MEPT Implementation Guide

Author	4CB
Version	~~56.0~~R2023.NOV (former R6.0)
Date	~~0231~~/~~0903~~/~~2022~~2023

Introduction

This document has to be intended as a guide to help NSPs in their implementation activities for interacting with the TIPS platform through MEPT.

Its main purpose is to clarify aspects that have not been formalized in the "*MEPT - Message Exchange Processing for TIPS*" document and to correct oversights.

1. MEPT Message Header (JMS Properties)

A few general considerations about the MEPT JMS properties:

- The type of all the JMS properties required by MEPT is String.

- Any additional not recognized JMS property present in the message header must be silently discarded.

- The *PDMFlag* property is provided by the TIPS platform for the *FileSend* primitive as well, even if it is not mentioned in the MEPT specifications.
  TIPS performs retries for sent files for which no Notify has been received withing a certain amount of time. This flag, in the context of the *FileSend* operation, is used to indicate whether the operation is a retry (PDMFlag=Y) or not (PDMFlag=N).
  When specified in the context of the *FileSend* operation, this property is not included in the HMAC calculation to avoid breaking the MEPT specifications version 1, where it is not foreseen.

- Try to keep the size of the *MsgSignature* and *SignatureAddInfo* properties as small as possible, for performance reasons. Those properties may contribute to the overall size of each messages more than any other property (and body) of the message.
  In case, please evaluate to compress them.

- All properties listed in table are mandatory in the reported primitive, unless stated otherwise ("optional").

- All the properties will be inserted into the RFH2 part of the message. In detail, RFH2 hosts three "containers": "mcd", "jms" and "usr". "mcd" container reports the "Message domain service" to indicate the use of jms message type "jms_text" or "jms_bytes". "jms" container reports the standard JMS properties. "usr" container reports the application-defined JMS properties defined in table.

- Notify and TechnicalAck primitives corresponding to a SendRequest are identical to Notify and TechnicalAck primitives corresponding to a FileSend, the only way to distinguish them is to look into the Service field, while they can be correlated by using the MsgBizIdentifier.

2. JMS Properties lengths

The table below summarizes all the MEPT properties, along with the allowed values for those fields having a restricted set of values.

The column "Max length" represents an indication of what should be considered as the maximum reasonable length of each property, based on how that parameter is currently used by the system.

For example, the *MsgBizIdentifier* property has a maximum length of 35 characters because in some circumstances it appears in XML messages inside elements whose maximum allowed length is 35 characters.

Field	Max length	Notes
HMAC	*45*	HMAC-SHA256, encoded in base64
HMACKeyId	-	
HMAC2	*45*	HMAC-SHA256, encoded in base64
HMAC2KeyId	-	
HMACAlgo	-	Optional. If specified, must be "SHA-256"
MsgSignature	-	
ProtocolVersion	1	Must be set to "1"
Service	-	
Sender	256	
Receiver	256	
PrimitiveType	17	Allowed values are: *ReceiveIndication, SendRequest, Notify, TechnicalAck, FileSend*
MsgType	*32*	Allowed values are listed in the "*Message Types/ Flow Types*" section of this document
SendTimestamp	24	Format is: YYYY-MM-DDTHH:MM:SS.SSSZ
ReceiveTimestamp	24	Format is: YYYY-MM-DDTHH:MM:SS.SSSZ
MsgBizIdentifier	35	Allowed pattern is: [0-9a-zA-Z\-\?:\(\)\.,'\+](/?([0-9a-zA-Z\-\?:\(\)\.,'\+]/?)*[0-9a-zA-Z\-\?:\(\)\.,'\+]+)?
MsgNetworkIdentifier	-	
FileName	256	
FileDigest	45	SHA256 of the file being transferred, encoded in base64
CompressionAlgo	-	Optional. If missing, compression is unknown.
PDMFlag	1	Allowed values are: 'Y' and 'N'
SignatureRequired	1	Allowed values are: 'Y' and 'N'
NotificationRequired	1	Allowed values are: 'N', 'E' and 'A'
TechnicalAckRequired	1	Allowed values are: 'N', 'E' and 'A'
SignatureAddInfo	400	
PrimitiveReturnCode	2	Allowed values are: 'OK' and 'KO'
PrimitiveReasonCode	256	Optional. Absent if PrimitiveReturnCode is OK, mandatory if PrimitiveReturnCode is KO.
AddInfo	300	Optional. Free-form text (TIPS uses JSON).

3. MQ MD Descriptor and Payload Format

The value of the **MQMD.Format** property must be set to **MQFMT_RF_HEADER_2** insead of **MQFMT_NONE**, as erroneously specified in the MEPT document.

As an additional advise, the format of the message payload should preferably be binary (i.e. BytesMessage, in JMS terminology) instead of text (i.e.TextMessage, in JMS terminology), for performace reasons. Even if the TIPS platform is able to handle both formats, the binary one is preferred because it allows to avoid a few data conversion operations and is more memory efficient.

The value of **MQMD.MsgId** is used as CorrelId only for Notify.

The **MQMD.CodedCharSetID** is the CCSID of the RFH2 header. CCSSID of message payload (in MQ message data after the RFH2 section) is defined by RFH2.CodedCharSetId and must be 1208 (UTF-8).

The value of **MQMD.ApplIdentityData**, **MQMD.AccountingToken** can be set only if authority SET_IDENTITY_CONTEXT is set: no. Currently those fields cannot be set.

The value of fields **MQMD.ReplyToQ and MQMD.ReplyToQMg** is currently unused.

4. Message Types/ Flow Types

This is the list of the message types and related flows that have to be allowed between the TIPS Platform and the Actors.

The values appearing in the "*ISO Message Type*" column represent the allowed values to be assigned to the *MsgType* header field.

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
pacs.002.001.03	Actor	Platform	Instant Messaging	Dropped in 6.0
pacs.002.001.03	Platform	Actor	Instant Messaging	Dropped in 6.0
pacs.004.001.02	Actor	Platform	Instant Messaging	Dropped in 6.0
pacs.004.001.02	Platform	Actor	Instant Messaging	Dropped in 6.0
pacs.008.001.02	Actor	Platform	Instant Messaging	Dropped in 6.0
pacs.008.001.02	Platform	Actor	Instant Messaging	Dropped in 6.0
pacs.028.001.01	Actor	Platform	Instant Messaging	Dropped in 6.0
pacs.028.001.01	Platform	Actor	Instant Messaging	Dropped in 6.0
DRAFT1camt.003.001.06	Actor	Platform	Instant Messaging	
DRAFT1camt.004.001.07	Platform	Actor	Instant Messaging	
DRAFT1camt.011.001.06	Actor	Platform	Instant Messaging	Dropped in 5.0
DRAFT1camt.025.001.04	Platform	Actor	Instant Messaging	Dropped in 4.0
camt.029.001.03	Actor	Platform	Instant Messaging	Dropped in 6.0
camt.029.001.03	Platform	Actor	Instant Messaging	Dropped in 6.0
DRAFT1camt.050.001.04	Actor	Platform	Instant Messaging	Dropped in 4.0
camt.052.001.06	Platform	Actor	File SnF	
camt.053.001.06	Platform	Actor	File SnF	
camt.054.001.06	Platform	Actor	Instant Messaging	
camt.056.001.01	Actor	Platform	Instant Messaging	Dropped in 6.0
camt.056.001.01	Platform	Actor	Instant Messaging	Dropped in 6.0
acmt.010.001.02	Platform	Actor	Instant Messaging	
acmt.011.001.02	Platform	Actor	Instant Messaging	
acmt.015.001.02	Actor	Platform	Instant Messaging	
DRAFT4reda.016.001.01	Platform	Actor	Instant Messaging	Dropped in 5.0
DRAFT4reda.022.001.01	Actor	Platform	Instant Messaging	Dropped in 5.0
DRAFT2admi.007.001.01	Platform	Actor	Instant Messaging	Dropped in 4.0
reda.xxx.tips.dirfull	Platform	Actor	File SnF	
reda.xxx.tips.dirupdate	Platform	Actor	File SnF	

4.1. Message Types for Mobile Proxy Lookup (TIPS 3.0)

Messages exchanged by actors with the "Mobile Proxy Lookup" service (which is reached using a different *Service* value) have the following types:

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
admi.007.001.01	Platform	Actor	Instant Messaging	
tmpl.001.001.01	Actor	Platform	Instant Messaging	
tmpl.002.001.01	Platform	Actor	Instant Messaging	
tmpl.003.001.01	Actor	Platform	Instant Messaging	
tmpl.004.001.01	Actor	Platform	Instant Messaging	
tmpl.005.001.01	Actor	Platform	Instant Messaging	
tmpl.006.001.01	Platform	Actor	Instant Messaging	
tmpl.007.001.01	Platform	Actor	File SnF	
tmpl.008.001.01	Actor	Platform	Instant Messaging	
tmpl.009.001.01	Platform	Actor	Instant Messaging	

4.2. Message Types for TIPS 3.1 and 4.0

The following message types are added as part of releases 3.1 and 4.0 of TIPS:

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
admi.007.001.01	Platform	Actor	Instant Messaging	
camt.025.001.05	Platform	Actor	Instant Messaging	
camt.050.001.05	Actor	Platform	Instant Messaging	
camt.050.001.05	Platform	Actor	Instant Messaging	
camt.053.001.08	Platform	Actor	Instant Messaging	
~~pacs.008.001.08~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.008.001.08~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.002.001.10~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.002.001.10~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.004.001.09~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.004.001.09~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.028.001.03~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~pacs.028.001.03~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
~~camt.029.001.09~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~camt.029.001.09~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
~~camt.056.001.08~~	~~Actor~~	~~Platform~~	~~Instant Messaging~~	Dropped in 6.0
~~camt.056.001.08~~	~~Platform~~	~~Actor~~	~~Instant Messaging~~	Dropped in 6.0
DRAFT2camt.025.001.04	Actor	Platform	Instant Messaging	
DRAFT2camt.025.001.04	Platform	Actor	Instant Messaging	
camt.019.001.07	Actor	Platform	Instant Messaging	
DRAFT2camt.005.001.07	Actor	Platform	Instant Messaging	
DRAFT2camt.006.001.07	Platform	Actor	Instant Messaging	

4.3. Message Types for TIPS 5.0

The following message types are added as part of release 5.0 of TIPS:

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
reda.022.001.01	Actor	Platform	Instant Messaging	
reda.016.001.01	Platform	Actor	Instant Messaging	
camt.011.001.07	Actor	Platform	Instant Messaging	

4.4. Message Types for TIPS 6.0

The following message types are added as part of release 6.0 of TIPS:

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
pacs.008.001.08.EPC	Actor	Platform	Instant Messaging	
pacs.008.001.08.EPC	Platform	Actor	Instant Messaging	
pacs.002.001.10.EPC	Actor	Platform	Instant Messaging	
pacs.002.001.10.EPC	Platform	Actor	Instant Messaging	
pacs.028.001.03.EPC	Actor	Platform	Instant Messaging	
pacs.028.001.03.EPC	Platform	Actor	Instant Messaging	
camt.056.001.08.EPC	Actor	Platform	Instant Messaging	
camt.056.001.08.EPC	Platform	Actor	Instant Messaging	
camt.029.001.09.EPC	Actor	Platform	Instant Messaging	
camt.029.001.09.EPC	Platform	Actor	Instant Messaging	
pacs.004.001.09.EPC	Actor	Platform	Instant Messaging	
pacs.004.001.09.EPC	Platform	Actor	Instant Messaging	
pacs.008.001.08.NPC	Actor	Platform	Instant Messaging	
pacs.008.001.08.NPC	Platform	Actor	Instant Messaging	
pacs.002.001.10.NPC	Actor	Platform	Instant Messaging	
pacs.002.001.10.NPC	Platform	Actor	Instant Messaging	
pacs.028.001.03.NPC	Actor	Platform	Instant Messaging	
pacs.028.001.03.NPC	Platform	Actor	Instant Messaging	
camt.056.001.08.NPC	Actor	Platform	Instant Messaging	
camt.056.001.08.NPC	Platform	Actor	Instant Messaging	
camt.029.001.09.NPC	Actor	Platform	Instant Messaging	
camt.029.001.09.NPC	Platform	Actor	Instant Messaging	
pacs.004.001.09.NPC	Actor	Platform	Instant Messaging	
pacs.004.001.09.NPC	Platform	Actor	Instant Messaging	

After the deployment of TIPS 6.0 is complete, the following message types can be safely removed:

ISO Message Type (MsgType)	Sender	Receiver	Technical service	NOTE
pacs.008.001.02	Actor	Platform	Instant Messaging	
pacs.008.001.02	Platform	Actor	Instant Messaging	

pacs.002.001.03	Actor	Platform	Instant Messaging	
pacs.002.001.03	Platform	Actor	Instant Messaging	
pacs.028.001.01	Actor	Platform	Instant Messaging	
pacs.028.001.01	Platform	Actor	Instant Messaging	
camt.056.001.01	Actor	Platform	Instant Messaging	
camt.056.001.01	Platform	Actor	Instant Messaging	
camt.029.001.03	Actor	Platform	Instant Messaging	
camt.029.001.03	Platform	Actor	Instant Messaging	
pacs.004.001.02	Actor	Platform	Instant Messaging	
pacs.004.001.02	Platform	Actor	Instant Messaging	
pacs.008.001.08	Actor	Platform	Instant Messaging	
pacs.008.001.08	Platform	Actor	Instant Messaging	
pacs.002.001.10	Actor	Platform	Instant Messaging	
pacs.002.001.10	Platform	Actor	Instant Messaging	
pacs.028.001.03	Actor	Platform	Instant Messaging	
pacs.028.001.03	Platform	Actor	Instant Messaging	
camt.056.001.08	Actor	Platform	Instant Messaging	
camt.056.001.08	Platform	Actor	Instant Messaging	
camt.029.001.09	Actor	Platform	Instant Messaging	
camt.029.001.09	Platform	Actor	Instant Messaging	
pacs.004.001.09	Actor	Platform	Instant Messaging	
pacs.004.001.09	Platform	Actor	Instant Messaging	

5. List of references

	Title	Source
[1]	TIPS Connectivity Guide	4CB
[2]	MEPT - Message Exchange Processing for TIPS	4CB