Fig. 1

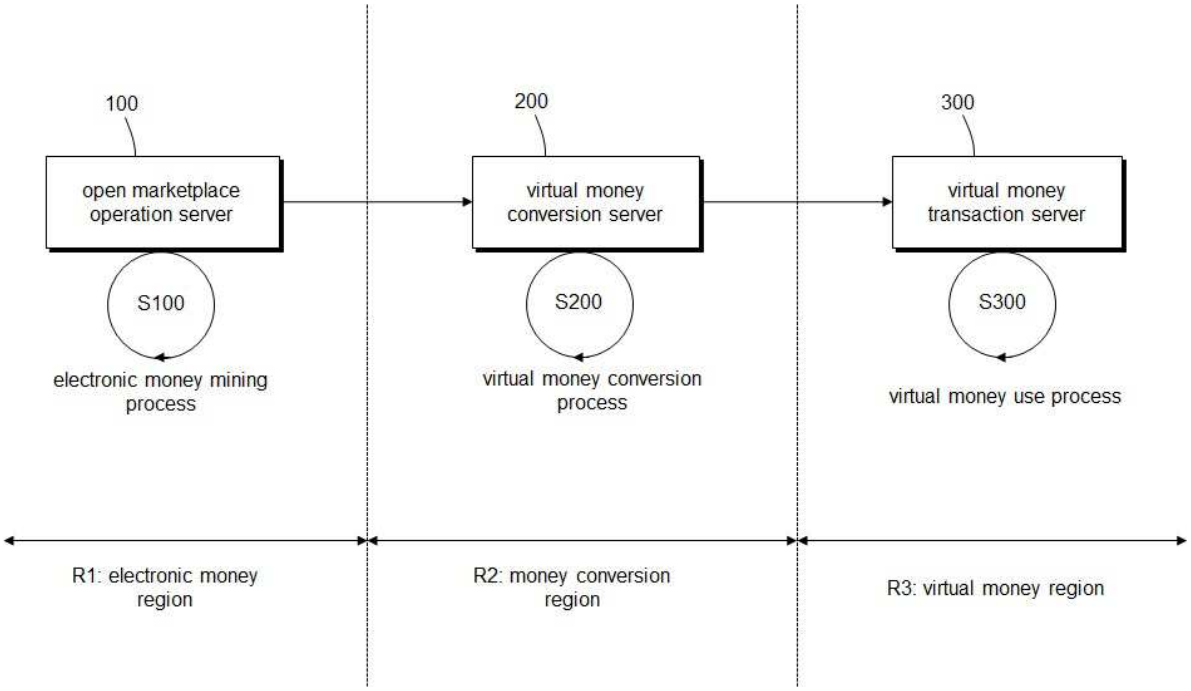

100
open marketplace operation server
S100
electronic money mining process
200
virtual money conversion server
S200
virtual money conversion process
300
virtual money transaction server
S300
virtual money use process
R1: electronic money region
R2: money conversion region
R3: virtual money region

Fig. 2

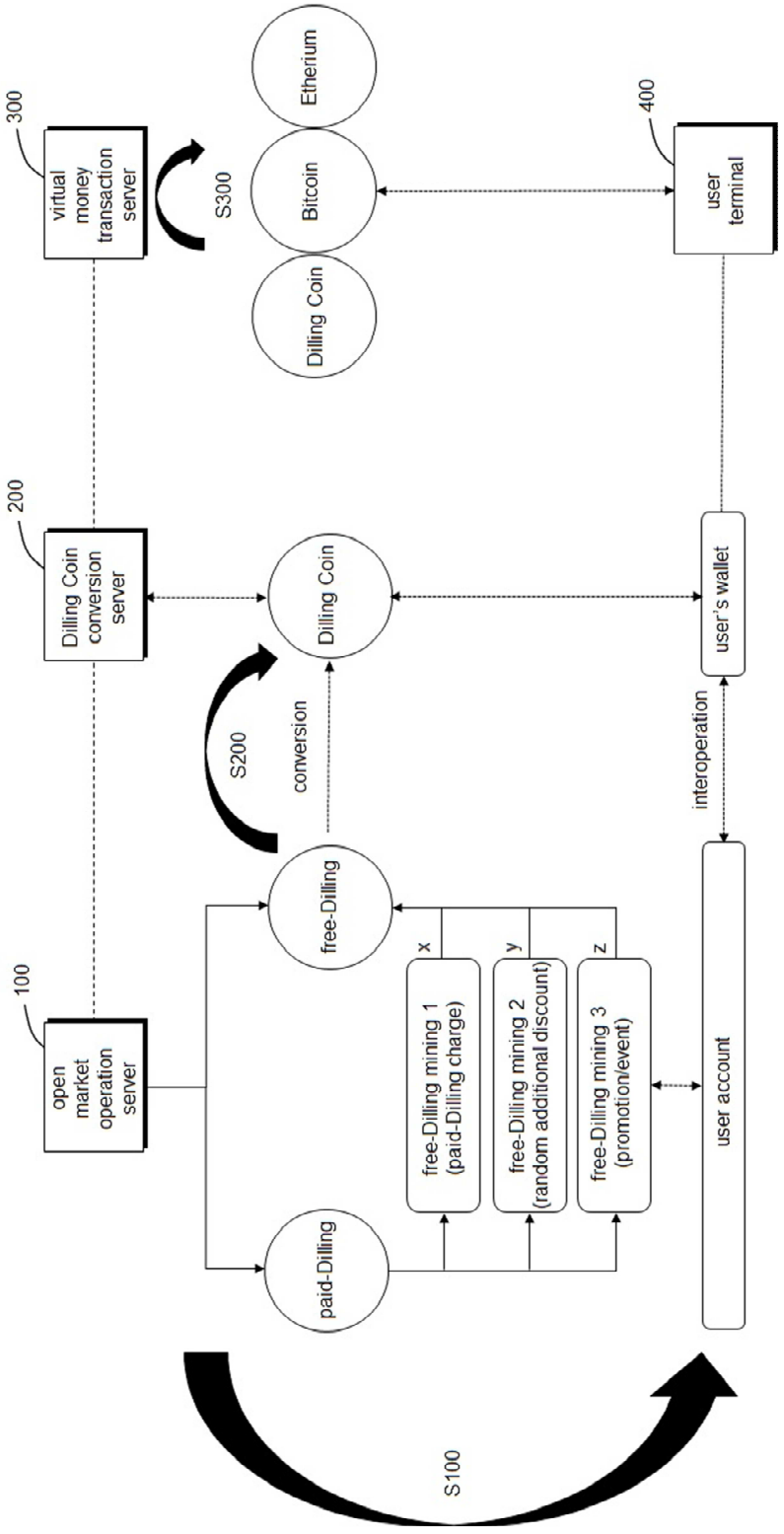

300
virtual money transaction server
S300
Etherium
Bitcoin
Dilling Coin
400
user terminal
200
Dilling Coin conversion server
Dilling Coin
user's wallet
S200
conversion
interoperation
100
open market operation server
free-Dilling
x
y
z
free-Dilling mining 1 (paid-Dilling charge)
free-Dilling mining 2 (random additional discount)
free-Dilling mining 3 (promotion/event)
paid-Dilling
user account
S100

Fig. 3

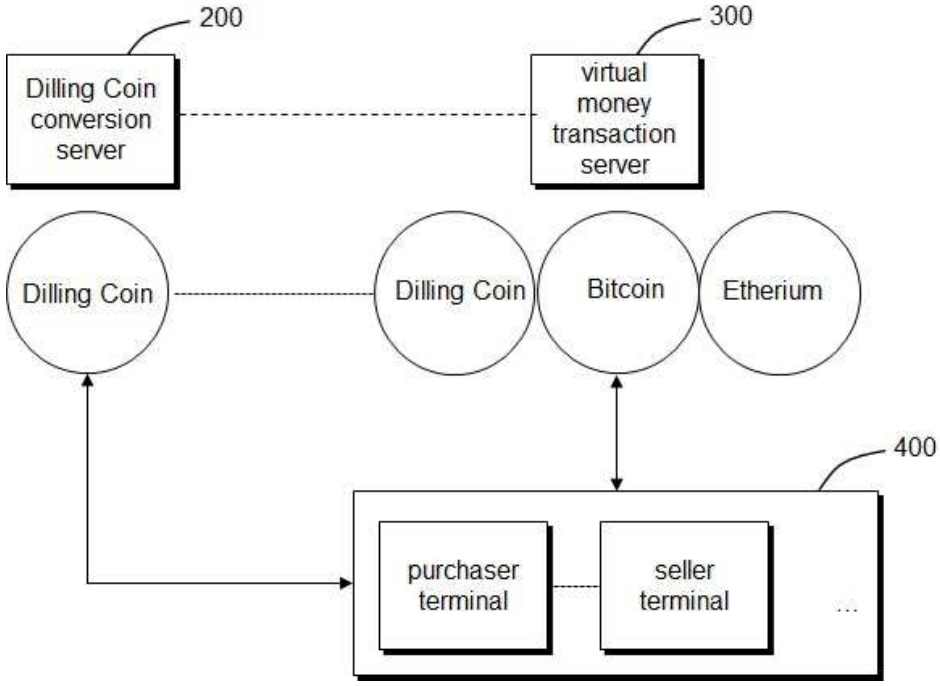

200
300
Dilling Coin conversion server
virtual money transaction server
Dilling Coin
Dilling Coin
Bitcoin
Etherium
400
purchaser terminal
seller terminal
...

Fig. 4

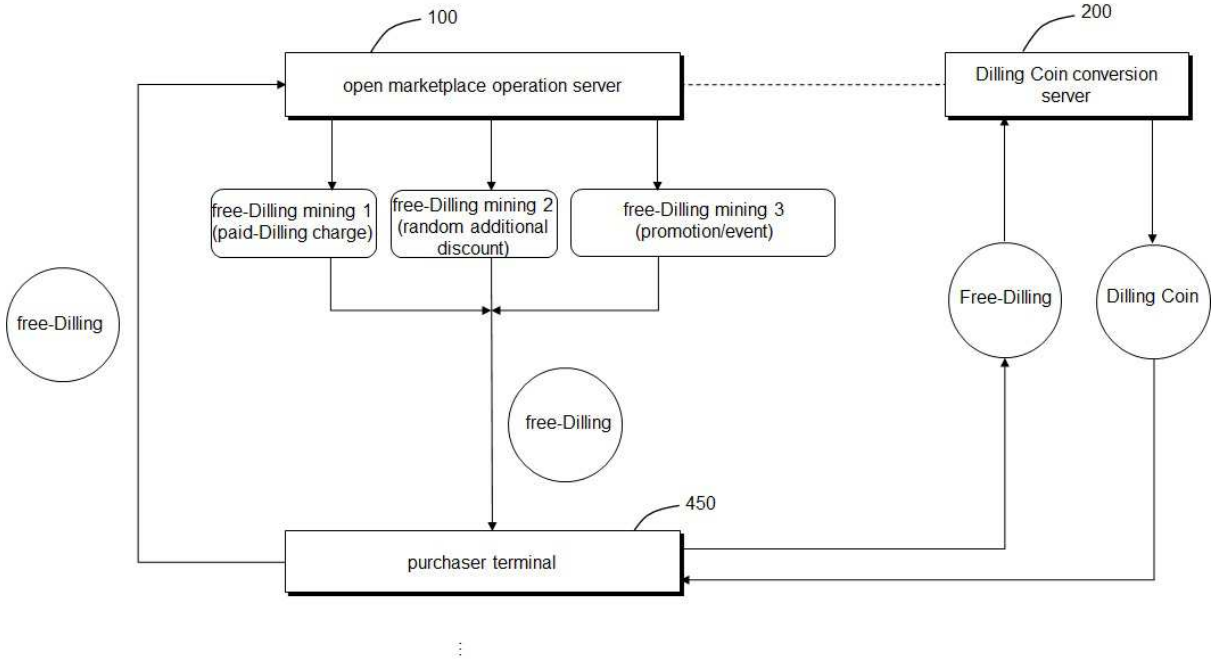

100
200
open marketplace operation server
Dilling Coin conversion server
free-Dilling mining 1 (paid-Dilling charge)
free-Dilling mining 2 (random additional discount)
free-Dilling mining 3 (promotion/event)
free-Dilling
Free-Dilling
Dilling Coin
free-Dilling
450
purchaser terminal

Fig. 5

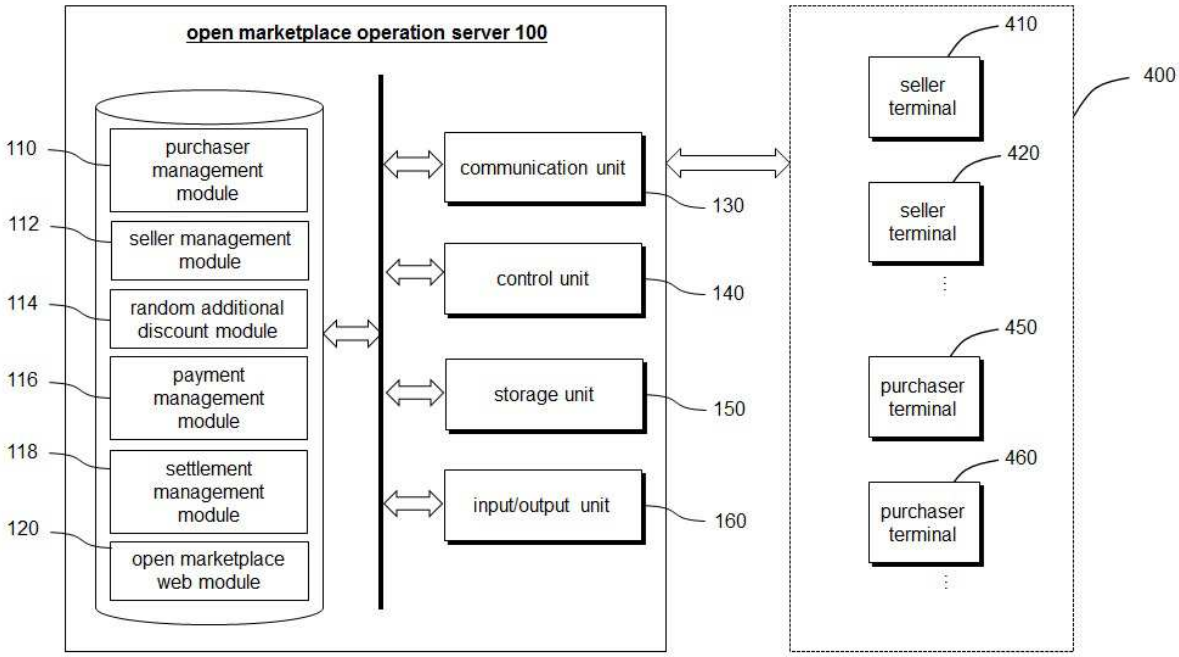

open marketplace operation server 100
110
purchaser management module
112
seller management module
114
random additional discount module
116
payment management module
118
settlement management module
120
open marketplace web module
communication unit
130
control unit
140
storage unit
150
input/output unit
160
400
410
seller terminal
420
seller terminal
450
purchaser terminal
460
purchaser terminal

Fig. 6

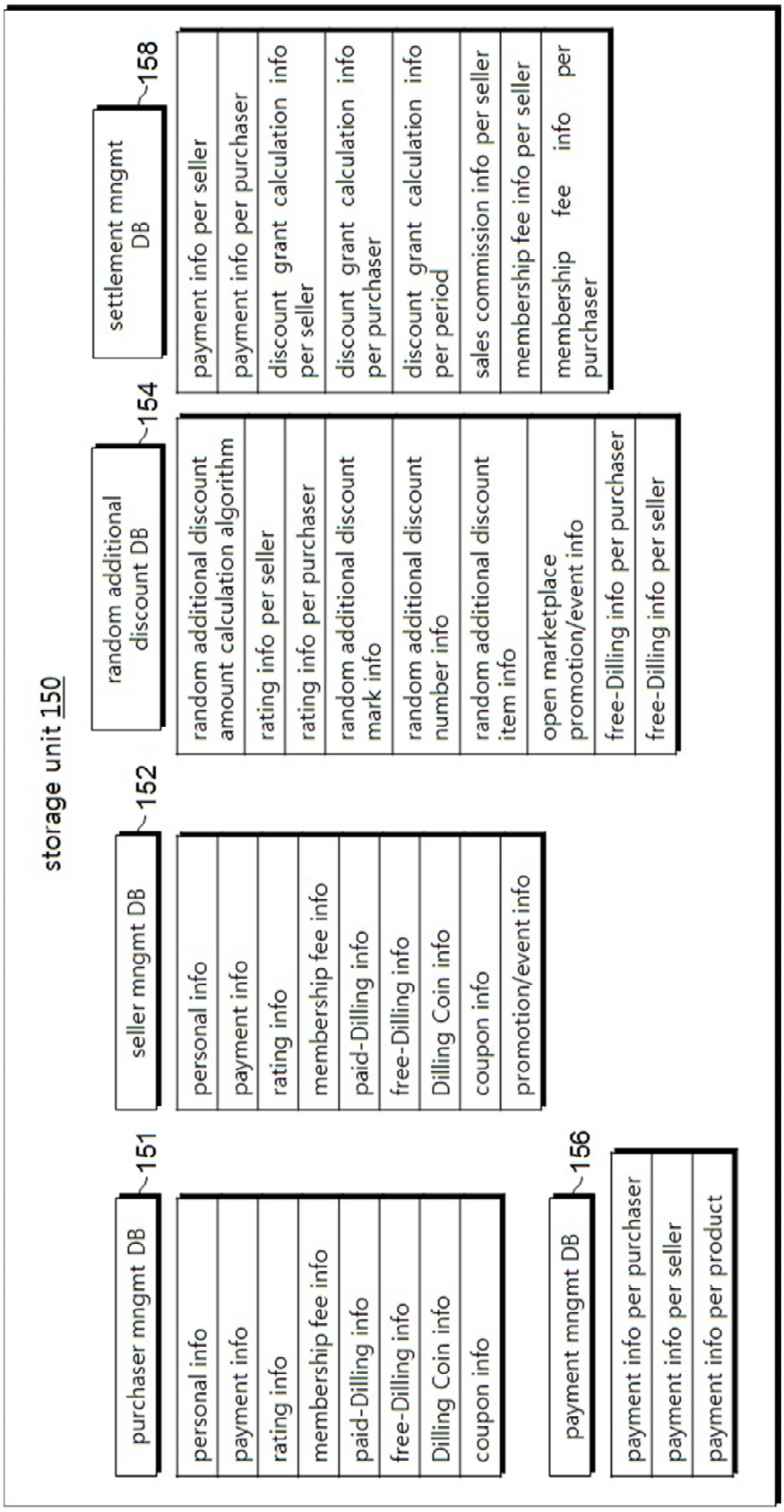

storage unit 150
purchaser mngmt DB
151
personal info
payment info
rating info
membership fee info
paid-Dilling info
free-Dilling info
Dilling Coin info
coupon info
seller mngmt DB
152
personal info
payment info
rating info
membership fee info
paid-Dilling info
free-Dilling info
Dilling Coin info
coupon info
promotion/event info
payment mngmt DB
156
payment info per purchaser
payment info per seller
payment info per product
random additional discount DB
154
random additional discount amount calculation algorithm
rating info per seller
rating info per purchaser
random additional discount mark info
random additional discount number info
random additional discount item info
open marketplace promotion/event info
free-Dilling info per purchaser
free-Dilling info per seller
settlement mngmt DB
158
payment info per seller
payment info per purchaser
discount grant calculation info per seller
discount grant calculation info per purchaser
discount grant calculation info per period
sales commission info per seller
membership fee info per seller
membership fee info per purchaser

Fig. 7

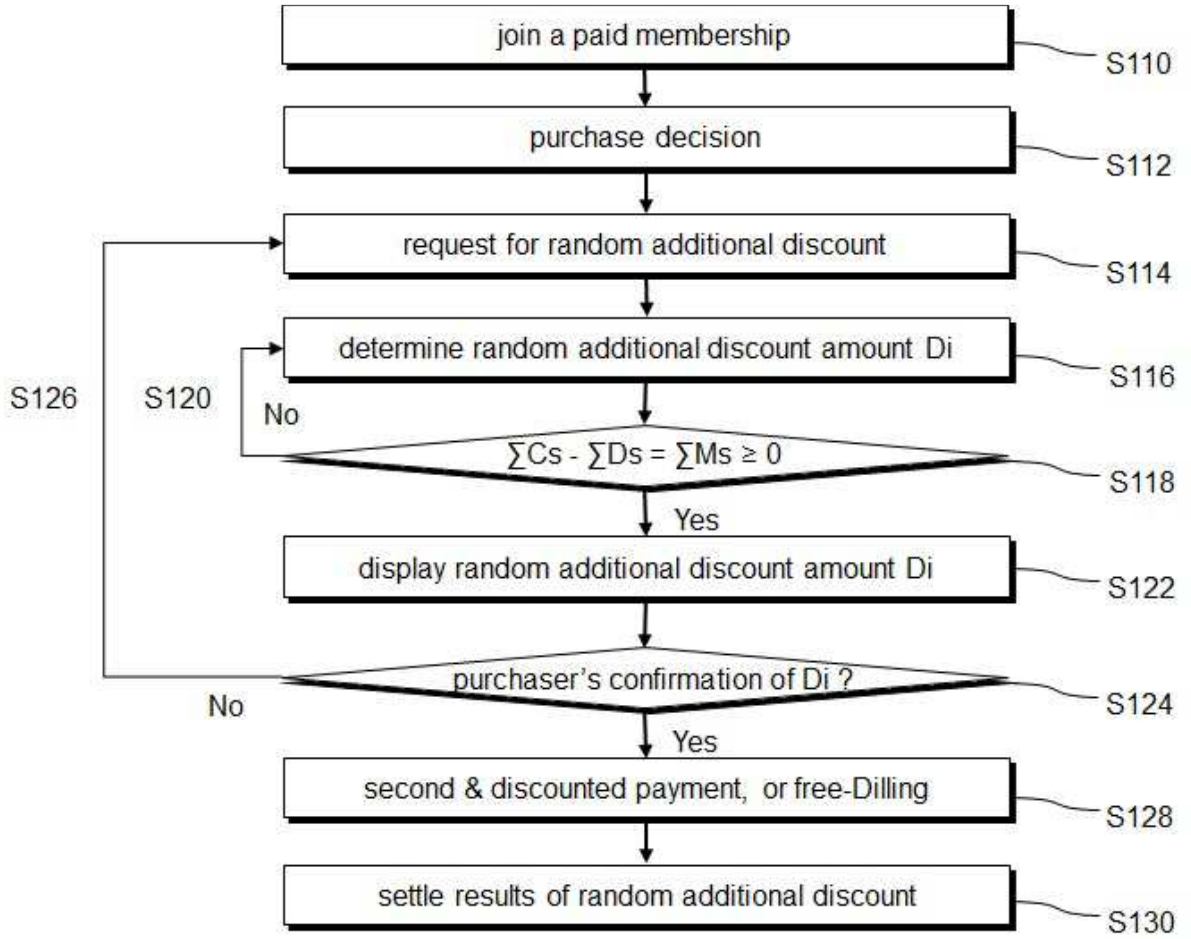

join a paid membership
S110
purchase decision
S112
request for random additional discount
S114
determine random additional discount amount Di
S116
S126
S120
No
∑Cs - ∑Ds = ∑Ms ≥ 0
S118
Yes
display random additional discount amount Di
S122
purchaser's confirmation of Di ?
S124
No
Yes
second & discounted payment, or free-Dilling
S128
settle results of random additional discount
S130

Fig. 8

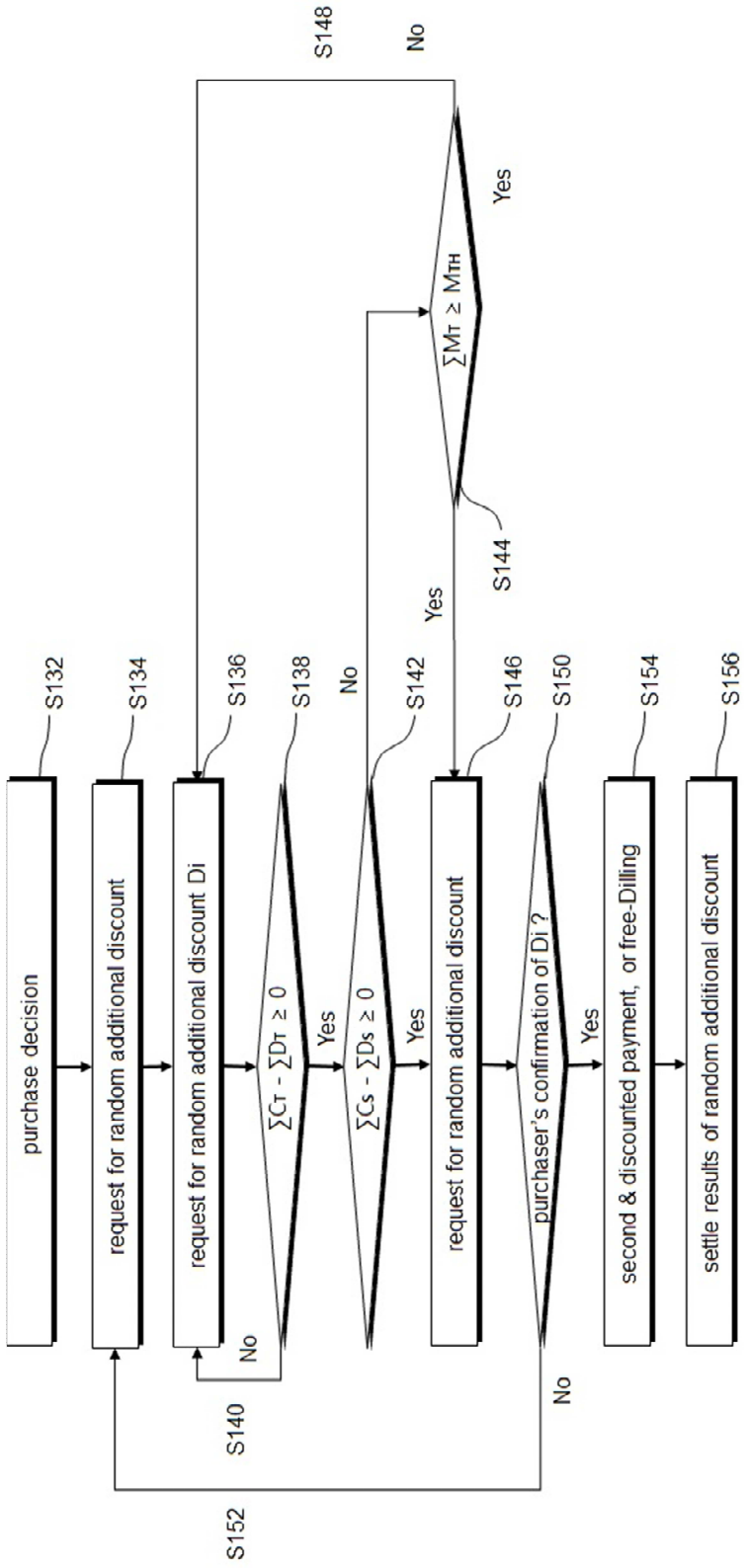

purchase decision
S132
request for random additional discount
S134
request for random additional discount Di
S136
∑Cт - ∑Dт ≥ 0
S138
Yes
No
S140
∑Cs - ∑Ds ≥ 0
S142
Yes
No
S144
∑Mт ≥ Mтн
S148
Yes
No
request for random additional discount
S146
purchaser's confirmation of Di ?
S150
Yes
No
S152
second & discounted payment, or free-Dilling
S154
settle results of random additional discount
S156

Fig. 9

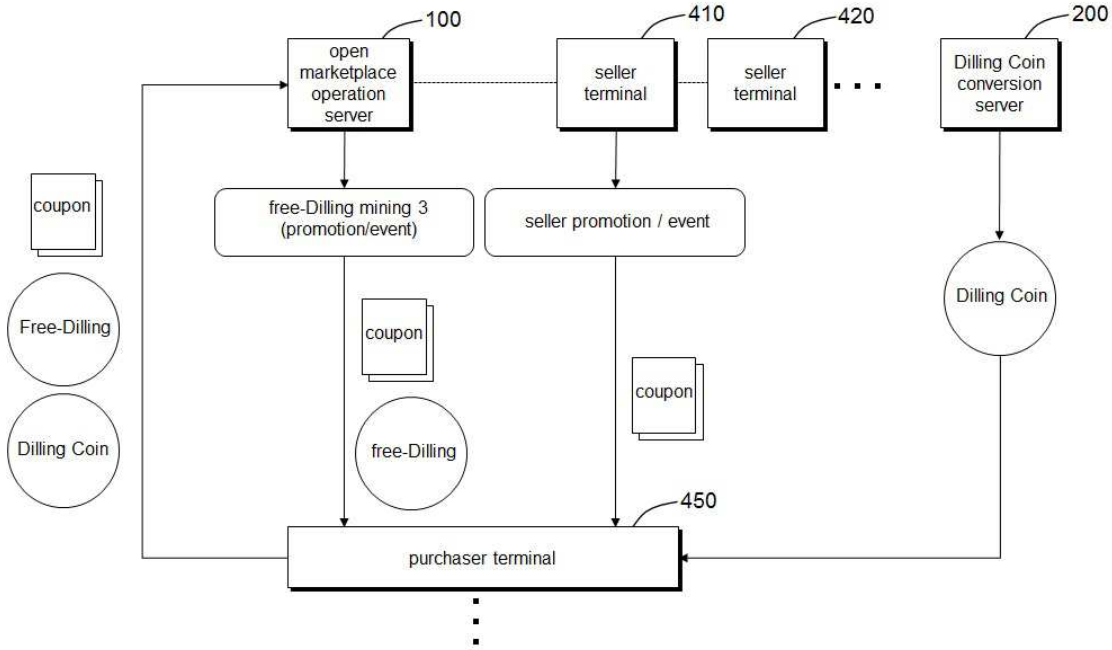

100
410
420
200
open marketplace operation server
seller terminal
seller terminal
Dilling Coin conversion server
coupon
free-Dilling mining 3 (promotion/event)
seller promotion / event
Dilling Coin
Free-Dilling
coupon
coupon
Dilling Coin
free-Dilling
450
purchaser terminal

Fig. 10

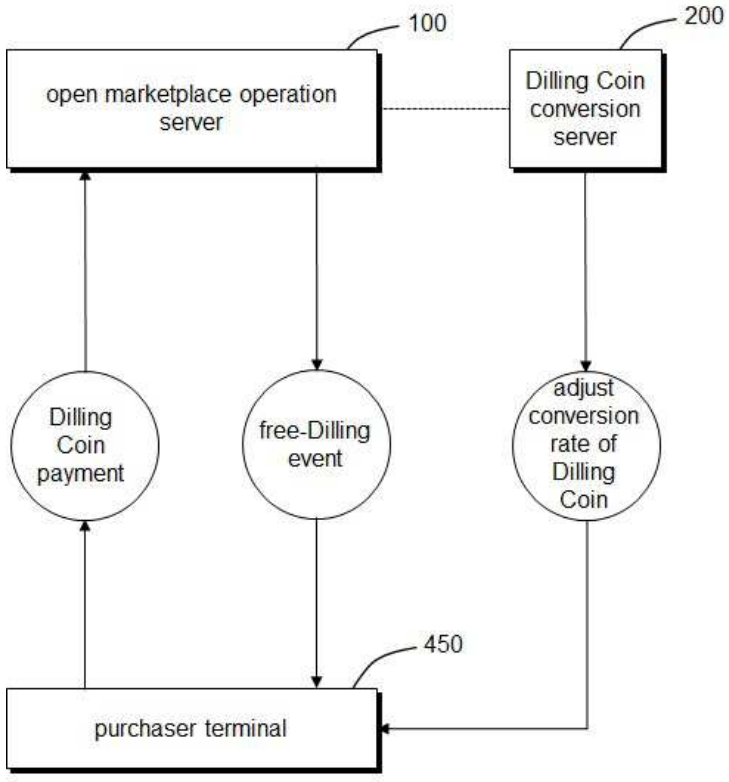

100
200
open marketplace operation server
Dilling Coin conversion server
Dilling Coin payment
free-Dilling event
adjust conversion rate of Dilling Coin
450
purchaser terminal

Fig. 11

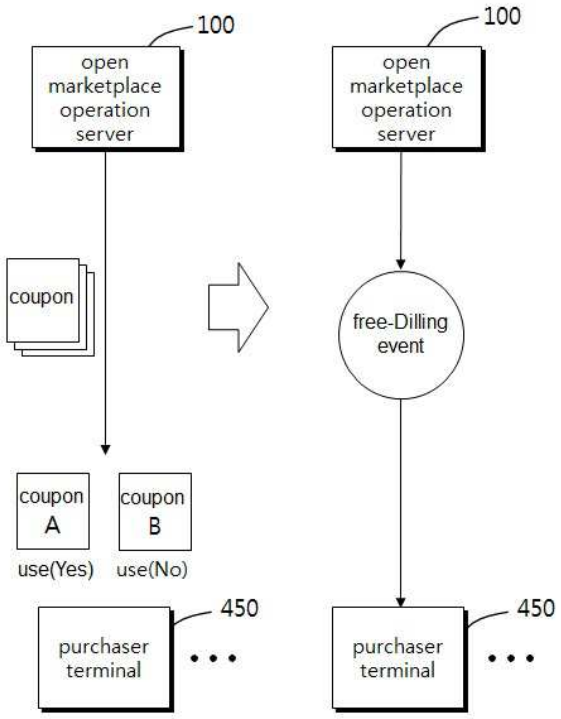

100
open marketplace operation server
100
open marketplace operation server
coupon
free-Dilling event
coupon A
coupon B
use(Yes)
use(No)
450
purchaser terminal
450
purchaser terminal

Fig. 12

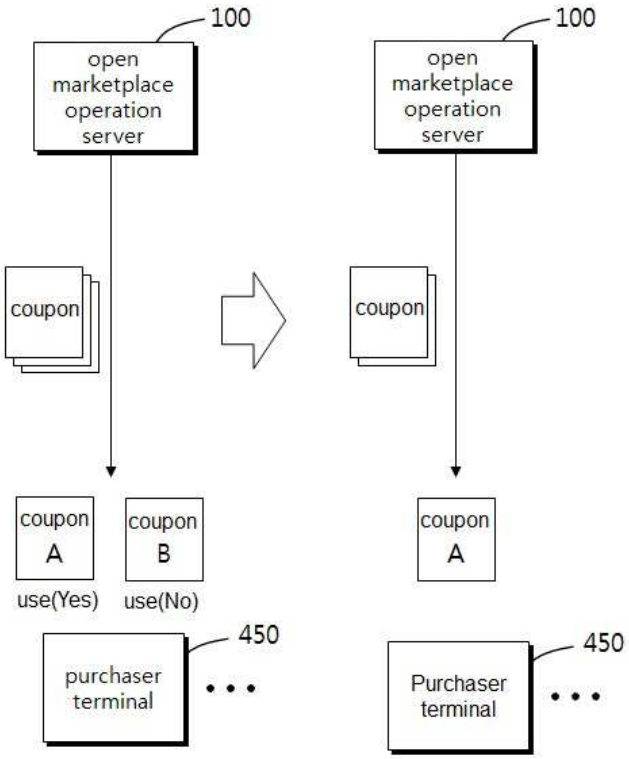

100
open marketplace operation server
100
open marketplace operation server
coupon
coupon
coupon A
coupon B
use(Yes)
use(No)
coupon A
450
purchaser terminal
450
Purchaser terminal

Fig. 13

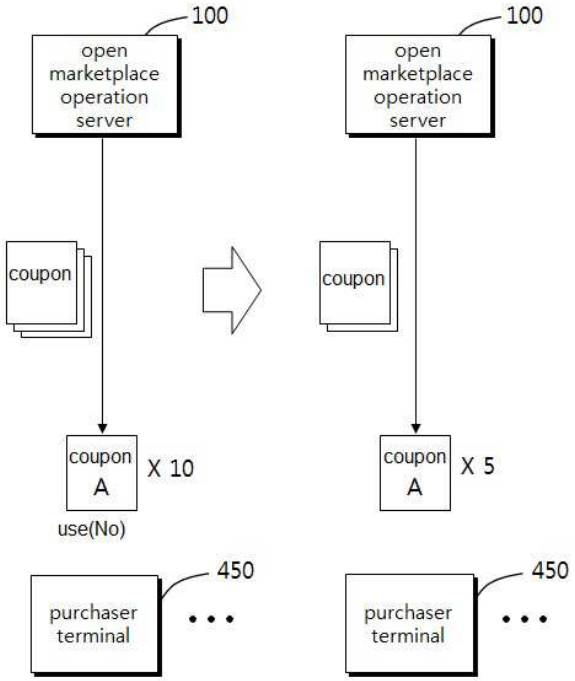

100
open marketplace operation server
coupon
coupon A
X 10
use(No)
450
purchaser terminal
100
open marketplace operation server
coupon
coupon A
X 5
450
purchaser terminal

Fig. 14

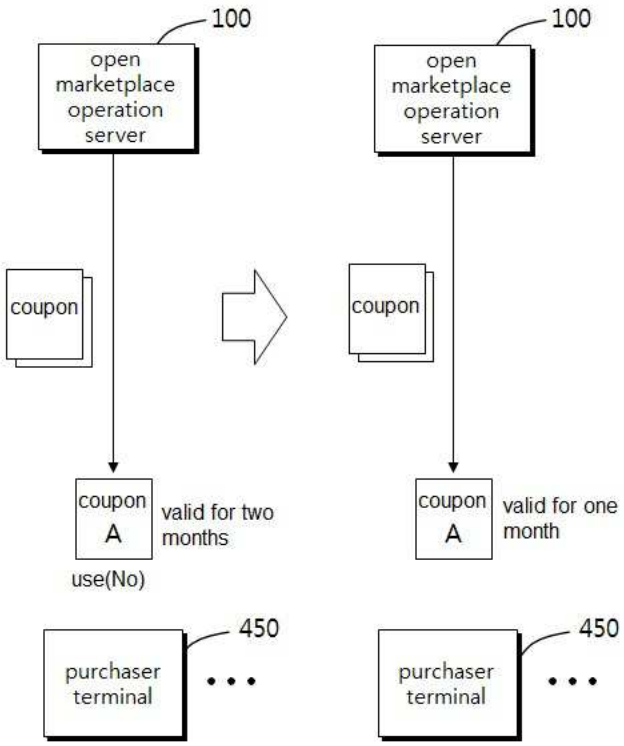
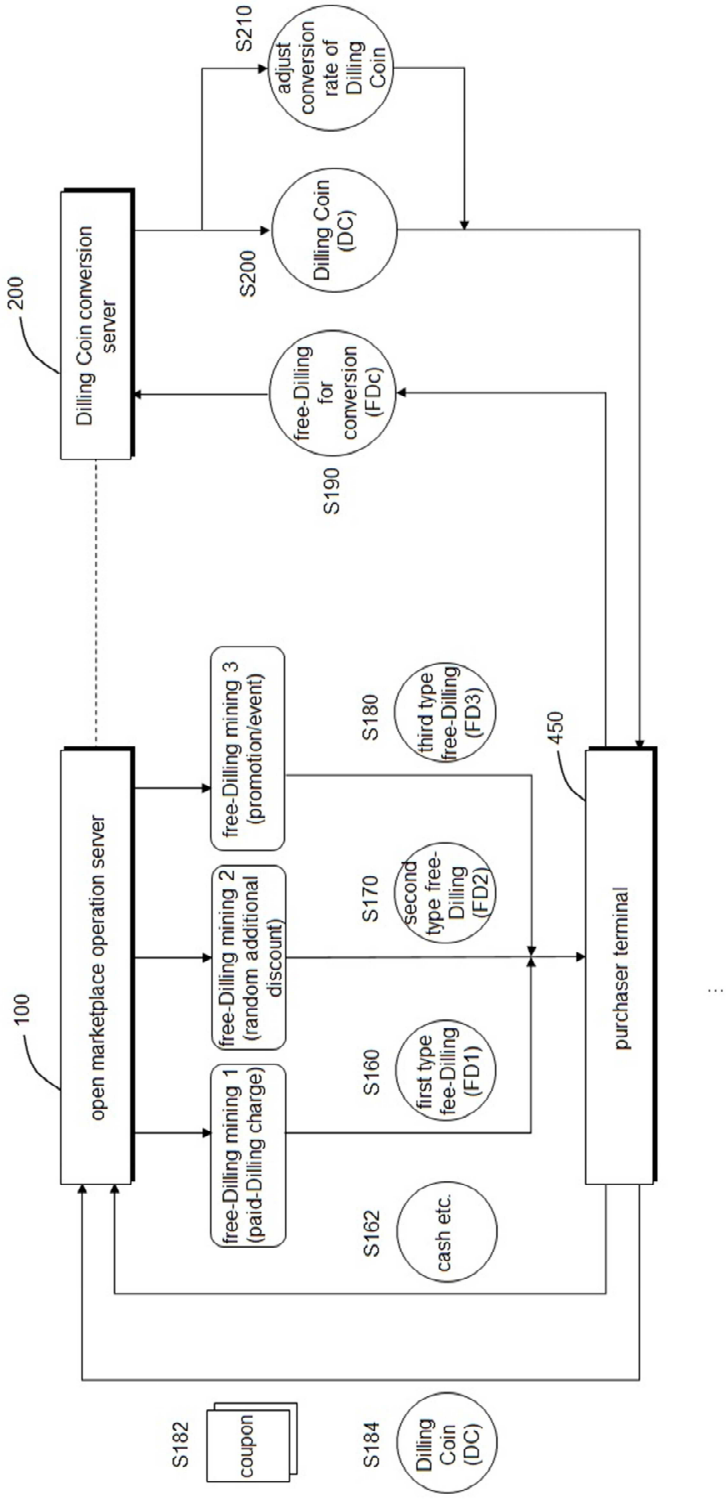

100
open marketplace operation server
coupon
coupon A
valid for two months
use(No)
450
purchaser terminal
100
open marketplace operation server
coupon
coupon A
valid for one month
450
purchaser terminal

Fig. 15


S210
adjust conversion rate of Dilling Coin
Dilling Coin (DC)
S200
200
Dilling Coin conversion server
free-Dilling for conversion (FDc)
S190
free-Dilling mining 3 (promotion/event)
S180
third type free-Dilling (FD3)
450
100
open marketplace operation server
free-Dilling mining 2 (random additional discount)
S170
second type free-Dilling (FD2)
purchaser terminal
free-Dilling mining 1 (paid-Dilling charge)
S160
first type fee-Dilling (FD1)
S162
cash etc.
S182
coupon
S184
Dilling Coin (DC)