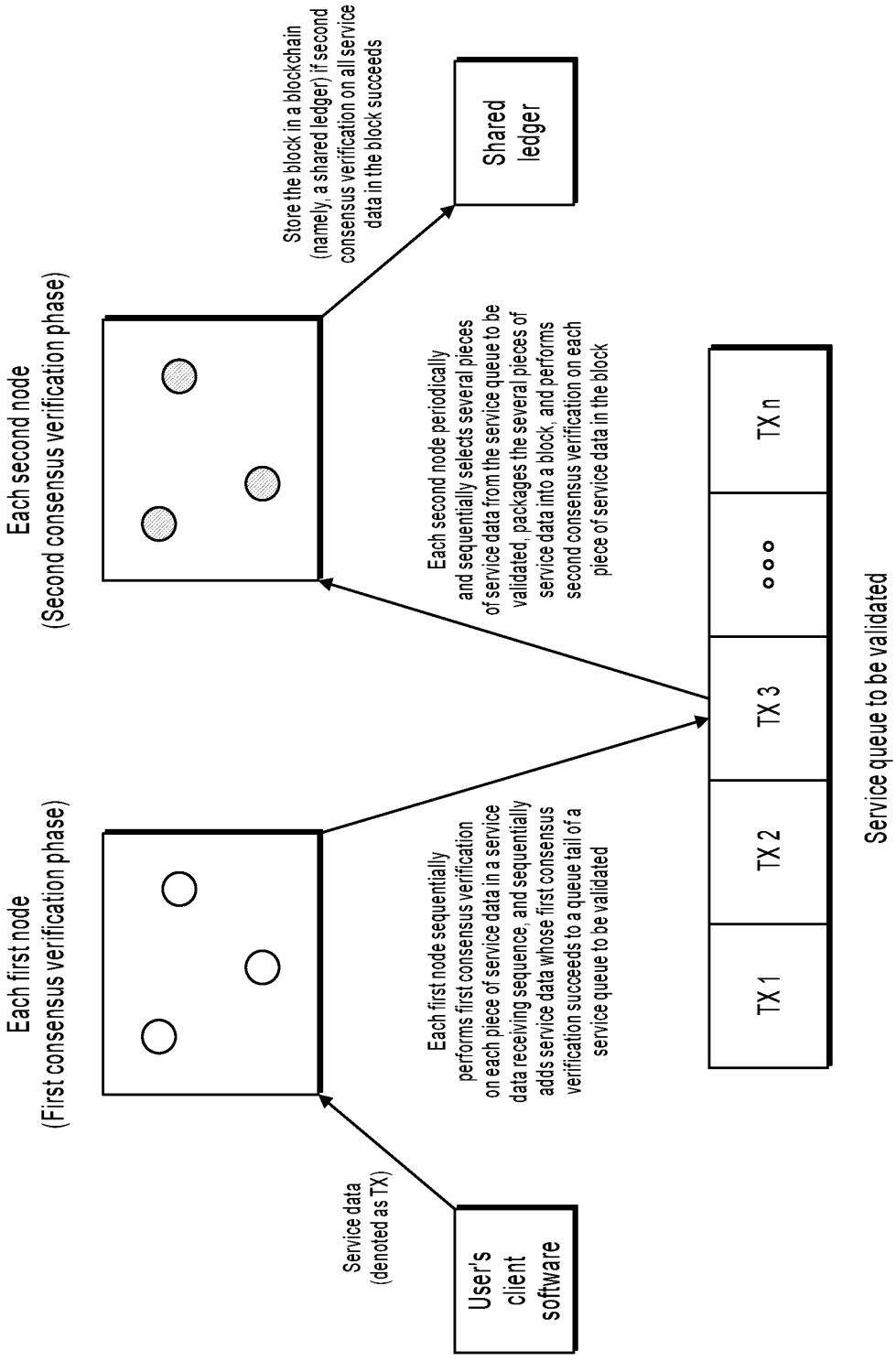

Each first node
(First consensus verification phase)
Each second node
(Second consensus verification phase)
User's client software
Service data (denoted as TX)
Each first node sequentially performs first consensus verification on each piece of service data in a service data receiving sequence, and sequentially adds service data whose first consensus verification succeeds to a queue tail of a service queue to be validated
Each second node periodically and sequentially selects several pieces of service data from the service queue to be validated, packages the several pieces of service data into a block, and performs second consensus verification on each piece of service data in the block
Store the block in a blockchain (namely, a shared ledger) if second consensus verification on all service data in the block succeeds
Shared ledger
TX 1
TX 2
TX 3
o o o
TX n
Service queue to be validated

FIG. 1

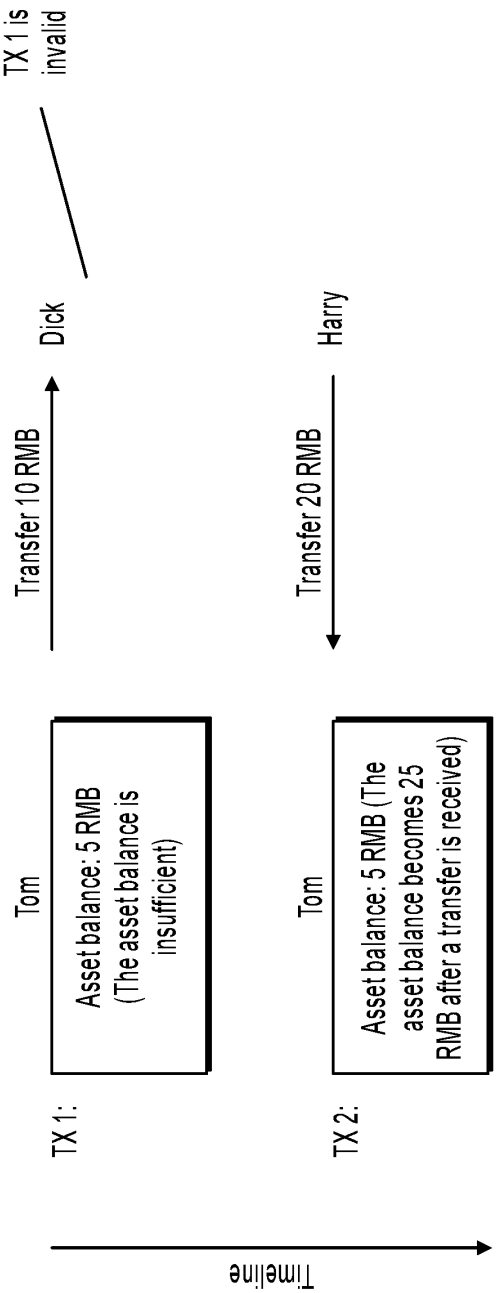

TX 1 is invalid
Dick
Harry
Transfer 10 RMB
Transfer 20 RMB
Tom
Asset balance: 5 RMB (The asset balance is insufficient)
Tom
Asset balance: 5 RMB (The asset balance becomes 25 RMB after a transfer is received)
TX 1:
TX 2:
Timeline

FIG. 2

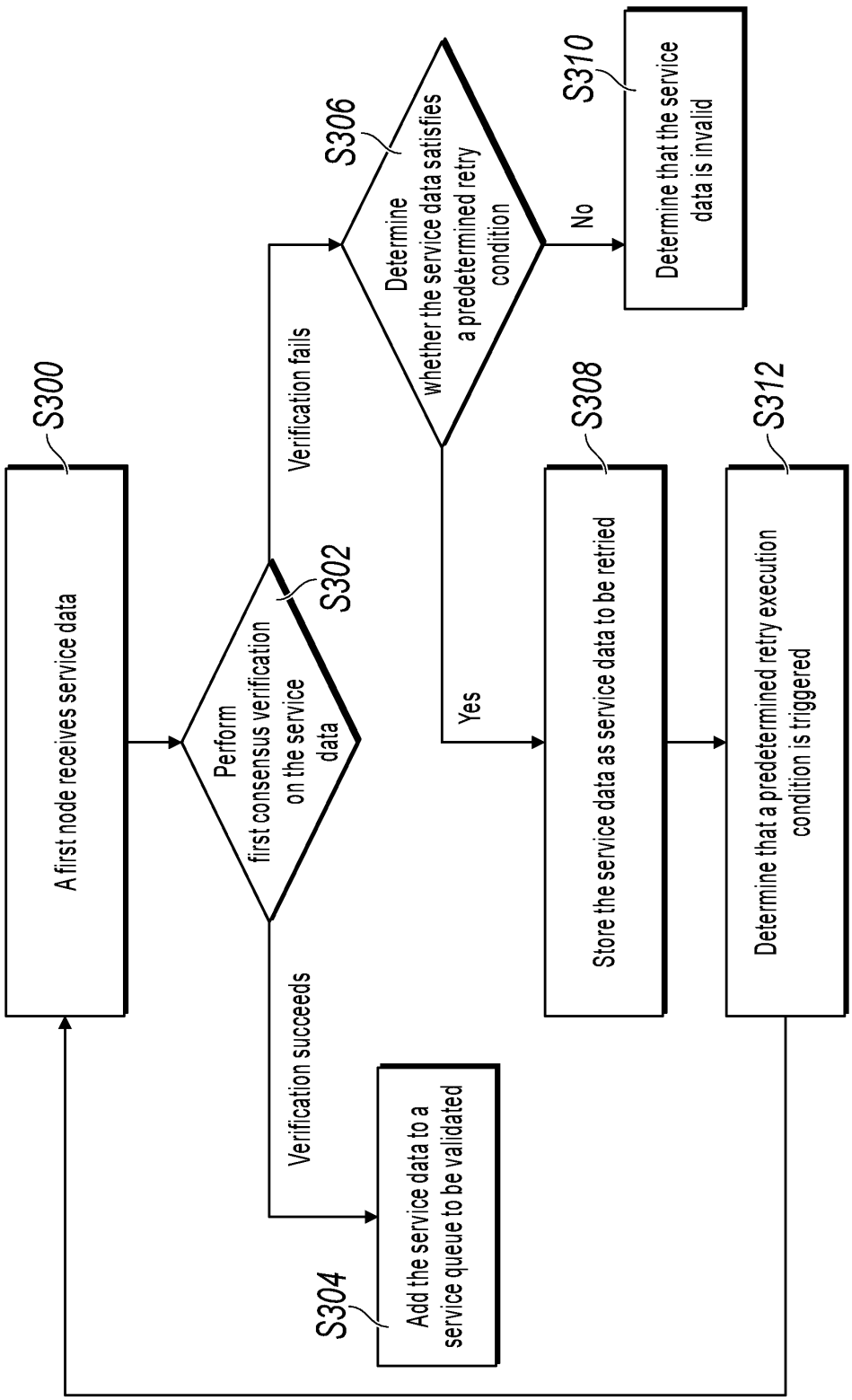

S300
A first node receives service data
S302
Perform first consensus verification on the service data
Verification fails
Verification succeeds
S304
Add the service data to a service queue to be validated
S306
Determine whether the service data satisfies a predetermined retry condition
No
S310
Determine that the service data is invalid
Yes
S308
Store the service data as service data to be retried
S312
Determine that a predetermined retry execution condition is triggered

FIG. 3

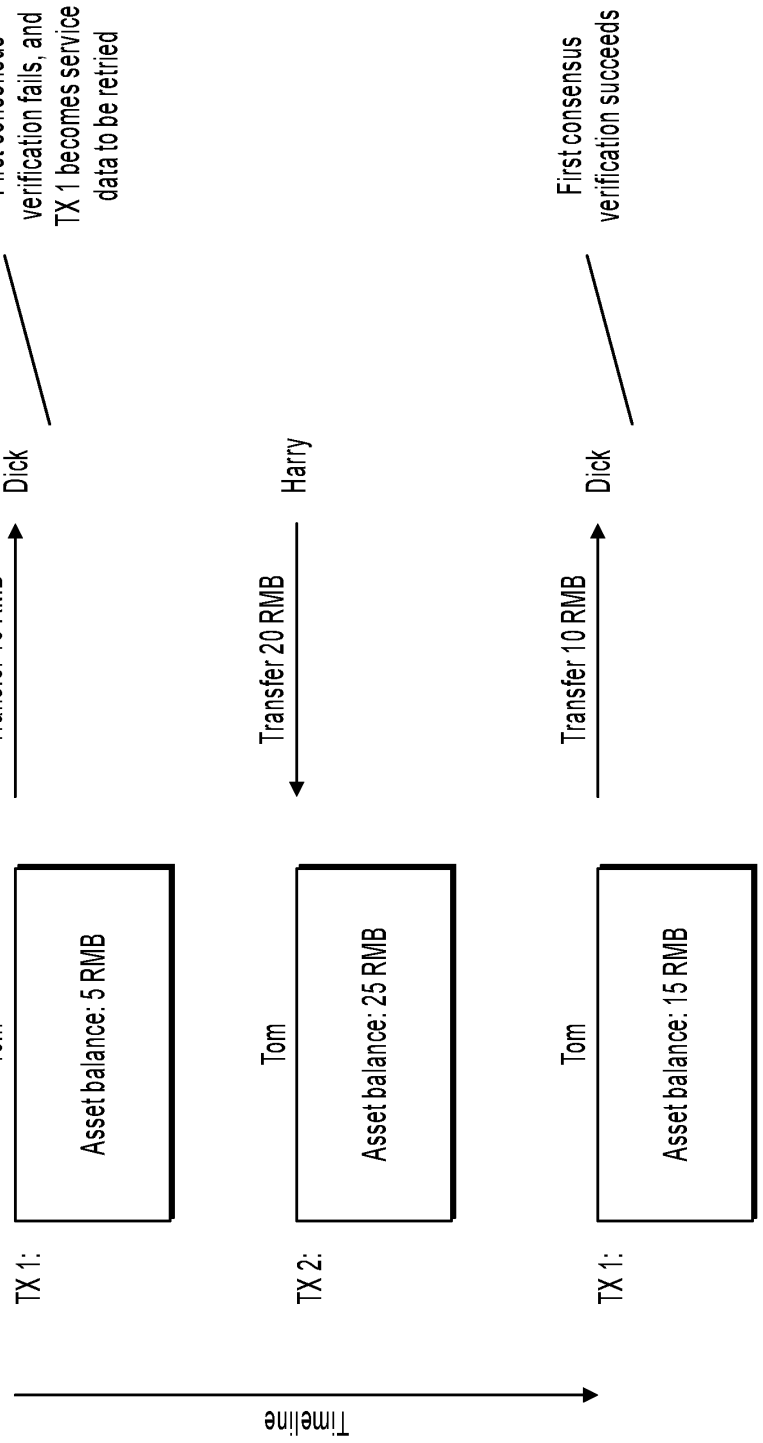

First consensus verification fails, and TX 1 becomes service data to be retried
First consensus verification succeeds
Dick
Harry
Dick
Transfer 10 RMB
Transfer 20 RMB
Transfer 10 RMB
Tom
Asset balance: 5 RMB
Tom
Asset balance: 25 RMB
Tom
Asset balance: 15 RMB
TX 1:
TX 2:
TX 1:
Timeline

FIG. 4

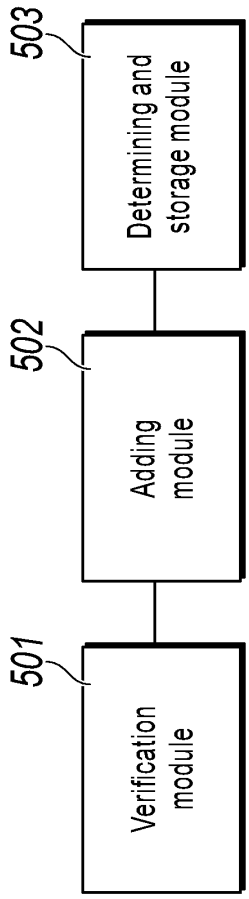

503
Determining and storage module
502
Adding module
501
Verification module

FIG. 5

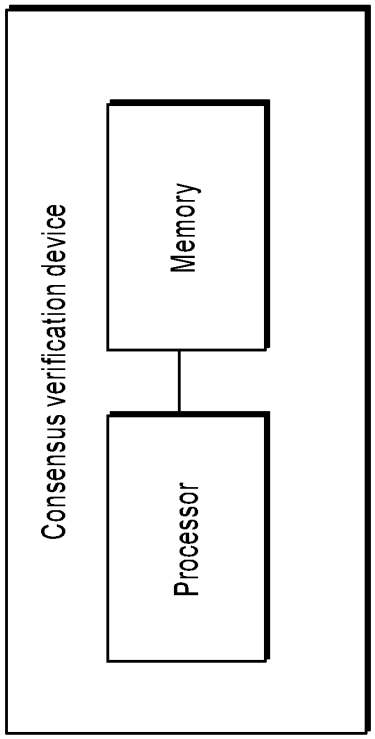


FIG. 6

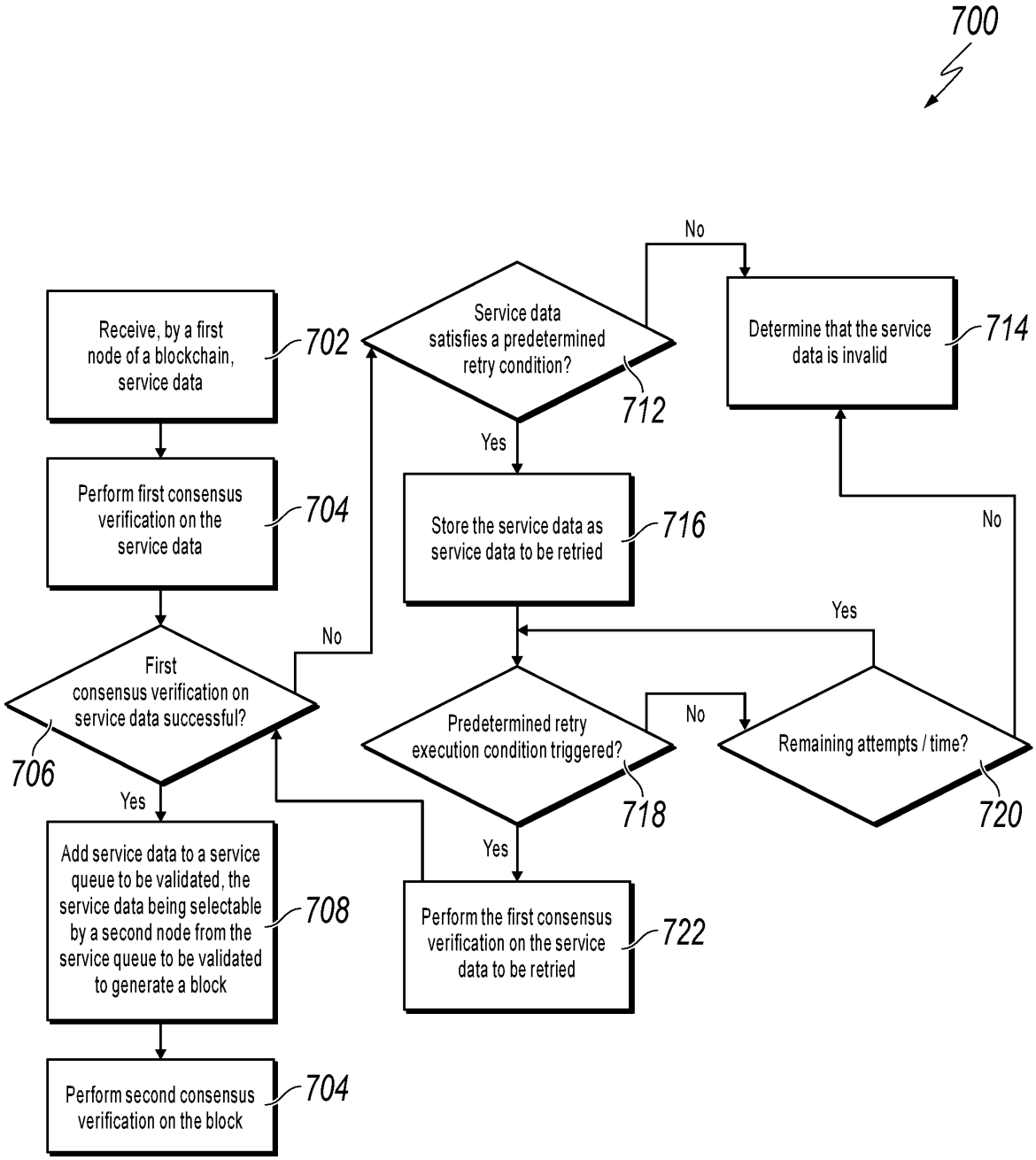

700
Receive, by a first node of a blockchain, service data
702
Perform first consensus verification on the service data
704
First consensus verification on service data successful?
706
No
Yes
Add service data to a service queue to be validated, the service data being selectable by a second node from the service queue to be validated to generate a block
708
Perform second consensus verification on the block
704
Service data satisfies a predetermined retry condition?
712
No
Yes
Determine that the service data is invalid
714
Store the service data as service data to be retried
716
Predetermined retry execution condition triggered?
718
No
Yes
Remaining attempts / time?
720
No
Yes
Perform the first consensus verification on the service data to be retried
722

FIG. 7