



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Trigger Solution (Deutsche Bundesbank)

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Focus Session

15 December 2023



DEUTSCHE  
BUNDESBANK  
EUROSYSTEM

# Trigger Solution

## What is it about?

### The Trigger Solution:



is a **technical solution** provided by **Deutsche Bundesbank** for the purpose of **conducting Experiments** and **Trials** with Eligible Market Participants and Eligible Market DLT Operators during the **Eurosystem exploration phase**,



allows for the **settlement of DLT-based wholesale financial transactions in central bank money in the existing TARGET Service T2**,



consists of a **DLT infrastructure** developed and operated by Deutsche Bundesbank, which acts as **technical bridge** between the RTGS component of T2 and Eligible Market DLT Platforms.

## Trigger Solution

### What experience do we have?

In 2021 Deutsche Bundesbank together with Deutsche Börse Group and Germany's Finance Agency have developed and successfully tested with a number of banks the initial Trigger Solution.

A **technical bridge** between a **DLT platform** operated by Deutsche Börse and the Eurosystem's **conventional payment system TARGET2** was created via a DLT platform operated by Bundesbank (Trigger Solution) to settle DLT-based securities transactions **in CeBM without creating CeBM tokens**.

Press Release 24 March 2021:

[Deutsche Bundesbank: DLT-based securities settlement in central bank money successfully tested](#)

Recent publications June 2023:

[SUERF Policy Note, Issue No 312, June 2023: Empowering central bank money for a digital future](#)

[Digital money: options for payments \(bundesbank.de\)](#)

# Trigger Solution

## What does the ecosystem look like?

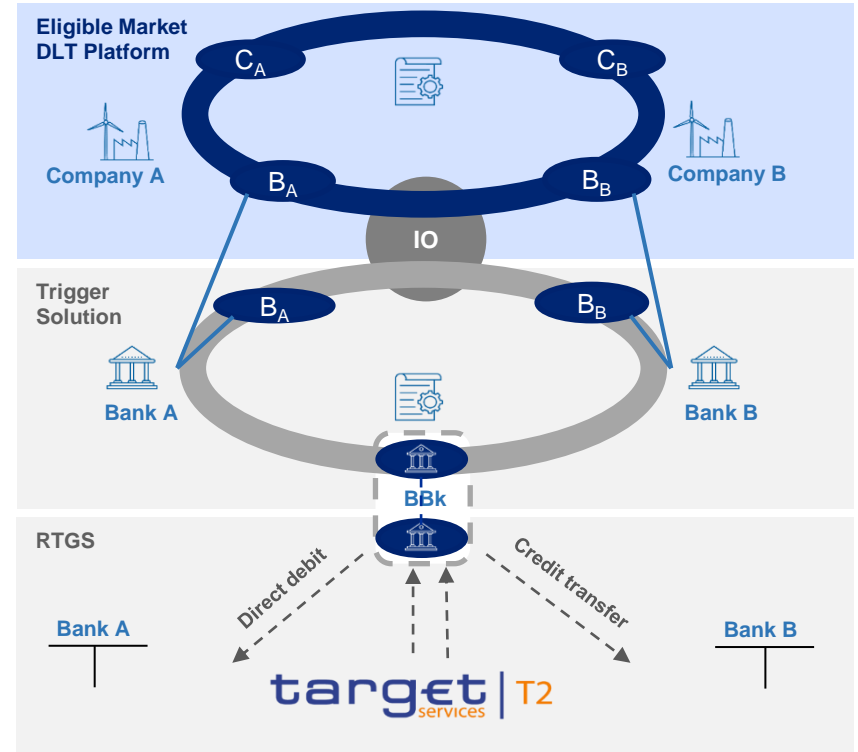
The Eligible Market DLT Platform will be operated by an Eligible Market DLT Operator (as defined by the Eurosystem)

- Eligible Market Participants and companies might participate
- The underlying business transaction (e.g. exchange of securities) takes place in the Eligible Market DLT Platform
- Eligible Assets will be defined by the Eurosystem

The Trigger Solution is operated by Deutsche Bundesbank

- Only Eligible Market Participants and Eligible Market DLT Operators (as defined by the Eurosystem) participate in the Trigger Solution
- The Trigger Solution is technically agnostic with regard to the business/assets in the Eligible Market DLT Platform.

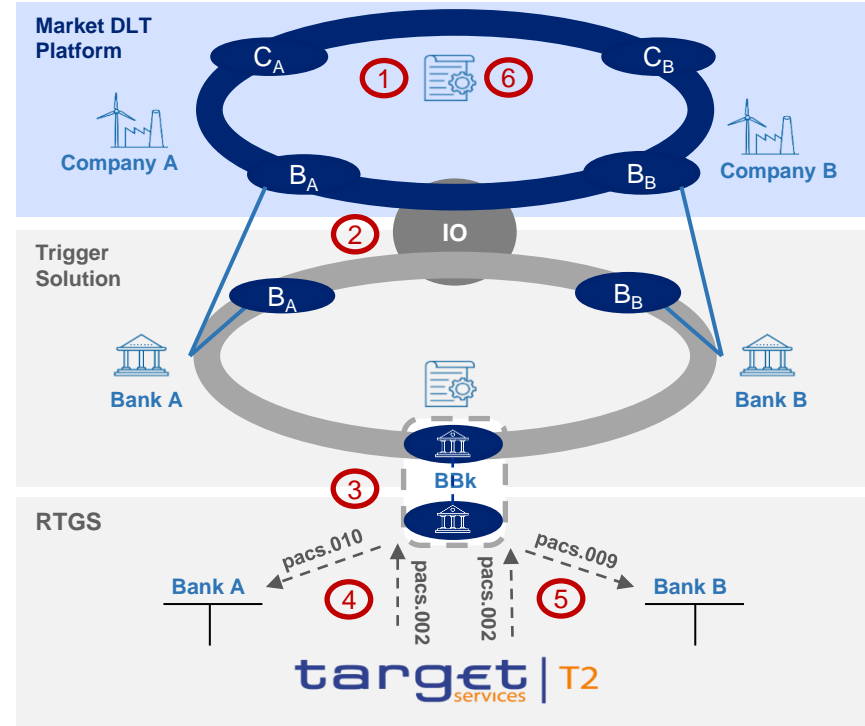
The settlement of the cash leg takes place in T2/RTGS on the RTGS DCAs of TARGET participants



# Trigger Solution


## How does the process for a DvP transaction work?

- 1 Buyer and Seller agree on the exchange of Eligible Assets against EUR in an Eligible Market DLT Platform.
- 2 According to the Interoperability Mechanism, a Payment Instruction will be created through a smart contract in the Trigger Solution.
- 3 Deutsche Bundesbank converts the Payment Instruction in the Trigger Solution into ISO 20022 messages and submits them via ESMIG to T2/RTGS.
- 4 A direct debit is sent via the Network Service Provider to T2 in order to debit the payer bank's RTGS DCA and credit an interim account of Deutsche Bundesbank. Information on the successful or failed settlement will be sent to the Trigger Solution.
- 5 A credit transfer is sent via the Network Service Provider to T2 in order to debit the interim account of Deutsche Bundesbank and credit the payee bank's RTGS DCA. Information on the successful or failed settlement will be sent to the Trigger Solution.
- 6 The status of the Payment Instruction is provided to the Eligible Market DLT Platform where the assets are finally transferred.



## Trigger Solution

### What are the technical details?

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- Trigger Solution DLT infrastructure is developed using **Hyperledger Fabric 2.5**
  - Trigger Solution is implemented on an **internal Bundesbank environment**
  - Participants connect to the Trigger Solution via
    - an **API interface**, which can be used either A2A or U2A via a Graphical User Interface provided by Bundesbank or
    - operating their **own Hyperledger Fabric node** and using their own software implementation
  - The Trigger Solution imposes **no technical requirements** on Eligible Market DLT Platforms

## Trigger Solution

### What are the main functionalities?



Generation and approval of **Payment Instructions** by participants in the Trigger Solution



Participants in the Trigger Solution can **see all transactions** in which they are involved

- Automatic update of Payment Instruction status corresponding to the status of the T2 transactions by Bundesbank node.



### **Operation of node or connection via API**



In case of operation of own node:

- **Programmability** (smart contracts) in the Trigger Solution
- **Notification** via event about status update of Payment Instructions

## Trigger Solution

### Interested in exploring the Trigger Solution?



The following **Trigger Solution specific documents** have been made available in the context of the Call for Interest:

- Process Description Document
- User Requirements Document
- Onboarding Guide, incl. Technical Annex
- Registration Form (form II)

The solution specific registration form (form II) will be submitted to the local NCB that forwards it to the Bundesbank as Solution Provider respectively.

The necessary direct debit mandate has to be set-up by your local NCB.

Further detailed information related to the onboarding process is contained in the Onboarding Guide.





# Demonstration

**Thank you for your attention!**

**Do you have any questions?**



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