
110
120
Controller
Communication network
Service network

FIG. 1

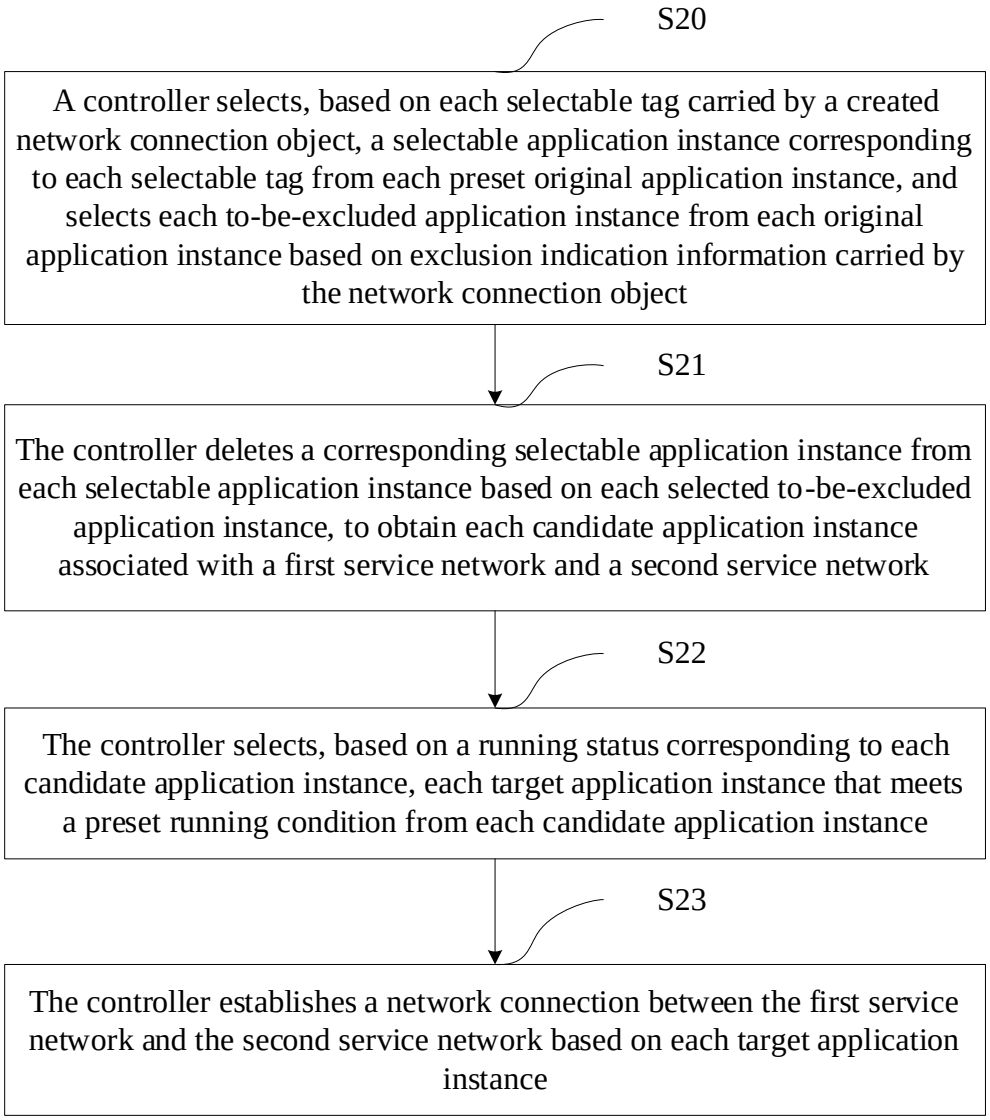

S20
A controller selects, based on each selectable tag carried by a created network connection object, a selectable application instance corresponding to each selectable tag from each preset original application instance, and selects each to-be-excluded application instance from each original application instance based on exclusion indication information carried by the network connection object
S21
The controller deletes a corresponding selectable application instance from each selectable application instance based on each selected to-be-excluded application instance, to obtain each candidate application instance associated with a first service network and a second service network
S22
The controller selects, based on a running status corresponding to each candidate application instance, each target application instance that meets a preset running condition from each candidate application instance
S23
The controller establishes a network connection between the first service network and the second service network based on each target application instance

FIG. 2A

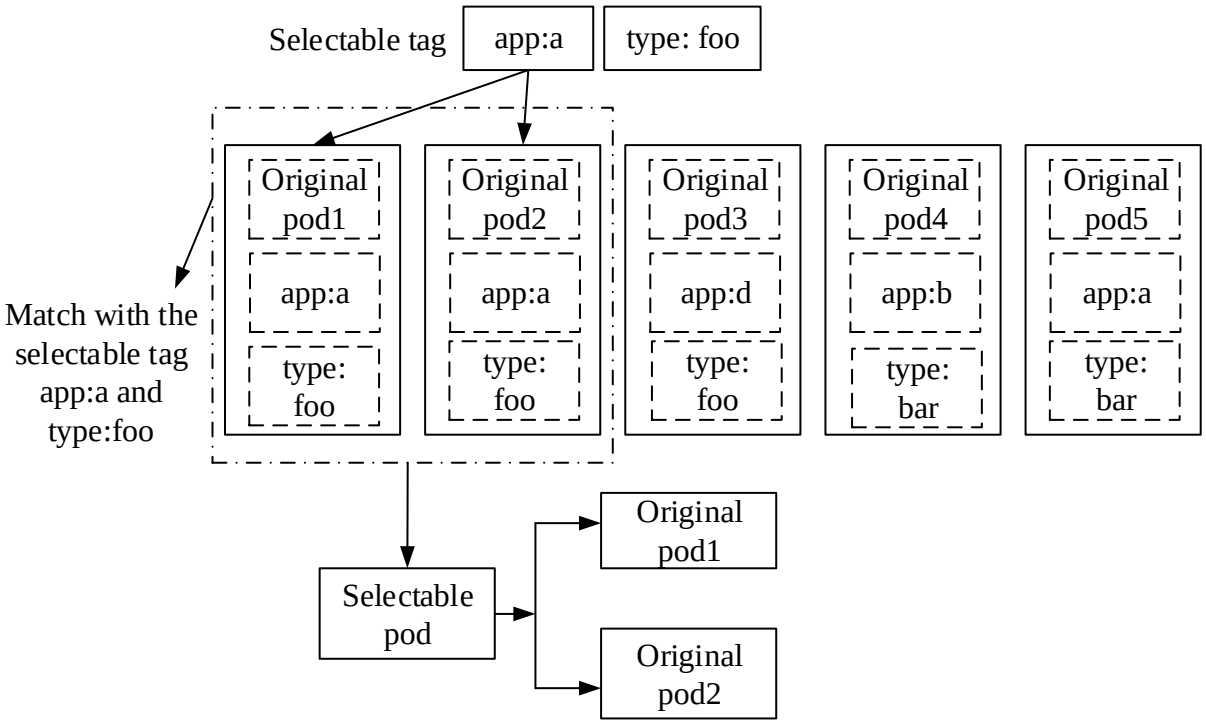

Selectable tag
app:a
type: foo
Original pod1
app:a
type: foo
Original pod2
app:a
type: foo
Original pod3
app:d
type: foo
Original pod4
app:b
type: bar
Original pod5
app:a
type: bar
Match with the selectable tag app:a and type:foo
Selectable pod
Original pod1
Original pod2

FIG. 2B

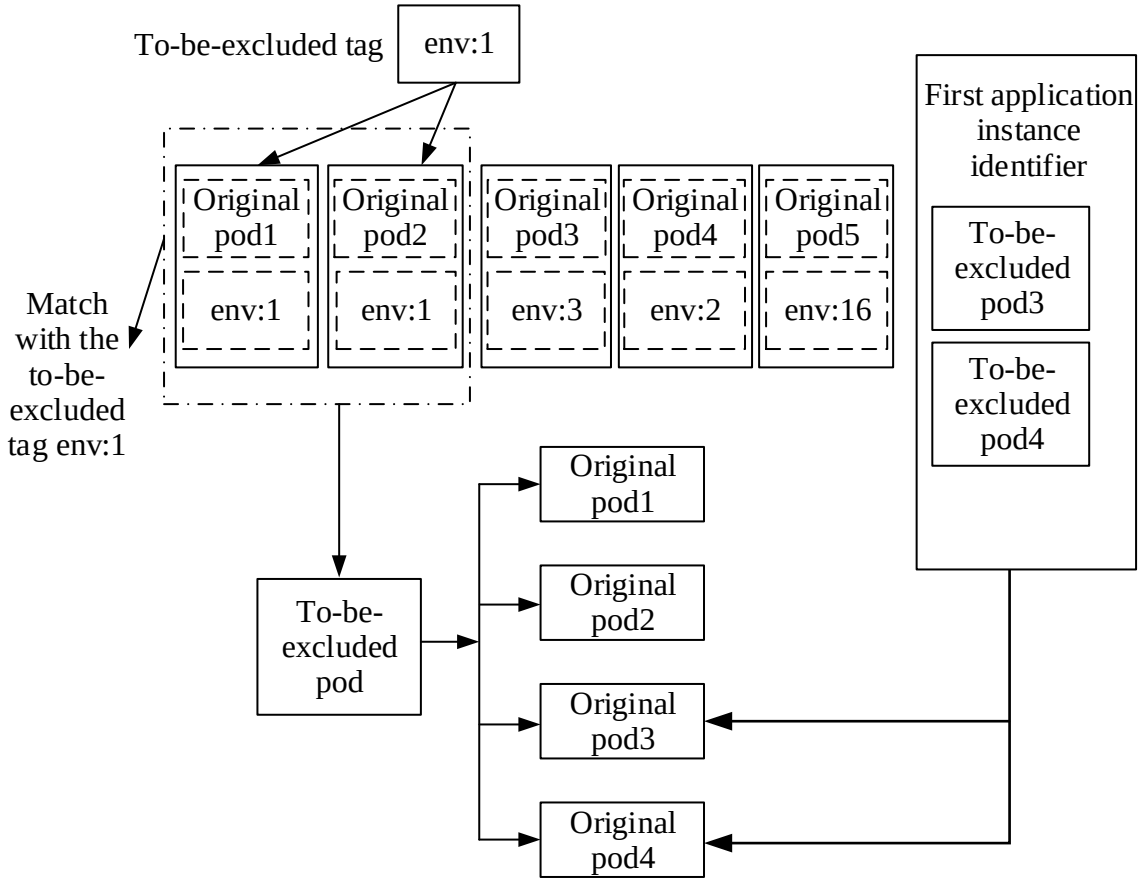

To-be-excluded tag
env:1
Original pod1
env:1
Original pod2
env:1
Original pod3
env:3
Original pod4
env:2
Original pod5
env:16
Match with the to-be-excluded tag env:1
First application instance identifier
To-be-excluded pod3
To-be-excluded pod4
To-be-excluded pod
Original pod1
Original pod2
Original pod3
Original pod4

FIG. 2C

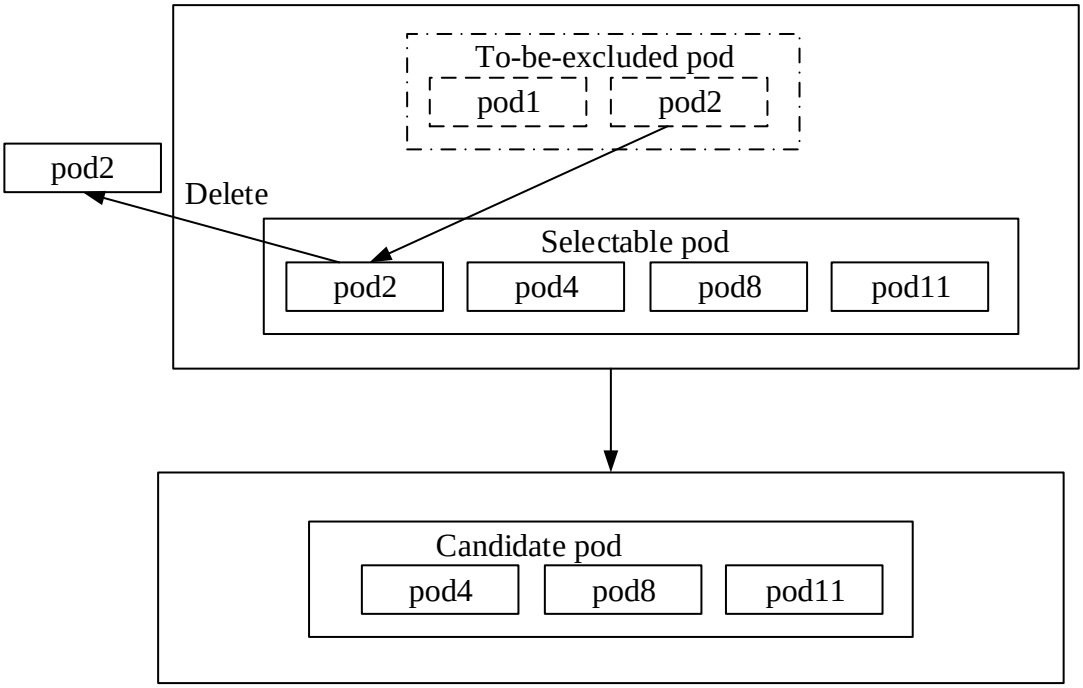

To-be-excluded pod
pod1
pod2
pod2
Delete
Selectable pod
pod2
pod4
pod8
pod11
Candidate pod
pod4
pod8
pod11

FIG. 2D

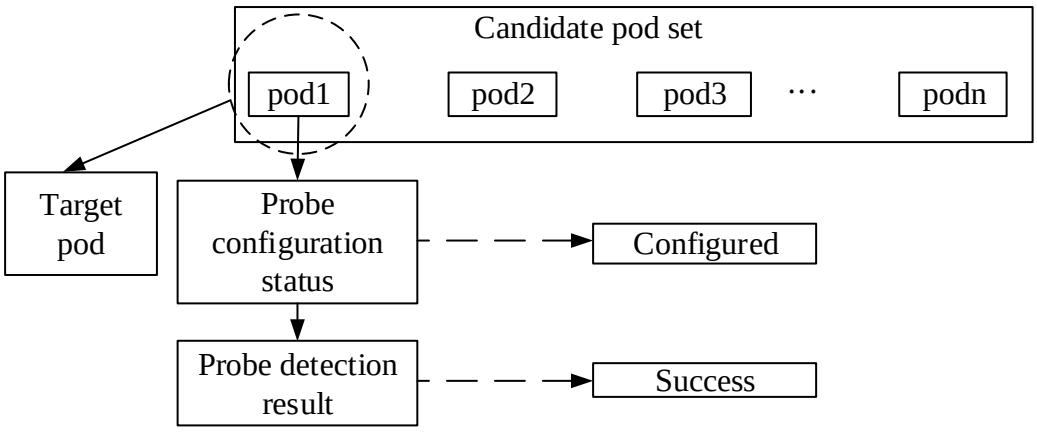

Candidate pod set
pod1
pod2
pod3
…
podn
Target pod
Probe configuration status
Configured
Probe detection result
Success

FIG. 2E

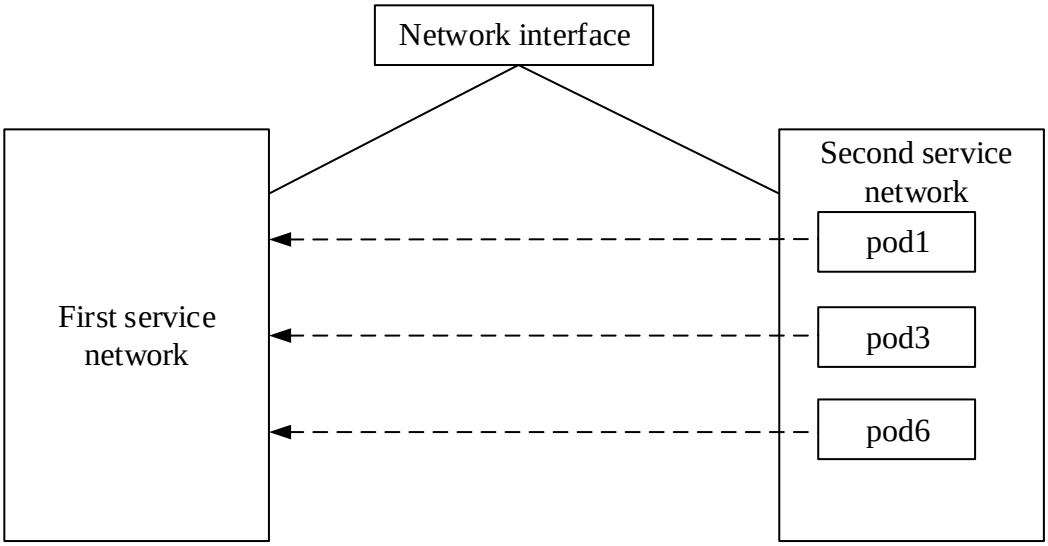

Network interface
First service network
Second service network
pod1
pod3
pod6

FIG. 2F

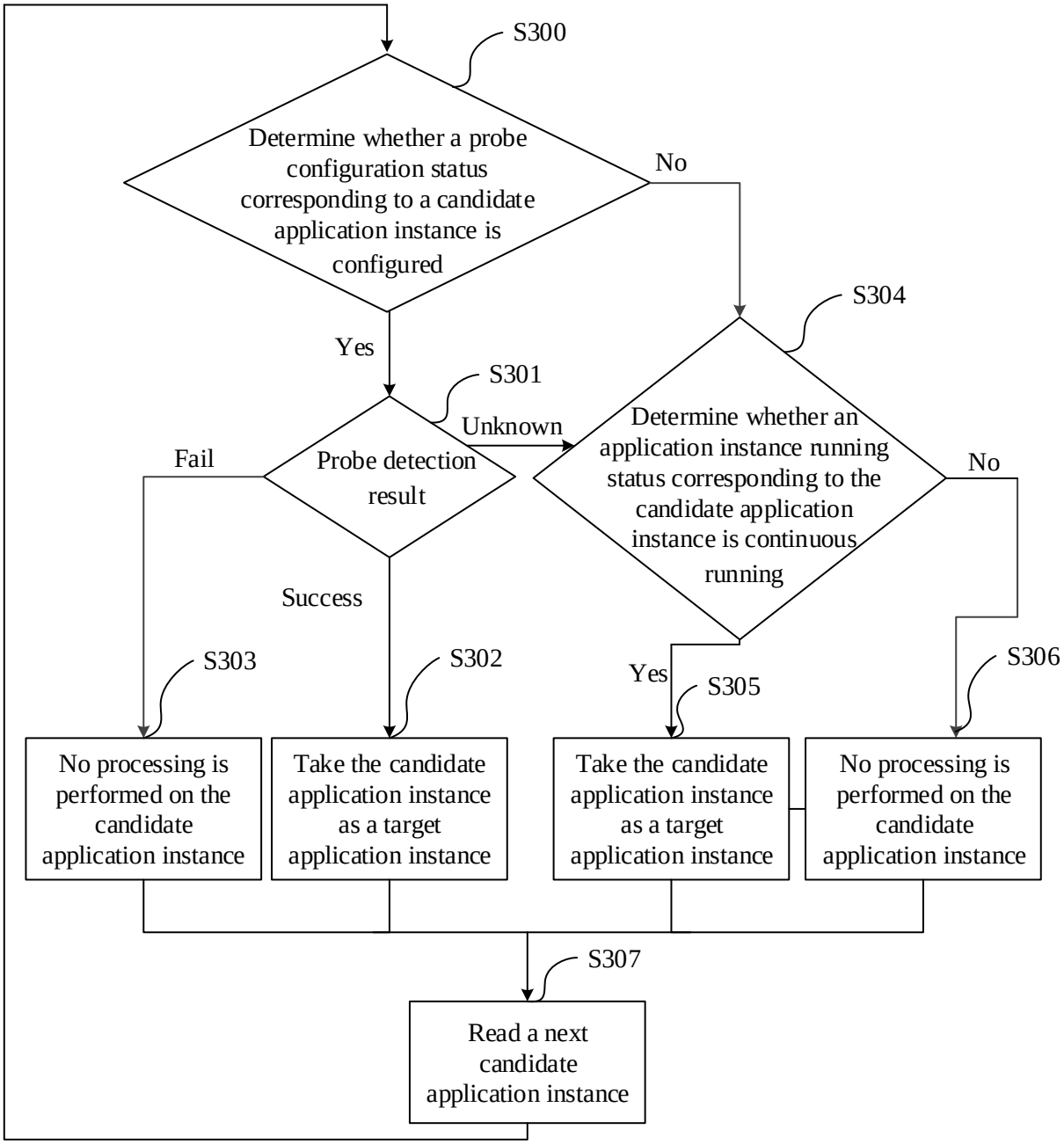

S300
Determine whether a probe configuration status corresponding to a candidate application instance is configured
No
Yes
S304
S301
Unknown
Determine whether an application instance running status corresponding to the candidate application instance is continuous running
Fail
Probe detection result
No
Success
S303
S302
Yes
S305
S306
No processing is performed on the candidate application instance
Take the candidate application instance as a target application instance
Take the candidate application instance as a target application instance
No processing is performed on the candidate application instance
S307
Read a next candidate application instance

FIG. 3

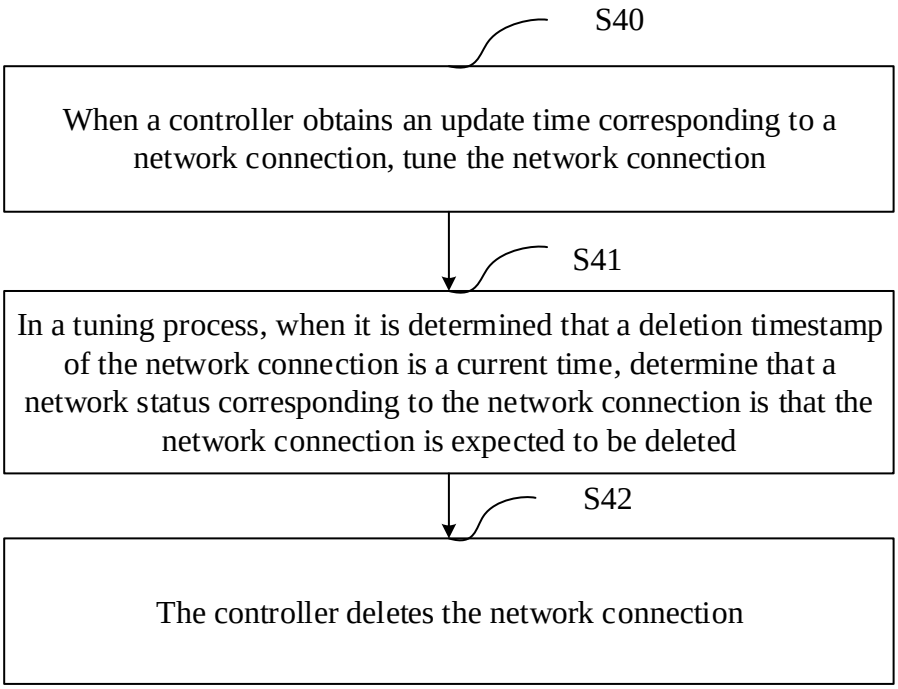

S40
When a controller obtains an update time corresponding to a network connection, tune the network connection
S41
In a tuning process, when it is determined that a deletion timestamp of the network connection is a current time, determine that a network status corresponding to the network connection is that the network connection is expected to be deleted
S42
The controller deletes the network connection

FIG. 4

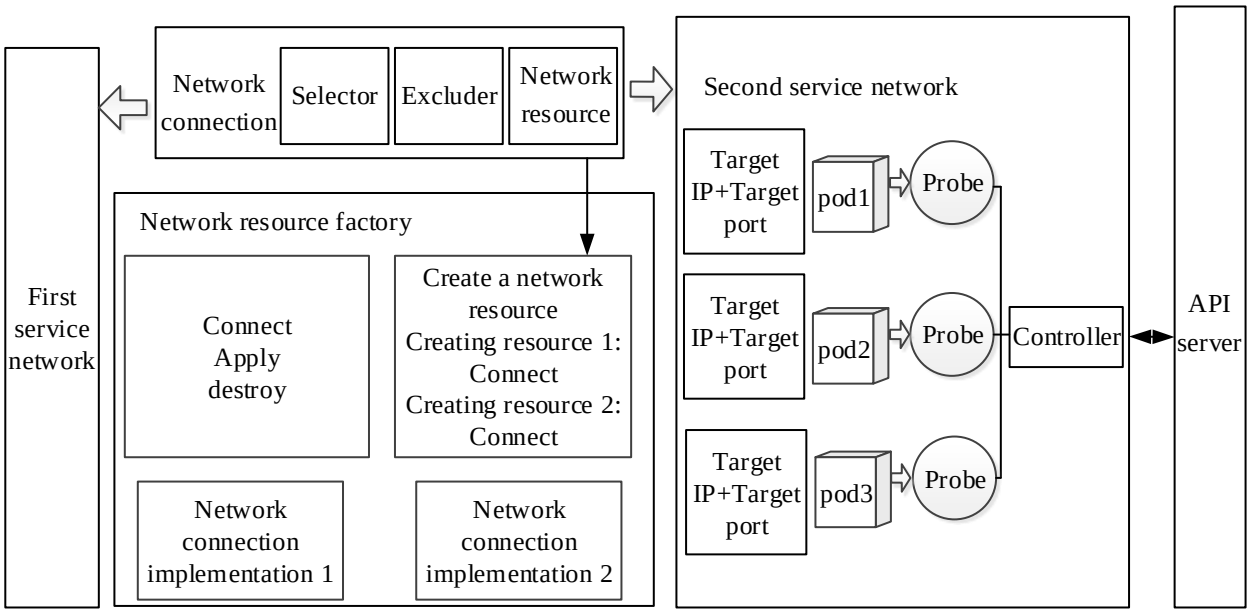

First service network
Network connection
Selector
Excluder
Network resource
Network resource factory
Connect
Apply
destroy
Create a network resource
Creating resource 1: Connect
Creating resource 2: Connect
Network connection implementation 1
Network connection implementation 2
Second service network
Target IP+Target port
pod1
Probe
Target IP+Target port
pod2
Probe
Target IP+Target port
pod3
Probe
Controller
API server

FIG. 5

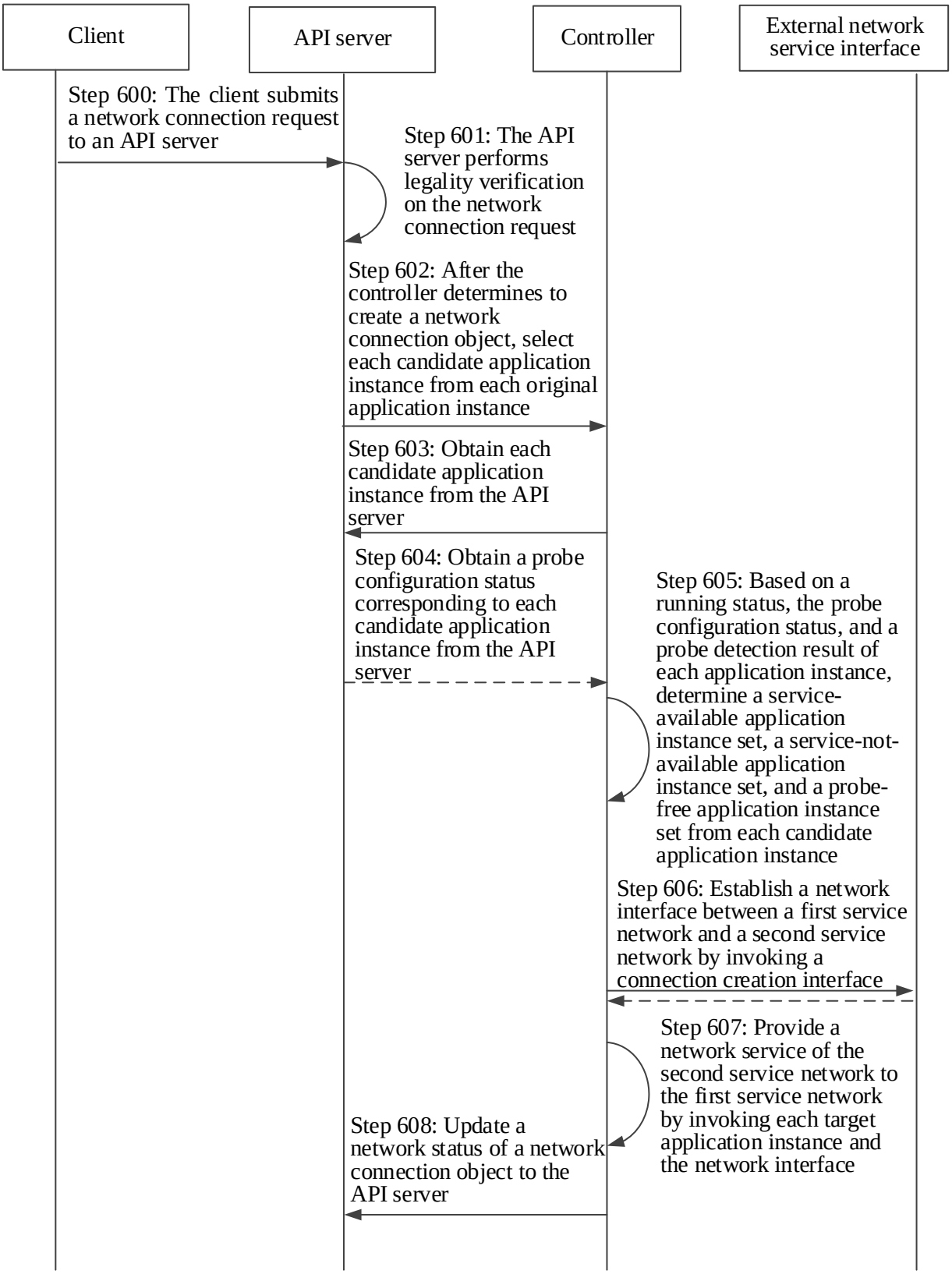

Client
API server
Controller
External network service interface
Step 600: The client submits a network connection request to an API server
Step 601: The API server performs legality verification on the network connection request
Step 602: After the controller determines to create a network connection object, select each candidate application instance from each original application instance
Step 603: Obtain each candidate application instance from the API server
Step 604: Obtain a probe configuration status corresponding to each candidate application instance from the API server
Step 605: Based on a running status, the probe configuration status, and a probe detection result of each application instance, determine a service-available application instance set, a service-not-available application instance set, and a probe-free application instance set from each candidate application instance
Step 606: Establish a network interface between a first service network and a second service network by invoking a connection creation interface
Step 607: Provide a network service of the second service network to the first service network by invoking each target application instance and the network interface
Step 608: Update a network status of a network connection object to the API server

FIG. 6

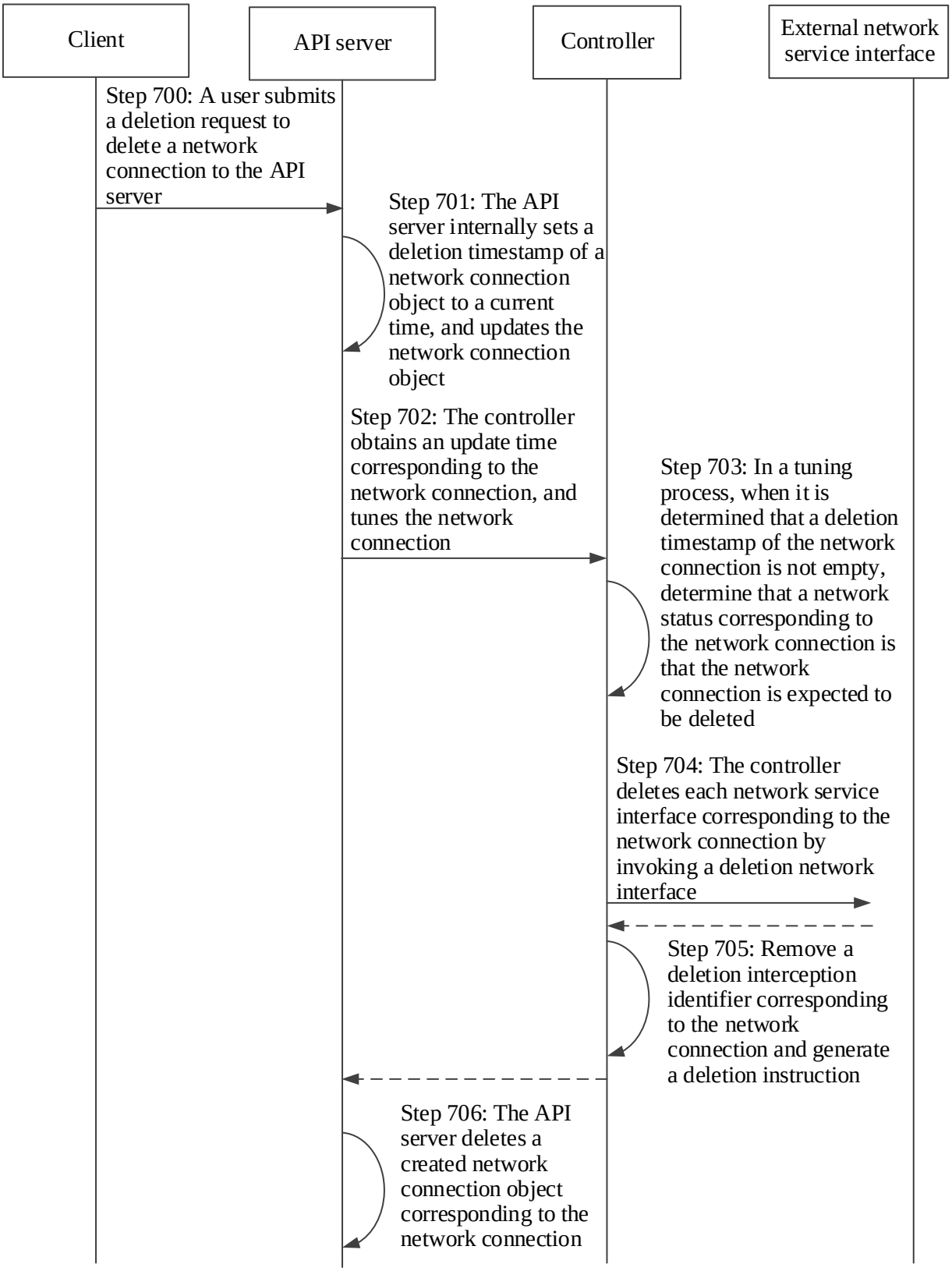

Client
API server
Controller
External network service interface
Step 700: A user submits a deletion request to delete a network connection to the API server
Step 701: The API server internally sets a deletion timestamp of a network connection object to a current time, and updates the network connection object
Step 702: The controller obtains an update time corresponding to the network connection, and tunes the network connection
Step 703: In a tuning process, when it is determined that a deletion timestamp of the network connection is not empty, determine that a network status corresponding to the network connection is that the network connection is expected to be deleted
Step 704: The controller deletes each network service interface corresponding to the network connection by invoking a deletion network interface
Step 705: Remove a deletion interception identifier corresponding to the network connection and generate a deletion instruction
Step 706: The API server deletes a created network connection object corresponding to the network connection

FIG. 7

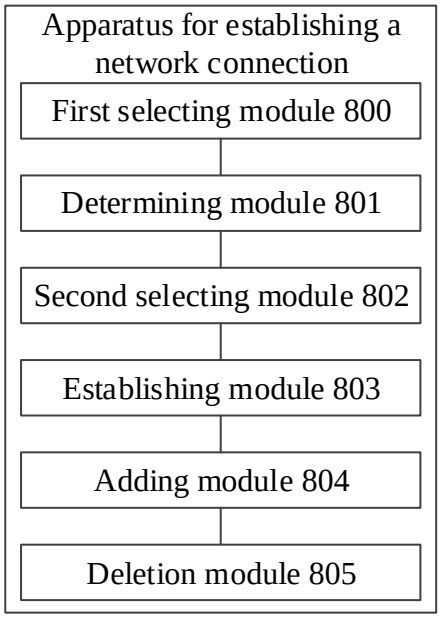

Apparatus for establishing a network connection
First selecting module 800
Determining module 801
Second selecting module 802
Establishing module 803
Adding module 804
Deletion module 805

FIG. 8

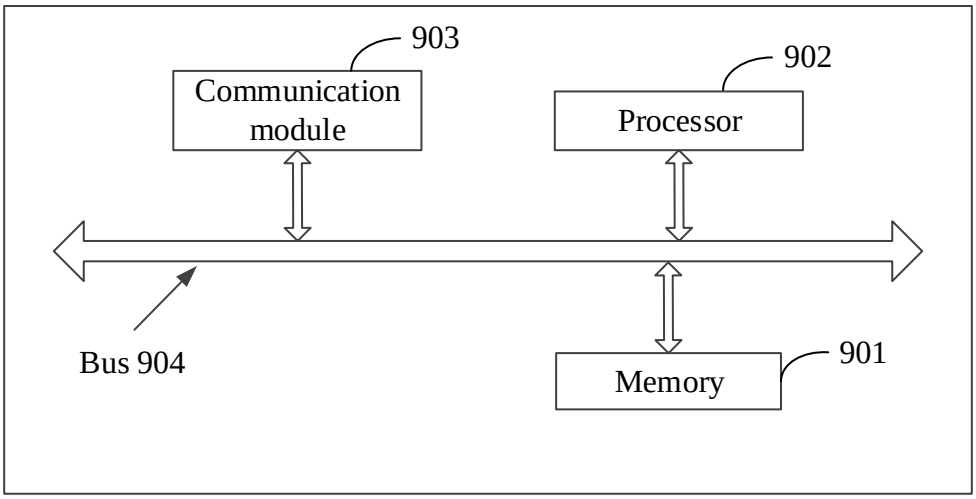

903
Communication module
902
Processor
Bus 904
Memory
901

FIG. 9