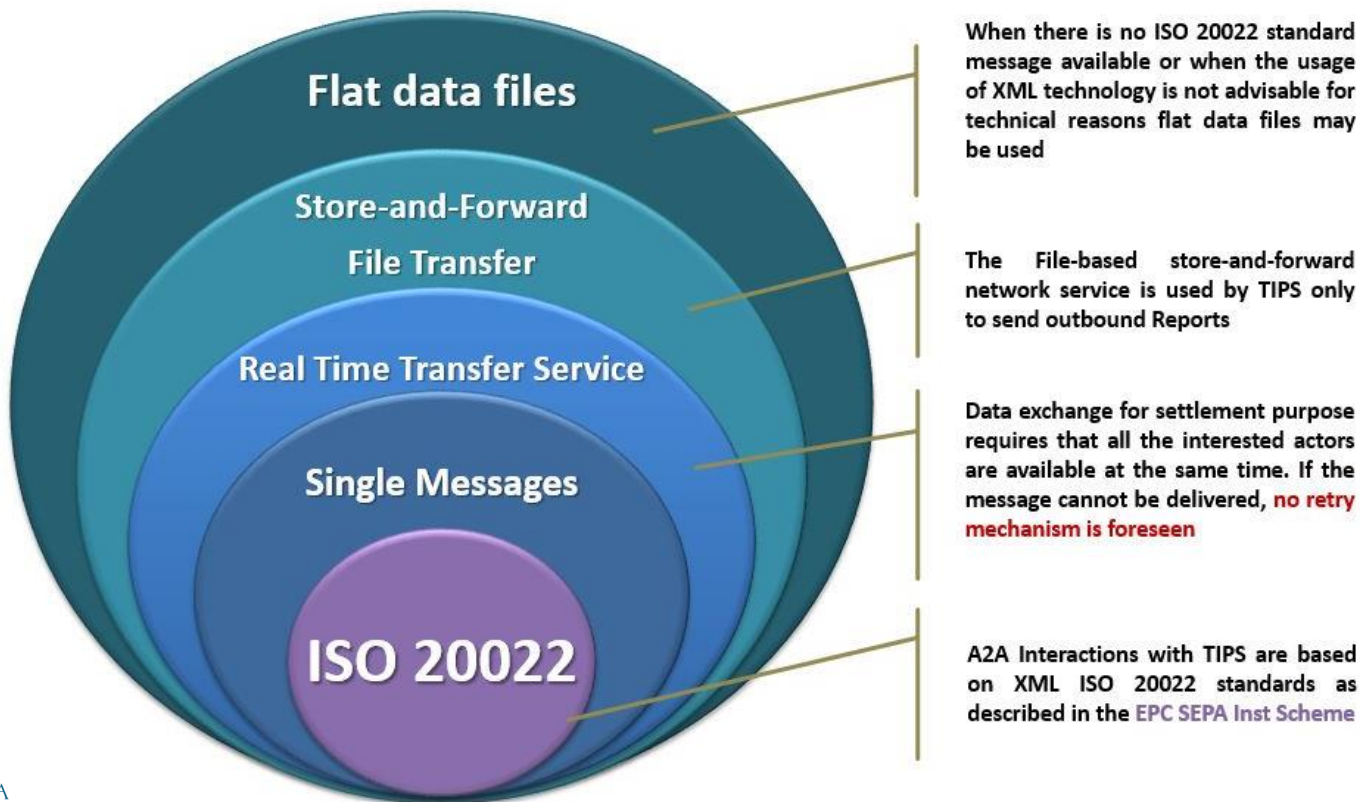
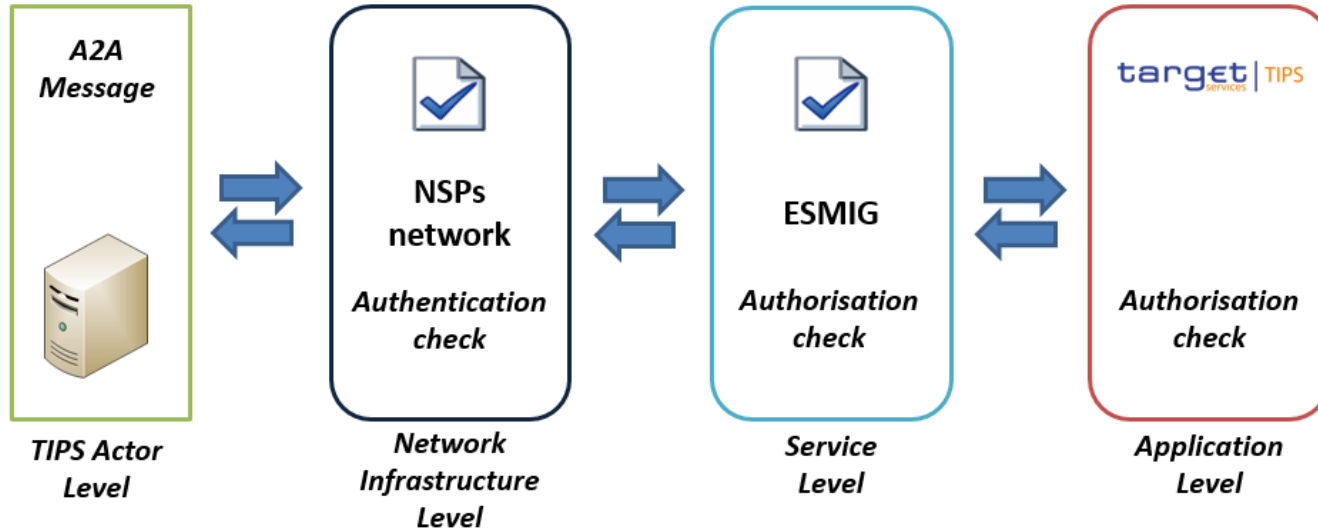


TIPS message validations

JOINT TIPS-WG AND TIPS-CG WORKSHOP
14 DECEMBER 2023

A2A Interactions





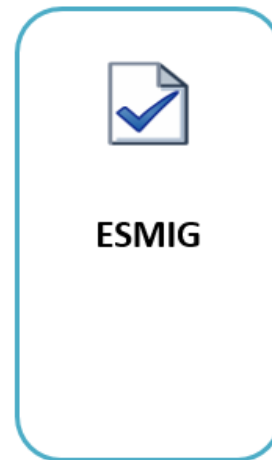
Upon successful delivery of an A2A message from the Network Service Provider (NSP), ESMIG performs:

- *Digital signature verification*
- *Schema and additional technical validations on the business message.*



**Network
Infrastructure
Level**

- If an error is detected during ESMIG validation, an error message is returned to the sender:
 - admi.007 for schema validation errors
 - a specific business message (e.g. camt.025, pacs.002, etc) with generic code 'MS01' for Additional Technical Validation errors
- If no error is detected at this stage, the message is delivered to the application.



**Service
Level**

The **XSD** (XML Schema Definition) defines the formal structure of the elements in an XML document.

It allows the hierarchy of fields, the datatype and the multiplicity of required tags to be specified.

Unfortunately, the XSD does not allow to express some complex rules or cross field validations stemming from TIPS requirements, such as most of the SEPA Usage Rules or other constraints at business level.

2.44	0..1	FItoFICustomer Credit Transfer V08 +Credit Transfer Transaction Information ++Debtor +++Postal Address	<p><i>SEPA Rulebook</i> AT-P005 Address of the Originator (only mandatory when the Originator PSP or the Beneficiary PSP is located in a non-EEA SEPA country or territory)</p> <p><i>SEPA Usage Rule(s)</i> If 'Address Line' is used, then 'Postal Address' sub-elements other than 'Country' are forbidden. A combination of 'Address Line' and 'Country' is allowed; it is recommended when either the Debtor Agent or Creditor Agent is a non-EEA SEPA PSP. If 'Address Line' is not used, then at least 'Town Name' and 'Country' must be used.</p> <p><i>ISO Name</i> Postal Address</p> <p><i>ISO Definition</i> Information that locates and identifies a specific address, as defined by postal services.</p> <p><i>XML Tag</i> Pst1Adr</p> <p><i>Type</i> PostalAddress24</p>
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Due to the aforementioned impossibility of expressing complex constraints at XSD level, **Additional Technical Validation** checks were implemented at application level, in line with the EPC/NPC suggested implementation described in the IGs and XSD packages.

Looking at the TIPS SDDs, the *Additional Technical Validation* checks are described in:

- **TIPS UDFS - Chapter 3:** for each message and business case, the *TIPS Usage column* describes the *Additional Technical Validation* checks implemented for each field, if any;
- **ESMIG UDFS - Section 1.5.3:** the subset of *Additional Technical Validation* referring to cross field validations is reported;
- **MyStandards Usage Guidelines (UGs):** for each message, there is a note describing the *Additional Technical Validation* checks implemented for each field, if any.

TIPS UDFS

Chapter 3 and sub-chapters

EPC Ref.	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
AT-P005	Originator Address	The address of the Originator	FItoFICstrmCdTrf/CdtTrfTxInf/Dbtr/PstlAdr	No	If 'Address Line' is used, then 'Postal Address' sub-elements other than 'Country' are forbidden. A combination of 'Address Line' and 'Country' is allowed; it is recommended when either the Debtor Agent or Creditor Agent is a non-EEA SEPA PSP. If 'Address Line' is not used, then at least 'Town Name' and 'Country' must be used.

ESMIG UDFS

Section 1.5.3 - table 4 and table 5

Table 4 - Cross-field validations for SCT^{inst} scheme

ISO Code	Field/Group	Check to be performed	X-PATH	ERROR Code	Output message
paces.002.001.03	Group Status Transaction Status	Neither group status nor transaction status has been specified	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/GrpSts FItoFIPmtStsRpt/TxInfAndSts/TxSts	M501	paces.002.001.03
paces.002.001.03	Group Status Transaction Status	Both group status and transaction status have been specified	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/GrpSts FItoFIPmtStsRpt/TxInfAndSts/TxSts	M501	paces.002.001.03
paces.002.001.03	Reason	The relevant StsRsnInf tag for a negative reply (RJCT) should have been specified	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Rsn/Cd	M501	paces.002.001.03
paces.002.001.03	Reason	The relevant StsRsnInf tag for a negative reply (RJCT) should have been specified	FItoFIPmtStsRpt/TxInfAndSts/StsRsnInf/Rsn/Cd	M501	paces.002.001.03

MyStandards Usage Guidelines

target | **pacs.008_FIToFICustomerCreditTransfer_pacs.008.001.08**

pacs.008_TIPS (Technical version: 14 , Version: UDFS TIPS R2023.NOV , Format: MX , Status: Work in progress)

Version: UDFS TIPS R2023.NOV Status: Work in progress

▼ Show details

Compare
 Export

Content
Result View
Sample Messages
Impact Analysis
Comments
Audit

Show XML Tags

Q
X

Name	Min	Max
▼ ■ FI To FI Customer Credit Transfer V08 (pacs.008.001.08)		
> ● Group Header	1	1
▼ ● Credit Transfer Transaction Information	1	1
> ● Payment Identification	1	1
> ● Interbank Settlement Amount	1	1
● Acceptance Date Time	1	1
> ● Charge Bearer	1	1
> ● Ultimate Debtor	0	1
▼ ● Debtor	1	1
● Name	1	1
▼ ● Postal Address	0	1

Postal Address

▼ ▲ **Annotation**

TIPS Notes

- TIPS-Use:** If 'Address Line' is used, then 'Postal Address' sub-elements other than 'Country' are forbidden. A combination of 'Address Line' and 'Country' is allowed; it is recommended when either the Debtor Agent or Creditor Agent is a non-EEA SEPA PSP. If 'Address Line' is not used, then at least 'Town Name' and 'Country' must be used.

▼ **Definition**

Information that locates and identifies a specific address, as defined by postal services.

▼ **Multiplicity**

[0..1]

▼ **Path**

/Document/FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstAdr

To test A2A messages in TIPS, complementary modes can be used:

- **MyStandards Readiness Portal** allows to perform the schema validation check *only*.
- **TIPS counterparty simulator** allows testing of (i) schema validation, (ii) Additional Technical Validations, (iii) Business Rules and (iv) the complete End-to-End message flow by simulating the Beneficiary PSP actor. Using special BICs as Creditor Agent (i.e. 'ACCPITRRXXX' and 'REJEITRRXXX', respectively), TIPS will consistently accept or reject the given IP transaction.
- An **external test environment** (e.g. CERT) allows testing of (i) schema validation, (ii) Additional Technical Validations, (iii) Business Rules and (iv) the complete End-to-End message flow *with real actors*.

MyStandards Readiness Portal (RP) provides the possibility to test the compliance of customer sample messages with the specifications provided in the Usage Guidelines.

The tool offers direct links to the documentation in MyStandards, including access to sample messages attached to each Usage Guideline.

Users can monitor their own progress and results using the tool.

The screenshot displays the 'My Portals' section of the MyStandards Readiness Portal. At the top, there are two tabs: 'My Portals' and 'Configuration'. Below the tabs is a '+ Create Portal' button with a help icon. To the right, there is a sorting option: 'sort by Alphabetical order ▾ Ascending ▾'. A badge indicates '1 result found'. The result is a portal titled 'Readiness Portal TIPS - tips-fam@bancaditalia.it' with a dropdown arrow to its left. The description reads: 'Readiness Portal for testing the compliance of TIPS related messages with the specifications provided in the User Detailed Specifications (UDFS) and MyStandards'. To the right of the description are three elements: a green 'published' badge, a grey '30 UGs' badge, and a document icon. Further right is an 'Actions ▾' button. At the bottom of the result, there is a link '→ To TIPS' with a '30 UGs' badge and a text link 'Add Usage Guideline'.

1 error camt.003_TIPS_GetAccountV06_DRAFT1camt.003.001.06

18 Aug 2023
06:19 UTC

Summary

ERROR 1

Invalid message

👁️ 1 error

Usage Guideline camt.003_TIPS_GetAccountV06_DRAFT1camt.003.001.06

Version UDFS TIPS R2023.NOV

Format MX

Status Work in progress

Source Manual Entry

Test Date 18 Aug 2023 06:19 UTC

← The User can enter the missing element directly in the browser and test it again.

Once retested with the correct element, the sample appears valid. ➔

Valid camt.003_TIPS_GetAccountV06_DRAFT1camt.003.001.06

18 Aug 2023
06:20 UTC

Summary

Valid message

Usage Guideline camt.003_TIPS_GetAccountV06_DRAFT1camt.003.001.06

Version UDFS TIPS R2023.NOV

Format MX

Status Work in progress

Source Manual Entry

Test Date 18 Aug 2023 06:20 UTC

Test User

▶ Test ⬇ Upload Save as Sample ⬇ Download Message

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <Document
3   xmlns:xs="http://www.w3.org/2001/XMLSchema"
4   xmlns="urn:iso:std:iso:20022:tech:xsd:DRAFT1camt.003.001.06">
5   <GetAcct>
6     <MsgHdr>
7       <MsgId>NOST230717000142</MsgId>
8     </MsgHdr>
9     <AcctQryDef>
10      <AcctCrit>
11        <NewCrit>
12          <SchCrit>
13            <AcctId>
14              <EQ>
15                <Othr>
16                  <Id>HANDSES0I0101TSWISH</Id>
17                </Othr>

```

Due to its nature and the way the RP was implemented by SWIFT, **the RP allows performing schema validation checks only**, i.e. a comparison of the uploaded XML message against the XSD defined in the TIPS Usage Guidelines.

Its use is relevant in *the timeframe when the SDD documents are published but the software is not yet available in an external test environment for testing purposes.*

Additional Technical validations, Business Rules and the complete A2A End-to-End message flow can be only tested using the TIPS Simulator and/or an external test environment.

Due to the *limited number of ISO reason codes and to the fact that the EPC and NPC specifications do not define a code to be used to return a failure of a check on an Usage Rule*, only the ISO code **MS01** is used to report the failure of an Additional Technical Validation via business messages (e.g. pacs.002).

Considering that there may be several Additional Technical Validations on a message, how to identify which one caused the rejection?

Possible ways:

- 1) In **ESMIG UDFS** Section 1.5.3, check if the rejected xml message is in line with all the described cross-field validations (table 4 for euro messages, table 5 for non-euro messages)
→ *if this is not the case for at least one, then this may be the reason for the rejection;*
- 2) In **TIPS UDFS** section relating to the rejected xml message type (e.g. 3.3.2.1.3 for pacs.008), check if the rejected xml message is in line with all validations described in the *TIPS Usage column*
→ *if this is not the case for at least one, then this may be the reason for the rejection;*
- 3) In **MyStandards UGs** of rejected xml message type (e.g. pacs.008), check if the rejected xml message is in line with all validations described in the *annotations TIPS – Notes, block TIPS-Use*
→ *if this is not the case for at least one, then this may be the reason for the rejection.*

Since ESMIG UDFS includes a subset of checks also contained in both TIPS UDFS and MyStandards UGs and being the content of TIPS UDFS completely in line with that of MyStandards, then:

- checks 2 and 3 can be considered as alternatives to each other;
- check 1 is fully satisfied by check 2 or check 3.

If, after completion of this procedure, the reason for the rejection is still unclear, the *TIPS Service Desk* may be asked to perform a more thorough investigation.

The root cause for rejection is in fact stored in TIPS, although it cannot be communicated externally due to the above-mentioned limitation of allowed ISO error codes.

Possible improvements that could be considered for implementation at 4CB level:

- by means of a new TIPS Change Request, it would be possible to create, for each message, a dedicated section describing the set of Additional Technical Validations performed by TIPS, in case the current SDD structure is considered unsatisfactory.
- Organisation of ad hoc workshops to provide clarification on releases of particular relevance (e.g. when a set of new validation rules is added).

Thank you for the attention!