CLAIMS:

1. A computer-implemented method for controlling access to a permissioned blockchain, comprising:

receiving, from a read-only requester entity, a read-only access request, being a request for registration as a read-only blockchain user;

determining whether or not to allow the read-only request, and in response to determining to allow the read-only request, registering the read-only requester entity as a read-only blockchain user, having permission to read data from the permissioned blockchain in the absence of permission to write data to the permissioned blockchain, wherein:

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant;

the computer-implemented method further comprising:

receiving, from one or more read write requester entities, one or more respective read write access requests, each read write access request being a request for registration as a read and write blockchain user;

determining whether or not to allow each read write access request, and in response to determining to allow a read write access request, registering the respective read write requester entity as a read and write blockchain user, having permission to read data from the permissioned blockchain and permission to write data to the permissioned blockchain.

2. The computer-implemented method according to claim 1, wherein

the read and write requester entities include a point-of-sale system, the point-of-sale system being a distributed multi-user system, providing a mechanism for system users to accept payments from customers in exchange for goods or services provided by the system users to the customers;

the point-of-sale system being registered as a read and write blockchain user of the permissioned blockchain and being configured to record in the financial transaction ledger the accepted payments between the customers and the system users as payment participants.

3. The computer-implemented method according to claim 1 or 2, wherein

the read write requester entities include a financial institute maintaining financial accounts holding currency on behalf of account holding entities, via which financial accounts account holding entities enter into transactions as a payer entity transferring currency from a respective financial account to a payee entity, or as a payee entity receiving currency into a respective financial account from a payer entity;

the financial institute being registered as a read and write blockchain user of the permissioned blockchain.

4. The computer-implemented method according to claim 3, further comprising:

adding a new block to the financial transaction ledger recording a new payment between payment participants;

comparing the payment participants for the new payment with registered monitored entities of read-only blockchain users to determine that a payment participant is the monitored entity for a particular read-only blockchain user;

notifying the particular read-only blockchain user of the new payment.

5. The computer-implemented method according to claim 1, further comprising:

receiving an update request from a registered read-only blockchain user;

for blocks in the permissioned blockchain having timestamps belonging to a defined time period, identifying payments recorded in the financial transaction ledger in

which a payment participant is the monitored entity for the read-only blockchain user from which the update request is received;

responding to the update request with a notification of the identified payments.

6. The computer-implemented method according to claim 4 or 5, further comprising:

upon registering the read-only blockchain user for a monitored entity, issuing the read-only blockchain user entity with a read-only certificate specific to the monitored entity;

replicating the blockchain to read and write blockchain users and to read-only blockchain users, the financial transaction ledger of the blockchain being selectively cryptographically encrypted in the blockchain with an encryption code selected per recorded payment in dependence upon the payment participants;

the read-only certificate specific to the monitored entity being configured to decrypt the financial transaction ledger to obtain a notification of recorded transactions in which the monitored entity is a payment participant, and not to decrypt the remainder of the financial transaction ledger.

7. A computer-implemented method for accessing a permissioned blockchain, the method comprising, at a computing apparatus:

transmitting, to a blockchain user registration entity operable to register users and associated permissions of the users for accessing the permissioned blockchain, a request for registration as a read-only blockchain user of the permissioned blockchain;

receiving, from the blockchain user registration entity, notification of registration as a read-only blockchain user of the permissioned blockchain, wherein:

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant.

8. The computer-implemented method according to claim 7, wherein

the computing system is an accounting system having, as a user, a payee entity in one or more payments in the financial transaction ledger;

the request for registration as a read-only blockchain user of the permissioned blockchain specifying, as a monitored entity, the user;

the registration granting the accounting system permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is the payee entity.

9. The computer-implemented method according to claim 8, further comprising, at the accounting system:

receiving data from the permissioned blockchain comprising transaction information representing one or more transactions in which the monitored entity is the payee entity;

reconciling the transaction information with a corresponding entry or entries in a general ledger for the monitored entity maintained by the accounting system.

10. A computer program which, when executed by a computing apparatus having memory hardware and processor hardware, causes the processor hardware to perform a method for controlling access to a permissioned blockchain, the method comprising:

receiving, from a read-only requester entity, a read-only access request, being a request for registration as a read-only blockchain user;

determining whether or not to allow the read-only request, and in response to determining to allow the read-only request, registering the read-only requester entity as a read-only blockchain user, having permission to read data from the permissioned

blockchain in the absence of permission to write data to the permissioned blockchain, wherein:

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant;

the method further comprising:

receiving, from one or more read write requester entities, one or more respective read write access requests, each read write access request being a request for registration as a read and write blockchain user;

determining whether or not to allow each read write access request, and in response to determining to allow a read write access request, registering the respective read write requester entity as a read and write blockchain user, having permission to read data from the permissioned blockchain and permission to write data to the permissioned blockchain.

11. A computer program which, when executed by a computing apparatus having memory hardware and processor hardware, causes the processor hardware to perform a method for accessing a permissioned blockchain, the method comprising:

transmitting, to a blockchain user registration entity operable to register users and associated permissions of the users for accessing the permissioned blockchain, a request for registration as a read-only blockchain user of the permissioned blockchain;

receiving, from the blockchain user registration entity, notification of registration as a read-only blockchain user of the permissioned blockchain, wherein:

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant.

12. A computer-readable storage medium storing the computer program according to claim 10 or 11.

13. The computer-readable storage medium of claim 12, wherein the computer-readable storage medium is a non-transitory computer-readable storage medium.

14. A computing apparatus comprising memory hardware and processor hardware, the memory hardware storing processing instructions which when executed by the processor hardware, configure the processor hardware to:

receive, from a read-only requester entity, a read-only access request, being a request for registration as a read-only blockchain user;

determine whether or not to allow the read-only request, and in response to determining to allow the read-only request, register the read-only requester entity as a read-only blockchain user, having permission to read data from the permissioned blockchain in the absence of permission to write data to the permissioned blockchain, wherein

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant;

the processor being further configured to:

receive, from one or more read write requester entities, one or more respective read write access requests, each read write access request being a request for registration as a read and write blockchain user;

determine whether or not to allow each read write access request, and in response to determining to allow a read write access request, registering the respective read write requester entity as a read and write blockchain user, having permission to read data from the permissioned blockchain and permission to write data to the permissioned blockchain.

15. A computing apparatus comprising memory hardware and processor hardware, the memory hardware storing processing instructions which when executed by the processor hardware, configure the processor hardware to:

transmit, to a blockchain user registration entity operable to register users and associated permissions of the users for accessing the permissioned blockchain, a request for registration as a read-only blockchain user of the permissioned blockchain;

receive, from the blockchain user registration entity, notification of registration as a read-only blockchain user of the permissioned blockchain, wherein

the permissioned blockchain is a financial transaction ledger recording payments between payment participants in exchange for goods or services;

the read-only blockchain user is an accounting system;

the read-only request specifies a monitored entity, the monitored entity being a user of the accounting system; and

in response to determining to allow the read-only request, the read-only requester entity is registered as a read-only blockchain user for the monitored entity, the registration granting the read-only requester entity permission to read data from the financial transaction ledger regarding transactions in which the monitored entity is recorded as a payment participant.

16. A computing apparatus comprising memory hardware and processor hardware, the memory hardware storing processing instructions which when executed by the processor hardware, cause the processor hardware to perform a computer-implemented method according to any of claims 1 to 6.

17. A computing apparatus comprising memory hardware and processor hardware, the memory hardware storing processing instructions which when executed by the processor hardware, cause the processor hardware to perform a computer-implemented method according to any of claims 7 to 9.

18. A computer program which, when executed by a computing apparatus having memory hardware and processor hardware, causes the processor hardware to perform the method according to any of claims 1 to 6.