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0.0 Document Control

0.1 Document History

Version No.	Date	Reason for Issue	Associated CP/PinICL
1.0	17/9/96	Externally published	N/A
1.1	8/10/96	Revised for BA Audit and Pathway comments	N/A
1.2	31/1/97	Revised for POCL comments and for review towards a definitive version 2.0.	N/A
2.0	19/2/97	Revised for further comments. Definitive	N/A
2.1	19/5/97	Revised for further comments from DSS, alignment with *Access Control Policy* Version 1.0, and for review towards a further definitive version 3.0	N/A
2.2	8/9/97	Revised in response to implementation questions and further comments from DSS/POCL. Further review towards a further definitive version 3.0	N/A
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2.6	9/4/99	Changes agreed at Acceptance Review 30/3/99	N/A
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4.1	10/04/00	Introduction of Logistics Feeder Service (LFS), Change of name – RED :> BIMS	N/A
4.2	21/07/00	Reviewed by Brian Mooney. Document references updated	N/A
5.0	15/01/01	Raised to Approved	N/A
5.1	25/01/02	Changes to reflect Network Banking, EFTPOS and decommissioning of HAPS	N/A
5.2	12/02/02	Following internal review cycle	N/A
5.3	25/02/02	Following review comments from POL	N/A
6.0	25/02/02	Raised to Approved. CCN 929	N/A

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0.2 Approval Authorities

Name	Position	Signature	Date
P. Jeram	Programme Director		
R. Dhesi	Consignia Internal Audit		

0.3 Associated Documents

Reference	Version	Date	Title	Source
RS/POL/003			Access Control Policy	Pathway
TD/STD/001			Host Application Database Design and Interface Standards	Pathway
RS/FSP/001			Security Functional Specification	Pathway
CR/FSP/004			Service Architecture Design Document	Pathway
IA/MAN/005			Horizon System Audit Manual for CSR+	Pathway
			Schedules A03	POCL

Unless a specific version is referred to above, reference should be made to the current approved versions of the documents.

0.4 Abbreviations/Definitions

Abbreviation	Definition
ACD	Automated Call Distribution
ADS	Advanced Distribution Systems
AP	Automated Payment
APS	AP Service
BIMS	Business Incident Management System
DLT	Digital Linear Tape
EFTPOS	Electronic Fund Transfer at Point of Sales
EPOS	Electronic Point of Sale
EPOSS	EPOSS Service
ESNCS	Electronic Stop Notice Control Service
LFS	Logistics Feeder Service
HSAM	Horizon System Audit Manual
IM	Inventory Management
ISDN	Integrated Services Digital Network

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NBS	Network Banking System
OAS	OBCS Access Service
OBCS	Order Book Control Service
OPS	Office Platform Service
POL	Post Office Limited
RD	Reference Data
Rnnn	Requirement number
SAP	Systeme, Anwendungen, Produkte in der Datenverarbeitung AG, German software manufacturer
SIS	Strategic Infrastructure Service
TIP	Transaction Information Processing
TMS	Transaction Management Service

0.5 Changes in this Version

Version	Changes
6.0	No changes made.
5.3	POL reviewer's comments.
5.2	Pathway reviewer's comments
5.1	Major additions; Network Banking and EFTPOS. Further changes to reflect the decommissioning of HAPS and directly linked AP Clients. Change name from POCL to POL.
5.0	Approvers changed
4.2	Approvers changed
4.1	Introduction of Logistics Feeder Service details
4.0	No changes made. Version number increased
3.1	Revised schematic for Invoicing procedure
3.0	No changes made. Version number increased
2.9	Minor amendments following feedback from POIA including a revised Commercial Audit Trail section on Invoicing
2.8	Major Surgery to remove all references to DSS and/or BA and their associated requirements following the withdrawal of the Benefit Payment Card from Horizon
2.7	Minor addition around caveats section to Commercial Audit Trail
2.6	Changes agreed at the Acceptance Review of 30/3/99 have been incorporated
2.5	Horizon comments dated 23/2/99 have been factored in
2.4	Horizon comments dated 1/12/98 have been factored in
2.3	A general overhaul to reflect agreements made in the course of Acceptance Specification negotiations and during design and development
2.2	PDA comments dated 19 June have been factored in: defining the mainstream operational Services;

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	extending the list of keys
2.1	A further set of comments from POCL and DSS have been addressed. A number of clarifications and corrections have been made
2.0	A further consolidated set of DSS and POCL comments have been addressed
1.2	Two sets of comments from POCL have been addressed. OBCS has been added following the ordering of the service. Inclusion of raw data from CMS/PAS Help Desk ACDs and the CMS Card Production Interface. Inclusion of raw data from Horizon Help Desk ACDs. The requirement texts have been removed pending availability of Version 6 of the agreements (in preparation)
1.1	Clarification of meaning of Pathway native flat formats and removal of immediate dependencies on particular audit authority flat file formats. Correction to process of record deletions

0.6 Changes Expected

Changes

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0.7 Table of Contents

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1.0 Introduction

1.1 Auditor's Eye View

1.1.1 Scope

This functional specification defines the *operational* and *commercial* audit trails. These are, respectively, the audit trail associated with the operation of the services which make up the Pathway solution and the audit trail associated with that part of Pathway's internal commercial records to which POL's Internal Auditors or Agents may have access as set out in Schedule A03.

The operational audit trail includes that generated by the mainstream operational services and the Business Incident Management System (BIMS).

The mainstream operational services are the services making up the POL Steady State Services :

- Automated Payment Service (APS)
- EPOS Service (EPOSS)
- Order Book Control Service (OBCS)
- Logistics Feeder Service (LFS)
- Transaction Information Processing (TIP)
- Network Banking (NWB)
- Electronic Fund Transfer at Point of Sale (EFTPOS)
- POL Infrastructure Services

The BIMS provides an auxiliary audit trail, which separately covers the treatment of exceptions encountered within the mainstream operational services. The audit trail associated with the mainstream services is never modified for the purposes of correction as such.

This specification also addresses in Section 3 certain requirements, particularly R697, which relate to access by POL's commercial auditors to parts of Pathway's own internal records and systems. These latter requirements are met through the definition and use of a *commercial* audit trial and associated audit procedure providing for access from within Pathway.

The introduction of Network Banking and EFTPOS means that those parts of the operational audit trail to do with Network Banking and EFTPOS are retained for 7 years. The remainder of the operational audit trail, specifically data relating to APS, OBCS, TIP and LFS is retained for 18 months. The commercial audit trail is also retained for seven years although some records are held for the life of the contract, which may be longer than seven years.

If the technology used to hold elements of the audit trail becomes obsolete then they will be copied to the new technology to maintain continuity of access.

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1.1.2 The Total Mainstream PATHWAY Solution

From the standpoint of the auditor, the total mainstream solution, including both the Pathway sub-systems and the source and sink subsystems, is shown in Figure A. The arrows represent the subsystem interfaces at which key auditable events occur. Pathway's responsibilities extend to the subsystems coloured green (darker) and the interfaces coloured blue (darker).

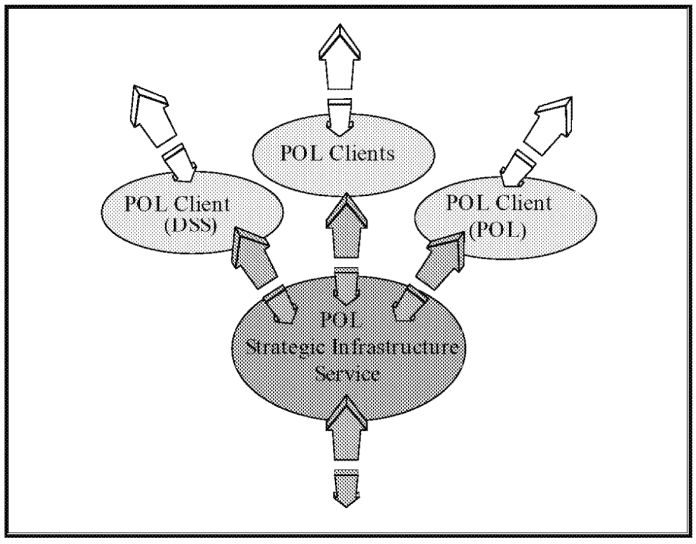

Figure A: Subsystems and principal interfaces

In addition, but not shown, are the Systems Management facilities that Pathway employs in the course of operating the hardware and software and telecommunications platforms themselves.

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1.1.3 The Strategic Infrastructure Service

The Strategic Infrastructure Service (SIS) can be analysed as a number of "visible" counter applications to which the post office clerks interface:

- EPOS Service (EPOSS)
- Automated Payment Service (APS)
- Order Book Control Service (OBCS)
- Logistics Feeder Service (LFS)
- Network Banking (NWB)
- Electronic Fund Transfer at Point of Sale (EFTPOS)

running on an "invisible" middleware messaging transport system:

- Transaction Management Service (TMS)

in turn supported by an operating platform distributed across a Wide Area Network containing:

- Instance of the Office Platform Service (OPS) in each outlet
- Central servers

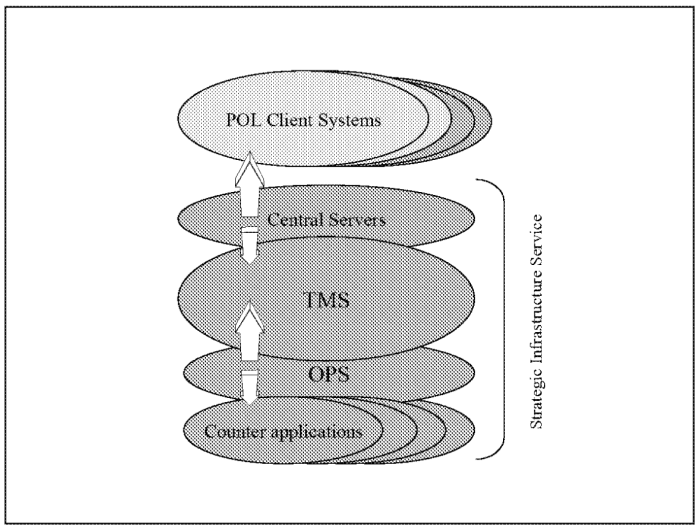

Figure B: Principal components of the Strategic Infrastructure Service

The SIS also contains a telephony interface to callers and interfaces to Systems Management functions (not illustrated).

Figure B shows the SIS components with the same interfaces remapped appropriately.

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1.1.4 The POL <DSS> Client

The distributed POL Client representing the DSS back-end system is shown at the component level in Figure C.

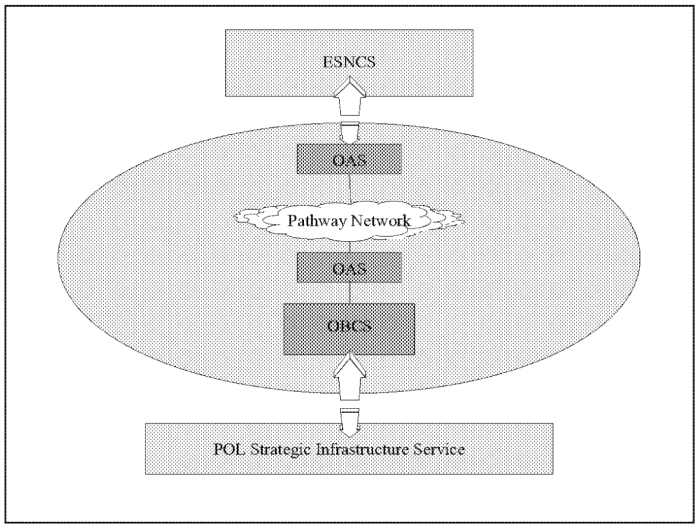

Figure C: Components of the POL <DSS> Client

It comprises a single, large-scale database Order Book Control Service (OBCS) interfacing across a Wide Area Network through the OBCS Access Service (OAS) to the DSS Electronic Stop Notice Control System (ESNCS).

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1.1.5 Other POL Clients

Figure D shows the relationship between the SIS and other POL Client systems. These client systems comprise both those that belong to the POL organisation itself and those, which belong to POL's commercial Clients, such as utilities and high street banks.

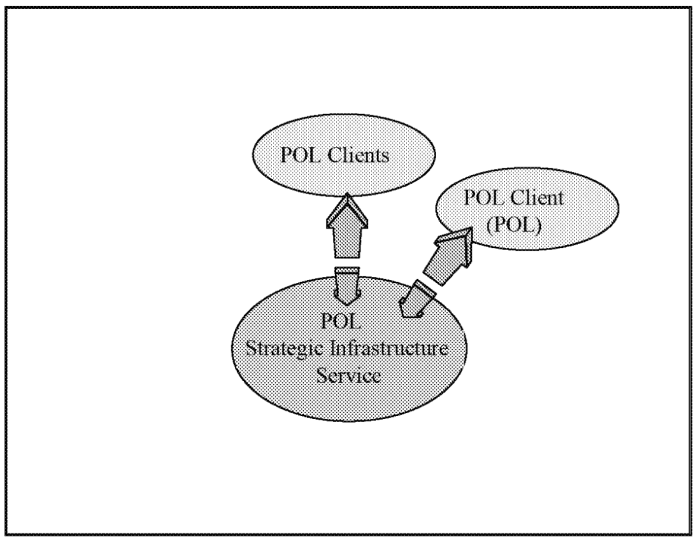

Figure D: Other POL Clients

1.1.5.1 POL In-house Systems

The POL in-house systems that interface to the Pathway SIS are:

- Reference Data
- Transaction Information Processing (TIP)
- SAP Advanced Distribution System (ADS) for inventory management (IM)

The TIP system is batch-oriented, receiving large-scale files of the outlets' transactions. These comprise daily transactions, weekly (normally) stock holdings and a cash account, daily AP Client summaries and daily BA transaction reconciliation reports.

The stock and cash account files are also produced within each office on paper. These signed paper records will, foreseeably, represent the fiduciary record of the outlet's business.

The Reference Data system is responsible for supplying transaction steering data to Pathway. This data describes the relationships and properties of the data to be processed (typing of regions, POL organisations, outlets, Clients, items for sale, methods of payment, and transaction tokens); and the processing methods (processing and validation rules, check digits, calendars, accounting collation sequences, tax tables).

ADS is an on-line system but with a same-day level of response time. It handles orders, secure stock returns, transfers and secure stock inventories, providing for central control interfacing with Pathway's Logistics Feeder Service (LFS)

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AP Clients will have direct interfaces to the Pathway SIS for receiving files of payment records.

1.1.5.2 POL Client Systems

This level of specification does not define the audit facilities to be made available to the audit departments of POL's Automated Payment commercial Clients. These facilities will be negotiated between POL and the Client as part of the AP Migration Plan Interface specification for each Client. It has been decided by POL that such Client systems will NOT access the Pathway SIS directly to provide customer and payment scheme reference data (transaction steering data). Such data will be passed through the POL Reference Data system.

1.2 Audit Trail Responsibilities and Usage

1.2.1 Responsibilities

1.2.1.1 Tracks and Trails

In the description below use is made of the terms *audit track* and *audit trail*. An audit track is a record of activities made within a Pathway subsystem for one or more of its interfaces. An audit trail is one or more such tracks. The data recorded in a trail's several tracks may represent the treatment of related transfers and processing.

In general it is possible to produce an audit track for an interface on either side of that interface, or, if the interface is itself problematic, on both sides.

It is of course a matter for POL and POL Clients to produce their own audit tracks on their sides of the interfaces to Pathway.

1.2.1.2 TWO Tracks

The Pathway audit trail is based upon files representing the single main audit track representing the traffic running through the Pathway solution, the POL SIS. This system is Pathway's operational responsibility and its operating interfaces are also under Pathway control.

As discussed above, a second audit track represents the systems management operation of the Pathway system itself.

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1.2.2 Principals, Agents And Rights Of Access

An Agent may carry out a particular audit for POL or by POL themselves. The Agents that are permitted are defined in Schedule A03.

Pathway provides for rights of access for individual roles and enforces these rights of access. Changes to these rights is via Change Control.

1.2.3 Access controls

Access controls are effected through the use of roles.

There are THREE auditor roles: POL Emergency Manager/auditor, POL auditor and POL Client <C> auditor. It may not be necessary to represent the POL Emergency Manager/auditor and POL auditor separately.

The POL auditor roles are further defined in the HSAM.

The POL Emergency Manager/auditor has the same access rights as that of the Manager or Postmaster. In addition, he may delete and create a Manager/Postmaster Role, and produce a cash account. Access as POL Emergency Manager/auditor is via initial access as POL auditor then, if required, as in the case of the Manager or Postmaster being unavailable, a further exchange via the Horizon Help Desk to obtain a one-shot password that enables the additional Emergency Manager/auditor operations and a key reference that turns on the filestore encryption/decryption.

POL Emergency Manager/auditor and POL auditor have access to all TMS journal records.

The POL auditor has no rights to modify the TMS journal. The POL Emergency Manager/auditor is not able to modify the TMS journal, except as the auditable result of permitted operations in connection with his role as an Emergency Manager. In common with all journal updates, such permitted modifications are always in the form of appends.

The POL Client <C> auditor role when implemented will have access only to that part of the TMS journal that deals with transactions pertaining to that Client and in accordance with the Client organisation's contract with POL. The POL Client <C> auditors have no rights to modify the TMS journal.

The POL Emergency Manager/auditor has access only at the outlet. The POL auditor has access at both the outlet and the centre. All access at the centre is via the Pathway audit function.

1.2.4 POL usage

POL Audit functions has access to the POL SIS audit track and the Systems Management track

1.2.5 POL Client Usage

POL Client Audit functions will have access to those parts of the POL SIS track relating to that Client and subject to the Client's contract with POL (subject to paragraph 1.2.3 above)

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1.2.6 Audit trail formats

1.2.6.1 Native Formats

The principle followed is that Pathway originates the audit track source data in self-describing flat files.

The format in which the TMS journal is written by Pathway operational software is that used as input to the utilities that prepare the bulk extracts for the audit authorities. That is, the Pathway native flat format is the operational format. This format is attribute grammar (keyword and value) format and is therefore self-describing at the field level. Subsets of the TMS journal represent the data transferred to TIP, ADS and POL Clients, and from RD, ADS, possibly POL Clients.

The native format of the flat files containing the data transferred between subsystems is described in file headers. They are therefore self-describing at the file level. See *Host Application Database Design and Interface Standards.*

The logs of file transfers (control files) are in one simple format.

1.2.6.2 Custom Formats

The TMS journal native flat format is not to be further transformed.

Custom formats for other audit files may be specified at a later level of specification.

Transfer is by CDROM.

As a principle, the less transformation the better, since this preserves more of the original raw data and removes the need to qualify and maintain transforming software.

1.2.7 Audit trail retention periods

R699 states : "Subject to Clause 801 of the Related Agreements, audit trail records shall be retained for a period consistent with Companies Act requirements, or for a period of eighteen (18) months, whichever is longer." The records described in this document are not subject to the provisions of the Companies Act. Clause 801 refers to Records that correspond to the commercial audit trail. A general retention period of 18 months is required for the operational audit trail although those elements to do with Network Banking and EFTPOS will be retained for 7 years. See also R816 and R914.

R829, which deals with Prosecution Support, requires Audit Trail and other information may be retained for potentially longer periods.

Of course, certain archived data such as EPOSS administration functions, which contain dated internal references, will itself have an implied longevity of more than 18 months.

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2.0 The Audit Tracks

2.1 POL SIS Audit Track

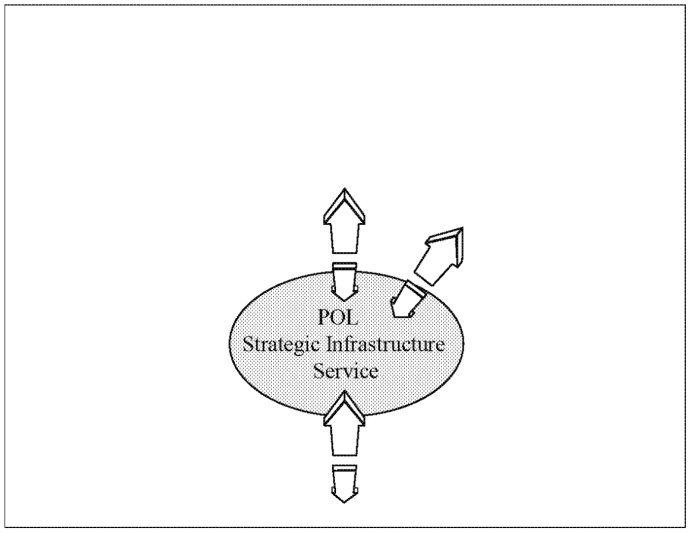

Figure E: The POL SIS track

2.1.1 POL SIS Track Content And Maintenance

The POL SIS audit track comprises:

- the TMS journal

and those POL files exchanged between the Pathway data centres:

- the POL Horizon Help Desk files
- POL's own systems' files
- AP Client files

Any other intermediate file or table constructs do not form part of the track.

2.1.1.1 TMS Journal

The audit archive of the TMS journal is taken daily at the correspondence server level by copying all new messages that day to Digital Linear Tape (DLT) audit archive media.[1]

The TMS journal comprises records appended to the journal of each outlet within a messaging group usually in time sequence. Each group includes correspondence servers that hold a replica of the outlet. The outlet replica(s) of the journal are housekept from the front periodically to maintain a recent history to cover at least three cash account periods. The correspondence servers' replicas are similarly housekept.

[1] This represents an improved implementation. By this method the audit trail is always up to date and in one place.

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The TMS journal contains the original transaction details, including its origin, when it happened, who caused it to happen, and the outcome.

2.1.1.2 Horizon Help Desk

The Horizon Help Desk files contain the call records from the Automated Call Distribution (ACD) system. These are written during operation and harvested daily into a flat file. A control file will be written for each such daily file.

2.1.1.3 POL Systems

These comprise:

- Those at the TIP, RD and ADS interfaces holding control records describing files being transferred
- There is no systematic value in holding separate audit copies of the raw data transferred across these interfaces with TMS because this is what the TMS journal itself represents and because the TIP and ADS transfers are selective extracts of it.

2.1.1.4 AP Client Systems

This comprises the various AP Client interfaces holding control records describing files being transferred.

2.1.1.5 POL <DSS> Client

The specific DSS element of the POL Audit Track comprises the following files outside the Pathway boundary :

- that at OAS with ESNCS

and within the boundary :

- that at OBCS
- with TMS

Any other intermediate file and table constructs do not form part of the track.

OBCS

This comprises:

- the Control Notice updates table for access by the OBCS TMS Loader Agent, and:
- OBCS transactions, comprising encashment transactions and totals table received from the OBCS TMS Harvester Agent

The data used to represent these are the serial files transferred to and from OAS.

An audit control file provides as a permanent record of all files received and transferred by OAS.

This file is kept permanently on-line within OAS(VME). It is also transferred in its entirety to the ICL Pathway Sequent as part of the daily housekeeping process.

2.1.2 Audit Access to the POL SIS Track

Logical audit access will be provided as follows:

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2.1.2.1 TMS Journal Access at the Outlet

Views of the transactions that have taken place within a whole post office during the recent past are available from any counter or back office position within a post office, subject to the POL Auditor himself having appropriate access rights. This recent past period for which transaction records will remain at any workstation in the post office varies inversely with the traffic conducted by that office as a whole, but is not less than the current and two previous cash account periods, such periods being typically a week. The term "transactions" here embraces both the serving of customers and EPOSS administration events. The journal is also used to carry certain Pathway control sequences. These are of no intrinsic interest to auditors but their retention within the message numbering means that auditors can be sure there are no missing records[2].

2.1.2.2 TMS Journal Access at the Correspondence Servers

Equivalent TMS journal data is maintained at each of the two Pathway Data Centres. These are not copies one of the other but are independently derived from the same original data by the same systems. They will therefore provide a natural point of systematic reconciliation: for example, on a sample basis it is possible to compare the audit track record of the same transaction recorded in two places to verify that systems were operating consistently.

Audit records are written to DLT audit archive media. They are presented in exactly the same way as recent records when retrieved although will be subject to filters appropriate to the selection and the audit authority for which the selection is being made. Archive records will take a longer time to retrieve, the retrieval time being in proportion to the volume requested.

If and when the TMS service provider changes, then the TMS journal will be transferred to the new provider as part of the transfer agreement. Apart from the longevity of data retention and the associations of data with post offices, these views are equivalent to those taken in the post office. It is understood that the vast majority of POL audits will be conducted within the post offices, with resort to the Correspondence Server views only where the outlet views are not available (denial, destruction) or, of course, where the historical record is required.

Access from one outlet to the data of another or to the back-history data on the correspondence servers is not provided.

Although the bulk of the TMS journal data is transferred to TIP, R699 specifies that the audit trail shall be maintained and retained by Pathway and protected by security measures.

2.1.2.3 Horizon Help Desk Log File Access

This comprises simple access to serial flat file. File selection will be by date or dates. Search of the selected file will be by ordinary text search.

[2] Improved implementation.

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2.1.2.4 POL Systems Files Access

This comprises simple access to the control files, potentially followed by access to other files transferred to the TMS journal.

2.1.2.5 POL Client Files Access

This will be defined at a later level of specification.

2.1.3 Auditor Utilities

2.1.3.1 Interactive Access

Access Using Keys

In both the post office and correspondence server cases audit facilities are provided to retrieve, store locally, display and/or print one or more transaction records, with the selection being based on simple keys. Key elements may be drawn from certain selected keys in the transaction records.

These key elements will be:

- one or more outlets as defined by reference data, e.g. POL Region
- stock unit
- Clerk id
- interval of time
- POL Client identity
- one or more product codes

Other specific key elements may be defined at a later level of specification in the light of experience.

The keys that an auditor may use will be in accordance with the auditor role.

Controls will be available to limit the selection to practical length. Initially this control will be set at 256 records.

Disk serial files thus produced may be saved for later local search.

Access using Standard Reports

The following table categorises and lists the operations to be supported by POL auditor and POL Emergency Manager/auditor use of EPOSS facilities, taken from notes of 17/12/96. Auditor access to such operations is a function of POL auditor or POL Emergency Manager/auditor role management. It is believed that there are no auditor-specific actions required. In all meaningful cases print or print-preview is provided.

Where access to the outlet itself is not possible, as for example when an outlet has been destroyed by fire, equivalent access might be effected by visit to a correspondence server centre or by restarting the outlet at an auditor centre or a replacement centre.

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Category	Report
POL Auditor	
Outlet asset verification	Cash account for selected week
	Interrogate Transactions
	Daily summaries
	Cash on hand
	Stock on hand
	Rems in and out
	Suspense account
	History of losses and gains
Stock unit asset verification	Counter balances
	Internal transfers
Role verification	Statement of users
Collateral verification	Order books on hand
POL EmergencyManager/auditor	
Role management	Delete/create users
	Statement of users
Restatement on unexpected loss	Cash and stock declaration
	Rem out
	Current cash account transactions
	Daily summaries
	Cash account
Effect transactions	Any transaction normally available to the Postmaster

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2.1.3.2 Bulk Access Using Keys

Bulk access is provided in the Data Centres only. A utility is provided to produce bulk selections according to the role of the auditor and in the custom magnetic format specified by the audit authority to which he belongs. POL Client audit authorities may require different formats from those used by POL but Pathway proposes that they be required to use the Pathway native flat format directly. Clearly, subject to the terms of POL's contract with a POL Client, the data accessed will be limited to that pertaining to that Client.

The bulk selection utilises the same keyed access methods as for interactive access. Additional key fields to represent one or more post offices will be available. The selections are, in principle, of unlimited length. Long selections, where the audit function expects greater than 1 million records from direct access or 100,000 records from archive media, or numbers of selections that would disrupt operational schedules are ordered or scheduled by mutual agreement. Selections confined to the data that is on direct access may be undertaken in emergencies.

Such bulk files are delivered to one location using media and transport methods to be agreed. Bulk selections except the very largest may be file-transferred over the same communications as are used for TIP and eventually Client AP. It is essential that the security of any such path used be no less than that of these paths. Very large selections are transferred only in CD-ROM form and are either collected from Pathway or couriered by Post Office Special Delivery to one location.

Regular use of bulk selections allows audit functions to build up a history for own use.

In the event that the audit function requires direct, personal and extempore access to the actual TMS operational journal then this access will be by attendance at a Pathway centre and will be supervised by Pathway.

2.2 Systems Management Track

2.2.1 Systems Management Track Content and Maintenance

The track is made up of audit events for the particular domain in question. In the Pathway solution all events are generated within domains and eventually transferred to the Tivoli Event Management Server.

Within these domains events are collected by Tivoli Agents and transformed into Tivoli Events. On non-NT platforms the Tivoli Agent role is performed by an equivalent agent function within the local systems management facility appropriate to the platform.

These non-NT platforms are:

- The Sequent Servers, whose events are relayed by BMC Patrol
- SUN Servers, whose events are notified directly
- Network Devices, such as routers, whose events are mediated by HP OpenView

Audit events comprise:

- System Events, which include Security Events
- Status Reports
- Software Distributions

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System Events are gathered from all domains, and Status Reports and Software Distributions from all Windows NT domains.

Tivoli provides extensive event management facilities including central display, sorting and filtering before viewing, for example, all operations initiated by a particular operator. These facilities are accessed via a PC-based Tivoli Desktop available to the Pathway Systems Management functions located in Stevenage and Lytham St Annes and connected via the Pathway WAN to the master Tivoli Management Region, or hierarchic level that is at Bootle.

These Tivoli Events are extracted from the Tivoli Event Management Server and archived using the standard Archive Service. Filters are used to remove unusable operational events before archiving. Archiving is in Comma Separated Variable (CSV) format.

2.2.2 Audit Access to the Systems Management Track

2.2.2.1 Interactive Access

Archived data may be restored from CSV format and viewed using native Tivoli facilities.

2.2.2.2 Bulk Access

This will be facilitated as follows:

- The Tivoli events will be archived daily
- Analysis can be either by Notepad-type browsing the archive file or by importing from CSV format into a database or editor of choice.

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3.0 The Commercial Audit Trail

The commercial audit trail is defined to comprise material, held in either magnetic forms or definitively on paper, to which the Authorities have access.

3.1 Magnetic Records

These comprise copies of certain Operational Support records that the Authorities receive as part of the Steady State and other Services, and those parts of ICL Pathway's internal commercial records to which the Authorities have automated access.

The tracks making up the magnetic commercial audit trail are:

- Business Incident Management System (BIMS)
- Service Level Contract Administration (SLCA)

3.1.1 Business Incident Management System (BIMS)

BIMS is freestanding from the mainstream Pathway Solution. It is a record of the activities undertaken by the Pathway Customer Service Management Support Unit to make necessary adjustments to transactions, typically to effect accurate reconciliation.

3.1.1.1 Data Retention Requirements

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

3.1.1.2 Audit Access to Operational Support Records

Access is obtained via the procedures contained within the HSAM.

3.1.2 Service Level Contract Administration (SLCA)

3.1.2.1 SLCA Content and Maintenance

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/POL committee.

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Schematic

The following diagram shows the main data flows within SLCA.

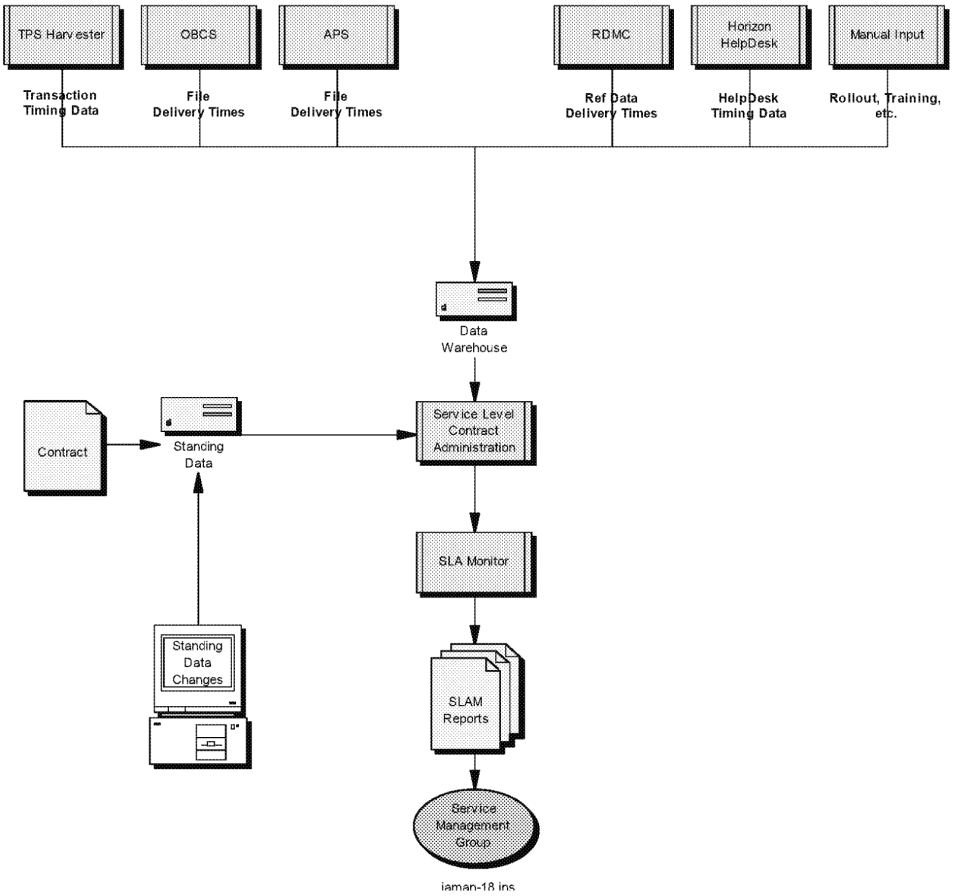

Figure H: SLCA Schematic

3.1.2.2 Input Streams

Automatic Transaction Data held as Oracle tables within the DW.

Manual Transaction Data (Achievement of Rollout, achievement of Training etc).

Standing Data - SLA parameters and formulae used to calculate achievement are held as Oracle tables within the DW.

3.1.2.3 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.

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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:

- 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

3.1.2.4 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 POL/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. These values are held as Oracle tables within the DW.

3.1.2.5 Data Retention Requirements

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

3.1.2.6 Audit Access to SLCA

Access is obtained via the procedures contained within the Horizon Audit Manual.

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3.2 Manual Records

These comprise Pathway records that are held definitively on paper to which the Authorities have access.

3.2.1 Included Items

The scope of this list is restricted to items of significance to POL.

3.2.1.1 Invoicing

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 POL 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.
- 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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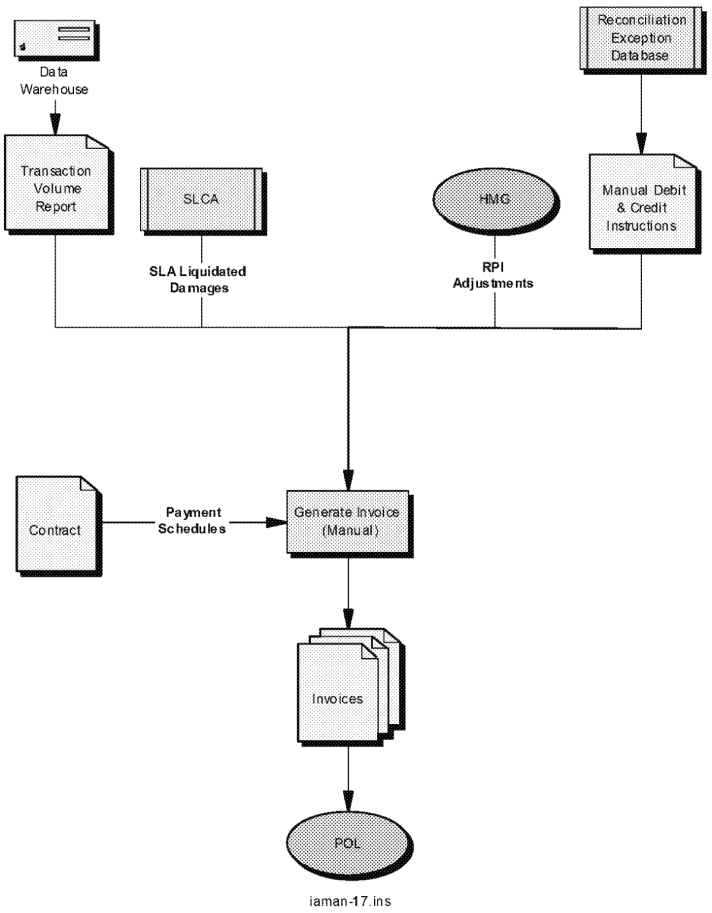
Schematic

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.

Contractual Data

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.

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- 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 is, 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 :

- Capital Payment Invoice
- Operating Fee Invoice
- Advice Note for Operating Fee Invoice.
- Credit Note for service credits.
- General Invoice for ad-hoc supply of goods and services.
- RPI Adjustment Tracking Schedule.

Data Retention Requirements

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

3.2.1.2 Change Control Documentation

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

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

- **Change Request:** used by sponsors 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 sponsors.
- **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.

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3.2.1.3 Special Assistance Invoices

Schedule A03 of the Codified Agreements enable Pathway to charge for costs incurred in assisting POL 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.

3.2.1.4 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.

3.2.1.5 Contracts with Sub-Contractors

Access is limited to contractual and service related arrangements.

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

3.2.2 Excluded Items

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

- Financial arrangements with Pathway sub-contractors.
- Financial and employment arrangements with Pathway employees, both direct and contract.
- The ICL Pathway Business Case.
- General accounting information including funding.
- Reports from and to ICL Group or Fujitsu.

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

3.2.3 Caveats

There are two caveats that apply to the above lists:

- 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.
- 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.