

Trigger Solution

User Requirements Document

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A circulation to unauthorised third persons is not allowed.

Versions

| Version | Chapter | Change information | Date | Name and departmental ID number |
|---------|---------|---|----------|---------------------------------|
| 1.0 | All | Created | 10/11/23 | Deutsche Bundesbank |
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| 2.0 | All | Continuation of the exploratory work | 24/11/25 | Deutsche Bundesbank |

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1 Overview

1.1 Business Process

The business process consist of the following steps:

- Step 1: Agreement on the trade in the Eligible Market DLT Platform
- Step 2: Initialisation of the trade in the Eligible Market DLT Platform and blocking of the assets
- Step 3: Creation of a payment instruction in the Trigger Solution
- Step 4: Approval of the payment instruction in the Trigger Solution
- Step 5: BBk-node receives the created and approved payment instruction and validates the payment instruction
- Step 6: The Trigger Solution sends the direct debit (pacs.010) to T2
- Step 7: The Trigger Solution sends the credit transfer (pacs.009) to T2
- Step 8: Status change of the payment instruction
- Step 9: Transfer the status of the payment instruction to the Eligible Market DLT Platform and transfer of the assets

For further details, please refer to the “Trigger Solution – Process Description Document”.

1.2 Participants and Business Case

- As described in the Trigger Solution Process Description Document, the following actors are allowed to participate in the Trigger Solution:
 - Eligible Market Participants according to the Eurosystem definition¹.
 - Eligible Market DLT Operators according to the Eurosystem definition.²
- In Eligible Market DLT Platforms, Eligible Market Participants as well as companies might – depending on the decision of the Eligible Market DLT Operator – participate.

¹ Eligible Market Participant means any entity with access to TARGET, within the meaning of Article 4 and Article 7, Annex 1 Part I of the TARGET Guideline

² Eligible Market DLT Operator means (i) CSDs , authorised under the CSDR, operating a Securities Settlement System based on DLT, DLT / operating a DLT platform (incl. CSDs subject to a derogation of the contractual and regulatory framework of T2S) (ii) operators of a DLT settlement system or a DLT trading and settlement system as authorised under the DLT Pilot Regime Regulation, (Regulation 2022/858) and (iii) Investment firms and market operators and other licensed financial institutions operating a DLT platform, as duly licensed under the national law transposing MiFID II or under other relevant national legal frameworks and subject to assessment.

- In case an actor is active in the Eligible Market DLT Platform and it is not (allowed to be) part of the Trigger Solution, there needs to be a legal agreement between that actor and the respective Participant in the Trigger Solution. Bundesbank as Solution Provider for the Trigger Solution is not verifying the existence of such an agreement. This needs to be ensured by the participants in the Trigger Solution and the participants on the Eligible Market DLT Platform.

As described in the Trigger Solution Process Description Document the following underlying business transactions are possible within the Trigger Solution:

- The Trigger Solution is agnostic with regard to the assets in the Eligible Market DLT Platform and does not impose technical requirements on Eligible Market DLT Platforms. However, for the purpose of the Eurosystem exploratory work related to ntw CeBM settlement (new technologies for wholesale Central Bank Money settlement) only Eligible Delivery versus Payment transactions over Eligible Assets³ and Eligible Payments⁴ will be allowed.

³ Eligible Assets means financial instruments, denominated in euro, listed and unlisted alike, within the meaning of Article 4(1), point (15), of the MiFID II, that could be either issued as a native digital assets or as tokenised representation of an existing asset.

⁴ Eligible Payments means Wholesale Payments between euro central bank money and euro or non-euro central bank money or euro or non-euro commercial bank money, including in the form of token

2 Functional Requirements

2.1 Connectivity

| | |
|--------------------|--|
| Id | TRI.UR.CON.001 |
| Name | Connectivity via peer |
| Description | It shall be possible for all participants to connect via their own node to the Trigger Solution. |

| | |
|--------------------|---|
| Id | TRI.UR.CON.002 |
| Name | Connectivity via non-peer A2A |
| Description | It shall be possible for all participants to connect via API (without its own node) to the Trigger Solution using an A2A communication. |

| | |
|--------------------|---|
| Id | TRI.UR.CON.003 |
| Name | Connectivity via non-peer U2A |
| Description | It shall be possible for all participants to connect via API (without its own node) to the Trigger Solution using an U2A communication. For this kind of connectivity there shall be a graphical user interface provided by the Trigger Solution. |

| | |
|--------------------|---|
| Id | TRI.UR.CON.004 |
| Name | Full scope of functionality independent from chosen connectivity |
| Description | Independent from the chosen connectivity (peer, non-peer A2A, non-peer U2A) the full scope of functionality shall be available. |

| | |
|--------------------|--|
| Id | TRI.UR.CON.005 |
| Name | Connectivity via multiple modes possible |
| Description | It shall be possible for all participants to connect with more than one connectivity mode to the Trigger Solution (peer, non-peer A2A, non-peer U2A). That means, that e.g. one participant can create a payment instruction via non-peer A2A and as a next step, the same payment instruction is approved (by the same participant) via non-peer U2A. |

2.2 Access Rights Management (incl. 4-eyes principle)

| | |
|--------------------|---|
| Id | TRI.UR.ARM.001 |
| Name | Only registered participants gain access |
| Description | Only participants that have provided a valid registration form and whose data are captured in the course of the onboarding process for the Trigger Solution will gain access. |

| | |
|--------------------|--|
| Id | TRI.UR.ARM.002 |
| Name | Data scope - participants |
| Description | The participants shall only see its own payment instructions, that means <ul style="list-style-type: none">• payment instructions that they have captured by themselves• payment instructions where they are involved in.• payment instructions where they have a mandate to see them (as third party). The third party shall only see the own created payment instructions. |

| | |
|--------------------|---|
| Id | TRI.UR.ARM.003 |
| Name | Data scope – central banks |
| Description | Central banks in its monitoring role shall see all data where participants are involved which belong to their TARGET component. |

| | |
|--------------------|---|
| Id | TRI.UR.ARM.004 |
| Name | Data scope – solution provider |
| Description | The Trigger Solution provider shall see all data in the Trigger Solution. |

| | |
|--------------------|--|
| Id | TRI.UR.ARM.005 |
| Name | Privileges |
| Description | A registered and authorised user has the full scope of functionality available. A distinction to restrict the scope is not required. |

| | |
|--------------------|--|
| Id | TRI.UR.ARM.006 |
| Name | User is linked to a participant |
| Description | There is a 1:1 link between a user and a participant. One user belongs always to only one participant. |

| | |
|-------------|--|
| Id | TRI.UR.ARM.007 |
| Name | 2-eyes or 4-eyes principle for the approval of a payment instruction |

| | |
|--------------------|---|
| Description | <p>A payment instruction shall be approved in 2-eyes or 4-eyes mode.</p> <p>In case of 4-eyes mode the approval shall be done by two different users of the payer bank or by two different users of the third party (that is authorised to act for the payer bank).</p> <p>In case of a modification after the initial approval, the approval process shall start again (i.e. two different users shall approve).</p> |
|--------------------|---|

2.3 Dashboard (Content, Sorting Order)

| | |
|--------------------|--|
| Id | TRI.UR.DSB.001 |
| Name | Transaction overview provided as Dashboard |
| Description | <p>In the Graphical User Interface (GUI) of the Trigger Solution there shall be a dashboard providing an overview of all payment instructions.</p> <p>The data scope is defined under TRI.UR.ARM.002, TRI.UR.ARM.003, TRI.UR.ARM.004</p> |

| | |
|--------------------|---|
| Id | TRI.UR.DSB.002 |
| Name | Content of the Dashboard |
| Description | <p>The Dashboard shall include the following columns in the following order:</p> <ul style="list-style-type: none"> – Correlation ID – Creation Date – Payer Bank – Receiver Bank – Amount – Status |

| | |
|--------------------|--|
| Id | TRI.UR.DSB.003 |
| Name | Default Sorting |
| Description | <p>The content of the Dashboard shall by default be sorted by “Creation Date”.</p> <p>The newest payment instruction shall be listed on top.</p> |

| | |
|--------------------|---|
| Id | TRI.UR.DSB.004 |
| Name | Navigation to the Details |
| Description | <p>It shall be possible to navigate to the details of a selected payment instruction by clicking on the button at the end of the row.</p> |

2.4 Audit log

| | |
|-------------|----------------|
| Id | TRI.UR.AUL.001 |
| Name | Audit log |

| | |
|--------------------|---|
| Description | It shall be possible to identify who did what when with the payment instruction. That means which user created, modified, approved, submitted, transferred (in case of HTLC) or cancelled a payment instruction and when. |
|--------------------|---|

2.5 Create Payment Instruction

| | |
|--------------------|---|
| Id | TRI.UR.CRP.001 |
| Name | Create a payment instruction function |
| Description | It shall be possible to create a payment instruction in the Trigger Solution via peer, non-peer U2A and non-peer A2A. |

| | |
|--------------------|---|
| Id | TRI.UR.CRP.002 |
| Name | Creation of a payment instruction by participants |
| Description | All participants in the Trigger Solution shall be able to create a payment instruction. |

| | |
|--------------------|---|
| Id | TRI.UR.CRP.003 |
| Name | Participants allowed to create a payment instruction |
| Description | The participant allowed to create a payment instruction shall be <ul style="list-style-type: none"> – either one of the counterparts of the trade, i.e. the payer bank or the receiver bank of the trade or – a third party (i.e. another participant in the Trigger Solution). |

| | |
|--------------------|---|
| Id | TRI.UR.CRP.004 |
| Name | Error message with error description |
| Description | In case an error occurs while creating a payment instruction, the Trigger Solution shall provide a meaningful error message with an understandable error description. |

| | |
|--------------------|--|
| Id | TRI.UR.CRP.005.01 |
| Name | Content of a payment instruction – without using HTLC |
| Description | During the creation of a payment instruction the following information shall be provided: <p>Mandatory data:</p> <ul style="list-style-type: none"> – Payer bank – Receiver bank – Amount – Currency – Correlation ID – Creation date and time (automatically provided by the system) |

| | |
|--|---|
| | <ul style="list-style-type: none"> – Creator Institution (automatically provided by the system) <p>Optional data:</p> <ul style="list-style-type: none"> – Ordering customer – Beneficiary customer |
|--|---|

| | |
|--------------------|--|
| Id | TRI.UR.CRP.005.02 |
| Name | Content of a payment instruction – with using HTLC |
| Description | <p>During the creation of a payment instruction the following information shall be provided:</p> <p>Mandatory data:</p> <ul style="list-style-type: none"> – Payer bank – Receiver bank – Amount – Currency – Correlation ID – Creation date and time (automatically provided by the system) – Creator Institution (automatically provided by the system) – HTLC Hash – HTLC Time Out Date and Time <p>Optional data:</p> <ul style="list-style-type: none"> – Ordering customer – Beneficiary customer |

| | |
|--------------------|---|
| Id | TRI.UR.CRP.005.03 |
| Name | Requirements regarding the HTLC Time Out |
| Description | <ul style="list-style-type: none"> – The HTLC Time Out time has to be at least 15 minutes in the future, 15 minutes after the start of day (SoD: 9:00) and before the close of the trial settlement window (EoD: 14:00). |

| | |
|--------------------|--|
| Id | TRI.UR.CRP.006 |
| Name | Automatic generation of information by the Trigger Solution |
| Description | <p>When the create function is started, the Trigger Solution adds automatically the following data to the payment instruction:</p> <ul style="list-style-type: none"> – ID to uniquely identify a payment instruction in the Trigger Solution, which shall be randomly generated. – Status – Creator – Signature |

| | |
|-----------|----------------|
| Id | TRI.UR.CRP.007 |
|-----------|----------------|

| | |
|--------------------|--|
| Name | Status of created payment instructions |
| Description | The status of the created payment instruction is "Prepared" ⁵ . |

2.6 Modify Payment Instruction

| | |
|--------------------|---|
| Id | TRI.UR.MOP.001 |
| Name | Modify a payment instruction function |
| Description | It shall be possible to modify a payment instruction in the Trigger Solution via peer, non-peer U2A and non-peer A2A. |

| | |
|--------------------|---|
| Id | TRI.UR.MOP.002 |
| Name | Modification of a payment instruction by participants |
| Description | All participants in the Trigger Solution shall be able to modify a payment instruction. |

| | |
|--------------------|--|
| Id | TRI.UR.MOP.003 |
| Name | Participants allowed to modify a payment instruction |
| Description | The creator of a payment instruction shall be allowed to modify a payment instruction. |

| | |
|--------------------|--|
| Id | TRI.UR.MOP.004 |
| Name | Latest modification |
| Description | An update of the already created payment instruction is possible until its approval. In case the 4-eyes mode is used, a modification is possible until the approval of the first user. |

| | |
|--------------------|--|
| Id | TRI.UR.MOP.005 |
| Name | Possible modifications of a payment instruction |
| Description | <p>The following information shall be modifiable (independent of using HTLC or not):</p> <ul style="list-style-type: none"> – Amount – Currency. <p>In addition it is possible to change the interoperability mechanism used from basic approach to HTLC.</p> <p>In case of using HTLC it shall also be possible to modify</p> <ul style="list-style-type: none"> – HTLC Hash |

⁵ When connected via API A2A the status value is "PREPARE".

| | |
|-------------|--|
| Id | – HTLC Timeout. |
| Name | The Payment Instruction has to have either both attributes, HTLC Hash and HTLC Timeout, or none. |
| Description | It is not possible to modify all other information of a payment instruction. In case of a mistake here the cancellation and new creation is necessary. |

| | |
|-------------|--|
| Id | TRI.UR.MOP.006 |
| Name | Error message with error description |
| Description | In case an error occurs while modifying a payment instruction, the Trigger Solution shall provide a meaningful error message with an understandable error description. |

| | |
|-------------|---|
| Id | TRI.UR.MOP.007 |
| Name | Status of modified payment instructions |
| Description | The status of the modified payment instruction does not change and remains as “Prepared”. |

2.7 Cancel Payment Instruction

| | |
|-------------|---|
| Id | TRI.UR.CAP.001 |
| Name | Cancel a payment instruction function |
| Description | It shall be possible to cancel a payment instruction in the Trigger Solution via peer, non-peer U2A and non-peer A2A. |

| | |
|-------------|---|
| Id | TRI.UR.CAP.002 |
| Name | Cancellation of a payment instruction by participants |
| Description | All participants in the Trigger Solution shall be able to cancel a payment instruction. |

| | |
|-------------|---|
| Id | TRI.UR.CAP.003 |
| Name | Participants allowed to cancel a payment instruction |
| Description | The participant allowed to cancel a payment instruction shall be <ul style="list-style-type: none"> – the creator of the payment instruction, – the payer bank or – the receiver bank. |

| | |
|----|----------------|
| Id | TRI.UR.CAP.004 |
|----|----------------|

| | |
|--------------------|---|
| Name | Latest cancellation |
| Description | A cancellation of the already created payment instruction is possible until its approval. In case the 4-eyes mode is used, a cancellation is possible before the approval by a second user. |

| | |
|--------------------|---|
| Id | TRI.UR.CAP.005 |
| Name | Error message with error description |
| Description | In case an error occurs while cancelling a payment instruction, the Trigger Solution shall provide a meaningful error message with an understandable error description. |

| | |
|--------------------|--|
| Id | TRI.UR.CAP.006 |
| Name | Status of a cancelled payment instruction |
| Description | The status of the cancelled payment instruction is "Canceled". |

2.8 Approve Payment Instruction (incl. approval by Third Party)

| | |
|--------------------|--|
| Id | TRI.UR.APP.001 |
| Name | Approve a payment instruction function |
| Description | It shall be possible to approve a payment instruction in the Trigger Solution via peer, non-peer U2A and non-peer A2A. |

| | |
|--------------------|--|
| Id | TRI.UR.APP.002 |
| Name | Approval of a payment instruction by participants |
| Description | All participants in the Trigger Solution shall be able to approve a payment instruction. |

| | |
|--------------------|--|
| Id | TRI.UR.APP.003 |
| Name | Participants allowed to approve a payment instruction |
| Description | <p>The participant allowed to approve a payment instruction shall be</p> <ul style="list-style-type: none"> – either the payer bank of the trade or – a third party (that is authorised to act for the payer bank). <p>A third party can only approve a payment instruction created by itself.</p> |

| | |
|-------------|--------------------------------------|
| Id | TRI.UR.APP.004 |
| Name | Error message with error description |

| | |
|--------------------|--|
| Description | In case an error occurs while approving a payment instruction, the Trigger Solution shall provide a meaningful error message with an understandable error description. |
|--------------------|--|

| | |
|--------------------|---|
| Id | TRI.UR.APP.005 |
| Name | Status of approved payment instructions |
| Description | In case of 4-eyes mode (please refer to TRI.UR.ARM.007), the status of the payment instruction changes to “Initially approved” after the approval of the first user. When the second user has approved the payment instruction the status changes to “Approved”. |

2.9 Submit Payment Instruction

| | |
|--------------------|---|
| Id | TRI.UR.SUP.001 |
| Name | Submit a payment instruction function |
| Description | It shall be possible to submit a payment instruction in the Trigger Solution via peer, non-peer U2A and non-peer A2A. |

| | |
|--------------------|---|
| Id | TRI.UR.SUP.002 |
| Name | Submission of a payment instruction by participants |
| Description | All participants in the Trigger Solution shall be able to submit a payment instruction. |

| | |
|--------------------|---|
| Id | TRI.UR.SUP.003 |
| Name | Participants allowed to submit a payment instruction |
| Description | The participant allowed to submit a payment instruction shall be <ul style="list-style-type: none"> – The creator of a payment instruction, – the payer bank or – the receiver bank. |

| | |
|--------------------|---|
| Id | TRI.UR.SUP.004 |
| Name | Error message with error description |
| Description | In case an error occurs while submitting a payment instruction, the Trigger Solution shall provide a meaningful error message with an understandable error description. |

| | |
|-------------|--|
| Id | TRI.UR.SUP.005 |
| Name | Status of submitted payment instructions |

| | |
|--------------------|---|
| Description | The status of the submitted payment instruction is “Submitted”. |
|--------------------|---|

| | |
|--------------------|--|
| Id | TRI.UR.SUP.006 |
| Name | Provision of a value date by the Trigger Solution |
| Description | As soon as the status changes to “Submitted” the Trigger Solution shall start processing the payment instruction. This includes the provision of a value date. During the business hours of the Trigger Solution this date shall equal the same business day. Outside of the business hours of the Trigger Solution the value date shall be the next business day. |

| | |
|--------------------|--|
| Id | TRI.UR.SUP.007 |
| Name | Status of the payment instruction after the provision of a value date |
| Description | The status of the payment instruction shall change to “Triggered” as soon as the value date is provided. |

2.10 Check Signature

| | |
|--------------------|--|
| Id | TRI.UR.CSI.001 |
| Name | The signature is created during the approval process |
| Description | During the approval of the payment instruction a signature of the payment instruction is created and added with the certificate ⁶ of the approving participant. |

| | |
|--------------------|---|
| Id | TRI.UR.CSI.002 |
| Name | The signature covers the whole content of the payment instruction |
| Description | The signature is the signed Hash of the following fields of the payment instruction: <ul style="list-style-type: none"> • ID, • Payer Bank, • Receiver Bank, • Amount, • HTLC Hash, • HTLC Timeout. |

| | |
|-------------|--|
| Id | TRI.UR.CSI.003 |
| Name | Signature check while processing the payment instruction |

⁶ The necessary certificates will be provided during the onboarding process.

| | |
|--------------------|--|
| Description | The Trigger Solution shall check the signature while processing the payment instruction. This also includes the check, if the participant is allowed to approve the payment instruction. |
|--------------------|--|

2.11 Send pacs.010 to T2

| | |
|--------------------|---|
| Id | TRI.UR.SDD.001 |
| Name | Send a direct debit to T2 (RTGS) |
| Description | The Trigger Solution shall be able to send a direct debit (pacs.010) to T2 (RTGS) in A2A-mode to transfer liquidity from the RTGS DCA of the payer bank to the Deutsche Bundesbank's interim account. If the settlement in T2 has not taken place within a predefined period of time, the direct debit shall be rejected by T2. The definition of the period shall be done in the Trigger Solution operator. |

| | |
|--------------------|---|
| Id | TRI.UR.SDD.002 |
| Name | Store and process positive answer from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process the positive answer from T2 (pacs.002) and trigger the next process step. |

| | |
|--------------------|---|
| Id | TRI.UR.SDD.003 |
| Name | Store and process negative answer from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process negative answers from T2 (pacs.002 or admi.007) and trigger the next process step depending on the error description and error code provided by T2. |

| | |
|--------------------|---|
| Id | TRI.UR.SDD.004 |
| Name | Status of payment instructions after positive answer from T2 |
| Description | After receiving a positive response (positive pacs.002) from T2, the status of the payment instruction changes to "Payment Locked" when using HTLC ⁷ . In case HTLC is not used, the status of the payment instruction remains "Triggered". |

| | |
|--------------------|---|
| Id | TRI.UR.SDD.005 |
| Name | Status of payment instructions after negative answer from T2 |
| Description | After receiving a negative response (negative pacs.002) from T2, the status of the payment instruction changes to "Failed". |

⁷ When connected via API A2A the status value is "PAYMENTLOCKED".

2.12 Send pacs.009 to T2

| | |
|--------------------|---|
| Id | TRI.UR.SCT.001 |
| Name | Send a credit transfer to T2 (RTGS) |
| Description | <p>The Trigger Solution shall be able to send a credit transfer (pacs.009) to T2 (RTGS) in A2A-mode to transfer liquidity from the Deutsche Bundesbank's interim account to the RTGS DCA of the receiver bank.</p> <p>If the settlement in T2 has not taken place within a predefined period of time, the credit transfer shall be rejected by T2. The definition of the period shall be done in the Trigger Solution operator.</p> <p>As soon as the pacs.009 has been sent, the payment instruction is flagged. This flag has the purpose to ensure that the automatic sweep at the end of the day does not return payments automatically that have not been confirmed (positively or negatively). Deutsche Bundesbank will check the reason for the open response and will manually process the remaining steps.</p> |

| | |
|--------------------|---|
| Id | TRI.UR.SCT.002 |
| Name | Timing of sending the credit transfer to T2 without using HTLC |
| Description | Directly after receiving the positive pacs.002 of the direct debit the Trigger Solution creates the respective pacs.009 and sends it to T2. |

| | |
|--------------------|---|
| Id | TRI.UR.SCT.003 |
| Name | Timing of sending the credit transfer to T2 with using HTLC |
| Description | <p>Only in case the following conditions are fulfilled, the Trigger Solution shall send the pacs.009 to T2:</p> <ul style="list-style-type: none">• The Timeout T_2 has not yet passed.• The correct pre-image to the hash has been provided with the HTLC transfer-function. <p>The status of the payment instruction changes to "HTLC Ready"⁸.</p> |

| | |
|--------------------|---|
| Id | TRI.UR.SCT.004 |
| Name | Conditions for sending the credit transfer to T2 with using HTLC not fulfilled |
| Description | <p>In case the conditions in TRI.UR.SCT.003 are not fulfilled, the Trigger Solution shall retransfer the liquidity from the interim account to the RTGS DCA of the payer bank by sending a pacs.004 (payment return).</p> <p>The status of the payment instruction changes to "Failed".</p> |

| | |
|-------------|--|
| Id | TRI.UR.SCT.005 |
| Name | Store and process positive answer from T2 (RTGS) |

⁸ When connected via API A2A the status value is "HTLCREADY".

| | |
|--------------------|---|
| Description | The Trigger Solution shall be able to store and process the positive answer (pacs.002). |
|--------------------|---|

| | |
|--------------------|---|
| Id | TRI.UR.SCT.006 |
| Name | Store and process negative answer from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process negative answers (pacs.002 or admi.007) and trigger the next process step depending on the error description and error code provided by T2. |

| | |
|--------------------|--|
| Id | TRI.UR.SCT.007 |
| Name | Status of payment instructions after positive answer from T2 |
| Description | After receiving a positive response (positive pacs.002) from T2, the status of the payment instruction changes to “Completed” ⁹ |

| | |
|--------------------|--|
| Id | TRI.UR.SCT.008 |
| Name | Without HTLC: Sending of payment return and status of payment instructions after negative answer from T2 |
| Description | <p>After receiving a negative response from T2 (negative pacs.002 or admi.007) it is checked whether the error code is “E076” (Reject time reached).</p> <ul style="list-style-type: none"> • If yes, a resend of the pacs.009 is triggered. • If no or the resend is also not successful, the Trigger Solution shall send a pacs.004 (payment return) to retransfer the liquidity from the Deutsche Bundesbank’s interim account to the RTGS DCA of the payer bank and the status of the payment instruction changes to “Failed” and the additional information about the error code and error description are included into the payment instruction. |

| | |
|--------------------|--|
| Id | TRI.UR.SCT.009 |
| Name | With HTLC: No sending of payment return and status of payment instructions after negative answer from T2 |
| Description | <p>After receiving a negative response from T2 (negative pacs.002 or admi.007) it is checked whether the error code is “E076” (Reject time reached).</p> <ul style="list-style-type: none"> • If yes, a resend of the pacs.009 is triggered. • If no or the resend is also not successful, the Trigger Solution shall <u>not</u> send a pacs.004 (payment return) to retransfer the liquidity from the Deutsche Bundesbank’s interim account to the RTGS DCA of the payer bank. In this case, Deutsche Bundesbank will contact the receiver bank in order to be able to complete the credit transfer. <p>The status of the payment instruction remains “HTLC Ready”.</p> |

⁹ When connected via API A2A the status value is “SUCCESS”.

2.13 Send Pacs.004 to T2

| | |
|--------------------|---|
| Id | TRI.UR.SPR.001 |
| Name | Send a payment return to T2 (RTGS) |
| Description | The Trigger Solution shall be able to send a payment return (pacs.004) to T2 (RTGS) in A2A-mode to retransfer liquidity from the Deutsche Bundesbank's interim account to the RTGS DCA of the payer bank. |

| | |
|--------------------|---|
| Id | TRI.UR.SPR.002 |
| Name | Reasons for sending a payment return to T2 (RTGS) |
| Description | <p>In the following cases a payment return shall be sent by the Trigger Solution to T2:</p> <ul style="list-style-type: none">- TRI.UR.SCT.004 (Conditions for sending the credit transfer to T2 with using HTLC not fulfilled)- TRI.UR.SCT.008 (Without HTLC: Sending of payment return and status of payment instructions after negative answer from T2) and- TRI.UR.SPR.006 (Automatic payment return in case of liquidity on the Deutsche Bundesbank's interim account at the end of day). |

| | |
|--------------------|---|
| Id | TRI.UR.SPR.003 |
| Name | Store and process positive answer from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process the positive answer (pacs.002). |

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|--------------------|---|
| Id | TRI.UR.SPR.004 |
| Name | Store and process negative answer from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process negative answers (pacs.002 or admi.007) and inform the Operator of the failed retransfer. The Operator shall - depending on the error code and the error description provided by T2 - manually retransfer the liquidity from the Deutsche Bundesbank's interim account to the payer bank. |

| | |
|--------------------|---|
| Id | TRI.UR.SPR.005 |
| Name | Status of payment instructions when sending a pacs.004 |
| Description | As soon as the pacs.004 is sent following a negative pacs.002 the status of the payment instruction shall change to "Failed". |

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|-----------|----------------|
| Id | TRI.UR.SPR.006 |
|-----------|----------------|

| | |
|--------------------|---|
| Name | Automatic payment return in case of liquidity on the Deutsche Bundesbank's interim account at the end of day |
| Description | At the end of the business day the Trigger Solution shall check for payment instructions with the status "Payment Locked". It shall then initiate the payment return in order to transfer the liquidity from the Deutsche Bundesbank's interim account to the RTGS DCA of the payer bank. As soon as the payment return was successfully booked (positive pacs.002), the status of the payment instruction changes to "Failed". |

2.14 Receiving an admi.007

| | |
|--------------------|---|
| Id | TRI.UR.RAD.001 |
| Name | Store and process admi.007 from T2 (RTGS) |
| Description | The Trigger Solution shall be able to store and process an admi.007 and inform the Operator. The Operator shall check the reason for this error message and manually correct and initiate the original process again. |

2.15 Status Payment Instruction

| | |
|--------------------|---|
| Id | TRI.UR.SPI.001 |
| Name | Status of the payment instruction |
| Description | <p>Every payment instruction shall have one of the following status (Annex 1 provides an additional overview of the status values that are provided via the Trigger Solution either via the graphical user interface or via API A2A):</p> <ul style="list-style-type: none"> - Prepared - Cancelled - Initially approved - Approved - Submitted - Triggered - Payment Locked [only in case of using HTLC] - HTLC Ready [only in case of using HTLC] - Completed - Failed. |

| | |
|--------------------|--|
| Id | TRI.UR.SPI.002 |
| Name | Notifications on status updates of the payment instruction |
| Description | Participants in the Trigger Solution operating an own node shall receive a notification about the status update of payment instructions. |

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| Id | TRI.UR.SPI.003 |
|-----------|----------------|

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|--------------------|---|
| Name | Queries on the status of the payment instruction |
| Description | The participants in the Trigger Solution that use the API shall be able to query status information of the payment instruction. |

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| Id | TRI.UR.SPI.004 |
| Name | No forwarding of status information to the Eligible Market DLT Platform |
| Description | No direct connection to the Eligible Market DLT Platform shall be established. The Trigger Solution shall not sent any status information to the Eligible Market DLT Platform. The participants in the Trigger Solution (i.e. the creator of a payment instruction, the payer bank or the receiver bank) shall transfer the status of the payment instruction to the Eligible Market DLT Platform. |

Annex 1 “Overview of the status values of a payment instruction”

The description of the following status can be found in the main part of the document. This table provides as an additional overview of the status values that are provided via the Trigger Solution either via the graphical user interface or via API A2A.

| Status value in API U2A | Status value in API A2A | Remark |
|-------------------------|-------------------------|------------------------------|
| “Prepared” | “PREPARE” | |
| “Initially Approved” | “INITIALLY APPROVED” | 4E use case only |
| “Approved” | “APPROVED” | |
| “Submitted” | “READY” | submitted step |
| “Triggered | “TRIGGERED” | settlement date defined step |
| “Payment locked” | “PAYMENTLOCKED” | HTLC use case only |
| “HTLC Ready” | “HTLCREADY” | HTLC use case only |
| “Completed” | “SUCCESS” | |
| “Failed” | “FAILED” | |
| “Canceled” | “CANCELED” | |

Deutsche Bundesbank
Wilhelm-Epstein-Straße 14
60431 Frankfurt am Main
Deutschland