

ABSTRACT

METHODS AND SYSTEMS FOR TRANSACTION PROCESSING USING A BLOCKCHAIN

A transaction processing method comprises: receiving a transaction initiation request for a payment transaction involving a plurality of transaction parties; generating a smart contract instance for the payment transaction and storing the smart contract instance in a smart contract on a blockchain, the smart contract having a plurality of conditions which must be fulfilled prior to execution of the payment transaction, wherein the plurality of conditions comprises transaction party conditions which must be fulfilled by respective transaction parties from the plurality of transaction parties; for each transaction party condition of the transaction party conditions: sending a message to a respective transaction party corresponding to the transaction party condition; receiving a response from the respective transaction party indicating that the respective transaction party condition has been fulfilled; and updating the smart contract to indicate that the respective transaction party condition has been fulfilled; in response to determining that each condition of the plurality of conditions has been fulfilled, sending a transaction execution message to a transaction execution party of the plurality of transaction parties to execute part of the payment transaction; receiving a transaction execution response from the transaction execution party indicating that a part of the transaction has been executed; and updating the smart contract to indicate that the part of the transaction has been executed.

[FIG.3 to be printed with Abstract]