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Global PAYplus Version 4.6.3

Fndt Usage for Balance Inquiry Interface Message

Technical Guide

Version Control

Version	Date	Summary of Changes
1.0		Document created
2.0	December 2015	Updated for rebranding
3.0	June 2016	Updated with marking of subtrees that the order of their child elements is not mandatory

Table of Contents

1 Introduction

Note: This document has not yet been certified for GPP V4.6; therefore, there may be inaccuracies in this document that may require amendments in the future. For more information, please contact your D+H Project Manager.

1.1 Overview

This guide describes Global PAYplus (GPP)'s standard Balance Inquiry interface, between GPP and the Financial Institution's HOST responsible for providing balance check information.

GPP Standard Balance Inquiry is an XML interface based on GPP's Fndt (FuNDs Transfer) message format.

Detailed in this document is the interface structure of the Balance Inquiry interface Request and Response:

- Balance Inquiry Request (outward from GPP's perspective, to the financial institution HOST)
- Balance Inquiry Response (inward to GPP's perspective, from the financial institution HOST)

The processing, manual handling and configuration required around Balance Inquiry are not detailed in this document. For more details refer to the sections related to the Balance Inquiry Interface in the GPP Business Guide System Integration – Single Payments document.

1.2 About This Document

Information is provided for clients implementing a Balance Inquiry interface with Global PAYplus (GPP), using the GPP Fndt (FuNDs Transfer) Message Format as the base for providing transaction information, and response for providing balance check information.

1.3 Background

A standard interface was defined to streamline the process of integrating GPP with various existing systems in a bank or financial institution. In addition to providing additional fields for GPP processing, this structure supports the use of ISO 20022 or SWIFT messages embedded in the structure.

When a message is received as a SWIFT message it is included within the Fndt Message within a GPP specific wrapping XML structure, with the original text in one tag and a structured list of attributes as additional and separate tags.

1.4 Scope

The guide covers the communication protocols, field mapping, audit, contingency and recovery requirements.

1.5 References

For information about the GPP Fndt Message structure, see GPP Technical Guide Fndt Message Format.

2   Interface Structures

For the formatting and conventions in the interface detailed structure tables, the following should be taken into consideration:

- The shading in the detailed tables in this chapter marks tags, which represent subtree parents, for example, tags in level 1, 2, where leaf tags in level 3 exist under the level 1 and 2. Each level has a different shade, with the first (1) being the darkest shade and gradually getting lighter through the levels.

- For conventions, including the explanation of the values in the Presence and Format within the detailed structure tables, see Appendix B: Conventions (Including Format and Presence).

- For examples of the different requests and responses for different scenarios, see Appendix C: Examples of Requests and Responses.

2.1   Balance Inquiry Request

The following sections from the full Fndt (FuNDs Transfer) Message structure are the minimal scope to be included when it is used as a Balance Inquiry Request (additional sections can be configured to be included, if required):

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

Level 1	Level 2	Level 3	Level 4	Level 5	Description
FndtMsg					
	Header				General identifying attributes
	Msg				Transaction message and extension
		Pmnt			Pmnt quotes the transaction. When used for Balance Inquiry, it is an ISO based pain/pacs, or a SWIFT message embedded within the GPP proprietary XML structure. For more information, see GPP Technical Guide Fndt Message.
		Extn*			
			ProcessingPersistentInfo*		
				DebitSide[1]*	Debit Side Persistent Information
			BalanceCheckInf		Balance Check Information

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1 Not in the minimal scope, but included mainly for FX information that may be used in HOST

Level 1	Level 2	Level 3	Level 4	Level 5	Description
			Monitors*		Monitors. User/Services/Interface tracking monitors. **Note**: Not mandatory in initial Balance Inquiry requests. MU_NSF_FORCE_STS will be provided with 1 in case of a repeated Balance Inquiry request due to user forcing the transaction from the Insufficient Funds (NSF) queue, and MU_STOP_FLAGS_OVERRIDE_STS will be provided with O in case of a repeated Balance Inquiry request due to user forcing the transaction from the Posting Restriction (POSTREST) queue.

2.1.1   Detailed Structure when using Minimal Scope

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

For the conventions of the Presence and Format columns in this table, see Appendix B: Conventions (Including Format and Presence).

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
FndtMsg	1		+											[1..1]	Fndt (FuNDs Transfer) Message			
Header	2			+										[1..1]	Header			
contextName	3				+									[0..1]	Context Name	Generic field to add information regarding the specific usage. **Note:** Specifically for the usage for Balance Inquiry request. The value can be BalanceInquiry, or BalanceInquiry_with_Earmark.	Text {1,n}	Populate with either of: • BalanceInquiry – for a model when no earmarking is done • BalanceInquiry_with_Earmark – for a model when earmarking is done **Note:** value configured in the relevant Interface_Type entry within the CUSTOM_PROPERTIES column.
contextLocalName	3				+									[0..1]	Context Local Name	Generic optional field to add regarding the specific usage, but using the financial institution system terminology naming, in case such a local name exists and is required for the identification on the financial institution side.	Text {1,n}	If required – populate with specific local context string
credentials	3				+									[0..1]	Credentials	Credentials when required.		
UserID	4					+								[0..1]	User ID	User ID	Text {1,8}	Populate with User Id
Role	4					+								[0..1]	Role	Role	Text {1,50}	Populate with User Role

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
D_SKIP_PERSIST_ON_ERROR	3				+								[0..1]	Skip Persist On Error Indicator	An indication whether to store the transaction details when an error or errors were found	[1,0] {1, 1}	Populate with 02
Workflow	3				+								[0..1]	Workflow	Defined for mass processing. The valid values are Template, File or Swift.	Text {1,50}	Populate with - TBD
P_MID	3				+								[0..1]	GPP Message Identifier	The Internal GPP message Identifier.	Text {1,16}	Map from **P_MID** (logical field P_MID)
deliveryTimestamp	3				+								[0..1]	Deliver Timestamp	The Timestamp when the request was created.	ISO Date Time	Populate with Office Date Time
P_INIT_SRC_ID	3				+								[0..1]	Initiating Source System Id	The ID of the source system initiating the request/response.	Text {1,50}	Populate with GPP
EventID	3				+								[0..1]	Event ID	Unique 16 characters event ID generated for each interface request. This ID is used to identify a resent request (EventID is as in the original request), from a new request issued due to force or retry (EventID quotes a new value).	Text {1,16}	Map from D_MEI_EVENT_ID if the INTERFACE_TYPES.EVENT_ID_GENERATION is configured with 1 for the INTERFACE_TYPE entry for this request
Msg	2			+									[1..1]	Message			
Pmnt	3				+								[0..1]	Transaction	ISO or SWIFT message text that is stored in an XML structure in the XML_MSG.		The entire transaction is mapped from MINF.XML_MSG
Extn*	3				+								[1..1]	Extension			
ProcessingPersistentInfo*	4					+							[1..1]	ProcessingPersistentInfo	Transaction derived attributes relevant to the transaction information.		

2 Not skip the saving of the message in case of error invoking the Balance Inquiry request

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
DebitSide*	5						+						[0..1]	Debit Side Persistent Info	Information on the Debit side. **Note:** This section includes optional additional information that is not part of the minimal scope, but may be required in some case, for instance for rechecking the FX calculations. **Note:** Although the quote of the different accounts to be balance checked (principal debit account and fee account) is included in this section in the full Fndt Message structure, in the minimal scope for this usage, these accounts are quoted within <BalanceCheckInf> sub-tree. The sub-tree includes all the BI information, information sent to HOST and information received back from HOST.		
P_DBT_MID_RAT E	6							+					[0..1]	Debit Mid Rate	The debit side mid-rate used to compute the base amount of the debit side FX calculation, if FX was involved in this transaction.	fractionDig its 10 totalDigits 18	Mapped from MINF.P_DBT_MID_RATE (logical field P_DBT_MID_RATE)
P_DBT_ RATE	6							+					[0..1]	Debit Rate	The debit side rate used for the debit side FX calculation, if FX was involved in this transaction.	fractionDig its 10 totalDigits 18	Mapped from MINF.P_DBT_ RATE (logical field P_DBT_ RATE)
P_DBT_RATE_U SAGE_NM	6							+					[0..1]	Debit Rate Usage Name	The name of the Rate Usage profile selected to be used for debit side FX calculation, if FX was involved in this transaction.	Text {1,40}	Mapped from MINF.P_DBT_RATE_USAGE_NM (logical field P_DBT_RATE_USAGE_NM)
P_DBT_SPREAD	6							+					[0..1]	Debit Spread	Debit spread - the max difference in rate between the standard (or quoted) rate and the rate given to the customer on the debit side.	fractionDig its 3 totalDigits 18	Mapped from MINF.P_DBT_SPREAD (logical field P_DBT_SPREAD)
P_DBT_CROSS_ CONV	6							+					[0..1]	Debit Cross Conversion Indicator	An indicator whether cross conversion was required for the debit side FX calculation, if FX was involved in this transaction.	[1,0] {1, 1}	Mapped from MINF.P_DBT_CROSS_CONV (logical field P_DBT_CROSS_CONV)

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
P_DBT_TRIANGU LATION_CCY	6							+					[0..1]	Debit Triangulation Currency	The triangulation currency used for cross conversion debit side FX calculation, if cross conversion FX was involved in this transaction.	[A-Z] {3, 3}	Mapped from MINF.P_DBT_TRIANGULATION_CCY (logical field P_DBT_TRIANGULATION_CCY)
P_DBT_AMT_ST EP1	6							+					[0..1]	Debit Amount Step1	The amount calculated on the first step of the cross conversion debit side FX calculation, if cross conversion FX was involved in this transaction.	fractionDig its 3 totalDigits 18	Mapped from MINF.P_DBT_AMT_STEP1 (logical field P_DBT_AMT_STEP1)
P_DBT_RATE_ST EP1	6							+					[0..1]	Debit Rate Step1	The rate used on the first step of the cross conversion debit side FX calculation, if cross conversion FX was involved in this transaction.	fractionDig its 10 totalDigits 18	Mapped from MINF.P_DBT_RATE_STEP1 (logical field P_DBT_RATE_STEP1)
P_DBT_RATE_ST EP2	6							+					[0..1]	Debit Rate Step2	The rate used on the second step of the cross conversion debit side FX calculation, if cross conversion FX was involved in this transaction.	fractionDig its 10 totalDigits 18	Mapped from MINF.P_DBT_RATE_STEP2 (logical field P_DBT_RATE_STEP2)
BalanceCheckInf	4					+							[0..1]	Balance Check Information	Information previously received from a Balance Inquiry response.		
M_BI_INFO_LINE	5						+						[0..n]	BI information Line			
F_BI_INFO_DEBI T_TYPE	6							+					[0..1]	Debit Type	The type of the amount on which balance check is requested - either MAIN or FEE.	Text {1, 10}	If amount is the principal debit amount – Populate with MAIN If amount is fee - Populate with FEE

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_ACC NO	6							+					[0..1]	Account Number	The account number to be validated.	Text {1,34}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_ACCT_NB (logical field P_DBT_ACCT_NB) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from MINF.P_DBT_FEE_ACCT_NB (logical field P_DBT_FEE_ACCT_NB) - fee side debit account - if is specified, otherwise - use MINF.P_DBT_ACCT_NB (logical field P_DBT_ACCT_NB) - principal debit account
F_BI_INFO_ACC_ CURRENCY	6							+					[0..1]	Account Currency	The currency of the account.	[A-Z] {3, 3}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_FEE_ACCT_CCY (logical field P_DBT_ACCT_CCY) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from Msg_Fees.Fee_Currency3 in all entries of appropriate subset of Msg_Fees entries

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3 All of these should be in same currency since they relate to one customer's fee account's currency, or the customer's principal account's currency.

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_ACC_ OFFICE	6							+					[0..1]	Account Office	The office of the account.	[A-Z,0-1] {3, 3}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_ACCT_OFFICE (logical field P_DBT_ACCT_OFFICE) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from MINF.P_DBT_FEE_ACCT_OFFICE (logical field P_DBT_FEE_ACCT_OFFICE) - fee side debit account - if is specified, otherwise - use MINF.P_DBT_ACCT_OFFICE (logical field P_DBT_ACCT_OFFICE) - principal debit account
F_BI_INFO_ACC_ TRNS_CD	6							+					[0..1]	Account Transaction Code	The transaction code associated with the account that the balance check is on. The source for this attribute is as follows: • For Principal account it is populated with the debit transaction code selected using the Debit transaction code rules. • For fee account it is populated with the transaction code of the relevant Fee Formula.	[A-Z,0-1] {3, 3}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_TX_CD (logical field P_DBT_TX_CD) • If <F_BI_INFO_DEBIT_TYPE> = FEE - Mapped from FEE_FORMULA.FEE_TX_CD

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_BOO KING_ENT	6							+					[0..1]	Booking Entity	The Booking Entity (accounting system) that the account is managed in. The source for this attribute is: • For Principal account, if it is from the Account object containing the information for the debit account – either from its GPP DB Account entry or received from Account lookup. • For fee account: if it is same as principal account, then same source. If it is a different account it is only populated from its GPP DB Account entry.		• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from the Account object BOOKNG_ENT field • If <F_BI_INFO_DEBIT_TYPE> = FEE - Mapped from: • If same as principal account – then same source • If different - from ACCOUNTS.BOOKNG_ENT of entry for the fee account
F_BI_INFO_AMO UNT	6							+					[0..1]	Amount	The amount on which balance check is requested.	fractionDig its 3 totalDigits 18	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_AMT (logical field P_DBT_AMT) • If <F_BI_INFO_DEBIT_TYPE> = FEE - Sum of Msg_Fees.Fee_Acc_Amount in all entries of appropriate subset of Msg_Fees entries
F_BI_INFO_VALU E_DATE	6							+					[0..1]	Value Date	Value date for which the balance was checked.	ISO Date	Mapped from MINF.P_DBT_VD (logical field P_DBT_VD)

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_EAR MARK_REF	6							+					[0..1]	Earmark Reference	Earmark reference returned from the Balance Inquiry response (if already returned).	Text {1,50}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from logical field P_BI_MAIN_ERAMARK_REF, if not empty4 • If <F_BI_INFO_DEBIT_TYPE> = FEE - Mapped from logical field P_BI_FEE_ERAMARK_REF, if not empty

4 It will not be empty, when the current Balance Inquiry invocation is not the first one performed during the processing of this transaction. Earmark Reference needs to be reported to the HOST system to allow updating the earmarking per up-to-date details.

2.2   Earmark Release Request

The following sections from the full Fndt (FuNDs Transfer) Message structure are the minimal scope to be included when it is used as an Earmark Release Request (additional sections can be configured to be included, if required):

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

Level 1	Level 2	Level 3	Level 4	Level 5	Description
FndtMsg					
	Header				General identifying attributes
	Msg				Transaction message and extension
		Pmnt			Pmnt quotes the transaction. When used for Balance Inquiry, it is an ISO based pain/pacs, or a SWIFT message embedded within the GPP proprietary XML structure. For more information, see GPP Technical Guide Fndt Message.
		Extn*			
			Balance Check Information		Section holding the information received from the HOST on the Balance Inquiry response (including the earmark reference, if returned)

2.2.1 Detailed Structure when using Minimal Scope

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

For the conventions of the Presence and Format columns in this table, see Appendix B: Conventions (Including Format and Presence).

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
FndtMsg	1		+										[1..1]	Fndt (FuNDs Transfer) Message			
Header	2			+									[1..1]	Header			
contextName	3				+								[0..1]	Context Name	Generic field to add information regarding the specific usage. Specifically for the usage for Earmark Release request, the value will be EarmarkRelease.	Text {1,n}	Populate with EarmarkRelease – for a case earmarking was done, but needs to be released – e.g. if message was canceled during processing after earmarking was registered for it **Note**: value configured in the relevant Interface_Type entry within the CUSTOM_PROPERTIES column.
contextLocalName	3				+								[0..1]	Context Local Name	Generic optional field to add regarding the specific usage, but using the financial institution system terminology naming, in case such a local name exists and is required for the identification on the financial institution side.	Text {1,n}	If required – populate with specific local context string
credentials	3				+								[0..1]	Credentials	Credentials when required.		
UserID	4					+							[0..1]	User ID	User ID	Text {1,8}	Populate with User Id
Role	4					+							[0..1]	Role	Role	Text {1,50}	Populate with User Role

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
D_SKIP_PERSIST_ON_ERROR	3				+								[0..1]	Skip Persist On Error Indicator	An indication whether to store the transaction details when an error or errors were found.	[1,0] {1, 1}	Populate with 05
Workflow	3				+								[0..1]	Workflow	Defined for mass processing. The valid values are Template, File or Swift.	Text {1,50}	Populate with - TBD
P_MID	3				+								[0..1]	GPP Message Identifier	The Internal GPP message Identifier.	Text {1,16}	Map from **P_MID** (logical field P_MID)
deliveryTimestamp	3				+								[0..1]	Deliver Timestamp	The Timestamp when either the request or the response was created. **Note:** As per specific integration, if matching between response and its request is not done using MQ Correlation ID, this tag can be used as part of the matching key when quoting the timestamp of the request. If MQ Correlation ID is used for matching, this tag can quote the timestamp when the response was created.	ISO Date Time	Populate either with <deliveryTimestamp> from request or with current Timestamp
P_INIT_SRC_ID	3				+								[0..1]	Initiating Source System Id	The ID of the source system initiating the request/response.	Text {1,50}	Populate with GPP

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5 Not skip the saving of the message in case of error invoking the Balance Inquiry request

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Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
EventID	3				+								[0..1]	Event ID	Unique 16 characters event ID generated for each interface request. This ID is used to identify a resent request (EventID is as in the original request), from a new request issued due to force or retry (EventID quotes a new value). **Note**: the Event ID of the earmark release will not quote the Event ID of the original Balance Inquiry request, but rather a new unique ID.	Text {1,16}	Map from D_MEI_EVENT_ID if the INTERFACE_TYPES.EVENT_ID_GENERATION is configured with 1 for the INTERFACE_TYPE entry for this request
Msg	2			+									[1..1]	Message			
Pmnt	3				+								[0..1]	Transaction	ISO or SWIFT message text that is stored in an XML structure in the XML_MSG.		The entire transaction is mapped from MINF.XML_MSG
Extn*	3				+								[1..1]	Extension			
BalanceCheckInf	4					+							[0..1]	Balance Check Information	Information previously received from a Balance Inquiry response.		
M_BI_INFO_LINE	5						+						[0..n]	BI information Line			
F_BI_INFO_DEBIT_TYPE	6							+					[0..1]	Debit Type	The type of the amount on which balance check is requested - either MAIN or FEE.	Text {1, 10}	• If amount is the principal debit amount – Populate with MAIN • If amount is fee – Populate with FEE

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_ACC NO	6							+					[0..1]	Account Number	The account number to be validated.	Text {1,34}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_ACCT_NB (logical field P_DBT_ACCT_NB) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from MINF.P_DBT_FEE_ACCT_NB (logical field P_DBT_FEE_ACCT_NB) - fee side debit account - if is specified, otherwise - use MINF.P_DBT_ACCT_NB (logical field P_DBT_ACCT_NB) - principal debit account
F_BI_INFO_ACC _CURRENCY	6							+					[0..1]	Account Currency	The currency of the account.	[A-Z] {3, 3}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_FEE_ACCT_CCY (logical field P_DBT_ACCT_CCY) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from Msg_Fees.Fee_Currency6 in all entries of appropriate subset of Msg_Fees entries.

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6 All of these should be in same currency since they relate to one customer's fee account's currency, or the customer's principal account's currency

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_ACC _OFFICE	6							+					[0..1]	Account Office	The office of the account.	[A-Z,0-1] {3, 3}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_ACCT_OFFICE (logical field P_DBT_ACCT_OFFICE) • If <F_BI_INFO_DEBIT_TYPE> = FEE – Mapped from MINF.P_DBT_FEE_ACCT_OFFICE (logical field P_DBT_FEE_ACCT_OFFICE) - fee side debit account - if is specified, otherwise - use MINF.P_DBT_ACCT_OFFICE (logical field P_DBT_ACCT_OFFICE) - principal debit account
F_BI_INFO_AMO UNT	6							+					[0..1]	Amount	The amount on which balance check is requested.	fractionDig its 3 totalDigits 18	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from MINF.P_DBT_AMT (logical field P_DBT_AMT) • If <F_BI_INFO_DEBIT_TYPE> = FEE - Sum of Msg_Fees.Fee_Acc_Amount in all entries of appropriate subset of Msg_Fees entries
F_BI_INFO_VAL UE_DATE	6							+					[0..1]	Value Date	Value date for which the balance was checked.	ISO Date	Mapped from MINF.P_DBT_VD (logical field P_DBT_VD)
F_BI_INFO_EAR MARK_REF	6							+					[0..1]	Earmark Reference	Earmark reference returned from the Balance Inquiry response.	Text {1,50}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Mapped from logical field P_BI_MAIN_ERAMARK_REF • If <F_BI_INFO_DEBIT_TYPE> = FEE - Mapped from logical field P_BI_FEE_ERAMARK_REF

2.3 Balance Inquiry Response

The following sections from the full Fndt (FuNDs Transfer) Message structure are the minimal scope to be included in a Balance Inquiry Response (additional sections can be configured to be included, if required):

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

Level 1	Level 2	Level 3	Level 4	Level 5	Description
FndtMsg					
	Header				General identifying attributes
	Msg				Transaction message and extension
		Pmnt			Pmnt quotes the transaction. When used for Balance Inquiry, it is an ISO based pain/pacs, or a SWIFT message embedded within the GPP proprietary XML structure. For more information, see GPP Technical Guide Fndt Message.
		Extn*			
			ReferenceData		Transaction related profile reference data.
				M_DBT_ACCOUNT	Debit Account Information, mainly Stop Flags /Posting Restrictions on the debit account. Populated in the Balance Inquiry response.
				M_DBT_CUST_PROFILE	Debit Party Profile Information, mainly Stop Flags / Posting Restrictions on the debit customer. Populated in the Balance Inquiry response.
			BalanceCheckInf		Balance Check Information
	ResponseDetails				Applicable for Interface Responses

2.3.1   Detailed Structure when using Minimal Scope

Notes:
- The Pmnt section appears in this table, since it is recommended for readability to include it. However, it can be excluded.
- When a sub-tree tag is marked with * - the elements underneath it can appear in any order. That is the XSD definition of the list of elements is 'all' and not 'sequence.'

For the conventions of the Presence and Format columns in this table, see Appendix B: Conventions (Including Format and Presence).

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
FndtMsg	1		+											[1..1]	Fndt (FuNDs Transfer) Message			
Header	2			+										[1..1]	Header			
contextName	3				+									[0..1]	Context Name	Generic field to add information regarding the specific usage. **Note:** Specifically for the usage for Balance Inquiry/Earmark Release response. The value can be one of the following: • BalanceInquiry • BalanceInquiry_with_ Earmark • EarmarkRelease	Text {1,n}	Populate with value in <ContexName> in the request - either of: • BalanceInquiry – for a model when no earmarking is done • BalanceInquiry_with_Ear mark – for a model when earmarking is done • EarmarkRelease – for a case when earmarking was done but needs to be released, for example, if message was canceled during processing after earmarking was registered for it

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
contextLocalName	3				+								[0..1]	Context Local Name	Generic optional field to add regarding the specific usage, but using the financial institution system terminology naming, in case such a local name exists and is required for the identification on the financial institution side.	Text {1,n}	If required, populate with specific local context string
credentials	3				+								[0..1]	Credentials	Credentials when required.		Not required in the response. Can be omitted
UserID	4					+							[0..1]	User ID	User ID	Text {1,8}	N/A
Role	4					+							[0..1]	Role	Role	Text {1,50}	N/A
D_SKIP_PERSIST_ON_ERROR	3				+								[0..1]	Skip Persist On Error Indicator	An indication whether to store the transaction details when an error or errors were found.	[1,0] {1,1}	Not required in the response. Can be omitted
Workflow	3				+								[0..1]	Workflow	Defined for mass processing. The valid values are Template, File, or Swift.	Text {1,50}	Populate with - TBD
P_MID	3				+								[0..1]	GPP Message Identifier	The Internal GPP message Identifier.	Text {1,16}	Populated with value in <P_MID> in the request. Can be used for matching in GPP

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
deliveryTimestamp	3				+								[0..1]	Deliver Timestamp	The Timestamp when either the request or the response was created. **Note:** As per specific integration - If matching between response and its request is not done using MQ Correlation ID – this tag can be used as part of the matching key – when quoting the timestamp of the request. If MQ Correlation ID is used for matching – this tag can quote the timestamp when the response was created.	ISO Date Time	Populate either with <deliveryTimestamp> from request or with current Timestamp
P_INIT_SRC_ID	3				+								[0..1]	Initiating Source System Id	The ID of the source system initiating the request/response.	Text {1,50}	Populate with a code of the HOST system Will not be used in GPP
EventID	3				+								[0..1]	Event ID	Unique 16-chars event ID generated for each interface request.	Text {1,16}	Can be copied from request. Currently not used in GPP for matching with request, so not mandatory
Msg	2			+									[1..1]	Message			
Pmnt	3				+								[0..1]	Payment	ISO or SWIFT message text that is stored in an XML structure in the XML_MSG.		Optionally can b populated with value in <Pmnt> in the request, or omitted Will not be used in GPP
Extn*	3				+								[1..1]	Extension			
ReferenceData	4					+							[0..1]	Reference Data	**Note:** For the Balance Inquiry response usage the only information returned within this section will be the debit Stop Flags/Posting Restrictions information.		
M_DBT_ACCOUNT	5						+						[0..1]	Debit Account	Debit Account Details		

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_DBT_ACCT_STOPFLAGDR	6							+					[0..1]	Debit Stop Flag / Posting Restriction on Debit Account on indication	Indicates that there is a debit Stop Flag/Posting Restriction set on the debit account. **Note:** Specific reason indicated in the next tag.	[1,0] {1,1}	
F_DBT_ACCT_REASONDR	6							+					[0..1]	Debit Stop Flag / Posting Restriction on Debit Account Reason	The code/reason for the debit Stop Flag/Posting Restriction set on the debit account. **Note:** Codes provided should quote values already configured in GPP as Stop Flags.	Text {1,35}	
M_DBT_CUST_PROFILE	5						+						[0..1]	Debit Customer	Debit Customer Details		
F_DBT_CUST_STOPFLAGFROM	6							+					[0..1]	Debit Stop Flag / Posting Restriction on Debit Customer indication	Indicates that there is a debit Stop Flag / Posting Restriction set on the debit customer. **Note:** Specific reason indicated in the next tag.	[1,0] {1,1}	
F_DBT_CUST_FROMREASON	6							+					[0..1]	Debit Stop Flag / Posting Restriction on Debit Customer Reason	The code / reason for the debit Stop Flag / Posting Restriction set on the debit customer. **Note:** Codes provided should quote values already configured in GPP as Stop Flags.	Text {1,35}	
BalanceCheckInf	4					+							[0..1]	Balance Check Information	**Note:** May be omitted in case of failed response.		
M_BI_INFO_LINE	5						+						[0..n]	BI information Line			The first tags of this section, all but the <F_BI_INFO_EARMARK_REF> and <F_BI_INFO_BALANCE> - should be received back populated with values in the request

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
F_BI_INFO_DEBIT_TYPE	6							+					[0..1]	Debit Type	The type of the amount on which balance check is requested - either MAIN or FEE.	Text {1, 10}	GPP will map the earmark reference and balance to appropriate logical fields (FEE or MAIN) based on the value in this tag
F_BI_INFO_ACCNO	6							+					[0..1]	Account Number	The account number to be validated.	Text {1,34}	
F_BI_INFO_ACC_CURRENCY	6							+					[0..1]	Account Currency	The currency of the account.	[A-Z] {3, 3}	
F_BI_INFO_ACC_OFFICE	6							+					[0..1]	Account Office	The office of the account.	[A-Z,0-1] {3, 3}	
F_BI_INFO_AMOUNT	6							+					[0..1]	Amount	The amount on which balance check is requested.	fractionDigits 3 totalDigits 18	
F_BI_INFO_VALUE_DATE	6							+					[0..1]	Value Date	Value date for which the balance was checked.	ISO Date	
F_BI_INFO_BALANCE	6							+					[0..1]	Balance	Balance per the account quoted in <F_BI_INFO_ACCNO>, returned from the Balance Inquiry interface (if returned).	Text {1,50}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Map to logical field P_BI_DBT_ACC_BALANCE • If <F_BI_INFO_DEBIT_TYPE> = FEE - Map to logical field P_BI_FEE_ACC_BALANCE
F_BI_INFO_EARMARK_REF	6							+					[0..1]	Earmark Reference	Earmark reference returned from the Balance Inquiry interface (if returned).	Text {1,50}	• If <F_BI_INFO_DEBIT_TYPE> = MAIN - Map to logical field P_BI_MAIN_ERAMARK_REF • If <F_BI_INFO_DEBIT_TYPE> = FEE - Map to logical field P_BI_FEE_ERAMARK_REF

Tag	L	0	1	2	3	4	5	6	7	8	9	10	Presence	Element	Description	Format	Mapped From/Into GPP Table and Field
ResponseDetails	2			+									[1..1]	Response Details			
returnCode	3				+								[1..1]	Return Code	The return code to indicate success (1), wait for final response (200), or failure (any other code) of Balance Inquiry. **Note:** any failure can be marked with 0, but it is preferable to use more specific codes to distinguish between NSF failure and any other failure. Mapping between financial institution codes and GPP internal codes should be configured to allow usage of the financial institution codes.	[0-9] {1, 5}	
description	3				+								[0..1]	Description	The description of the return code. Relevant only for a failure (not 1) <returnCode>.	Text {1,250}	
errorsList	3				+								[0..n]	Error List	List of errors for this response.		
error	4					+							[1..1]	Error			
code	5						+						[1..1]	Code	The return code to indicate one of multiple failure codes of Balance Inquiry.	[0-9] {1, 5}	
description	5						+						[0..1]	Description	The description of the failure code.	Text {1,250}	
dataArray	3				+								[0..n]	Data Array	List of additional information entries, if required.		
data	4					+							[0..1]	Data	Additional information entry.	Text {1,250}	

Note: Although the interface supports receiving proprietary return codes for the various failure responses, as long as the appropriate mapping between financial institution's codes and GPP internal codes is pre-configured, When using the Standard Fndt Message FI can also directly use the GPP internal numeric return codes listed as follows:

- 1 – to indicate a Success
- 990 – to indicate a Processing/technical error
- 995 – to indicate Insufficient funds
- 996 – to indicate a Posting restriction
- 0 – to indicate any error when no specific error handling is required but routing transaction to Repair

3   Usage

For more information on logic related to STP processing and invocation points of the Balance Inquiry request, usage of the information provided in the Balance Inquiry response interface, related manual handling and related configuration see Balance Inquiry Interface section in the GPP Business Guide System Integration – Single Payment document.

Appendix A: Glossary of Terms

This table lists the terms used in this guide.

Term	Description
Fndt Message	The FuNDs Transfer message structure is a GPP specific XML structure that is comprising of the full set of information as received, enriched, computed or manually updated per message. This structure is used as part of the standard interfaces for interacting with financial institution systems.
ISO	International organization for standards.

The prefix convention for naming transaction attribute fields is described in this table:

Prefix	Meaning	Explanation
T_	Tree	Place holder in the tree view that hold the relevant associated information. For example: T_PARTIES holds all of the transaction parties.
X_	XML	ISO (<pmnt>) information that is stored in an XML structure in the XML_MSG.
OX_	Original XML	Copy of the originally received XML transaction (<pmnt>) information that is stored in an XML structure in ORIG_XML_MSG.
OC_	Original Copy of XML field	Prefix used if there is more than one way to receive specific data. Example: OX_CDTR_AGT_BIC_1OR or OX_CDTR_AGT_BIC_2AND. GPP copies the data into OC_CDTR_AGT_BIC to facilitate determining whether creditor agent BIC was provided or not. Relevant only for originally received attributes.
P_	Process	GPP extension field for transaction data that cannot be placed in the ISO standard format. Commonly used attributes: P_MID, P_OFFICE, etc.
F_	GPP derived payment attribute	Derived attribute that are taken from the static data profile that is associated with transaction details. For example, after P_CDT_MOP is determined, the related credit MOP profile attributes are set in these fields. Examples: F_CDT_MOP_NM is the credit MOP name derived from the credit MOP value. F_MOP_NM is associated with the debit MOP.
D_	Derived	Derived attributes that are calculated 'on the fly' while the GPP service is calculating the information. Derived fields are not stored in the transaction after processing is completed, or stopped for manual handling or wait. Therefore, they usually cannot be used as a condition in business rules.

Prefix	Meaning	Explanation
MU MF MI	User Monitor Flow (service) monitor Interface monitor	Monitors are divided into three categories: • User monitors that track the user action over the UI such as forcing a transaction out of the insufficient funds queue • Workflow monitors, which are internal monitors in the code that track the payment processing flow • Interface monitors that monitor interface interactions These P_ field attributes hold the monitor statuses strings for every transaction. P_USER_STATE_MONITOR - for User Monitors – MU_ prefix P_SERVICE_STATE_MONITOR - for Flow Monitors – MF_ prefix P_INTERFACE_STATE_MONITOR - for Interface Monitors – MI_ prefix The location of each monitor in the field is defined by LOGICAL_FIELDS.LOCATION. The first location is 0 (zero). Example of a monitor string P_ field value: XXXXXXXXXXXXXXXXXXXT. The following SQL can be used to check the full list of monitors as per their monitor P_field and their location: select lf.obj_ref_data_id, lf.location, lf.* from logical_fields lf where lf.obj_ref_data_id like %MONITOR order by 1,2

Appendix B: Conventions (Including Format and Presence)

This table details naming conventions used within the document.

Term	Meaning
Tag name in Bold	Indicate Aggregates
ISO Date Time	Date Time formats defined as ISO Date Time will conform to ISO8601. Representation: **ISO Date Time with milliseconds:** YYYY-MM-DD [T] {0,1} HH:MM:SS.mmm [Z,-,+] {1,1} HH:MM {0,1} **ISO Date Time without milliseconds:** YYYY-MM-DD [T] {0,1} HH:MM:SS [Z,-,+] {1,1} HH:MM {0,1} Where: YYYY is the year MM is the month (01 - 12) DD is the day (01 - 31) T is a literal separator between the date and time portions (optional) HH is the hour in 24 hour time MM is the minutes SS is the seconds mmm is the milliseconds Z is the time zone designator: Z for when time is in UTC time, OR +HH:MM; OR or - HH:MM
ISO Date	Date formats defined as ISO Date Time will conform to ISO8601. Representation: YYYY-MM-DD Where: YYYY is the year MM is the month (01 - 12) DD is the day (01 - 31)
ISO Decimal Values	Decimal values defined as ISO Decimal Values will use the ISO format definition using fractionDigits and totalDigits Where: totalDigits defines the total number of digits in the number (on both sides of the decimal point) fractionDigits defines the number of digits to the right of the decimal point (the fraction)
SWIFT Date	Date formats defined as SWIFT Date will conform to SWIFT representation: YYMMDD Where: YY is the year MM is the month (01 - 12) DD is the day (01 - 31)

Term	Meaning
SWIFT Decimal Values	Decimal values defined as SWIFT Decimal Values will use the SWIFT representation of digits and a comma acting as the decimal separator between the fraction and the full number
Presence (Cardinality)	0..1 means Optional 1..1 means Required 0..n means Optional and may have multiple occurrences (limited to specified n) 1..n means required and may have multiple occurrences (limited to specified n)
String format	[character set] {min length, max length] [A-Z] means only upper letter characters [a-z] means only lower letter characters [0-9] means only digits [A-Za-z] means upper and lower letter characters Text means all characters {1,6} means a string at least one character long and no longer than 6 characters

Appendix C: Examples of Requests and Responses

C.1 Balance Inquiry Request without Earmark

This is an example of a Balance Inquiry request that does not ask for an Earmark in the response.

```xml
<FndtMsg>
    <Header>
        <contextName>BalanceInquiry</contextName>
        <contextLocalName>BALINQ</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
        <EventID>1112223334445556</EventID>
    </Header>
    <Msg>
        <Pmnt>
            …
        </Pmnt>
        <Extn>
            <ProcessingPersistentInfo>
                <DebitSide>
                    <P_DBT_MID_RATE>1.67</P_DBT_MID_RATE>
                    <P_DBT_RATE>1.67</P_DBT_RATE>
                    <P_DBT_RATE_USAGE_NM>Regular</P_DBT_RATE_USAGE_NM>
                    <P_DBT_SPREAD>0.5</P_DBT_SPREAD>
                    <P_DBT_CROSS_CONV>0</P_DBT_CROSS_CONV>
                </DebitSide>
            </ProcessingPersistentInfo>
            <BalanceCheckInf>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
                    <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_ACC_TRANS_CD>TRN_DR</F_BI_INFO_ACC_TRANS_CD>
                    <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
```

```xml
                    <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
                </M_BI_INFO_LINE>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
                    <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_ACC_TRANS_CD>TRN_FDR</F_BI_INFO_ACC_TRANS_CD>
                    <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
                    <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
                </M_BI_INFO_LINE>
            </BalanceCheckInf>
        </Extn>
    </Msg>
</FndtMsg>
```

C.2 Balance Inquiry Request without Earmark After User Action of Force NSF

This is an example of a Balance Inquiry request that does not ask for an Earmark in the response, and that is recreated and sent after a user clicked the Force Ins. Funds button in the Insufficient Funds (NSF) queue.

```xml
<FndtMsg>
    <Header>
        <contextName>BalanceInquiry</contextName>
        <contextLocalName>BALINQ</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
        <EventID>1112223334445557</EventID>
    </Header>
    <Msg>
        <Pmnt>
            …
        </Pmnt>
        <Extn>
```

```xml
<ProcessingPersistentInfo>
    <DebitSide>
        <P_DBT_MID_RATE>1.67</P_DBT_MID_RATE>
        <P_DBT_RATE>1.67</P_DBT_RATE>
        <P_DBT_RATE_USAGE_NM>Regular</P_DBT_RATE_USAGE_NM>
        <P_DBT_SPREAD>0.5</P_DBT_SPREAD>
        <P_DBT_CROSS_CONV>0</P_DBT_CROSS_CONV>
    </DebitSide>
</ProcessingPersistentInfo>
<BalanceCheckInf>
    <M_BI_INFO_LINE>
        <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
        <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
        <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
        <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
        <F_BI_INFO_ACC_TRANS_CD>TRN_DR</F_BI_INFO_ACC_TRANS_CD>
        <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>

        <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
        <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
    </M_BI_INFO_LINE>
    <M_BI_INFO_LINE>
        <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
        <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
        <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
        <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
        <F_BI_INFO_ACC_TRANS_CD>TRN_FDR</F_BI_INFO_ACC_TRANS_CD>
        <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
        <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
        <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
    </M_BI_INFO_LINE>
</BalanceCheckInf>
<Monitors>
    <UserMonitor>
        <MU_NSF_FORCE_STS>1</MU_NSF_FORCE_STS>
    </UserMonitor >
</Monitors>
</Extn>
</Msg>
</FndtMsg>
```

C.3 Balance Inquiry Request without Earmark After User Action of Override Posting Restriction

This is an example of a Balance Inquiry request that does not ask for an Earmark in the response, and that is recreated and sent after a user clicked the Override button in the Posting Restriction (POSTREST) queue.

```xml
<FndtMsg>
    <Header>
        <contextName>BalanceInquiry</contextName>
        <contextLocalName>BALINQ</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
        <EventID>1112223334445557</EventID>
    </Header>
    <Msg>
        <Pmnt>
            …
        </Pmnt>
        <Extn>
            <ProcessingPersistentInfo>
                <DebitSide>
                    <P_DBT_MID_RATE>1.67</P_DBT_MID_RATE>
                    <P_DBT_RATE>1.67</P_DBT_RATE>
                    <P_DBT_RATE_USAGE_NM>Regular</P_DBT_RATE_USAGE_NM>
                    <P_DBT_SPREAD>0.5</P_DBT_SPREAD>
                    <P_DBT_CROSS_CONV>0</P_DBT_CROSS_CONV>
                </DebitSide>
            </ProcessingPersistentInfo>
            <BalanceCheckInf>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
                    <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_ACC_TRANS_CD>TRN_DR</F_BI_INFO_ACC_TRANS_CD>
                    <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
                    <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
```

```
                    </M_BI_INFO_LINE>
                    <M_BI_INFO_LINE>
                        <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
                        <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
                        <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
                        <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                        <F_BI_INFO_ACC_TRANS_CD>TRN_FDR</F_BI_INFO_ACC_TRANS_CD>
                        <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
                        <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
                        <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
                    </M_BI_INFO_LINE>
                </BalanceCheckInf>
                <Monitors>
                    <UserMonitor>
                        <MU_STOP_FLAGS_OVERRIDE_STS>O</MU_STOP_FLAGS_OVERRIDE_STS>
                    </UserMonitor >
                </Monitors>
            </Extn>
        </Msg>
    </FndtMsg>
```

C.4 Balance Inquiry Request with Earmark

This is an example of a Balance Inquiry request that does ask for an Earmark in the response.

```
    <FndtMsg>
        <Header>
            <contextName>BalanceInquiry_with_Earmark</contextName>
            <contextLocalName>BALINQ</contextLocalName>
            <credentials>
                <UserID>String</UserID>
                <Role>String</Role>
            </credentials>
            <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
            <Workflow>String</Workflow>
            <P_MID forCreation="false">11209G4837O30871</P_MID>
            <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
            <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
            <EventID>1112223334445556</EventID>
        </Header>
        <Msg>
            <Pmnt>
                …
            </Pmnt>
```

```xml
<Extn>
    <ProcessingPersistentInfo>
        <DebitSide>
            <P_DBT_MID_RATE>1.67</P_DBT_MID_RATE>
            <P_DBT_RATE>1.67</P_DBT_RATE>
            <P_DBT_RATE_USAGE_NM>Regular</P_DBT_RATE_USAGE_NM>
            <P_DBT_SPREAD>0.5</P_DBT_SPREAD>
            <P_DBT_CROSS_CONV>0</P_DBT_CROSS_CONV>
        </DebitSide>
    </ProcessingPersistentInfo>
    <BalanceCheckInf>
        <M_BI_INFO_LINE>
            <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
            <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
            <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
            <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
            <F_BI_INFO_ACC_TRANS_CD>TRN_DR</F_BI_INFO_ACC_TRANS_CD>
            <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
            <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
            <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
        </M_BI_INFO_LINE>
        <M_BI_INFO_LINE>
            <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
            <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
            <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
            <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
            <F_BI_INFO_ACC_TRANS_CD>TRN_FDR</F_BI_INFO_ACC_TRANS_CD>
            <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
            <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
            <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
        </M_BI_INFO_LINE>
    </BalanceCheckInf>
</Extn>
</Msg>
</FndtMsg>
```

C.5 Earmark Release Request

This is an example of an Earmark Release request when a message was canceled after the Balance Inquiry invocation and the funds were earmarked on the financial institution's system and need to be released. In this scenario, only the principal amount was earmarked (no Earmark reference was returned for the Fee occurrence of the Balance Inquiry response) and therefore, the Fee occurrence is sent back to the financial institution's system as part of this release, but with no Earmark reference tag.

```xml
<FndtMsg>
    <Header>
        <contextName>EarmarkRelease</contextName>
        <contextLocalName>FREE_EARMARK</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
        <EventID>8882223334445556</EventID>
    </Header>
    <Msg>
        <Pmnt>
            …
        </Pmnt>
        <Extn>
            <BalanceCheckInf>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
                    <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_ACC_TRANS_CD>TRN_DR</F_BI_INFO_ACC_TRANS_CD>
                    <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
                    <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
                    <F_BI_INFO_EARMARK_REF>3394777746</F_BI_INFO_EARMARK_REF>
                </M_BI_INFO_LINE>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
                    <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
```

```
                <F_BI_INFO_ACC_TRANS_CD>TRN_FDR</F_BI_INFO_ACC_TRANS_CD>
                <F_BI_INFO_BOOKING_ENT>MINDOL-SYS</F_BI_INFO_BOOKING_ENT>
                <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
                <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
            </M_BI_INFO_LINE>
        </BalanceCheckInf>
    </Extn>
  </Msg>
</FndtMsg>
```

C.6 Successful Balance Inquiry Response without Earmark

This is an example of a Balance Inquiry response that does not include an Earmark, but does include the current balance of the account.

```
<FndtMsg>
    <Header>
        <contextName>BalanceInquiry</contextName>
        <contextLocalName>BALINQ</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
    </Header>
    <Msg>
        <Pmnt>
            …
        </Pmnt>
        <Extn>
            <BalanceCheckInf>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
                    <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
                    <F_BI_INFO_BALANCE>160999.34</F_BI_INFO_BALANCE>
```

```xml
                    </M_BI_INFO_LINE>
                    <M_BI_INFO_LINE>
                        <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
                        <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
                        <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
                        <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                        <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
                        <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
                        <F_BI_INFO_BALANCE>160.55</F_BI_INFO_BALANCE>
                    </M_BI_INFO_LINE>
                </BalanceCheckInf>
            </Extn>
        </Msg>
        <ResponseDetails>
            <returnCode>1</returnCode>
            <description>Balance Inquiry success</description>
        </ResponseDetails>
    </FndtMsg>
```

C.7 Successful Balance Inquiry Response with Earmark

This is an example of a Balance Inquiry response that does include an Earmark, only on the principal amount (also includes current balance of the account).

```xml
    <FndtMsg>
        <Header>
            <contextName>BalanceInquiry_with_Earmark</contextName>
            <contextLocalName>BALINQ</contextLocalName>
            <credentials>
                <UserID>String</UserID>
                <Role>String</Role>
            </credentials>
            <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
            <Workflow>String</Workflow>
            <P_MID forCreation="false">11209G4837O30871</P_MID>
            <deliveryTimestamp>2001-12-17T09:30:47-05:00</deliveryTimestamp>
            <P_INIT_SRC_ID>GPP</P_INIT_SRC_ID>
        </Header>
        <Msg>
            <Pmnt>
                …
            </Pmnt>
            <Extn>
                <BalanceCheckInf>
                    <M_BI_INFO_LINE>
```

```
                    <F_BI_INFO_DEBIT_TYPE>MAIN</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>123456789</F_BI_INFO_ACCNO>
                    <F_BI_INFO_ACC_CURRENCY>GBP</F_BI_INFO_ACC_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_AMOUNT>100.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-28+02:00</F_BI_INFO_VALUE_DATE>
                    <F_BI_INFO_BALANCE>160999.34</F_BI_INFO_BALANCE>
                    <F_BI_INFO_EARMARK_REF>3394777746</F_BI_INFO_EARMARK_REF>
                </M_BI_INFO_LINE>
                <M_BI_INFO_LINE>
                    <F_BI_INFO_DEBIT_TYPE>FEE</F_BI_INFO_DEBIT_TYPE>
                    <F_BI_INFO_ACCNO>26026</F_BI_INFO_ACCNO>
                    <F_BI_INFO_CURRENCY>GBP</F_BI_INFO_CURRENCY>
                    <F_BI_INFO_ACC_OFFICE>XXX</F_BI_INFO_ACC_OFFICE>
                    <F_BI_INFO_AMOUNT>1.0</F_BI_INFO_AMOUNT>
                    <F_BI_INFO_VALUE_DATE>2010-12-31+02:00</F_BI_INFO_VALUE_DATE>
                    <F_BI_INFO_BALANCE>160.55</F_BI_INFO_BALANCE>
                </M_BI_INFO_LINE>
            </BalanceCheckInf>
        </Extn>
    </Msg>
    <ResponseDetails>
        <returnCode>1</returnCode>
        <description>Balance Inquiry success</description>
    </ResponseDetails>
</FndtMsg>
```

C.8 Failed Balance Inquiry Response

This is an example of a failed Balance Inquiry response. Response returned with code 995 that is mapped internally as NSF.

```
<FndtMsg>
    <Header>
        <contextName>BalanceInquiry_with_Earmark</contextName>
        <contextLocalName>BALINQ</contextLocalName>
        <credentials>
            <UserID>String</UserID>
            <Role>String</Role>
        </credentials>
        <D_SKIP_PERSIST_ON_ERROR>0</D_SKIP_PERSIST_ON_ERROR>
        <Workflow>String</Workflow>
        <P_MID forCreation="false">11209G4837O30871</P_MID>
        <deliveryTimestamp>2001-12-17T09:30:57-05:00</deliveryTimestamp>
        <P_INIT_SRC_ID>HOST_XXX</P_INIT_SRC_ID>
    </Header>
```

```
<ResponseDetails>
    <returnCode>995</returnCode>
    <description>Insufficient Funds on Principal account</description>
</ResponseDetails>
</FndtMsg>
```