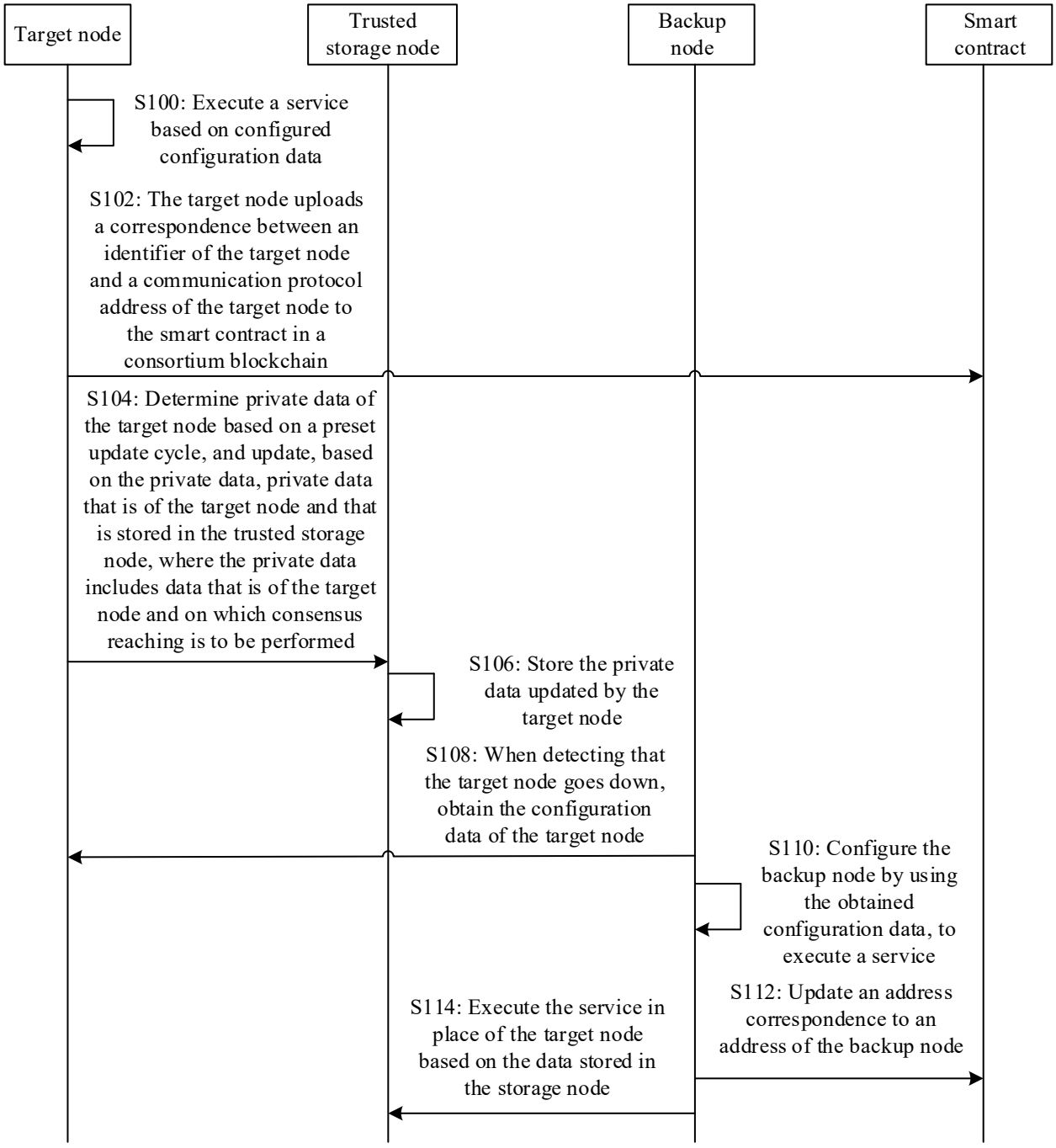
Target node
Trusted storage node
Backup node
Smart contract
S100: Execute a service based on configured configuration data
S102: The target node uploads a correspondence between an identifier of the target node and a communication protocol address of the target node to the smart contract in a consortium blockchain
S104: Determine private data of the target node based on a preset update cycle, and update, based on the private data, private data that is of the target node and that is stored in the trusted storage node, where the private data includes data that is of the target node and on which consensus reaching is to be performed
S106: Store the private data updated by the target node
S108: When detecting that the target node goes down, obtain the configuration data of the target node
S110: Configure the backup node by using the obtained configuration data, to execute a service
S112: Update an address correspondence to an address of the backup node
S114: Execute the service in place of the target node based on the data stored in the storage node

FIG. 1

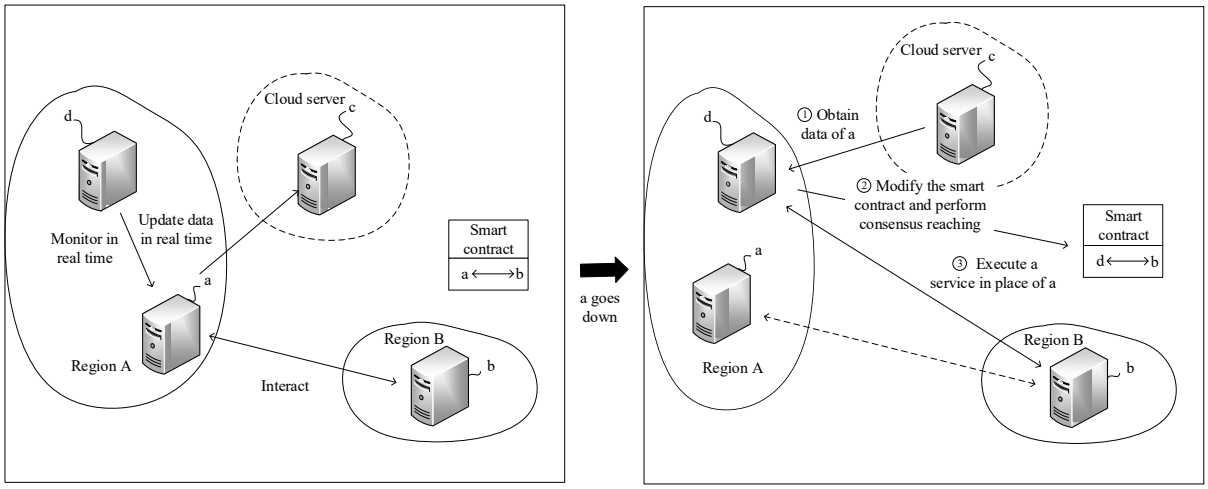
Cloud server
c
d
Monitor in real time
Update data in real time
a
Region A
Region B
b
Interact
Smart contract
a ⟷ b
a goes down
① Obtain data of a
② Modify the smart contract and perform consensus reaching
③ Execute a service in place of a
d ⟷ b

FIG. 2

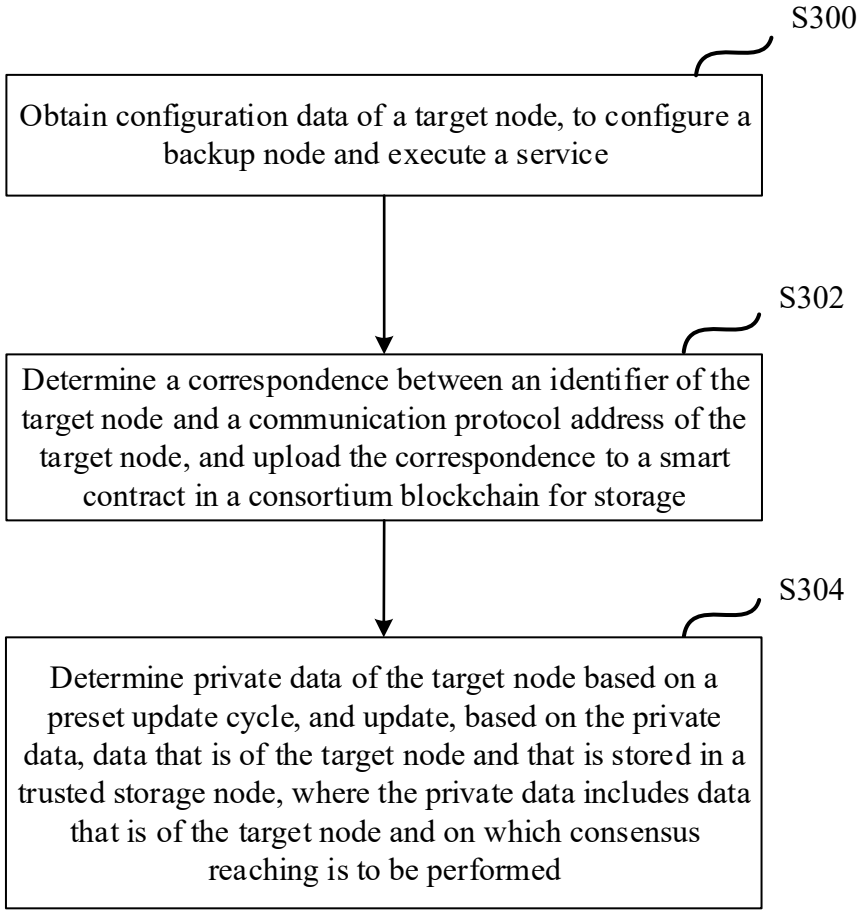
S300
Obtain configuration data of a target node, to configure a backup node and execute a service
S302
Determine a correspondence between an identifier of the target node and a communication protocol address of the target node, and upload the correspondence to a smart contract in a consortium blockchain for storage
S304
Determine private data of the target node based on a preset update cycle, and update, based on the private data, data that is of the target node and that is stored in a trusted storage node, where the private data includes data that is of the target node and on which consensus reaching is to be performed

FIG. 3

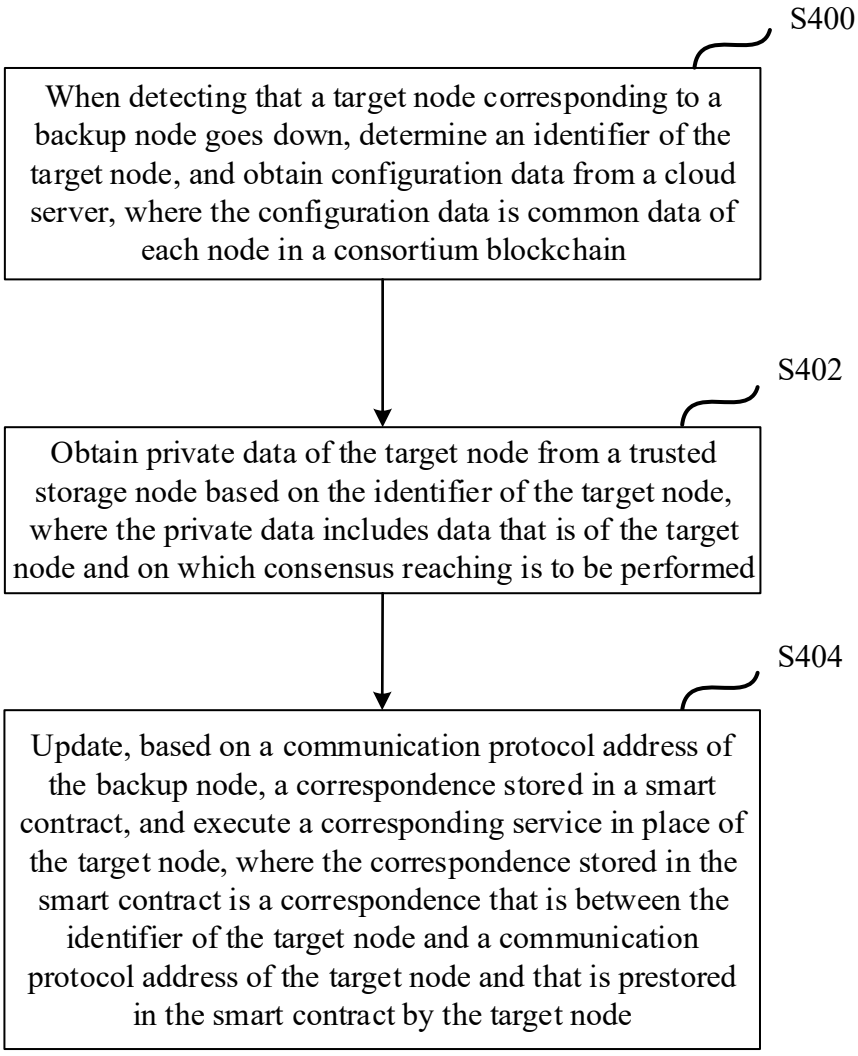
S400
When detecting that a target node corresponding to a backup node goes down, determine an identifier of the target node, and obtain configuration data from a cloud server, where the configuration data is common data of each node in a consortium blockchain
S402
Obtain private data of the target node from a trusted storage node based on the identifier of the target node, where the private data includes data that is of the target node and on which consensus reaching is to be performed
S404
Update, based on a communication protocol address of the backup node, a correspondence stored in a smart contract, and execute a corresponding service in place of the target node, where the correspondence stored in the smart contract is a correspondence that is between the identifier of the target node and a communication protocol address of the target node and that is prestored in the smart contract by the target node

FIG. 4

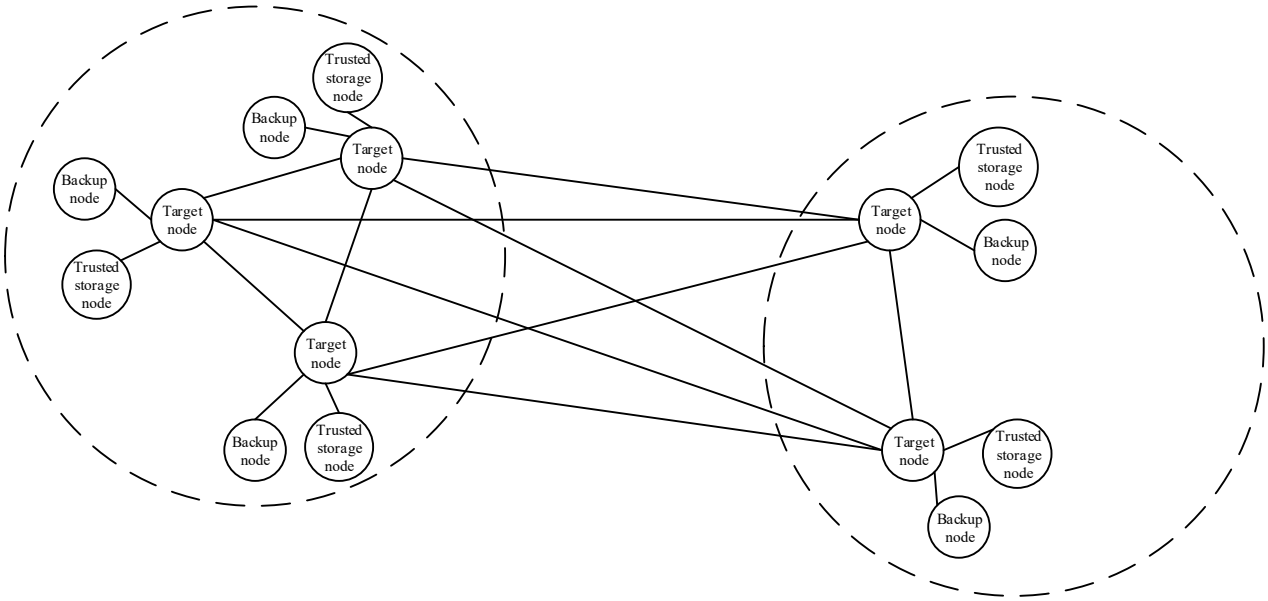
Trusted storage node
Backup node
Target node
Backup node
Target node
Trusted storage node
Target node
Backup node
Trusted storage node
Target node
Trusted storage node
Backup node
Target node
Trusted storage node
Backup node

FIG. 5

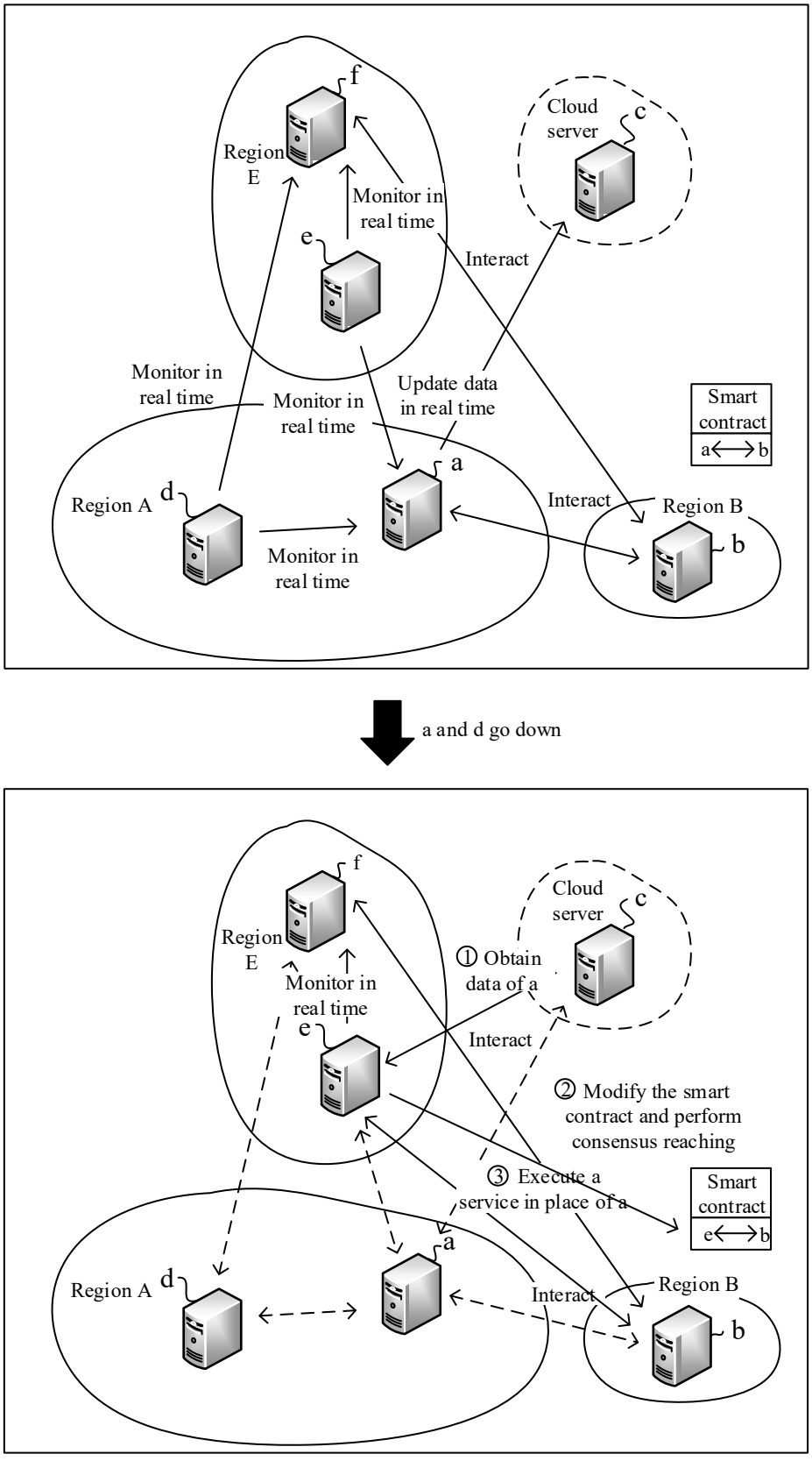
f
Region E
Monitor in real time
Cloud server
c
e
Interact
Monitor in real time
Monitor in real time
Update data in real time
Smart contract
a⟷b
a
Region A
d
Interact
Region B
Monitor in real time
b
a and d go down
f
Region E
Monitor in real time
Cloud server
c
① Obtain data of a
e
Interact
② Modify the smart contract and perform consensus reaching
③ Execute a service in place of a
Smart contract
e⟷b
a
Region A
d
Interact
Region B
b

FIG. 6

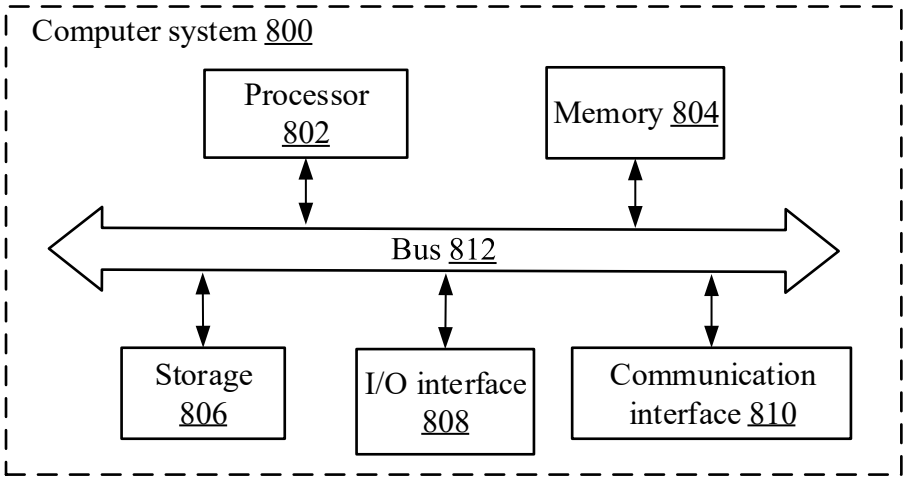
Computer system 800
Processor 802
Memory 804
Bus 812
Storage 806
I/O interface 808
Communication interface 810

FIG. 7