Abstract

BLOCKCHAIN-IMPLEMENTED SYSTEMS AND METHODS FOR CONCURRENT BYTECODE INTERPRETATION

Computer implemented methods are provided that create and/or validate a spending blockchain transaction that includes i) a plurality of locking scripts each representing an instance of an execution thread (which can be execution threads that are forked from an execution thread represented by a locking script of a previous blockchain transaction and/or execution threads of at least one previous blockchain transaction that are managed and/or controlled for inter-thread communication and control) or ii) a locking script representing an instance of an execution thread joined from a plurality of execution threads represented at least one previous blockchain transaction. Once created and/or validated, the spending blockchain transaction can be communicated on a blockchain network for storage in a blockchain ledger. The blockchain transactions can implement thread-specific locking scripts and associated fork, join and barrier constructs for concurrent or asynchronous threads of execution. The transactions can be validated and stored in a blockchain ledger. The blockchain transactions can be used as part of a smart contract.

Fig.1A