FIG. 1

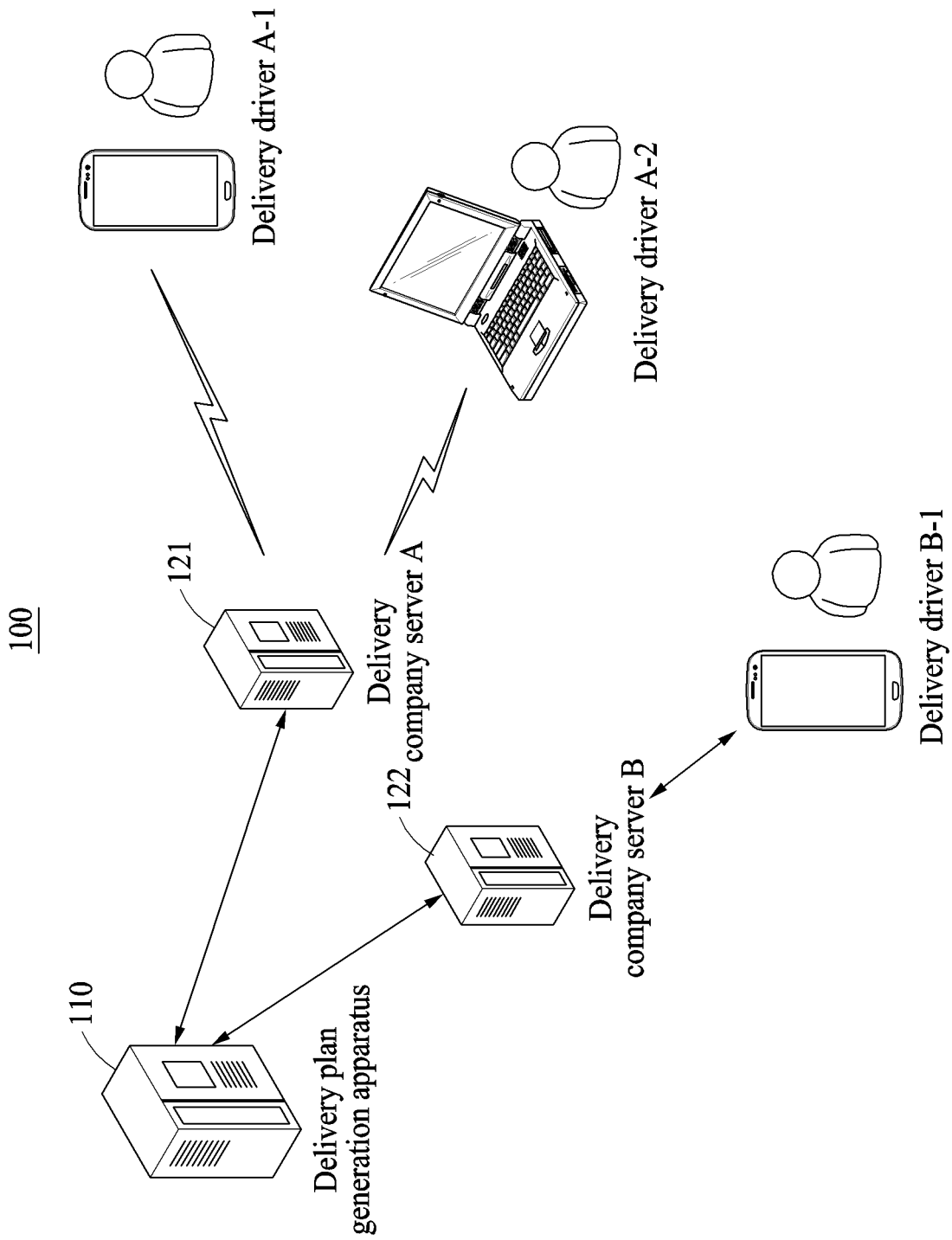

100
110
Delivery plan generation apparatus
121
Delivery company server A
122
Delivery company server B
Delivery driver A-1
Delivery driver A-2
Delivery driver B-1

FIG. 2

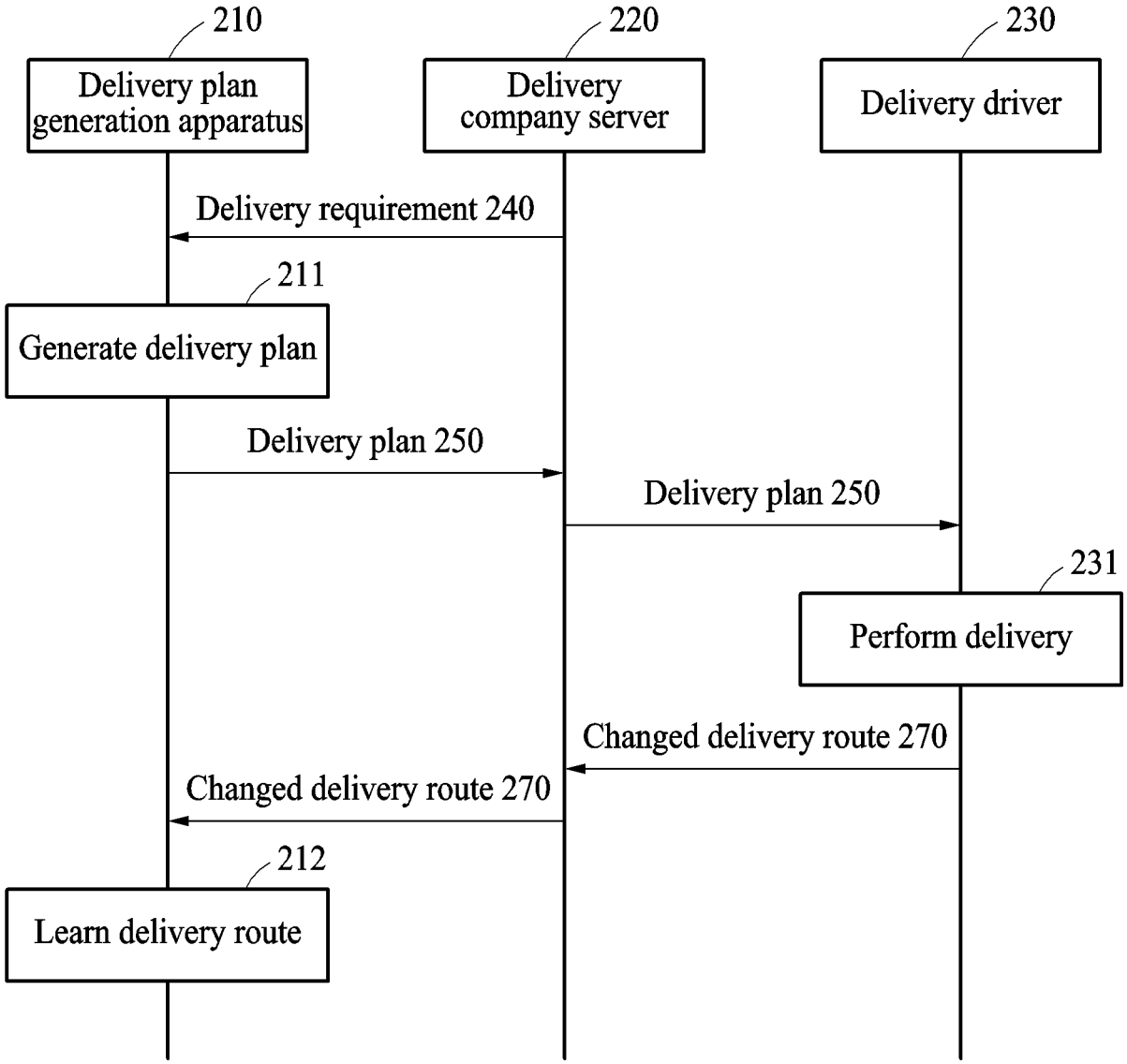

210
Delivery plan generation apparatus
220
Delivery company server
230
Delivery driver
Delivery requirement 240
211
Generate delivery plan
Delivery plan 250
Delivery plan 250
231
Perform delivery
Changed delivery route 270
Changed delivery route 270
212
Learn delivery route

FIG. 3

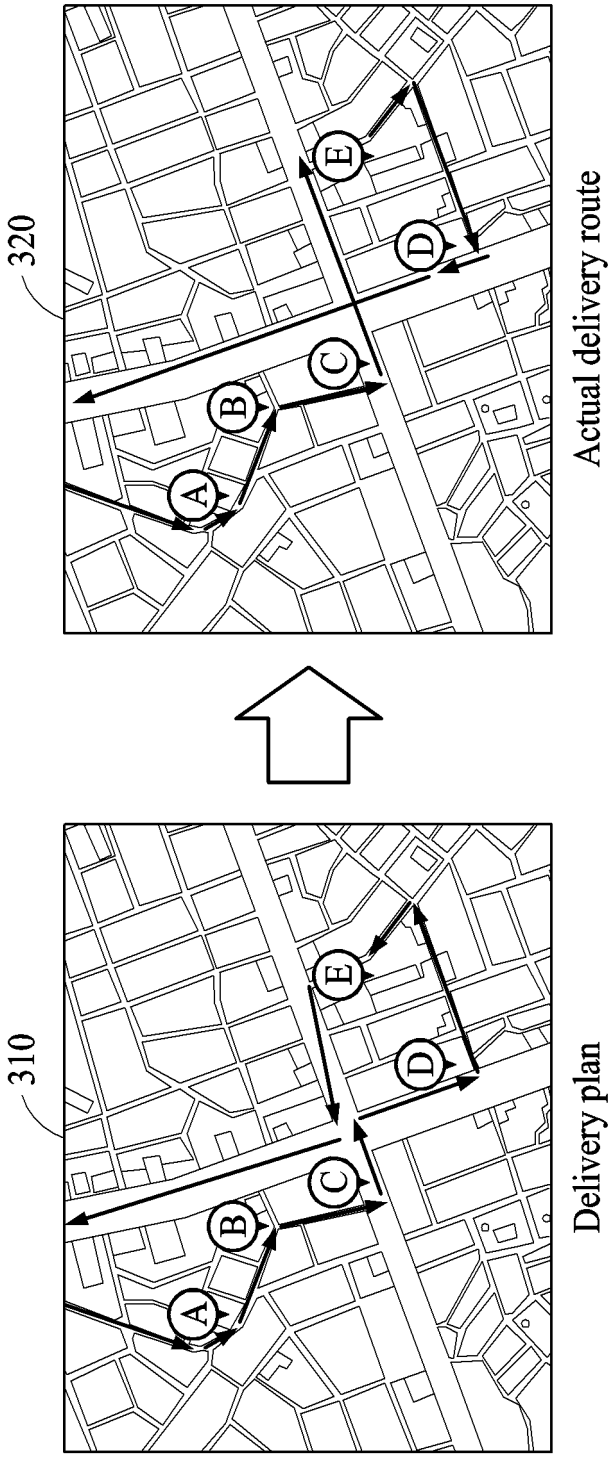
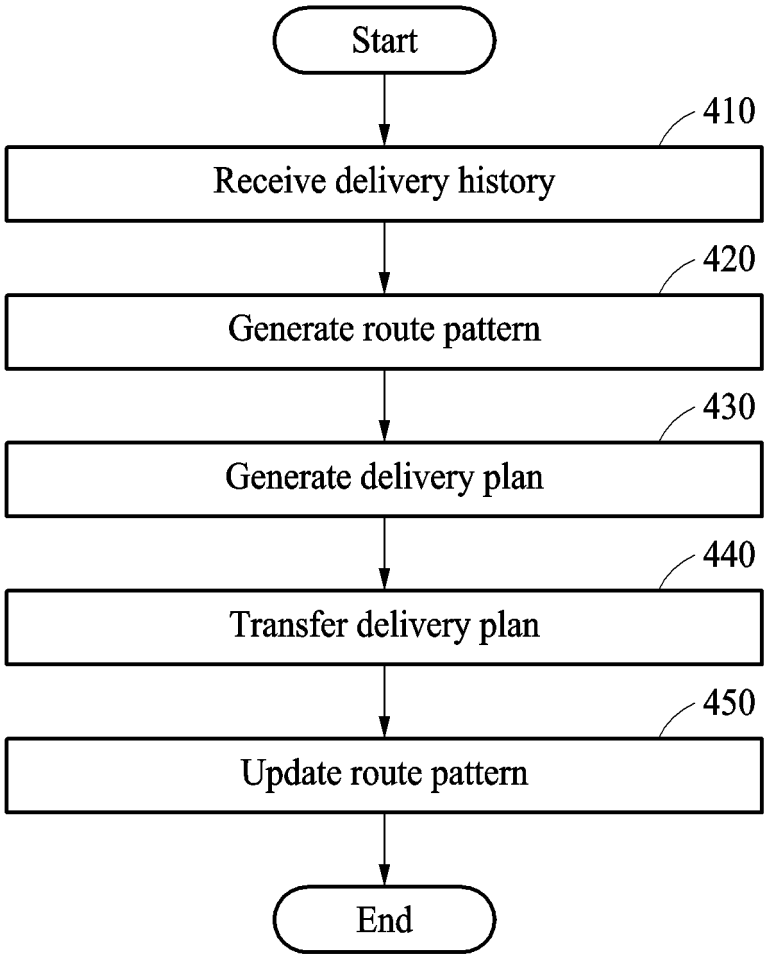


FIG. 4


Start
410
Receive delivery history
420
Generate route pattern
430
Generate delivery plan
440
Transfer delivery plan
450
Update route pattern
End

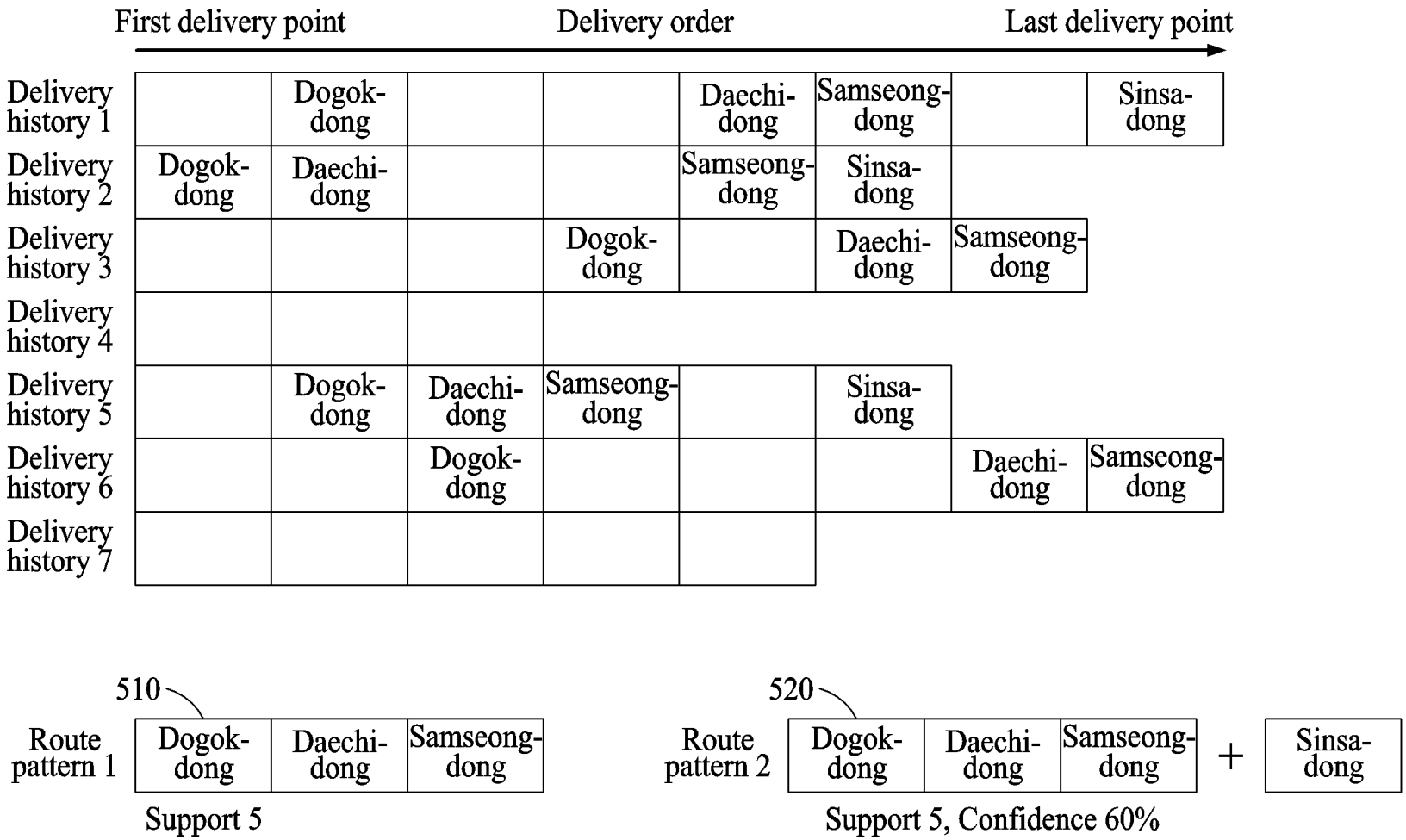

First delivery point
Delivery order
Last delivery point
Delivery history 1
Dogok-dong
Daechi-dong
Samseong-dong
Sinsa-dong
Delivery history 2
Dogok-dong
Daechi-dong
Samseong-dong
Sinsa-dong
Delivery history 3
Dogok-dong
Daechi-dong
Samseong-dong
Delivery history 4
Delivery history 5
Dogok-dong
Daechi-dong
Samseong-dong
Sinsa-dong
Delivery history 6
Dogok-dong
Daechi-dong
Samseong-dong
Delivery history 7
510
Route pattern 1
Dogok-dong
Daechi-dong
Samseong-dong
Support 5
520
Route pattern 2
Dogok-dong
Daechi-dong
Samseong-dong
+
Sinsa-dong
Support 5, Confidence 60%

FIG. 5

FIG. 6

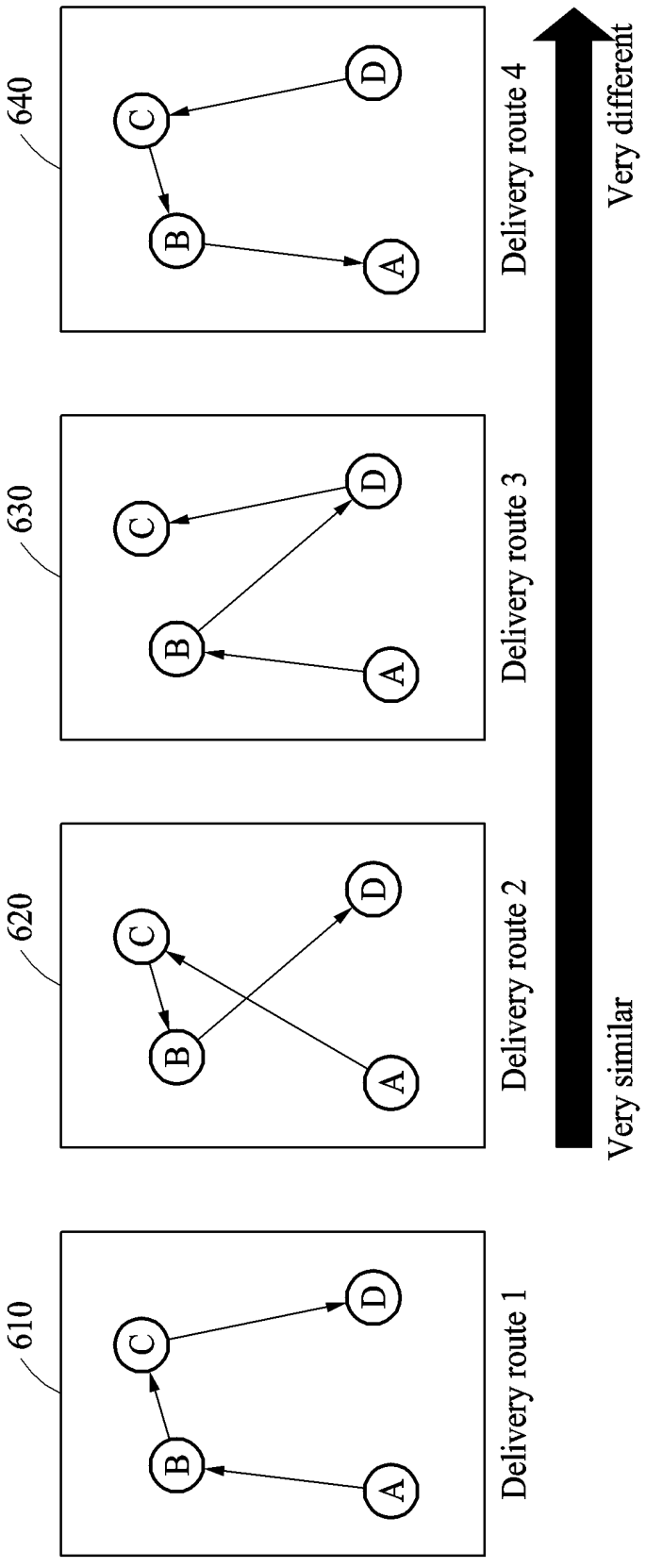
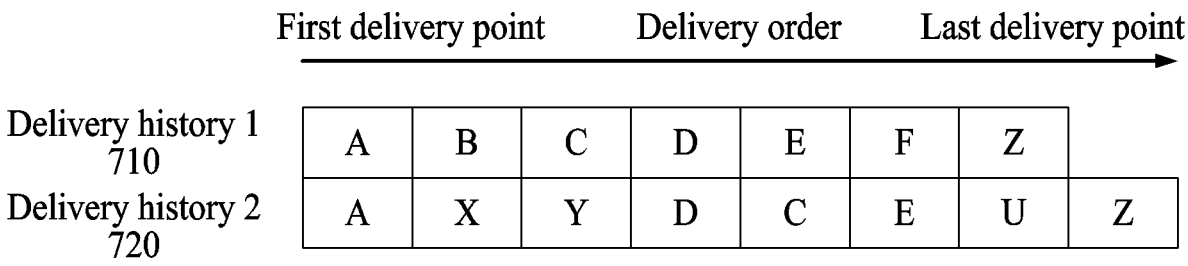

610
A
B
C
D
Delivery route 1
620
A
B
C
D
Delivery route 2
630
A
B
C
D
Delivery route 3
640
A
B
C
D
Delivery route 4
Very similar
Very different

FIG. 7


First delivery point
Delivery order
Last delivery point
Delivery history 1
710
A
B
C
D
E
F
Z
Delivery history 2
720
A
X
Y
D
C
E
U
Z

	Delivery plan 810		Actual delivery route 820	
Order	Postcode	Address	Postcode	Address
1	18150	1, Won-dong, Osan-si, Gyeonggi-do	18143	2, Won-dong, Osan-si, Gyeonggi-do
2	18151	1, Gohyeon-dong, Osan-si, Gyeonggi-do	18143	1, Won-dong, Osan-si, Gyeonggi-do
3	18151	1, Cheongho-dong, Osan-si, Gyeonggi-do	18143	3, Won-dong, Osan-si, Gyeonggi-do
4	18151	2, Cheongho-dong, Osan-si, Gyeonggi-do	18143	4, Won-dong, Osan-si, Gyeonggi-do
5	17709	1, Bijeon-dong, Osan-si, Gyeonggi-do	18143	5, Won-dong, Osan-si, Gyeonggi-do
6	17709	2, Bijeon-dong, Osan-si, Gyeonggi-do	18147	1, Galgot-dong, Osan-si, Gyeonggi-do
7	17709	3, Bijeon-dong, Osan-si, Gyeonggi-do	18147	2, Galgot-dong, Osan-si, Gyeonggi-do
8	18147	1, Galgot-dong, Osan-si, Gyeonggi-do	18145	6, Won-dong, Osan-si, Gyeonggi-do
9	18147	2, Galgot-dong, Osan-si, Gyeonggi-do	18151	1, Gohyeon-dong,, Osan-si, Gyeonggi-do
10	18143	1, Won-dong, Osan-si, Gyeonggi-do	18151	1, Cheongho-dong, Osan-si, Gyeonggi-do
11	18143	2, Won-dong, Osan-si, Gyeonggi-do	18151	2, Cheongho-dong, Osan-si, Gyeonggi-do
12	18143	3, Won-dong, Osan-si, Gyeonggi-do	17709	3, Bijeon-dong, Osan-si, Gyeonggi-do
13	18143	4, Won-dong, Osan-si, Gyeonggi-do	17709	1, Bijeon-dong, Osan-si, Gyeonggi-do
14	18143	5, Won-dong, Osan-si, Gyeonggi-do	17709	2, Bijeon-dong, Osan-si, Gyeonggi-do
15	18145	6, Won-dong, Osan-si, Gyeonggi-do	18150	1, Won-dong, Osan-si, Gyeonggi-do

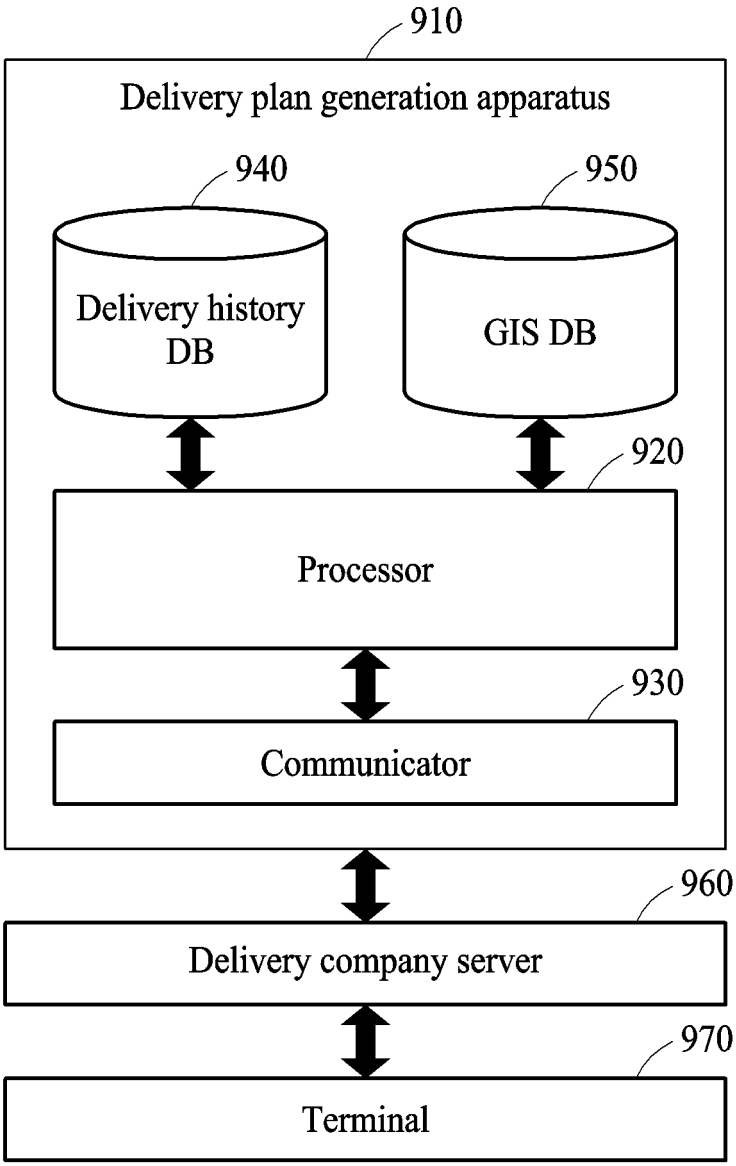


P1 → P2

Support 11, Confidence 1.0, Four delivery drivers

FIG. 8

FIG. 9


910
Delivery plan generation apparatus
940
950
Delivery history DB
GIS DB
920
Processor
930
Communicator
960
Delivery company server
970
Terminal