

File - Acceptance

ICL Pathway

Acceptance Proposal
Acceptance Incident 376

Ref: CR/ACD/376
Version: 0.3
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Abstract: This document contains ICL Pathway's proposal to the independent Expert in respect of Acceptance Incident 376.

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Distribution: Expert:
Peter Copping

ICL Pathway:
P John Pope

Library

POCL:
Calum Craig

John Meagher
Min Burdett
Jeff Austin

Author: J C C Dicks

Comments to: Pathway list

Comments by: 6/9/99

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Version	Date	Reason
0.1	20/8/98	Initial draft for comments
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0.2 Approval authorities

Name	Position	Signature	Date
J H Bennett	Managing Director		
J C C Dicks	Customer Requirements Director		

0.3 Associated documents

Reference	Vers	Title	Source
		TIP Incident Status Report	Pathway
		Logical Design for EPOSS/TIP Reconciliation Controls	Pathway
		Ceasing of Non-Core Products at Outlets	Pathway
CS/PRD/065	0.3	Process For Removing Products From Outlets At CSR	Pathway

0.4 Abbreviations

AIS	Application Interface Specification
CSR	Core System Release
CSR+	Core System Release – Plus (the release after CSR)
EPOS	Electronic Point of Sale
EPOSS	EPOS Service
TIP	Transaction Information Processing
TMS	Transaction Management Service
TPS	TIP Processing System – the Pathway host layer for the TIP stream

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1 Purpose

This document sets out ICL Pathway's proposal that Acceptance Incident 376, currently categorised as Medium by Pathway and High by POCL, should be recategorised by POCL as Medium, and that the Clearance Plan is satisfactory and should be agreed.

2 Summary

Pathway contends that there are Clearance Actions that address the three remaining issues defined by POCL.

The issue relates to not passing records to TIP because of harvester exceptions caused by missing functions in counter code. ICL Pathway has taken measures to both stop known occurrences and to ensure that any unforeseen occurrences are reported both to TIP and to ICL Pathway development.

The occurrence of a functionally unrelated incident considered under this Acceptance Incident, the omission of records from the counter cash account, concerned only voucher products. This omission is in process of elimination. In addition procedures have been tightened to minimise the risk of product withdrawals causing operational difficulties at the counter.

Furthermore, additional reconciliation features that confirm the integrity of data passing to TIP have been proposed.

3 Criteria

Criterion 831/1 is cited: "The Contractor shall support interface from TMS and Outlets to Transaction Information Processing (TIP).

4 POCL position

Based upon the minutes of the Acceptance Board Meeting of 18 August 1999, POCL contended that:

"the plan is still immature".

"the proposal not to deliver the additional controls until March 2000 is not acceptable".

"the latest analysis performed on Incident 410 ... has revealed further unresolved deficiencies and the workaround for these is not agreed".

5 Pathway position

5.1 Background

During the Live Trial, and since, incidents have occurred that, in POCL's view, constitute a potential threat to the integrity of their accounts. These can be categorised into three groups:

1. Some outlet transactions were not sent to TIP:
 - because the harvester deliberately omitted incomplete records, caused principally by missing modes, and
 - because, on one occasion, harvesting started before replication between recovering correspondence server nodes was complete;
2. Not all transactions were comprehended in the outlet cash account because of end-dating of Item Reference Data;
3. Some Cash Account records were not sent to TIP because the pointer used by the harvester was not available:
 - because a counter was re-booted before it could write it; and
 - on one occasion, because a second balance process was allowed to run.

Important advances have been made since the above incidents occurred, discussed below under the same numbers as above:

1. All instances of messages written without harvester-sensitive fields have been fixed, except one that will be fixed shortly. Accounting integrity has been safeguarded by establishing routine examination of the Event Logs to detect and report daily to TIP any harvester exceptions.

The harvester has been enhanced to positively check that the full message set for an outlet is present on the correspondence server before initiating harvesting for that outlet.
2. The system is being modified so that the balancing and Cash Account processes can continue even if an item is end-dated during a period for which there are transactions.
3. The system has been made robust against inopportune reboots by writing persistent objects to the message store, enabling controlled restart of the office balance process after power failure etc.

A change has been made to ensure that multiple balance processes cannot

run concurrently. In addition a message will be displayed to inform the user that that the balance process has initiated.

5.2 Maturity of plan

The Pathway proposal in this area has now been expanded into the High Level Design document *Logical Design for EPOSS/TIP Reconciliation Controls*. The joint working group has reviewed this in detail. This document provides a description of how Pathway will provide additional reconciliation between the Cash Account produced in the outlet and the transactions sent to TIP. It contains detailed proposals for enhancements to counter processing, harvesting and the TPS Host.

In addition the joint working group has discussed an interim measure to provide assurance that the set of cash account records being delivered to POCL is complete. This involves adding the lines in the three principal tables and checking that they total to the relevant table totals.

5.3 Delivery of additional controls

Clearance actions:

Provided the document *Logical Design for EPOSS/TIP Reconciliation Controls* is agreed through agreement to this proposal by 6/9/99 the enhancements will be in service by 31/12/99.

Provided the interim measure is agreed through agreement to this proposal by 6/9/99 the enhancements will be in service by 6/10/99.

5.4 Core to non-core (AI410)

5.4.1 The position at CSR

AI 410, although related to AI 376 through the generality of reconciliation of the Cash Account and the TIP stream, is in fact the reverse condition: a record that was not incorporated in the Cash Account was received by TIP.

This condition was caused by ceasing a voucher product at an outlet by changing it from a Core product (transacted at all outlets) to Non-core (transacted at only a subset). This resulted in "end dating" the Item Reference Data at an outlet that had not received replacement non-core reference data but had transacted the product earlier in the week. EPOSS did not include transactions in the Cash Account that had occurred immediately before the product was end-dated at the outlet.

It had been agreed, for CSR, that Operational Business Change procedures would screen out cases of Item Reference Data being end-dated, the outlet would not be able to perform housekeeping functions such as remitting out remaining inventory in any case. The agreed process for removal from sale is by use of changes to the Menu Hierarchy.

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Unfortunately neither POCL nor Pathway staff involved had realised that changing a product from Core to Non core would result in just such a cessation. Procedure documentation has now been amended to make this case explicit.

ICL Pathway is introducing a change to incorporate voucher product transactions for end-dated products in the cash account. This will provide full accounting integrity.

In addition, at POCL's request, Pathway has produced a summary of all the procedures surrounding product withdrawal, including those already agreed and in place, in the document *Process For Removing Products From Outlets At CSR*.

5.4.2 Further changes applicable at CSR+

A feature, Item Transaction Mode, is scheduled for introduction at CSR+ and will provide a comprehensive means of controlling the classes of transaction that can be applied to products. However, in the course of considering these issues it was further realised that no provision at CSR+ in interfaces and designs had been made for the particular case of end-dating Non-core products in individual outlets.

This issue, ceasing Non-core products at individual outlets at CSR+, has been addressed in the document *Ceasing of Non-Core Products at Outlets*, which was published on 24/8/99.

5.4.3 AI410 resolution

Clearance action:

Provided the document, *Ceasing of Non-Core Products at Outlets*, is agreed through agreement to this proposal by 6/9/99 ICL Pathway will implement the defined functions for CSR+.

AI 376 - Incident analysis

		Number of outlets affected by cash account week																				
Root cause	Wk	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
1 Deleted SU	1								2							Fix applied						3
2 SU double roll				1						Fix applied								Fix applied				1
3 Missing mode - Reversal							1			5		1				Fix applied						7
4 New SU							1			Fix applied												1
5 SU Name with blank first character							1									Fix applied						1
6 Missing timestamp							1															1
7 Deleted item reference data									1													1
8 Missing mode - OBCS suspend									1	Fix applied								Fix applied				1
9 Missing mode - scales										6		11	5				Fix applied					22
10 Replication recovery												37		Fix applied								37
11 Fee migration correction error														1								1
12 Corrupt .dll files on LT2 migration										4												4
Totals		1	0	0	1	0	4	0	4	15	0	48	6	1	0	10	0	0	0	0	0	80
? Under investigation											9	4	12	1	1	9	?					36
* Not a Pathway fault							1								1							2

LT2

Harvester fix applied

Today

As at 5pm Friday 3rd September

TIP Incident 376 Status Report 2/09/99

TIP No. Type/Outlets Week	PINICL(s) Helpdesk	Status
821 1 1 8	26258 25878	Root cause was deletion of stock unit, following stock unit rollover, with outstanding transactions carried out since the last EOD marker, which were lost. This is the subject of PINICLs 25876/8. Fix to prevent SU deletion in such circumstances. Fix (PWY WP 5138 CSR) distributed to live estate 15/8.
846 2 1 11	27193	Root cause was Stock Unit TM (the ATM stock at the outlet) being rolled forward more than one CAP. The system error that allowed this was corrected in the LT1 offices and incorporated into LT2.
855 3 1 13	27321 27871	This problem is associated with a missing mode on an outlet transaction, in this case a reversal of a previous cash settlement transaction, which then failed to harvest. The fix for this was made under root cause PinICL number 27871 which is fixed within WP 5406 and which was distributed to live on 23/8.
856 4 1 13	27322 9906300196	This problem related to the incorrect handling of a "correction" SU where the cash account snapshot and cash account report were run on different days on different nodes; the result was a doubling of the brought forward total. This was fixed in the LT2 software and call closed on 5/7.
857 5 1 13	27319	This was caused by the use of a stock unit name starting with a space (" "). The problem was alleviated at the outlet by deleting and recreating the SU without the leading space. To prevent any possible re-occurrence a fix to the software has been produced to prevent SU names commencing with space character. The fix is included within WP5406 which was distributed to live on 23/8.
858 6 1 13	27320 25211	Root cause was 2 transactions recorded without timestamp during a session suspend/transfer operation and therefore not harvested. A harvester fix was issued to cover this situation and authorisation for the root cause fix (PINICL 25211) has been made. Pathway action - date for fix
		A separate investigation (PINICL 27514) into the relationship between cash account line 0099 exceeding value on line 1049 identified the root cause as user input error when dealing with Lottery cheque prize. This situation has not reoccurred in LT2.
859 n/a		No E- reference was supplied and a search of Powerhelp calls between 30/6 and 10/7 failed to identify the call details against likely outlets (reported FAD 0105112 is invalid). Probable cause null mode or deleted stock unit problem.
865 1 1 15	27747 25878	Deleted stock unit problem resulted in TIP not being passed transactions. Earlier occurrence in 26258 (TIP 821) Underlying PINICLs 25876/8, with fix distributed to live estate 15/8.

TIP.No. Type/Outlets Week	PINICL(s) Helpdesk	Status
866 7 1 15	28746	This was the subject of AI410, concerning the change of products from "core" to "non-core". Changes have been made to clarify Operational Business Change procedures in this area which should prevent this problem recurring. The problem arises only for Voucher transaction values, not for Value Stock. At Stock Unit Balance time the system requires to access the item records to obtain the description of the item for inclusion on the balance report. If the item is not found the balance report prints 'spaces' for the description but then fails to create the balance summary record for the product. This will be corrected to behave exactly as for Stock Items. Pathway expect to deliver fix by 14 th September.
868 1 1 15	27835	Deleted stock unit problem resulted in TIP not being passed transactions. Earlier occurrence in 26258 (TIP 821) Underlying PINICLs 25876/8, with fix distributed to live estate 15/8.
869 8 1 15	27837	In OBCS token administration suspend session then allowed a foil to be scanned and the transaction committed to the stack with no current mode set, resulting in a non-harvested transaction. This is actually a duplicate of PINICL 26181 and was fixed in WP4927, applied as part of the LT2 baseline on 10/11 July. Its occurrence in TIP869 was during CA week 15, prior to the weekend LT2 fix.
870 3 5 16	27884	This call relates to several cash account discrepancies (5 outlets), all due to transactions not being harvested because of missing mode attribute on reversal transactions. Analysis of underlying root cause is covered within TIP 855 (underlying PINICL 27871; fix released 23/8)
873 12 4 16	27904	This related to a mismatch between electronic and TIP derived cash accounts at 4 offices. This resulted from a one-off corruption of a .dll file (code for settlement) during the LT1 to LT2 upgrade at outlets 166328, 390329 and 008523.
9 1 16		FAD 27153 was the subject of non harvested transactions due to missing transaction mode on the original counter transaction. This is the same underlying cause as TIP 874 (PINICL 27903)
874 9 5 16	27903 28167	This related to a mismatch between electronic and TIP derived cash accounts at 5 offices. Detailed analysis of FADs 270329 and 203329 indicated that this was caused by scales transactions (stamp sales) recorded with a missing mode attribute. Analysis at the other sites (without a full message store being available) indicated a similar root cause. 27903 fixed in WP5447, which has completed test. Delivered to outlets 29/8. 28167 covers the agent avoidance to reconstruct missing "SC" mode on transaction harvesting (all scales transactions are "SC" mode), applied to live estate 3/8. This substitution will be ceased when TIP requests that we do so.
885 ? 5 17	28185 9908020071	This incident describes itself as a summary of similar incidents. Pathway concurs with the view that they are simple repeats of known causes, but will confirm this by detailed analysis if TIP provide information to enable this.

TIP No. Type/Outlets Week	PIN/CL(s) Helpdesk	Status
889 10 37 18	28218 9908030066	This call is "Acceptance Incident" 411, which is being dealt with separately. Due to a massive replication backlog as the correspondence servers synchronised after a failure the harvester started work before full message sets had been replicated for some outlets. The harvester has been enhanced (11.8) such that it positively checks that the message store is complete before harvesting an outlet. The missing transactions have been sent to TIP.
891 9 11 18	28272 9908040196	Null mode scales transaction not harvested for week 18, which was before both the harvester substitution work-around and the root cause fix were released.
892 *? 4 10	28263 9908040139	This has the appearance of a transaction not harvested for week 19, although there is no evidence of any transactions with 'Null' mode in the outlet for this CAP. The call has been passed to the BSU. Action with TIP to provide further information.
900 ? 6 19	28480 9908110215	Null mode transactions not harvested for week 19, which was before both the harvester substitution work-around and the root cause fix were released.
901 9 3 19	28530 9908120207	Null mode transactions (resulting from 'Scales' transactions) not harvested for week 19, which was before both the harvester substitution work-around and the root cause fix were released.
902 ? 1 19	28527 9908120208	
903 9 1 19	28531 9908120216	Null mode transaction (resulting from 'Scales' transaction) not harvested for week 19 (on July 30 th), which was before both the harvester substitution work-around and the root cause fix were released.
904 3 1 9 1 ? 3 19	28528 9908120206	Null mode transaction not harvested for week 19, which was before both the harvester substitution work-around and the root cause fix were released.
905 ? 2 19	28529 9908120210	Compensating differences between cash and cheque lines. Under investigation.
909 11 1 20	28635 9908160161	This was caused by a failure to harvest a transaction created to correct a fee migration problem, due to a null user field. Harvester incidents of this nature are reported to TIP via RED reports.
910 ? 1 20	28630 9908160158	
912 * 1 21	28840 9908200140	A long and detailed explanation of this incident has been provided. In summary, this is a reference data associated error in the way TIP produce their cash account. No fault in Pathway solution. Incident closed by TIP.

TIP No. Type/Outlets Week	PINICL(s) Helpdesk	Status
913 *? 1 21	28847 9908200185	<p>It may be of interest that the value of the discrepancy between the TIP and Pathway figures appears to correspond to 2 x £230.63. During the balancing of stock unit AA on 18.8.99, a stock adjustment was made to reduce the value of Cheques (Product 2) by this amount, with a corresponding increase in Cash. These two stock adjustment records were later individually reversed, generating a further 4 transactions for £230.63, 3 against Cash (Product 1) and 1 against Cheques (Product 2). Therefore in total 4 Cash transactions (two positive, two negative) and two Cheques transactions (one positive and one negative) were written.</p> <p>Given that there have previously been issues with TIP's rejections of 'Existing Reversal' transactions where the reversal settlement contained no cross-reference details, is it possible that this has caused the reconciliation failure? According to the message store data, the Cash Account for CAP 21 reported Total Receipts = Total Payments, indicating that the message store data is complete and accurate.</p>
919 ?	9909030095	

AI 359 ??

914	29891 9908250142	The transactions rejected in this incident all relate to P&A transactions which have been recorded with a 'Remittance' mode. An error in the system at this time (which was corrected 29.8) caused the application variable holding the current desktop 'Mode' to be incorrectly cleared, allowing OBCS to conduct a P&A transaction. When the transactions were passed to Riposte to commit them to the message store, the Riposte Desktop mode at the time (in all cases one of the Remittance modes, indicating that the user was within the Remittance part of the menu hierarchy) was added into the transaction data.
915	29024 9908260149	As for TIP Incident 914 above (but with additional cases where the user was in the 'Housekeeping' mode at the time the transaction took place).

Incident Types

1.	Deleted SU
2.	SU double roll
3.	Missing mode - reversal
4.	New SU
5.	SU name with blank first character
6.	Missing time stamp
7.	Deleted Item ref data
8.	Missing mode - OBCS suspend
9.	Missing mode - scales
10.	Replication recovery
11.	Fee migration correction error
12.	Corrupted software file
*	Not Pathway error