## CLAIMS

1. An automatic node adding method of a dedicated blockchain node device, comprising:

receiving, by the dedicated blockchain node device, a configuration instruction after accessing a blockchain network, and configuring a first network address corresponding to a certificate authority center and a second network address corresponding to a first blockchain node in the blockchain network respectively according to the configuration instruction;

initiating, by the dedicated blockchain node device, an authentication request to the certificate authority center according to the first network address, and receiving a digital certificate returned by the certificate authority center after the certificate authority center determines the authentication request passes verification;

sending, by the dedicated blockchain node device, the digital certificate to the first blockchain node according to the second network address, wherein the digital certificate is used to trigger the first blockchain node to add the dedicated blockchain node device as a newly-added blockchain node in the blockchain network;

receiving, by the dedicated blockchain node device, inquiry information from a second blockchain node in the blockchain network, wherein the inquiry information is generated and proactively sent by the second blockchain node after automatically discovering the dedicated blockchain node device; and

sending, by the dedicated blockchain node device, the digital certificate to the second blockchain node, wherein the digital certificate is used to trigger the second blockchain node to add the dedicated blockchain node device as a newly-added blockchain node in the blockchain network.

2. The method according to claim 1, wherein the blockchain network is a dedicated network which is accessed by the dedicated blockchain node device via a tunnel.

3. The method according to claim 1, wherein,

the certificate authority center is deployed in the blockchain network; or

the certificate authority center is deployed in a public network outside the blockchain network.

4. The method according to claim 3, wherein,

if the certificate authority center is deployed in the blockchain network, the certificate authority center is a blockchain node which has initiated a certificate authority service in the

blockchain network;

if the certificate authority center is deployed in the public network outside the blockchain network, the certificate authority center is deployed on a Blockchain-as-a-Service (BaaS) platform in the public network.

5. The method according to claim 1, wherein,

after the digital certificate is determined as passing verification by any blockchain node in the blockchain network, the digital certificate is used to indicate the any blockchain node to initiate a transaction for adding a node in the blockchain network, and

the transaction is executed after all blockchain nodes in the blockchain network reach consensus, such that adding the dedicated blockchain node device as a newly-added blockchain node in the blockchain network.

6. The method according to claim 1, wherein adding the dedicated blockchain node device as a newly-added blockchain node in the blockchain network comprises:

adding, by all blockchain nodes in the blockchain network, information of the dedicated blockchain node device into node information lists maintained respectively by all blockchain nodes.

7. An automatic node adding apparatus of a dedicated blockchain node device, comprising:

an address configuring unit, configured to enable the dedicated blockchain node device to receive a configuration instruction after accessing a blockchain network, and configure a first network address corresponding to a certificate authority center and a second network address corresponding to a first blockchain node in the blockchain network respectively according to the configuration instruction;

a certificate requesting unit, configured to enable the dedicated blockchain node device to initiate an authentication request to the certificate authority center according to the first network address, and receive a digital certificate returned by the certificate authority center after the certificate authority center determines the authentication request passes verification;

a certificate sending unit, configured to enable the dedicated blockchain node device to send the digital certificate to the first blockchain node according to the second network address, wherein the digital certificate is used to trigger the first blockchain node to add the dedicated blockchain node device as a newly-added blockchain node in the blockchain network; and

an information receiving unit, configured to enable the dedicated blockchain node device to receive inquiry information from a second blockchain node in the blockchain network, wherein the inquiry information is generated and proactively sent by the second blockchain node after automatically discovering the dedicated blockchain node device.

8. A dedicated blockchain node device, comprising:

a processor;

a memory storing instructions executable by the processor;

wherein the processor implements the method according to any one of claims 1-6 by running the executable instructions.

9. A computer readable storage medium for storing computer instructions, wherein the instructions are executed by a processor to implement steps of the method according to any one of claims 1-6.