EPC SCT$^{\text{Inst}}$ migration to MR2019 Proposed approach

TIPS-CG, 19 October 2022

- Starting from TIPS R3.1, TIPS supports two message sets for both (i) the settlement of Instant Payments and (ii) the related business cases such as Recall and Investigation:

  - One set of messages for SCT^{Inst} scheme
    - pacs.002.001.**03**
    - pacs.008.001.**02**
    - pacs.004.001.**02**
    - camt.056.001.**01**
    - camt.029.001.**03**
    - pacs.028.001.**01**

  - A new set of messages for non-Euro schemes
    - pacs.002.001.**10**
    - pacs.008.001.**08**
    - pacs.004.001.**09** (from R4.0 on)
    - camt.056.001.**08** (from R4.0 on)
    - camt.029.001.**09** (from R4.0 on)
    - pacs.028.001.**03** (from R4.0 on)

- Different customizations (XSD) have been applied to the two sets, according to the related requirements.

- When a message is delivered to TIPS, the message router uses the message type in order to select the proper schema for the schema validation process.

- For example, when a pacs.008.001.**02** is received by TIPS, the schema validation process checks the xml message against the XSD of the pacs.008 **V02** part of the SCT^{Inst} scheme set, due to the fact that only this set contains the **V02** version of this message.

- Considering that the two sets contain messages with completely disjoint versions (e.g. for pacs.008 message, the version is V02 for SCT^{Inst} and V08 for non-Euro) TIPS applies the schema validation process reasoning simply on the message type, which already contains the version used to distinguish between the two sets. <u>This is exactly the same approach used by all the TARGET Services.</u>

- In September 2020, the EPC decided to migrate all its payment schemes to the 2019 version of the ISO 20022 message standard by 19 November 2023, i.e. the entry-into-force date of the 2023 payment scheme rulebooks, which will be adopted by means of a mandatory TIPS Change Request in **R2023.NOV** (**former R6.0**).

- This means that, starting with TIPS R2023.NOV the two message sets (SCT^{Inst} and non-Euro) will share the same message types, including the version, since both sets will be aligned to ISO MR2019 (e.g. pacs.008 **V08** for SCT^{Inst} and pacs.008 **V08** for non-Euro).

- After the publication of the payment scheme rulebook in May 2022, it has been confirmed that the customisation (XSD) will continue to be different due to specific requirements of the related communities.

- Therefore, in R2023.NOV, TIPS should be able to overcome the limitation, which is enforced in all the TARGET Services, to support only one customisation (XSD) for each message type.

- Following the EPC migration to MR2019, how to understand which message schema of which message set has to be used by TIPS to validate an incoming message?

- Should either the SCT^{Inst} XSD or non-Euro XSD be used? The **message type** will be exactly the same for both sets.

- The message type will no longer be sufficient for the completion of the schema validation process: an additional information is needed.

- Moreover, since the message payload is not accessible before the schema validation check, this information should be present at **transport protocol level**.

- Instant Payment messages are transmitted using the Instant messaging network service and the Message Exchange Processing for TIPS (MEPT) protocol, described in the related document as attachment to the TIPS Connectivity - Technical Requirements specifications.

- According to the MEPT protocol, a generic TIPS message is composed by two main sections:

  - **The message header at transport level**, containing all the information that enrich the message but are not strictly related to the message content (routing, signature, etc.)

  - **The business message payload**, containing the ISO business message.

JMS MESSAGE

TIPS HEADER → MESSAGE PROPERTIES (MQRFH2 OR JMS PROPERTIES)

BUSINESS MESSAGE → MESSAGE PAYLOAD
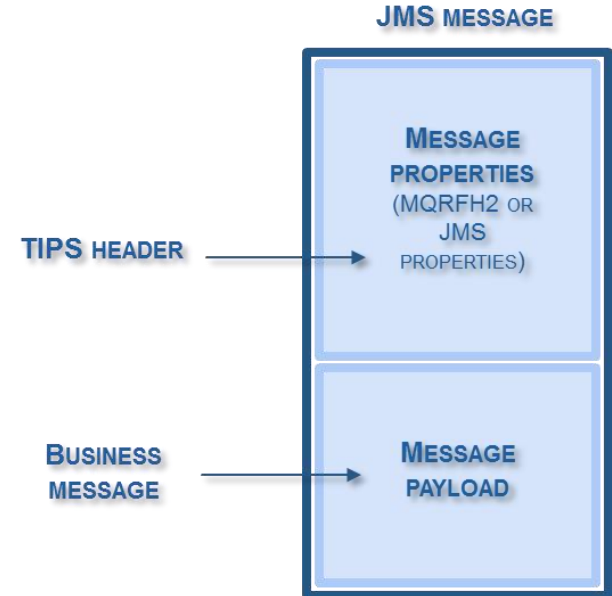
Considering that:

- the message payload cannot be changed in order not to lose the compliance with the requirements underlying the two sets;
- the ISO message type contained in the message payload cannot be changed in order not to lose the compliance with ISO20022 standard;
- the information to distinguish between the two sets should be acquired by TIPS before reading the message payload;
- the message header already contains a property, called **MsgType**, which is populated for inbound and outbound messages with the related message type, and it is already used by TIPS to perform schema validation.

The proposed solution is **to append a suffix to the value of the MsgType MEPT property** in order to distinguish the two sets, e.g. as described in the following example(*):

- MsgType=pacs.008.001.08.SCTInst for messages sent in euro compliant with the SCT^{Inst} specifications;
- MsgType=pacs.008.001.08.SEK for messages sent e.g. in SEK compliant with the non-Euro specifications.

(*) Suffixes to be used will be finalised during the detailed assessment of the related TIPS change request: this only an example in order to have an overview of the proposed solution.

This approach would allow to reach the goal to have **multiple customizations** (XSDs) of the same message type (version included) supported by TIPS and stemming from different requirements of the related communities, allowing to:

- keep the message payload unchanged, respecting the compliance with already agreed message specifications and ISO20022 standard;

- keep the MEPT header structure unchanged (as no additional property is needed);

- avoid changes into the interaction of TIPS vis-à-vis the NSPs;

- avoid changes of the MsgType property processing: if the suffix is not added or it does not match with a supported value, the message will be rejected with parsing error (X001) as it happens today in case of an incorrect value filled in the property.

- the existing MsgType without suffix (e.g. "pacs.008.001.02" and "pacs.008.001.08") shall be maintained for compatibility reason for an agreed time window.

Furthermore, this solution is scalable to allow **TIPS to support multiple message customizations based on the same message type**, for example in case of onboarding of new communities (e.g. DKK, NOK) or for the cross-currency or cross-platform usage cases (e.g. XCY), simply appending further suffixes.

The proposed solution would be part of the **TIPS CR-0052** for the adoption of the 2023 version of the SCT^{Inst} specification in **R2023.NOV** (former TIPS R6.0), which implies a change to:

(i) TIPS SDDs and

(ii) MEPT specification (as attachment to the TIPS Connectivity - Technical Requirements specifications).

As of the deployment of **R2023.NOV**, all the TIPS Actors shall communicate the MsgType with the correct suffix when submitting to their selected NSP one of the impacted messages.

The suffix shall be consistent with the one allocated for the community the TIPS Actor belongs to.

Thank you for the attention!

```
<rfh2>
    <HMAC>dGhpcyBpcyBub3QgYSBzaWduYXR1cmUK...</HMAC>
    <HMACKeyId>1234</HMACKeyId>
    [...]
    <PrimitiveType>ReceiveIndication</PrimitiveType>
    <MsgType>pacs.008.001.08</MsgType>
    <SendTimestamp>2023-12-19T12:00:01.222Z</SendTimestamp>
    <ReceiveTimestamp>2023-12-19T12:00:01.777Z</ReceiveTimestamp>
    <MsgBizIdentifier>MSG001</MsgBizIdentifier>
    <MsgNetworkIdentifier>NWX000001</MsgNetworkIdentifier>
</rfh2>
<Document            xmlns="urn:iso:std:iso:20022:tech:xsd:pacs.008.001.08"            xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:pacs.008.001.08">
<FIToFICstmrCdtTrf>
            <GrpHdr>
                        <MsgId>MSG001</MsgId>
                        <CreDtTm>2023-12-19T12:00:01.222Z</CreDtTm>
                        [...]
</FIToFICstmrCdtTrf>
</Document>
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```
<rfh2>
    <HMAC>dGhpcyBpcyBub3QgYSBzaWduYXR1cmUK...</HMAC>
    <HMACKeyId>1234</HMACKeyId>
    [...]
    <PrimitiveType>ReceiveIndication</PrimitiveType>
    <MsgType>pacs.008.001.08.SCTInst</MsgType>
    <SendTimestamp>2023-12-19T12:00:01.222Z</SendTimestamp>
    <ReceiveTimestamp>2023-12-19T12:00:01.777Z</ReceiveTimestamp>
    <MsgBizIdentifier>MSG001</MsgBizIdentifier>
    <MsgNetworkIdentifier>NWX000001</MsgNetworkIdentifier>
</rfh2>
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            <GrpHdr>
                        <MsgId>MSG001</MsgId>
                        <CreDtTm>2023-12-19T12:00:01.222Z</CreDtTm>
                        [...]
</FIToFICstmrCdtTrf>
</Document>
```