CLAIMS

What is claimed is:

1. A method for processing blockchain member management data, the method comprising:

storing, by blockchain members, a contract rule, wherein the contract rule comprises a rule that is agreed upon by the blockchain members and is used for determining whether a registering user can join a blockchain;

receiving, by a blockchain member, a registration transaction message from the registering user based on the contract rule, wherein the registration transaction message comprises identification information of a plurality K of certification authorities and signature certificates of the plurality K of certification authorities;

dynamically updating a key information of at least one certification authority of the plurality K of certification authorities, comprising:

generating, by the at least one certification authority, a generated temporary key pair comprising a temporary private key and a temporary public key;

signing, by the at least one certification authority, the temporary public key of the generated temporary key pair using a previous private key of the at least one certification authority;

broadcasting, by the at least one certification authority, the temporary public key to the blockchain members;

verifying, by the blockchain members, the temporary public key by using a previous public key of the at least one certification authority; and

updating the temporary public key to be a new public key of the at least one certification authority;

performing, by the blockchain member, verification of the signature certificates based on the identification information by using the dynamically updated key information of the at least one certification authority of the plurality K of certification authorities; and

determining, by the blockchain member, that the registering user becomes a new blockchain member in response to determining that verification on the signature certificates of the plurality K of certification authorities succeeds.

2. The method according to claim 1, further comprising:

receiving a member regulatory message, wherein the member regulatory message comprises a regulatory method, a regulatory member, and a private key signature of a regulator, and wherein the regulatory method and the regulator that has permission to send the member regulatory message are written to the contract rule;

performing verification on the private key signature of the regulator by using a public key of the regulator that is stored in the blockchain; and

processing data corresponding to the regulatory member by using the regulatory method in response to determining that the verification succeeds.

3. The method according to claim 2, wherein the member regulatory message comprises at least one of:

a regulatory message sent by an authorized regulatory authority;

a regulatory message sent by a specified member; or

a regulatory message sent by a regulatory member group, wherein a number of blockchain members in the regulatory member group satisfies an agreed number or a proportion of the blockchain members with regulatory effectiveness in the contract rule.

4. The method according to claim 3, wherein the agreed number or the proportion of the blockchain members with regulatory effectiveness in the contract rule comprises a majority of the blockchain members with regulatory effectiveness in the contract rule.

5. The method according to claim 3, further comprising:

determining whether the agreed number or the proportion of the blockchain members with regulatory effectiveness in the contract rule agree on a content of the member regulatory message; and

in response to determining that the agreed number or the proportion of the blockchain members with regulatory effectiveness in the contract rule agree on the content, performing a regulatory operation affecting one of the blockchain members.

6. The method according to claim 5, wherein performing the regulatory operation comprises at least one of:

adding the one of the blockchain members to a blacklist;

removing the one of the blockchain members from the blockchain;

limiting a permission of the one of the blockchain members; and

degrading the one of the blockchain members in a multi-hierarchical tree structure of the blockchain.

7. The method according to claim 1, wherein blockchain accounts corresponding to the blockchain members in the blockchain comprise an account type of a multi-hierarchical tree structure.

8. The method according to claim 1, wherein the dynamically updating the key information is based on a customizable updating frequency.

9. The method according to claim 1, wherein the blockchain comprises a consortium blockchain.

10. An apparatus for processing blockchain member management data, the apparatus comprising a plurality of modules configured to perform the method of any one of claims 1 to 9.