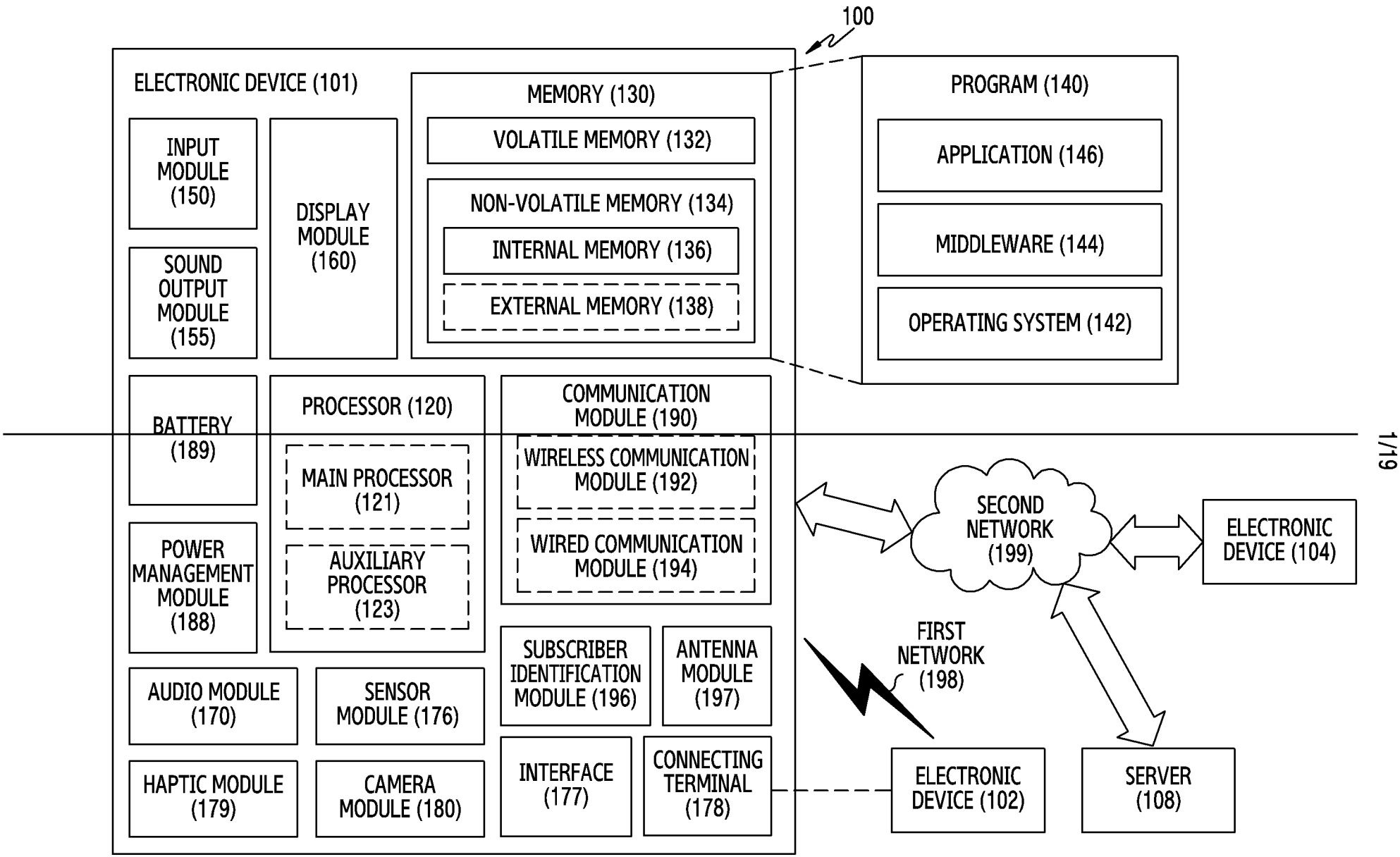

100
ELECTRONIC DEVICE (101)
INPUT MODULE (150)
SOUND OUTPUT MODULE (155)
DISPLAY MODULE (160)
BATTERY (189)
POWER MANAGEMENT MODULE (188)
PROCESSOR (120)
MAIN PROCESSOR (121)
AUXILIARY PROCESSOR (123)
MEMORY (130)
VOLATILE MEMORY (132)
NON-VOLATILE MEMORY (134)
INTERNAL MEMORY (136)
EXTERNAL MEMORY (138)
COMMUNICATION MODULE (190)
WIRELESS COMMUNICATION MODULE (192)
WIRED COMMUNICATION MODULE (194)
SUBSCRIBER IDENTIFICATION MODULE (196)
ANTENNA MODULE (197)
AUDIO MODULE (170)
SENSOR MODULE (176)
HAPTIC MODULE (179)
CAMERA MODULE (180)
INTERFACE (177)
CONNECTING TERMINAL (178)
PROGRAM (140)
APPLICATION (146)
MIDDLEWARE (144)
OPERATING SYSTEM (142)
SECOND NETWORK (199)
ELECTRONIC DEVICE (104)
FIRST NETWORK (198)
ELECTRONIC DEVICE (102)
SERVER (108)

FIG.1

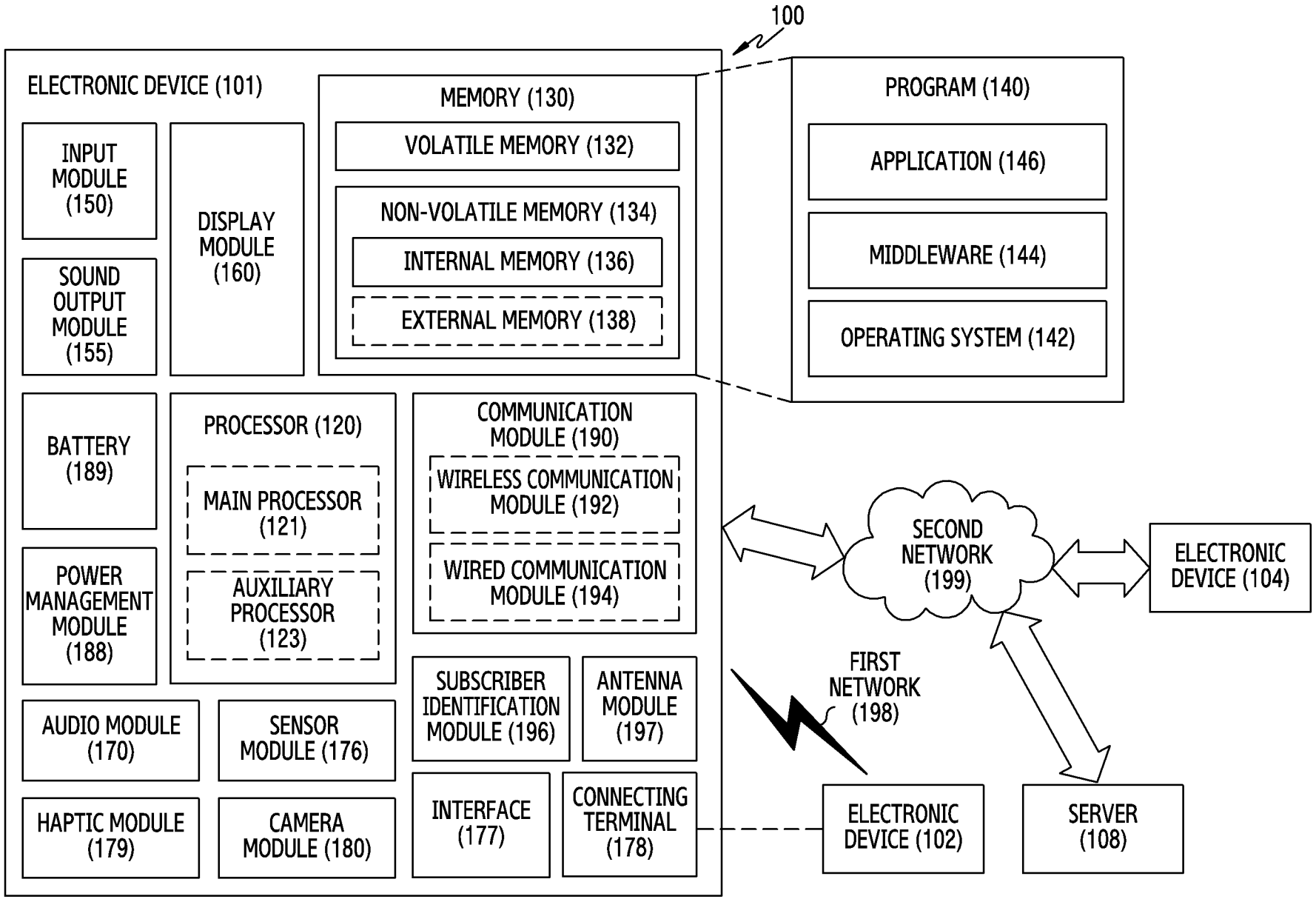

100
ELECTRONIC DEVICE (101)
INPUT MODULE (150)
SOUND OUTPUT MODULE (155)
DISPLAY MODULE (160)
BATTERY (189)
POWER MANAGEMENT MODULE (188)
PROCESSOR (120)
MAIN PROCESSOR (121)
AUXILIARY PROCESSOR (123)
AUDIO MODULE (170)
SENSOR MODULE (176)
HAPTIC MODULE (179)
CAMERA MODULE (180)
MEMORY (130)
VOLATILE MEMORY (132)
NON-VOLATILE MEMORY (134)
INTERNAL MEMORY (136)
EXTERNAL MEMORY (138)
COMMUNICATION MODULE (190)
WIRELESS COMMUNICATION MODULE (192)
WIRED COMMUNICATION MODULE (194)
SUBSCRIBER IDENTIFICATION MODULE (196)
ANTENNA MODULE (197)
INTERFACE (177)
CONNECTING TERMINAL (178)
PROGRAM (140)
APPLICATION (146)
MIDDLEWARE (144)
OPERATING SYSTEM (142)
SECOND NETWORK (199)
ELECTRONIC DEVICE (104)
FIRST NETWORK (198)
ELECTRONIC DEVICE (102)
SERVER (108)

FIG.1

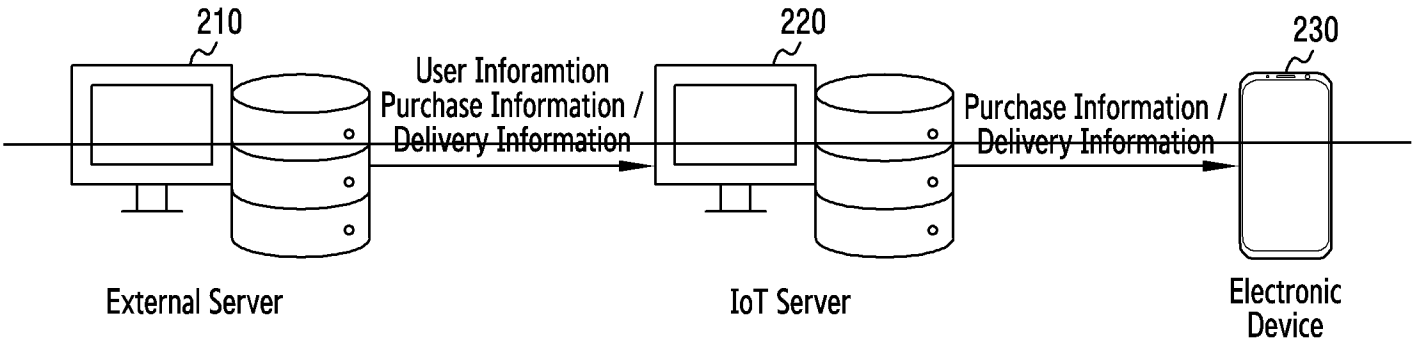

210
220
230
User Inforamtion
Purchase Information /
Delivery Information
Purchase Information /
Delivery Information
External Server
IoT Server
Electronic
Device

FIG.2

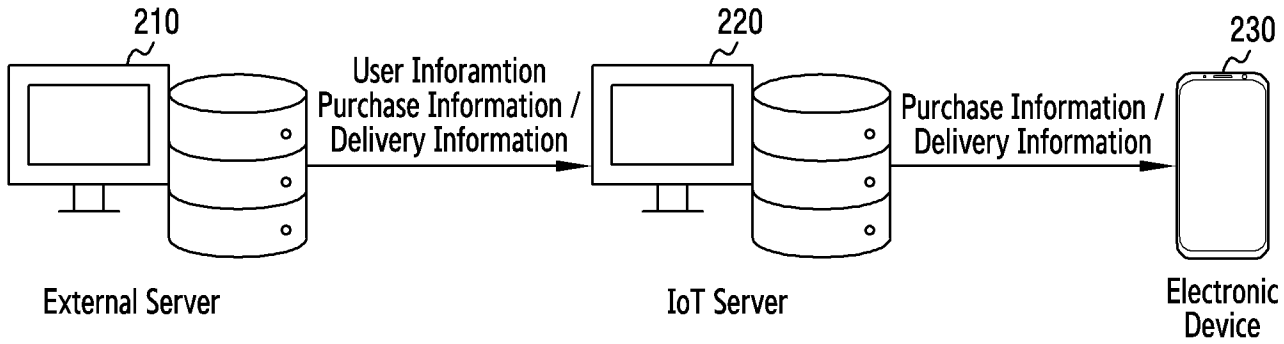

210
220
230
User Inforamtion
Purchase Information /
Delivery Information
Purchase Information /
Delivery Information
External Server
IoT Server
Electronic
Device

FIG.2

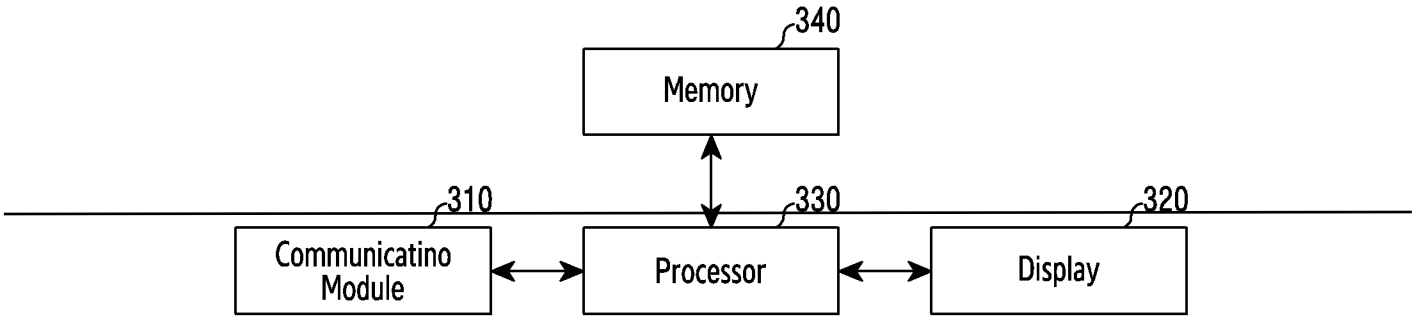

340
Memory
310
330
320
Communicatino Module
Processor
Display

FIG.3

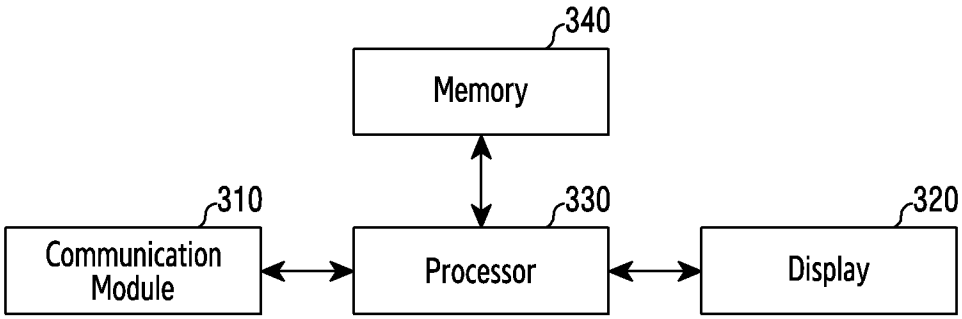

340
Memory
310
330
320
Communication Module
Processor
Display

FIG.3

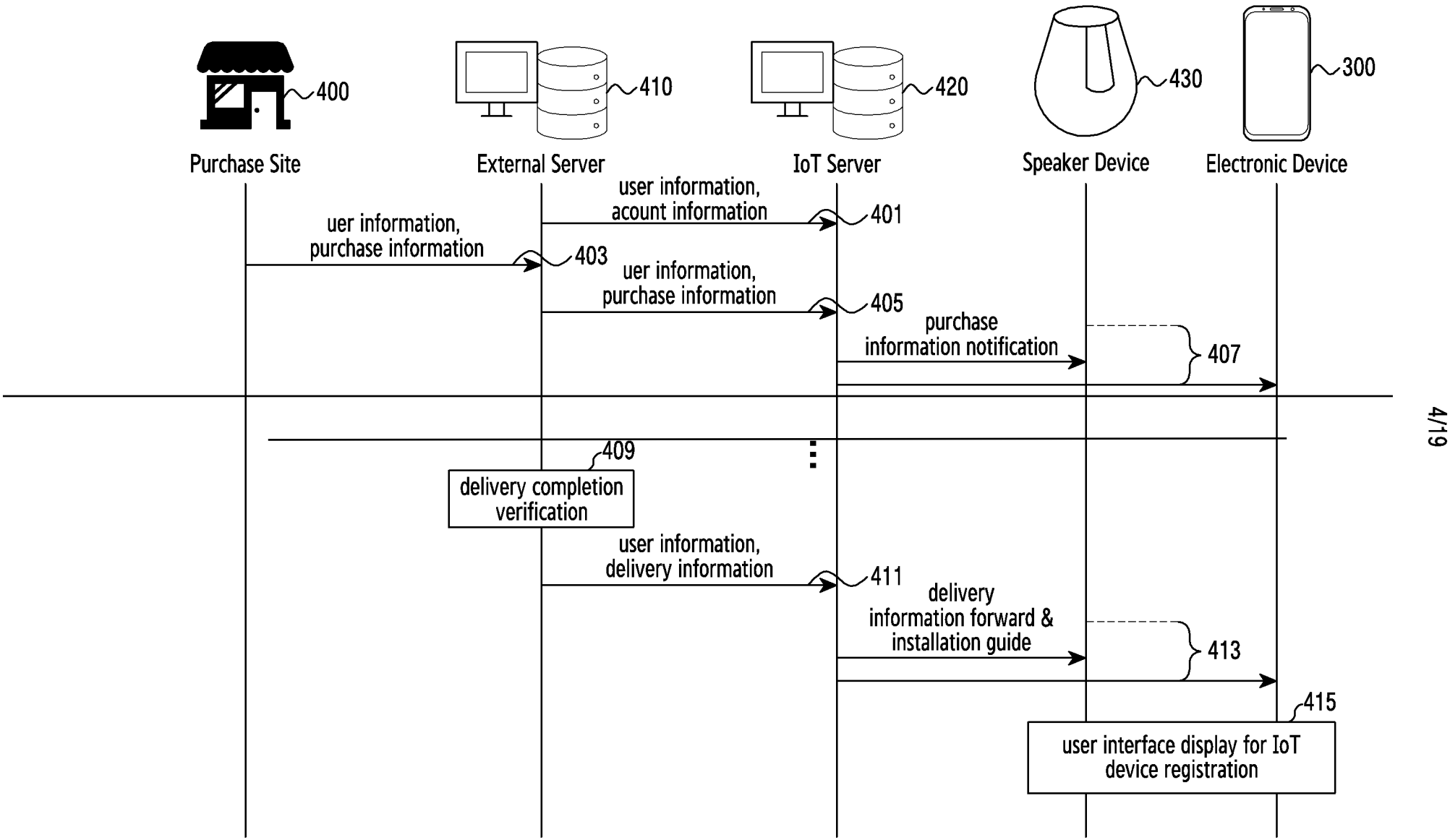

400
410
420
430
300
Purchase Site
External Server
IoT Server
Speaker Device
Electronic Device
user information,
acount information
401
uer information,
purchase information
403
uer information,
purchase information
405
purchase
information notification
407
409
delivery completion
verification
user information,
delivery information
411
delivery
information forward &
installation guide
413
415
user interface display for IoT
device registration

FIG.4

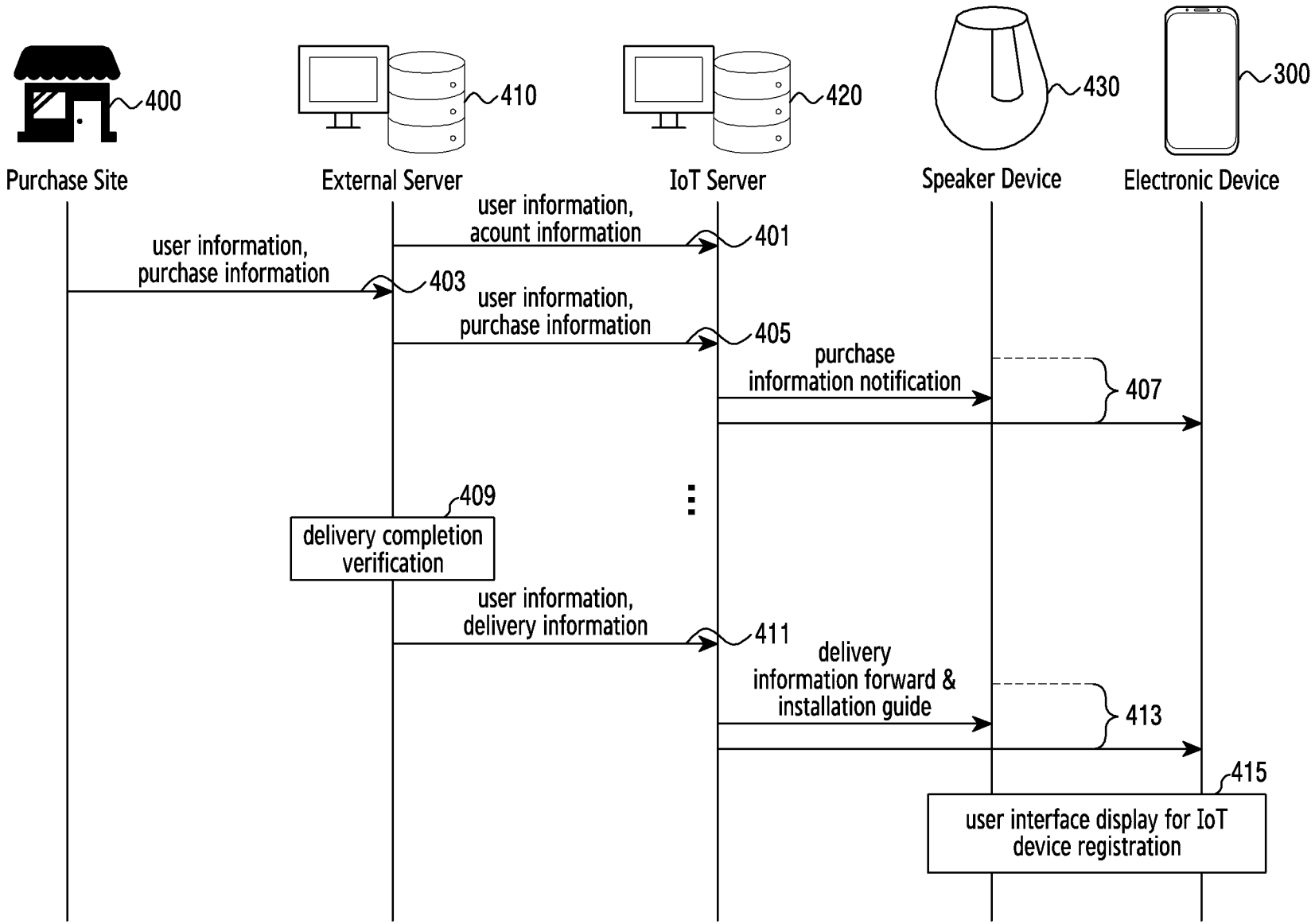

400
410
420
430
300
Purchase Site
External Server
IoT Server
Speaker Device
Electronic Device
user information, acount information
401
user information, purchase information
403
user information, purchase information
405
purchase information notification
407
409
delivery completion verification
user information, delivery information
411
delivery information forward & installation guide
413
415
user interface display for IoT device registration

FIG.4

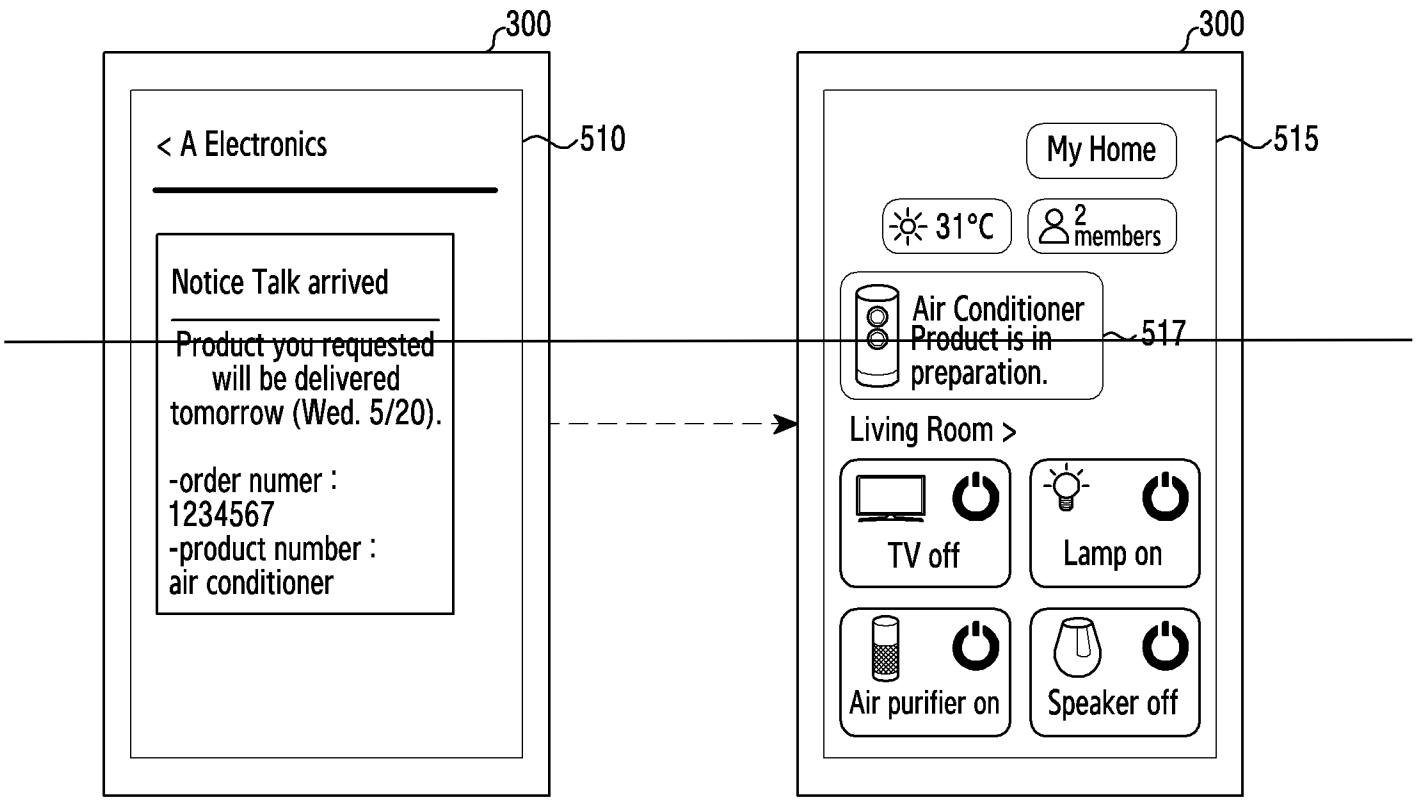

300
< A Electronics
510
Notice Talk arrived
Product you requested will be delivered tomorrow (Wed. 5/20).
-order numer : 1234567
-product number : air conditioner
300
My Home
515
31°C
2 members
Air Conditioner
Product is in preparation.
517
Living Room >
TV off
Lamp on
Air purifier on
Speaker off

FIG.5A

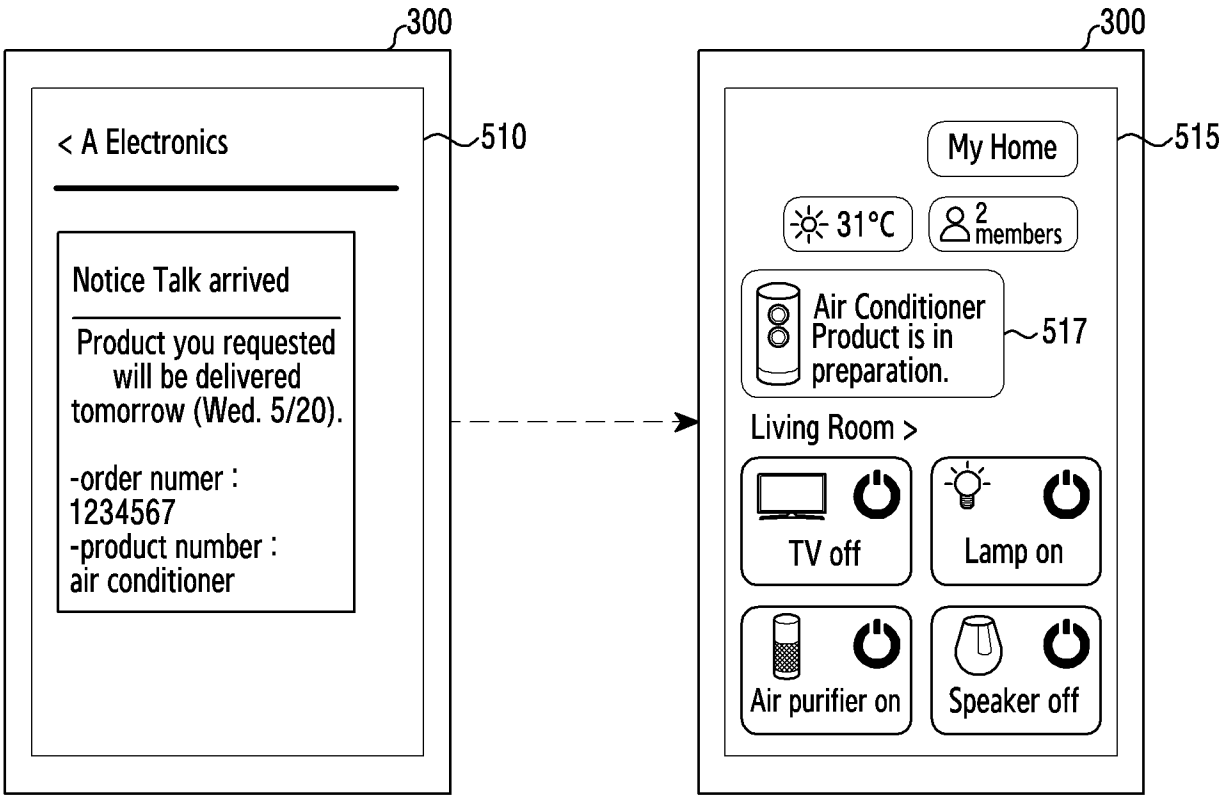

300
< A Electronics
510
Notice Talk arrived
Product you requested will be delivered tomorrow (Wed. 5/20).
-order numer : 1234567
-product number : air conditioner
300
My Home
515
31°C
2 members
Air Conditioner Product is in preparation.
517
Living Room >
TV off
Lamp on
Air purifier on
Speaker off

FIG.5A

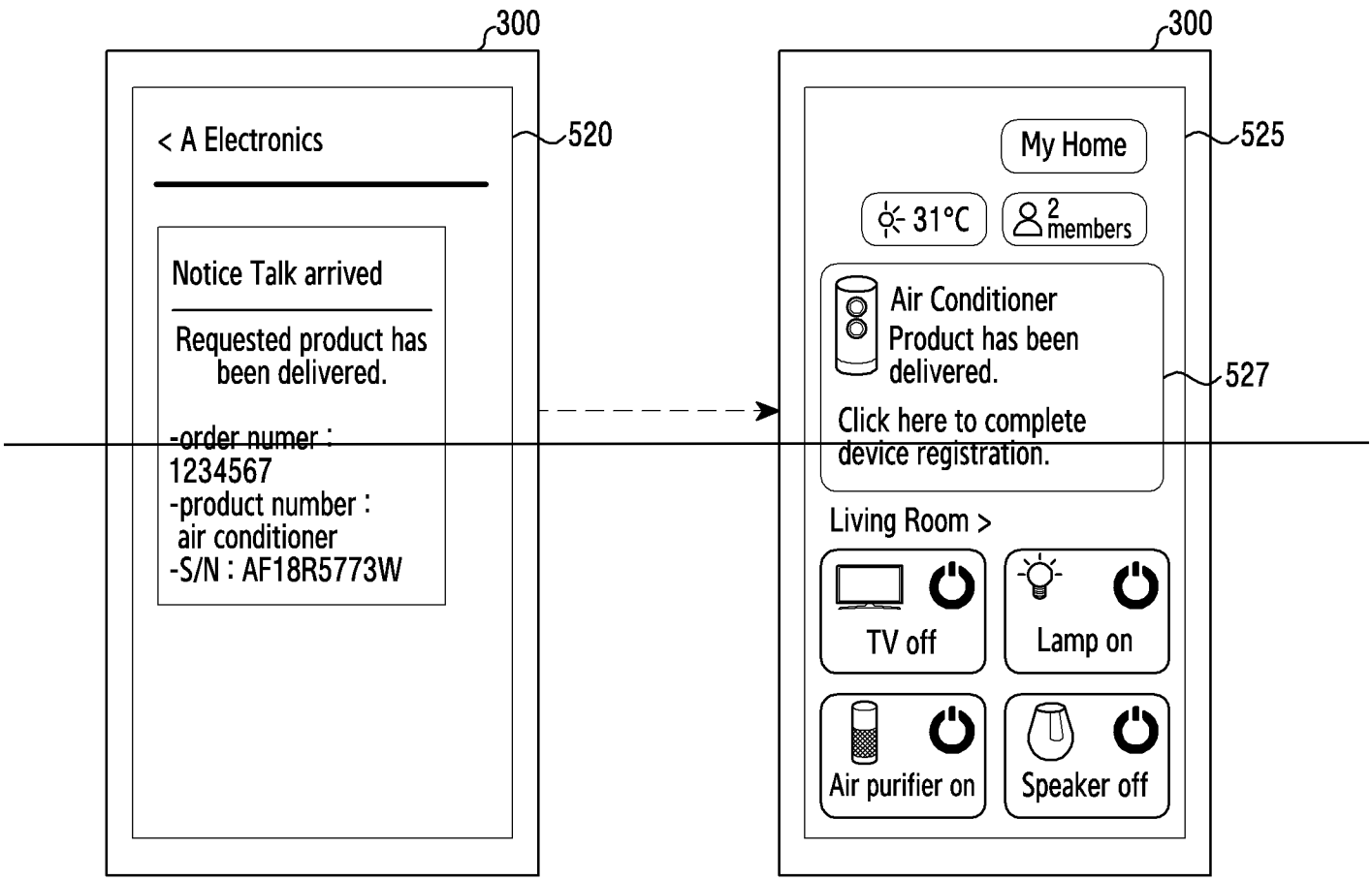

300
< A Electronics
520
Notice Talk arrived
Requested product has been delivered.
-order numer : 1234567
-product number : air conditioner
-S/N : AF18R5773W
300
My Home
525
31°C
2 members
Air Conditioner
Product has been delivered.
Click here to complete device registration.
527
Living Room >
TV off
Lamp on
Air purifier on
Speaker off

FIG.5B

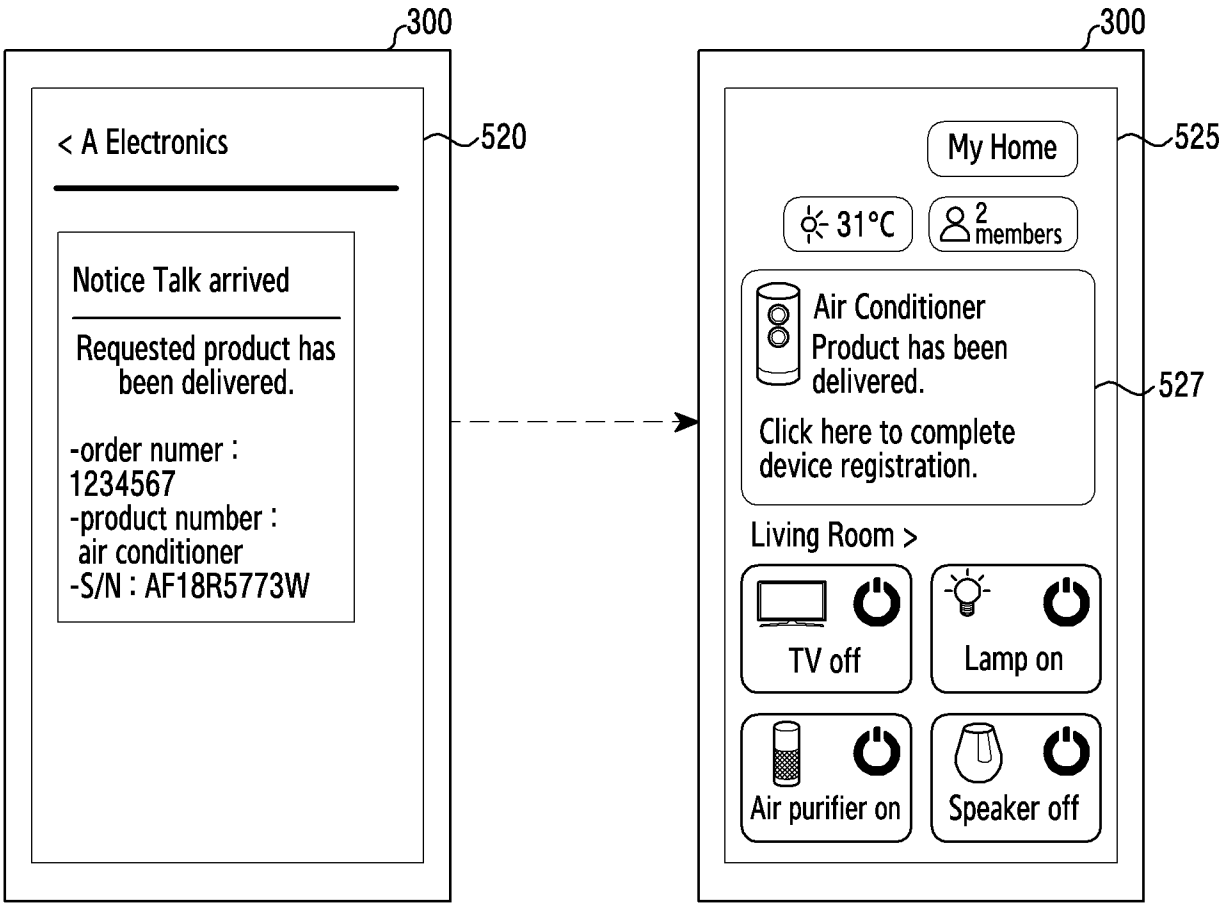

300
< A Electronics
520
Notice Talk arrived
Requested product has been delivered.
-order numer : 1234567
-product number : air conditioner
-S/N : AF18R5773W
300
My Home
525
31°C
2 members
Air Conditioner
Product has been delivered.
Click here to complete device registration.
527
Living Room >
TV off
Lamp on
Air purifier on
Speaker off

FIG.5B

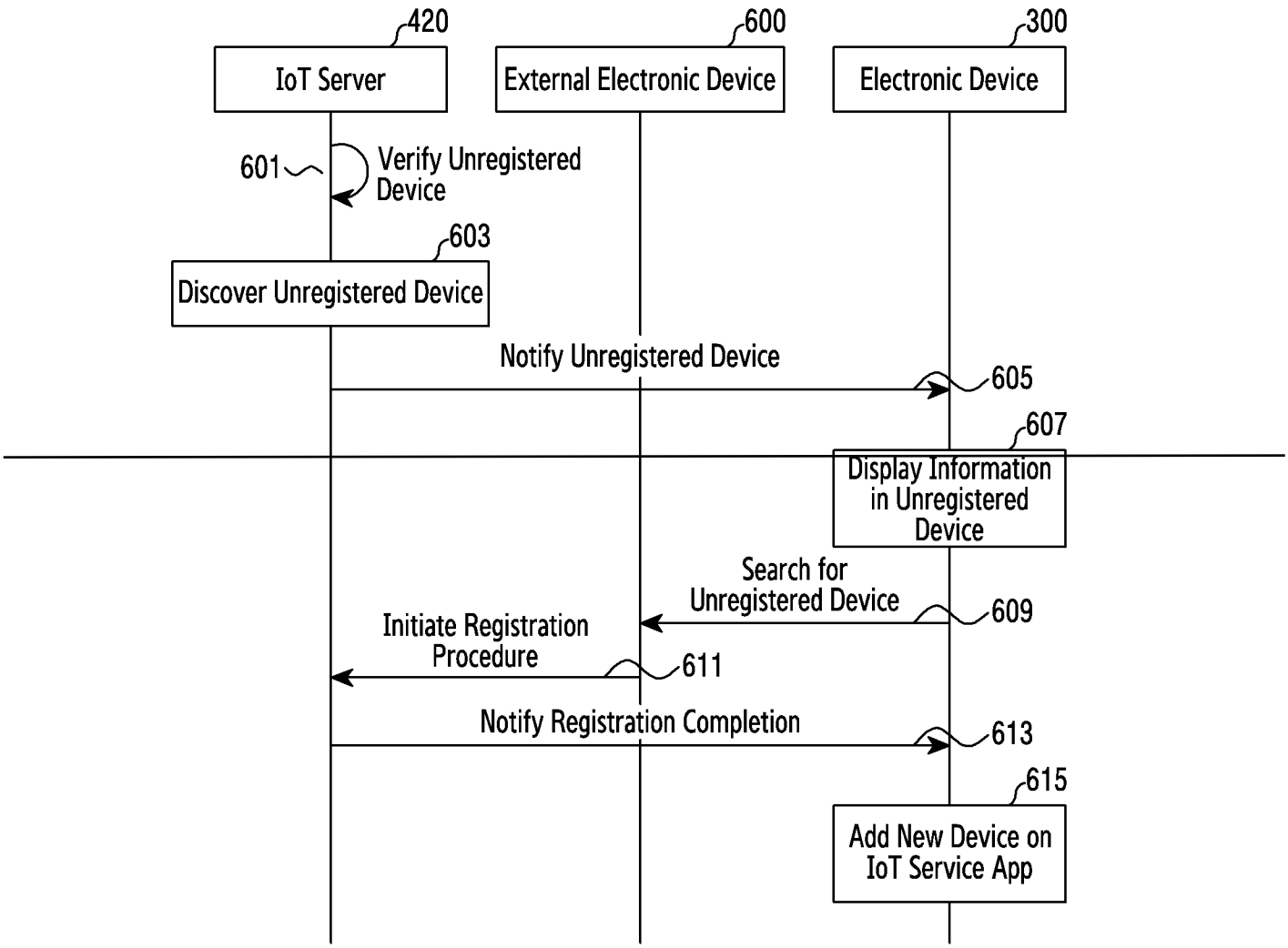

420
IoT Server
600
External Electronic Device
300
Electronic Device
601
Verify Unregistered Device
603
Discover Unregistered Device
Notify Unregistered Device
605
607
Display Information in Unregistered Device
Search for Unregistered Device
609
Initiate Registration Procedure
611
Notify Registration Completion
613
615
Add New Device on IoT Service App

FIG.6

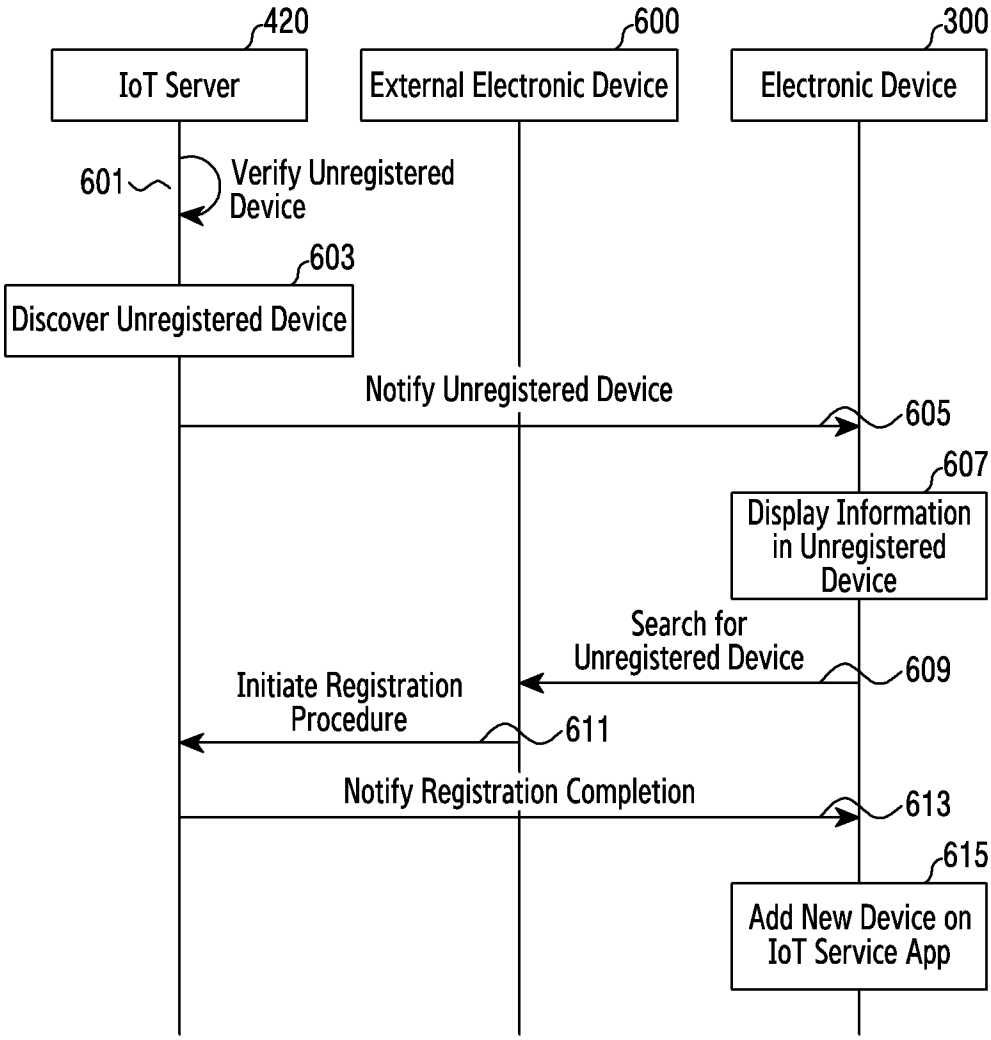

420
IoT Server
600
External Electronic Device
300
Electronic Device
601
Verify Unregistered Device
603
Discover Unregistered Device
Notify Unregistered Device
605
607
Display Information in Unregistered Device
Search for Unregistered Device
609
Initiate Registration Procedure
611
Notify Registration Completion
613
615
Add New Device on IoT Service App

FIG.6

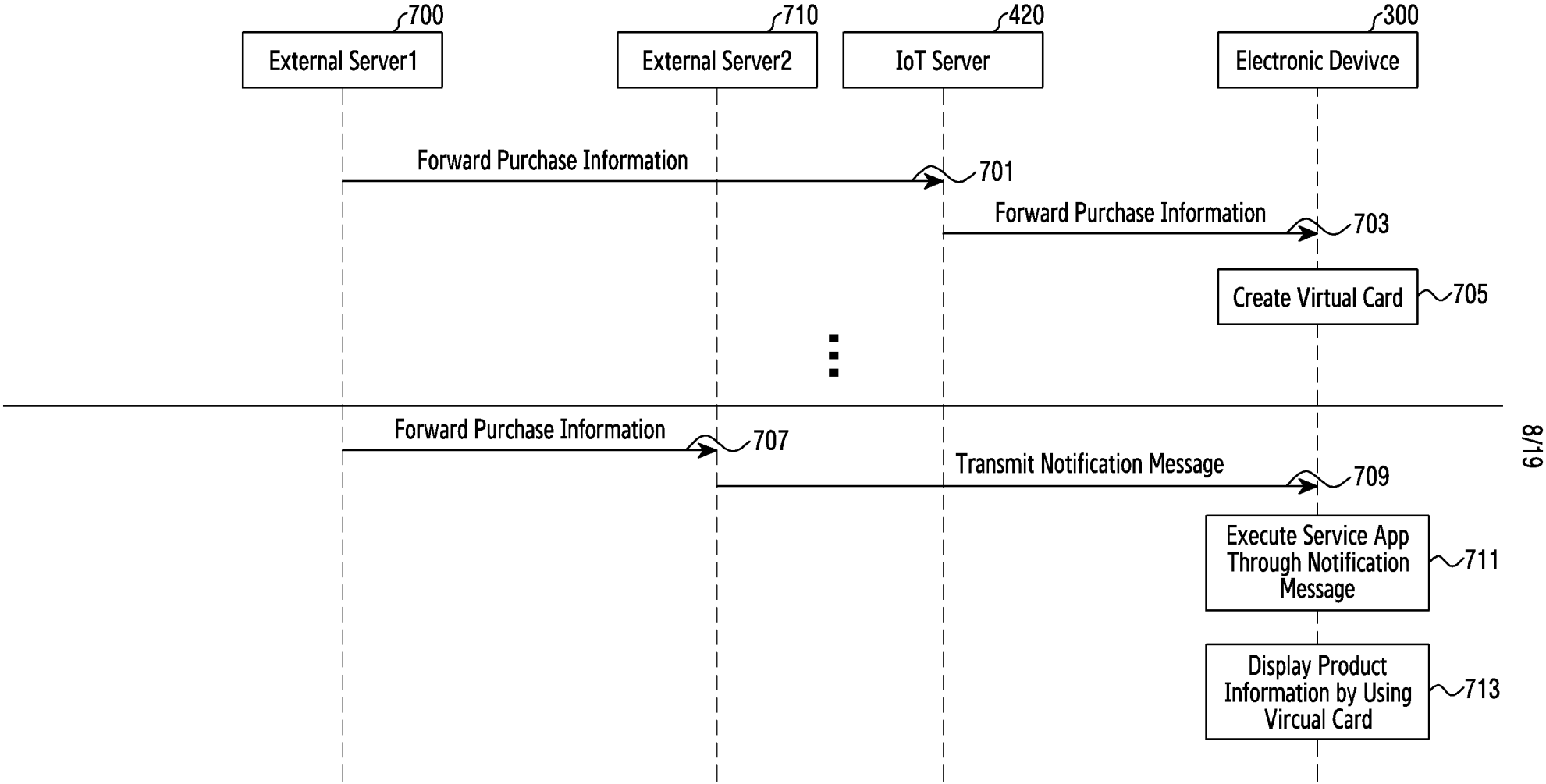

700
External Server1
710
External Server2
420
IoT Server
300
Electronic Devivce
Forward Purchase Information
701
Forward Purchase Information
703
Create Virtual Card
705
Forward Purchase Information
707
Transmit Notification Message
709
Execute Service App Through Notification Message
711
Display Product Information by Using Vircual Card
713

FIG.7

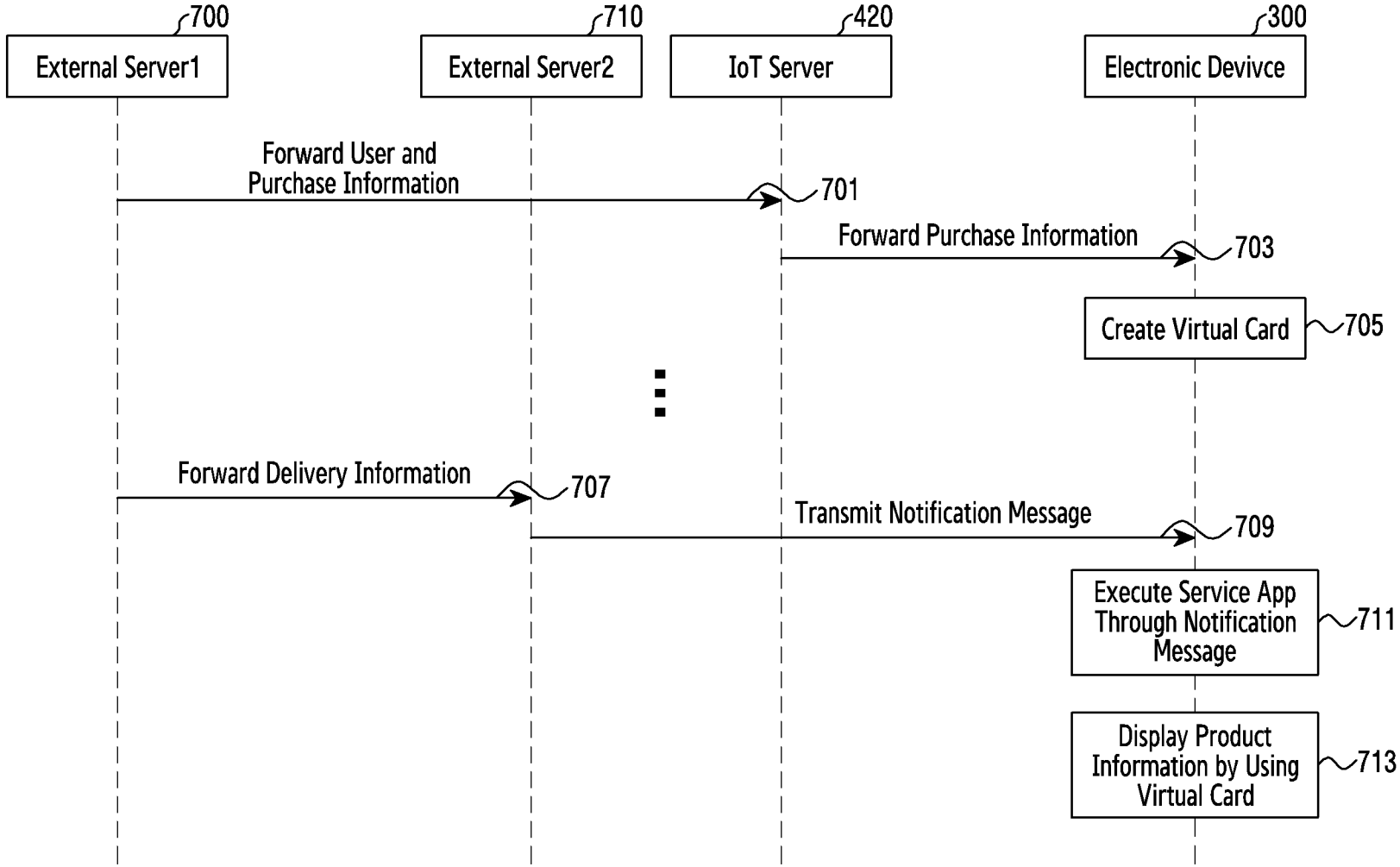

700
External Server1
710
External Server2
420
IoT Server
300
Electronic Devivce
Forward User and Purchase Information
701
Forward Purchase Information
703
Create Virtual Card
705
Forward Delivery Information
707
Transmit Notification Message
709
Execute Service App Through Notification Message
711
Display Product Information by Using Virtual Card
713

FIG.7

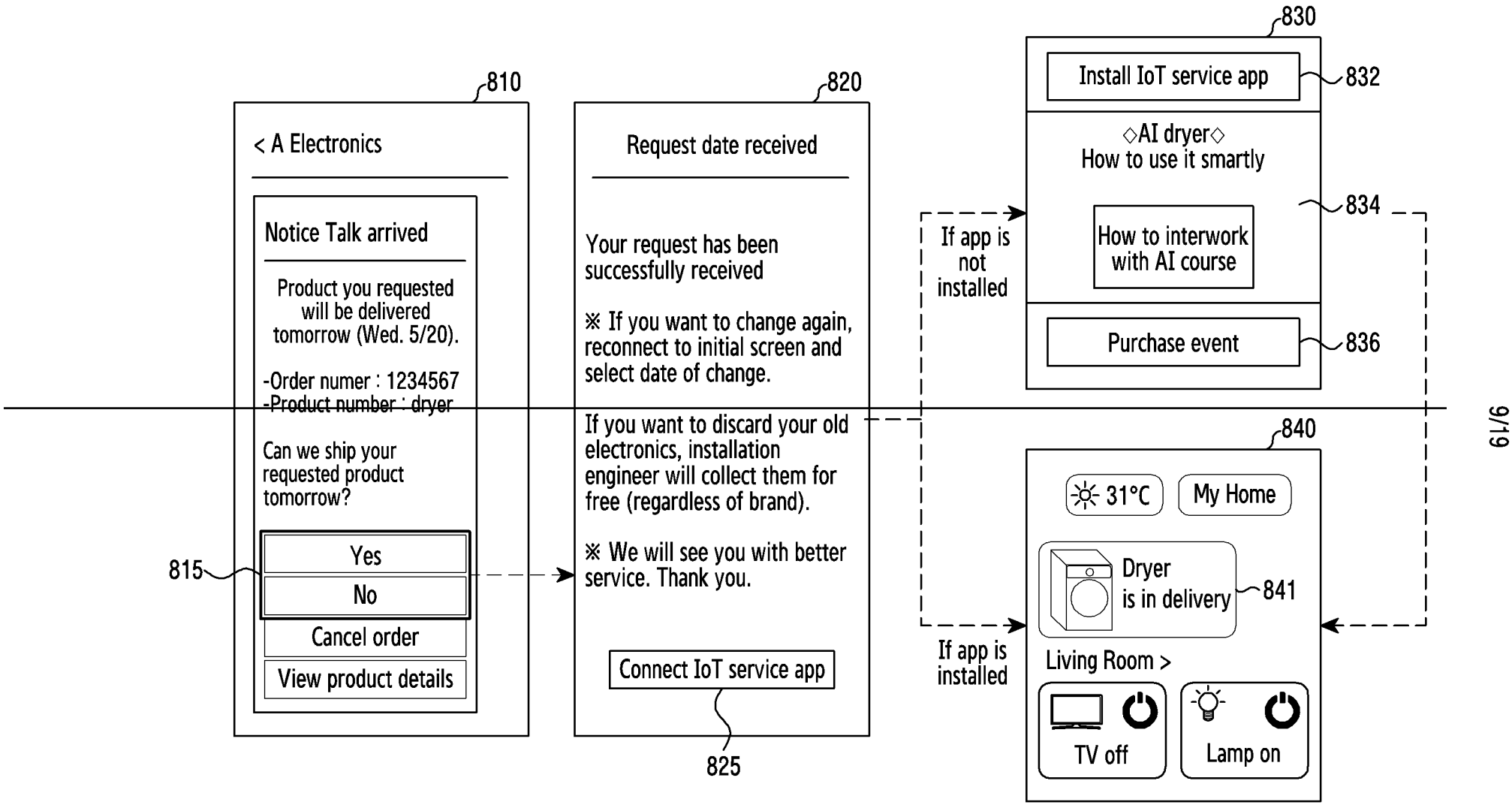

810
< A Electronics
Notice Talk arrived
Product you requested will be delivered tomorrow (Wed. 5/20).
-Order numer : 1234567
-Product number : dryer
Can we ship your requested product tomorrow?
815
Yes
No
Cancel order
View product details
820
Request date received
Your request has been successfully received
※ If you want to change again, reconnect to initial screen and select date of change.
If you want to discard your old electronics, installation engineer will collect them for free (regardless of brand).
※ We will see you with better service. Thank you.
Connect IoT service app
825
830
Install IoT service app
832
◇AI dryer◇
How to use it smartly
834
How to interwork with AI course
Purchase event
836
If app is not installed
If app is installed
840
31°C
My Home
Dryer is in delivery
841
Living Room >
TV off
Lamp on

FIG.8

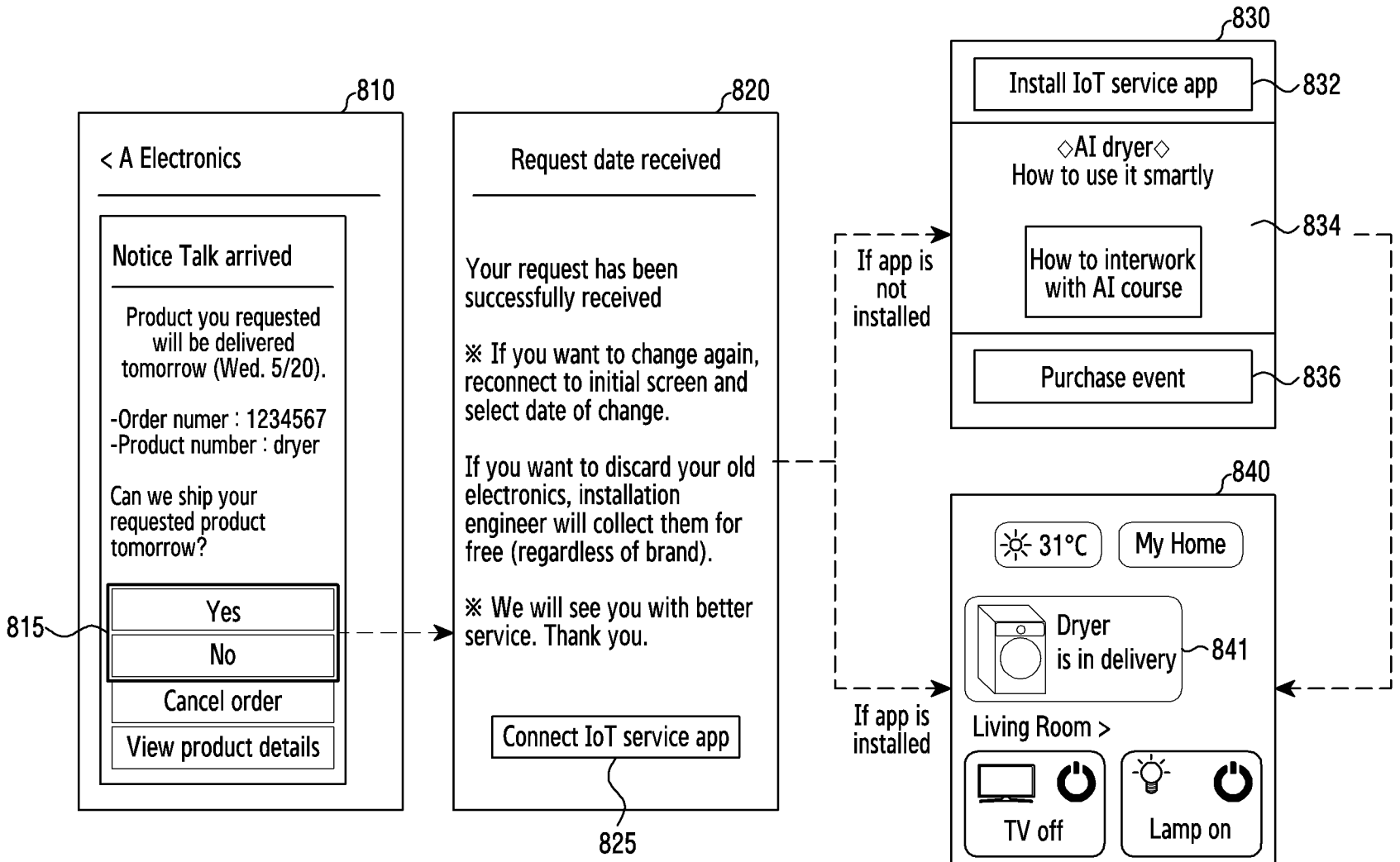

810
< A Electronics
Notice Talk arrived
Product you requested will be delivered tomorrow (Wed. 5/20).
-Order numer : 1234567
-Product number : dryer
Can we ship your requested product tomorrow?
Yes
No
Cancel order
View product details
815
820
Request date received
Your request has been successfully received
※ If you want to change again, reconnect to initial screen and select date of change.
If you want to discard your old electronics, installation engineer will collect them for free (regardless of brand).
※ We will see you with better service. Thank you.
Connect IoT service app
825
If app is not installed
If app is installed
830
Install IoT service app
832
◇AI dryer◇
How to use it smartly
How to interwork with AI course
834
Purchase event
836
840
31°C
My Home
Dryer is in delivery
841
Living Room >
TV off
Lamp on

FIG.8

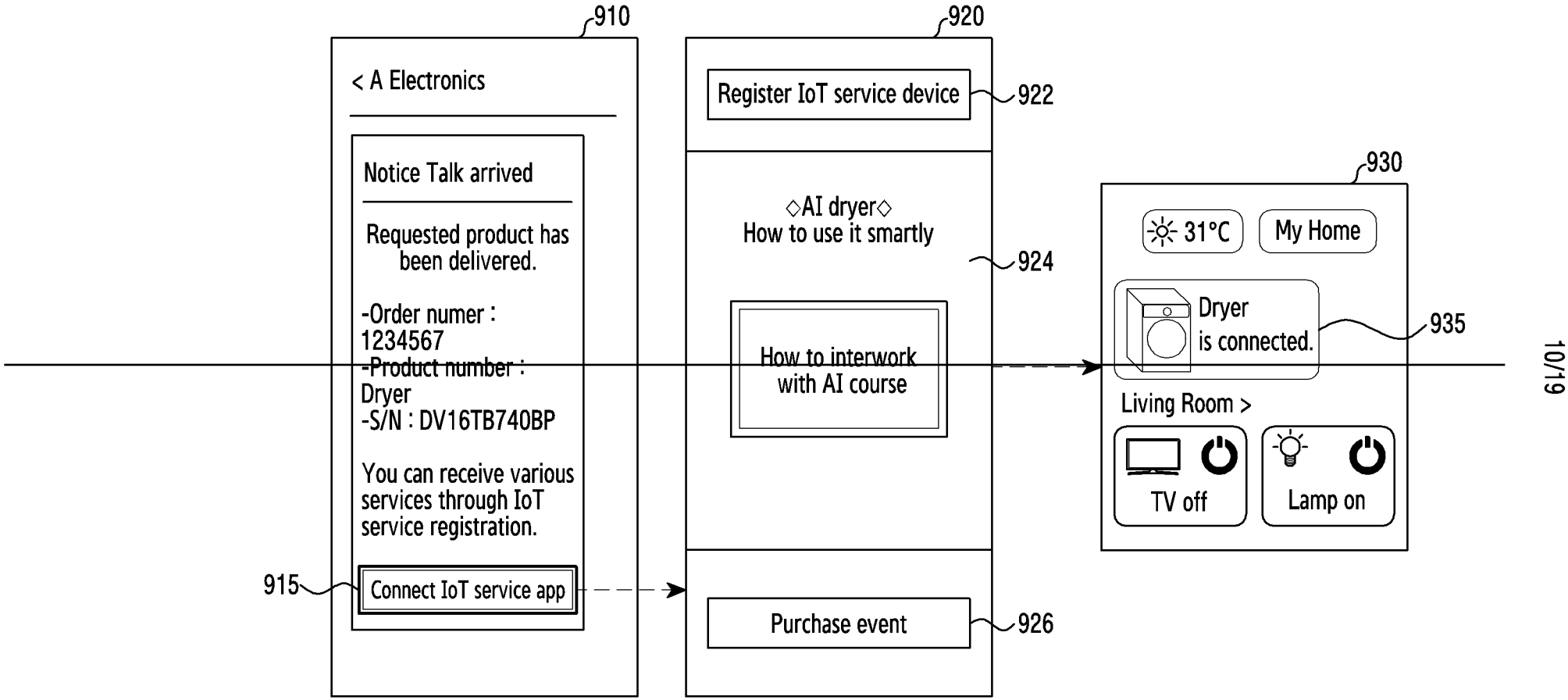

910
< A Electronics
Notice Talk arrived
Requested product has been delivered.
-Order numer : 1234567
-Product number : Dryer
-S/N : DV16TB740BP
You can receive various services through IoT service registration.
915
Connect IoT service app
920
Register IoT service device
922
◇AI dryer◇
How to use it smartly
924
How to interwork with AI course
Purchase event
926
930
31°C
My Home
Dryer is connected.
935
Living Room >
TV off
Lamp on

FIG.9

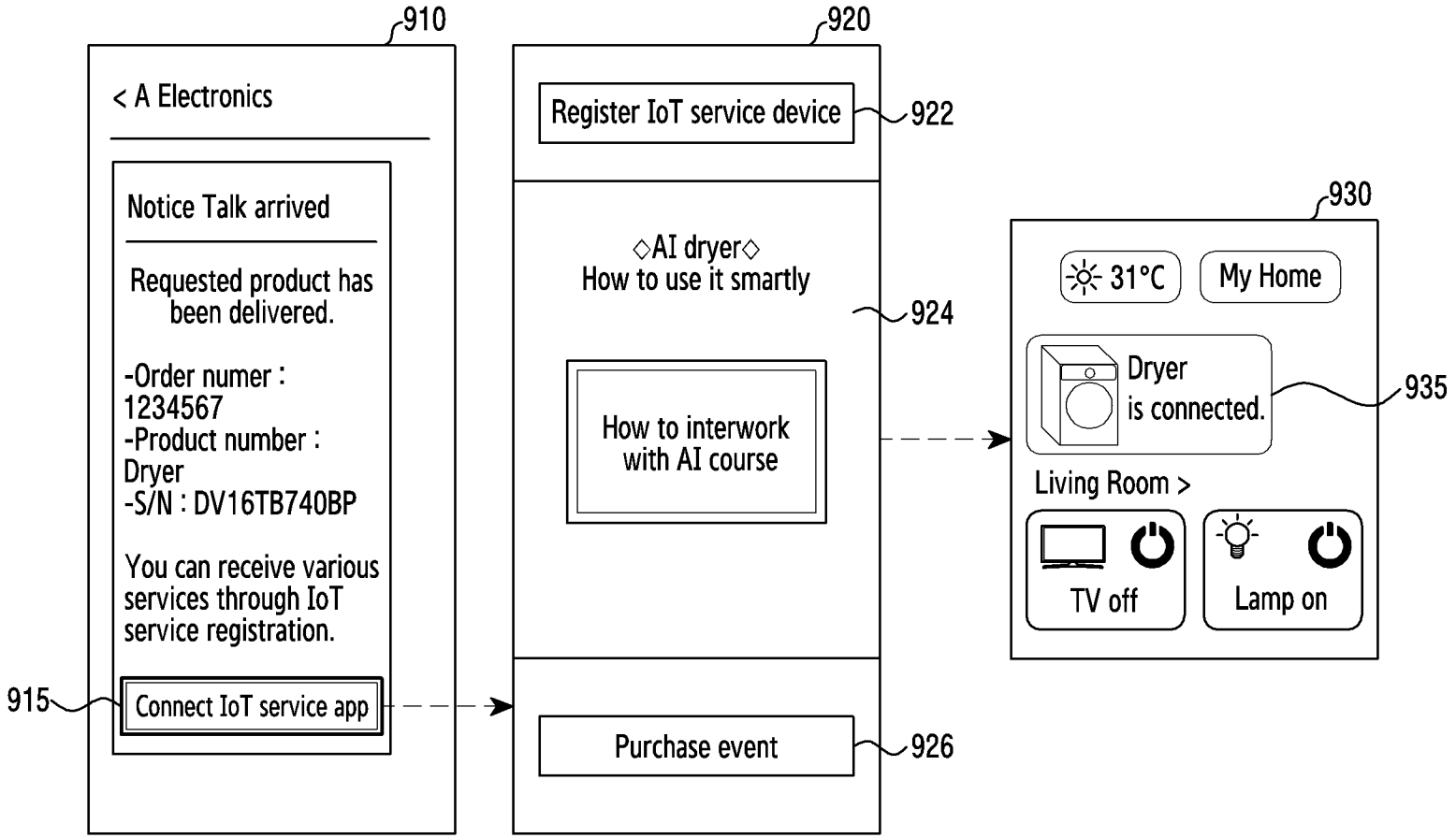

910
< A Electronics
Notice Talk arrived
Requested product has been delivered.
-Order numer : 1234567
-Product number : Dryer
-S/N : DV16TB740BP
You can receive various services through IoT service registration.
915
Connect IoT service app
920
Register IoT service device
922
◇AI dryer◇
How to use it smartly
924
How to interwork with AI course
Purchase event
926
930
31°C
My Home
Dryer is connected.
935
Living Room >
TV off
Lamp on

FIG.9

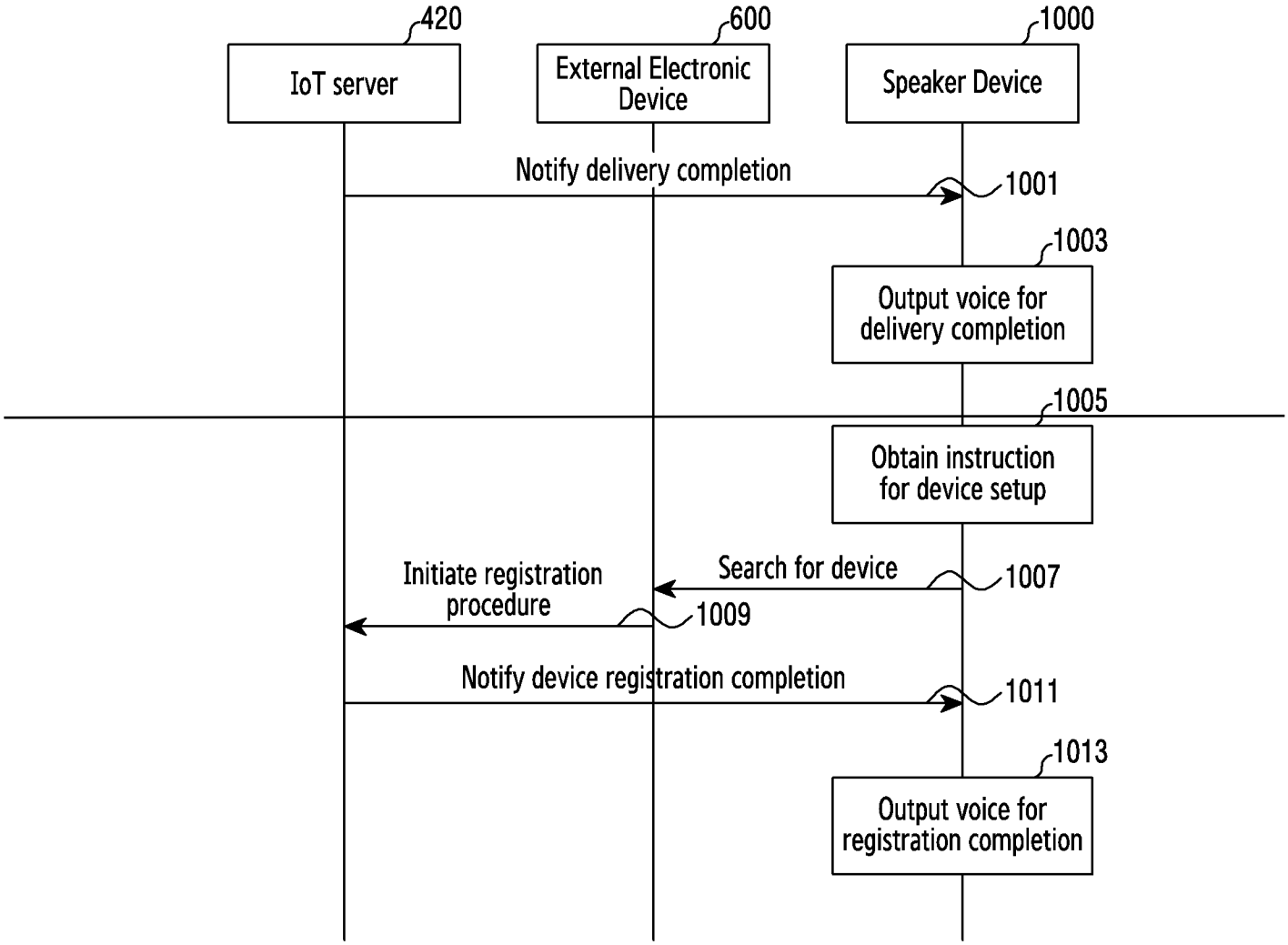

420
IoT server
600
External Electronic Device
1000
Speaker Device
Notify delivery completion
1001
1003
Output voice for delivery completion
1005
Obtain instruction for device setup
Search for device
1007
Initiate registration procedure
1009
Notify device registration completion
1011
1013
Output voice for registration completion

FIG.10A

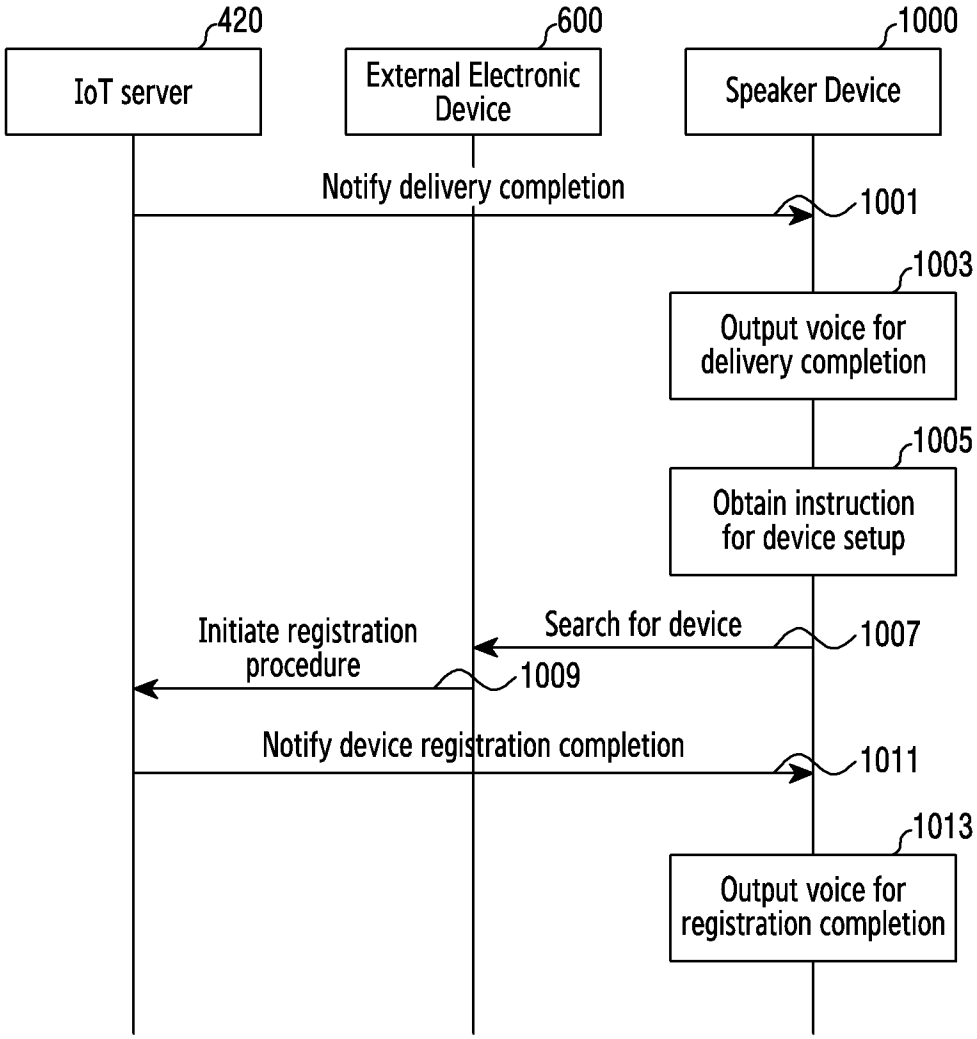

420
IoT server
600
External Electronic Device
1000
Speaker Device
Notify delivery completion
1001
1003
Output voice for delivery completion
1005
Obtain instruction for device setup
Search for device
1007
Initiate registration procedure
1009
Notify device registration completion
1011
1013
Output voice for registration completion

FIG.10A

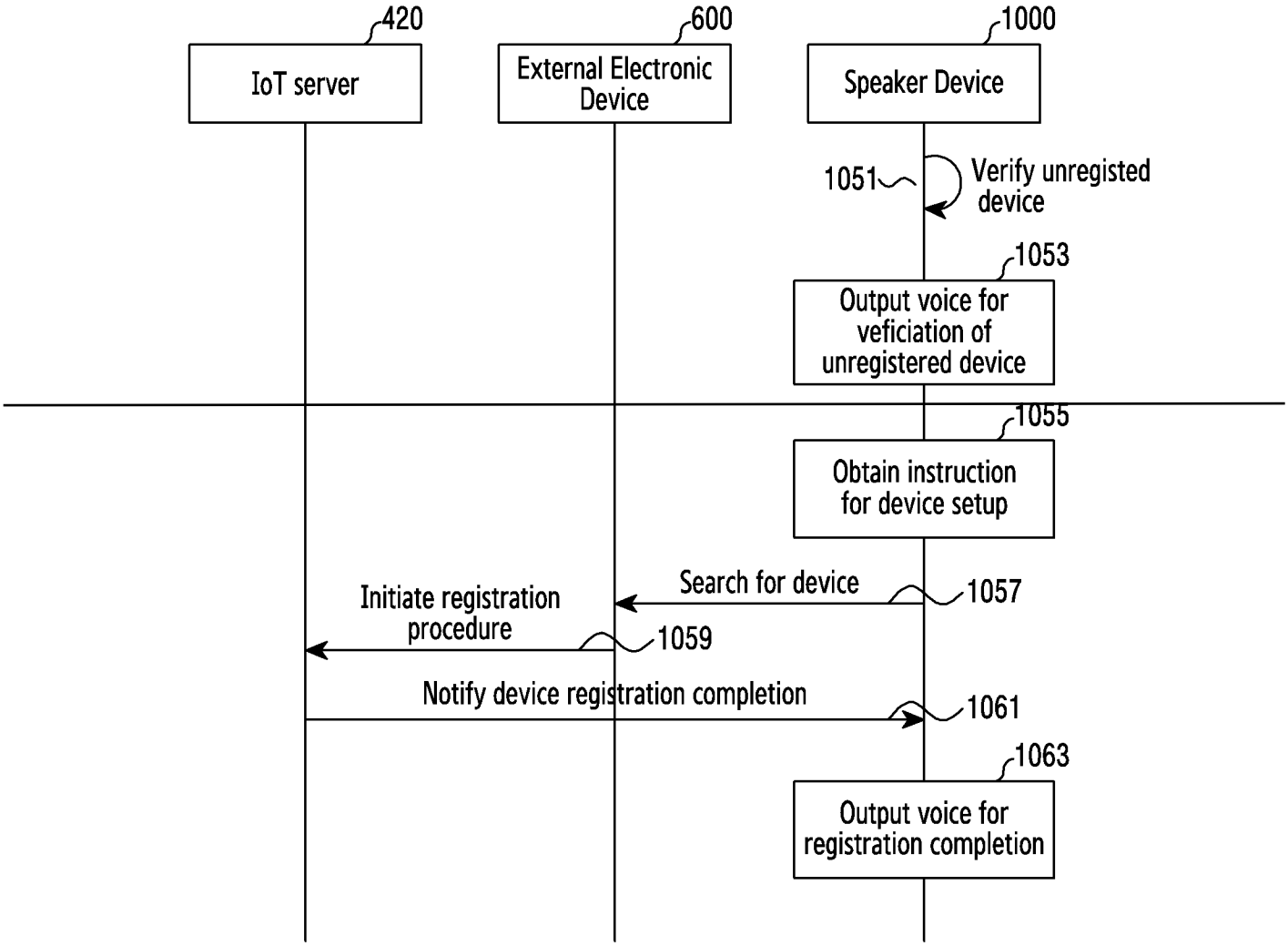

420
IoT server
600
External Electronic Device
1000
Speaker Device
1051
Verify unregisted device
1053
Output voice for veficiation of unregistered device
1055
Obtain instruction for device setup
Search for device
1057
Initiate registration procedure
1059
Notify device registration completion
1061
1063
Output voice for registration completion

FIG.10B

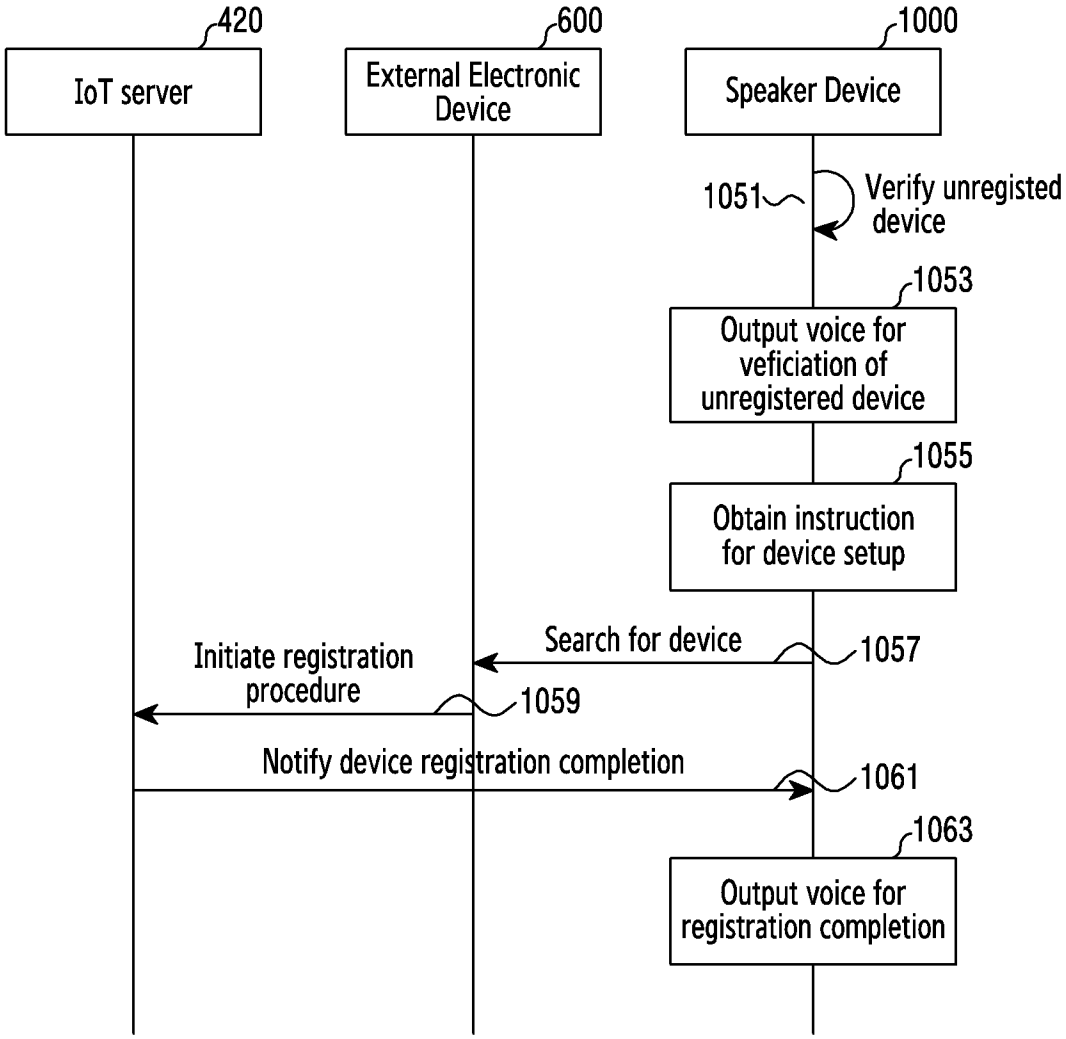

420
IoT server
600
External Electronic Device
1000
Speaker Device
1051
Verify unregisted device
1053
Output voice for veficiation of unregistered device
1055
Obtain instruction for device setup
Search for device
1057
Initiate registration procedure
1059
Notify device registration completion
1061
1063
Output voice for registration completion

FIG.10B

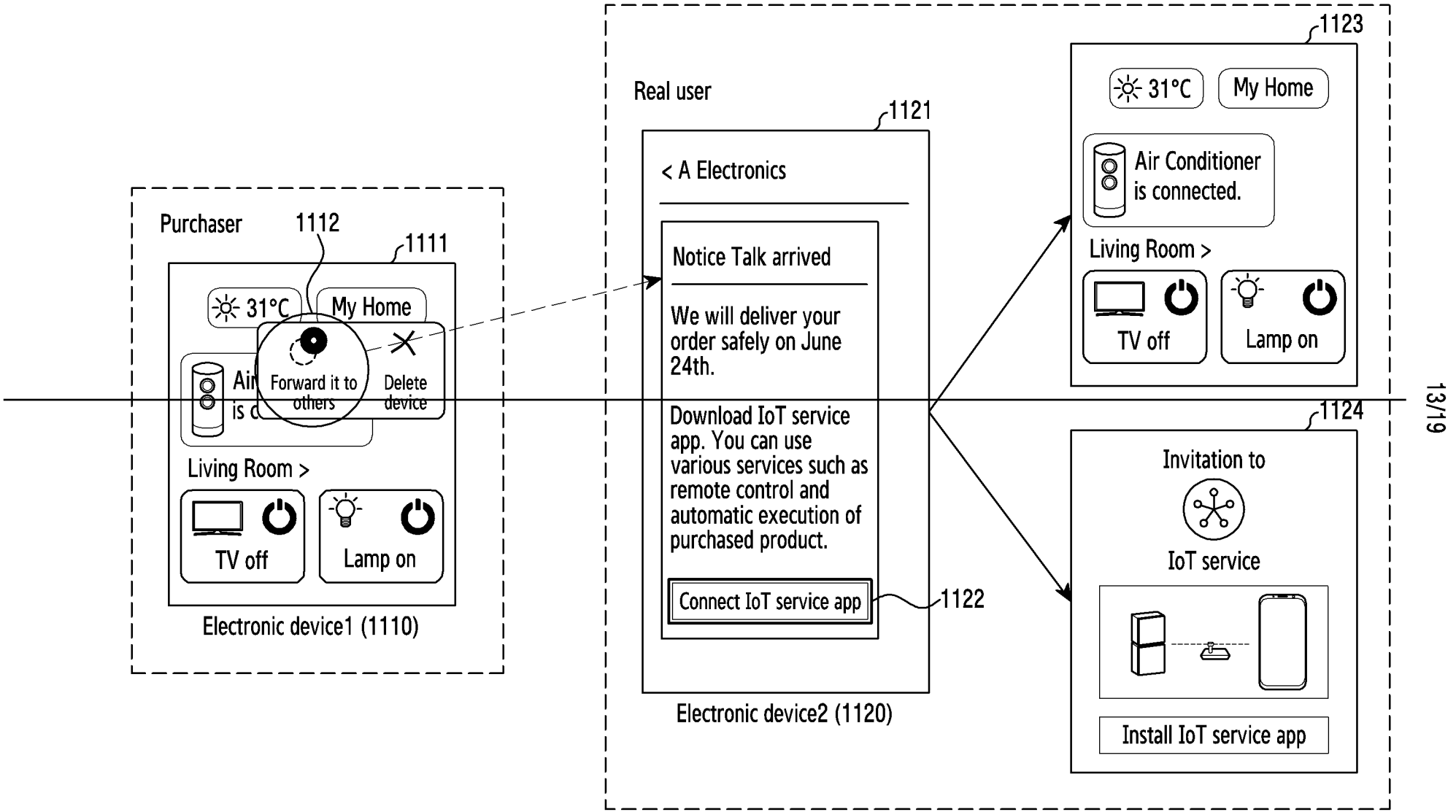

Purchaser
1112
1111
31°C
My Home
Forward it to others
Delete device
Living Room >
TV off
Lamp on
Electronic device1 (1110)
Real user
1121
< A Electronics
Notice Talk arrived
We will deliver your order safely on June 24th.
Download IoT service app. You can use various services such as remote control and automatic execution of purchased product.
Connect IoT service app
1122
Electronic device2 (1120)
1123
31°C
My Home
Air Conditioner is connected.
Living Room >
TV off
Lamp on
1124
Invitation to
IoT service
Install IoT service app

FIG.11

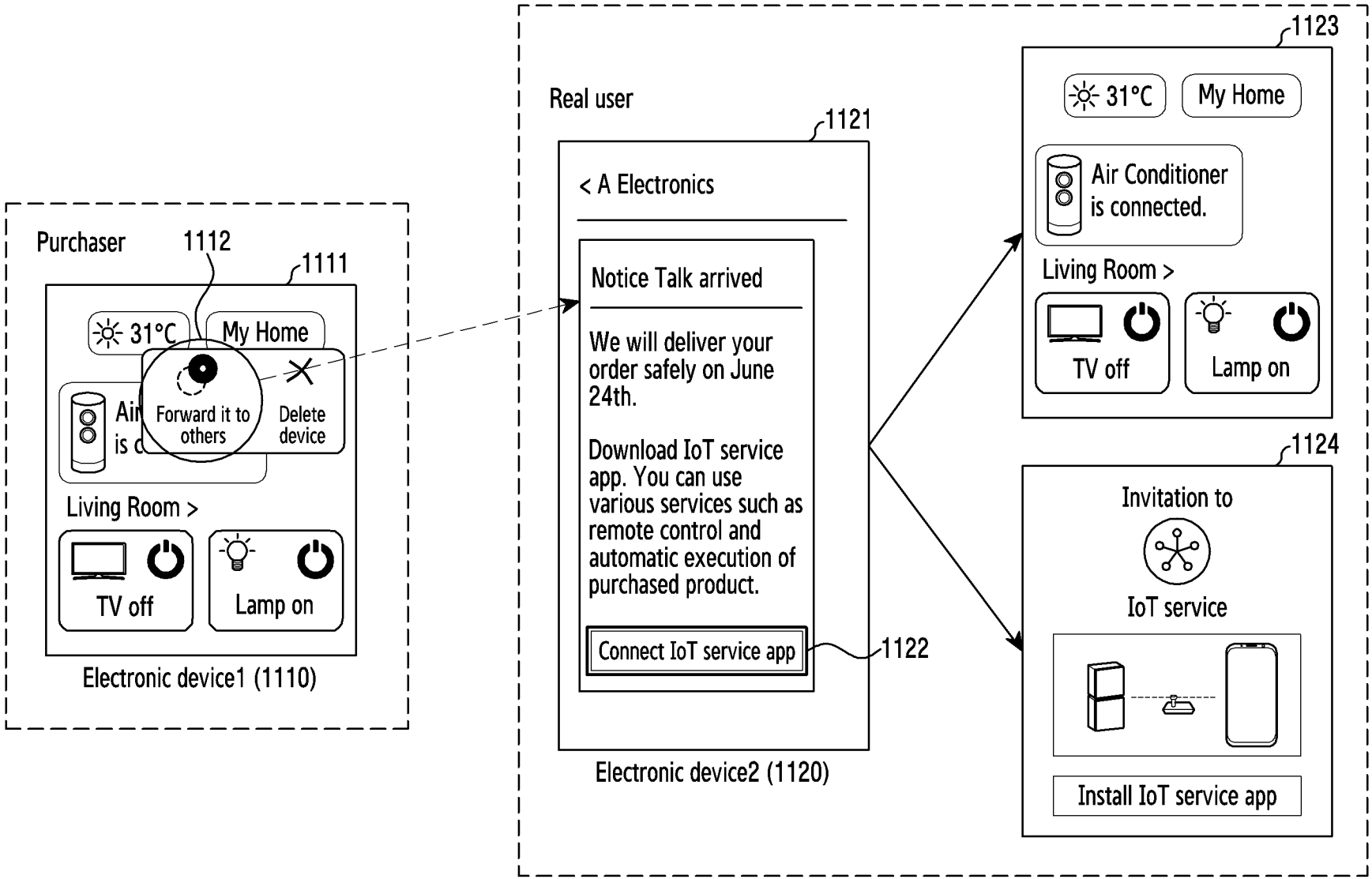

Purchaser
1112
1111
31°C
My Home
Forward it to others
Delete device
Living Room >
TV off
Lamp on
Electronic device1 (1110)
Real user
1121
< A Electronics
Notice Talk arrived
We will deliver your order safely on June 24th.
Download IoT service app. You can use various services such as remote control and automatic execution of purchased product.
Connect IoT service app
1122
Electronic device2 (1120)
1123
31°C
My Home
Air Conditioner is connected.
Living Room >
TV off
Lamp on
1124
Invitation to
IoT service
Install IoT service app

FIG.11

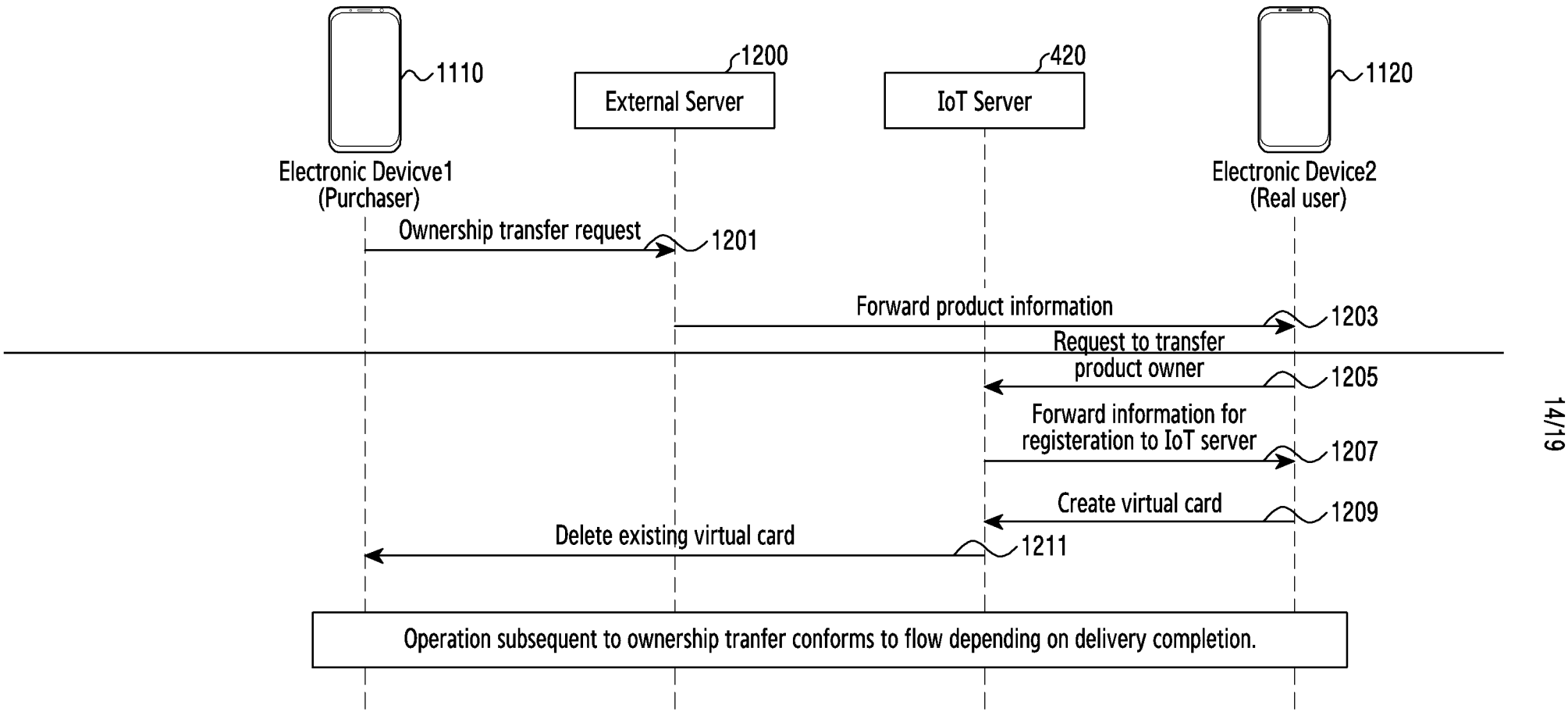

1110
Electronic Devicve1
(Purchaser)
1200
External Server
420
IoT Server
1120
Electronic Device2
(Real user)
Ownership transfer request
1201
Forward product information
1203
Request to transfer
product owner
1205
Forward information for
registeration to IoT server
1207
Create virtual card
1209
Delete existing virtual card
1211
Operation subsequent to ownership tranfer conforms to flow depending on delivery completion.

FIG.12

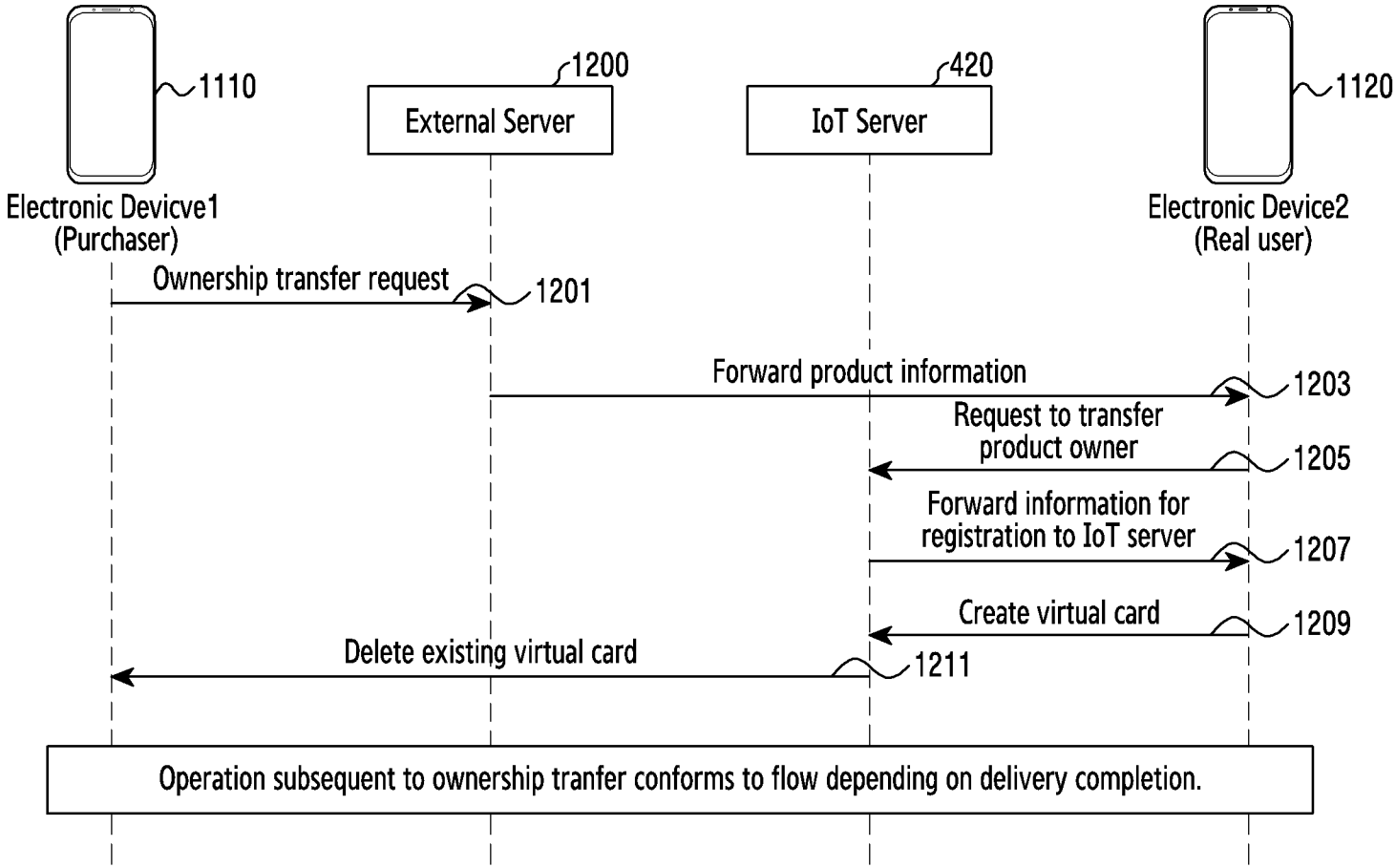

1110
Electronic Devicve1
(Purchaser)
1200
External Server
420
IoT Server
1120
Electronic Device2
(Real user)
Ownership transfer request
1201
Forward product information
1203
Request to transfer
product owner
1205
Forward information for
registration to IoT server
1207
Create virtual card
1209
Delete existing virtual card
1211
Operation subsequent to ownership tranfer conforms to flow depending on delivery completion.

FIG.12

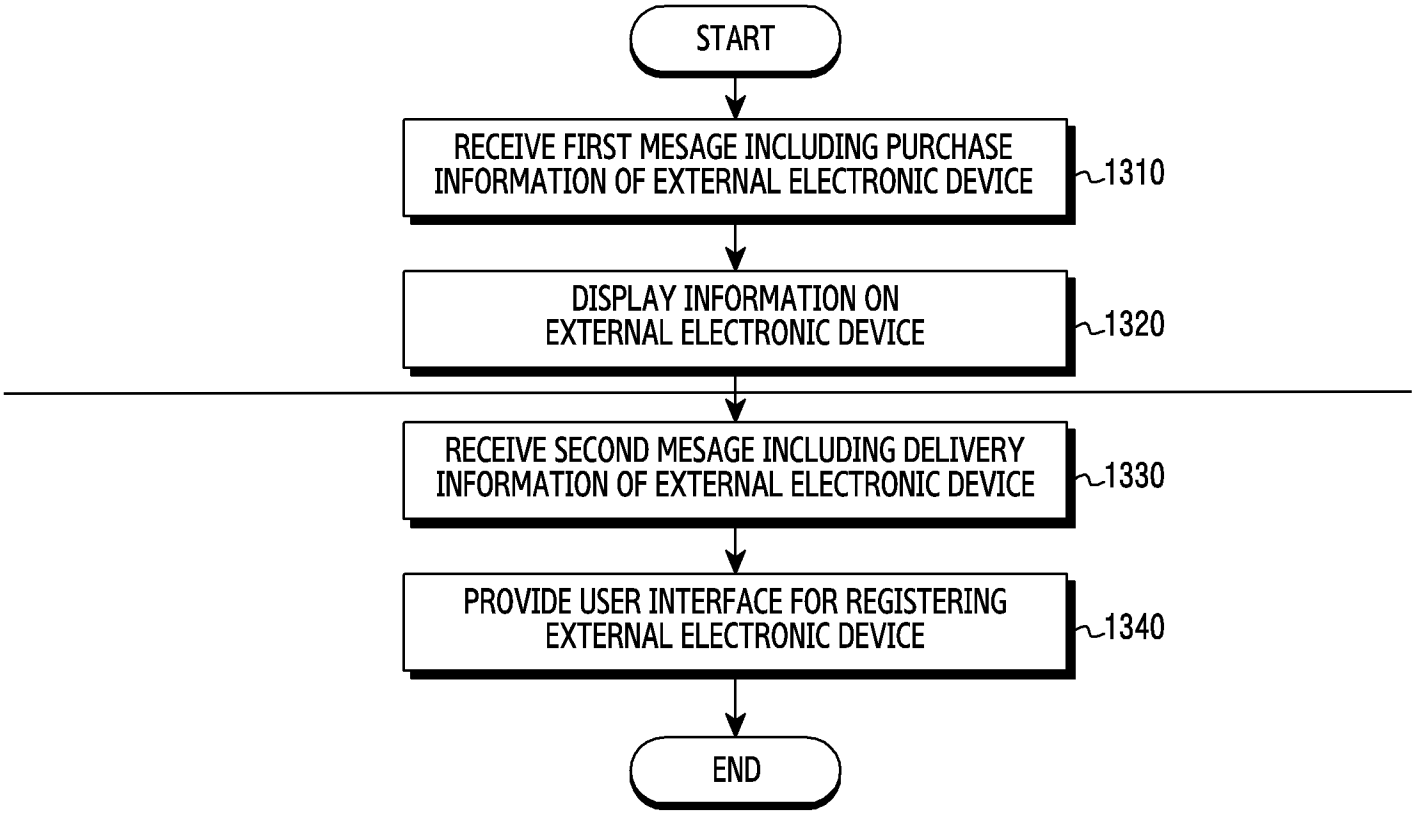

START
RECEIVE FIRST MESAGE INCLUDING PURCHASE INFORMATION OF EXTERNAL ELECTRONIC DEVICE
1310
DISPLAY INFORMATION ON EXTERNAL ELECTRONIC DEVICE
1320
RECEIVE SECOND MESAGE INCLUDING DELIVERY INFORMATION OF EXTERNAL ELECTRONIC DEVICE
1330
PROVIDE USER INTERFACE FOR REGISTERING EXTERNAL ELECTRONIC DEVICE
1340
END

FIG.13

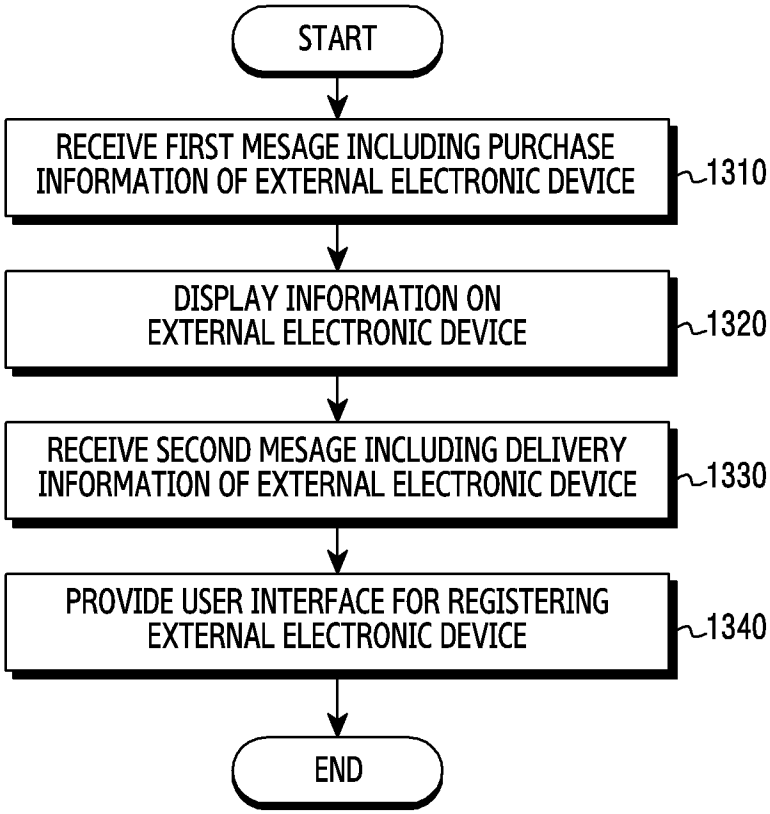

START
RECEIVE FIRST MESAGE INCLUDING PURCHASE INFORMATION OF EXTERNAL ELECTRONIC DEVICE
1310
DISPLAY INFORMATION ON EXTERNAL ELECTRONIC DEVICE
1320
RECEIVE SECOND MESAGE INCLUDING DELIVERY INFORMATION OF EXTERNAL ELECTRONIC DEVICE
1330
PROVIDE USER INTERFACE FOR REGISTERING EXTERNAL ELECTRONIC DEVICE
1340
END

FIG.13

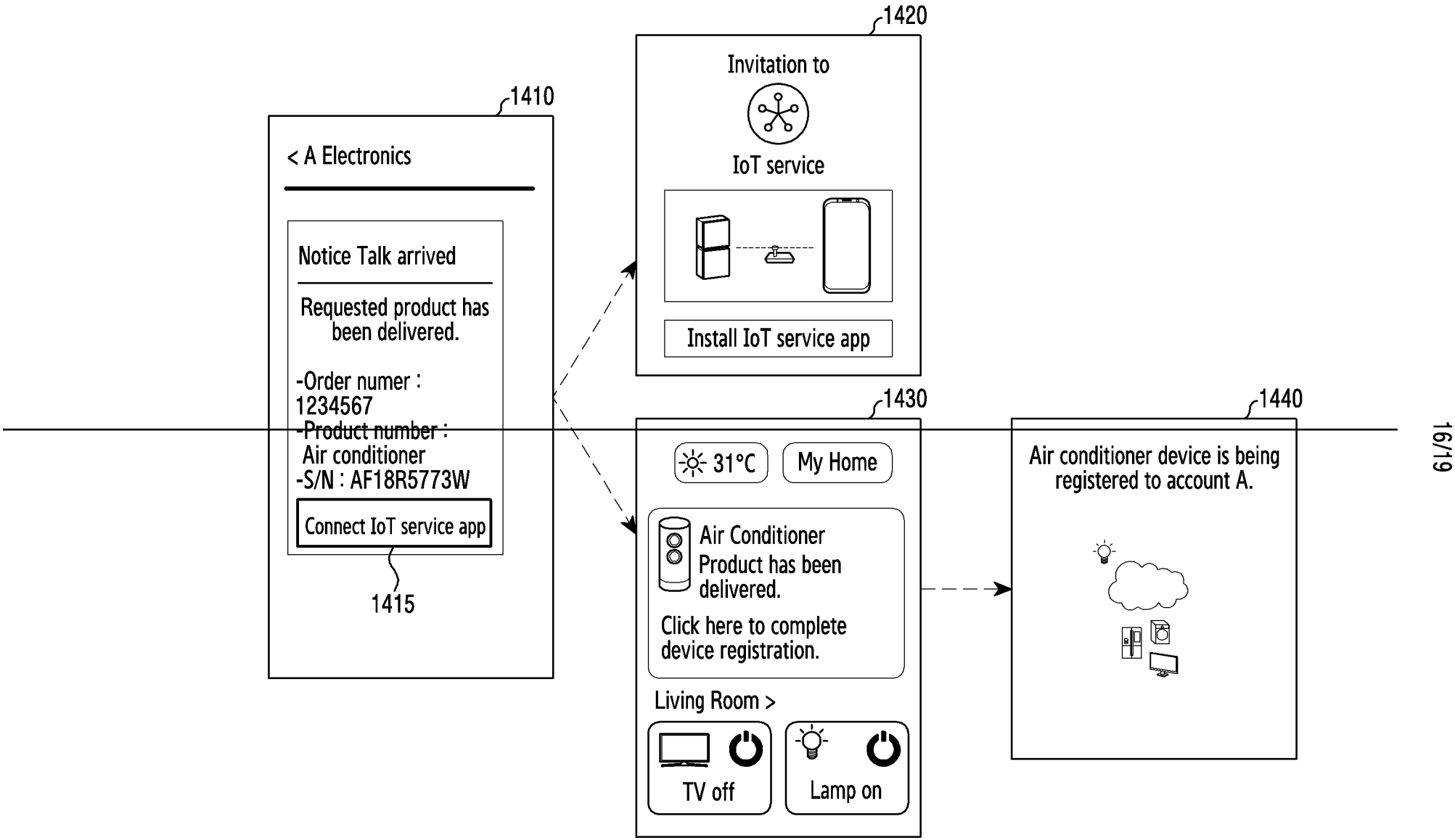

1410
< A Electronics
Notice Talk arrived
Requested product has been delivered.
-Order numer : 1234567
-Product number : Air conditioner
-S/N : AF18R5773W
Connect IoT service app
1415
1420
Invitation to
IoT service
Install IoT service app
1430
31°C
My Home
Air Conditioner Product has been delivered.
Click here to complete device registration.
Living Room >
TV off
Lamp on
1440
Air conditioner device is being registered to account A.

FIG.14

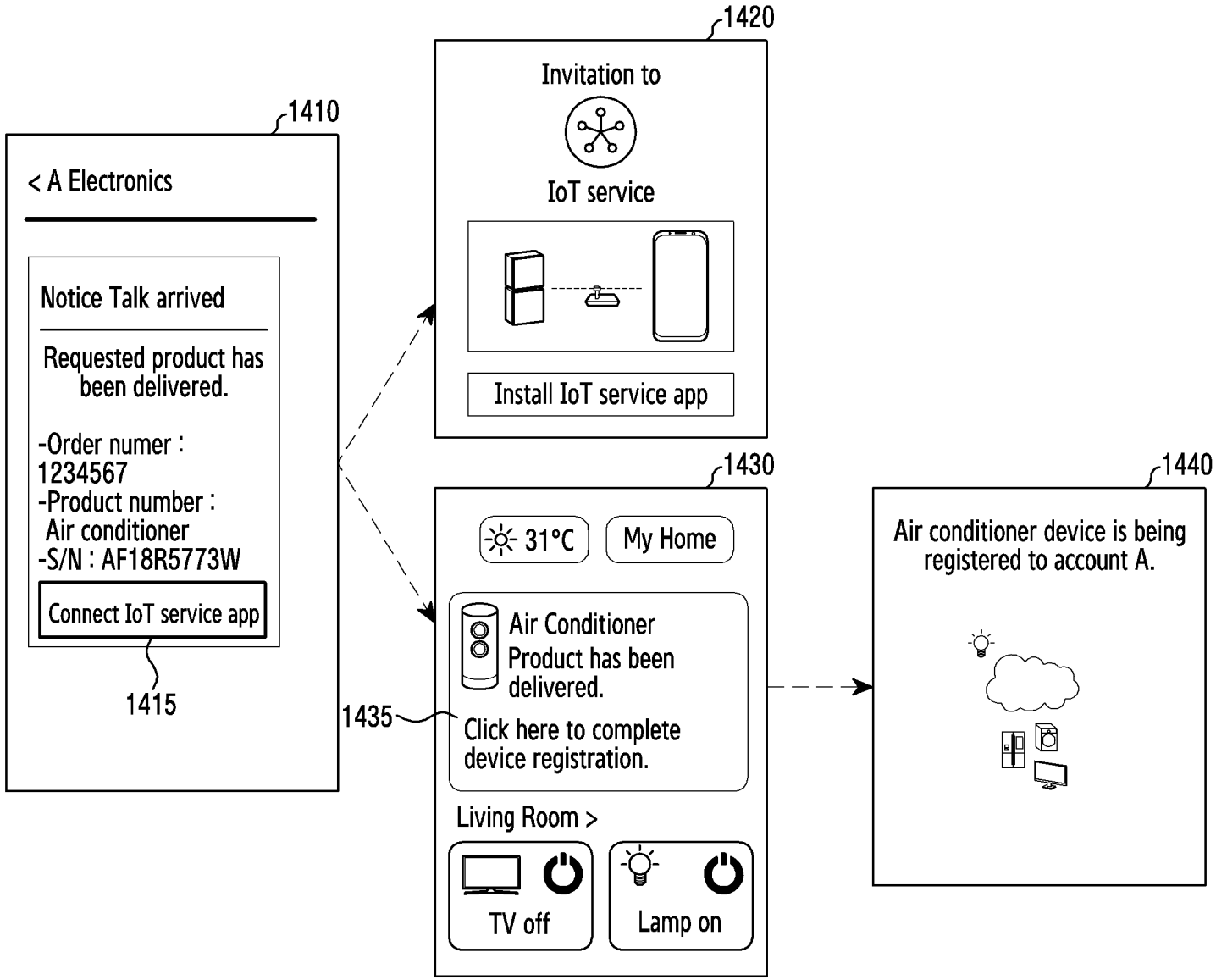

1410
< A Electronics
Notice Talk arrived
Requested product has been delivered.
-Order numer : 1234567
-Product number : Air conditioner
-S/N : AF18R5773W
Connect IoT service app
1415
1420
Invitation to
IoT service
Install IoT service app
1430
31°C
My Home
Air Conditioner Product has been delivered.
1435
Click here to complete device registration.
Living Room >
TV off
Lamp on
1440
Air conditioner device is being registered to account A.

FIG.14

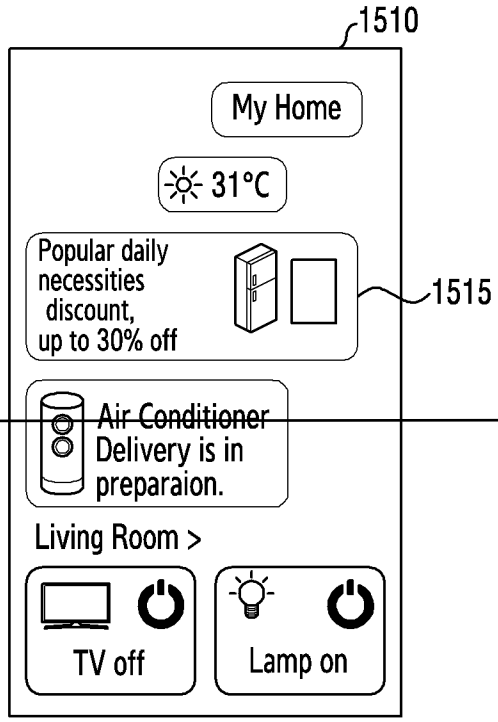

1510
My Home
31°C
Popular daily necessities discount, up to 30% off
1515
Air Conditioner Delivery is in preparaion.
Living Room >
TV off
Lamp on

FIG.15A

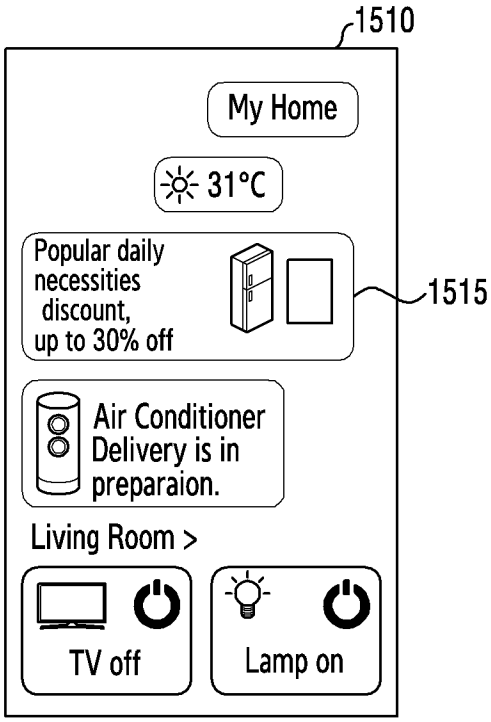

1510
My Home
31°C
Popular daily necessities discount, up to 30% off
1515
Air Conditioner Delivery is in preparaion.
Living Room >
TV off
Lamp on

FIG.15A

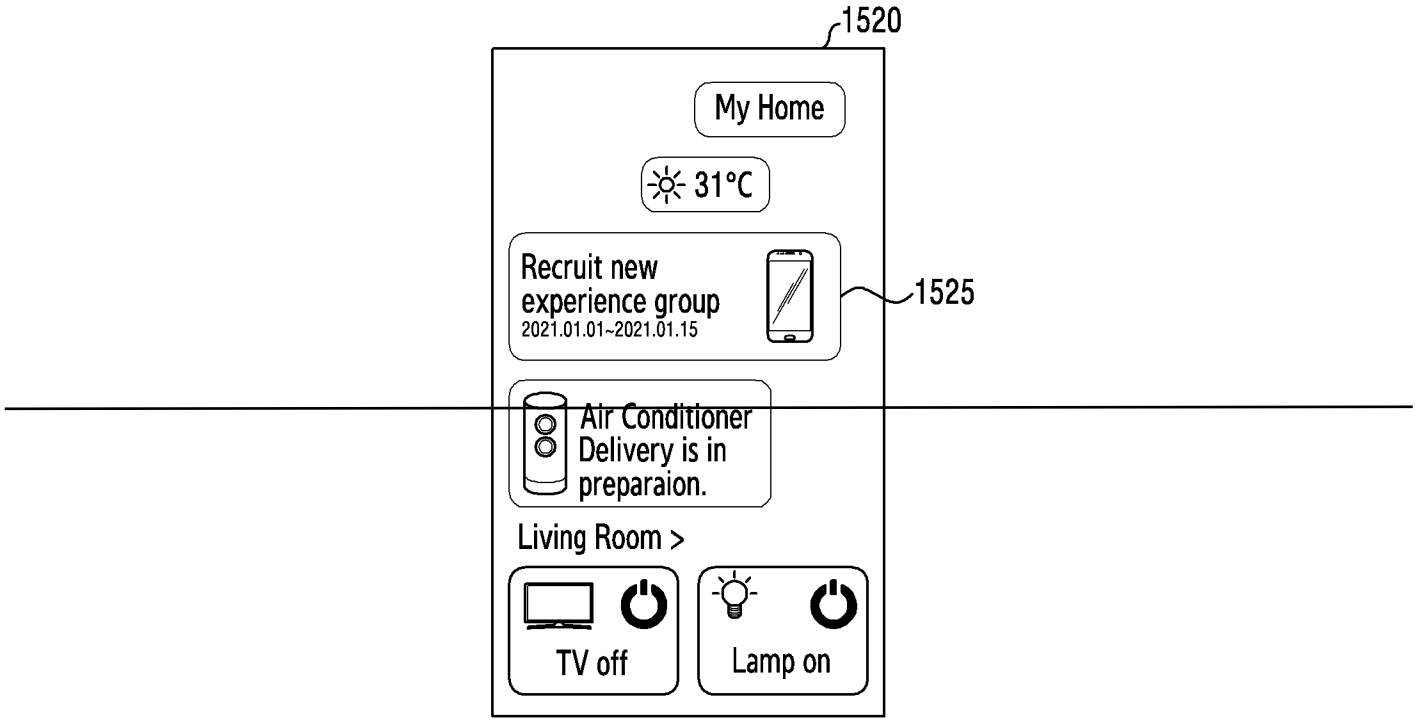

1520
My Home
31°C
Recruit new
experience group
2021.01.01~2021.01.15
1525
Air Conditioner
Delivery is in
preparaion.
Living Room >
TV off
Lamp on

FIG.15B

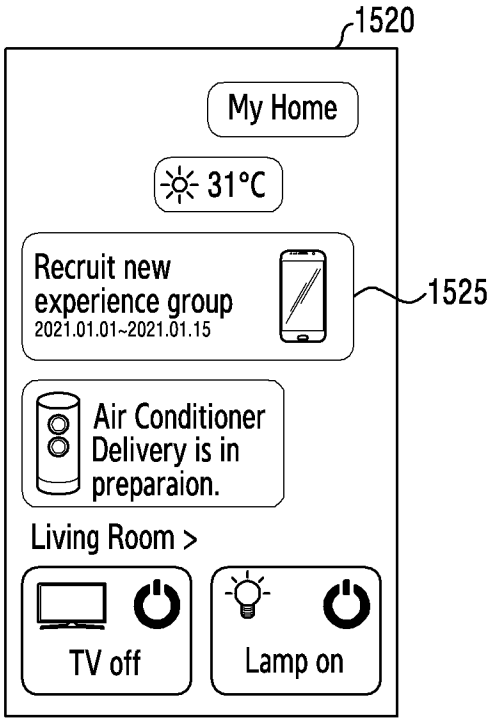

1520
My Home
31°C
Recruit new
experience group
2021.01.01~2021.01.15
1525
Air Conditioner
Delivery is in
preparaion.
Living Room >
TV off
Lamp on

FIG.15B

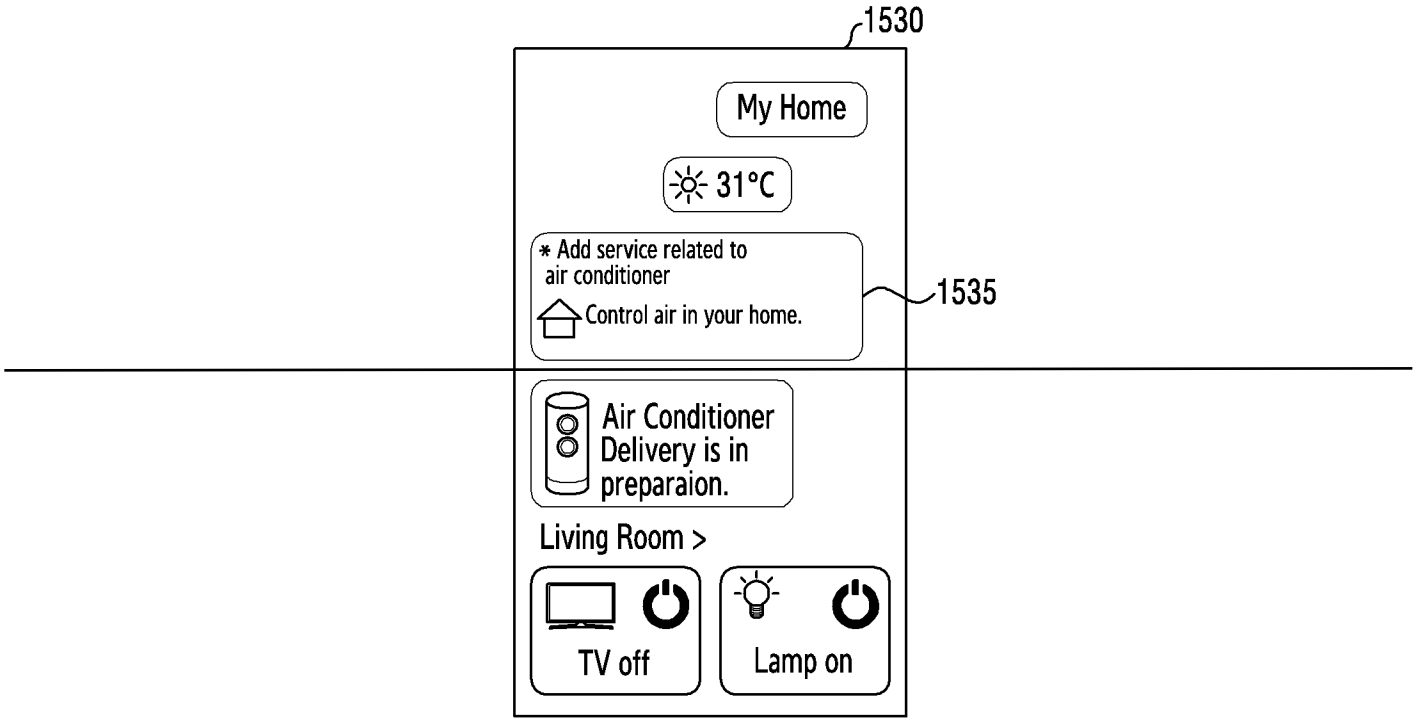

1530
My Home
31°C
* Add service related to air conditioner
Control air in your home.
1535
Air Conditioner Delivery is in preparaion.
Living Room >
TV off
Lamp on

FIG.15C

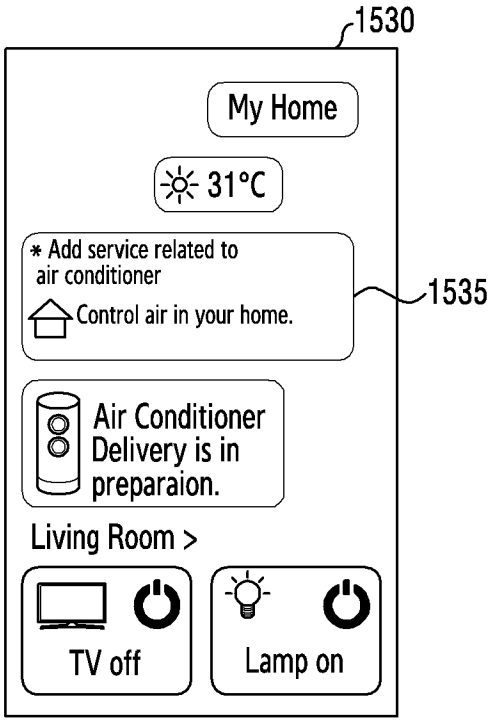

1530
My Home
31°C
* Add service related to air conditioner
Control air in your home.
1535
Air Conditioner Delivery is in preparaion.
Living Room >
TV off
Lamp on

FIG.15C