New technologies for wholesale central bank money settlement

ECB OMG

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Paul Gardin, DGMIP
Overview

1. Feedback of market outreach activities on DLT uptake
2. Possible approaches for CeBM settlement of DLT-based transactions
3. Eurosystem exploratory work
Feedback of market outreach activities on DLT uptake
The Eurosystem reached out to the market on the use of new technologies for wholesale financial transactions

- **Market interest** in the Eurosystem potentially providing wholesale central bank money settlement via new technologies, such as DLT
- **Market needs/merits/use cases** that might justify the use of new technologies for wholesale central bank money settlement
- **Suitability of existing technologies**, such as those used in current TARGET Services, to achieve the same results
**Key takeaways from market outreach**

Market stakeholders* expect…

- **Significant DLT uptake for wholesale financial transactions.**
- **Across the board,** but in particular: for segments characterised by inefficiencies.
- **Within 5-10 years,** but estimates vary considerably.
- **Using multiple platforms,** considerable uncertainty about number of relevant platforms.

* Views expressed by majority of surveyed stakeholders (see presentation at [joint AMI Pay/AMI SeCo Dec 2022](https://www.ecb.europa.eu))
DLT: implications for central bank money settlement

1. **Money**, securities or, other digital asset recorded as tokens on a shared network

2. Benefits expected by market: atomicity, decentralised programmability, ease of reconciliation (and disintermediation)

3. Central bank money settlement needed to reduce risks and as enabler; attractive business and use cases/ efficiency gains to be created by the market

4. Absent full migration to DLT by all, coexistence with and settlement also for existing technologies
Questions remain

Due to:

- Market maturity (experiments/pilots/PoCs ongoing)
- Limited experience with potential CeBM settlement solutions
- Uncertainty about future legal framework (DLT Pilot Regime provides temporary framework)
- Evolving technology
Possible approaches for CeBM settlement of DLT-based transactions
CeBM cash leg for settlement of transactions on DLT – five conceptual solutions

1. CeBM settlement in current TARGET Services through adding a (A) Trigger component to T2 or (B) Bridge component to TIPS-like platform

2. CeBM settlement on Eurosystem DLT interoperable with market DLTs (Interoperability)

3. CeBM and securities settlement on own Eurosystem DLT (T2S DLT) (Integration)

4. CeBM and securities settlement on DLTs shared between Eurosystem and other stakeholders (Distribution)
Possible central bank responses – interoperability

1. CeBM settlement in current TARGET Services through adding a (A) Trigger component to T2 or (B) Bridge component to TIPS-like platform for interoperability with DLT

2. Central bank DLT interoperable with market DLTs (Interoperability)
Possible central bank responses – multiple-asset platforms

3 Central bank DLT for integrated securities settlement (e.g. T2S DLT) *(Integration)*

4 Providing CeBM settlement onto shared DLT(s) jointly operated with other public and or private entities *(Distribution)*
Possible degrees of central bank involvement in the ecosystem

**Trigger/bridge**

Central bank DLT (Interoperability)

- Central bank standardises and **offers cash leg on own infrastructure** for wholesale financial transactions of institutions having access to central bank money.
- Market side manages asset and payment leg (e.g. CoBM) and develops its own ecosystem.

**Shared DLT(s) (Distribution)**

- With **other full-DLT solutions**, central bank offers cash leg and participates to own/shared infrastructure where other assets and payment transaction legs (e.g. CoBM) are settled:
  - Strong central bank requirements for controlling CeBM,
  - Higher central bank involvement in the governance of DLT platforms and standardisation.
- The central bank taking on a bigger role, would come with more requirements for the DLT ecosystem.
- The DLT platform needs to be attractive enough to be used by market participants.
Eurosystem exploratory work
Exploratory work on new technologies for wholesale settlement of transactions in central bank money

The Eurosystem is investigating how central bank money settlement in euro could take place in the presence of new technologies such as Distributed Ledger Technologies (DLT). Dedicated market contact group set up to continue dialogue with the market.

Objectives

(i) consolidate and further develop the ongoing work of Eurosystem central banks in this area,
(ii) gain insight into how different solutions could facilitate interaction between TARGET Services and DLT platforms, and
(iii) meet market demand for central bank money settlement during their own pilots for example under DLT Pilot Regime

The exploratory work is part of the Eurosystem’s broader efforts to:

• contribute to digital innovation in payments and securities settlement
• ensure central bank money to remain monetary anchor supporting stability, integration and efficiency of the European financial system
Eurosysterm planned work

The Eurosystem will set up **practical work to explore different solutions** for cash leg settlement in CeBM of DLT transactions, planned from **13 May to 29 November 2024**, focused on the **Interoperability-type solutions**:

- **Experiments**: mock settlement of the cash and asset legs in test environments, jointly conducted by the Eurosystem and eligible participants at specific dates and times.
- **Trials**: actual settlement of transactions in central bank money in a limited setting for a limited period of time.

The formal call for **expressions of interest** was published on [ECB's webpage](https://www.ecb.europa.eu) and remains open until **30 April 2024**.
Solutions in scope for exploratory work

The proposed Eurosystem exploratory work is focused on the three interoperability-based solutions of the Solution Provider Central Banks (SPCBs):

- **Trigger Solution** by Deutsche Bundesbank ([link 1](#); [link 2](#))
- **TIPS Hash Link** by Banca d’Italia ([link](#))
- **Full-DLT Interoperability** by Banque de France ([link 1](#); [link 2](#))

Focus on the cross-platform settlement approaches (numbered 1 and 2, slides 9 and 10) with eligible market participants and eligible market DLT operators.
Eurosyste’s exploratory work – timeline

- **December**: Public call for interest
  - Open to all market participants subject to eligibility and prioritisation
  - Public info session
    - General information and demos of the solutions

- **March**: Onboarding and testing (1st wave)
  - Eurosystem internal testing and testing activities with market participants and market DLT operators

- **May**: Start of exploratory work – 1st wave
  - Market participants and market DLT operators that have concluded the onboarding process by April start trials and experiments

- **November**: End of exploratory work for both waves

- **Q1 2024**: Deadlines to reply to the call for interest
  - End January (1st wave), and end April (2nd wave)

- **Q4 2023**: Onboarding for wave 1
  - Eurosystem internal testing and testing activities with market participants and market DLT operators

- **Q2 2024**: July
  - Start of exploratory work – 2nd wave

- **Q3 2024**: Additional onboarding window (2nd wave)

- **Q4 2024**: Trials and experiments execution phase
Related documents

1. To learn more on the Eurosystem’s approach to new technologies for wholesale Central bank Money settlement
   - Economic Bulletin Article: Central bank money settlement of wholesale transactions in the face of technological innovation
   - Speech by Executive Board Member Mr Cipollone: Modernising finance, the role of central bank money

2. To receive practical information to participate to exploratory work
   - Focus session: Potential use of new technology for wholesale central bank money settlement
   - Call for expression of interest: exploring new technologies for wholesale central bank money settlement