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EMV – Banking and Retail

NBX Business Parameters

ROLE	NAME	AREA OF RESPONSIBILITY	SIGNATURE	DATE
Authors	Rex Dixon on behalf of Post Office Ltd	Business Architecture		
		Product Deployment		
		Technical Architecture		
DA Sign-off (Peer Reviewer)	David Gray	Design Authority		
Programme Director	Beverley Dunn	Project Delivery		
Fujitsu Services Sign-off	Gill Jackson			

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1 Document Control

1.1 Document Information

Horizon Release No:	S82R
Document Title:	EMV Banking and Retail: NBX Business Parameters
Document Type:	Interface Specification
Abstract:	This document lists those business parameters that may be configured by Fujitsu Services Ltd., which affect the way that the Network Banking service (NBX) runs
Document Status:	Approved
Originator & Department:	David Gray Design Authority
Contributors:	
Post Office Distribution:	Design Authority – David Gray POL Document Control – Post Office Programme Office
Supplier Distribution:	Fujitsu Services: Gill Jackson
Client Distribution:	N/A

Table 1: Document Information

1.2 Document History

Version	Date	Reason for Issue	Associated WP / CT
0.1	10 May 2004	Initial draft.	
0.2	14 July 2004	Various updates and changed to the form of a Post Office document.	
0.3	16 Aug 2004	Amended following internal (Fujitsu Services) review.	
0.4	21 Sept 2004	Amended following Post Office and Fujitsu Services review.	
0.5	25 Oct 2004	Amended to capture latest changes resulting from testing and review.	
1.0	12 Nov 2004	Amended to capture latest comments from Post Office Ltd	
1.1	27 May 2005	Updated for CT 363 and for various FS Peaks	CT 363 / CP 3997
1.2	3 Aug 2005	Updated following review, and for one new parameter at Horizon release S82R	
2.0	15 Aug 2005	Issued for Sign-off	

Table 2: Document History

1.3 Change Process

Any changes to this issued version of this document will be made, controlled and distributed by: -

Tony.W.Stevens GRO

1.4 Review Details

Review Comments by :	
Review Comments to :	Rex Dixon, Fujitsu Services Ltd

Mandatory Review Authority	Name
Post Office Ltd	Beverley Dunn, David Gray
Fujitsu Services Ltd	
Analysis & Solution Specification	Allan Hodgkinson
DU Design Authority	Andy Kennedy
DU Design Team Designer	Rex Dixon
Test Design	Peter J. Robinson
Optional Review / Issued for Information	
Post Office Ltd	Bob Booth, Paul Warbrick, Jason Crellin
Fujitsu Services Ltd	
Release Manager	Bill Reynolds
DU Design	Mark Jarosz, Alex Robinson
DU Development Team Leader	Peter Ambrose

1.5 Changes in this Version

Version	Changes
2.0	Gill Jackson added as signatory for Fujitsu Services
1.2	Section 3.9 – Added new parameter EODCutover.PreScanTime. [FS Peak 121693 – for S82R]
1.1	Section 1.1 – Horizon Release updated to S80R. Section 3.2 – Subfield 3 (Card capture capability) of POSData_061.Base changed to 0 (no capture) from 1 (capture) for LINK only. [LINK MTPR 0275; POL Incident 1159; FS Peak 108967 – for S80R] Section 3.7 – Added new parameter UseAltSocket.PercentMustBeOper. [FS Peak 112176 – for S75] Section 3.9 – EODCutover.RevTime changed to 20:00:00 from 20:10:00 for LINK only, as LINK do not have a grace period for reversals in the LREC file. [FS Peak 120839 – for S80R]

	Section 3.10 – StaleR1.Threshold changed to 15000 (15 seconds) from 30000 (30 seconds). [OCP 10217 – for S75] Section 3.10 – Added new parameter StaleC0.Threshold. [FS Peak 112451 – for S75]

Table 3: Changes in this Version

1.6 Key Contacts

Name	Position	Phone Number
Jason Crellin	Solutions Architect	GRO
Rex Dixon	Designer	

Table 4: Key Contacts

1.7 Associated Documents

	Reference	Version	Date	Title	Source
.	BD/CDE/005	4.0	21 May 2004	NBE Replacement – Conceptual Design	Post Office
.	AS/DPR/009	2.0		Design Proposal for EMV, TDES and NBE Replacement	Fujitsu Services
.	NB/IFS/024			NBX – LINK Application Interface Specification (AIS)	Post Office
.	NB/IFS/025			NBX – CAPO Application Interface Specification (AIS)	Post Office
.	NB/IFS/026			NBX – A&L Application Interface Specification (AIS)	Post Office
.	NB/IFS/027			NBX – CAPO Technical Interface Specification (TIS)	Post Office
.	NB/IFS/028			NBX – LINK Technical Interface Specification (TIS)	Post Office
.	NB/IFS/029			NBX – A&L Technical Interface Specification (TIS)	Post Office
.	NB/IFS/031			Horizon – Card Account Mapping	Post Office
0.	NB/IFS/033			Horizon – LINK Mapping	Post Office
1.	NB/IFS/034			Horizon – A&L Mapping	Post Office
2.	CS/OLA/050			Operating Level Agreement for Network Banking between Fujitsu Services and LINK	
3.	CS/OLA/051			Operating Level Agreement for Network Banking between Fujitsu Services and CAPO (EDS)	
4.	CS/OLA/052			Operating Level Agreement for Network Banking between Fujitsu Services and Alliance & Leicester	

Table 5: Associated Documents

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

1.8 Abbreviations/Definitions

Abbreviation	Definition
A&L	Alliance & Leicester
Authorisation Agent	The part of the NBX which interfaces to FIs and is configured by these business parameters
FI	Financial Institution
NBE	Network Banking Engine
NBX	The term used to describe the NBE functionality absorbed into the Horizon domain
NPS	NBX Persistent Store
OCC	Operational Change Control
PI	Processor Interface

Table 6: Abbreviations/Definitions

1.9 Changes expected

Where (If known)	**What**
None	

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2 Introduction

This document lists the Network Banking Service business parameters held in the NBX Persistent Store. These parameters are held in a table of parameters that control the operation of the NBX Authorisation Agents for CAPO, LINK and Alliance & Leicester.

For clarity of presentation, the NBX business parameters have been divided into a number of separate categories.

2.1 Scope

This document lists those business parameters in the NBX Persistent Store (NPS) that are subject to some level of change control between Post Office Ltd. and Fujitsu Services Ltd. The purpose is to be a single source of reference for these parameters, visible to those who need to maintain the Network Banking Service.

It excludes those parameters that Fujitsu Services Ltd. can change without prior consultation with Post Office Ltd., subject to there being no change in the characteristics of the service contrary to those contractually agreed and accepted.

2.2 Change Control

The levels of authority to change any of the business parameters in this document comprise the following:

- Operational Change Control
- Contractual Change Control

2.1.1 Operational Change Control

Fujitsu Services Ltd. or Post Office Ltd. may wish to change a parameter for operational reasons. This category covers those parameters that Fujitsu Services Ltd. may change with the agreement of Post Office Ltd., such agreement not being unreasonably withheld by either party. Such parameters are indicated by a value of 'Y' in the 'OCC' column in each table.

2.1.2 Contractual Change Control

This category covers those parameters that may only be changed via formal contractual Change Control procedures. Changes to these parameters normally involve change to some other aspect of the system, e.g. an Application Interface Specification or Counter Reference Data. Such parameters are indicated by a value of 'N' in the 'OCC' column in each table.

[Note: Rows in the table with no value in the 'OLA' column are all Descriptions, i.e. they act as comments.]

3 NBX Business Parameters

The general principal is that the parameters table (the **TMS_TX_NBX_CONFIGURATION** table) in NPS is for configuration data that would have been reference data on traditional agents.

One specific principle is that configuration via the NPS is at the level of a specific FI Type (i.e. for CAPO, LINK or A&L). It does not provide for any lower level of granularity, for example by logical FI (e.g. CAPO_A as distinct from CAPO_B) or by NT service name.

Each row in the table is for a specific configuration item, identified by its Parameter_Name, and Applies_To a specific FI Type. Rows with any other Applies_To value act as 'comments' and provide a description of a specific configuration item or set of configuration items; by convention, an Applies_To value of "Description" is used for such rows.

For documentary purposes only, an Applies_To value of "Generic" is used in the following tables for configuration items that currently have the same value for all FI Types. However, in the **TMS_TX_NBX_CONFIGURATION** table itself there will be one row for each FI Type in order to maintain the independence of the configuration of each FI Type.

3.1 Transaction_Type interpretation

This section provides the lookup from the Horizon Txn_Type in the [R1] message into its two components:

- The actual transaction type, interpreted as a 3-letter mnemonic.
- The Customer Verification (or Authentication) Method, interpreted as a 3-letter code.

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
TxnType	Description		Mapping of [R1] Txn_Type attribute to an internal value for the actual type of the transaction	N
TxnType.01	Generic	Bal	Balance Enquiry, PIN verification	N
TxnType.03	Generic	Wdl	Withdrawal, PIN verification	N
TxnType.04	Generic	WBa	Withdrawal with Balance, PIN verification	N
TxnType.05	Generic	WLi	Withdraw Limit, PIN verification	N
TxnType.06	Generic	PIN	Change PIN, PIN verification	N
TxnType.11	Generic	Bal	Balance Enquiry, Signature verification	N
TxnType.13	Generic	Wdl	Withdrawal, Signature verification	N
TxnType.14	Generic	WBa	Withdrawal with Balance, Signature verification	N
TxnType.15	Generic	WLi	Withdraw Limit, Signature verification	N
TxnType.22	Generic	CaD	Cash Deposit, No verification	N
TxnType.27	Generic	ChD	Cheque Deposit, No verification	N
TxnType.61	Generic	Bal	Balance Enquiry, ICC	N
TxnType.62	Generic	CaD	Cash Deposit, ICC	N
TxnType.63	Generic	Wdl	Withdrawal, ICC	N
TxnType.64	Generic	WBa	Withdrawal with Balance, ICC	N
TxnType.65	Generic	WLi	Withdraw Limit, ICC	N
TxnType.66	Generic	PIN	Change PIN, ICC	N
TxnType.67	Generic	ChD	Cheque Deposit, ICC	N
CVM	Description		Mapping of [R1] Txn_Type attribute to an internal value for the customer verification method	N
CVM.01	Generic	PIN	Balance Enquiry, PIN verification	N
CVM.03	Generic	PIN	Withdrawal, PIN verification	N
CVM.04	Generic	PIN	Withdrawal with Balance, PIN verification	N
CVM.05	Generic	PIN	Withdraw Limit, PIN verification	N
CVM.06	Generic	PIN	Change PIN, PIN verification	N
CVM.11	Generic	Sig	Balance Enquiry, Signature verification	N
CVM.13	Generic	Sig	Withdrawal, Signature verification	N
CVM.14	Generic	Sig	Withdrawal with Balance, Signature verification	N
CVM.15	Generic	Sig	Withdraw Limit, Signature verification	N
CVM.22	Generic	NoV	Cash Deposit, No verification	N
CVM.27	Generic	NoV	Cheque Deposit, No verification	N
CVM.61	Generic	PIN	Balance Enquiry, ICC	N
CVM.62	Generic	NoV	Cash Deposit, ICC	N
CVM.63	Generic	PIN	Withdrawal, ICC	N
CVM.64	Generic	PIN	Withdrawal with Balance, ICC	N
CVM.65	Generic	PIN	Withdraw Limit, ICC	N
CVM.66	Generic	PIN	Change PIN, ICC	N
CVM.67	Generic	NoV	Cheque Deposit, ICC	N

3.2 Message Mapping parameters

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
Bitmap.Format	Description		Format of bitmaps: B means binary, H means hexadecimal	N
Bitmap.Format	CAPO	B	Binary	N
Bitmap.Format	LINK	H	Hexadecimal	N
Bitmap.Format	AL	H	Hexadecimal	N
MsgId	Description		Message Id. A missing entry (or NULL) means that the transaction type is not supported by the FI	N
MsgId.Bal	Description		For [R3] Balance Enquiry	N
MsgId.Bal	CAPO	0100		N
MsgId.Bal	LINK	0100		N
MsgId.Bal	AL	0100		N
MsgId.PIN	Description		For [R3] PIN Change	N
MsgId.PIN	CAPO	0100		N
MsgId.Wdl	Description		For [R3] Withdrawal	N
MsgId.Wdl	LINK	0200		N
MsgId.Wdl	AL	0200		N
MsgId.WBa	Description		For [R3] Withdrawal with Balance	N
MsgId.WBa	CAPO	0200		N
MsgId.WBa	LINK	0200		N
MsgId.WBa	AL	0200		N
MsgId.WLi	Description		For [R3] Withdraw Limit	N
MsgId.WLi	CAPO	0200		N
MsgId.CaD	Description		For [R3] Cash Deposit	N
MsgId.CaD	LINK	0200		N
MsgId.CaD	AL	0200		N
MsgId.ChD	Description		For [R3] Cheque Deposit	N
MsgId.ChD	LINK	0200		N
				N
ProcCd_003	Description		Processing Code, bitmap ref. 003. A missing entry (or NULL) means that the transaction type is not supported by the FI	N
ProcCd_003.Bal	Description		For [R3] Balance Enquiry	N
ProcCd_003.Bal	CAPO	310000		N
ProcCd_003.Bal	LINK	310000		N
ProcCd_003.Bal	AL	310000		N
ProcCd_003.PIN	Description		For [R3] PIN Change	N
ProcCd_003.PIN	CAPO	900000		N
ProcCd_003.Wdl	Description		For [R3] Withdrawal	N
ProcCd_003.Wdl	LINK	010000		N
ProcCd_003.Wdl	AL	010000		N
ProcCd_003.WBa	Description		For [R3] Withdrawal with Balance	N
ProcCd_003.WBa	CAPO	010000		N
ProcCd_003.WBa	LINK	010000		N
ProcCd_003.WBa	AL	010000		N
ProcCd_003.WLi	Description		For [R3] Withdraw Limit	N
ProcCd_003.WLi	CAPO	910000		N
ProcCd_003.CaD	Description		For [R3] Cash Deposit	N
ProcCd_003.CaD	LINK	210000		N
ProcCd_003.CaD	AL	210000		N
ProcCd_003.ChD	Description		For [R3] Cheque Deposit	N
ProcCd_003.ChD	LINK	240000		N
				N
POSEtyMde_022	Description		Point of Service Entry Mode, bitmap ref. 022. Two subfields	N
POSEtyMde_022_1	Description		Subfield 1 (digits 1 &2), PAN Entry Mode. This is mapped from the [R1] Entry_Method	N
POSEtyMde_022_1.1	Description		Entry_Method 1 = Manual	N
POSEtyMde_022_1.1	Generic	01	Manual	N
POSEtyMde_022_1.2	Description		Entry_Method 2 = Swiped	N
POSEtyMde_022_1.2	Generic	90	Magnetic Stripe	N

POSEtyMde_022_1.3

Description		Entry_Method 3: ICC PIN Pad	N	
POSEtyMde_022_1.3	Generic	05	ICC	N
POSEtyMde_022_1.4	Description		Entry_Method 4: ICC swipe fallback	N
POSEtyMde_022_1.4	Generic	90	Magnetic Stripe	N
POSEtyMde_022_2	Description		Subfield 2 (digit 3), PIN Entry Mode. This is mapped from the transaction type	N
POSEtyMde_022_2.Bal	Description		For [R3] Balance Enquiry	N
POSEtyMde_022_2.Bal	Generic	1	PIN Entry capability	N
POSEtyMde_022_2.PIN	Description		For [R3] PIN Change	N
POSEtyMde_022_2.PIN	Generic	1	PIN Entry capability	N
POSEtyMde_022_2.Wdl	Description		For [R3] Withdrawal	N
POSEtyMde_022_2.Wdl	Generic	1	PIN Entry capability	N
POSEtyMde_022_2.WBa	Description		For [R3] Withdrawal with Balance	N
POSEtyMde_022_2.WBa	Generic	1	PIN Entry capability	N
POSEtyMde_022_2.WLi	Description		For [R3] Withdraw Limit	N
POSEtyMde_022_2.WLi	Generic	1	PIN Entry capability	N
POSEtyMde_022_2.CaD	Description		For [R3] Cash Deposit	N
POSEtyMde_022_2.CaD	Generic	2	No PIN Entry capability	N
POSEtyMde_022_2.ChD	Description		For [R3] Cheque Deposit	N
POSEtyMde_022_2.ChD	Generic	2	No PIN Entry capability	N
POSCondCd_025	Description		Point of Service Condition Code, bitmap ref. 025	N
POSCondCd_025.NotICC	Description		Counter not ICC-enabled[1]	N
POSCondCd_025.NotICC	CAPO	00		N
POSCondCd_025.NotICC	LINK	54		N
POSCondCd_025.NotICC	AL	54		N
POSCondCd_025.ICC	Description		Counter ICC-enabled	N
POSCondCd_025.ICC	CAPO	00		N
POSCondCd_025.ICC	LINK	55		N
POSCondCd_025.ICC	AL	55		N
AcqInstIdCd_032	Description		Acquiring Institution Identification Code, bitmap ref. 032	N
AcqInstIdCd_032	Generic	2200040000	Identifies Post Office Ltd	N
RRN_037.Diag	Description		Retrieval Reference Number, bitmap ref. 037. Flag (set to 1) if diagnostic information is to be included in bytes 5-6	N
RRN_037.Diag	CAPO	1	Diagnostic information required	N
CardAcceptorIdCd_042	Description		Card Acceptor Identification Code, bitmap ref. 042. Value supplied is left justified and space filled within the 15-character fixed-length field	N
CardAcceptorIdCd_042	LINK	POST OFFICE	Short name for Post Office Ltd	N
CardAcceptorIdCd_042	AL	POST OFFICE	Short name for Post Office Ltd	N
Location_043	Description		Card Acceptor Name / Location, bitmap ref. 043	N
Location_043.Add1.Len	Description		Length of Address_Line_1 component	N
Location_043.Add1.Len	CAPO	23		N
Location_043.Add1.Len	LINK	23		N
Location_043.Add1.Len	AL	23		N
Location_043.Add4.Len	Description		Length of Address_Line_4 component	N
Location_043.Add4.Len	CAPO	13		N
Location_043.Add4.Len	LINK	15		N
Location_043.Add4.Len	AL	15		N
Location_043.Country	Description		Value of characters 39-40 (spaces if omitted)	N
Location_043.Country	LINK	GB		N
Location_043.Country	AL	GB		N
CurrCdTxn_049	Description		Currency Code, Transaction, bitmap ref. 049	N
CurrCdTxn_049.A2N	Description		Alpha to Numeric, used in mapping Requests	N
CurrCdTxn_049.A2N.GBP	Generic	826	Pounds sterling	N

[1] This non-capability is pre-S70, determined by <MsgVersion.Major> being 3

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CurrCdTxn_049.N2A	Description		Numeric to Alpha, used in mapping Responses	N
CurrCdTxn_049.N2A.826	Generic	GBP	Pounds sterling	N
PIN_052.M	Description		PIN Data, bitmap ref. 052. Flag (set to 1) if PIN Data is Mandatory. Derived by lookup of actual TxnType	N
PIN_052.M.Bal	Description		For [R3] Balance Enquiry	N
PIN_052.M.Bal	CAPO	1	Mandatory	N
PIN_052.M.Wdl	Description		For [R3] Withdrawal	N
PIN_052.M.Wdl	CAPO	1	Mandatory	N
PIN_052.M.WBa	Description		For [R3] Withdrawal with Balance	N
PIN_052.M.WBa	CAPO	1	Mandatory	N
PIN_052.M.WLi	Description		For [R3] Withdraw Limit	N
PIN_052.M.WLi	CAPO	1	Mandatory	N
PIN_052.M.CaD	Description		For [R3] Cash Deposit	N
PIN_052.M.ChD	Description		For [R3] Cheque Deposit	N
PIN_052.M.PIN	Description		For [R3] PIN Change	N
PIN_052.M.PIN	CAPO	1	Mandatory	N
POSData_061	Description		Point of Service Data, bitmap ref. 061. Up to 20 individual subfields (each one character)	N
POSData_061.Base	Description		Fixed base value into which other bytes are inserted. The value is left justified within the fixed-length field, with trailing spaces. No base value means field not included.	N
POSData_061.Base	LINK	01010100300C		N
POSData_061.Base	AL	01110100300C		N
POSData_061_1	Description		Subfield 1: Card data input capability	N
POSData_061_1.NotICC	Description		Counter not ICC-enabled[2]	N
POSData_061_1.NotICC	Generic	8		N
POSData_061_1.ICC	Description		Counter ICC-enabled	N
POSData_061_1.ICC	Generic	9		N
POSData_061_7	Description		Subfield 7: Card data input mode. Derived by look-up on Entry_Method	N
POSData_061_7.1	Description		Entry_Method 1: Keyed	N
POSData_061_7.1	Generic	6	Key entry	N
POSData_061_7.2	Description		Entry_Method 2: Swiped	N
POSData_061_7.2	Generic	2	Magnetic stripe	N
POSData_061_7.3	Description		Entry_Method 3: ICC PIN Pad	N
POSData_061_7.3	Generic	5	ICC	N
POSData_061_7.4	Description		Entry_Method 4: ICC swipe fallback	N
POSData_061_7.4	Generic	2	Magnetic stripe	N
POSData_061_8	Description		Subfield 8: Cardholder authentication method. Derived by lookup of CVM	N
POSData_061_8.NoV	Description		No verification	N
POSData_061_8.NoV	Generic	0	Not authenticated	N
POSData_061_8.PIN	Description		PIN verification	N
POSData_061_8.PIN	Generic	1	PIN	N
POSData_061_8.Sig	Description		Signature verification	N
POSData_061_8.Sig	Generic	5	Manual signature verification	N
POSData_061_10	Description		Subfield 10: Card data output capability	N
POSData_061_10.NotICC	Description		Counter not ICC-enabled[3]	N
POSData_061_10.NotICC	Generic	1		N
POSData_061_10.ICC	Description		Counter ICC-enabled	N
POSData_061_10.ICC	Generic	3		N

2 This non-capability is pre-S70, determined by <MsgVersion.Major> being 3

3 This non-capability is pre-S70, determined by <MsgVersion.Major> being 3

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3.3 Response Codes

The FI's Response Code (bitmap ref. 039) returned in the [A1] is a two-character alphanumeric field. This original Response Code value is returned in the [A3] as the Issuer_Response_Code (<Txn.IssResp:>).

The main Horizon Response_Code (<Txn.RespCd:> returned in the [A3] is mapped from the [A1]'s Response Code using the following configuration parameters. Most Response Codes are two numeric digits, and the mapping can be optimised accordingly. However, some Response Code values contain alphabetic characters.

The second section of the table is for the Horizon Response_Code values to be returned in the [A3] for NBX-detected conditions.

The third section identifies the values of the FI's Response Code (bitmap ref. 039) returned in an [E2] that signify 'success'.

The fourth section identifies those FI Response Code values that contribute towards the count of transaction failures that indicate failure of the FI infrastructure.

PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
RespCd.Response	Description		Mappings for generating the Horizon Response_Code in the [A3] from the Response Code (bitmap ref. 039) in the [A1]	N
RespCd.Response.Default	Description		Default when no specific entry. In the absence of a Default, such a Response Code is invalid and the [A1] is rejected with an 0620	N
RespCd.Response.Default	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.00	Description		Approved or completed successfully	
RespCd.Response.00	Generic	01	Authorised OK	N
RespCd.Response.01	Description		Refer to Card Issuer	
RespCd.Response.01	Generic	08	Declined – Other	N
RespCd.Response.02	Description		Refer to Card Issuer special conditions	
RespCd.Response.02	Generic	08	Declined – Other	N
RespCd.Response.03	Description		Invalid merchant	
RespCd.Response.03	Generic	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.04	Description		Pick-up	
RespCd.Response.04	Generic	02	Declined – Impound Card	N
RespCd.Response.05	Description		Do not honour	
RespCd.Response.05	Generic	08	Declined – Other	N
RespCd.Response.06	Description		Error	
RespCd.Response.06	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.07	Description		Pick-up card, special conditions	
RespCd.Response.07	Generic	02	Declined – Impound Card	N
RespCd.Response.12	Description		Invalid transaction	
RespCd.Response.12	Generic	07	Declined – Transaction not supported	N
RespCd.Response.13	Description		Invalid amount	
RespCd.Response.13	Generic	08	Declined – Other	N
RespCd.Response.14	Description		Invalid card number	
RespCd.Response.14	Generic	08	Declined – Other	N
RespCd.Response.15	Description		Card issuer unavailable / No such issuer	
RespCd.Response.15	Generic	27	Retry Txn, System Temp'y Unavailable	N
RespCd.Response.19	Description		Re-enter transaction	
RespCd.Response.19	Generic	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.30	Description		Format error	
RespCd.Response.30	Generic	24	Retry Txn, System/Data Error	N
RespCd.Response.31	Description		Bank not supported by switch	
RespCd.Response.31	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.33	Description		Expired card, pick-up	
RespCd.Response.33	Generic	02	Declined – Impound Card	N
RespCd.Response.34	Description		Suspected fraud, pick up	
RespCd.Response.34	CAPO	02	Declined – Impound Card	N
RespCd.Response.35	Description		Card acceptor contact acquirer, pick-up	
RespCd.Response.35	CAPO	02	Declined – Impound Card	N
RespCd.Response.36	Description		Restricted card, pick-up	
RespCd.Response.36	Generic	02	Declined – Impound Card	N
RespCd.Response.37	Description		Card acceptor call acquirer's security department, pick up	
RespCd.Response.37	CAPO	02	Declined – Impound Card	N
RespCd.Response.38	Description		Allowable PIN tries exceeded, pick-up	
RespCd.Response.38	Generic	02	Declined – Impound Card	N
RespCd.Response.39	Description		No credit account	
RespCd.Response.39	CAPO	08	Declined – Other	N
RespCd.Response.41	Description		Lost card, pick-up	
RespCd.Response.41	Generic	02	Declined – Impound Card	N
RespCd.Response.42	Description		No universal account	
RespCd.Response.42	CAPO	08	Declined – Other	N
RespCd.Response.43	Description		Stolen card, pick-up	
RespCd.Response.43	Generic	02	Declined – Impound Card	N
RespCd.Response.44	Description		No investment account	
RespCd.Response.44	CAPO	08	Declined – Other	N
RespCd.Response.51	Description		Insufficient funds	
RespCd.Response.51	Generic	04	Declined – Insufficient Funds	N

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Description		No chequing account		
RespCd.Response.52	Generic	08	Declined – Other	N
RespCd.Response.53	Description		No savings account	
RespCd.Response.53	Generic	08	Declined – Other	N
RespCd.Response.54	Description		Expired card, decline	
RespCd.Response.54	Generic	08	Declined – Other	N
RespCd.Response.55	Description		Incorrect personal identification number	
RespCd.Response.55	Generic	03	Declined – Invalid PIN	N
RespCd.Response.56	Description		No card record	
RespCd.Response.56	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.57	Description		Transaction not permitted to cardholder	
RespCd.Response.57	Generic	07	Declined – Transaction not supported	N
RespCd.Response.58	Description		Transaction not permitted to terminal	
RespCd.Response.58	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.59	Description		Suspected fraud, decline	
RespCd.Response.59	CAPO	08	Declined – Other	N
RespCd.Response.60	Description		Card acceptor contact acquirer, decline	
RespCd.Response.60	CAPO	08	Declined – Other	N
RespCd.Response.61	Description		Exceeds withdrawal amount limit	
RespCd.Response.61	Generic	06	Declined – Usage Violation (amount)	N
RespCd.Response.62	Description		Restricted card	
RespCd.Response.62	Generic	08	Declined – Other	N
RespCd.Response.65	Description		Exceeds withdrawal frequency limit	
RespCd.Response.65	Generic	05	Declined – Usage Violation (frequency)	N
RespCd.Response.66	Description		Card acceptor call acquirer's security department, decline	
RespCd.Response.66	Generic	08	Declined – Other	N
RespCd.Response.67	Description		Hard capture (requires that card be picked up at ATM)	
RespCd.Response.67	Generic	02	Declined – Impound Card	N
RespCd.Response.75	Description		Allowable PIN tries exceeded, decline	
RespCd.Response.75	Generic	09	Max PIN tries exceeded	N
RespCd.Response.76	Description		Reserved for private use. (CAPO – Unable to deblock PIN (PIN "sanity" error) aka Key Synchronisation Error) (LINK, A&L - Key Synchronisation Error)	
RespCd.Response.76	Generic	27	Retry Txn, System Temp'y Unavailable	N
RespCd.Response.80	Description		Reserved for private use. (CAPO - Failed ARQC verification) (LINK, A&L - Invalid Date)	
RespCd.Response.80	CAPO	24	Retry Txn, System/Data Error	N
RespCd.Response.80	LINK	24	Retry Txn, System/Data Error	N
RespCd.Response.80	AL	24	Retry Txn, System/Data Error	N
RespCd.Response.81	Description		Reserved for private use. (CAPO – Bit 055 format error)	
RespCd.Response.81	CAPO	24	Retry Txn, System/Data Error	N
RespCd.Response.90	Description		Cutover is in progress	
RespCd.Response.90	Generic	27	Retry Txn, System Temp'y Unavailable	N
RespCd.Response.91	Description		Issuer or Switch inoperative	
RespCd.Response.91	Generic	26	Try later, FI_EE Unavailable - return card	N
RespCd.Response.92	Description		Financial institution or intermediate network facility (transaction destination) cannot be found for routing	
RespCd.Response.92	CAPO	24	Retry Txn, System/Data Error	N
RespCd.Response.93	Description		Transaction cannot be completed. Violation of law	
RespCd.Response.93	Generic	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.94	Description		Duplicate transmission	
RespCd.Response.94	CAPO	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.96	Description		System malfunction	
RespCd.Response.96	Generic	24	Retry Txn, System/Data Error	N
RespCd.Response.A0	Description		Pre-pay transaction failed	
RespCd.Response.A0	LINK	23	Retry Txn, FI Unexpected Response Code	N

RespCd.Response.A0	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A1	Description		Pre-pay transaction rejected	
RespCd.Response.A1	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A1	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A2	Description		Invalid mobile phone number	
RespCd.Response.A2	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A2	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A3	Description		Pre-pay account limit reached	
RespCd.Response.A3	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A3	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A4	Description		Pre-pay system unavailable	
RespCd.Response.A4	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A4	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A5	Description		Reserved for Pre-pay responses	
RespCd.Response.A5	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A5	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A6	Description		Reserved for Pre-pay responses	
RespCd.Response.A6	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A6	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A7	Description		Reserved for Pre-pay responses	
RespCd.Response.A7	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A7	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A8	Description		Reserved for Pre-pay responses	
RespCd.Response.A8	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A8	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A9	Description		Reserved for Pre-pay responses	
RespCd.Response.A9	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.A9	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C0	Description		Unacceptable PIN	
RespCd.Response.C0	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C0	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C1	Description		PIN Change Failed	
RespCd.Response.C1	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C1	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C2	Description		PIN Unlock Failed	
RespCd.Response.C2	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.C2	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.N1	Description		CVC Failed, Do not honour (Europay code to be mapped to 05 for non-Europay transaction)	
RespCd.Response.N1	LINK	08	Declined – Other	N
RespCd.Response.N1	AL	08	Declined – Other	N
RespCd.Response.N2	Description		CVC Failed, Capture Card (Europay code to be mapped to 04 for non-Europay transaction)	
RespCd.Response.N2	LINK	02	Declined – Impound Card	N
RespCd.Response.N2	AL	02	Declined – Impound Card	N
RespCd.Response.Q1	Description		Card Authentication failure	
RespCd.Response.Q1	LINK	08	Declined – Other	N
RespCd.Response.Q1	AL	08	Declined – Other	N
RespCd.Response.Q2	Description		Card Authentication failure	
RespCd.Response.Q2	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Q2	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Y1	Description		Offline Approved	
RespCd.Response.Y1	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Y1	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Z1	Description		Offline declined	
RespCd.Response.Z1	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Z1	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Y3	Description		Unable to go online, approved	
RespCd.Response.Y3	LINK	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Y3	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.Response.Z3	Description		Unable to go online, declined	
RespCd.Response.Z3	LINK	23	Retry Txn, FI Unexpected Response Code	N

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RespCd.Response.Z3	AL	23	Retry Txn, FI Unexpected Response Code	N
RespCd.NBX	Description		Response_Code values used for NBX-detected conditions	
RespCd.NBX.Down	CAPO	97	CAPO is Down (no PIs fully operational)	N
RespCd.NBX.Down	LINK	95	LINK is Down (no PIs fully operational)	N
RespCd.NBX.Down	AL	96	A&L is Down (no PIs fully operational)	N
RespCd.NBX.Closed	CAPO	92	CAPO is administratively Closed	N
RespCd.NBX.Closed	LINK	90	LINK is administratively Closed	N
RespCd.NBX.Closed	AL	91	A&L is administratively Closed	N
RespCd.NBX.Timeout	Generic	32	[A1] timed out	N
RespCd.NBX.BadA1	Generic	34	Invalid [A1] received	N
RespCd.NBX.Sig	Generic	36	Signature verification failure on the [R1]	N
RespCd.NBX.BadR1	Generic	37	Invalid [R1] received	N
RespCd.NBX.Other	Generic	38	Other operational problem	N
GoodE2.Response	Description		E2 Responses that imply successful reversal	
GoodE2.Response.00	Description		Approved or completed successfully	
GoodE2.Response.00	Generic	01	Authorised OK	N
InfraFail.Response	Description		List of Response Codes (bitmap ref. 039) that indicate failure of the FI infrastructure: Y means that it does	Y
InfraFail.Response.12	Description		Invalid transaction	
InfraFail.Response.12	Generic	Y		Y
InfraFail.Response.15	Description		Card issuer unavailable / No such issuer	
InfraFail.Response.15	LINK	Y		Y
InfraFail.Response.15	AL	Y		Y
InfraFail.Response.30	Description		Retry Txn, System/Data Error	
InfraFail.Response.30	LINK	Y		Y
InfraFail.Response.30	AL	Y		Y
InfraFail.Response.31	Description		Bank not supported by switch	
InfraFail.Response.31	CAPO	Y		Y
InfraFail.Response.58	Description		Transaction not permitted to terminal	
InfraFail.Response.58	CAPO	Y		Y
InfraFail.Response.91	Description		Try later, FI_EE Unavailable - return card	
InfraFail.Response.91	Generic	Y		Y
InfraFail.Response.96	Description		System malfunction	
InfraFail.Response.96	LINK	Y		Y
InfraFail.Response.96	AL	Y		Y
InfraFail.Response.C0	Description		Unacceptable PIN	
InfraFail.Response.C0	LINK	Y		Y
InfraFail.Response.C0	AL	Y		Y

3.4 Reversal Reason Codes

The Reversal Reason Code (bytes 3-4 for bitmap ref. 060) on an [E1] is mapped from the Transaction_Result_Code (<TxnRsltCd:>) on a [C0].

The second section of the table is for the Reversal Reason Code values for NBX-generated reversals.

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
RevReasonCode	Description		Mappings used for generating the Reversal Reason Code (bytes 3-4 for bitmap ref. 060) on an [E1]. TRC stands for the [C0] Transaction_Result_Code	
RevReasonCode.Default	Description		Any other condition which results in a reversal being required when no more specific Reversal Reason Code applies	
RevReasonCode.Default	Generic	25	Acquirer originated reversal / Terminal communication error	N
RevReasonCode.TRC.02	Description		Transaction Abandoned by Clerk	
RevReasonCode.TRC.02	LINK	12	Card acceptor originated reversal / Terminal Processor Error	N
RevReasonCode.TRC.02	AL	12	Card acceptor originated reversal / Terminal Processor Error	N
RevReasonCode.TRC.04	Description		Fee Customer Declined	
RevReasonCode.TRC.04	CAPO	17	Customer cancellation	N
RevReasonCode.TRC.04	LINK	19	Card acceptor originated reversal / Customer Cancellation (Charge)	N
RevReasonCode.TRC.04	AL	19	Card acceptor originated reversal / Customer Cancellation (Charge)	N
RevReasonCode.TRC.05	Description		Card Check Failed	
RevReasonCode.TRC.05	CAPO	34	Suspected Fraud	N
RevReasonCode.TRC.05	LINK	18	Card acceptor originated reversal / Card Authentication failure	N
RevReasonCode.TRC.05	AL	18	Card acceptor originated reversal / Card Authentication failure	N
RevReasonCode.TRC.06	Description		Decline Confirmed: Card declined a transaction after it has been authorised by the FI	
RevReasonCode.TRC.06	CAPO	82	(Reserved.) Used to indicate that the card declined a transaction that had been authorised	N
RevReasonCode.TRC.06	LINK	18	Card acceptor originated reversal / Card Authentication failure	N
RevReasonCode.TRC.06	AL	18	Card acceptor originated reversal / Card Authentication failure	N
RevReasonCode.TRC.07	Description		Transaction Failed (Response [A3] fails to reach counter in time)	
RevReasonCode.TRC.07	CAPO	68	Response received too late	N
RevReasonCode.TRC.07	LINK	13	Card acceptor originated reversal / System timeout	N
RevReasonCode.TRC.07	AL	13	Card acceptor originated reversal / System timeout	N
RevReasonCode.NBX	Description		Reversal Reason Code values for NBX-generated reversals	
RevReasonCode.NBX.LateA1	Description		Late [A1] Approve received	
RevReasonCode.NBX.LateA1	CAPO	68	Response received too late	N
RevReasonCode.NBX.LateA1	LINK	27	Acquirer originated reversal / Late or unsolicited response	N
RevReasonCode.NBX.LateA1	AL	27	Acquirer originated reversal / Late or unsolicited response	N

3.5 Reversal management parameters

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
Reversal	Description		Parameters controlling the transmission of reversal messages	
Reversal.Rule	Description		Controls where the reversal may be sent: SameVA: To the same Virtual Address (Port); SamePI: To the same PI	
Reversal.Rule	CAPO	SameVA	To the same Virtual Address (Port)	N
Reversal.Rule	LINK	SamePI	To the same PI	N
Reversal.Rule	AL	SamePI	To the same PI	N
Reversal.Retry	Description		Parameters controlling repeat attempts to forward a reversal	
Reversal.Retry.Wait	Description		Normal interval (milliseconds) between retries, used as the timeout value for an [E2]	
Reversal.Retry.Wait	CAPO	15000	15 seconds	Y
Reversal.Retry.Wait	LINK	15000	15 seconds	Y
Reversal.Retry.Wait	AL	15000	15 seconds	Y
Reversal.Retry.Max	Description		Maximum number of retries before stopping. Retries counted only when an appropriate connection is available. Further attempts may be made by operator intervention	
Reversal.Retry.Max	CAPO	5		Y
Reversal.Retry.Max	LINK	50		Y
Reversal.Retry.Max	AL	10		Y
Reversal.Old	Description		Parameters controlling old reversals	
Reversal.Old.MaxAge	Description		Threshold (days) after which a [C0] reversal request is considered so old that the transaction is likely to have been purged from the Transaction Status table	
Reversal.Old.MaxAge	Generic	5	The same number of days as the guaranteed lifetime of entries in the Transaction Status table	N
Reversal.Old.Threshold	Description		Threshold (days) after which a [C0] reversal request should not be forwarded on to the FI_EE. This may be less than Reversal.Old.MaxAge	
Reversal.Old.Threshold	Generic	5	Same as Reversal.Old.MaxAge	Y
Reversal.Late	Description		Parameters controlling the reporting of late reversals	
Reversal.Late.Threshold	Description		Threshold (milliseconds) after which an [E1] reversal is deemed to be 'late' and the Late Reversal Flag set in the E1 journal record	
Reversal.Late.Threshold	Generic	60000	1 minute	Y

3.6 Network Management and Administration Advice Messages

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
FI_NM	Description		Parameters for Network Management Messages	N
FI_NM.NMIC	Description		Network Management Information Code, bitmap ref. 070. Omitted means message is not supported	N
FI_NM.NMIC.EODCutover.Send	Description		NBX-initiated EOD Cutover	N
FI_NM.NMIC.EODCutover.Send	AL	271		N
FI_NM.NMIC.EODCutover.Recv	Description		FI-initiated EOD Cutover	N
FI_NM.NMIC.EODCutover.Recv	LINK	261		N
FI_NM.NMIC.SignOn.Send	Description		NBX-initiated Sign On	N
FI_NM.NMIC.SignOn.Send	Generic	071		N
FI_NM.NMIC.SignOn.Recv	Description		FI-initiated Sign On	N
FI_NM.NMIC.SignOn.Recv	LINK	061		N
FI_NM.NMIC.SignOn.Recv	AL	061		N
FI_NM.NMIC.SignOff.Send	Description		NBX-initiated Sign Off	N
FI_NM.NMIC.SignOff.Send	Generic	072		N
FI_NM.NMIC.SignOff.Recv	Description		FI-initiated Sign Off	N
FI_NM.NMIC.SignOff.Recv	LINK	062		N
FI_NM.NMIC.SignOff.Recv	AL	062		N
FI_NM.NMIC.KeyChange.Send	Description		NBX-initiated Key Change	N
FI_NM.NMIC.KeyChange.Send	CAPO	161		N
FI_NM.NMIC.KeyChange.Recv	Description		FI-initiated Key Change	N
FI_NM.NMIC.KeyChange.Recv	LINK	161		N
FI_NM.NMIC.KeyChange.Recv	AL	161		N
FI_NM.NMIC.KeyRequest.Send	Description		NBX-initiated Key Change Request	N
FI_NM.NMIC.KeyRequest.Send	LINK	181		N
FI_NM.NMIC.KeyRequest.Send	AL	181		N
FI_NM.NMIC.KeyRequest.Recv	Description		FI-initiated Key Change Request	N
FI_NM.NMIC.KeyVerify.Send	Description		NBX-initiated Key Verification	N
FI_NM.NMIC.KeyVerify.Recv	Description		FI-initiated Key Verification	N
FI_NM.NMIC.KeyVerify.Recv	LINK	199		N
FI_NM.NMIC.Handshake.Send	Description		NBX-initiated Handshake (Echo Test)	N
FI_NM.NMIC.Handshake.Send	CAPO	361		N
FI_NM.NMIC.Handshake.Send	LINK	371		N
FI_NM.NMIC.Handshake.Send	AL	371		N
FI_NM.NMIC.Handshake.Recv	Description		FI-initiated Handshake (Echo Test)	N
FI_NM.NMIC.Handshake.Recv	LINK	361		N
FI_NM.NMIC.Handshake.Recv	AL	361		N
FI_NM.MSC096	Description		Message Security Code, bitmap ref. 096. Value is left justified with an 8-character field	N
FI_NM.MSC096	CAPO	00000000		N
FI_NM.MSC096	LINK	435TT		N
FI_NM.MSC096	AL	ALPOTE01	Base-value is used for Test environment. Overwritten in Live by ALPOPR01	N
FI_AA	Description		Parameters for Administration Advice Messages	N
FI_AA.NMIC	Description		Network Management Information Code, bitmap ref. 070. Omitted means message is not supported	N
FI_AA.NMIC.BadFormat.Send	Description		NBX-initiated Bad Format	N
FI_AA.NMIC.BadFormat.Send	Generic	900		N
FI_AA.NMIC.BadFormat.Recv	Description		FI-initiated Bad Format	N
FI_AA.NMIC.BadFormat.Recv	Generic	900		N

3.7 PI control parameters

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
SignOn	Description		Parameters controlling Sign Ons	
SignOn.Delay	Description		Delay (milliseconds) before first Sign On after establishing connection. Used to avoid unnecessary collisions. Omitted means no delay	Y
SignOn.Delay	LINK	3000	As LINK initiate connections, they will also initiate Sign Ons	Y
SignOn.Wait	Description		Interval (milliseconds) between retries	Y
SignOn.Wait	Generic	20000	20 seconds	Y
SignOn.Max	Description		Maximum number of Sign On attempts before disconnecting all TCP/IP connections for the PI, in preparation for reconnecting	Y
SignOn.Max	CAPO	6		Y
SignOn.Max	LINK	50	High, as LINK operators will already be initiating action when they cannot Sign On to NBX	Y
SignOn.Max	AL	6		Y
SignOff	Description		Parameters controlling Sign Offs	
SignOff.Wait	Description		Wait (milliseconds) to allow Sign Off to succeed before taking alternative action	Y
SignOff.Wait	Generic	5000	5 seconds	Y
Handshake	Description		Parameters controlling sending Handshakes	
Handshake.Idle.Interval	Description		Minimum interval (milliseconds) between sending Handshakes when idle	Y
Handshake.Idle.Interval	Generic	60000	60 seconds	Y
Handshake.Retry.Wait	Description		Interval (milliseconds) before retrying if there was no response	Y
Handshake.Retry.Wait	Generic	15000	15 seconds	Y
Handshake.Retry.Max	Description		Maximum number of retries before taking action	Y
Handshake.Retry.Max	CAPO	2	One less than total number of attempts	Y
Handshake.Retry.Max	LINK	5	One less than total number of attempts	Y
Handshake.Retry.Max	AL	5	One less than total number of attempts	Y
Handshake.EventFlag	Description		Flag to indicate whether an event is to be raised when `Handshake.Retry.Max` is reached: Y means yes, N means no	Y
Handshake.EventFlag	Generic	Y		Y
Handshake.SignOnFlag	Description		Flag to indicate whether to Sign On when `Handshake.Retry.Max` is reached: Y means yes, N means continue to send Handshakes	Y
Handshake.SignOnFlag	CAPO	Y		Y
Handshake.SignOnFlag	LINK	N		Y
Handshake.SignOnFlag	AL	Y		Y
Handshake.MinInterval	Description		Minimum interval (milliseconds) between sending Handshakes	Y
Handshake.MinInterval	Generic	15000	15 seconds	Y
Disconnect.Graceful	Description		Controls how TCP/IP connections are terminated: Y means disconnect gracefully, N means abort connections	
Disconnect.Graceful	CAPO	Y	Disconnect gracefully	Y
Disconnect.Graceful	LINK	N	Abort connections	N
Disconnect.Graceful	AL	Y	Disconnect gracefully	Y
UseAltSocket.PercentMustBeOper	Description		Minimum percentage of connections overall that must be operable before all transactions for the Logical FI are forwarded to the FI	
UseAltSocket.PercentMustBeOper	Generic	50	At least 50% (4 of 8 for CAPO, 1 of 2 for LINK and A&L)	Y

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3.8 AWK control parameters

Whether the NBX is key change master (for the AWK) is configured with both the Crypto subsystem and the Agent.

Note that if the key change interval were required to be more frequent than once a day, it will be necessary to enhance the configuration to allow more than one key check time a day.

PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
KeyChange	Description		Parameters associated with changing the Acquirer Working Key (AWK)	
KeyChange.NBXMaster	Description		Flag to indicate whether NBX is the key change master: Y means NBX is the master	
KeyChange.NBXMaster	CAPO	Y	NBX is the master with CAPO	N
KeyChange.NBXMaster	LINK	N	LINK is the master	N
KeyChange.NBXMaster	AL	N	A&L is the master	N
KeyChange.Nack.RespCd	Description		Response Code returned on a Key Change response indicating problem with proposed key change	
KeyChange.Nack.RespCd	Generic	76	Key Synchronisation Error	N
KeyChange.Request.Wait	Description		Interval (msecs) after becoming signed on before sending a Key Change Request if no key has been established (only if not the master)	
KeyChange.Request.Wait	LINK	10000	10 seconds	Y
KeyChange.Request.Wait	AL	10000	10 seconds	Y
KeyChange.Time	Description		Time (local) of daily check for key change, format hh:mm:ss. Omitted means the key is not regularly changed.	
KeyChange.Time	CAPO	02:30:00	2.30 am	Y
KeyChange.Time	LINK	02:30:00	2.30 am	Y
KeyChange.Time	AL	02:30:00	2.30 am	Y
KeyChange.MinAge	Description		If, at key check time, the key has been changed more recently than this minimum age (msecs), no key change will be initiated. If the key is to be changed every N days, should be set to ((N-1) days + M1 mins) where M1>60 for clock change	
KeyChange.MinAge	Generic	4800000	80 minutes	Y
KeyChange.SkipAge	Description		If, at key check time, the key was last changed more than this 'skip age' ago, no key change will be initiated. Applies only if NBX is the slave, to prevent both parties initiating the key change at about the same time. Should be set to (N days - M2 mins)	
KeyChange.SkipAge	LINK	81000000	22.5 hours	Y
KeyChange.SkipAge	AL	81000000	22.5 hours	Y
KeyChange.Retry.Interval	Description		Interval (milliseconds) between retries to change key. Only applies when NBX is master. Does not apply to operator-initiated key changes	
KeyChange.Retry.Interval	CAPO	30000	30 seconds	Y
KeyChange.NoResp.Max	Description		Maximum number of 'no response' to a key change before giving up and raising alerts	
KeyChange.NoResp.Max	CAPO	5		Y
KeyChange.RespFail.Max	Description		Maximum number of consecutive failure responses when changing a key (AWK) before generating and sending a different key	
KeyChange.RespFail.Max	CAPO	6		Y
KeyChange.RespFail.AWKMax	Description		Maximum number of different keys tried before giving up (and raising an alert)	
KeyChange.RespFail.AWKMax	CAPO	2		Y
KeyChange.MinInterval	Description		Minimum interval (milliseconds) between initiating key changes	
KeyChange.MinInterval	Generic	120000	2 minutes	Y
AWKError	Description		Parameters controlling handling of Response Code signifying invalid PIN Block due to key synchronisation failure	
AWKError.Response	Description		Response Code value	
AWKError.Response	Generic	76		N

AWKError.Limit	Description		Number of consecutive failures to cause a new AWK to be requested	
AWKError.Limit	CAPO	6	AWK changed on 6th failure	Y

3.9 End of Day Cutover parameters

PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
EODCutover	Description		Parameters controlling the daily cutover from one Settlement Date to the next	
EODCutover.NBXMaster	Description		Flag to indicate whether NBX is the settlement master: Y means NBX is the master, N the slave	
EODCutover.NBXMaster	CAPO	Y	Master	N
EODCutover.NBXMaster	LINK	N	Slave	N
EODCutover.NBXMaster	AL	Y	Master	N
EODCutover.MsgFlag	Description		Flag to indicate whether there is an exchange of Network Management (0800) EOD Cutover messages: Y means there is no exchange, N means there is	
EODCutover.MsgFlag	CAPO	N	No EOD message exchange	N
EODCutover.MsgFlag	LINK	Y	EOD message exchange	N
EODCutover.MsgFlag	AL	Y	EOD message exchange	N
EODCutover.PreScanTime	Description		Time (local) when a complete scan of the C0 Reversals table is performed to catch any guaranteed Reversals that might have been missed, format hh:mm:ss, default 19:30:00	
EODCutover.PreScanTime	Generic	19:30:00		Y
EODCutover.Time	Description		Time (local) of daily cutover of Settlement Date, format hh:mm:ss	
EODCutover.Time	Generic	20:00:00		N
EODCutover.RevTime	Description		Time (local) until which [E1] reversals are included in the day's reconciliation file, format hh:mm:ss. Only necessary when NBX is settlement master. Not used by the NBX Auth Agent but passed to the reconciliation file generator process	
EODCutover.RevTime	CAPO	20:10:00	10 minutes grace for reversals	Y
EODCutover.RevTime	LINK	20:10:00	No grace for reversals	Y
EODCutover.RevTime	AL	20:00:00	10 minutes grace for reversals	Y
EODCutover.EventTime	Description		Time (local) at which the Agent writes the EOD Cutover event to the Transaction Journal, format hh:mm:ss	
EODCutover.EventTime	Generic	20:20:00	10 minutes grace for flushing, for clock differences and in case of Agent failover	Y
EODCutover.Wait	Description		Interval (milliseconds) between retries if no response or error response	
EODCutover.Wait	AL	60000	60 seconds	Y
EODCutover.Retry.Max	Description		Maximum number of retries to send EOD message. Zero means that the message will never be sent more than once	
EODCutover.Retry.Max	AL	5	One less than total number of attempts	Y

3.10 Miscellaneous business events and timers

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PARAMETER_NAME	APPLIES_TO	PARAMETER_TEXT	DESCRIPTION	OCC
StaleR1	Description		Parameters controlling stale [R1] messages	
StaleR1.Threshold	Description		Threshold (milliseconds) after which an [R1] message is deemed to be Stale	
StaleR1.Threshold	Generic	15000	15 seconds	Y
StaleC0	Description		Parameters controlling stale [C0] messages	
StaleC0.Threshold	Description		Threshold (milliseconds) after which a [C0] message is deemed to be Stale	
StaleC0.Threshold	Generic	15000	15 seconds	Y
Timeout	Description		Parameters controlling timeouts	
Timeout.WaitToSend	Description		Timeout while waiting for PI to become available for sending. Applies when selecting PI to route an [R3] and no PI is available. Also applies when a PI is unavailable after it was selected.	
Timeout.WaitToSend	Generic	18000	18 seconds	Y

Note that timeout for an [E2] is controlled by `Reversal.Retry.Wait`. The corresponding timeout value for an [A1] is controlled by the Reference Data item MAAWP (Maximum Authorisation Agent Wait Period), in accordance with the Contract.

END OF DOCUMENT