Change Request form

<table>
<tr><td colspan="3" align="center">General Information (Origin of Request)</td></tr>
<tr><td colspan="3">☐ User Requirements Document (URD)</td></tr>
<tr><td colspan="3">☐ User Detailed Functional Specification (UDFS)</td></tr>
<tr><td colspan="3">☐ User Handbook (UHB)</td></tr>
<tr><td colspan="3">☒ Other User Functional or Technical Documentation (SYS)</td></tr>
<tr><td>Request raised by: TIPS CG</td><td>Institution:</td><td>Date raised: 07/02/2024</td></tr>
<tr><td colspan="2">Request title: TIPS Automatic Counterparty Simulator Enhancement</td><td>Request ref. no: TIPS-0074-SYS[1]</td></tr>
<tr><td colspan="2">Request type:</td><td></td></tr>
<tr><td colspan="2">1. Legal/business importance parameter: Low</td><td>2. Market implementation efforts parameter – Stakeholder impact: Low</td></tr>
<tr><td colspan="2">3. Operational impact: Low</td><td>4. Financial impact parameter: Low</td></tr>
<tr><td colspan="2">5. Functional/ Technical impact: Medium</td><td>6. Interoperability impact: Medium</td></tr>
<tr><td colspan="2">Requestor Category: TIPS Consultative Group</td><td>Status: Allocated to a release</td></tr>
</table>

Reason for change and expected benefits/business motivation:

Based on the feedback received from both the market and Central Banks, including input from the TIPS Consultative Group, this Change Request (CR) suggests implementing improvements to the existing functionalities of the TIPS Automatic Counterparty Simulator, for simplicity called "simulator". This simulator functions as an auto-responder, enabling a payer's PSP to receive an automatic response from TIPS for an instant payment. The response is systematically determined as positive or negative, depending on the BIC used as the counterparty on the creditor side. The proposed enhancements aim to empower simulator users to test TIPS production scenarios more comprehensively, specifically focusing on simulating the Instant Payment flow, Recall flow and activating error/rejection codes on demand.

_____

Description of requested change:

The new requirements expressed by the TIPS stakeholders are described in the following paragraph:

- In the Instant Payment business scenario, the originator initiates a pacs.008 (FItoFICustomerCreditTransfer) and awaits a response in the form of a pacs.002 (FIToFIPaymentStatusReport). To enhance the current simulator's capabilities in the perimeter of Instant Payment business process initiation, the simulator should be able of rejecting a pacs.008 sent by a customer with a pacs.002 message whose reason code is customised on-demand, based on an error code extracted[2] from the underlying pacs.008.
  This feature should allow, among the possible reason codes, the usage of those which can be used by TIPS in its Clearing and Settlement Mechanism (CSM) role, e.g. those related to the XML validations and the time-out deadline. It is important to outline that, possibly, the solution will rely on existing tags which have a format that might be different form the one usually adopted for Error Codes. Therefore, in this case, the simulator will consider only a subset of characters of strings submitted by customers, in case these will provide data which exceed error code dimensions.

- In the recall scenario, a party that previously settled an Instant Payment transaction seeks a refund from the beneficiary PSP. The initiator triggers a camt.056 (FIToFIPaymentCancellationRequest) and awaits a response, which could be positive in the form of a pacs.004 (PaymentReturn) or negative in the form of a camt.029 (ResolutionOfInvestigation) from the beneficiary PSP. The simulator should be enhanced in order to automatically generate[3] either a pacs.004 or camt.029 as a response to a camt.056 message sent by a customer as the initial request.
  Optionally, it shall be assessed whether the reason code of the negative recall response can be inferred by a

---

[1] XXXX = ECMS /TIPS / CONS, NNNN = 9999, DDDD = URD/UDFS/UHB

[2] E.g. The customised reason code shall be captured by the sender in a predefined formatted field not used for TIPS processing. The pacs.008 field and the format will be identified as part of the detailed assessment.

[3] The trigger to generate a pacs.004 or camt.029 as response message can be driven by the sender in a predefined formatted field not used for TIPS processing. The camt.056 field and the format will be identified as part of the detailed assessment.

field extracted[4] from the underlying camt.056. This solution will rely on the already available feature of the TIPS simulator. Indeed, it is already possible to trigger positive or negative acknowledgements of pacs.008, depending on the Network Service used for the communication. The same functionality will be used to trigger pacs.004 or camt.029.

- Additionally, it is proposed to use the camt.056 (FIToFIPaymentCancellationRequest) also to solicit either an instant payment or a recall request in the opposite direction, to enable the autonomous testing scenarios in the capacity of a beneficiary PSP.
  The simulator should be enhanced in order to automatically generate[5] a pacs.008 or a camt.056 to TIPS that should undergo the regular validations. After the successful completion of the conditional phase, TIPS shall route the instant payment or the recall request to the requestor.
  It is worth noting that, due to the stateless nature of the simulator, it is not envisioned to manage any investigation on recall messages in the cases described into the previous and current bullet points.

The enhancements developed in the context of this CR shall be exploited in a multi-currency context, i.e. regardless of the specific currency involved in the payment transaction.

As a side note, the initial request to use different real BICs selected from the TIPS Directory, can be already fulfilled with the existing implementation with a customized configuration that will be made clear in the functional documentation produced out of this CR.

_____

Submitted annexes / related documents:

Automatic Counterparty Simulator requirements for enhancement (TIPS CG – 12 October 2023);

Automatic Counterparty Simulator requirements for enhancement – status update (TIPS CG – 14 February 2024).

_____

Proposed wording for the Change request:

SDD

No impact on TIPS and CoCo Scope Defining Documents is foreseen.

Technical Annex

A Technical Annex document will be produced describing the following new functionalities supported by the TIPS Simulator.

1) Instant Payment rejections

The simulator shall be enhanced introducing the possibility to trigger the rejection of a pacs.008 sent by a customer with a pacs.002 message whose reason code is customised on-demand, based on an error code extracted from the underlying pacs.008 used as a trigger.

In details, the customised error code shall be captured by the sender in the "*End To End Identification*" field (field path: *FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/EndToEndId*) not used for TIPS processing, and should be inserted right after the escape string *CERR*. In case this string is omitted by the customer, a default error code (i.e., MS03) will be provided in pacs.002 in order to keep backward compatibility with the current simulator behaviour.

The field format will not be modified; however, since the error code is 4 characters only the first four characters of the field, after the escape string, will be captured to be sent as reason code. Any other character after the fourth will be ignored.

For instance, if error 'AC04' has to be triggered, the tag *FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/EndToEndId* shall be informed as in the following example:

<EndToEndId >CERRAC04xxxxxxxx</EndToEndId >.

It is also worth noting that no specific check is envisioned to verify that the error code encapsulated in the "*End To End Identification*" field corresponds to a legitimate error code for a pacs.002 confirmation message.

2) Recall Response

The simulator shall be enhanced in order to automatically generate either a pacs.004 or camt.029 as a response to a camt.056 message sent by a customer as the initial request. In order to convey the specific rejection code, the field

---

[4] E.g. The customised reason code shall be captured by the sender in a predefined formatted field not used for TIPS processing. The camt.056 field and the format will be identified as part of the detailed assessment.

[5] The trigger to generate a pacs.008 in the opposite direction shall be driven by the sender in a predefined formatted field not used for TIPS processing. The camt.056 field and the format will be identified as part of the detailed assessment.

path *FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd* will be used.

In details, in order to trigger a pacs.004 or camt.029 as response message, customers can send a camt.056 to a predefined BIC (i.e., respectively, ACCPITRRXXX and REJEITRRXXX). According to the selected BIC, a positive or negative recall response will be generated. Information which needs to be sent out can be conveyed through predefined formatted fields not used for TIPS processing, specified in the following mapping tables that associate the fields of the trigger respectively with the fields of the positive or negative response.

The exhaustive list of possible rejection reasons which can be triggered through camt.056 is reported below:

Code	Description
AC04	The account of the Beneficiary is closed at the Beneficiary PSP.
AM04	There are not enough funds on the Beneficiary's account to debit the full amount of the Recall.
ARDT	The Beneficiary has already transferred back the funds to the Originator (via SCT, SCT Inst or another payment means).
CUST	Beneficiary does not want to honour the Recall.
LEGL	Beneficiary PSP is not allowed to reimburse the funds following the Recall.
NOAS	Originator or Originator PSP tries to recover funds from a previously executed SCT Inst transaction.
NOOR	Beneficiary PSP or Beneficiary denies having received the initial SCT Inst transaction.

a) *FIToFIPmtCxlReq/Assgnmt/Assgne='ACCPITRRXXX'*

Positive Recall Response	
Trigger	**Simulator response**
camt.056	*pacs.004*
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	PmtRtr/GrpHdr/TtlRtrdIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	PmtRtr/GrpHdr/IntrBkSttlmDt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf/ClrSys	PmtRtr/GrpHdr/SttlmInf
FIToFIPmtCxlReq/Undrlyg/OrgnlGrpInfAndCxl/OrgnlMsgId	PmtRtr/OrgnlGrpInf/OrgnlMsgId
FIToFIPmtCxlReq/Undrlyg/OrgnlGrpInfAndCxl/OrgnlMsgNmId	PmtRtr/OrgnlGrpInf/OrgnlMsgNmId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlGrpInf	PmtRtr/TxInf/OrgnlGrpInf
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlInstrId	PmtRtr/TxInf/OrgnlInstrId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlEndToEndId	PmtRtr/TxInf/OrgnlEndToEndId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxId	PmtRtr/TxInf/OrgnlTxId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	PmtRtr/TxInf/OrgnlIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	PmtRtr/TxInf/RtrdIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	PmtRtr/TxInf/RtrdInstdAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	PmtRtr/TxInf/OrgnlTxRef/IntrBkSttlmDt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf/ClrSys	PmtRtr/TxInf/OrgnlTxRef/SttlmInf
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef	PmtRtr/TxInf/OrgnlTxRef

b) *FIToFIPmtCxlReq/Assgnmt/Assgne='REJEITRRXXX'*

Negative Recall Response	
Trigger	**Simulator response**
camt.056	*camt.029*
FIToFIPmtCxlReq/Undrlyg/OrgnlGrpInfAndCxl/OrgnlMsgId	RsltnOfInvstgtn/StmtDtls/OrgnlGrpInf/OrgnlMsgId
FIToFIPmtCxlReq/Undrlyg/OrgnlGrpInfAndCxl/OrgnlMsgNmId	RsltnOfInvstgtn/StmtDtls/OrgnlGrpInf/OrgnlMsgNmId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlInstrId	RsltnOfInvstgtn/ModDtls/OrgnlInstrId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlEndToEndId	RsltnOfInvstgtn/ModDtls/OrgnlEndToEndId

FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxId	RsltnOfInvstgtn/ModDtls/OrgnlTxId
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	RsltnOfInvstgtn/ModDtls/OrgnlTxRef/IntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	RsltnOfInvstgtn/ModDtls/OrgnlTxRef/IntrBkSttlmDt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf	RsltnOfInvstgtn/ModDtls/OrgnlTxRef/SttlmInf
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf	RsltnOfInvstgtn/ModDtls/OrgnlTxRef/PmtTpInf
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef	RsltnOfInvstgtn/ModDtls/OrgnlTxRef

3) Trigger either an instant payment or a recall request in the reverse direction

The simulator shall be enhanced in order to automatically generate a pacs.008 or a camt.056 to TIPS (and towards the requestor) based on a trigger.

In order to differentiate between the need of a pacs.008 and a camt.056 response, the camt.056 used as trigger will contain '*FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd*' field with two different values, depending on the scenario that needs to be tested by the customer.

In details, "INST" value will be used for the aforementioned field to produce a pacs.008, while "RECA" will be used to produce a camt.056.

Information which needs to be sent out can be conveyed through predefined formatted fields not used for TIPS processing, specified in the following mapping tables that associate the fields of the trigger respectively with the fields of the pacs.008 or camt.056.

a) *FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd='INST'*

Solicitation of an instant payment	
Trigger	**Simulator response**
camt.056	*pacs.008*
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	FIToFICstmrCdtTrf/GrpHdr/TtlIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	FIToFICstmrCdtTrf/GrpHdr/IntrBkSttlmDt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf/ClrSys	FIToFICstmrCdtTrf/GrpHdr/SttlmInf
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtDbtr	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAcct	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAcct
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAgt	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAgt	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAgt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAcct	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAcct
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtCdtr	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Purp	FIToFICstmrCdtTrf/CdtTrfTxInf/Purp
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/RmtInf	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf

b) *FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd='RECA'*

Solicitation of a Recall Request	
Trigger	**Simulator response**
camt.056[6]	*camt.056*
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf/ClrSys	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf/ClrSys
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtDbtr	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtDbtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAcct	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAcct
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAgt	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAgt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAgt	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAgt
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAcct	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAcct
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtCdtr	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtCdtr
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Purp	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Purp
FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/RmtInf	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/RmtInf

4) Configuration steps in CRDM (e.g. to use real BICs selected from the TIPS Directory):

- AAU and DN-BIC Routing: customers can rely on their preferred configuration, as already envisaged by standard CRDM procedures. To this respect, for each currency the following data shall be captured in CRDM:

  1) Two TIPS DCAs dedicated to the simulator processing

  2) AAU BIC configuration, linking the accounts at step 1 with the corresponding BICs. In the simplest case the BICs are 'ACCPITRRXXX' and 'REJEITRRXXX'.

     If more sophisticated configurations are required, e.g. by using real published BICs, each customer has to configure a pair of BICs devoted only to simulator usage and link them through AAU to the TIPS DCAs which be involved in specific scenarios.

  3) DN-BIC configuration shall be also captured. In the simplest scenario the BICs 'ACCPITRRXXX' and 'REJEITRRXXX' shall be linked to the DNs of the TIPS Simulator which are respectively:

     • for positive response: CN=ft1,OU=tips,OU=test,O=xbdi1,DC=test4cbnet,DC=4cb,DC=eu

     • for negative responses: CN=ft2,OU=tips,OU=test,O=xbdi1,DC=test4cbnet,DC=4cb,DC=eu.

- Network Service: in order to rely on TIPS simulator functionalities, Party configured as receivers of trigger messages needs to be set up with FT1 and FT2 network service. These services, indeed, will allow the triggering respectively of positive and negative recall responses.

  In all other cases, both network services can be used to trigger instant payments and recall requests.

- Users and privileges: at least a user should be configured under the Party which owns the involved accounts. In addition, it should be created a specific User-DN Link object, with "Main User" flag set to "True" between this user and the aforementioned DNs. Obviously, with regard to those scenarios where the triggering of an instant payment or a recall is foreseen, this user should also be granted with the appropriate roles and privileges required to instruct instant payments and recalls.

_____

High-level description of Impact:

The existing TIPS Simulator instance, currently used to consistently accept or reject instant payments targeting predefined counterparts is going to be enhanced following the requirements expressed by the TIPS Governance.

Besides the existing features of triggering consistent positive or negative instant payment confirmation, with the provision of the enhanced TIPS Simulator, any configured TIPS actor will be also provided with the option to receive (i) instant payments, (ii) recall request and (iii) positive/negative recall answer. It will also be possible to simulate the full

---

[6] *Document/FIToFIPmtCxlReq/Assgnmt/Id* and *FIToFIPmtCxlReq/Undrlyg/TxInf/CxlId* should be populated by TIPS Simulator in order to avoid any collision with existing or previously sent messages.

variety of error codes connected with the processing of negative instant payment confirmations.
The functionality will only be available in the internal and external testing environments.

_____

Impacts on other projects and products:

No impact is foreseen on other TARGET Services:
- T2: no impact
- ECMS: no impact
- T2S: no impact

Outcome/Decisions:

Change Request form

L3 analysis - General Information
Impact on TIPS
Business Interface
A2A Interface
U2A Interface
Settlement Engine
Payment Transaction
Liquidity Transfer
Recall
Queries and Reports
Queries
Reports
Other functions
Local Reference Data Management
Statistics
Complex Queries and Reports
Mobile Proxy Look-up
Common Components
ESMIG
CRDM
Archiving
Billing
DMT
Operational Tools
SLA Reporting
TMS
Technical Monitoring

Change Request form

	Change Management
	Capacity Management

Infrastructure request

	Application components impacted
	Application components not impacted

Operational activities

	Business activities impacted
	Technical activities impacted

New functionalities

	Enhanced Information Database (EIDB)
X	TIPS Simulator

Impact on documentation		
Document	**Chapter**	**Change**
TIPS UDFS	n.a.	
TIPS UHB	n.a.	
Training documentation	n.a.	
Other documents	New document: TIPS Simulator technical annex	
Impacted GDPR message / screen fields	n.a.	

Change Request form

Overview of the impact of the request on TIPS (L2 view)
Summary of functional, development, infrastructure, operational and security impacts

Summary of functional impact:

In order to enhance the TIPS Automatic Counterparty Simulator, the following new functionalities will be provided by the simulator:
- possibility to trigger the rejection of an instant payment sent by the customer with customized response containing a previously specified error code;
- possibility to trigger either a confirmation or a rejection of a recall. In the latter case, the rejection reason can be customized by the customer;
- possibility to solicit either an instant payment or a recall.

No update of the TIPS functional documentation or Coco functional documentation is required; however, a new technical annex will be delivered to explain the new TIPS Simulator functionalities, format specifications and guidelines for the CRDM configuration.

Summary of application development impact:

The following new XSD schemas will be added for the TIPS Simulator:
- New XSD schema for pacs.004
- New XSD schema for camt.029
- New XSD schema for camt.056

Update the process that handles an incoming pacs.008 messages:
- Parsing
- Syntax check
- Extraction of the Error Code information to be used to generate the outgoing pacs.002 response

Update of the process that generates pacs.002 responses:
Based on the Error Code Information (captured by the sender in the "End To End Identification field) retrieved from the incoming pacs.008, build and send out a pacs.002 message, reporting the requested error code, according to the error mappings provided in the description section of this CR.
To guarantee backward compatibility with the current behavior of the simulator, the error code information has to the encoded through a value that contain the CERR prefix followed by at least 4 additional chars, that contain the error code to report. When the prefix is missing, the simulator always produces a pacs.002 with the default error code MS03. More precisely the following two cases could happen:

- *<endToEndId>CERR**XXXX**blablabla</endToEndId>* → "XXXX" is reported as error code without any further check about its validity form an SCT-Inst point of view
- *<endToEndId>blablabla</endToEndId>* → the default "MS03" error code is returned

Add a new process that handles incoming camt.056 requests:
- Parsing
- Syntax check
- Data extraction.
  Retrieve the element *FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd* to decide which kind of message has to be generated and which data has to be extracted from the message, based on the mapping tables provided in the description section of this CR. Then extract the related needed elements.

- Trigger the specific process that will generate the requested message.

Add a new process that generates pacs.004 messages:
- Leveraging the data received in input via camt.056 and based on the provided mapping tables, build a pacs.004 message and send it out to the configured recipient.

Add a new process that generates pacs.029 messages:
- Leveraging the data received in input via camt.056 and based on the provided mapping tables, build a pacs.029 message and sends it out to the configured recipient.

Add a new process that generates pacs.008 messages
- Leveraging the data received in input via camt.056 and based on the provided mapping tables, build a pacs.008 message and sends it out to the configured recipient.

Add a new process that generates camt.056 messages
- Leveraging the data received in input via camt.056 and based on the provided mapping tables, build a pacs.004 message and send it out to the configured recipient.

Update the template repository of the Testing Tool Application by updating the templates of pacs.008 and camt.056 messages, containing the addition of all the new fields leveraged by the TIPS Simulator

Summary of infrastructure impact:

No impact

Summary of operational impact:

No impact

Summary of security impact:

See Change Request Analysis.