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Document Title: Horizon System Audit Manual (CSR+)

Document Type: Manual

Abstract: This manual describes the Horizon Operational, Operational Support and Commercial systems and data flows in sufficient detail to enable members of the Horizon Audit Community to understand them for audit purposes.

It also addresses the appropriate Criteria of Requirements 697, 699, 816 and 829 insofar as it provides information relating to the composition of and access to the 'audit trail' as defined in those Requirements and its admissibility for PACE certification.

Status: Approved

Distribution: Martyn Bennett, Chris Paynter (POIA), Richard Laking, Library

Author: Brian Mooney/Jan Holmes/Anthony Brown

Comments to: Anthony Brown

Comments by: 29th December 2000

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0 Document control

0.1 Document history

Version	Date	Reason
0.1	21/04/00	Initial draft based on IA/MAN/004 version for CSR plus changes for CSR+
0.2	10/05/00	Following work to define EPOSS and LFS data flows.
0.3	21/07/00	Following review by Brian Mooney
1.0	20/12/00	Version 1.0 for approval

0.2 Approval authorities

Name	Position	Signature	Date
M. Bennett	Quality Director		

0.3 Associated documents

	Reference	Vers	Date	Title	Source
[1]	CR/FSP/006	3.0		Audit Trail Functional Specification	Pathway
[2]	SD/DES/115	1.0		Audit Data Storage & Retrieval HLD (CSR+)	Pathway
[3]	SD/DES/116	1.0		Audit Data Extraction & Filter HLD (CSR+)	Pathway
[4]	IA/SPE/011	1.0		OBCS Audit Trail Specification (CSR+)	Pathway
[5]	IA/SPE/012	1.0		APS Audit Trail Specification (CSR+)	Pathway
[6]	IA/SPE/013	1.0		EPOSS Audit Trail Specification (CSR+)	Pathway
[7]	IA/SPE/014	1.0		LFS Audit Trail Specification (CSR+)	Pathway
[8]	IA/SPE/015	1.0		Audit Data Catalogue (CSR+)	Pathway
[9]	IA/PRO/003	1.0		Conducting Audit Data Extractions at CSR+	Pathway

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0.4 Abbreviations

Acronym	Meaning
APS	Automated Payments Service
BSU	Business Support Unit
CSR	Core System Release (previously known as NR2)
DLT	Digital Linear Tape
DW	Data Warehouse
EPOSS	Electronic Point of Sale Service
ESNS	Electronic Stop Notice System
HAPS	Host Automated Payments System
HLD	High Level Design
HSH	Horizon System Help Desk
OAS	OBCS Access Services
OBCS	Order Book Control Service
OSP	One Shot Password
POCL	Post Office Counters Limited
POIA	Post Office Internal Audit
PONA	Post Office Network Audit
QRM	Quality & Risk Management
RDMC	Reference Data Management Centre
RDS	Reference Data Service
RED	Reconciliation Exception Database
RFI	Request For Information
SIS	Strategic Information Service
TIP	Transaction Information Processing
TMS	Transaction Management System

0.5 Changes v0.2 to v0.3

Document references updated

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0.7 Table of content

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1 Introduction

This document is intended for the community of auditors who are involved in auditing the Horizon system and describes Horizon so that auditors can understand the business processes and data flows involved. It is structured to lead the reader through Horizon so that a general level of understanding and knowledge can be obtained. It does not set out to be an exhaustive decomposition of the total solution.

It provides information in support of the Horizon system meeting Requirements 697 (General - Audit: Access), 699 (General - Audit: Trail), 816 (POCL Applications - EPOSS: Audit) and 829 (General - Security: Prosecution Support).

It is supported by a number of related documents that describe the Operational Services audit trails [4][5][6][7], the relevant Commercial Systems audit trails and the audit data itself [8] in more detail.

The business processes include all systems and services that make up Horizon including :

Operational Services

a. APS - Automated Payments Service.

b. EPOSS - Electronic Point of Sale Service.

c. OBCS - Order Book Control Service, including OBCS Access Service (OAS).

d. LFS – Logistics Feeder Service

e. HSH - Horizon System Help Desk.

Operational Support Services

a. BIMS – Business Incident Management System.

c. RDMC - Reference Data Management Centre.

Commercial Systems.

a. SLCA - Service Level Contract Administration.

Change Control is also included as any changes to any of the above Services can only be achieved through the agreed Change Control process which has its own audit trail of documentation associated with it.

The document describes how access to the 'audit trail' is achieved and establishes a framework for joint working where this is deemed appropriate.

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2 Scope

The information in this document is relevant to Horizon at Core System Release+.

3 Terminology

Each organisation that constitutes the Horizon Community of Auditors will have their own set of standard definitions and terminology and their auditing policies and practices will be defined and described in Audit Manuals. However, there is some terminology that is specific to Horizon :

Audit Tracks	Defined in [1] as "a record of activities made within a subsystem for one or more of its interfaces."
Audit Trail	Defined in [1] as "one or more such tracks."

In addition this document uses the following terms throughout :

POCL	Post Office Counters Ltd. The organisation responsible for operating the outlets through which Horizon will be delivered to the end customer.

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4 What is Horizon?

4.1 Background

Horizon was the total solution to the joint requirement of the Department of Social Security and Post Office Counters Limited which asked for the provision of a facility to transact most Post Office business and, in particular, the payment of benefits on each PO outlet counter across the UK.

Following the withdrawal of the Benefit Agency from the contract on 24th May 1999 the Horizon solution was de-scoped to deliver Post Office services only. However, the basic architecture and principles of Horizon have not changed with BA's withdrawal.

It achieves this through the provision of a number of **SERVICES** at the Post Office Counter delivered via the logical **SYSTEM** componentry shown in Figure 1.

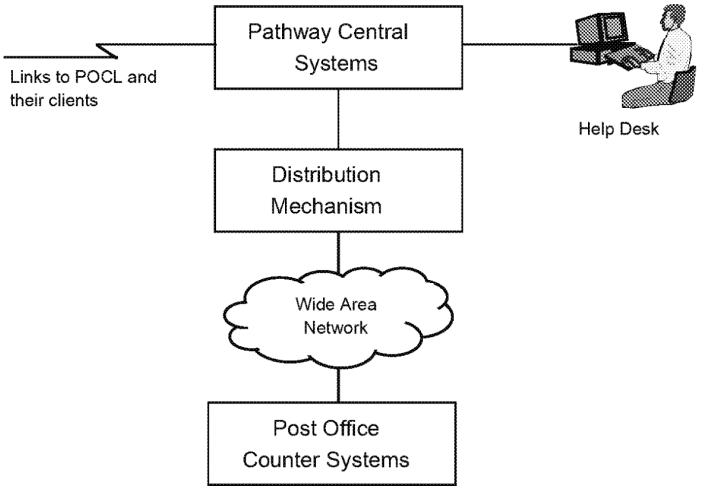

Figure 1 : Overview of Horizon Logical Components

4.2 Horizon Services Overview

The services available at Core System Release are :

- Order Book Control Service (OBCS) that ascertains the validity of a BA order book before payment is made. Note that this is a Post Office Service and subject to a separate contractual agreement between the Post Office and DSS.

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- Electronic Point of Sale Service (EPOSS) that enables PostMasters to conduct general retail trade at the counter and sell products on behalf of their clients.
- Automated Payments Service (APS) support for utility companies and others who provide incremental payment mechanisms based on cards and other devices.
- Logistics Feeder Service (LFS) targeted at the efficient management of cash and value stock, principally to minimise cash held overnight in outlets and outlet's value stock holdings generally.

Each service is separate but all are delivered through the system architecture as shown in Figure 2. New services can be added simply by defining the business requirement, designing and constructing the software and utilising the existing architecture to deliver the service to the Post Office Counter.

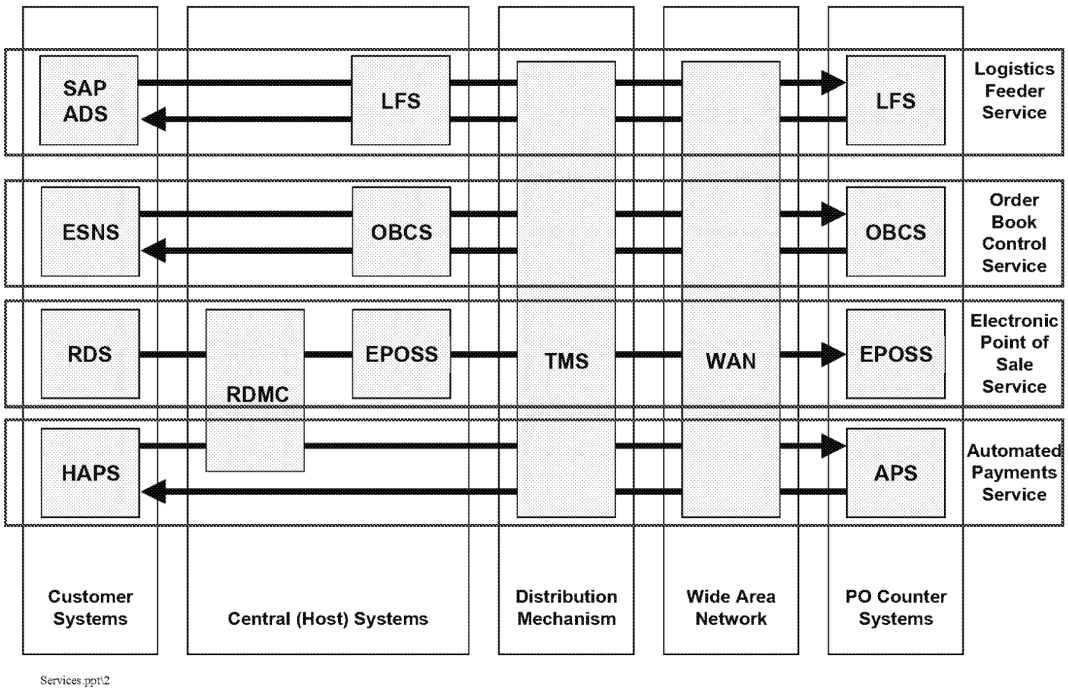

Figure 2 : An Overview of Horizon Services and the Architecture

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4.3 Central Systems Overview

The central systems comprise substantial computers running large relational databases with on-line access for the Help Desk service.

The central systems are responsible for:

- Receiving information from POCL and its clients
- Storing incoming information and in some cases using it to modify existing information
- Transforming it into a format suitable for the counter applications
- Passing information to the counter applications via the distribution mechanism
- Receiving information back from the counter applications via the distribution mechanism
- Storing returned information
- Passing information back to POCL and its clients
- Summarising information into an appropriate format for management information access

4.4 Distribution Mechanism Overview

The distribution mechanism takes one logical stream of information from the central systems and fans it out to the almost 20,000 outlets across the UK. Conversely, it receives input from the almost 20,000 outlets and funnels it in to one logical stream.

4.5 Counter Systems Overview

The counter systems provide interactive support for all staff in every Post Office and are capable of operating even if they lose their connection to the centre. Other than in fallback mode all outlet transactions take place directly through this facility and the result of every transaction is captured and returned to POCL. The results of certain specific transactions are returned directly to the DSS and others to automated payment clients of POCL.

If the counter system is not available for any reason the Post Office operates in fallback mode whereby transactions are authorised on a case by case basis by the Horizon System Helpdesk. On return of the counter details of transactions made in fallback mode are input in bulk by the Post Master.

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Most of the transactions that occur at the counter are unplanned in that nothing exists to represent an individual transaction until a customer walks up to the counter and asks for some service or product.

4.6 Horizon System Helpdesk Overview

This provides POCL outlet staff with a single point of contact for dealing with all problems relating to the system procedures and the Horizon system installed in outlets.

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5 The Horizon Services & Systems

5.1 Diagramming Conventions

Within each Horizon Service, be it Operational or Operational Support a number of business processes are enacted in order to deliver the required customer interaction. Similarly the Pathway Commercial Systems initiate business processes in order to deliver the required end product. Each business process requires data to allow it to operate and generates data to confirm the transaction and report the outcome.

Diagramming conventions have been used as shown as shown in Figure 3 :

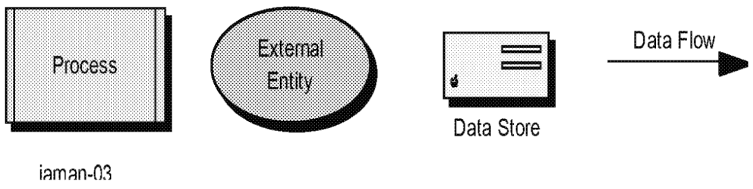

Figure 3 : Diagramming Conventions

A **process** is an IT component that manipulates the data in some way.

An **external entity** is a component that sits outside the scope of the diagram but communicates with a process within it. Conventionally, flows between external entities are not shown, but in this case they are shown where they add to the overall understanding of the diagram.

A **data store** is a mechanism which holds data in a persistent manner for a significant amount of time. In this context significant means longer than the processing time of the processes to which it connects. Thus transient data is NOT held within a data store.

The **data flow** arrows indicate the nature and direction of the data between processes, external entities and data stores.

The following sections provide a 'Level 1' decomposition of the various business processes enacted at Core System Release (CSR). Each consists of the data flow diagram for that element of the service and a brief resume.

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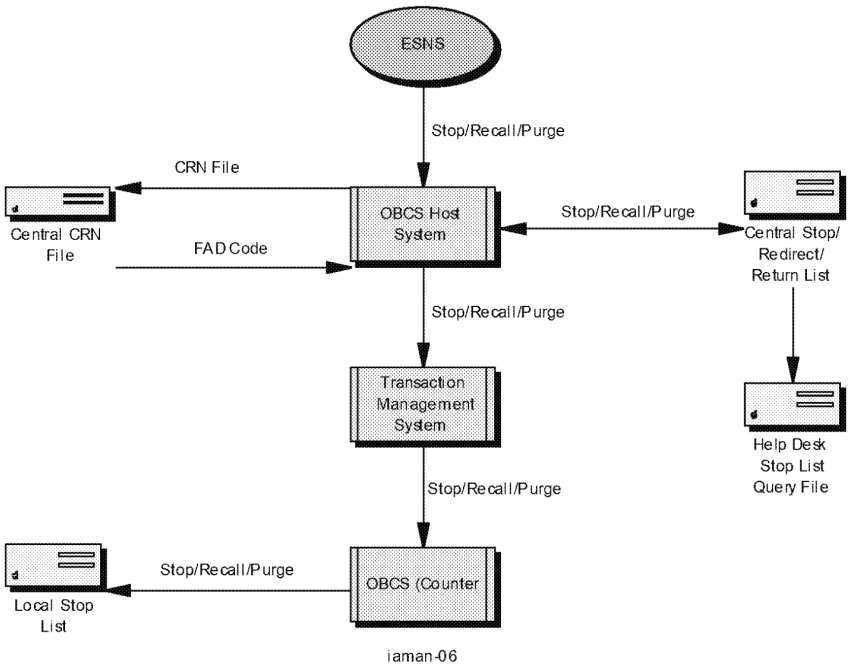
6 Horizon Operational Services

6.1 Order Book Control Service

6.1.1 Control Notice Processing

Data Flow Diagram



Resume

ESNS transmit a single Control Notice for an Order Book. This Notice may be to Stop or Impound an Order Book on next presentation, or to Purge existing Control Notices from the Central and Local databases.

The Control Notice is compared with the Central CRN (Customer Reference Number) database and a separate CN record generated for each Post Office where the Order Book has been previously submitted. The FAD code is added to the CN record and passed to TMS where the CN records are distributed to each Post Office at which point they are added to the Local CN database.

Control Note details are also sent to Help Desk Query Servers at the Horizon System Helpdesk sites (Stevenage and Manchester) to enable PM enquiries during periods of ISDN down time.

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Further Information

IA/SPE/011 : OBCS Audit Trail Specification [4]

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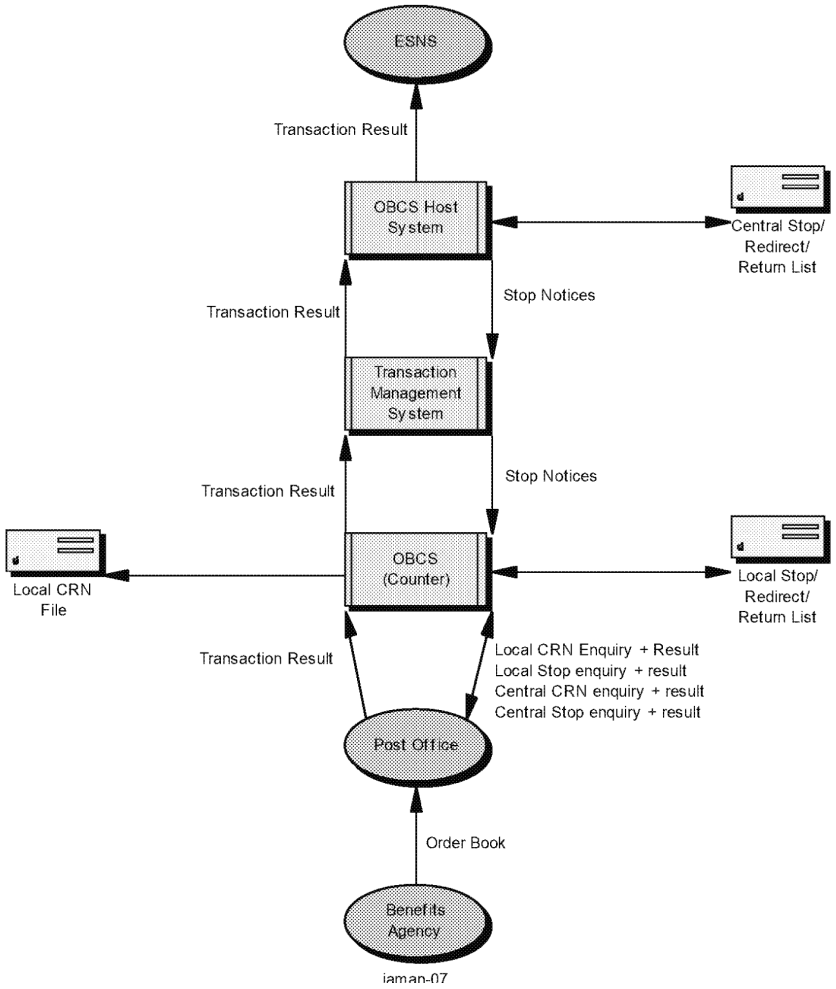
6.1.2 Benefit Book Receipt

Data Flow Diagram



Resume

The Post Office receives a new Order Book (OBs may be received in batches) from the Benefits Agency and is 'accepted' by the Post Master. Any Control Notices that exists for the OB are applied after which the OB is either available for collection by the beneficiary or is immediately impounded and returned to the Benefits Agency.

Transactions confirming the actions taken are sent back, via TMS to OBCS.

Further Information

IA/SPE/011 : OBCS Audit Trail Specification [4]

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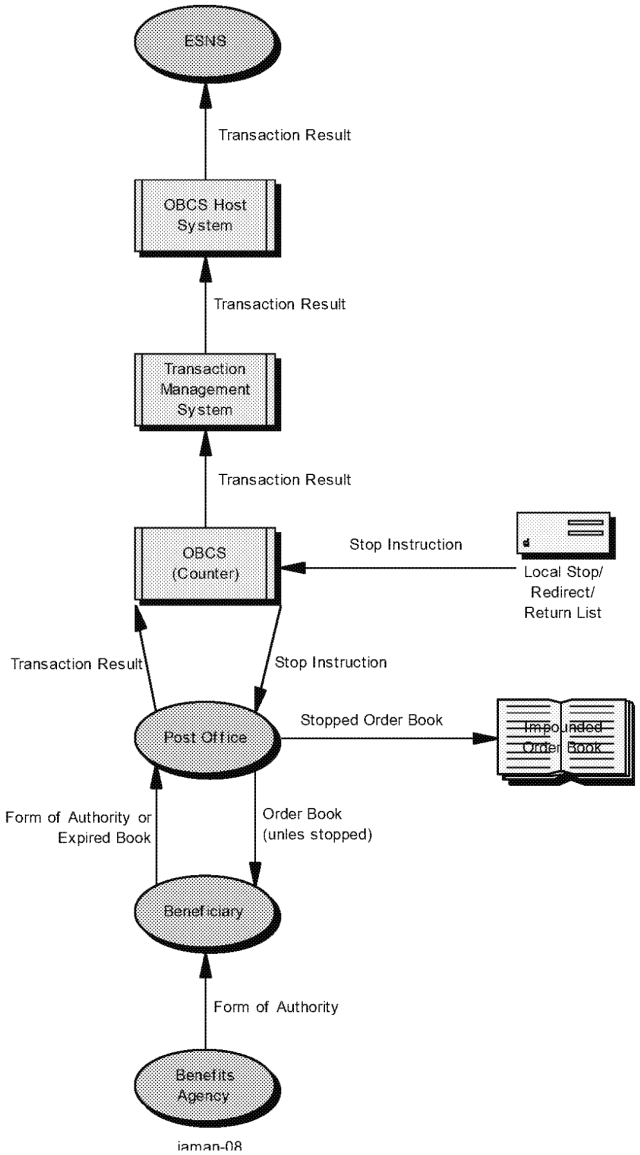
6.1.3 Benefit Book Handover

Data Flow Diagram



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Resume

A benefit claimant arrives at the Post Office with an appropriate form of authority to pick up the new Order Book. This may be an expired OB or some other form as notified to the claimant.

The Local CN database is checked to see if any Control Notices have been received since the book was 'accepted' and if not, the OB is 'activated' and handed to the beneficiary.

Transactions recording the result of the activity are sent back to ESNS via TMS and OBCS.

This is normally followed by a benefit encashment.

Further Information

IA/SPE/011 : OBCS Audit Trail Specification [4]

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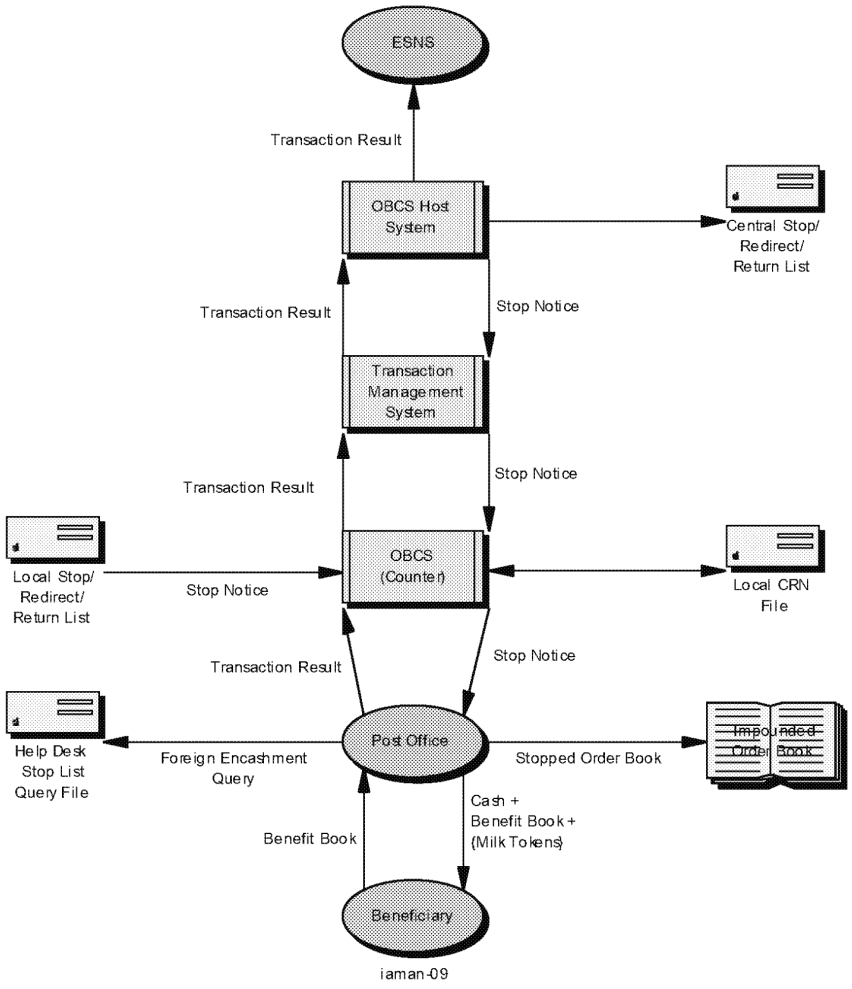
6.1.4 Benefit Encashment

Data Flow Diagram



Resume

Having obtained the new Order Book, or already being in possession of one, the beneficiary wishes to encash one of the foils for a benefit payment.

The book is presented to the Post Master and the local CN database checked for any Control Notices that should be applied. The PM is also able to check against the HelpDesk Stop List Query File during periods of ISDN downtime. Depending on the outcome of that check there could be one of three outcomes :

- The benefit is paid to the claimant and the book returned to him/her.
- The benefit is paid but the book is impounded afterwards.

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- The book is impounded immediately and no benefit is paid.

Further Information

IA/SPE/011 : OBCS Audit Trail Specification [4]

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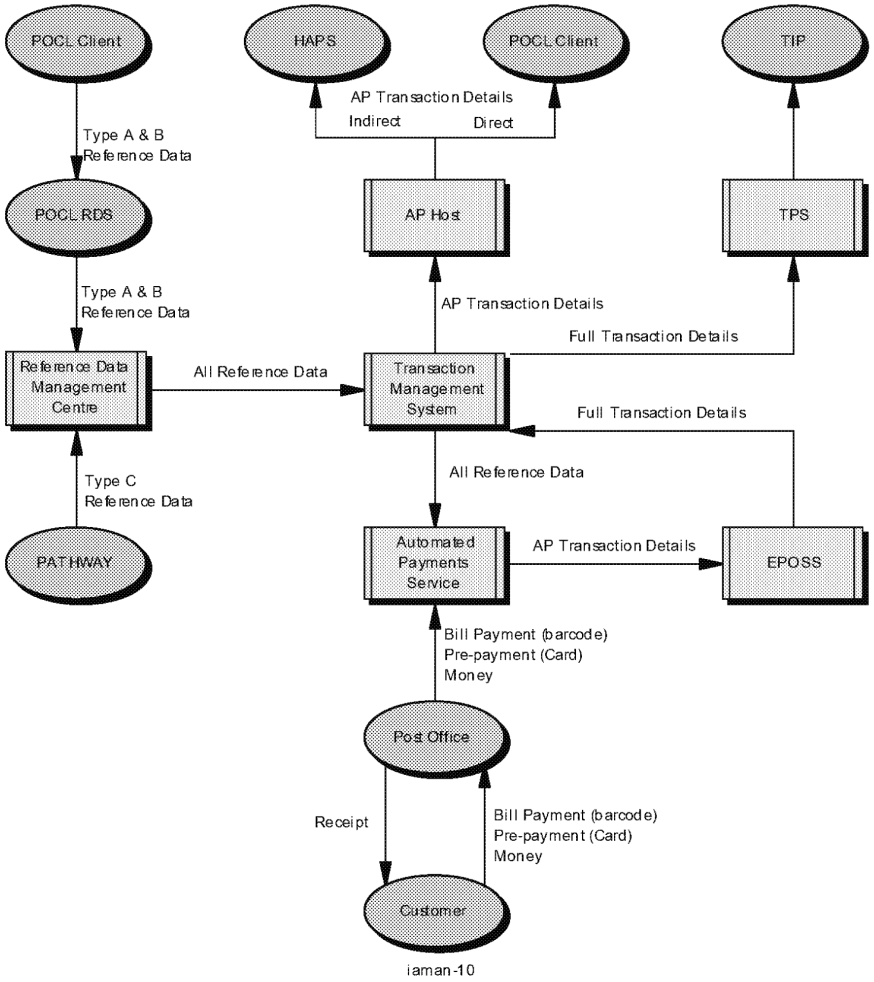
6.2 Automated Payments Service

6.2.1 Standard Payment Using Token

Data Flow Diagram



Resume

Automated Payments enables members of the public to pay bills from various utilities and other organisation who have a bill paying agreement with the Post Office. It also allows for pre-payment of money against future use of a utility.

The customer presents the utility bill or card and cash to the Post Master who issues a receipt. Transaction details are sent to POCL HAPS at Andover and

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POCL TIP at Chesterfield for subsequent processing and reconciliation with their clients.

Further Information

IA/SPE/012 : APS Audit Trail Specification (CSR+)

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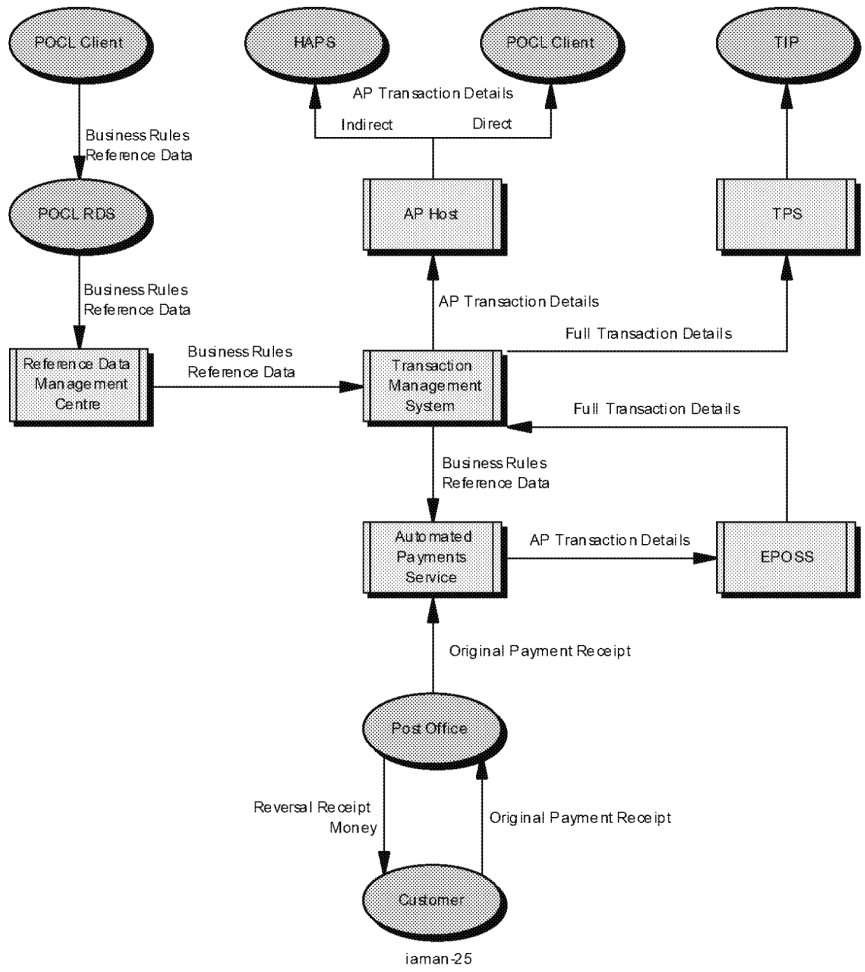
6.2.2 Payment Reversal

Data Flow Diagram



Resume

There will be times when the POCL Customers wishes to change or reverse entirely an Automated Payment transaction made earlier. APS allows this to happen as long as certain POCL Business Rules surrounding reversals are met :

a. Transactions shall only be reversed in the office in which the original transaction took place

b. A transaction cannot be reversed if it has been forwarded to POCL or the Client

c. A transaction must be available for reversal until the end of business day on which the transaction was performed

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d. Eligibility for reversal is subject to the constraints of the token technology of the transaction and the AP Client Specification

The Customer must have the Original Printed Receipt before the reversal can commence. If the rules applicable to the scheme have been met, and the original transaction is still available to be reversed, it will be and the money returned to the Customer. A second, Reversal Receipt, is produced by the system and handed to the Customer.

Further Information

IA/SPE/012 : APS Audit Trail Specification (CSR+)

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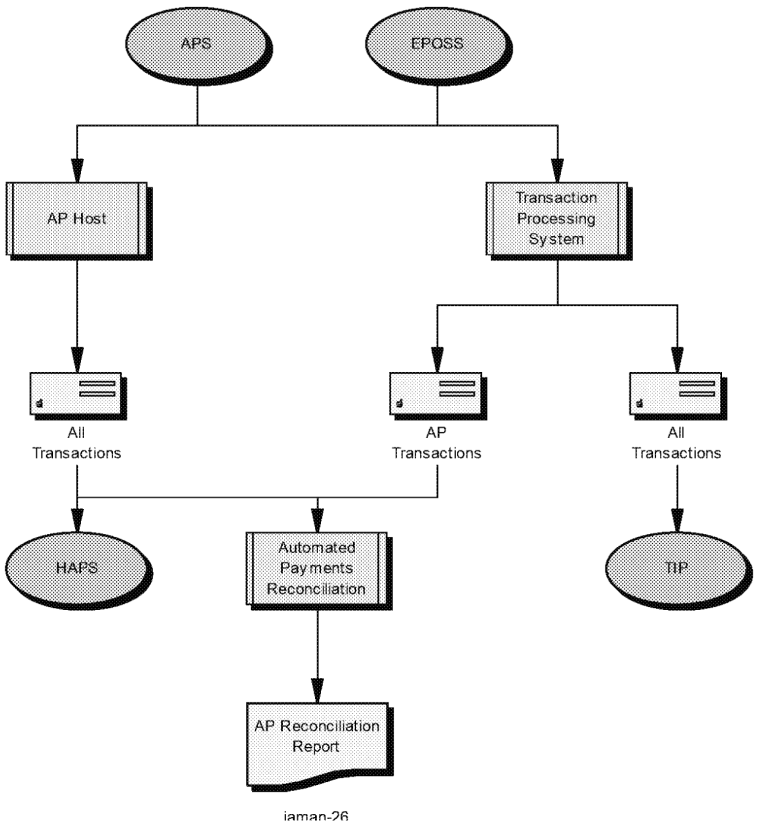
6.2.3 Automated Payments Reconciliation

Data Flow Diagram



Resume

AP Transactions are reconciled on a daily basis by Horizon. The reconciliation is between AP transactions to be sent to POCL and those to be sent to each POCL <Client>.

Reconciliation is used to demonstrate that the same transactions have been sent to each party and if not an explanation can be found.

Further Information

IA/SPE/012 : APS Audit Trail Specification (CSR+)

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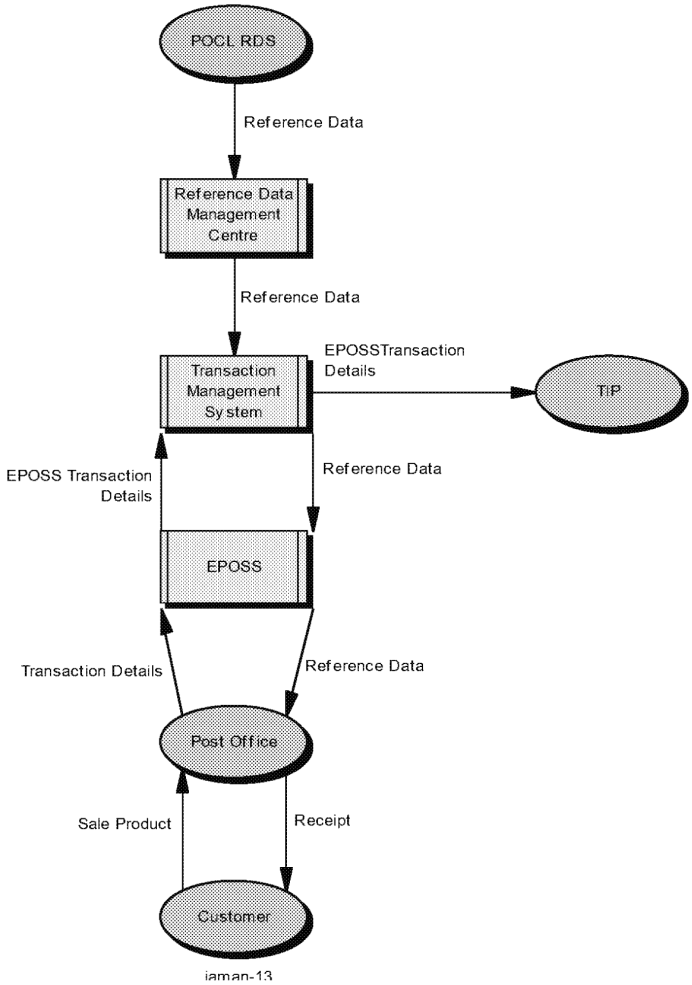
6.3 Electronic Point of Sale Service

6.3.1 Sale of EPOSS Product to Customer

Data Flow Diagram



Resume

The customer selects one, or a number, of consumer products that are available for sale within the Post Office. These may be products being sold by PO on behalf of another organisation, eg. DVLA car tax discs, or pure consumer goods, eg. sweets. Only those goods that are identifiable on the menu hierarchy may be sold in an outlet and this is controlled through the transmission of reference

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data from the Post Office to the counter via the Reference Data Management Centre.

Variable information about the products, eg, price. is also sent to the outlet via reference data.

Further Information

IA/SPE/013 : EPOSS Audit Trail Specification

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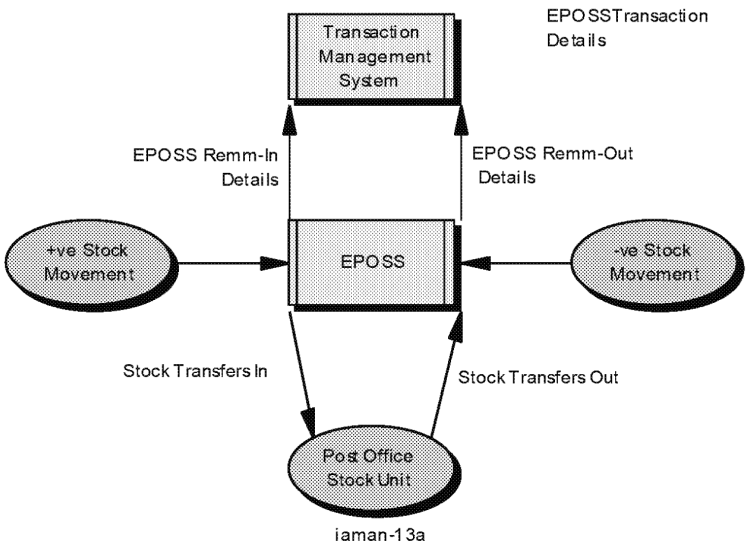
6.3.2 Manage Stock Movement at the Outlet

Data Flow Diagram



Resume

The PM is able to manage stock movement into, out of and between Stock Units through the Remm-In and Remm-Out feature.

Stock movements into the SU could be as a result of a Pouch Receipt ex SAPADS (see LFS), transferring stock in from another SU, adjusting up for earlier mistakes of reflecting gains in stock holding for any other reason.

Stock movements from the SU could be as a result of selling a product to a customer, transferring redundant or called-in stock to SAPADS, transferring stock to another SU, adjusting down for earlier mistake, loss, shrinkage or theft.

Further Information

IA/SPE/013 : EPOSS Audit Trail Specification

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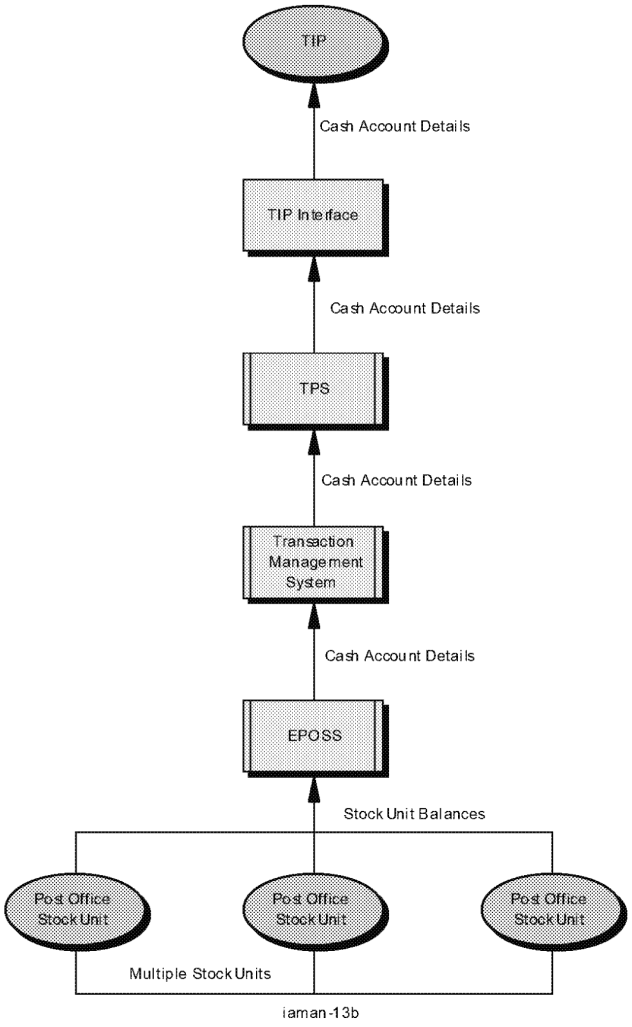
6.3.3 Produce the Cash Account

Data Flow Diagram



Resume

The balances from the Stock Units are aggregated and an overall Outlet Cash Account balance struck. A Cash Account report is produced (3 copies) for all transactions defined in POCL rules. The results are transmitted to TIP.

The Cash Account is expected to balance each week.

Further Information

IA/SPE/013 : EPOSS Audit Trail Specification

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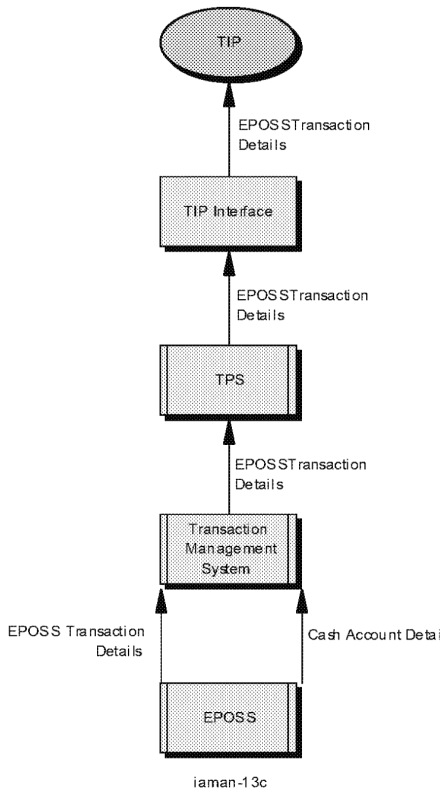
6.3.4 Generate Reports and Transaction Information

Data Flow Diagram



Resume

All EPOSS transaction data and derived values, including Cash Account balances are transmitted, on a daily basis, to POCL TIP, Chesterfield where it is used by POCL to reconcile Outlet activity to monetary values received.

Reports can be generated by a number of selection criteria an rely on the presence of markers in TMS to avoid double counting. Some reports are mandatory.

Further Information

IA/SPE/013 : EPOSS Audit Trail Specification

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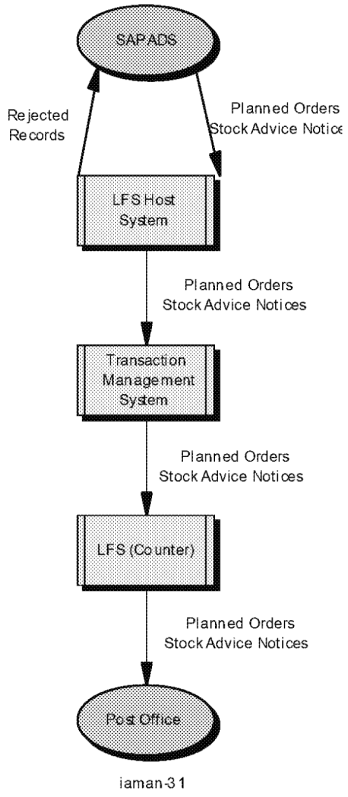
6.4 Logistics Feeder System

6.4.1 Planned Orders & Advice Notices

Data Flow Diagram



Resume

SAPADS estimates the replenishment requirements of each Outlet and sends estimated quantities of stock (cash, stamps and other Counter stock) to the Outlet. Outlets are informed of the planned delivery through a Planned Order. PMs are able to vary the quantities by calling the Inventory Managers by 'phone. A replacement Planned Order is NOT despatched to confirmed the revised delivery.

Further Information

IA/SPE/014 : LFS Audit Trail Specification [7]

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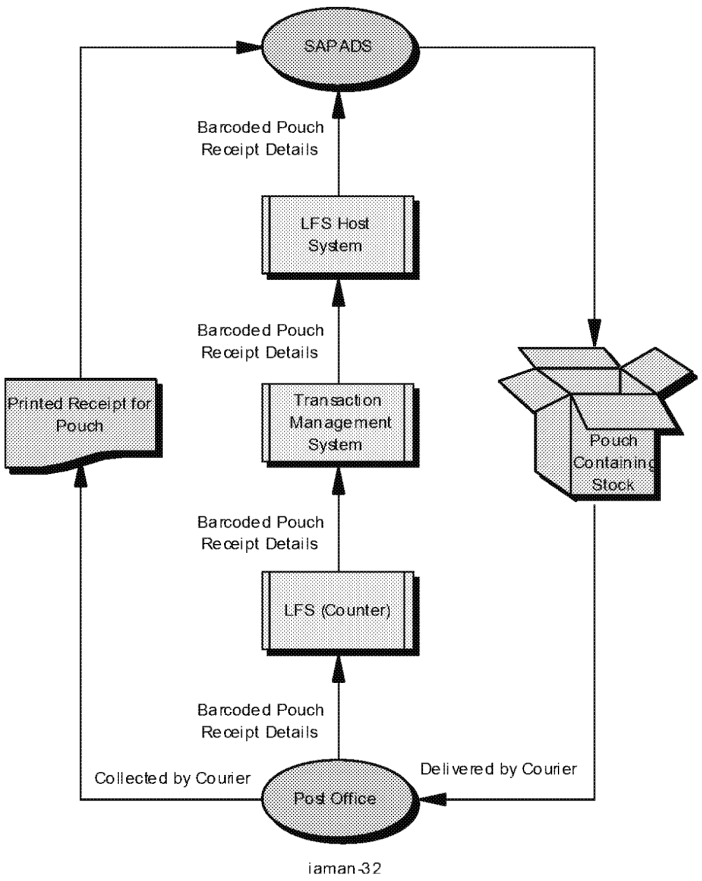
6.4.2 Delivery Stock Pouch to Outlet

Data Flow Diagram



Resume

The Stock Pouches are despatched by SAPADS, via courier, to the Outlets. Details are sent to the Outlet via the system and on receipt of the Pouch the PM reads the barcode using the Counter wand. This checks the details already sent from SAPADS.

A receipt is printed which both the PM and Courier sign acknowledging receipt of the Pouch.

Further Information

IA/SPE/014 : LFS Audit Trail Specification [7]

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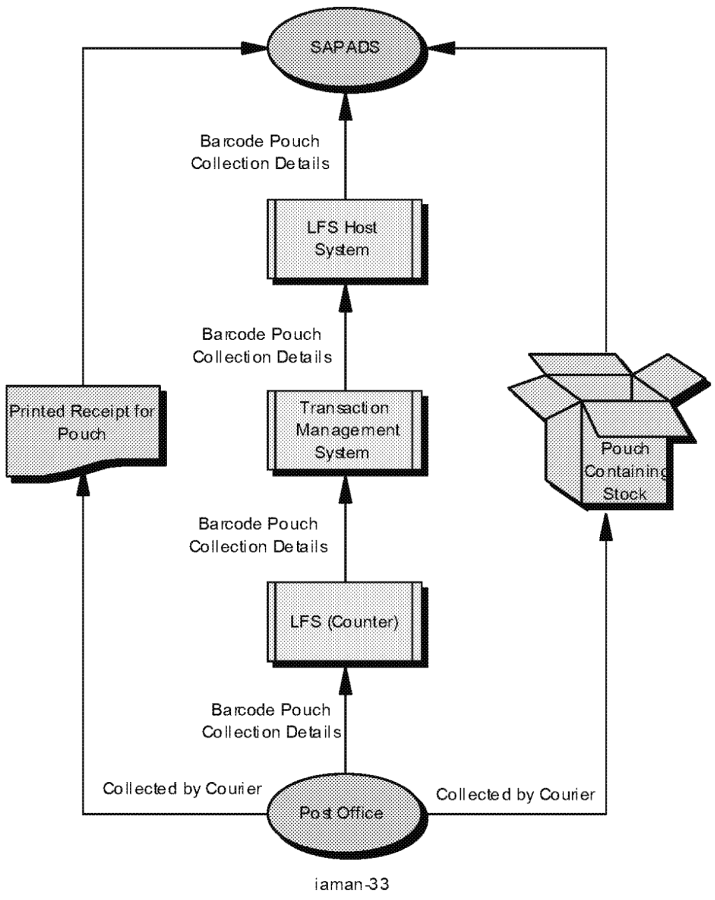
6.4.3 Collect Stock Pouch from Outlet

Data Flow Diagram



Resume

The Stock Pouches are despatched by SAPADS, via courier, to the Outlets. Details are sent to the Outlet via the system and on receipt of the Pouch the PM reads the barcode using the Counter wand. This checks the details already sent from SAPADS.

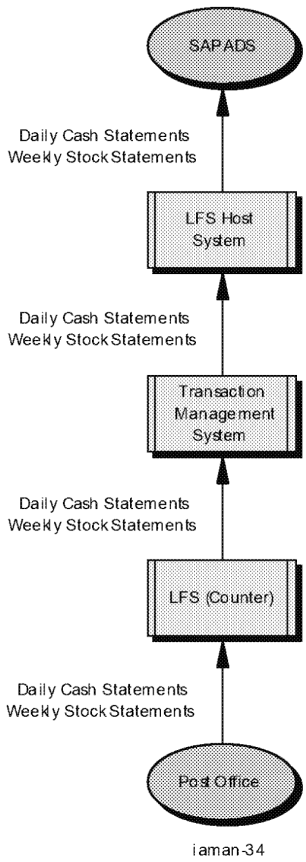
A receipt is printed which both the PM and Courier sign acknowledging receipt of the Pouch.

Further Information

IA/SPE/014 : LFS Audit Trail Specification [7]

6.4.4 Produce Cash and Stock Statements

Data Flow Diagram



Resume

The Cash Statement contains the quantities and total values of each cash item (denomination) for an Outlet. A declaration is made every day by every Counter that has been used on the day. Individual stock units are checked each day to ensure that the declared value equals the calculated balance of cash. A discrepancy is reported if a balance is not achieved. The Cash Statements are sent to SAPADS on a daily basis.

Stock Statements are similar and their accumulations are based on stamp declarations, value stock balances and non-value stock declarations. The data is capture on a weekly basis following the Cash Account Rollover process. The Stock Statements are sent to SAPADS on a weekly basis.

Further Information

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IA/SPE/014 : LFS Audit Trail Specification [7]

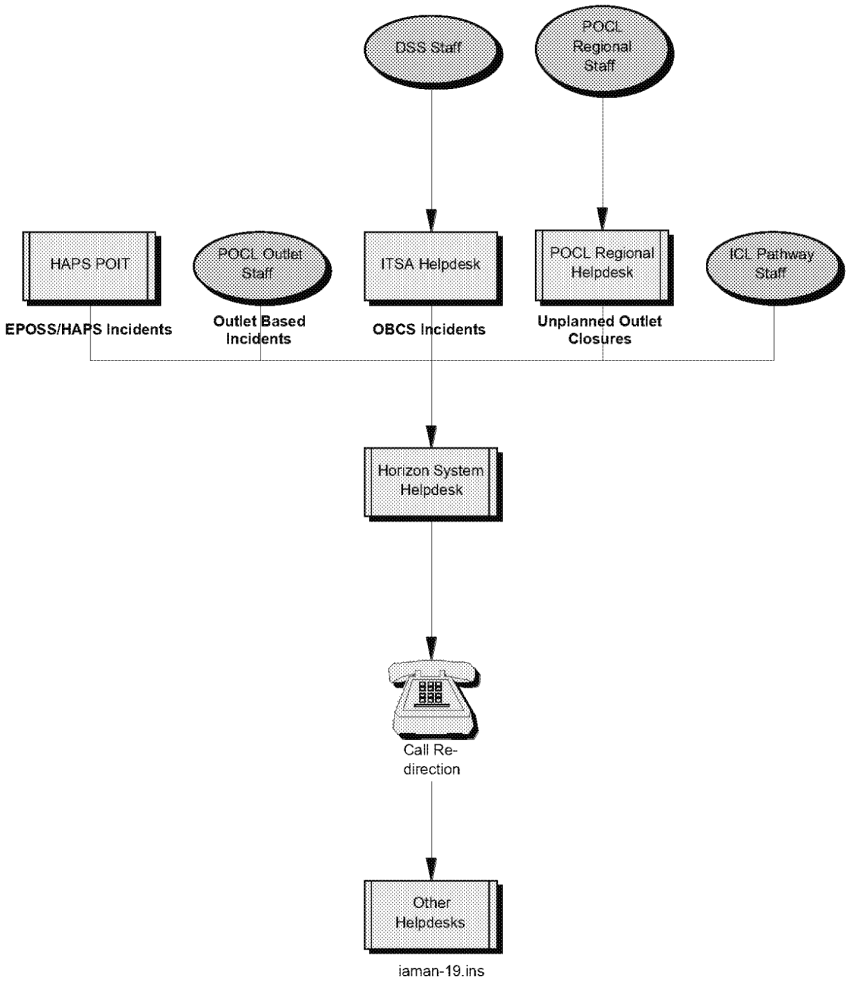
6.5 Horizon System Help Desk

6.5.1 Service Overview

The Horizon System Helpdesk (HSH) deals with all technical and operational calls related to the Horizon environment or the data feeds into Horizon from Post Office Counters Ltd and their clients. It provides a single point of contact for outlet staff and Horizon operation staff.

6.5.2 Schematic

The following diagram shows the main data flows within HSH.



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6.5.3 Data Input Streams

From POCL outlet staff, calls relating to system procedures and Horizon system equipment installed in outlets.

From DSS staff, OBCS queries via the ITSA Service Helpdesk.

From POCL (HAPS) staff, EPOSS and APS queries via the POIT Helpdesk.

From POCL Regional HQ, unplanned office closure details via the POCL Regional Helpdesk.

From ICL Pathway, calls relating to any element of the Horizon system.

6.5.4 Data Output Streams

Essentially all output streams will consist of the advice and guidance requested by the incoming call. In some instances the call will be re-directed to an alternative Helpdesk more appropriate to the nature of he incident.

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7 Horizon Operational Support Services

7.1 Business Incident Management System (APS/EPOSS)

7.1.1 System Overview (APS)

The role of the BSU is to ensure that all APS transactions that occur at the Post office counter reach the intended Clients. The transaction details must pass across a number of system boundaries that may cause rejections (or non-deliveries) which have to be progressed by the BSU with the assistance of other ICL Pathway units.

The BSU will generate reports on those incidents and record them on the BSU APS Reconciliation Exception Database (RED). Each new incident will generate a BIMS report that is updated and ensures that an audit trail is available for each incident.

The BIMS report is used for two reasons:

- to inform POCL Chesterfield and Andover of the details of the APS transaction(s) which have been rejected (undelivered) and to give them the correct transaction details so that they can be forwarded to the correct Clients for settlement, and
- to inform POCL Chesterfield and Andover that the incident has been cleared and, when agreed between ICL Pathway and POCL, closed.

There are potentially 6 types of incident that may be dealt with through BIMS (APS) :

a. Incidents at ICL Pathway Central Systems

The APS Host prepares APS Transaction files for transmission to POCL HAPS. The TPS Host prepares will also create AP Transaction files as well as TPS Transaction files for TIP. The ICL Pathway Central Systems will receive both sets of AP Transaction files and reconcile the two files on a transaction by transaction basis. Files that pass validation are sent straight to HAPS.

If there are any differences then these discrepancies are stored in the APR as discrepancies.

b. Unmatchd Reversals

The ICL Pathway Host APS also checks to see that any reversed transactions have a matching pair of transaction details i.e. that there is an original and a reversed transaction.

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If the Host APS has a reversed transaction to which it can not find the original, then the reversal is rejected by the Host and put into an APS exceptions table. Every entry that goes into this table causes an event to be raised.

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c. Incidents on APS Reconciliation Reports

The BSU will receive a number of APS reports from ICL Outsourcing (CFM) everyday and these reflect the APS transactions that have occurred at Post Offices using the APS during the previous business day.

This report shows the number and value of the APS transactions which have been transferred to HAPS and to TIP for the previous business day. The report will show any timing delay exceptions which are normally resolved the following day. However, some exceptions are more than merely timing delays in which case they become 'Confirmed Exceptions' and have to be resolved by the BSU.

d. Incidents at HAPS Andover

HAPS receives AP transactions files from ICL Pathway APS daily. It carries out a validation check on the files, merges the APS files with other Post office transaction files (i.e. APT and ECCO transactions) and then sorts the transactions by Client. The data collated enables POCL Andover to inform the Clients of their transaction payments for the previous accounting day.

HAPS may reject individual transactions if the Client ID details on those transactions are not recognisable by the system.

e. Incidents at TP Chesterfield

POCL Chesterfield receives transaction data from the HAPS data stream and the TPS data stream. The HAPS data must pass through a pre-APACHI validation check before accepted by APACHI. The validation process checks all the data details to ensure that the right payments go to the right Clients.

The system causes a number of transactions to appear duplicated which would be picked up by the pre-APACHI validation check.

f. Incidents at the AP Client

AP Clients receive their APS payments from the Settlement team at POCL Chesterfield on a daily basis.

There are two categories of Clients :

- Girobank who acts on behalf of a number of Utility and Service companies.
- Non-Girobank Clients whom POCL Chesterfield deals with directly.

The Public Customer may query their Utility bill with regards to payments made at the Post office, e.g. a payment has been shown incorrectly or does not appear on the Customer's bill.

The Customer will initially contact the AP Client with their query. The AP Client may be able to resolve the query without taking the incident further. However if the Client is unable to resolve the incident, then they will contact POCL at Chesterfield and ask them to resolve the incident.

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7.1.2 System Overview (EPOSS)

ICL Pathway is not responsible for directly reconciling EPOSS transactions. There is an obligation to pass raw transaction data to POCL TP daily, followed by a completed post office Cash Account on a (generally) weekly basis. POCL are then responsible for reconciling the individual transactions to the Cash Account totals to provide a national picture.

However, on occasions, due to system constraints, e.g. reversals being prevented due to Cash Account roll over etc, an office may well submit a Cash Account to POCL TP, which is known to be incorrect. In such cases, POCL TP will require full details of the transaction in question to enable the reconciliation and settlement or the error notice procedures to be effected. An incident is therefore raised via the HSHD and passed to BSU who will complete the appropriate BIMS entry advising POCL of the correct transaction or settlement values.

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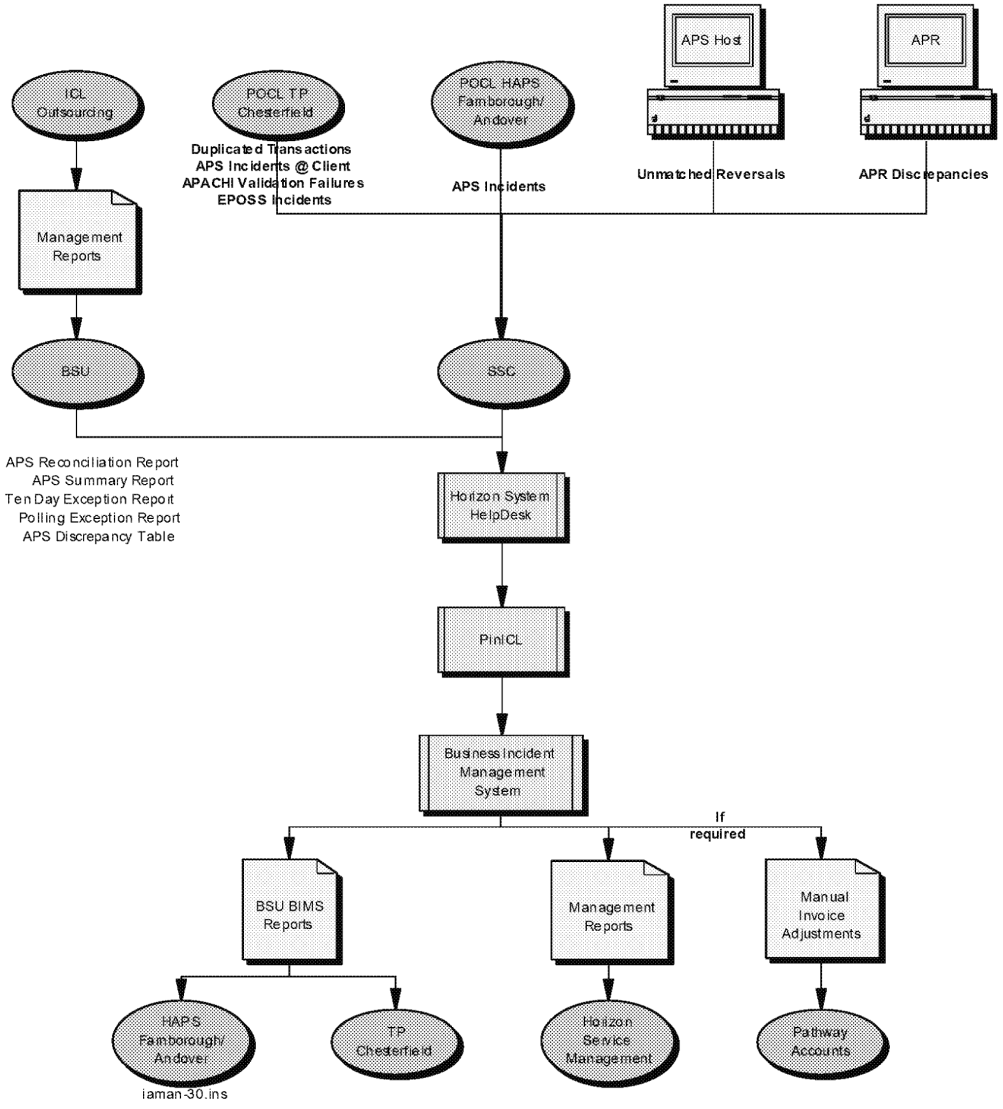
7.1.3 Schematic



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7.1.4 Data Input Streams

APS Reconciliation Report from ICL OSD

APS Summary Report from ICL OSD

Ten Day Exception Report from ICL OSD

Polling Exception report from ICL OSD

APS Discrepancy Table from APS Host

PinICLs with details of Incident to be investigated

7.1.5 Data Output Streams

BIMS Report to originator of incident

Copy of BIMS Report to HAPS Andover, TP Chesterfield & Horizon Service Management

7.1.6 Data Retention Requirements

BIMS Reports are retained for 7 years.

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7.2 Reference Data Management Centre

7.2.1 System Overview

The Reference Data Management Centre (RDMC) is a the mechanism which receives reference data from both POCL and from within Pathway and delivers it to the various parts of the Pathway system. RDMC includes

a. Procedures to handle the receipt, validation and storage of reference data

b. Change control facilities to manage the controlled release of reference data to the Pathway system

c. Data transformation procedures which handle the 'enrichment' of reference data into the format required by the Pathway Counter Applications.

d. Delivery of reference data to the Pathway Counter Applications to support the processing of Electronic Point of Sale Services (EPOSS) and Automated Payment Services (APS). EPOSS and APS counter processing functionality is generic and the individual transactions are driven to a great extent by reference data parameters

e. Delivery of reference data to other areas of the Pathway system such as TPS, MIS and APR

RDMC does not support any BA reference data.

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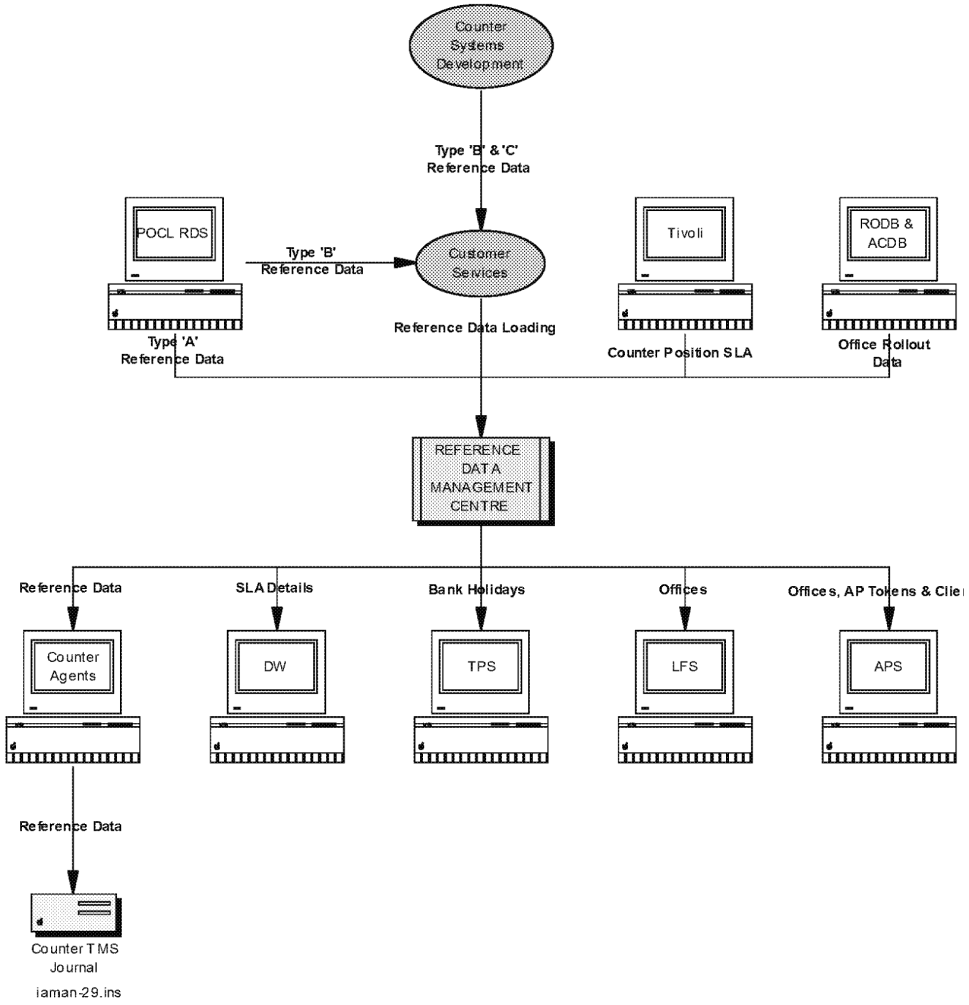
7.2.2 Schematic



7.2.3 Data Input Streams

Reference data is categorised as

Type A — POCL owned reference data delivered via the formal automated interface

Type B — POCL owned reference data delivered other than via the formal automated interface.

Type C — Pathway owned reference data which supports the Counter Application System.

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Type A Data

This reference data is delivered by POCL via a formally agreed interface. The data consists of outlet, client, product and automated payment token definitions. It is transferred from POCL to Pathway using FTMS.

RDMC processes each file of reference data delivered by POCL and returns error details and process statistics to POCL via FTMS. FTMS will ensure all data transfer information required for auditing is available for collection by the Archive Server

Type B Data

This consists of reference data which is supplied by POCL but was not included in the formally agreed Type A interface – mainly because the requirements for and / or the decision to supply the data was taken at a late stage in the CSR design. The data consists of scales tariffs product migration definitions.

Formal procedures are agreed with POCL to support the delivery of this data from POCL to Customer Services. Customer Services then manages the preparation of the data for input to RDMC with the support of Counter Development.

An audit record is maintained by the archive server of all reference data files received by RDMC and of the associated error details and process statistics.

Type C Data

This consists of reference data which Counter Development supply to support the Pathway Counter application. The best example of this type of reference data is the menu hierarchy definition. The data is delivered by Counter Development to Customer Services.

Customer Services manage the loading of the data into RDMC. An audit record is maintained by the archive server of all reference data files received by RDMC and of the associated error details and process statistics.

Rollout Auto-Config Data

At a specific point in the automatic configuration of new POCL outlets, the auto-config process sends details of the offices to be rolled out to RDMC by creating data files in the RDMC environment. The data is loaded automatically into RDMC where it triggers the delivery of reference data for the newly rolled-out offices to other areas of the Pathway system.

An audit record is maintained by the archive server of all reference data files received by RDMC and of the associated error details and process statistics.

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7.2.4 Data Output Streams

Reference Data to Pathway Counter Applications

RDMC delivers new and changed reference data to the Pathway Counter Applications via a Reference Data Agent process (R_LD_ALL). This process reads generic views of the reference data within RDMC and extracts details of reference data changes. The agent process then converts the data into attribute grammar format for and delivers it to the Correspondence Server level.

RDMC maintains a audit record of when each set of input data is delivered to the Correspondence Server.

Delivery of Reference Data to Other Pathway Systems

RDMC delivers changes to outlet, client and product reference data to MIS each day. An audit record is maintained by RDMC of when each set of input data is delivered to MIS.

Additionally, RDMC provides an up-to-date view of outlet and client details to the TPS and APR host system

7.2.5 Data Retention Requirements

RDMC operates as a fully replicated system across two sites offering immediate resilience in the event of failure. Data is transmitted a number of times each day between RDMC and the POCL RDS system at Huthwaite via dedicated ISDN lines.

In the event of failure, fallback processors and links are in place.

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8 ICL Pathway Commercial Systems

8.1 Service Level Contract Administration

8.1.1 Overview

SLCA, and its associated reporting system Service Level Agreement Monitoring (SLAM) are used to compare the performance of the Horizon system against a number of measures established in the contract Schedule B03. It does this by taking information feeds from the Data Warehouse (DW) and running these against special formulae, again established in the contract. SLAM is used to report the outcome of these calculations to the Horizon Service Management Group, a Pathway/POCL committee.

8.1.2 Schematic

The following diagram shows the main data flows within SLCA.

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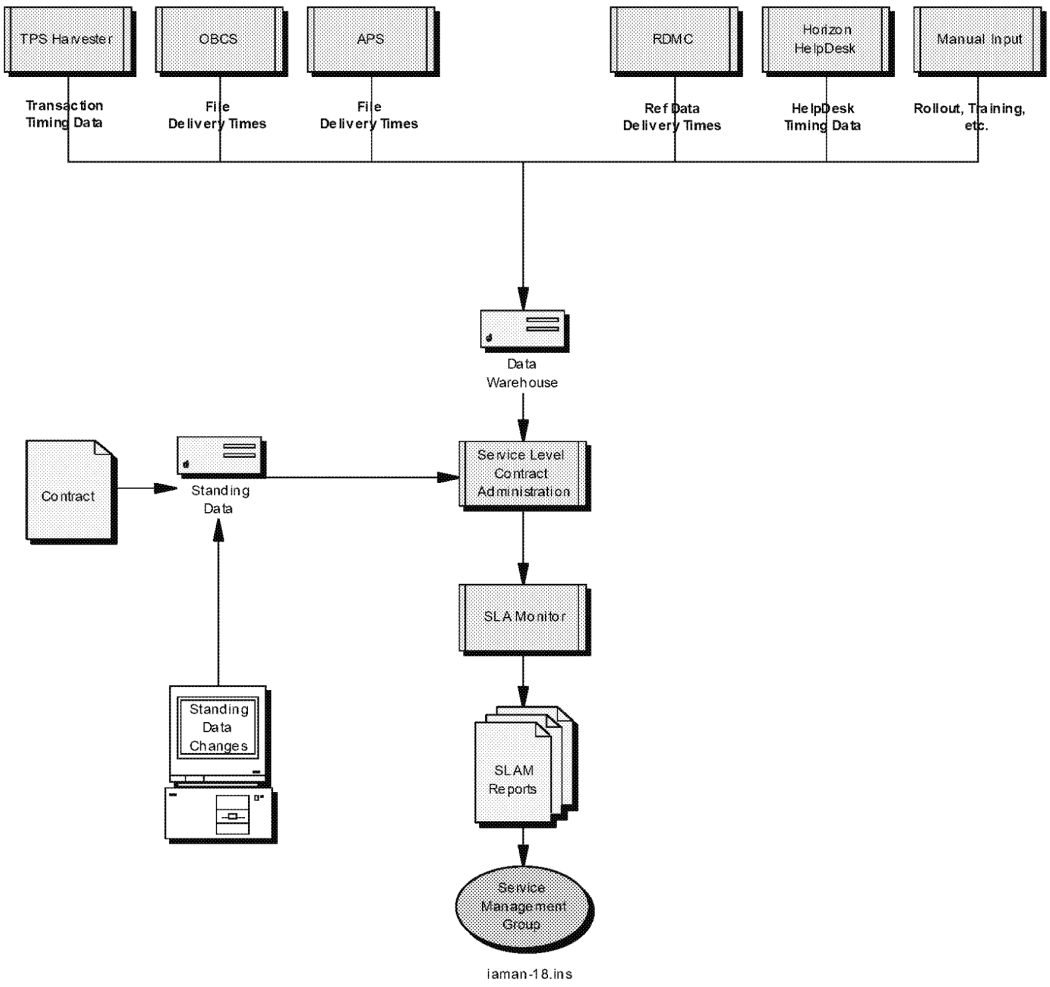

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8.1.3 Data Input Streams

Transaction Data (Automatic Feed)

Transaction timing data is taken by the TPS Harvester.

Helpdesk timings are taken from the Horizon Helpdesk.

File delivery times are taken from LFS, OBCS and APS.

Reference Data delivery times are taken from the RDMC.

All the above are held as Oracle tables within the DW.

Transaction Data (Manual Feed)

There are a number of manual data feeds into SLCA, all of which result in Oracle tables within the DW, eg. Achievement of Rollout, achievement of Training.

Standing Data

SLA parameters (as defined by the contract) are held as Oracle tables within the DW.

Mathematical formulae used to calculate achievement (as defined in the contract) are held as Oracle tables within the DW.

8.1.4 Changes to Standing Data

Changes to the SLA Parameters and mathematical formulae are allowed via an Administration Facility within the SLCA system. Physical access to this facility is strictly controlled and password controls are used to control logical access.

Changes to the parameters and/or formulae require pre-authorisation through the Change Control process before they can be applied. A CCN number must exist for each change.

Records of changes to Standing Data, including Contract, Contract SLA, Performance Measure and Liquidated Damages are maintained in an AUDIT_DETAILS table within the Oracle database :-

- For each field in the Contract table created, amended or deleted a record of the change.
- For each field in the Contract SLA table created, amended or deleted a record of the change.
- For each field in the Performance Measures table created, amended or deleted a record of the change.
- For each field in the Liquidated Damages table created, amended or deleted a record of the change.

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8.1.5 Data Output Streams

Data output from the various calculations are passed to Service Level Agreement Monitor (SLAM) where they are converted into graphs and histograms for presentation to interested groups among them the POCL/Pathway Service Management Group. SLAM is a passive system insofar that it does not carry out any processing other than to transform tables of numbers into graphical representations.

Remedy Calculations are generated by SLCA for subsequent application during the quarterly invoicing cycle within the Common Charging System. These values are held as Oracle tables within the DW.

8.1.6 Data Retention Requirements

Requirement 697 calls for this data to be retained for 7 years.

This data is not archived onto the audit archive DLTs.

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9 Operational Audit Data

This section deals with the generation of audit data that is of interest to the community of auditors.

9.1 Audit Track Content And Maintenance

A logical description of the audit tracks established within Horizon can be found in the Audit Trail Functional Specification [1]. The physical manifestation of the audit tracks is the production of various files, transfer control files, archived database tables and the host databases themselves, some of which are archived to the Audit Archive, some of which are maintained as live databases subject to regular backup.

The following sections identify, for each Horizon service, the physical representation of the audit tracks described in [1]. A more complete description can be found in the Audit Data Catalogue [6].

9.2 Audit Data Retention Policy

9.2.1 Operational Services Audit Data

Audit data relating to the Operational Services described in this manual is retained for not less than 18 months.

9.2.2 Operational Support Services Audit Data

Audit data relating to RED Case Histories is retained for 18 months.

Audit data relating to RED Outputs is retained for 7 years

Audit data relating to RDMC is retained for 18 months.

9.2.3 Commercial Systems Audit Data

Audit data relating to the Commercial Systems described in this manual is retained for 7 years.

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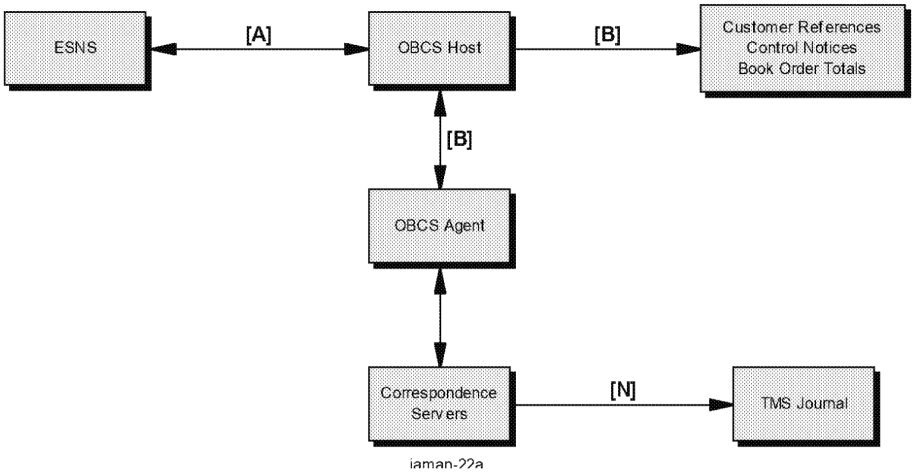
9.3 Order Book Control Service



Ref	Name	Direction	Description
[A]	IOP Transaction File	OBCS Host > ESNS	Outward file containing details of all Order Book transactions made at PO Counters.
	Exceptions File	OBCS Host > ESNS	Outward file containing details of exceptions found when validating Control Output Files received from DSS. File sent even when empty.
	IOP Control Output File	ESNS > OBCS Host	Inward file containing details of transactions to support Order Book encashments.
	Audit Control File	ESNS > OBCS Host	Inward file containing details of files transferred in across the interface.

Ref	Name	Direction	Description
[B]	TMS_TX_LOCAL_STOPS	OBCS Host > TMS	Contains details of stops received from ESNS for customers that OBCS knows about.
	arc-excptns	OBCS database tables	Contains details of exceptions that have occurred during the database archiving processes.
	aud$		The generic Oracle audit trails table.

Ref	Name	Direction	Description
[N]	Riposte messages	TMS Journal	All messages written to the Correspondence

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			server.

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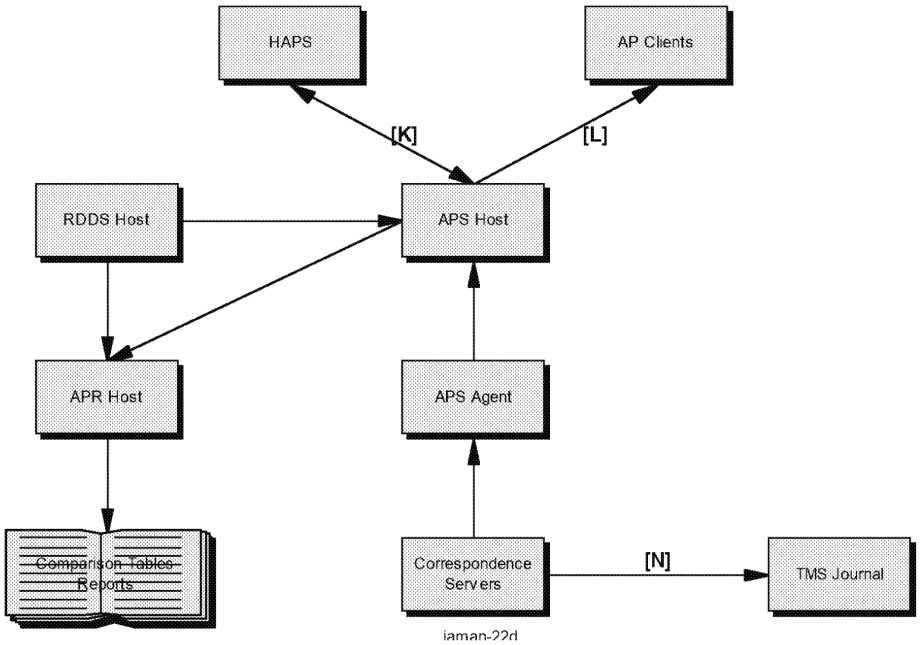
9.4 Automated Payments Service



Ref	Name	Direction	Description
[K]	Transaction File	APS Host > HAPS	Automated Payments transactions from APS back to HAPS.
	TXN Control File	APS Host > HAPS	HAPS transactions control file indication files sent by APS.
	FTMS Control Files	APS Host > HAPS	Contains FTMS details of files to be sent to HAPS
	FTMS Acknowledgement File	APS Host > HAPS	Contains the FTMS acknowledgement from the remote end of link for files sent.
	Errors File	HAPS > AP Host	Errors relating to HAPS Transaction File.
	Confirmation File	HAPS > AP Host	Confirmation file that a transmitted file has passed validation.
	FTMS Control Files	HAPS > AP Host	Contains FTMS details of files transferred from HAPS

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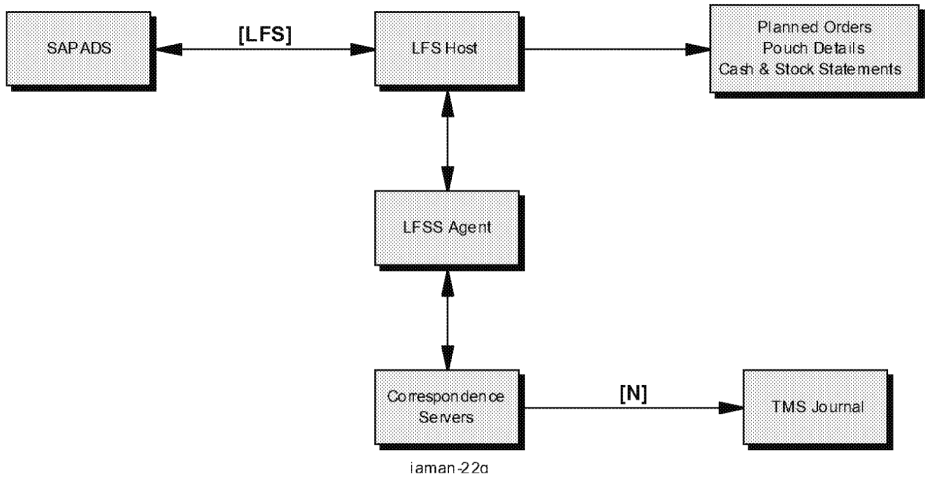
Ref	Name	Direction	Description
[L]	AP transaction files transferred between APS Host and AP Clients	APS Host > AP Client	Variable depending on agreement between AP Client and Pathway.

Ref	Name	Direction	Description
[N]	Riposte messages	TMS Journal	All messages written to the Correspondence server.

9.5 Logistics Feeder Service



Ref	Name	Direction	Description
[?]	Planned Orders File	SAPADS > LFS Host	Inward file containing details of Planned Orders for Outlets.
	Advice Notices File	SAPADS > LFS Host	Inward file containing details of Advice Notices for Outlets.
	Daily Cash Statement File	LFS Host > SAPDS	Outward file containing daily Cash Statements from Outlets
	Weekly Stock Statement File	LFS Host > SAPADS	Outward file containing weekly Stock Statements from Outlets
	Pouch Delivery File	LFS Host > SAPDS	Outward file containing details of Pouches delivered to Outlets from SAPADS
	Pouch Collection Files	LFS Host > SAPADS	Outward file containing details of Pouches collected from Outlets to SAPADS
	Rejected Planned Orders File	LFS Host > SAPADS	Outward file containing details of Planned Orders files that have failed validation rules at LFS Host.
	Rejected Advice Notices File	LFS Host > SAPADS	Outward file containing details of Advice Notice files that have failed validation rules at LFS Host.
	Rejected Pouch Delivery Files	LFS Host > SAPADS	Outward file containing details of Pouch Delivery files that have failed validation rules at LFS Host.
	Audit Control File	SAPADS > LFS Host	Inward file containing details of files transferred in across the interface.

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Ref	Name	Direction	Description
[N]	Riposte messages	TMS Journal	All messages written to the Correspondence server.

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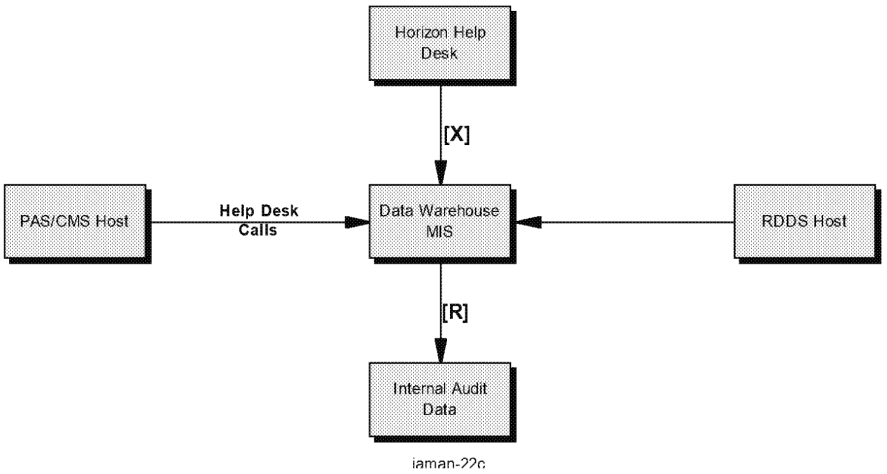
9.6 Data Warehouse/MIS



Ref	Name	Direction	Description
[R]	Internal Audit MIS Files		Note that MIS has its own archiving system at NR2 and is specifically excluded from the operational audit archive.

Ref	Name	Direction	Description
[X]	Mitel Call Log	Mitel > MIS	Contains all Mitel call log details for that day
	Control File	Mitel > MIS	Control file containing details of transmitted files.
	Lock File	Mitel > MIS	Lock file indicating that file transmission is complete.
	FTMS Control File	Mitel > MIS	Control Files for files transferred from Mitel.
	BT Call Log	BT > MIS	Contains all BT call log details for that day
	Control File	BT > MIS	Control file containing details of transmitted files.
	Lock File	BT > MIS	Lock file indicating that file transmission is complete.
	FTMS Control File	BT > MIS	Control Files for files transferred from BT.
	HSH Call Log	HSH > MIS	Contains all HSH call log details for that day

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	Control File	HSH > MIS	Control file containing details of transmitted files.

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Ref	Name	Direction	Description
[X] Cont'd	Lock File	HSH > MIS	Lock file indicating that file transmission is complete.
	FTMS Control File	HSH > MIS	Control Files for files transferred from HSH.

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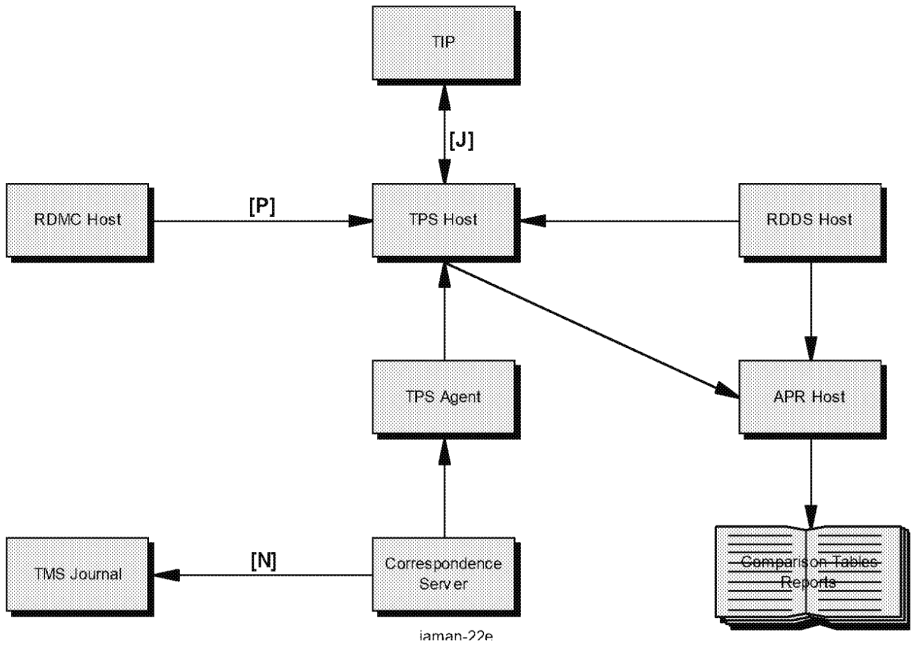
9.7 Transaction Processing



Ref	Name	Direction	Description
[J]	Transaction File	TPS Host > TIP	TIP transactions in multi structured subfiles
	FTMS Control Files	TPS Host > TIP	Contains FTMS details of files to be sent to TIP.
	FTMS Acknowledgement File	TPS Host > TIP	Contains the FTMS acknowledgement from the remote end of link for files sent.
	Errors Details File	TIP > TPS Host	Errors relating to TIP Transaction File.
	Erroneous Data File	TIP > TPS Host	File which was found to contain errors returned together with the error details file.
	FTMS Control Files	TIP > TPS Host	Contains FTMS details of files transferred from TIP

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Ref	Name	Direction	Description
[P]	This is the audit point for data transformation within the RDMC database.		There is no data archived from the RDMC database at NR2 and thus any audit information required will be available from the online service.

Ref	Name	Direction	Description
[N]	Riposte messages	TMS Journal	All messages written to the Correspondence server.

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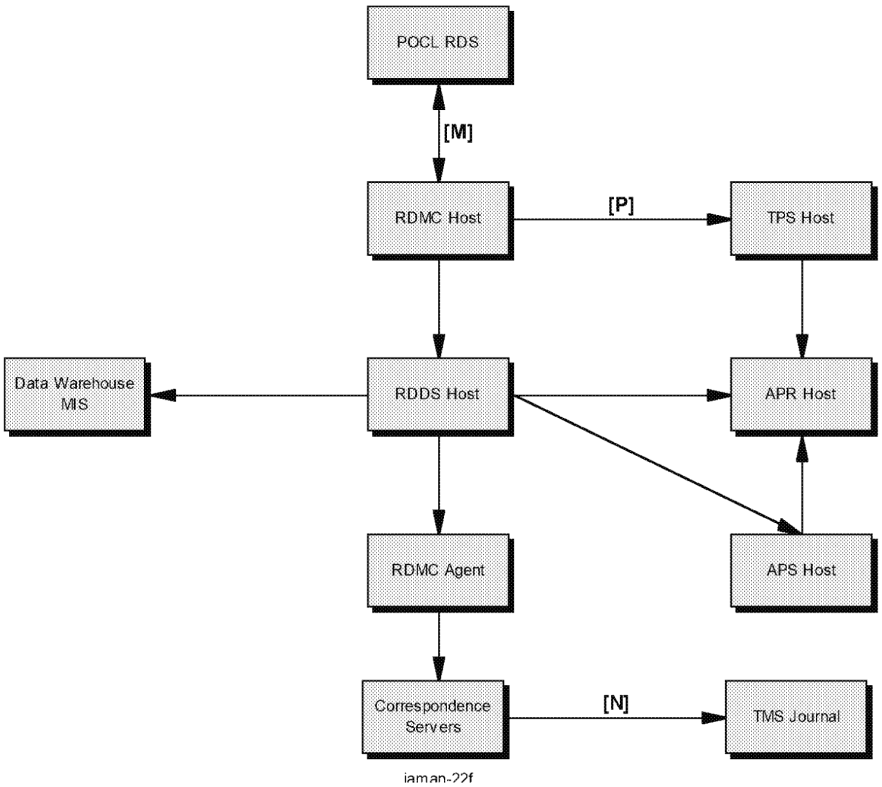
9.8 Reference Data



Ref	Name	Direction	Description
[M]	POCL Reference Data Errors File	RDMC Host > POCL RDS	Errors associated with the POCL supplied Reference Data.
	POCL Reference Data Statistics File	RDMC Host > POCL RDS	Errors associated with the POCL supplied Reference Data.
	FTMS Control Files	RDMC Host > POCL RDS	Contains FTMS details of files to be sent to RDMC Host from POCL.
	FTMS Acknowledgement File	RDMC Host > POCL RDS	Contains the FTMS acknowledgement from the remote end of link for files sent.
	POCL Reference Data File	POCL RDS > RDMC Host	POCL supplied Class 'A' Reference Data as defined in BP/IFS/007.
	FTMS Control Files	POCL RDS > RDMC Host	Contains FTMS details of files to be sent to RDMC Host from POCL.

Ref	Name	Direction	Description
[M] Cont'd	EPOSS Reference Data File	RDMC	EPOSS Reference Data defined as Class 'C' in RD/IFS/011.
	EPOSS Load Error File	RDMC	EPOSS Reference Data errors associated with a Load File.
	EPOSS Load Statistics File	RDMC	EPOSS Reference Data statistics associated with a Load File.
	Roll-Out Reference Data File	RDMC	Roll-Out Reference Data stating outlets activated as defined in RD/IFS/015.
	Roll-Out Load Error File	RDMC	Roll-Out Reference Data errors associated with a Load File.
	Roll-Out Load Statistics File	RDMC	Roll-Out Reference Data statistics associated with a Load File.
	Scales Reference Data File	RDMC	Scales Reference Data stating outlets activated as defined in RD/IFS/014.
	Scales Load Error File	RDMC	Scales Reference Data errors associated with a Load File.
	Scales Load Statistics File	RDMC	Scales Reference Data statistics associated with a Load File.
	Additional Products Reference Data File	RDMC	Additional Products Reference Data stating outlets activated as defined in RD/IFS/015.
	Additional Products Load Error File	RDMC	Additional Products Reference Data errors associated with a Load File.
	Additional Products Load Statistics File	RDMC	Additional Products Reference Data statistics associated with a Load File.
	Cash Account Mapping Reference Data File	RDMC	Cash Account Mapping Reference Data stating outlets activated defined as Class 'B' in RD/IFS/012.
	Cash Account Mapping Load Error File	RDMC	Cash Account Mapping Reference Data errors associated with a Load File.
	Cash Account Mapping Load Statistics File	RDMC	Cash Account Mapping Reference Data statistics associated with a Load File.

Ref	Name	Direction	Description
[P]	This is the audit point for data transformation		There is no data archived from the RDMC database at NR2 and thus any audit information required will be available from the online

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	within the RDMC database.		service.

Ref	Name	Direction	Description
[N]	Riposte messages	TMS Journal	All messages written to the Correspondence server.

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10 Operational Audit Data Archive Server

10.1 Overview

Audit data generated at various points in the Horizon solution is gathered periodically and placed on DLT for long term storage. Files containing audit data are generated by the various applications and systems and are placed into special directories established for audit purposes. These are periodically polled by the Audit Track Gatherer and the files drawn down into the audit archive server and placed on DLT.

The Archive Server can be decomposed to show its component parts and a brief description of how they function. Figure 4 shows the basic componentry and Figures 5 and 6 the data flows that take place between them for archiving and retrieving audit data respectively.

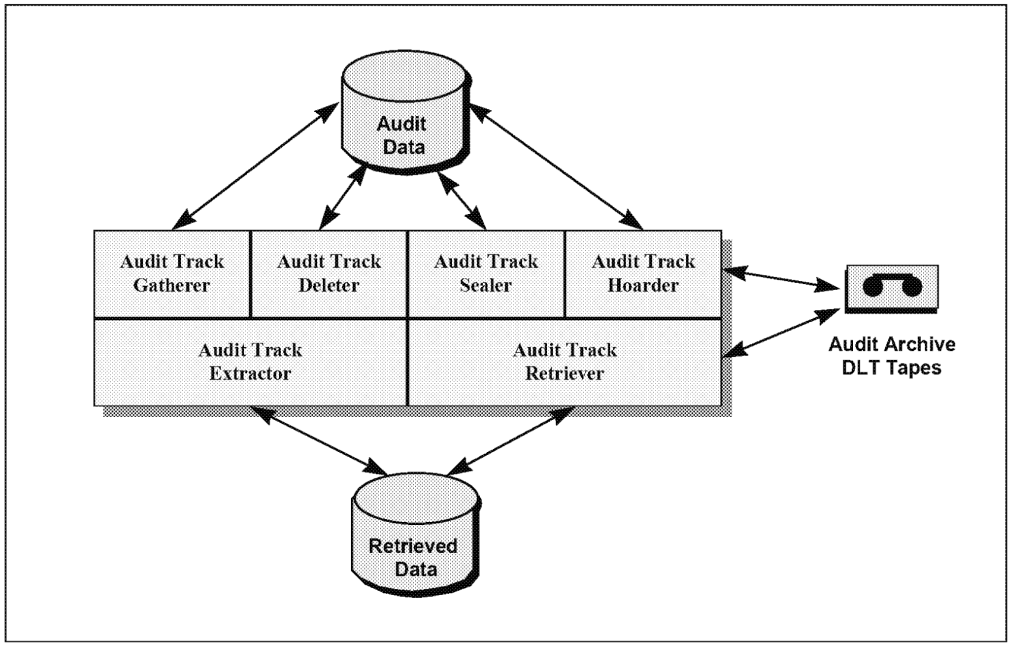

Figure 4 : Componentry of the Audit Archive Server

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10.2 Archiving and Storing Audit Data

10.2.1 Overview

Essentially the activity here is to Gather all audit data files that have been placed into the appropriate directories, calculate a checksum seal value for each file (establishing a data integrity control) and placing the sealed file onto a DLT for storage.

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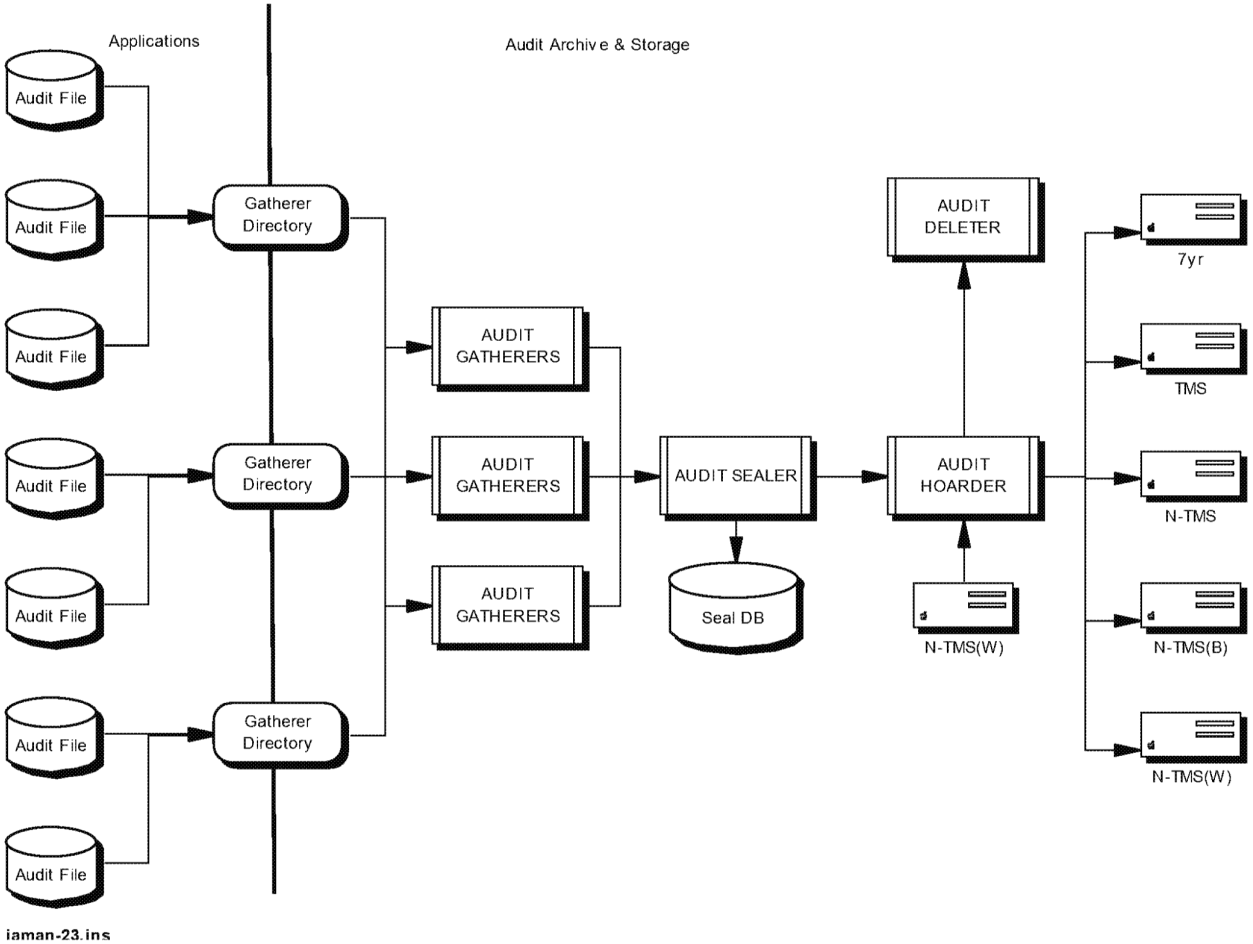

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Figure 5 : Data Flow - Audit Data Archive & Storage

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10.2.2 Audit Track Gatherer

Gathers Audit Tracks that have been generated within Horizon. The majority of these tracks are created on different platforms and are gathered onto temporary disk storage on the Archive Server.

Gathering is implemented using Windows NT remote disk access facilities for Correspondence Server, Tivoli Object Database and External Gateway Audit Tracks. NFS is used to collect files from Unix systems in particular the database applications, e.g. OBCS. The Audit Tracks are gathered at regular intervals. The Scheduling of the transfers varies with the type of Audit Point and the locations from which the tracks are gathered and is controlled via the Maestro scheduling facilities of Horizon.

Multiple instances of the Audit Track Gatherer can be configured on a single Archive Server.

10.2.3 Audit Track Sealer

Before Audit Tracks are hoarded a seal is calculated for the file. The seal is stored on the Archive Server in a database which links the seal to the file.

When an Audit Track is retrieved its seal is recalculated and checked against the value in the database.

10.2.4 Audit Track Hoarder

Transfers Audit Tracks from the Disk Storage on the Archive Server onto long term storage media (DLT tapes). This component is implemented using the Legato NetWorker product.

10.2.5 Audit Track Deleter

The Audit Track Deleter is responsible for the deletion of Audit Tracks from the machines on which they were generated after they have been gathered. The point in the processing of an Audit Track (by the Archive Server) at which the original copy of each gathered file is deleted is configurable. Audit Track Deletion takes place between the completion of Audit Track Gathering and some (configurable) time after the completion of Audit Track Hoarding for any particular Audit Track file.

The Audit Track Deleter is also responsible for regularly producing a list of files processed by the Archive Server.

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10.3 Retrieving and Extracting Audit Data

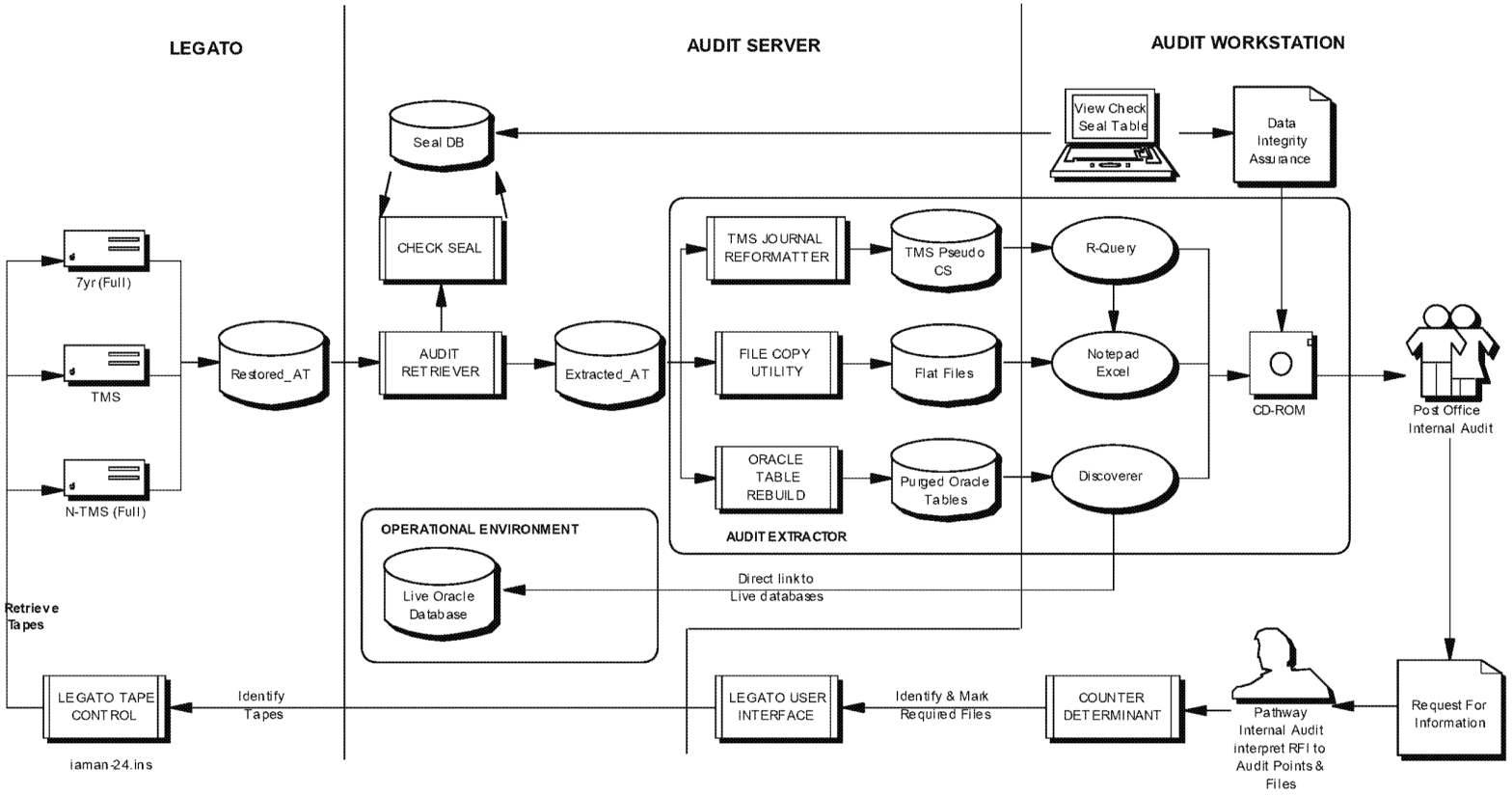

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Figure 6 : Data Flows - Audit Data Retrieval & Extraction

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10.3.1 Overvie

w

This is where audit data is retrieved from the DLT, based on Request(s) For Information made by Post Office Internal Audit, and presented for further extraction or placed on CD-ROM or other suitable media for despatch to the RFI originator.

The following paragraphs are ordered to reflect the actual processing of a Request For Information (RFI) by ICL Pathway Internal Audit.

Detailed procedures controlling this activity can be found in Conducting Audit Data Extractions at CSR+ [9].

10.3.2 Request For Information

POIA will request audit data via Request For Information form (RFI). This will contain a description, in business terms, of the times, outlets, events, items and activities that the Auditors are interested in. This request has to be interpreted by Pathway Internal Audit and mapped onto the Audit Points and Files described earlier in this manual.

10.3.3 Marking Files and Tapes

Based on this interpretation as many files of audit data that are needed to satisfy the request are 'marked' for retrieval. Legato is notified of these files and it in turn identifies the DLTs containing these files. Legato provides system prompts for Operators to load tapes and it copies the data into a local buffer area.

10.3.4 Audit Track Retriever

Polls the Legato buffer area and retrieves any data files found into temporary disk storage (Export File) on the Archive Server prior to the extraction of relevant data for use by the auditors. The Retriever provides a second copy of the file which is input to the Check Seal function.

10.3.5 Audit Data Check Seal

To assure the integrity of the audit data while on the DLT the checksum seal for the file is re-calculated by the Audit Track Sealer (10.2.3) and compared to the original value calculated when the file was originally written to the DLT. The result is maintained in a Check Seal Table.

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10.3.6 Audit Trail Extractor

This is a 'catch all' facility that uses various tools to extract or reform the retrieved audit data in accordance with the RFI. It also places the information onto a CD-ROM, or other suitable media, for despatch to the RFI originator.

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10.4 Archived Audit Data Usage

The audit data maintained in the audit archive can be used for a number of purposes :

- Proving processing integrity.
- Supporting or substantiating investigations.
- 'Bulk' extraction.

10.4.1 Proving Integrity of Processing

To prove the integrity of a process during a regular System Audit. Data that is available on the day(s) that the audit takes place can be used and may be taken from the archive or direct from the system. Audits of this type are likely to be run or led by Pathway Internal Audit.

10.4.2 Investigation Support

The term 'investigation' is used in its broadest sense and does not limit itself to fraud. Any RFI is likely to be associated with a specific business event, eg. An encashment, a bill payment, an outlet, a beneficiary. It is anticipated that the majority of this type will be based on the TMS Journal, or will use it as a start point. See section [11.2] for details of how to raise an RFI.

10.4.3 Bulk Extraction

Although the term 'bulk extraction' is used, the amount of audit data retrieved may be relatively small. However, the underlying principle is that a chunk of data will be extracted from the archive and despatched to the requester for their further analysis. It is anticipated that the majority of this type will be based on the TMS Journal although POIA may also request information from other files (OBCS, etc). See section [11.2] for details of how to raise an RFI.

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11 Obtaining Access to Operational Audit Data

Requirement 699.

11.1 Access Control Policy

The access to, and availability of, audit data is dependent on which audit role requires it :

- ICL Pathway Auditor.
- POCL Auditor.
- POCL Emergency Manager.
- POCL <Client> Auditor.
- Authority's Agents.

11.1.1 ICL Pathway's Internal Auditors

ICL Pathway's auditors, who will be based at the ICL Pathway Headquarters in Feltham, can access the ICL Pathway datacentres, at Wigan and Bootle, via secured links. They can also operate out of the Datacentres where this is more convenient or appropriate.

When routed to a particular campus, the auditor will only be permitted to access files at that site.

Access to Riposte Journals at the ICL Pathway central sites will avoid the need to access the journals held at the Post Office outlets.

11.1.2 Post Office Auditors

POCL and POCL <Client> Audit functions will have access to:

- POCL SIS audit track (selective),
- POCL Client audit track (selective), and
- the Systems Management track.

Although classed as a single Audit role Post Office Auditors fall into two categories, Post Office Network Auditors and Post Office Internal Auditors. Network Auditors require access to audit trail information at the local sites. This will account for the bulk of the day-to-day audit activity undertaken by a large team of experienced auditors. Internal Auditors will usually satisfy their audit trail information needs through Requests For Information made to the Pathway Audit function.

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Access to POCL audit trails, particularly the TMS Journal, is seen as a strict POCL preserve. If any third parties require access to it, for evidential purposes or fraud investigation, then the access will be via POST OFFICE INTERNAL AUDIT.

Local Access

Network Auditors will use the same reporting functionality as provided to support the Electronic Point Of Sale Service (EPOSS). This entails production of various standard reports which the auditor may use instead of the local Post Office Manager.

In addition to the standard EPOSS reports, Network Auditors have access to a suite of special reports and logs available to them via a special authentication process including a one-shot password.

The "events" of interest will be non-transactional activities which have ongoing significance, including:

- user log-on/off,
- stock unit allocations/transfers/remittances,
- unauthorised access attempts, and
- change of access permissions.

Central Access

In exceptional cases, Network Auditors may require access to this information held centrally via the audit archive. This would apply:

- following equipment loss or damage at the local outlet,
- where an operational system is not expected to be re-established during the day of the auditor's visit, and
- if it is necessary to view an historical record.

Network Auditors will not be allowed direct access to information outside the POCL OPS domain and any information needed will be supplied to them by the Internal Auditors who will themselves obtain it via the ICL Pathway Auditors.

11.1.3 POCL Emergency Manager

In exceptional circumstances, the Post Office Manager:

- may not be available (as a result of death or injury), or
- may not provide co-operation (when under fraud investigation).

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In such cases, an auditor may need to reassign roles to new users and reset access permissions following transfer of business from one Post Office Manager to another.

The POCL Emergency Manager role can be used by selected PO Auditors when they require additional capabilities in the absence of a Post Office Manager. It provides the normal auditor functions plus the Post office Manager functions, including user administration.

The POCL Emergency Manager may delete and create a Post Office Manager Role and produce a cash account for a broken period.

11.1.4 POCL <Client> Auditors

There is no direct access to the system by POCL <Client> Auditors. Post Office and ICL Pathway's Auditors will access the system on their behalf and provide all necessary information that the POCL <Client> Auditors are permitted to see. They are expected to operate through the PO Internal Auditors.

11.1.5 Authority's Agents

Schedule A03 identifies other parties that may be granted audit rights to Pathway and/or the Horizon system. They are :

- External auditors of the Authority.
- Other authorised agents.
- Successor organisations to those identified above.

Access by any of these organisations must be co-ordinated in the first instance by the Authority for whom the Agent is operating and the requirements of the JWF should, where possible, be observed.

11.1.6 One Shot Passwords

One Shot Passwords (OSP) are transacted through the Horizon System Helpdesk (HSH) and are available to POCL Post Masters, selected Retail Network Managers and Network Auditors. Each request for an OSP will result in a verification dialogue with the HSH and, potentially a Service Management Centre supervisor.

Details of the OSP can be found in the document 'Authentication of User for Release of One Shot Password by Horizon System Helpdesk', reference PCL/BSM/SEC/001 v1.2 dated 09/12/99.

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11.2 Requesting Audit Data Extractions

11.2.1 Pre - Requisites

Post Office Internal Audit will be expected to identify Auditors who are authorised to raise an RFI. It is not anticipated that this list will exceed two names.

It is the responsibility of Post Office Internal Audit to notify Pathway Internal Audit of any changes to this list.

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11.2.2 Requesting Audit Data

All requests for audit data extractions must come to Pathway Internal Audit in the form of a Request For Information. This is a free format request but must contain a minimum of the following :

a. Originator identity (name, address, contact 'phone)

b. Priority; Urgent (<48hours); Routine (<5 days); Other (Specify)

c. Enquiry reference if standard enquiry. Plus any allowable variables within the standard enquiry.

d. Search details if not standard enquiry.

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12 Commercial Audit Records (R697)

Requirement 697 Criteria 1 : The CONTRACTOR and his sub-contractors shall keep or cause to be kept Records (including financial records) of all Services, covering materials and Services provided, timesheet records, contracts let to sub-contractors and Charges levied to the AUTHORITIES. These Records shall not be more detailed than those held by the CONTRACTOR for its own audit purposes.

12.1 Included Items

12.1.1 Invoicing Records

System Overview

Although the generation of an Invoice is a manual activity, and the core Invoice values and frequencies are determined by the Contract between POCL and ICL Pathway, there are a number of variable elements that are applied to each Invoice :

- Transaction volumes where the actual transaction count is compared to a benchmark value and an adjustment factor calculated.
- Outlet availability during the Invoice period.
- Numbers of outlets actually rolled-out during NRO compared to original target.
- Liquidated damages arising from failures to achieve SLA commitments.

The Contract also allows for RPI adjustments.

Interim, or ad-hoc, invoices can be generated at any time although these do not become committed and are used for internal reporting purposes only.

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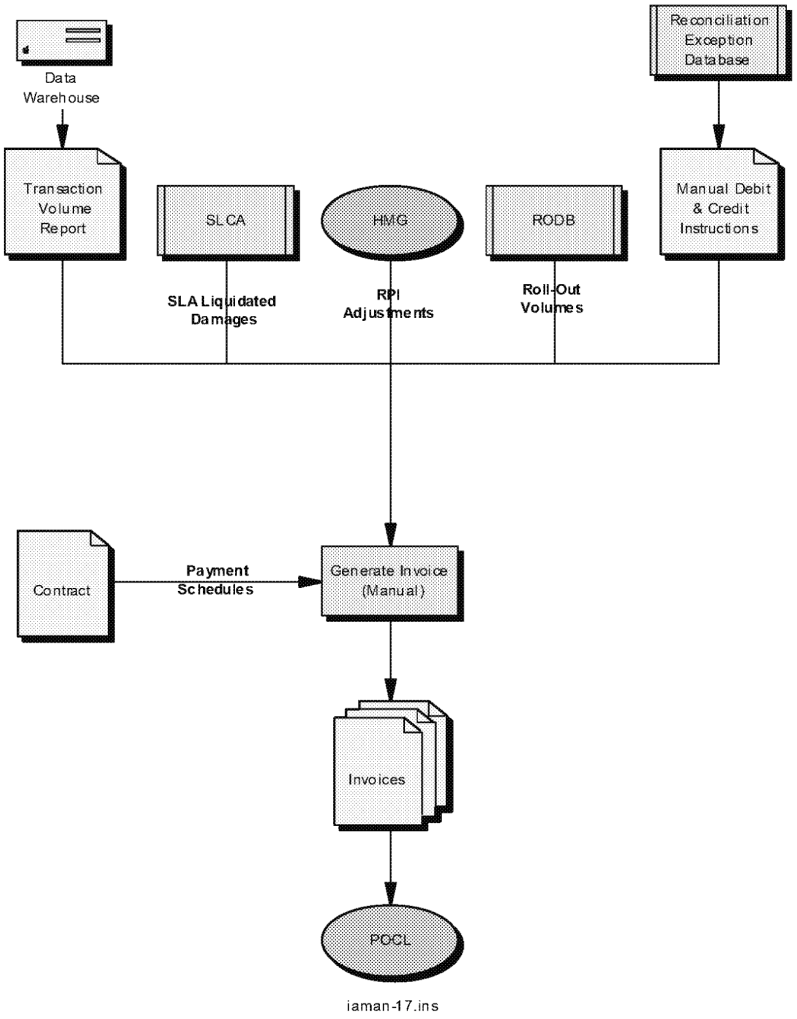
Schematic

The following diagram shows the main data flows within the Invoicing process.



Data Input Streams

Transaction Data

Transaction volume data taken by the TPS Harvester.

Outlet Data

Outlet availability data. (NB Source of this data not yet finalised).

Count of Outlets rolled-out taken from Roll-out database.

Contractual Data

Capital sum payments during National Roll-out. Based on the later of a pre-defined date or cummulative number of Post Offices rolled out.

Operating fees during operating period. Monthly fee subject to Transaction and Availability factors.

Transaction Component factor. A 7% factor based on actual transactions made compared to an agreed benchmark value.

Outlet Cost Component factor. A 32% factor based on the availability of outlets during the Invoicing period.

Manual Data

Debit Instructions from BIMS.

Credit Instructions from BIMS.

These are manual notifications that are applied to the Invoice during its production cycle. (There are, currently, no identified occurrence that might cause a BIMS Instruction to be raised but it is included for completeness.)

Changes to Contractual Data

Changes to any element of the Contractual data can only be achieved through formal negotiation between the two parties.

Output Stream

The invoicing suite of documents consists of the following :

a. Capital Payment Invoice

b. Operating Fee Invoice

c. Advice Note for OFI.

d. Credit Note for service credits.

e. General Invoice for ad-hoc supply of goods and services.

f. RPI Adjustment Tracking Schedule.

Data Retention Requirements

Requirement 697 calls for these records and data to be retained for 7 years.

12.1.2 Change Control Documentation

Change Control is an agreed process through which changes to the Horizon are defined, notified, impacted and costed, authorised and controlled.

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Documents that are output from the process and which represent the audit trail of proposed changes and their outcome are :

Change Request	:	used by POCL to request changes of Pathway.
Change Proposals	:	used by Pathway to progress the change through the Change Control process.
Change Control Note	:	used by Pathway to request approval for a change from the POCL.
Supplier Change Request	:	used by Suppliers to request changes to their services to Pathway.
CCB Meeting Minutes	:	used to record the outcome of Change Control Boards where individual Change Proposals are reviewed.

Retention : Contract life or seven years whichever is the greater.

12.1.3 Special Assistance Invoices

Schedule A03 of the Codified Agreements enables Pathway to charge the POCL for costs incurred in assisting POCL with audit activity following contract termination. Records relating to time spent and expenses will be maintained on a case by case basis.

Retention : Contract life or seven years whichever is the greater.

12.1.4 Development Activity Invoices

Where Fixed Price contracts are entered into on the basis of estimates documented in Change Control Notes (CCN) or elsewhere then the CCN under which the work is authorised forms the commercial record. Where work is conducted on a Time and Material basis records relating to time spent on that work will be maintained. Note that that this element includes studies undertaken as part of the Change Control process.

Retention : Contract life or seven years whichever is the greater.

12.1.5 Contracts with Sub-Contractors

Access is limited to contractual and service related arrangements.

Retention : Contract life or seven years whichever is the greater.

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12.2 Excluded Items

The following items are outside the scope of 'Records' as defined in R697 :

a. Financial arrangements with Pathway sub-contractors.

b. Financial and employment arrangements with Pathway employees, both direct and contract.

c. The ICL Pathway Business Case.

d. General accounting information including funding.

e. Reports from and to ICL Group or Fujitsu.

There may be other documents or records that are subsequently added to this list.

12.3 Caveats

There are two caveats that apply to the above lists :

a. Special access to records not identified as 'included' may be granted on a case by case basis, subject to request and approval at the appropriate level.

b. The scope of access to records identified as 'included' must be agreed as part of agreeing Terms of Reference for an audit as described in the Joint Working Framework.

It is possible that records and/or documents will be identified during an audit that were not included in the original Terms of Reference. Pathway Internal Audit will facilitate the release of these records and/or documents through the appropriate channels subject to the records not being on the 'Excluded' list.

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13 Obtaining Access to Commercial Audit Data & Records

Requirement 697.

13.1 Access Control Policy

Access to audit data defined as 'Commercial' under Requirement 697 is limited to that data which forms part of those Pathway systems of direct interest and relevance to POCL. These are currently the Common Charging System, Service Level Contract Administration and Service Level Agreement Monitor.

Access to non-IT records that contribute to the Commercial audit trail will only be available during audits conducted in accordance with the Joint Working Framework. Access will be restricted to those records that are germane to the provision of Services under the contract.

It is not anticipated that Post Office Internal Audit will request Commercial audit data extractions in isolation but will seek to conduct joint audits with Pathway Internal Audit into this aspect of the Horizon business. Joint audits should be conducted in accordance with the Joint Working Framework.

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14 Conducting Joint Audits

14.1 General

Requirement 697 provides for access to ICL Pathway's premises, facilities, Services, documentation, information, staff, procedures, timesheets and other data in those areas that are directly involved with the operation of POCL Services and associated systems, by auditors from the Post Office or their representatives. Other external auditors, including POCL<Client> auditors, are expected to deal with Pathway via PO Internal Audit respectively.

From ICL Pathway's perspective the term Joint Working applies to all levels of involvement from members of a fully integrated audit team to merely hosting external auditors and facilitating visits to ICL Pathway locations. It also covers audits that may be undertaken into Commercial or Operational activities.

Each audit organisation will operate to its own detailed audit processes and standards within a framework that enables joint agreement on planned audits, terms of reference for audits and the sharing of audit reports and results.

14.2 Joint Working Framework

The Schedules A03 establish the contractual framework for the conduct of audits by the Authority or their Agents. The JWF provides a working interpretation of the Schedules but does not superceeded or make redundant any part of them as a result.

14.2.1 Planning

Joint audits can be planned or unplanned although the majority are expected to be planned. Where PO Internal Audit anticipate conducting audits within Pathway they would normally build them into their respective Audit Plans and notify Pathway Internal Audit.

Similarly, where the ICL Pathway Audit Plan identifies an area where complementary audits by the Post Office could improve the value of the audit they will be encouraged to support the Pathway activity with resource managed either by ICL Pathway or by themselves.

Accepting that some audits may be unplanned every effort must be given to providing adequate notice, say 3 months, of an impending visit.

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14.2.2 Terms of Reference

Whether planned or unplanned Terms of Reference must be established for any Joint or External Audits and agreed by all parties. The ToRs may be supported by detailed schedules to be agreed nearer to the start date of the audit. The Terms of Reference should contain at least the following information :

- Scope of work to be undertaken.
- Proposed dates for the audit and initial schedule.
- Proposed resources for the audit.
- Details of any site visits to be undertaken as part of the audit.
- Reporting arrangements for the audit.

Once agreed the Terms of Reference should be shared and agreed with the auditee.

14.2.3 Detailed Audit Schedules

Depending on the nature and scope of the proposed audit it may be necessary to establish and agree Detailed Audit Schedules. Again these should be shared with the auditee, especially if the scope of the audit is in any way restricted or special arrangements for site visits and personnel interviews have to be made.

14.2.4 Resources

It is anticipated that adequate resources will be provided to conduct the audit. Where an audit crosses domain boundaries, eg. if an end-to-end audit of an Horizon service was being conducted, Post Office or Pathway resources will be allocated to specific tasks within their own area to protect commercial sensitivity.

14.2.5 Reporting Arrangements

There is likely to be sensitivity over the reporting arrangements, especially the extent to which audit reports and findings are disseminated within organisations. To avoid difficulty it is imperative that agreement on this subject is reached during the establishment of the Terms of Reference and has the full support of the auditee.

14.2.6 Corrective Actions Review

After an agreed period, established in A03 as 30 days, a Corrective Action Plan will be established identifying how instances of non-compliance will be rectified and how audit recommendations will be addressed. The CAP will

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establish timescales for implementation and these will be monitored as part of the ongoing review of the audit results by the participating audit group.

14.2.7 Process Review and Improvement

At the end of each Joint Audit the lead auditors from participating group should arrange to conduct a Post Audit Review to assess performance and areas for improvement. The views of the auditee will be taken into account.