embedded security may include base security documents, a set of security rules and ownership information. Smart contracts may be utilized to transfer the securities among the users and to verify that all transactions are in compliance with applicable regulatory rules and other restrictions.

[0008a] In accordance with one aspect, there is provided a computerized system for managing securities over a network, the system comprising: a plurality of computing devices that are in communication with one another over a peer-to-peer communication network, wherein each of the computing devices includes a processor and a physical storage medium that stores: at least a portion of a distributed blockchain ledger that includes a distributed database that records information associated with security transactions that occur on the peer-to-peer communication network; and a cryptographic wallet that includes encryption protocols for securely storing a virtual portfolio of securities and that further includes: a first set of protocols for issuing securities, wherein the first set of protocols are configured to store the securities directly on the distributed blockchain ledger by utilizing a one-way hashing algorithm to append one or more blocks to the distributed blockchain ledger, the one or more blocks at least including base security documents associated with the securities, sets of security rules comprising regulations and restrictions governing the securities, and ownership identifiers which identify one or more owners of the securities, and a second set of protocols for transferring ownership of the securities to other cryptographic wallets stored on other computing devices in the

peer-to-peer communication network; wherein the first set of protocols and second set of protocols, when executed by the processor, enable updating of the distributed database associated with the distributed blockchain ledger to issue and transfer the securities.

[0008a] In accordance with one aspect, there is provided a method for managing securities over a network, the method comprising: providing a plurality of computing devices with access to a peer-to-peer communication network, wherein each of the computing devices includes a processor and a physical storage medium; storing at least a portion of a distributed blockchain ledger on the plurality of computing devices, the distributed blockchain ledger including a distributed database that records information associated with security transactions that occur on the peer-to-peer communication network; and storing a cryptographic wallet on each of the plurality of computing devices that includes encryption protocols for securely managing a virtual portfolio of securities, wherein the cryptographic wallet further includes: a first set of protocols for issuing securities, wherein the first set of protocols are configured to store securities directly on the distributed blockchain ledger by utilizing a one-way hashing algorithm to append one or more blocks to the distributed blockchain ledger, the one or more blocks at least including base security documents associated with the securities being issued, sets of security rules comprising regulations and restrictions governing the securities, and ownership identifiers which identify one or more owners of the securities, and a second set of protocols for transferring ownership of the securities to other

cryptographic wallets stored on other computing devices in the peer-to-peer communication network; wherein the first set of protocols and second set of protocols, when executed by the processor, enable updating of the distributed database associated with the distributed blockchain ledger to issue and transfer the securities.

[0008] In accordance with certain embodiments, a computerized system for managing securities over a network is disclosed. The system includes a plurality of computing devices that are in communication with one another over a peer-to-peer communication network. Each of the computing devices includes a processor and a physical storage medium that stores at least a portion of a distributed blockchain ledger that includes a distributed database that records information associated with security transactions that occur on the peer-to-peer communication network.

[0009] The storage medium may further store a cryptographic wallet that includes encryption protocols for securely storing a virtual portfolio of securities. The cryptographic wallet includes a first set of protocols for issuing securities. The first set of protocols are configured to store issued securities directly on the distributed blockchain ledger itself by utilizing a one-way hashing algorithm to append one or more blocks to the distributed blockchain ledger. The one or more blocks at least include base security documents associated with the securities being issued, sets of security rules which indicate regulations and restrictions which apply to the securities, and ownership identifiers which identify one or more owners of the securities. The cryptographic wallet further