

Liquidity management in a multi-currency corridor network

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Organizations around the world are looking to leverage blockchain technology to create a faster and more efficient payments system. J.P. Morgan's Onyx division recently conducted a simulation in collaboration with two central banks – Banque de France (BdF) and the Monetary Authority of Singapore (MAS) – to test the feasibility of using Central Bank Digital Currencies (CBDCs) to facilitate cross-border transactions.

Cross-border wire payments rely on a correspondent banking model whereby financial institutions that are integrated into the payments system of one country will conduct transactions on behalf of other banks. Although well-established, this approach is opaque and may be inefficient. The chain of banks involved in a transaction can be long and result in processing delays, while each adds its own fees, increasing the total cost of the transfer.

During the simulation, Onyx, BdF and MAS explored the potential of running multiple CBDCs on a permissioned, privacy-enabled blockchain network based on Consensus Quorum® – a permissioned distributed ledger technology (DLT). The project simulated cross-border and cross-currency transactions in Singapore Dollar (SGD) and Euro (EUR) CBDCs.

The project's focus was on liquidity management and the creation of a common multi-lateral settlement platform. The simulation demonstrated four key takeaways:

1. Interoperability can be achieved across private and public cloud infrastructures in different countries;
2. A common multi-CBDC (mCBDC) network could be designed to allow two central banks to each have visibility on applicable cross border payments, while retaining independent control over the issuance and distribution of their own CBDC;
3. Smart contracts can be used daily to manage the currency exchange rate for a currency pair on the multi-CBDC network (in this case Euro and SGD) and provide automated liquidity pool and market-making services for such currencies; and
4. A multi-CBDC network could reduce the number of correspondent banking parties involved in the payment chain for cross-border transactions.

This project provides further insights to the recent industry research being conducted on CBDC-based cross-border payment systems, highlighting one of several ways that blockchain-based payment rails have demonstrable potential to make payments more transparent, efficient, and sustainable, and J.P. Morgan is excited to be at the forefront of developing this innovative technology.