Deutsche Bank
Corporate Bank

5.5   Focus on special characters in TIPS

#PositiveImpact

TIPS Consultative Group – 22.02.2023

Handling of XML escape characters – Executive Summary

Situation

- DB observed how TIPS and RT1 deal differently with the End-to-End Identification field validations.
- RT1 in comparison to TIPS allows the use of XML escape characters in the End-to-End ID field.
- Handling of spaces in End-to-End ID field (References, identifications and identifiers) is now mostly covered in new Rulebook version.
- To further consider how to deal with national characters.

Resulting Problems

- Client transactions with XML escape characters in End-to-End ID field, that are successfully processed in RT1, are rejected in TIPS.

Proposed Solution

- Option 1: Raise Change Request to EPC Rulebook to allow XML escape characters End-to-End-ID, resulting in harmonized processing.
- Option 2: Harmonize added value services across RT1 and TIPS for End-to-End ID.

Situation: RT1 support of XML escape characters

Special Character	Character	XML escape
Ampersand	&	&
Less-than	<	<
Greater-than	>	>
Quotes	"	"
Apostrophe	'	'

2023 EPC Rulebook

TIPS and RT1 fully support EPC Rulebook defined UTF-8 Character Set.

The character set issue centers on the use of the full set characters in the message elements. Two considerations are:
• While PSPs must be allowed to use the character set currently in use at national level,
• PSPs throughout SEPA cannot be required to support the full character set used in SEPA countries.

Therefore:
• The ISO 20022 XML messages allow for the full range of global language requirements (UTF-8).
• PSPs must be able to support the Latin character set commonly used in international communication, as follows:
  a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 1 2 3 4 5 6 7 8 9 / - ? : ( ) . , ' + Space

References, identifications and identifiers must respect the following:
  • Content is restricted to the Latin character set as defined above
  • Content must not start or end with a '/'
  • Content must not contain '//'s Note: When a slash is used as delimiter between the attribute number (AT-XXXX) or code (ABCD) and the data content, <u>no space is allowed directly after this slash</u>.
  • **However, there may be bilateral or multilateral agreements to support one or more sets of characters beyond the Latin character set referred to above.**

Situation: RT1 examples

XML ESCAPING CHARACTERS

As far as the usage of "XML escape" characters is concerned in the End-to-End ID:
- When the escaping character is received into the system for validation, it counts as 1 char (i.e. & counts as one character. An E2E ID with 34 chars + & is positively validated).
- In the System Database, the escaping character is then converted into its corresponding special character (i.e. & is converted into &) and counts as one character.
- In the GUI and API interface it is not shown the escaping character received in input, but the related special character (i.e. in the GUI it is shown & and not &).
- If a Special character is received at the End to End ID, it counts as one character, this is never converted into any related escaping form and in the RSF, GUI / API interface and message that the system delivers to the RT1 counterpart after validation, is shown as a special character.

II- INPUT (with "XML escape" characters)

Pacs.008 sent: 1234567890123456789012345678901123&}</EndToEndId>

Pacs.008 notified to counterpart: <EndToEndId>1234567890123456789012345678901123&}</EndToEndId>

As displayed in PWS:

End To End Id	1234567890123456789012345678901123&}

Example for XML escape character from EBA documentation

OUTPUT
Pacs.008 as notified in RSF
<OrgnlEndToEndId>1234567890123456789012345678901123&}</OrgnlEndToEndId>

Proposed Solution: 2x Options for discussion

Option 1	Option 2
Raise Change Request to EPC Rulebook to allow XML escape characters End-to-End-ID*, resulting in harmonized processing. *)Or even in all references and identifiers	Harmonize added value services across RT1 and TIPS for End-to-End ID field validations.

Community benefits from harmonized set of characters (in End-to-End ID field)