

# **6<sup>th</sup> Workshop on Trusted Smart Contracts**

**In Association with Financial Cryptography 2022**

**May 6, 2022**

**Title:** A Scalable Architecture for Electronic Payments

**Authors:** Geoffrey Goodell, D. R. Toliver, and Hazem Danny Nakib.

## **Abstract**

We present a scalable architecture for electronic payments via central bank digital currency and offer a solution to the perceived conflict between robust regulatory oversight and consumer affordances such as privacy and control. Our architecture combines existing work in payment systems and digital currency with a new approach to digital asset design for managing unforgeable, stateful, and oblivious assets without relying on either a central authority or a monolithic consensus system. Regulated financial institutions have a role in every transaction, and the consumer affordances are achieved through the use of non-custodial wallets that unlink the sender from the recipient in the transaction channel. This approach is fully compatible with the existing two-tiered banking system and can complement and extend the roles of existing money services businesses and asset custodians.