionality etc. would exist). APS, BES and OBCS would be used in some standalone mode, in a similar manner to the existing BES application on Release 1c.

#### Assumes:

- APS, BES and OBCS can be built without EPOSS
- additional reports can be introduced into APS, BES and OBCS to provide outputs for the manual Cash Account (this functionality would have been present in EPOSS)

Pros	Cons
Introduction of magnetic card and bar coded APS for POCL with corresponding transaction stream to ICL Pathway.	Training will need to cater for this solution, would need to have to reeducate the users to use the full system.
	Very late changes to applications.
	Effectively this is R1c plus APS.
	Still need to migrate to full use - will need a "second" migration to move over the stock position etc.
	Difficult to roll over ECCO offices - it offers less functionality.
	May need to revert to R1c processes for reconciliation etc.



## 4.2. Supporting BES documentation

	Option	EPOSS Data Capture/ Report	BES documents electronic TIP feed	Comments
1.	Full NR2	✓	✓	The target NR2 status.
2.	No TIP feed	✓	×	Assumes paper reports correct.
3.	No EPOSS but BES	×	<b>√</b>	1c counter functions, but NR2
	transactions			data centre

## 4.2.1. Option 1 - full solution

This is the target NR2 contracted-for status, with full implementation of the TIP interface. It should be noted that the gathering of transactions to generate the BES documentation is largely an office function (the exception being help desk generated transactions), augmented by central processing within the ICL Pathway domain.

## 4.2.2. Option 2 - no electronic feed

This is where the central system can not extract the transactions for supply to TIP for processing or the file transfer from the central system to TIP is inoperative.

### Assumes:

- EPOSS and BES work harmoniously in all areas except for delivery of flow to TIP;
- Paper reports and existing manual processes sustainable;
- Central facilities can still feed ABED as at 1c;
- Common Basis of Settlement operates correctly.

Pros	Cons
No change to the counter software.	Compromises the solution and may make the process unauditable.
Counter procedures may have a minimal impact and this would be to leave the current practices in place.	Some element of re-training may be required.
No worse than 1c.	Wholly dependant on ICL Pathway feed.



# 4.2.3. Option 3 - no EPOSS but electronic feed

This is where the outlet is effectively running a 1c set of functions, not tied into EPOSS, but the central systems can interface to a TIP NR2 interface.

### Assumes:

• 1c functionality can support the NR2 interface;

Pros	Cons
Proves aspects of the TIP interface and provides additional information.	No step forward from 1c at the outlet.
	Does not prove NR2 counter with NR2
	data centre.
	Re-training would be required.



### 4.3. BES settlement reports

### 4.3.1. Option 1 - full solution

This is the target NR2 contracted-for status, with full implementation of the TIP interface. It should be noted that the rolling reports are a function of Common Basis of Settlement which is based on transactions from the outlets and help desk generated transactions.

### 4.3.2. Option 2 - no electronic feed

This option applies where the central system can not package the CBoS reports or transmit them to TIP. Note that this feed is different from the other data passed to TIP in that it is created centrally, by CBoS functionality in PAS, rather than originating from the office. It is therefore not related, per se, with EPOSS failure, however as it relates to failure of the feed to TIP it is still considered relevant to this discussion.

#### Assumes:

- CBoS is functioning as a pre-requisite of the BES functionality going live.
- the settlement reports are electronic CBoS reports, consequently, it forces reconciliation onto the paper CBoS records.

Pros	Cons
Allows service to go live without needing all of the central functionality or feed to TIP.	Does not prove interface from Pathway to TIP.
	Leaves the interface unproven for late version of TIP.
	Requires change to reconciliation processes.



## 4.4. Royal Mail Management Information

# 4.4.1. Option 1 - full solution

This is the target NR2 contracted-for status, with full implementation of the TIP interface. It should be noted that the generation of transactions to generate the RMMI flow is an office function, augmented by central processing.

## 4.4.2. Option 2 - system generated, no electronic feed

Manual transmission of the Royal Mail data created from in-office system reports.

#### Assumes:

- Base information is available within Horizon for extraction.
- EPOSS operates in all areas apart from the RMMI TIP feed

Commented [TPO1]:

Pros	Cons	
Maintains service to client.	New Horizon reports liable to be needed	
	New office procedures needed to extract reports and dispatch to central site	
	New central functionality needed to consolidate received information from offices	
	Leaves the interface unproven for later versions of TIP	

### 4.4.3. Option 3 - manual generation and feed

Manual collection and generation of the Royal Mail data.



Pros	Cons
Maintains service to client.	New Horizon reports liable to be needed
	Process to manually construct the information is laborious - hence only ECCO outlets currently supply it
	Leaves the interface unproven for later versions of TIP

# 4.4.4. Option 4 - no feed

Given that only ECCO outlets currently produce this data, it may be pragmatic to negotiate with the client - Royal Mail - to temporarily cease the supply of data from ex-ECCO Horizon offices during the Live Trial and potentially early stages of the rollout.

Pros	Cons	
Removes the issue.	Reduced service to client.	
	Leaves the interface unproven for later versions of TIP.	

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## 4.5. Transaction Warehousing

### 4.5.1. Option 1 - full solution

This is the target NR2 contracted-for status, with full implementation of the TIP interface. It should be noted that the generation of transactions to generate the RMMI flow is an office function.

In addition to the warehousing for later data mining, the validation within TIP checks that products have been used in valid modes (e.g. Postal Order fees have not been remitted) and that the correct version of POCL Reference Data is in use at outlets.

### 4.5.2. Option 2 - no feed

In this option the feed to TIP of the transactions gernerated at the outlet can not be transferred to TIP.

#### Assumes:

• The outlet is functioning correctly and that the problem is restricted to the harvesting (extraction) of the transactions from the correspondence servers and / or beyond.

Pros	Cons
Removes the issue.	Reduced function to POCL.
	Leaves the interface unproven for later versions of TIP.
	Removes the ability to centrally police the versions of reference data in use a the outlets and whether the products are being used in line with POCL reference data.



## 5. IMPACT OF OPTION SELECTION

There are various scenarios that colour the major business functions that TIP offers. These range from the full NR2 solution through to no electronic feed to TIP to inability to produce suitable automated output in the outlet with various shades in between.

Based on the premise that the Horizon system must be viable to a degree, certain options can be discounted as without them the live trial<sup>4</sup> would be invalidated. Based on the further premise that certain functions can, as a concession, be lived without for a time, a middle ground of viable, compromised functions can be reached.

### 5.1. Option summary

Option	Invalidates live trial	Concession could be made.
4.1 Cash Account		
4.1.1 full solution		✓
4.1.2 no electronic C/A		
4.1.3 no C/A, full EPOSS		
4.1.4 no C/A, core EPOSS, auto txn only	✓	
4.1.5 no C/A, no core EPOSS	✓	
4.2 BES documentation		
4.2.1 full solution		✓
4.2.2 no electronic feed		
4.2.3 no EPOSS, electronic feed	✓	
4.3 BES settlement reports		
4.3.1 full solution		✓
4.3.2 no electronic feed		✓
4.4 RMMI		
4.4.1 full solution		✓
4.4.2 system generation, no electronic feed		✓
4.4.2 manual generation and feed		✓
4.4.3 no feed		✓
4.5 Transaction warehousing		
4.5.1 full solution		✓
4.5.2 no feed		✓

 $<sup>^4</sup>$  This assumes that the target is live trial and not an intermediate release for other reasons.



The table above summarises an opinion of where such lines may be drawn and then investigates the issues surrounding the remaining options.

Note: these options are TIP centric. However, there is no evidence to support the view that where there are deficiencies in the data ICL Pathway are supplying to TIP the outlet equivalent is without fault.

#### 5.2. Risks

- if we go live with a "part" functioning EPOSS solution, what confidence
  exists with the other part? Can POCL rely on a such a system for its
  accounting? Indeed, would faults be created by, or attributed to, the cut
  down nature.
- what is the validity of the "Live Trial" if the significant functionality e.g.
  Cash Account production cannot be proven. Could "Live Trial"
  sensibly commence until full EPOSS was in place with all its' outputs
  working? Would a '1d' phase that deployed the NR2 data centre
  architecture and better, but not NR2 complete data centre and counter
  functions be of merit?
- how do you migrate from a partial solution to the full solution will a migration tool be required, how much faith would you have?
- reconciliation processes may rely on the EPOSS data how will reconciliation be performed without such data?
- Options 4.1.4 and in some respects 4.1.3 almost revert the system to not having an EPOSS system. In this case, what is the additional functionality provided by a Child Benefit-only NR2, apart from APS. Functionally, the release would become "R1c with APS" rather than "NR2".

#### 5.3. Benefit

- Provides some ability for a form of New Release 2 to be installed, albeit
  in cut down form, without a dependency on full EPOSS. Allows some
  visible progress to be shown, including the cutover to dual data centre
  operation, introduction of Automated Payments, and potentially offers an
  incremental route to the full New Release 2 service.
- May allow focus on changes to allow ICL Pathway to meet an interface in time for Operational TIP



### 6. CONCLUSION

From the summary table in the previous section, the conclusion is that the feed from ICL Pathway to TIP is not mandatory for value to be gained from a limited deployment.

Providing a minimum of 1c counter functionality is maintained, and this is augmented with APS and PoS all working in conjunction with EPOSS at the counter (including EPOSS reporting but possibly not a system cash account) there are significant gains to be made.

However, whether such gains should warrant the title 'Live Trial', and whether such a system is considered suitable for Acceptance, is questionable. Although it may be possible to install a cut down version of NR2 without full EPOSS in a limited number of offices, the functionality offered may not make it possible to achieve the full aims of the 'Live Trial' and may therefore force the need for further downstream trialling activities before a National Rollout could be commenced.