



XML Message Audit between Counter and BAL/OSR
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Document Title: XML Message Audit between Counter and BAL/OSR

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Abstract: This document contains all of the unique messages sent between the counter and the BAL/OSR.

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Author & Dept: Jon Hulme et al

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Approval Authorities:

Name	Role	Signature	Date
Graham Allen	Development		

Note: See Royal Mail Group Account HNG-X Reviewers/Approvers Role Matrix (PGM/DCM/ION/0001) for guidance.



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0.2 Document History

Version No.	Date	Summary of Changes and Reason for Issue	Associated Change - CP/PEAK/PPRR Reference
0.1	03-Apr-2009	New document.	N/A
0.2	06-Jul-2009	Draft saved to dimensions.	
0.3	01-Oct-2009	Draft saved to dimensions.	
0.4	30-Oct-2009	Major rewrite covering all messages identified from testing and code analysis and contributions from Susan Brindley and Philippa Main.	
1.0	11-Nov-2009	Updated with minor comments and issued for approval.	
1.1	23-Jun-2010	Updated for Release 2 changes: CP0396.	

0.1 Review Details

Review Comments by :	12 th July 2010
Review Comments to :	Clare.Keane@GRO & RMGADocumentManagement@GRO
Mandatory Review	
Role	Name
Solution Design	Steve Evans
SSC	Steve Parker
Business Continuity	Adam Parker
LST Manager	Sheila Bamber
SV&I Manager	Chris Maving
Optional Review	
Role	Name
Solution Design	Jon Hulme
Architecture	Andy Thomas
Security & Risk Team	CSPOA.Security@GRO
Applications Architecture	Pete Jobson
Service Director	Gaetan van Achte
Head of Service Operations	Tony Atkinson
Service Network	Ian Mills
Business Continuity	Adam Parker
CS Reference Data Introduction	Kevin McKeown
POL Test Manager	James Brett
Core Division	Ed Ashford



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Optional Review	
Core Division	Andrew Gibson
Development	Graham Allen
Issued for Information – Please restrict this distribution list to a minimum	
Position/Role	Name

Reviewer list compiled from PGM/DCM/ION/0001 V60.0.

(*) = Reviewers that returned comments

0.2 Associated Documents (Internal & External)

Reference	Version	Date	Title	Source
DES/APP/IFS/0012 (DO NOT REMOVE)	2.0	03-April-2009	BAL Service Interface Specification	Dimensions
DES/APP/HLD/0123			HNG-X HLD – Settlement Functions	Dimensions
DES/APP/HLD/0047			HNG-X Counter Application High Level Design	Dimensions

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

0.3 Abbreviations

Abbreviation	Definition
APOP	Automated Payment Out Pay
BAL	Branch Access Layer
BP	Balance Period
BRDB	Branch Database
CS	Customer Services
CTO	Counter Training Office
DCT	Dictionary Term (in use case requirements)
DTO	Data Transfer Object
DVLA	Driver and Vehicle Licensing Agency
HNG-X	Horizon Next Generation – Plan X
HTTP	HyperText Transfer Protocol
JDBC	Java DataBase Connectivity
JMX	Java Management eXtensions
JSN	Journal Sequence Number
OSR	Online Service Router



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Abbreviation	Definition
PCI	Payment Card Industry – in this context refers to a set of standards for protection of sensitive financial data
PCI-Horizon	A project to make existing Horizon counters PCI compliant
POAML	Post Office Account Markup Language (used to define data for printing)
POL	Post Office Limited
RMGA	Royal Mail Group Account
RV	Reversal
SOAP	Simple Object Access Protocol
SSC	System Support Centre
SU	Stock Unit
TP	Trading Period
UTC	Coordinated Universal Time (http://en.wikipedia.org/wiki/Coordinated_Universal_Time)
XML	eXtensible Markup Language

0.4 Glossary

Term	Definition

0.5 Changes Expected

Changes
None.

0.6 Accuracy

Fujitsu Services endeavours to ensure that the information contained in this document is correct but, whilst every effort is made to ensure the accuracy of such information, it accepts no liability for any loss (however caused) sustained as a result of any error or omission in the same.

0.7 Security Risk Assessment Confirmed

Security risks have been assessed and it is considered that there are no security risks relating specifically to this document.

Obfuscation of sensitive data is performed by the component that sends the message and is covered by security considerations in the HLD for that component. For a list of the component HLDs see DES/APP/HLD/0047.



1 Introduction

This document details the messages exchanged between the Counter and the BAL. The messages are categorised as audited or non-audited, and then by the BAL service the messages interact with, and then by request and response.

An audited request message is assigned a Journal Sequence Number by the counter, and is saved by the BAL to the BRDB message journal table. In general, all request messages from the counter that update the BRDB are audited. Exceptions are recovery messages, and certain reference data and logon messages (see DES/APP/IFS/0012).

Note: Do not confuse the term "audited messages" (described above) with "audit data" that can be carried by audited messages. This "audit data" refers to event data that is sent to the BAL and saved in BRDB event tables.

A non-audited request message is in general a passive request to the BAL that performs a read-only operation on the database.

See DES/APP/IFS/0012 for details of:

- The physical services that comprise the BAL and how the counter interact with them.
- The XML message structure, including the contents of the message request header and response.
- The carrying of audit and stats data on audited request messages.
- Message routing, auditing and logging

1.1 Examples Messages

The messages specified in this document have been identified by a combination of code inspection followed by individual tests to produce the messages, and analysis of messages captured during an automated test run.

Examples of all Release 1 messages are embedded into the following zip file.



XMLMessages.zip

Release 2 changes are captured in the interface definitions in the following sections but are not reflected here.

1.2 Identifying unique messages from a test run

Messages were captured during a regression test cycle completed on a counter machine via the message log, with compression disabled on the counter and BAL (see counter source file RegressionTest.java). New line characters within the message have been removed during the capture process.

The messages have been deemed unique with regards to their structure rather than their data content. Unique xml messages were found by finding the XPath path to each field within the message; the set of paths generated for each message was then compared against all other sets to find ones which were unique. This is performed via a bespoke analysis tool MessageGenerator (see counter source file MessageGenerator.java).

Note that some messages are manipulated as they flow through the system, e.g. the BAL changes the second logon message, and adds extra HTTP headers when writing the audit files.



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The build for the Counter and BAL used for the regression test was CTR014. Subsequent individual tests to generate additional messages were run on CTR023.



2 Audited Messages

This section contains all messages which are audited.

Attributes in the standard headers are not included. See DES/APP/IFS/0012.

2.1 GenericBRDBModificationService

This service is similar to the GenericBRDBModificationService (see section 3.1 for general information of input parameter types and how the service works). The difference is that the SQL this service updates the database, and in the success case returns no data back to the counter other than a simple success response.

2.1.1 InsertLastPostIndicator

Usage	Cross Reference	Description
PS-5404 Notify Branch Mails Despatch	DES/APP/HLD/0128	Inserts the last post indicator for the relevant nodes and carriers.

2.1.1.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
carrierCode	RM	String	The carrier code, if all carriers not used.
nodeId	1	Integer	The node of the counter, if a specific counter is selected

2.1.1.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.1.2 InsertMemoRead

Usage	Cross Reference	Description
BSC-70 Receive Messags and Notifications	DES/APP/HLD/0061	Updates the status of a memo as read

2.1.2.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
memoid	3300	Integer	The memo id
counterReadTimestamp	2009-10-16T09:49:06.323Z	Date	The date/time the counter read the memo
brdbReceivedTimestamp	2009-10-	Date	The date/time the BRDB



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	10T09:00:00.000Z		received the memo
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2.1.2.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.1.3 InsertTTTransaction

Usage	Cross Reference	Description
PS-5404 Notify Branch Mails Despatch	DES/APP/HLD/0128	Inserts a Track and Trace transaction in the BRDB

2.1.3.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
horizonTxld	00-5923-1-18	String	Transactions id of the form "00-" + branch accounting code + "-" + counter id + "-" + usn
ttMessage	<pre><?xml version="1.0" encoding="UTF-8"?> <Message> <GroupId>005923</GroupId> <Date>16-Oct-2009</Date> <Time>10:39:04</Time> <TxnData> <Start> <Date>16-Oct-2009</Date> <Time>10:39:04</Time> </Start> <End> <Date>16-Oct-2009</Date> <Time>10:39:04</Time> </End> </TxnData> <Data> <TandT> <Control> <Source> <Name>Coddenham</Name> <Add1>Village Stores</Add1> <Postcode>IP6 9PY</Postcode> </Source> </Control> <MData> <EV>I500</EV> <FT>POLP</FT> <Type>A</Type> </MData> </TandT> <MItem> <VBC>PB000000005002</VBC> </MItem> </Data> </Message></pre>	String	Track and trace XML as CDATA



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	<pre><FT>POLP</FT> <VLDT>Y</VLDT> </Item> </Data> </Message></pre>		
--	--	--	--

2.1.3.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.1.4 PostFailedTC

Usage	Cross Reference	Description
BAC-158 Manage Transaction Corrections	DES/APP/HLD/0059	Records a failed transaction correction

2.1.4.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
iterationFlag	E	String	The iteration flag of the transaction correction
sapReferenceId	DCBA678DGA5634281Z	String	The SAP reference id of the transaction correction

2.1.4.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.1.5 PostPlannedOrderStatus

Usage	Cross Reference	Description
CSM-684 Review Planned Orders	DES/APP/HLD/0063	Changes the planned order status to processed

2.1.5.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
plolnpSeq	1	Integer	This number together with the lfsReceivedTimesamp identify a planned order in the BRDB.
lfsReceivedTimestamp	2009-10-16T00:00:00.000Z	Date	See above



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2.1.5.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.1.6 UpdateCounterPersistence

This contains a single field cpClobData containing XML as CDATA. This XML has the following fields:

Usage	Cross Reference	Description
Used to save configuration info to the BRDB	DES/APP/HLD/0047	Saves the counter persistence data from CounterDataStoreBDO to the BRDB CLOB

2.1.6.1.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
cpClobData	See section 3.2	String of CDATA XML	This XML has the same format as described in the Counter Persistence Retrieval Service (see section 3.2)

2.1.6.1.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.2 AddValidPouchesToCollGroupSvc

Usage	Cross Reference	Description
CSM-488 Record Preparation Of Pouches For Collection BLO	DES/APP/HLD/0063	Matches the barcodes with "rem out"s and associates the pouches with a collection group

2.2.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
barcodes	326146435507	List of String	List of barcodes

2.2.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.



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2.3 AttachUserToStockUnitService

Usage	Cross Reference	Description
BAD-123 Attach User to Stock Unit	DES/APP/HLD/0041	Attaches a user to a stock unit

2.3.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
attachUserId	SMOKE5	String	The user id to be attached to the stock unit
stockUnitId	SU1	String	The stock unit to be attached to
currentAttachedUserId	JON123	String	The user currently attached to the stock unit being attached to

2.3.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
attachUserId	J	String	The user attached to the stock unit
stockUnitId	SU1	String	The stock unit
appServerNodeName	AppServer	String	The BAL server used
brdblInstance	1	String	The DB connection used
currentTradingPeriod	10	Integer	The current trading period of the Stock Unit
currentBalancePeriod	1	Integer	The current balance period of the Stock Unit

2.4 Banking

This section describes the interfaces between the BAL and the Counter for communication with Banking Authorisation Agents for online authorisation of transactions in the Network Banking, Debit Card and Electronic Top-up.

Usage	Cross Reference	Description
Banking barrel	DES/APP/HLD/0112 DES/APP/IFS/0006	Carry out Network Banking, Debit Card and Electronic Top-up transactions.

2.4.1 Request

The interfaces are basically the same for all three banking services: authorisation, reversal and recovery. There are many different types of authorisation, reversal and recovery transactions and some or all of the



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fields described below are populated for each transaction request. Which fields are used for each type of request are documented in spreadsheets embedded in DES/APP/IFS/0006.

Tag/Attribute Name	Example	Constraints Applied	Description
Application	NBA	String	The banking application to be used. One of "DCA" (for Debit Card), "ETA" (for Electronic Top-up) or "NBA" (for Network Banking).
AgtHash	3	Integer	The banking agent hash. All messages from the same Branch have the same value. Used together with the routing gateway ID to send the request to the correct agent.
ClientId	24238	Integer	Client ID. Identifies a client of Post Office Ltd. i.e. the end bank (card issuer) for a transaction.
RtngGwy	24447	String	The routing gateway ID. Identifies the system where the authorisation for a transaction should be sought. Used together with the banking agent hash to send the request to the correct agent.
LclDte	2009-10-29T13:04:11.520Z	Date	Receipt transaction date. For reversal, this is the date of the original transaction.
MsgType	R1	String	Message type = "R1" for authorisation "T1" for recovery "C0" for reversal
MsgVer	6	String	Message version. = "6" for HNG-X Counters.
AppVer	INT7	String	Counter application version.
Payload	(formatted example) <pre><![CDATA[<AgtTmOut>18000</AgtTmOut> <LclDte>20091028</LclDte> <LclTme>115400</LclTme> <HTxnNum>00-25003-1-2296-1</HTxnNum> <ICCDData/> <PAN>633641****9012</PAN> <CurrCd>GBP</CurrCd> <TranType>64</TranType> <ReqAmt>5000</ReqAmt> <IssSchld>11</IssSchld> <Add1>35 Broadgate Circle</Add1> <Add4>London</Add4> <CPAN>633641****9012</CPAN></pre>	String Request data sent to banking agent. Details of contents are in DES/APP/IFS/0006.	



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<ExpDte/> <EfctDte/> <PIN1/> <T2>633641****9012=****</T2> <EtyMde>3</EtyMde>]]>			
---	--	--	--

2.4.2 Response

2.4.2.1 Authorisation and Recovery

Tag/Attribute Name	Example	Constraints Applied	Description
BankResponsePayload	(formatted example) <pre><![CDATA[<AgtRsp> <MsgTime>20091028114533</MsgTime> <MsgType>A3</MsgType> <MsgVer>4</MsgVer> <Application>NBA</Application> <AppVer>10.1.125XTrace</AppVer> <HTxnNum>00-25003-1-2296- 1</HTxnNum> <STAN>830019</STAN> <AuthAmt>000000005000</AuthAmt> <CurrCd>GBP</CurrCd> <RespCd>01</RespCd> <AuthCd>000001</AuthCd> <Balce> <Bal> <Type>01</Type> <Amt>C000000010101</Amt> </Bal><Bal> <Type>02</Type> <Amt>C000000010199</Amt> </Bal> </Balce> <IssResp>00</IssResp> <SettDte>20091028</SettDte> <EPAN >NjMzNjQxMDAwMDAwOTAxMnwMDEy< /EPAN> <ICCDData/> <AgtSLA>20</AgtSLA> </AgtRsp>]]></pre>	String	Response data received from banking agent. Details of contents are in DES/APP/IFS/0006.

2.4.2.2 Reversal

Tag/Attribute Name	Example	Constraints Applied	Description
error	BANKING_NULL_RESPONSE	String	This error response is always returned from Reversal requests.



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2.5 BasketSettlementService

Usage	Cross Reference	Description
GLB-270 Transact Customer Basket	DES/APP/HLD/0123	<p>Records the basket transactions in the BRDB.</p> <p>The mode parameters reference data specifies some additional "meta data" based on the counter mode. This follows the "BasketSettlementService" in the service identifier, and identifies any additional processing required after recording the transactions in the transaction tables (e.g. to update transfer tables).</p> <p>This additional meta data is one of:</p> <ul style="list-style-type: none"> /Settle /SettlePouchDelivery /SettleRemOut /SettleRemOutAutoDespatch /SettleReverseTransfer /SettleTransactionCorrection /SettleTransferIn /SettleTransferOut /SettleTransactionAcknowledgement

Note: Amount fields when serialised to XML are serialised inside ProductFeeTotals, and Quantity fields inside OpeningBalance.Quantity. This is really a bug in the serialiser, but does not matter as the amounts are deserialised correctly at the other end. See PEAK PC0189906.

2.5.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
basketHeader			Contains the basket header. See following sections.
accountingLine			List of all accounting lines

2.5.1.1 BasketHeader

Tag/Attribute Name	Example	Constraints Applied	Description
txnMode	1	Integer	The transaction mode the basket was in (1=Serve Customer, etc)
counterMode	1	Integer	The counter mode the basket was in (1=Serve Customer, etc). See ModeParameters reference data
basketStructureVersion	1	String	The back structure version
stockUnitId	SU1	String	The stock unit
stockUnitTradingPeriod	1	Integer	The stock unit TP



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stockUnitBalancePeriod	1	Integer	The stock unit BP
Ssn	3052	Long	The session sequence number
optionalData		OptionalData	Only present if optional data is required for the basket
OptionalData.reversalSessionId	1913	Long	The session id of the txn being reversed
OptionalData.reversalNodeid	1	Integer	The node id of the txn being reversed
OptionalData.targetStockUnitId	SH1	String	The target stock unit id of the txn being reversed
OptionalData.pouchData		List of PouchData	Only present if a pouch is associated with the basket
OptionalData.pouchData.pouchId	301983690210		Pouch Id
OptionalData.pouchData.pouchType	Cash	String	Pouch type
OptionalData.pouchData.remType	Manual Rem	String	Remittance type
OptionalData.lfsTimestamp	2009-09-28T12:52:38.606Z	Date	The lfs timestamp, used to record a pouch late entry date
OptionalData.stockTransferId	3044	Long	The source session id. Only present for transfer in
OptionalData.stockTransferNodeid	1	Integer	The source counter id. Only present for transfer in
OptionalData.targetStockUnitId	SH2	String	The destination stock unit. Only present for transfers

2.5.1.2 APAccountingLine

Used for an Automated Payment transaction.

Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	4	Long	The version of the mode from product mode reference data
className	APAccountingLine	String	The class name of the accounting line
dummy	0	Integer	0=Normal transaction 1=Dummy transaction for existing reversal 2=Dummy transaction for recovery
productId	3162	String	The product id
price	20.00	IMoney	The unit price
quantity	1	IQuantity	The sale quantity



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amount	20.00	IMoney	The sale amount
entryMethod	0	Integer	Method by which the transaction was started, typically only present for banking and postal services transactions: 0 Swipe 1 Manual 2 External Swipe 3 EMV 4 Fallback 5 Weigh Scales
apRecordType	32	Integer	31 Magnetic Card 32 Bar code
clientAccountCode	2007	Integer	Client account code
clientCode	51	Integer	Client code
clientServiceCode	9003	Integer	Client service code
customerReference	26900322007629007	String	Customer reference
paymentCode	1	Integer	1=Cash 2=Cheque or Cheque/Cash 3=Savings stamps included 4=Debit/Credit card
serviceGroup	GS	String	Service group
tokenId	1551	Integer	Token id
additionalData	<PaymentCode>1 </PaymentCode>	XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.
transactionStartDate	2009-10-22T15:41:28.780Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number, Accounting line number
transactionEndDate	2009-10-22T15:43:21.605Z	Date	The date and time the transaction was added to the basket
reportAdditionalData	<LabelId>1234 </LabelId>	XML String	Used to hold data to be written to BRDB_RX_REP_SESSION_DATA.REPORT_XML. For a list of XML elements that can make up reportAdditionalData see DES/APP/HLD/0123.



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2.5.1.3 BankingAccountingLine

Used for a Network Banking transaction. For more details see DES/APP/IFS/0006.

Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	2	Long	The version of the mode from product mode reference data
className	BankingAccountingLine	String	The class name of the accounting line
productId	4908	String	The product id
price	50.00	IMoney	The unit price
quantity	-1	IQuantity	The sale quantity
amount	-50.00	IMoney	The sale amount
cnimNetworkType	Not Connected	String	CNIM network type
HNGXTxnNum	00-5923-1-17-1	String	Transaction number
receiptTransactionDate	2009-10-23T09:53:54.188Z	Date	Transaction receipt date
issuerSchemeld	56	Integer	Issuer Scheme Id
txnType	71	Integer	Transaction type
transactionResultCode	1	Integer	Transaction result code
amountRequested	50.00	IMoney	Amount requested
currency	GBP	String	Currency code
clientId	24283	Integer	Client id
routingGateway	24239	Integer	Routing Gateway
entryMethod	1	Integer	Method by which the transaction was started, typically only present for banking and postal services transactions: 0 Swipe 1 Manual 2 External Swipe 3 EMV 4 Fallback 5 Weigh Scales
HNGXResponseCode	1	Integer	Reponse code
CounterSLAInfo	1873	Long	Counter SLA (ms)
AgentSLAInfo	100	Integer	Agent SLA (ms)
AgentHash	0	Integer	Agent hash
fee		IMoney	Fee
settlementDate	2009-10-26T00:00:00.000Z	Date	Settlement Date



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usn	17	Long	Unique Sequence Number
applicationType	0	Integer	Application Type
BdC	false	Boolean	Bureau De Change
MchNum	99234031	Long	Merchant Number
TransNum	55	Integer	Transaction Number
PAN	560374xQEfdt9015	String	Hashed PAN
EPAN	NTYwMzc0ODAwMDA4OTAxNXwwOTEy	String	Encrypted PAN
issuerResponse	00	String	Issuer response
offline	true	Boolean	true if offline
authCode		String	Authorisation code
bankingTransactionId	220008	String	Banking transaction id
cardImpounded		Integer	1 if clerk impounded card, else omitted
iccDetail	<pre><directive:Entry Name= 'iccDetail'> <Dyno> <directive:Entry Name= 'X5F2A'> <String>0826</String> </directive:Entry> <directive:Entry Name= 'X82'> <String>1c00</String> </directive:Entry> ... <directive:Entry Name= 'SR'> </Dyno> </directive:Entry></pre>	XML Serialised dyno	ICC Detail
type	1	Integer	Basket entry type, 0=retail (default if omitted), 1=settlement
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number, Accounting line number
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was



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			added to the basket
additionalData		XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.

2.5.1.4 DCSAccountingLine

Used for a Debit Card transaction. For more details see DES/APP/IFS/0006.

Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	2	Long	The version of the mode from product mode reference data
className	DCSAccountingLine	String	The class name of the accounting line
productId	7243	String	The product id
price	0.39	IMoney	The unit price
quantity	-1	IQuantity	The sale quantity
amount	-0.39	IMoney	The sale amount
cnimNetworkType	Not Connected	String	CNIM network type
HNGXTxnNum	00-5923-1-17-1	String	Transaction number
receiptTransactionDate	2009-10-23T09:53:54.188Z	Date	Transaction receipt date
issuerSchemeld	56	Integer	Issuer Scheme Id
txnType	71	Integer	Transaction type
transactionResultCode	1	Integer	Transaction result code
amountRequested	0.39	IMoney	Amount requested
currency	GBP	String	Currency code
clientId	24283	Integer	Client id
routingGateway	24239	Integer	Routing Gateway
entryMethod	1	Integer	Method by which the transaction was started, typically only present for banking and postal services transactions: 0 Swipe 1 Manual 2 External Swipe 3 EMV 4 Fallback 5 Weigh Scales
HNGXResponseCode	1	Integer	Reponse code



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CounterSLAInfo	1873	Long	Counter SLA (ms)
AgentSLAInfo	100	Integer	Agent SLA (ms)
AgentHash	0	Integer	Agent hash
fee	0.35	IMoney	Fee
settlementDate		Date	Settlement Date
usn	17	Long	Unique Sequence Number
applicationType	1	Integer	Application Type
BdC	false	Boolean	Bureau De Change
MchNum	99234031	Long	Merchant Number
TransNum	55	Integer	Transaction Number
PAN	560374xQEfdt9015	String	Hashed PAN
EPAN	NTYwMzc0ODAwMD A4OTAxNXwwOTEy	String	Encrypted PAN
issuerResponse	00	String	Issuer response
offline	true	Boolean	true if offline
authCode	968688	String	Authorisation code
terminalId	98547101	String	Terminal id
cardImpounded	1	Integer	1 if clerk impounded card, else omitted
iccDetail	<directive:Entry Name= 'iccDetail' <Dyno> <directive:Entry Name= 'X5F2A' <String>0826</String> </directive:Entry> <directive:Entry Name= 'X82' <String>1c00</String> </directive:Entry> ... <directive:Entry Name= 'SR'/> </Dyno> </directive:Entry>	XML Serialised dyno	ICC Detail
type	1	Integer	Basket entry type, 0=retail (default if omitted), 1=settlement
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number,



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			Accounting line number
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was added to the basket
additionalData	<OriginalCardNotUsed/>	XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.

2.5.1.5 EposAccountingLine

Used for an EPOSS transaction.

Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	12	Long	The version of the mode from product mode reference data
className	EposAccountingLine	String	The class name of the accounting line
productId	19	String	The product id
price	100.00	IMoney	The unit price
quantity	10	IQuantity	The sale quantity
amount	1000.00	IMoney	The sale amount
type	1	Integer	Basket entry type, 0=retail (default if omitted), 1=settlement
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number, Accounting line number
mandatoryAssocTotal	2.40	IMoney	The amount of the associated mandatory product transaction. Only where the transacted product has a mandatory associated product specified in ref data
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was added to the basket
entryMethod	1	Integer	Method by which the transaction was started, typically only present for banking and postal services transactions:



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			0 Swipe 1 Manual 2 External Swipe 3 EMV 4 Fallback 5 Weigh Scales
reversal	1	Integer	If 1, this txn is a reversal. Only present for a reversal.
reversalTransactionId	1	Integer	The transaction id of the txn being reversed. Only present for a reversal
pouchId	301983690210	String	Used on some transactions to hold the pouch id
tcReference		String	Used on some transactions e.g. to hold the SAP reference on a transaction correction
clientReference		String	Used on some transactions, e.g. to hold the client reference id on a transaction correction
additionalData	<AdjustReason>1 </AdjustReason>	XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.
reportAdditionalData	<LabelId>1234 </LabelId>	XML String	Used to hold data to be written to BRDB_RX_REP_SESSION_DATA.REPORT_XML. For a list of XML elements that can make up reportAdditionalData see DES/APP/HLD/0123.
externalSystem		String	Used on Transaction Acknowledgements Name of external system generating TAs eg "Camelot".
terminalID		String	Used on Transaction Acknowledgements Identifier of terminal for external system.
reference		String	Used on Transaction Acknowledgements Matching Reference to be returned to POL FS From TA record field <11>

2.5.1.6 ForexAccountingLine

Used for a Foreign Exchange (Bureau De Change) transaction.



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Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	12	Long	The version of the mode from product mode reference data
className	ForExAccountingLine	String	The class name of the accounting line
productId	5143	String	The product id
price	0.00	IMoney	The unit price
quantity	100	IQuantity	The quantity (amount in the foreign currency, e.g. 100 for 100 euros)
amount	63.75	IMoney	The amount (in sterling)
exchangeRate	0.65	Double	The spot rate for the transaction
effectiveExchangeRate	0.63	Double	The effective rate for the transaction – taking into account the margin
purchasedValue	63.89	IMoney	The price paid by the customer, includes margin and comission
bureauCurrency	EUR	String	The currency code
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number, Accounting line number
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was added to the basket
pouchId	301983690210	String	Used on some transactions to hold the pouch id
additionalData	<AdjustReason>1 <\AdjustReason>	XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see



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			DES/APP/HLD/0123.
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2.5.2 PSAccountingLine

Used for a Postal Service transaction. See DES/APP/HLD/0128 for more details.

Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	12	Long	The version of the mode from product mode reference data
className	PSAccountingLine	String	The class name of the accounting line
productId	30169	String	The product id
price	0.76	IMoney	The unit price
quantity	1	IQuantity	The sale quantity
amount	0.76	IMoney	The sale amount
serviceId	62	String	The service id
serviceName	2nd Class	String	The service name
weight	101.0	Double	The weight (g)
destination	UK (EU)	String	The destination
pipFormat	2	String	See DES/APP/HLD/0128
international	France	String	Country id
preferences	Franked,Signed For	List of String	List of preference ids
copIssued	false	boolean	true if Certificate Of Postage issued
isFranked	false	boolean	true if franked
carrier	RM	String	Carrier
currentState	LCIn	String	Current state
newState	MailIn	String	New state
afterLastDespatch	false	boolean	true if after last despatch
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line



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			number, Accounting line number
mandatoryAssocTotal	2.40	IMoney	The amount of the associated mandatory product transaction. Only where the transacted product has a mandatory associated product specified in ref data
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was added to the basket
entryMethod	1	Integer	Method by which the transaction was started, typically only present for banking and postal services transactions: 0 Swipe 1 Manual 2 External Swipe 3 EMV 4 Fallback 5 Weigh Scales
reversal	1	Integer	If 1, this txn is a reversal. Only present for a reversal.
reversalTransactionId	1	Integer	The transaction id of the txn being reversed. Only present for a reversal
pouchId	301983690210	String	Used on some transactions to hold the pouch id
tcReference		String	Used on some transactions e.g. to hold the SAP reference on a transaction correction
clientReference		String	Used on some transactions, e.g. to hold the client reference id on a transaction correction
additionalData		XML String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.

2.5.3 PS2AccountingLine

e.g. Used for a prepaid Postal Services transaction. See DES/APP/HLD/0128 for more details.



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Tag/Attribute Name	Example	Constraints Applied	Description
transactionModeVersionNo	12	Long	The version of the mode from product mode reference data
className	PS2ndaryAccountingLine	String	The class name of the accounting line
productId	8007	String	The product id
price	0.36	IMoney	The unit price
quantity	-1	IQuantity	The sale quantity
amount	-0.36	IMoney	The sale amount
prePaidLine	True	boolean	true for pre paid
transactionStartDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was started (i.e. the time the PDL script invoked by the button or scanner)
transactionId	1	Integer	The id of the transaction within the basket; starts are 1 and rises sequentially
wholeSeqId	1,1,1	String	The location of the transaction within the basket: Basket entry number, Receipt line number, Accounting line number
transactionEndDate	2009-09-28T12:51:02.234Z	Date	The date and time the transaction was added to the basket
additionalData		String	Additional data to be written to the BRDB transaction tables ADDITIONAL_DATA column. For a list of XML elements that can make up additionalData see DES/APP/HLD/0123.

2.5.4 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.6 ChangeUserOptionsService



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Usage	Cross Reference	Description
BAD-540 Maintain Branch User Account	DES/APP/HLD/0060	Changes a user's options

2.6.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
branchAccountingCode	5923	String	The branch accounting code
branchUser	JON102	String	The user being changed
enableUser	false	Boolean	true if the account is being enabled. May be omitted if option not offered to user
unlockUser		Boolean	true if the account is being unlocked. May be omitted if option not offered to user
mustChangePassword		Boolean	true if the account is being changed to force a change password on next login. May be omitted if option not offered to user
existingEnableUser	true	Boolean	true if the user account is enabled
existingUnlockUser	true	Boolean	true if the user account is unlocked
existingMustChangePassword	true	Boolean	true if the user account's password has expired

2.6.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.7 ChangeUserRoleService

Usage	Cross Reference	Description
BAD-540 Maintain Branch User Account	DES/APP/HLD/0060	Changes a user's role (aka group)

2.7.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
branchUser	JON101	String	The user being changed
branchUserRole	MANAGERS	String	The new user role
managerRole	MANAGERS	String	The DCT role name of a



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			manager
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2.7.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.8 CloseBranchUserService

Usage	Cross Reference	Description
BAD-526: Close Branch User Account	DES/APP/HLD/0060	Closes a branch user account within a branch

2.8.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
branchUser	COUNT1	String	The branch user
managerRole	MANAGERS	String	The manager role name
defaultStockUnit	DEF	String	The default stock unit name

2.8.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.9 ConcurrentLogon

Usage	Cross Reference	Description
BAD-11 Log On to System	DES/APP/HLD/0060	BAD-11 covers the primary scenario of logging onto the HNG-X system, and covers several variations surrounding this. The use case also contains variations that could be considered as use cases in their own right, for example the post login checks, recovery, shutdown and restart etc. Login uses specific DTO's for requests and responses, and one request may have many different types of responses.

2.9.1 Request

The ConcurrentLogon URI uses the ConcurrentLogonRequestDTO. If the SecondLogonResponseDTO has indicated that the user is already logged on at another counter, the user is required to decide whether to continue with the current logon or abandon it. This object is used to relay the user's choice to the BAL.

Tag/Attribute Name	Example	Constraints	Description
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		Applied	
ContinueLoggingOn	true	boolean	Provides the users choice when prompted that they are already logged in at another counter. A value of true indicates that the user has opted to continue with the login; false that they have cancelled.

2.9.2 Response

The following objects can be returned in response to the ConcurrentLogonRequestDTO request:

ResponseDTO	Description
ConcurrentLogonResponseDTO	If the user chooses to abandon a concurrent login attempt, then this response is returned.
SecondLogonResponseDTO	<p>Response object returned in response to a SecondLogonInteractionDTO, indicating that the users credentials are valid.</p> <p>If this is a concurrent login attempt the the "isUserAlreadyLoggedIn" attribute has a value of "true".</p> <p>For a successful login various beans are populated with data needed to perform post login checks and subsequent use cases.</p> <p>This object is also returned during a concurrent login request, where the user has opted to continue with the login. In this case this object indicates that the user is now successfully logged in at this counter, and that their previous session has been terminated.</p>

These are described in the following sections.

2.9.2.1 ConcurrentLogonResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that the processing to abandon the concurrent login at the BAL (i.e. change session state from NEW to INVALIDATE etc.) was successful.

2.9.2.2 SecondLogonResponseDTO

This is a cutdown version of the response returned during login, and is sent in response to a user opting to continue with a concurrent login. The elements marked in red below are not returned in this response, and have to be injected back into this response at the counter, from the initial SecondLogonResponseDTO received during authentication.

Tag/Attribute Name	Example	Constraints Applied	Description
BranchOpen			



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BranchProfile			BranchProfileBean See section below for contents of this bean.
CashDeclarationData			CashDeclarationDataBean See section below for contents of this bean.
ForcePasswordChange	false	boolean	Flag denoting is a password change should be forced during login.
LastLoginTimeStamp	2009-10-20T11:40:33.017Z	Date	The timestamp of the last successful login for the user.
M2Evidence	D09B79B5E2E2C9D857B6F196E6F46A4F9D58D0B5	String	The SRP M2 evidence generated by the BAL. This is the evidence that the BAL sends to the counter to prove that it has generated the correct shared secret.
NumberOfUnsuccessfulAttempts	0	int	The number of unsuccessful attempts made by this user to login.
OsrConfigVersionBaseline	BAL_SRV_OSR_ROUTING_0.90_V037	String	OSR Version Numbers
OsrConfigVersionPatchLevel	BAL_SRV_OSR_ROUTING_0.90_V037_V036	String	OSR Version Numbers
OsrVersionBaseline	BAL_SRV_OSR_00.90_V042	String	OSR Version Numbers
OsrVersionPatchLevel	BAL_SRV_OSR_00.90_V042-V041	String	OSR Version Numbers
PanHashSeed	6UrAzT+JRp5FBSbEWg7pR+hNgsDFHeos	String	Encoded pan hash seed
ProfilesBean			UserProfilesBean See section below for contents of this bean.
StockUnitProfile			StockUnitProfileBean See section below for contents of this bean.
SystemRecoveryRequired	false	boolean	Is system recovery required or not?
TransactionCorrectionData			TransactionCorrectionDataBean See section below for contents of this bean.
UserAlreadyLoggedInOn	false	boolean	Flag indicating if this user is already logged in at another counter. A value of true indicates a concurrent login.
UserRole	MANAGERS	String	The role of this user.



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VpnPin			VPNBean See section below for contents of this bean.
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2.10 CreateBranchUser

Usage	Cross Reference	Description
BAD-417 Create a Branch User Account	DES/APP/HLD/0060	Creates a user account within a branch

2.10.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
branchUser	COUNT1	String	Login Id of the new branch user
Password	RL+cm3QyKNA=	String	The encoded password for the new user
firstName	JON	String	First name of the new user
lastName	HULME	String	Last name of the new user
userRole	MANAGERS	String	Role of the new user – one of MANAGERS, SUPERVISORS, CLERKS.
stockUnit	DEF	String	Stock Unit to which the user is being attached.

2.10.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.11 CutOffDespatchReportService

Usage	Cross Reference	Description
BAC-270 Produce Cut-off Report	DES/APP/HLD/0059 DES/APP/HLD/0109 DES/APP/HLD/0053	Cuts off the postal services despatch report

2.11.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
LowerCutOffMarker	<LowerCutoffMarker> <Bp>1</Bp>	CutOffMarker	The last cut-off marker, identifying the point in



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	<pre><ReportId> <ReportId>2018</ReportId> </ReportId> <ReportType> <Name>PostalServicesCutOff</Name> </ReportType> <StockUnit>3N5</StockUnit> <SystemCutoff>false</SystemCutoff> <Tp>50</Tp> </LowerCutoffMarker></pre>		<p>time after which data was sent to the counter for the report.</p> <p>For this service, the marker does not contain nodes and jsns.</p> <p>See DES/APP/HLD/0109 and DES/APP/HLD/0053 for details.</p>
MailsItemList	<pre><MailsItemList> <String>XA259083297GB</String> </MailsItemList></pre>	List of String	List of barcodes
NewCutoffMarker	<pre><NewCutoffMarker> <Bp>1</Bp> <CutoffTimestamp>2009-09- 28T12:54:31.119Z</CutoffTimestamp> <MarkerDate>2009-09- 28T12:54:31.119Z</MarkerDate> <ReportId> <ReportId>2018</ReportId> </ReportId> <ReportType> <Name>PostalServicesCutOff</Name> </ReportType> <StockUnit>3N5</StockUnit> <Tp>50</Tp> </NewCutoffMarker></pre>	CutOffMarker	The new cut-off marker identifying the cut-off point in time.
OfficeTP	10	Integer	The office TP
ReportId	2018	Integer	The report id
ReprintData	<pre><ReprintData> <KeepDays>60</KeepDays> <PrintTimeStamp>2009-10- 14T13:32:24.745Z</PrintTimeStamp> <ReportData> <![CDATA[<para> ... *** END OF REPORT *** </para>]]> </ReportData> </ReprintData></pre>	ReprintData	Reprint information including the report POAML. See DES/APP/HLD/0109

2.11.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success



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2.12 CutOffReportService

Usage	Cross Reference	Description
BAC-270 Produce Cut-off Report	DES/APP/HLD/0059 DES/APP/HLD/0109 DES/APP/HLD/0053	Cuts off the report using the new cut off marker

2.12.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
LowerCutOffMarker	<pre><CutoffCutoffTimestamp>2009-09-28T12:51:25.499Z</CutoffTimestamp> <MarkerDate>2009-09-28T12:51:25.499Z</MarkerDate> <NodeJSNs> <NodeJSN> <Jsn>3054</Jsn> <Node>1</Node> </NodeJSN> </NodeJSNs> <ReportId> <ReportId>118</ReportId> </ReportId> <ReportType> <Name>OfficeCutOff</Name> </ReportType> <StockUnit>3N5</StockUnit> <SystemCutoff>false</SystemCutoff> <Tp>50</Tp></pre>	CutOffMarker	The last cut-off marker, identifying the point in time after which data was sent to the counter for the report. See DES/APP/HLD/0109 and DES/APP/HLD/0053 for details.
NewCutoffMarker	Similar to above	CutOffMarker	The new cut-off marker identifying the cut-off point in time.
OfficeTP	10	Integer	The office TP
ReportId	200	Integer	The report Id of the report being cutoff
StockUnit	SU1	String	The SU the user is currently attached to.
StockUnitBP	1	Integer	The BP of the SU the user is currently attached to.
stockUnitTP	10	Integer	The BP of the SU the user is currently attached to.
summaryTotals	<pre><SummaryTotals> <ProductFeeTotal> <Amount> <Amount>-5.00</Amount> </Amount> <ProductId>5956</ProductId> <Quantity> <Value>-1</Value></pre>	List of objects of type ProductFee Total. May be omitted.	Summary records written when cutting off a SU report that will appear on the associated office report.



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	<pre></Quantity> </ProductFeeTotal> </SummaryTotals></pre>		
eventTotals	<pre><EventTotals> <ProductTotal> <Amount> <Amount>120.00</Amount> </Amount> <ProductId>9271</ProductId> <Quantity> <Value>1</Value> </Quantity> </ProductTotal> <ProductTotal> <Amount> <Amount>2.40</Amount> </Amount> <ProductId>9272</ProductId> <Quantity> <Value>1</Value> </Quantity> </ProductTotal> <ProductTotal> <Amount> <Amount>0.00</Amount> </Amount> <ProductId>9376</ProductId> <Quantity> <Value>0</Value> </Quantity> </ProductTotal> <ProductTotal> <Amount> <Amount>0.00</Amount> </Amount> <ProductId>9377</ProductId> <Quantity> <Value>0</Value> </Quantity> </ProductTotal> <ProductTotal> <Amount> <Amount>- 122.40</Amount> </Amount> <ProductId>9379</ProductId> <Quantity> <Value>-2</Value> </Quantity> </ProductTotal> </EventTotals></pre>	List of objects of type ProductTotal. May be omitted.	Giro EVNT mode summary information. See DEV/APP/LLD/0179. Only present if the report produces EVNT data.
weekNumber	50	Integer. May be omitted.	The week number as printed on Counter Dialy Giro reports. Used to check the week number has not changed from obtaining the data to cutting off the report. Only present if the report uses the week



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			number.
reprintData	<pre><ReportData> <![CDATA[<para> <space x="0"/>Coddendam <space x="31"/>FAD: <space x="36"/>6913051 <nl/> ... </para>]]> </ReportData> </ReprintData></pre>	String POAML. May be omitted.	Reprint information including the POAML of the report that is being cut-off. Only present if the report is configured for reprints. See DES/APP/HLD/0109.
tradingDate	2009-10-14T11:26:26.776Z	String date. May be omitted.	The trading date when the data was requested from the BAL. Only present if week number checking required. See DES/APP/HLD/0109.

2.12.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.13 FirstLogon

Usage	Cross Reference	Description
BAD-11 Log On to System	DES/APP/HLD/0060	BAD-11 covers the primary scenario of logging onto the HNG-X system, and covers several variations surrounding this. The use case also contains variations that could be considered as use cases in their own right, for example the post login checks, recovery, shutdown and restart etc. Login uses specific DTO's for requests and responses, and one request may have many different types of responses.

2.13.1 Request

The FirstLogon URI uses the FirstLogonInteractionDTO. This is the first request object that is sent from the Counter to the BAL to initiate the logon process.

Sends through the userID of the user attempting to logon as well as the ephemeral public key A generated by the Counter as part of the SRP authentication process.

Tag/Attribute Name	Example	Constraints Applied	Description
SrpA	cPqUd4cNiP2Qau9NmYpUN99wMBm/yynDp65vfZVFypyNa5ueZWDZ2MNbxNicReMTe9OMk+683VzaInflKvKbErA==	String	SRP A - ephemeral public key, Base64 encoded.

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Userid	SMITHJ	String	The username of the user that is attempting to login.
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2.13.2 Response

The following objects can be returned in response to the FirstLogonInteractionDTO request:

ResponseDTO	Description
FirstLogonResponseDTO	Success response returned for a FirstLogonInteractionDTO request. This response indicates that the userID was found in the database. It contains the branch accounting code for the branch code supplied in the initial request; the value of the salt associated with the users password verifier; an ephemeral public key B generated by the BAL which constitutes evidence in the SRP authentication process.
InvalidUserResponseDTO	Response returned to a FirstLogonInteractionDTO, indicating that the userID is invalid – i.e. cannot be found in the database.
InvalidCounterResponseDTO	Returned in response to the FirstLogonInteractionDTO if the counter does not exist, or the IP address validation for the counter fails or the training mode checks fail.

These are described in the following sections.

2.13.2.1 FirstLogonResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
BranchAccountingCode	1234	Integer	The branch accounting code that the user belongs to.
EncryptedToken	71cdb5f7ac13723a006245a45ca829c0	String	Token used as the user session ID.
FadHash	89	Int	The fad hash.
SrpB	QmZ20j+fY1j+bt2ZJYXBo9Whxne8mTH037PFn4ZmvqoYZuM/vEGMCdwg6g6/EI6Y4kGr1x+5jR50\nXJzVFXFm4+3iilSMo8dSIMZQFYm5qhBZa7LME	String	SRP B – ephemeral public key, Base64 encoded.
UserSalt	BGLVPIq6wA==	String	User salt used in SRP authentication, Base64 encoded.

2.13.2.2 InvalidUserResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that this is an invalid user (i.e. the user validation at the BAL failed).



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2.13.2.3 InvalidCounterResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
ReasonForFailure	-3	Integer	Integer providing a reason code for failure to login. Values should be assigned from the set of constants contained within this response DTO. These are currently: -1=Invalid Counter -2=Branch not in Training Mode -3=Training Data Reset Required

2.14 LabelEventService

Usage	Cross Reference	Description
PS-12 Accept Posting Request	DES/APP/HLD/0128	Saves the postage label event to the BRDB

2.14.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
dummyData	data1	String	Dummy data, as no data needed for this service

2.14.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
resultset	success	Boolean	true indicates success

2.15 LockBranchService

Usage	Cross Reference	Description
BAC-130 Balance Branch	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Locks the branch during Branch Balancing

2.15.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			There are no attributes to this service



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2.15.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.16 LockStockUnitService

Usage	Cross Reference	Description
BAC-11 Balance Stock Unit	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Locks the stock unit during Stock Unit Balancing

2.16.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
StockUnitID	SU1		The stockUnit to be locked

2.16.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.17 LogoffService

Usage	Cross Reference	Description
BAD-39 Log Off from System	DES/APP/HLD/0060	Logs off

2.17.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
usn	1116	Long	The counter's unique serial number at the point of logoff

2.17.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.18 ReconcileBarCodesService



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Usage	Cross Reference	Description
PS-5404 Notify Branch Mails Despatch	DES/APP/HLD/0128	Records confirmed discrepancies in despatched barcodes to the BRDB

2.18.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
checkedBarCodes	XA259083297GB	List of String	List of barcodes
missingBarCodes	KI100001278GB, XA259083283GB	List of String	List of barcodes
nodeId	1	Integer	Counter id, if a specific node is selected.
carrierCode	RM	String	The carrier code, if all carriers not used
reportData	See section 2.12.1	XML String	Report reprint data

2.18.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.19 RecordStockDeclarations

Usage	Cross Reference	Description
CSM-208 Declare Cash Holding CSM-236 Declare Stock Holding	DES/APP/HLD/0063	Records a declaration of cash, stock, travellers cheques, currency, or stamps

2.19.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
stockUnitId	SU1	String	The stock unit for which the declaration is being done
tillId	19	Integer	The till id from where the declaration is being done
Type	cash	String	The type of declaration being done – one of cash, stock, travchq, currency, stamps
tradingPeriod	10	Integer	The trading period of the stock unit.
balancePeriod	10	Integer	The balance period of the stock unit.
calledFromLogin	N	String	Param indicating whether this is during login.



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declarationProducts	10,20,30	Dyno of Integer	List of product id's
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2.19.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

2.20 RecoveryService

Usage	Cross Reference	Description
A number of use case (e.g. banking use cases) mention saving data for recovery, and BAD-11 Log On to System refers to recovering incomplete transactions.	DES/APP/HLD/0083 DES/APP/HLD/0123	<p>When transactions are generated and added to the basket, recovery data can be sent to the RecoveryService so that if the counter crashes, the correct status of these transactions can be recovered.</p> <p>Recovery is open-ended to allow for future recovery transaction types, but is currently used for recovery of Banking, Reversals, AP and AP-ADC transactions.</p> <p>Recovery data is not audited in the sense that it does not write to the BRDB message journal, but it is audited in the sense that the request has a jsn, audit data can be piggy backed on the message, and the recovery data is saved to the BRDB recovery transactions table.</p> <p>A recovery process is invoked on the counter during logon to recover transactions using the recovery data saved by this service.</p>

2.20.1 Request

This message saves recovery data, which can be used later to recover transactions. It is used by Banking and AP recovery.

Tag/Attribute Name	Example	Constraints Applied	Description
recoveryMode	none	String	This is the only attribute in the GenericRequestDTO Dyno attribute. The status is none (rather than complete or failed).
RecoveryData			This contains the data to be saved, with the following fields.
newRecoveryData	false	Boolean	
recoveryTokenId		String	Recovery token id, may be omitted or empty
recoveryUsn	2347	Long	Recovery USN
recoveryScript	String	String	The script to be used if recovery is invoked
recoveryData		Dyno	The recovery data, which is specific to the transaction type.



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txnStartTime	2009-10-28T11:54:00.323Z	Date	Transaction start time
recoverySsn	3121	Long	Recovery session sequence number
stockUnit	SU1	String	Stock unit on which recovery is being done
counterMode	1	Integer	The mode in which the transaction is being executed

2.20.2 Request with RecoveryDataSet

Tag/Attribute Name	Example	Constraints Applied	Description
recoveryMode	none	String	This is the only attribute in the GenericRequestDTO Dyno attribute. The status is none (rather than complete or failed).
RecoveryData			This contains the data to be saved, with the following fields.
newRecoveryData	false	Boolean	
recoveryDataSetFlag	false	Boolean	true if recoveryDataSet is used, in which case
recoveryDataSet			The recovery data, which is specific to the transaction type.
recoverySsn	3121	Long	Recovery session sequence number
stockUnit	SU1	String	Stock unit on which recovery is being done
counterMode	1	Integer	The mode in which the transaction is being executed

2.20.3 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.21 RolloverBranchService

Usage	Cross Reference	Description
BAC-130 Balance Branch	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Performs the branch rollover



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2.21.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
NewTP	2	Integer	New office TP
NewYearId	2009	Integer	New financial year id
NextTP	3	Integer	Next office TP
NextYearId	2009	Integer	Financial year id of next office TP
OpeningSuspenseBalance	<pre><OpeningSuspenseBalance> <OpeningBalance> <Amount> <Amount>0.00</Amount> </Amount> <ProductId>1</ProductId> <Quantity> <Value>0</Value> </Quantity> </OpeningBalance> </OpeningSuspenseBalance></pre>	List of OpeningBalance	The opening balances for the new TP
ReportId	285	Integer	ReportId of the Branch Trading Statement (BTS)
Reprint	See section 2.12.1	XML String	Report reprint data for the BTS

2.21.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.22 SecondLogon

Usage	Cross Reference	Description
BAD-11 Log On to System	DES/APP/HLD/0060	BAD-11 covers the primary scenario of logging onto the HNG-X system, and covers several variations surrounding this. The use case also contains variations that could be considered as use cases in their own right, for example the post login checks, recovery, shutdown and restart etc. Login uses specific DTO's for requests and responses, and one request may have many different types of responses.

2.22.1 Request

The SecondLogon URI uses the SecondLogonInteractionDTO. This is a request object sent by the Counter to the BAL containing M1 evidence used in proving that the password supplied by the user at the counter matches that held in the BAL. This is part of the SRP protocol. The request also supplies the public key that is used to sign each subsequent message.



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Tag/Attribute Name	Example	Constraints Applied	Description
M1Evidence	A04C978E8B4858E4BCD924FFBC9363BCE1F87B6C	String	The SRP M1 evidence generated by the counter. This is the evidence that the counter sends to the BAL to prove that it has generated the correct shared secret.
PublicKey	MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQC5Vdhg2JYfReHy4lFmYVzHXDUtqrKgACpfmUc8BsMYDI67FX40e8NFXFiNm8Jk5jKEsXV6fgJFhw0ffFURsSxOz+AheLwhFttv4PLQg9QNEXI3sl1H2kCa2KkyYPLBoU5J3qZnZsc7vMUABNw+wOR20X5j3ZSRWAOELTeMtPzMdQIDAQAB	String	The public key that is used in message authentication (i.e. checking that the request messages sent from the counter and signed by the counters private key have not been tampered with).

2.22.2 Response

The following objects can be returned in response to the SecondLogonInteractionDTO request:

ResponseDTO	Description
SecondLogonResponseDTO	Response object returned in response to a SecondLogonInteractionDTO, indicating that the users credentials are valid. If this is a concurrent login attempt the the "isUserAlreadyLoggedOn" attribute has a value of "true". For a successful login various beans are populated with data needed to perform post login checks and subsequent use cases. This object is also returned during a concurrent login request, where the user has opted to continue with the login. In this case this object indicates that the user is now successfully logged in at this counter, and that their previous session has been terminated.
DisabledAccountResponseDTO	Response returned to a SecondLogonInteractionDTO, indicating that the user's account is disabled.
InvalidTokenResponseDTO	Response returned to a SecondLogonInteractionDTO, indicating that the token in the request (i.e. the user session ID) does not match the token held in the user session within the database.
LockedAccountResponseDTO	Response returned to a SecondLogonInteractionDTO, indicating that the user's account is locked.
BalancingInProgressResponseDTO	Returned by the BAL when the user attempts to log on, but the stock unit that they are attached to is currently in the process of balancing, and the balance process has been initiated by a different user.
InvalidM1EvidenceResponseDTO	Response returned to a SecondLogonInteractionDTO if the BAL has been unable to correctly verify the M1 evidence supplied by the counter.
InvalidUserResponseDTO	Response returned to a SecondLogonInteractionDTO when the user account has been deleted between the first and second login requests or the user is not allowed to login to the branch because



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its role is not in the permitted list of roles.

These are described in the following sections.

2.22.2.1 SecondLogonResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
BranchOpen			
BranchProfile			BranchProfileBean See section below for contents of this bean.
CashDeclarationData			CashDeclarationDataBean See section below for contents of this bean.
ForcePasswordChange	false	boolean	Flag denoting is a password change should be forced during login.
LastLoginTimeStamp	2009-10-20T11:40:33.017Z	Date	The timestamp of the last successful login for the user.
M2Evidence	D09B79B5E2E2C9D857B6F196E6F46A4F9D58D0B5	String	The SRP M2 evidence generated by the BAL. This is the evidence that the BAL sends to the counter to prove that it has generated the correct shared secret.
NumberOfUnsuccessfulAttempts	0	int	The number of unsuccessful attempts made by this user to login.
OsrConfigVersionBaseline	BAL_SRV_OSR_ROUTING_0.90_V037	String	OSR Version Numbers
OsrConfigVersionPatchLevel	BAL_SRV_OSR_ROUTING_0.90_V037_V036	String	OSR Version Numbers
OsrVersionBaseline	BAL_SRV_OSR_00.90_V042	String	OSR Version Numbers
OsrVersionPatchLevel	BAL_SRV_OSR_00.90_V042-V041	String	OSR Version Numbers
PanHashSeed	6UrAzT+JRp5FBSbEWg7pR+hNgsDFHeos	String	Encoded pan hash seed
ProfilesBean			UserProfilesBean See section below for contents of this bean.
StockUnitProfile			StockUnitProfileBean See section below for contents of this bean.
SystemRecoveryRequired	false	boolean	Is system recovery required or not?
TransactionCorrectionData			TransactionCorrectionDataBea



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			n See section below for contents of this bean.
UserAlreadyLoggedIn	false	boolean	Flag indicating if this user is already logged in at another counter. A value of true indicates a concurrent login.
UserRole	MANAGERS	String	The role of this user.
VpnPin			VPNBean See section below for contents of this bean.

2.22.2.1.1 BranchProfileBean

Tag/Attribute Name	Example	Constraints Applied	Description
BranchStatus	Open	String	The status of the branch (e.g. Open, Closed, Migrating, New etc.)
CurrentBranchTradingPeriod	5	int	The current branch trading period.
CurrentBranchTradingPeriodYear	2009	int	The current branch trading period year.
StockUnitTradingPeriodRolloverDate	2008-12-03T00:00:00.000Z	Date	The stock unit trading period rollover date.

2.22.2.1.2 CashDeclarationDataBean

Tag/Attribute Name	Example	Constraints Applied	Description
CashDeclarationOutstanding	false	boolean	Defines whether a cash declaration exists and is outstanding.

2.22.2.1.3 UserProfilesBean

Tag/Attribute Name	Example	Constraints Applied	Description
Jsn	3851	Long	The current JSN for this counter.
Usn	22	Long	The current USN for this counter.

2.22.2.1.4 StockUnitProfileBean



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Tag/Attribute Name	Example	Constraints Applied	Description
CurrentBalancePeriod	1	int	The current stock unit balance period.
CurrentStockUnitTradingPeriod	5	int	The current stock unit trading period.
CurrentStockUnitTradingPeriodYear	2009	int	The current stock unit trading period year.
StockUnitCreationDate	2009-07-10T14:28:00.489Z	Date	The date that the stock unit was created on.
StockUnitName	SB3	String	The name of the stock unit.
StockUnitType	S	String	The type of the stock unit. S = Shared, I = Individual.

2.22.2.1.5 TransactionCorrectionDataBean

Tag/Attribute Name	Example	Constraints Applied	Description
TransactionCorrectionCount	0	int	The number of outstanding transactions.
TransactionCorrectionsOutstanding	false	boolean	Flag indicating if there are transaction corrections outstanding.

2.22.2.1.6 VPNBean

Tag/Attribute Name	Example	Constraints Applied	Description
VpnKey	N/RgZqvmEbyStaQ6u+luqoKBOcW/pJg9k9rgGnQYTKP1t3Fgc3N22a7ruyb0SBFEt6vsOfYB6yY=	byte[]	Byte array containing an encrypted VPN key value.
VpnPin	fLxMGV0eLJcC9KtAW0XJC/Q2Q4sY0nsviFyY+NcFyzLDgA6Zs7sp0NXD7Sw1JCI	byte[]	Byte array containing an encrypted VPN filename value.

2.22.2.2 DisabledAccountResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that this user account is disabled.

2.22.2.3 InvalidTokenResponseDTO



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Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that the user session token is invalid.

2.22.2.4 LockedAccountResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
LockReason	1	int	Provides the reason that the account has been locked. Values should be set using the constants contained within this DTO. The current values are: 0 = Account is already in a locked state. 1 = The account has just been locked because the max number of allowed attempts to supply a valid password has been exceeded.

2.22.2.5 BalancingInProgressResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
StockUnitBeingBalanced	SB3	String	The name of the stock unit currently being balanced.

2.22.2.6 InvalidM1EvidenceResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that the counter supplied invalid M1 evidence.

2.22.2.7 InvalidUserResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates that this is an invalid user (i.e. users password is incorrect).



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2.23 SecureExistingReversalService

Usage	Cross Reference	Description
GLB-270 Transact Customer Basket	DES/APP/HLD/0068 DES/APP/HLD/0083	Secures the basket by writing recovery data to the BRDB

2.23.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
reversalNodeId	1	Integer	The node id of the counter
reversalSessionId	3101	Long	The basket session id
reversalAccountingLines	MessageList		List of reversal accounting lines
reversalAccountingLines.reversalTxnId	1	Integer	Transaction id
reversalAccountingLines.isAP	true	Boolean	True if AP

2.23.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.24 SetPasswordOnline

Usage	Cross Reference	Description
BAD-541 Change Password	DES/APP/HLD/0060	Changes the current user's password

2.24.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
Username	CIUN1	String	The currently logon on username
newEncryptedPassword	JwSXhJkO2dBrhybNGRB3w==	String	The new encrypted password
bypassTimeSetCheck	true	Boolean	If true, bypass the check that the password has not been changed in 24 hours

2.24.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
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N/A			Empty response indicates success
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2.25 SetPasswordOtherUser

Usage	Cross Reference	Description
BAD-540 Maintain Branch User Account	DES/APP/HLD/0060	Changes the password of the specified user

2.25.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
username	JON101	String	User whose password is being changed
newEncryptedPassword	Vyk6asMQKpDfLScyjWgTtg==	String	New password
branchAccountingCode	5923	Integer	Branch Accounting Code

2.25.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.26 StockUnitManagement

2.26.1 CreateStockUnitService

Usage	Cross Reference	Description
BAD-151 Create Stock Unit	DES/APP/HLD/0060	Creates a stock unit

2.26.1.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
stockUnit	JH3	String	The stock unit being created
stockUnitType	S	String	S(Shared) or I(Individual)
deleteTimeoutDays	200	Integer	The number of days to keep the stock unit logically deleted before it can be reused for re-creation.

2.26.1.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
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N/A			Empty response indicates success
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2.26.2 DeleteStockUnitService

Usage	Cross Reference	Description
BAD-207 Delete Stock Unit	DES/APP/HLD/0060	Deletes the stock unit

2.26.2.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
stockUnit	JH2	String	The stock unit to be deleted

2.26.2.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.27 StockUnitRolloverBPService

Usage	Cross Reference	Description
BAC-11 Balance Stock Unit	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Rolls over a stock unit into the next BP

2.27.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
BTSTData	<pre><BTSTData> <BTSTotal> <Amt> <Amount>-1000.00</Amount> </Amt> <Movement>>false</Movement> <NodeId>3003</NodeId> </BTSTotal> <BTSTotal> <Amt> <Amount>-1000.00</Amount> </Amt> <Movement>>false</Movement> <NodeId>1001</NodeId> </BTSTotal> </BTSTData></pre>	List of BTSTotal	Data saved to the BTS data table. Later used by the Branch Trading Statement
OpeningBalance	<pre><OpeningBalance> <OpeningBalance></pre>	List of	Date saved to the stock unit opening balances



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	<pre><Amount> <Amount>-1000.00</Amount> </Amount> <ProductId>1</ProductId> <Quantity> <Value>-1</Value> </Quantity> </OpeningBalance> </OpeningBalance></pre>	OpeningBalance	table.
Period	2	Integer	The new BP
ReportId	19	Integer	The report id of the stock unit Balance Report
Reprint	See section 2.12.1	XML String	Reprint information
StockUnitId	JH1	String	The stock unit

2.27.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.28 StockUnitRolloverTPService

Usage	Cross Reference	Description
BAC-11 Balance Stock Unit	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Rolls over a stock unit into the next BP

2.28.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
BTSTData	See section 2.27.1	List of BTSTotal	Data saved to the BTS data table. Later used by the Branch Trading Statement
OpeningBalance	See section 2.27.1	List of OpeningBalance	Date saved to the stock unit opening balances table.
Period	2	Integer	The new TP
ReportId	19	Integer	The report id of the stock unit Balance Report
Reprint	See section 2.12.1	XML String	Reprint Information
StockUnitId	JH1	String	The stock unit

2.28.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
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N/A			Empty response indicates success
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2.29 UnlockBranchService

Usage	Cross Reference	Description
BAC-130 Balance Branch	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Unlocks the branch at the end of Branch Balancing

2.29.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			There are no attributes to this service

2.29.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.30 UnlockStockUnitService

Usage	Cross Reference	Description
BAC-11 Balance Stock Unit	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Unlocks the stock unit when the use case is complete.

2.30.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
StockUnitId	SU1	String	The stockUnit that needs to be locked

2.30.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.31 UpdateCutOffReportService



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Usage	Cross Reference	Description
BAC-270 Produce Cut-off Report	DES/APP/HLD/0059 DES/APP/HLD/0109 DES/APP/HLD/0053	Updates the cut-off due to finding no data up to this point in time.

2.31.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
cutoffMarkerList	See marker example for CutOffReportService.	List of CutOffMarker	List of cutoff markers for the reports being updated (may be more than one if part of a report group)
officeTP	10	Integer	The office Trading Period
StockUnit	SU1	String	The stockunit for the report
StockUnitBP	1	Integer	The balance period of the SU
stockUnitTP	10	Integer	The trading period of the SU

2.31.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success

2.32 UpdatePSBarcodesStateService

Usage	Cross Reference	Description
PS-5404 Notify Branch Mails Despatch	DES/APP/HLD/0128	Updates the state of the postal services barcodes to record the items as despatched

2.32.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
collectionState	Despatched	String	The despatched status of barcodes
barCodeList	XA259083297GB		List of barcodes.

2.32.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
success	true	Boolean	true indicates success



3 Non Audited Messages

This section contains all messages which are not audited.

See DES/APP/IFS/0012 for details of the standard header and response.

3.1 GenericBRDBRetrievalService

This service reads data from the BRDB using a SQL query stored by name in table BRDB_BAL_SQL_DEFINITIONS.

The request message comprises a number of named attributes in the request dyno which are passed as parameters to the SQL query, as defined by the BRDB_BAL_SQL_DEFINITIONS column "in_params".

The successful response message contains in the response dyno a "resultset" attribute which is a list of dynos, one per row read from the BRDB. This list may be empty if no rows are returned. Each field in the row dynos is represented by a named attribute as specified by BRDB_BAL_SQL_DEFINITIONS column "out_params".

The Java types used for in and out params are shown below, and may be null.

Type string	Type	Serialised example
BigDecimal	Signed decimal number with arbitrary precision	<BigDecimal>0.39</BigDecimal>
Boolean	Boolean with values true, false	<Boolean>>true</Boolean>
Date	Date with zero time component, serialised as UTC	<Date>2009-10-28T00:00:00.000Z</Date>
DateTime	Date and time to second precision, serialised as UTC	<Date>2009-10-28T11:54:10.000Z</Date>
Double	Signed floating point number (64 bit)	<Double>-112060.42</Double>
Float	Signed floating point number (32 bit)	<Float>0.0</Float>
Int	Signed integer (32 bit)	<Integer>50</Integer>
Integer	Signed integer (32 bit)	<Integer>50</Integer>
IMoney	Object for accounting value of money	<Amount>4.00</Amount>*
IQuantity	Object for accounting quantities	<Quantity>4</Quantity>*
Long	Long (64 bit signed)	<Long>129</Long>
Short	Signed integer (16 bit)	<Short>-1</Short>
String	String	<String>ABC123</String>
Time	Time only serialised as UTC, with the date part set to 0 hence 1 Jan 1970	<Date>1970-01-01T11:54:10.000Z</Date>
Timestamp	Date and time to millisecond precision, serialised as UTC	<Date>2009-10-28T11:54:10.123Z</Date>

*See PEAK PC0189906 - More verbose and misleading tags are currently used instead of these.

3.1.1 Named SQL Queries

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The following embedded spreadsheet gives the complete list of named queries executed by the counter.



Package

The spreadsheet was produced by running the SQL "select sql_name, sql_description, in_params, out_params from brdb_bal_sql_definitions order by sql_name asc", exporting as a spreadsheet, and then only keeping rows that relate to queries executed by the counter via the GenericBRDBRetrievalService (determined by code inspection).

The list of query names and associated use cases is:

Query Name	Use Case
DetermineIfSUIsInactive	BAC-11 Balance Stock Unit
DetermineIfSessionsSuspended	BAC-11 Balance Stock Unit
DetermineIfTransactionCorrectionOutstanding2	BAC-11 Balance Stock Unit
GetAllUsersForRole	BAD-540 Maintain Branch User Account
GetBalance	CSM-152 Identify Cash Variance
GetBranchNodes	PS-5404 Notify Branch Mails Despatch Details
GetBranchStockUnitList	Various: Used to display a list of stock units for user selection
GetBranchStockUnitListIncludingLocked	Various: Used to display a list of stock units for user selection
GetBranchStockUnitListTransferOut	CSM-264 Initiate Transfer
GetBranchTradingPeriod	Various: Used to read the current office TP and details
GetBranchUsersandStockUnits	BAD-179 View Stock Units and User Attachments
GetDeclarationHeaders	CSM-152 Identify Cash Variance CSM-208 Declare Cash Holding CSM-236 Declare Stock Holding
GetDeclarations	CSM-152 Identify Cash Variance
GetDeclarationsById	CSM-208 Declare Cash Holding CSM-236 Declare Stock Holding
GetDeclarationsforTP	BAC-242 Identify Discrepancies
GetDestinationPendingTransfer	CSM-124 Accept Transfer
GetExistingTransactions	GLB-74 Add Reversal Product to Basket
GetInactiveSU	BAC-102 Rollover Inactive Stock Units
GetInPouchStatus	CSM-544 Record Pouch Delivery
GetLastPostIndicator	PS-4749 Accept Speed Bulk Mail PS-5150 Accept Local Collect Mail
GetLastSUsForTP	BAC-11 Balance Stock Unit
GetListOfDeclarations	BAC-3079 Display Declarations Made
GetListOfStockUnits	BAD-179 View Stock Units and User Attachments
GetLoggedOnSessionDetailsForSU	BAC-11 Balance Stock Unit
GetNextBranchTP	BAC-11 Balance Stock Unit
GetNextTradingPeriod	BAC-11 Balance Stock Unit BAC-130 Balance Branch
GetNumberOfCounters	BAC-298 Produce Transaction Listing Report
GetOutstandingTransactionCorrections	BAC-158 Manage Transaction Corrections
GetOutstandingTransfers	BAC-11 Balance Stock Unit
GetOutstandingUserMemos	BSC-70 Receive Messages and Notifications
GetPSBarCodeItem	PS-5157 Release Local Collect Mail PS-5163 Return Local Collect Mail

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GetPSBarCodeItemsByState	PS-5404 Notify Branch Mails Despatch Details
GetPendingTransfer	CSM-96 Reverse Transfer
GetPendingTransferDetails	CSM-96 Reverse Transfer CSM-124 Accept Transfer CSM-264 Initiate Transfer
GetPlannedOrders	CSM-684 Review Planned Orders
GetPouchStatus	CSM-516 Record Reversal of a Pouch
GetReportReprintData	BAC-2926 Report Reprint
GetSUReportReprintList	BAC-2926 Report Reprint
GetSUsforTP	BAC-130 Balance Branch
GetStockUnitTP	BAC-102 Rollover Inactive Stock Units
GetTPBPFforStockUnit	BAC-326 Produce Event Listing Report BAC-298 Produce Transaction Listing Report
GetUserMemos	BSC-70 Receive Messages and Notifications
GetUsersDetails	Various: Used to display a list of users for user selection
IsBranchLocked	BAC-130 Balance Branch
IsUserLoggedIn	BAD-540 Maintain Branch User Account
RetrieveInPouchDetails	CSM-544 Record Pouch Delivery
RetrievePouchDetails	CSM-516 Record Reversal of a Pouch
RetrieveSuspendedCustomerSessionsForSU	GLB-5697 Resume Suspended Customer Session

e.g.

SQL query "GetBranchStockUnitList" reads the list of stock units present in a given branch.

The in_params string is:

"header.BranchAccountingCode[Int],header.FadHash[Int]"

The out_params string is:

"stockUnit[String],stockUnitType[String],tradingPeriod[Int],balancePeriod[Int],tradingPeriodYear[Int]"

The request and response parameters are show in the following two sections.

3.1.2 Example Request

The request has no parameters passed in the request dyno, since the in_params string only refers to items in the generic header via "header."

3.1.3 Example Response

Result set containing zero or more rows dynos with the following attributes:

Tag/Attribute Name	Example	Constraints Applied	Description
stockUnit	JH1	String	out_params: stockUnit[String]
stockUnitType	S	String	out_params: stockUnitType[String]
tradingPeriod	1	Integer	out_params: tradingPeriod[Int]



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balancePeriod	1	Integer	out_params: balancePeriod[Int]
tradingPeriodYear	2009	Integer	out_params: tradingPeriodYear[Int]

3.2 AddNewOffice

Although this message updates the database, it is a direct synchronous call to the BAL and is therefore not journalised.

Usage	Cross Reference	Description
BAD-11 Log On to System	DES/APP/HLD/0060	BAD-11 covers the primary scenario of logging onto the HNG-X system, and covers several variations surrounding this. The use case also contains variations that could be considered as use cases in their own right, for example the post login checks, recovery, shutdown and restart etc. Login uses specific DTO's for requests and responses, and one request may have many different types of responses.

3.2.1 Request

The AddNewOffice URI uses the AddNewOfficeRequestDTO, which is used to request that an office is either opened or migrated.

Tag/Attribute Name	Example	Constraints Applied	Description
CurrentFinancialYear	2009	Integer	The current financial year for the branch. Calculated at the counter using reference data, and provided when opening a 'New' branch.
CurrentTP	5	Integer	The current trading period for the branch. Calculated at the counter using reference data, and provided when opening a 'New' branch.
ExistingBranchState	New	String	The existing branch state – either 'New' or 'Migrating'.
NextFinancialYear	2009	Integer	The next financial year for the branch. Calculated at the counter using reference data, and provided when opening a 'New' branch.
NextTP	6	Integer	The next trading period for the branch. Calculated at the counter using reference data, and provided when opening a 'New' branch.

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3.2.2 Response

The AddNewOfficeResponseDTO is returned in response to a request to open or migrate a branch. If the action was successful, then the openBranch flag will be set to "true"; otherwise this flag will be set to "false" to indicate a failure and allow the counter to take appropriate action.

Tag/Attribute Name	Example	Constraints Applied	Description
BranchOpen	true	Boolean	Flag indicating whether the branch was opened successfully or not.
UserAbleToLoginToBranchResonCode	1	int	Flag indicating whether the user attempting to login is able to login to an unopened branch or not. Values for this are assigned from the fixed set of constants contained within this DTO. 1 = Login allowed – branch is 'Open' 2 = Login denied – invalid branch state 3 = User is allowed to login to unopened branch 4 = User is not allowed to login to unopened branch

3.3 CounterPersistenceRetrievalService

Usage	Cross Reference	Description
Used to read data for various other uses cases e.g. pinpad configuration, rate board configuration, end of session prompt usage.	DES/APP/HLD/0047	Reads the counter persistence data from the BRDB CLOB and saves it to the CounterDataStoreBDO

3.3.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Only the standard request header is used for this service.

3.3.2 Response

The response has an attribute "cpClobData" which holds a CDATA string of XML with the following attributes:

Tag/Attribute Name	Example	Constraints Applied	Description



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Sensitive	false	String	Specifies whether there is any sensitive information, if true prevents logging of the dyno via toString.
PINPad	<pre><directive:Entry Name= 'PINPad'> <Dyno> <directive:Entry Name= 'Sensitive'> <Dyno> <directive:Entry Name= '_value'> <String>false</String> </directive:Entry> </Dyno> </directive:Entry> <directive:Entry Name= 'DeviceType'> <String>HFT117</String> </directive:Entry> <directive:Entry Name= 'OpenLoaderIDAndVersion'> <String>FU986022</String> </directive:Entry> <directive:Entry Name= 'SecurityLoaderIDAndVersion'> <String>15.01</String> </directive:Entry> <directive:Entry Name= 'SerialNumber'> <String>000000003000124</String> </directive:Entry> <directive:Entry Name= 'SECApplicationIDAndVersion'> <String>FL-14110151230</String> </directive:Entry> <directive:Entry Name= 'OTAKernelIDAndVersion'> <String>FU612035</String> </directive:Entry> <directive:Entry Name= 'SAMApplicationIDAndVersion'> <String>FU044044</String> </directive:Entry> <directive:Entry Name= 'SSCRApplicationIDAndVersion'> <String>FU043048</String> </directive:Entry> <directive:Entry Name= 'TRSApplicationIDAndVersion'> <String>F10000000596</String> </directive:Entry> <directive:Entry Name= 'OTAApplicationIDAndVersion'> <String>F04608000012</String> </directive:Entry> <directive:Entry Name= 'BatteryStatus'> <String>1</String> </directive:Entry> </Dyno> </directive:Entry></pre>	XML	<p>Contains the PINPad configuration.</p> <p>Holds the following:</p> <ul style="list-style-type: none"> DeviceType OpenLoaderIDAndVersion SecurityLoaderIDAndVersion SerialNumber SECApplicationIDAndVersion OTAKernelIDAndVersion SAMApplicationIDAndVersion SSCRApplicationIDAndVersion TRSApplicationIDAndVersion OTAApplicationIDAndVersion BatteryStatus
EosFlag	false	Boolean	If true, End Of Session prompts are enabled
RateBoard	<pre><directive:Entry Name= 'RateBoard'> <HashMap> <directive:Entry Name= 'CurrencyCodes'> <MessageList> <String>AUD</String> <String>CAD</String> <String>CHF</String> <String>EUR</String> <String>USD</String></pre>	XML	<p>Contains the Rateboard configuration.</p> <p>Holds the following:</p> <ul style="list-style-type: none"> CurrencyCodes: Which codes to show on which rows of the rates board. CommOpt: Boolean, true if



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	<pre> <String></String> <String></String> <String></String> <String></String> <String></String> </MessageList> </directive:Entry> <directive:Entry Name= 'CommOpt'> <Boolean>true</Boolean> </directive:Entry> <directive:Entry Name= 'NumRows'> <Integer>12</Integer> </directive:Entry> <directive:Entry Name= 'PrintOpt'> <Boolean>>false</Boolean> </directive:Entry> </HashMap> </directive:Entry> </pre>	<p>commission rows should be shown.</p> <p>NumRows: The number of rows on the ratesboard</p> <p>PrintOpt: Boolean, true if the rates report should be printed automatically when new ref data rates arrive.</p>
--	---	---

3.4 FirstCredentialCheck

This uses the same DTOs as First Logon (see section 2.13), although the service is FirstCredentialCheck rather than FirstLogon, and the request is not an audited message.

3.5 GenericOnlineService

Usage	Cross Reference	Description
IOP-11 Obtain Online Data	DES/APP/HLD/0114 DES/APP/IFS/0012 section on Additional Stats Data	Used for handling online data requests using remote web services. Services so far configured are dvla, paf, mgrm, bbnd, bkac, apop and pgdd. dvla and paf are handled separately and all other services are handled as generic services.

3.5.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
request	DVLA and PAF web services have their own message formats described below. All other services use the Generic message formats also described below.	String	A CDATA string of XML Data passed to the Web Service Request Handler for transmission to the Web Service. This can contain any data required by the service.

3.5.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
response	DVLA and PAF	String	A CDATA string of the XML response



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	web services have their own message formats described below. All other services use the Generic message formats also described below.		returned from the Web Service and the Web Service Response Handler.
<web service statistics attribute>			See DES/APP/IFS/0012 section on Additional Stats Data.

3.5.3 DVLA

Usage	Cross Reference	Description
IOP-11 Obtain Online Data	DES/APP/HLD/0065	Go online to check DVLA licence renewal and obtain price.
DVLAOnline (APADC Data Type)	DES/GEN/MAN/0002	
	DV/IFS/001	

3.5.3.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
request	<pre><![CDATA[<DVLA_MSG> <VER>1.1</VER> <SERVICE>PO_RELICENSING</SERVICE> <CTRL> <FAD>3026</FAD> <CTR>1</CTR> </CTRL> <TXN> <TYPE>2</TYPE> <TOKEN>826909010097408639381712</ TOKEN> <VRM_ID>Y904XFV</VRM_ID> <LICENCE_REF_NUM>09061024041330< /LICENCE_REF_NUM> <tag1>value1</tag1> </TXN> </DVLA_MSG>]]></pre>	String	A CDATA string of XML Data passed to the DVLA Web Service Request Handler for transmission to the DVLA Web Service.

3.5.3.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
response	<pre><![CDATA[<?xml version="1.0" encoding="UTF-8"?> <DVLA_MSG> <VER>1.1</VER> <SERVICE>PO_RELICENSING</SERVICE > <TXN> <RESP_CD>1</RESP_CD> <VED> <PAYABLE_AMT>125.00</PAYABLE_A MT></pre>	String	A CDATA string of the XML response returned from the DVLA Web Service and the DVLA Web Service Response Handler.



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	<CURR_CD>GBP</CURR_CD> </VED> </TXN> </DVLA_MSG>]]>		
DVLAServiceStats	See DES/APP/IFS/0012 section on Additional Stats Data		

3.5.4 PAF

Usage	Cross Reference	Description
IOP-913 Acquire Address Details PAF1, PAF2 (APADC Data Types)	DES/APP/HLD/0065 DES/GEN/MAN/0002	Go online to look up addresses

3.5.4.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
request	<![CDATA[<SEARCH> <VERSION>1.0</VERSION> <PREMISES>FUJITSU</PREMISES> <POSTCODE>CW16ZQ</POSTCODE> <MASK>4095</MASK> <DATASET>English</DATASET> <TIMEOUT>40000</TIMEOUT> </SEARCH>]]>	String	A CDATA string of XML Data passed to the PAF Web Service Request Handler for transmission to the PAF Web Service.

3.5.4.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
response	<![CDATA[<RESPONSE> <RESULT_SET> <VERSION>1.0</VERSION> <DURATION>10</DURATION> <RESULT> <ORG>Fujitsu Services</ORG> <BUILDNAME>Infinity House</BUILDNAME> <THORO>Mallard Way</THORO> <TOWN>Crewe</TOWN> <COUNTY>Cheshire</COUNTY> <POSTCODE>CW1 6ZQ</POSTCODE> <QUAL>100</QUAL> </RESULT> </RESULT_SET> </RESPONSE>]]>	String	A CDATA string of the XML response returned from the PAF Web Service and the PAF Web Service Response Handler
PAFServiceStats	See DES/APP/IFS/0012 section on Additional Stats Data		



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3.5.5 Generic

Usage	Cross Reference	Description
IOP-11 Obtain Online Data GenericOnline (APADC Data Type)	DES/APP/HLD/0065 DES/GEN/MAN/0002	Communicates with associated Host systems.

3.5.5.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
request	<p>This is an example from a pgdd service.</p> <pre><![CDATA[<APOP_MSG> <VER>1.1</VER> <TXN> <SVC>PGDD</SVC> <VID>0</VID> <TTY>1</TTY> <TREF>003026-1-1</TREF> <CTR>1</CTR> <TDATE>20091028 13:40:00</TDATE> <FAD>003026</FAD> <STAFF>3566OZ</STAFF> <OPCD>IP6 9PY</OPCD> <CTRY>US</CTRY> <DPCD>90210</DPCD> <DTE>07/11/2009</DTE> </TXN> </APOP_MSG>]]></pre>	String	A CDATA string of XML Data passed to the Generic Web Service Request Handler for transmission to the Web Service. Generic web services include MGRM, BBND, BKAC, APOP and PGDD.

3.5.5.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
response	<pre><?xml version="1.0" encoding="UTF-8"?> <APOP_RESP> <VER>1.1</VER> <RESULT> <RCODE>0</RCODE> </RESULT> <APOP_MSG> <VER>1.1</VER> <TXN> <SVC>PGDD</SVC> <VID>0</VID> <TTY>1</TTY> <TREF>003026-1-1</TREF> <CTR>1</CTR> <TDATE>20091028 13:40:00</TDATE> <FAD>003026</FAD> <STAFF>3566OZ</STAFF> <OPCD>IP6 9PY</OPCD> <CTRY>US</CTRY> <DPCD>90210</DPCD></pre>	String	A CDATA string of the XML response returned from the Generic Web Service and the Web Service Response Handler. Generic web services include MGRM, BBND, BKAC, APOP and PGDD.



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	<pre> <DTE>07/11/2009</DTE> </TXN> </APOP_MSG> <APOP_RETURN> <EDD>14/11/2009</EDD> <GIND>Y</GIND> <DSTE>CALIFORNIA</DSTE> <DCTY>BEVERLY HILLS</DCTY> <DPCD>90210</DPCD> <DCTRY>UNITED STATES</DCTRY> </APOP_RETURN> </APOP_RESP>]]> </pre>		
GenericServiceStats	See DES/APP/IFS/0012 section on Additional Stats Data		

3.6 GetOutstandingDeclarations

Usage	Cross Reference	Description
BAC-214 Identify Outstanding Declarations	DES/APP/HLD/0059 DES/APP/HLD/0126 DES/APP/HLD/0127	Identifies which declarations are outstanding.

3.6.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
stockUnitId	SU1	String	The stock unit id
stockUnit	SU1	String	The stock unit
tradingPeriod	10	Integer	The trading period of the Stock unit
balancePeriod	10	Integer	The balance period of the stock unit
stockProductsList	2, 4, 5, 16, 18, 19, 22 ... 30500	List of string product ids	The product ids that are part of product group 21316 (products that can be part of a stock declaration)

3.6.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
Resultset	cash, stamps	List of String	A list of strings specifying which declarations are outstanding (zero or more of cash, stamps, currency, travchqs, stock,

3.7 GetValidationCharacter



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Usage	Cross Reference	Description
DVLAVRM (APADC Data Type)	DES/APP/HLD/0065	Calculates a validation character for a Vehicle Registration Mark.

3.7.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
vrn	X975UPU	String	A Vehicle Registration Mark (VRM)

3.7.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
validationChar	0	String	The validation character

3.8 IsVRMValid

Usage	Cross Reference	Description
DVLAVRM (APADC Data Type)	DES/APP/HLD/0065	Performs Vehicle Registration Mark validation.

3.8.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
vrn	X975UPU	String	A Vehicle Registration Mark (VRM)

3.8.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
IsVRMValid	True	Boolean	true if the VRM is valid, false otherwise

3.9 PollingService

Usage	Cross Reference	Description
Retained functionality / no use case	DES/APP/HLD/0045	Polls BAL for ref data and memos, multiplexing requests in a single message

3.9.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
MessageList			List of DTOs. Can be MemoStatusRequestDTO or



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			PackageInventoryRequestDTO
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3.9.1.1 MemoStatusRequestDTO

Tag/Attribute Name	Example	Constraints Applied	Description
BranchUser	ABC123	String	User id
LastMemold	0	Integer	Id of last memo
MessageId	1	Long	Message id

3.9.1.2 PackageInventoryRequestDTO

Tag/Attribute Name	Example	Constraints Applied	Description
MessageId	1	Long	Message id
Packages			List of PackageStatusRequest
PackageStatusRequest		PackageStatusRequestDTO	Contains the following fields
HighestPackageSequenceNumber	1	Long	Highest package sequence number
PackageType	MAIN	String	Package type: one of MAIN, SPOTRATES, MARGINS, OTHER, HELP
PackageVersion	0	Long	Package version from package meta data
PreviousDeltaFailed	false	Boolean	true if the previous delta failed and the counter cannot trade

3.9.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
BALProcessingTime	42	Long	Time in ms
MessageList			List of DTOs. Can be MemoStatusResponseDTO or PackageInventoryResponseDTO

3.9.2.1 MemoStatusResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
BALProcessingTime	145	Long	Time in ms
resultset	<Dyno> <directive:Entry Name= 'memold'> <Integer>1</Integer> </directive:Entry> <directive:Entry Name= 'messageId'>	Dyno with attribute resultset	Result set is a linked list of zero or more dynos, each representing



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	<pre> <String>TEST MEMO FROM GIJ</String> </directive:Entry> <directive:Entry Name= 'caption'> <String>MSG</String> </directive:Entry> <directive:Entry Name= 'authority'> <String>POL</String> </directive:Entry> <directive:Entry Name= 'text'> <String>HELLO KISHOR</String> </directive:Entry> <directive:Entry Name= 'expiry'> <Integer>30</Integer> </directive:Entry> <directive:Entry Name= 'userGroup'> <String>ANY</String> </directive:Entry> <directive:Entry Name= 'brdbReceivedTimestamp'> <Date>2009-10-22T14:09:19.528Z</Date> </directive:Entry> </Dyno> </pre>		a memo.
MessageId	1	Long	Message id

3.9.2.2 PackageInventoryResponseDTO

Tag/Attribute Name	Example	Constraints Applied	Description
BALProcessingTime	0	Long	Time in ms
PackageState	NOTRADE	String	One of OK, TRADE, NOTRADE
PackageType	MAIN	String	Package type: one of MAIN, SPOTRATES, MARGINS, OTHER, HELP
PackageUpdates		List of Package Update	
PackageUpdate			PackageUpdate contains the following fields
Deliveries			List of FileDeliveryInfoDTO
FileDeliveryInfoDTO	<pre> <BALProcessingTime>0</BALProcessingTime> <DeliveryRoute>BRANCHDB</DeliveryRoute> <DeliverySequenceNumber>2797</DeliverySequenceNumber> <Delivery_type>SPOTRATES</Delivery_type> <FileInformation> <![CDATA[<File_Info><Unzip>Yes</Unzip><PostUnzipChecksum>3544862876</PostUnzipChecksum></File_Info]]> </FileInformation> <FileName>SPOTRATES_00002797_BASELINE.XML</FileName> <FileType>BASELINE</FileType> </pre>		File Delivery Info



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	<ImmediateDate>2009-10-22T14:25:43.000Z</ImmediateDate> <PackageSequenceNumber>9271</Package Sequence Number>		
PackageVersion	624	Long	Package version

3.10 RefdataSLAService

Usage	Cross Reference	Description
Retained functionality / no use case	DES/APP/HLD/0045	Records SLA information to show that a reference data package has been updated on the counter.

3.10.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
PackageType	SPOTRATES	String	Package type
PackageVersion	620	Long	Package version

3.10.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
Status	false	Boolean	true is the service was successfully invoked

3.11 ReportingService

Usage	Cross Reference	Description
Used by most of the reporting uses (BAC-186, BAC-270, BAC-39, BAC-298, BAC-326) and others.	DES/APP/HLD/0059 DES/APP/HLD/0109 DES/APP/HLD/0053	Obtains data for the report or report group.

3.11.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
Criteria	<Criteria> <directive:Entry Name= 'dateFrom'> <Date>2009-10-01T11:00:00.000Z</Date> </directive:Entry> <directive:Entry Name= 'dateTo'> <Date>2009-10-05T11:00:00.000Z</Date> </directive:Entry> </Criteria>	May be omitted.	Dyno containing user criteria. See DES/APP/HLD/0109.
QueryNames	<QueryNames> <String>CounterDailyChequesListing</String> </QueryNames>	List of String	List of Query Names to be executed.
Reports	<ReportRequestInfo> <AccNodes>	List of ReportRequestl	Information about the report being requested,



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	<pre><AccNode> <AccLevel>1</AccLevel> <AccNodeId>1002</AccNodeId> </AccNode> </AccNodes> <ReportId> <ReportId>111</ReportId> </ReportId> <ReportType> <Name>SUCutOff</Name> </ReportType> </ReportRequestInfo></pre>	nfo	see DES/APP/HLD/0109.
StockUnit	SU1	String	Current Stock Unit
StockUnitBP	1	Integer	Current Stock Unit tP
StockUnitTP	10	Integer	Current Stock Unit BP

3.11.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
CutoffInfoList		List of CutOffInfo	Contains the last cutoff for the report if it is a cut-off report (or in a group, for each cut-off report in the group).
EarliestSURolloverDate	2009-09-15T00:00:00.000Z	Date with zero time	The earliest date that a stock unit rolled into the current TP
OfficeFinancialYear	2009	Integer	The current financial year id
OfficeRolloverDate	2009-10-13T00:00:00.000Z	Date with zero time	The data the office rolled into the current TP
OfficeTP	10	Integer	The current office TP
ReportData	<pre><ReportData> <ReportId> <ReportId>121</ReportId> </ReportId> <ResultSet> <directive:Entry Name= 'OfficeWeeklySalesReport_v2'> <LinkedList> ... Dyno for each row of data... </LinkedList> </directive:Entry> </ResultSet> <TimeStamp>2009-10- 14T14:25:08.104Z</TimeStamp> </ReportData></pre>	ReportData	<p>The report id (for a group, the group id), result set for each query executed, and "now" timestamp.</p> <p>This may be megabytes of data. See DES/APP/HLD/0109</p>
ReportId	121	Integer	The report id (for a group, the group id)
ServiceHandlerTimeTaken Millis	16	Long	The total time in milliseconds that the service handler took to



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			execute the request
SqlTimeTakenMillis	1	Long	The sum total in milliseconds of the time the various SQL queries took to execute
TradingDate	009-10-14T14:45:17.831Z	Date	The current trading date

3.12 ResetTrainingData

Usage	Cross Reference	Description
BSC-1240 Reset Training Data	DES/APP/HLD/0061	Used by a TRAINER to reset the data in a training branch to pre-defined values.

3.12.1 Request

Tag/Attribute Name	Example	Constraints Applied	Description
currentTradingPeriod	7	Integer	The current trading period calculated from reference data.
nextTradingPeriod	8	Integer	The next trading period calculated from reference data.
currentTPFinancialYearId	2009	Integer	The current trading period financial year calculated from reference data.
nextTPFinancialYearId	2009	Integer	The next trading period financial year calculated from reference data.

3.12.2 Response

Tag/Attribute Name	Example	Constraints Applied	Description
N/A			Empty response indicates success.

3.13 SecondCredentialCheck

This uses the same DTOs as Second Logon (see section 2.22), although the service is SecondCredentialCheck rather than SecondLogon, and the request is not an audited message.