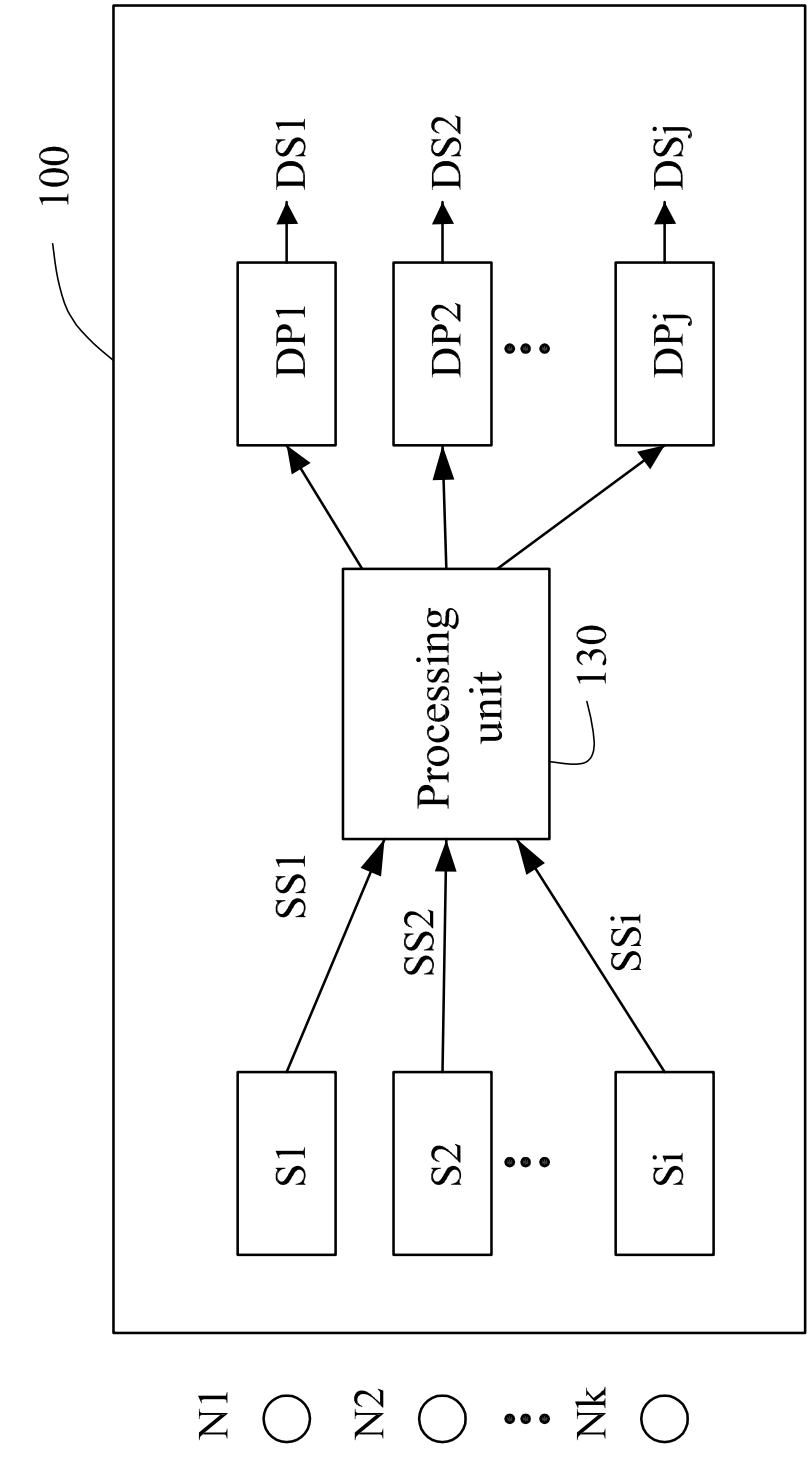

100
DS1
DS2
DSj
DP1
DP2
DPj
Processing unit
130
SS1
SS2
SSi
S1
S2
Si
N1
N2
Nk

FIG. 1

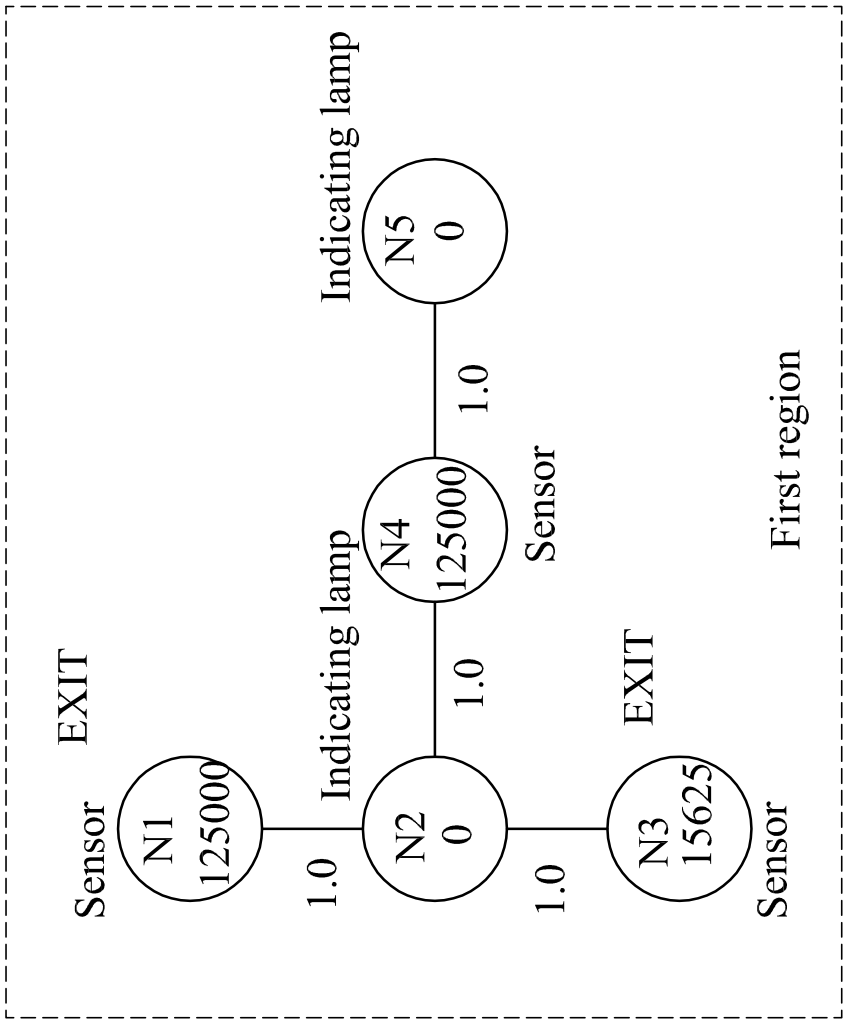

Sensor
EXIT
N1
125000
1.0
Indicating lamp
N2
0
1.0
N4
125000
Sensor
1.0
Indicating lamp
N5
0
1.0
EXIT
N3
15625
Sensor
First region

FIG. 2

Step	N1	N2	N3	N4	N5	N6	Will add	Front cut point update
EXIT N1 Starting								
a1	125000	~	~	~	~	~	N1	N1->N1
a2	125000	125000	~	~	~	~	N2	N1->N1, N2->N1
a3	125000	125000	140625	~	~	~	N3	N1->N1, N2->N1 , N3->N2
a4	125000	125000	140625	250000	~	~	N4	N1->N1, N2->N1 , N3->N2, N4->N2
a5	125000	125000	140625	250000	250000	~	N5	N1->N1, N2->N1 , N3->N2, N4->N2, N5->N4
a6	125000	125000	140625	250000	250000	~		N1->N1, N2->N1 , N3->N2, N4->N2, N5->N4
EXIT N3 Starting								
c1	125000	125000	15625	250000	250000	~	N3	N1->N1, N2->N1 , N3->N3, N4->N2, N5->N4
c2	125000	15625	15625	250000	250000	~	N2	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c3	125000	15625	15625	140625	250000	~	N1	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c4	125000	15625	15625	140625	250000	~	N4	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c5	125000	15625	15625	140625	140625	~	N5	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c6	125000	15625	15625	140625	140625	~		N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4

FIG. 3

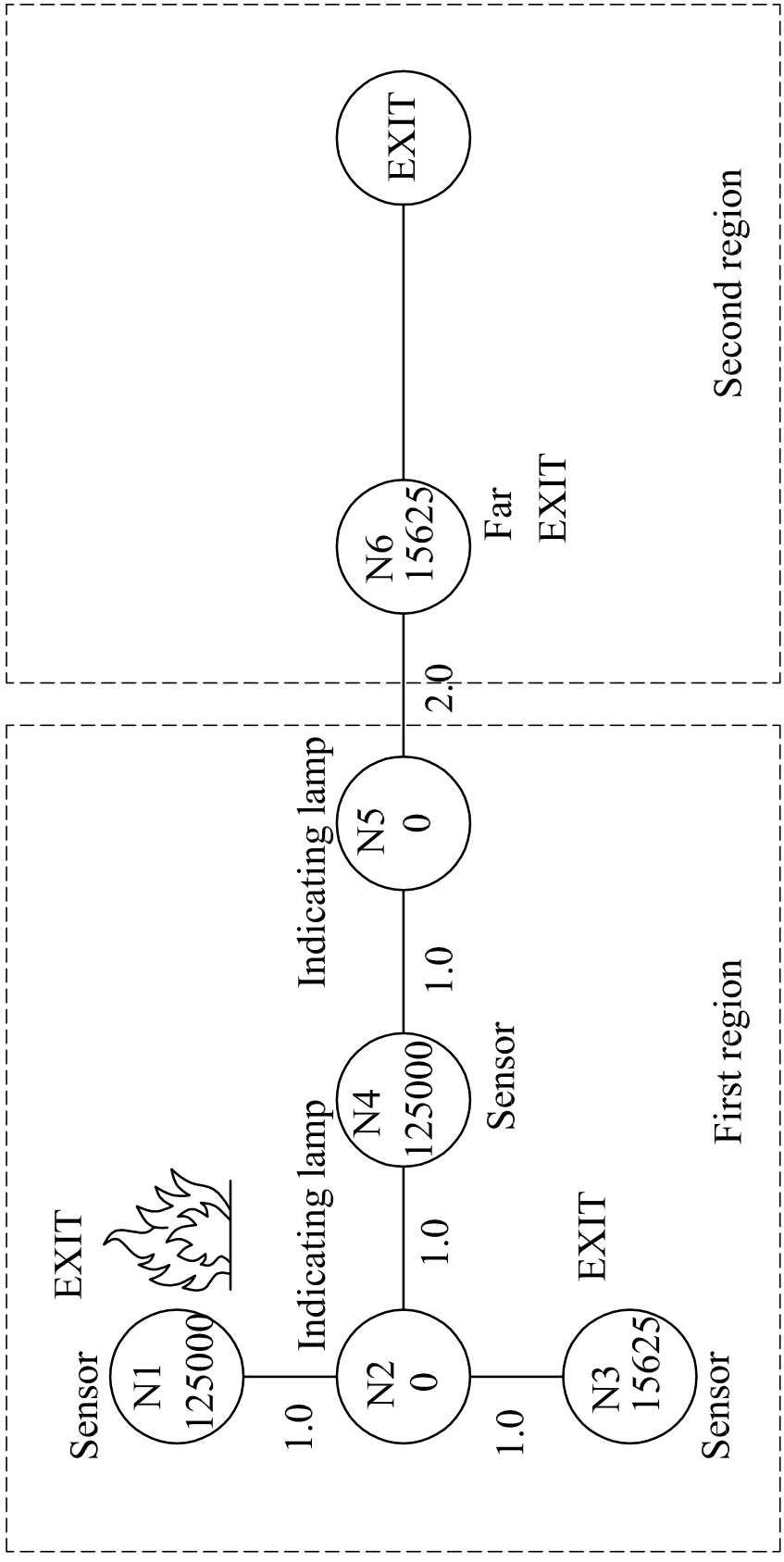

Second region
EXIT
N6
15625
Far
EXIT
2.0
Indicating lamp
N5
0
1.0
Sensor
N4
125000
1.0
EXIT
N3
15625
Sensor
1.0
Indicating lamp
N2
0
1.0
EXIT
Sensor
N1
125000
First region

FIG. 4

Step	N1	N2	N3	N4	N5	N6	Will add	Front cut point update
EXIT N1 Starting								
a1	125000	~	~	~	~	~	N1	N1->N1
a2	125000	125000	~	~	~	~	N2	N1->N1, N2->N1
a3	125000	125000	140625	250000	~	~	N3	N1->N1, N2->N1 , N3->N2, N4->N2
a4	125000	125000	140625	250000	~	~	N4	N1->N1, N2->N1 , N3->N2, N4->N2
a5	125000	125000	140625	250000	250000	~	N5	N1->N1, N2->N1 , N3->N2, N4->N2, N5->N4
a6	125000	125000	140625	250000	250000	~		N1->N1, N2->N1 , N3->N2, N4->N2, N5->N4
EXIT N3 Starting								
c1	125000	125000	15625	250000	250000	~	N3	N1->N1, N2->N1 , N3->N3, N4->N2, N5->N4
c2	125000	15625	15625	250000	250000	~	N2	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c3	125000	15625	15625	140625	250000	~	N1	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c4	125000	15625	15625	140625	250000	~	N4	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c5	125000	15625	15625	140625	140625	~	N5	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
c6	125000	15625	15625	140625	140625	~		N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4
Far EXIT N6 Starting								
f1	125000	15625	15625	140625	140625	15625	N6	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N4, N6->N6
f2	125000	15625	15625	140625	31250	15625	N5	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6
f3	125000	15625	15625	140625	31250	15625	N4	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6
f4	125000	15625	15625	140625	31250	15625	N2	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6
f5	125000	15625	15625	140625	31250	15625	N3	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6
f6	125000	15625	15625	140625	31250	15625	N1	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6
f7	125000	15625	15625	140625	31250	15625	N1	N1->N1, N2->N3 , N3->N3, N4->N2, N5->N6, N6->N6

FIG. 5

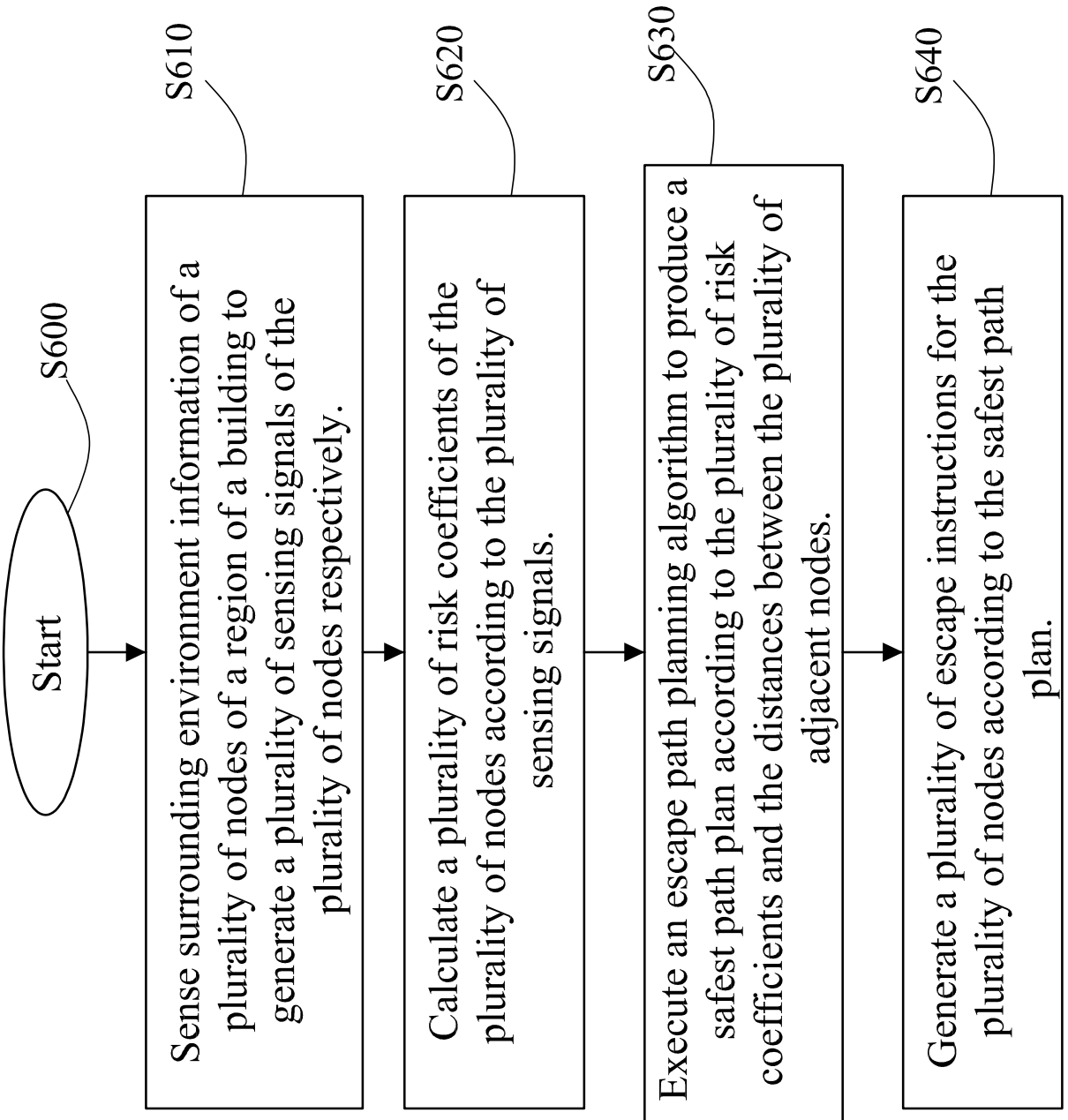

Start
S600
Sense surrounding environment information of a plurality of nodes of a region of a building to generate a plurality of sensing signals of the plurality of nodes respectively.
S610
Calculate a plurality of risk coefficients of the plurality of nodes according to the plurality of sensing signals.
S620
Execute an escape path planning algorithm to produce a safest path plan according to the plurality of risk coefficients and the distances between the plurality of adjacent nodes.
S630
Generate a plurality of escape instructions for the plurality of nodes according to the safest path plan.
S640

FIG. 6

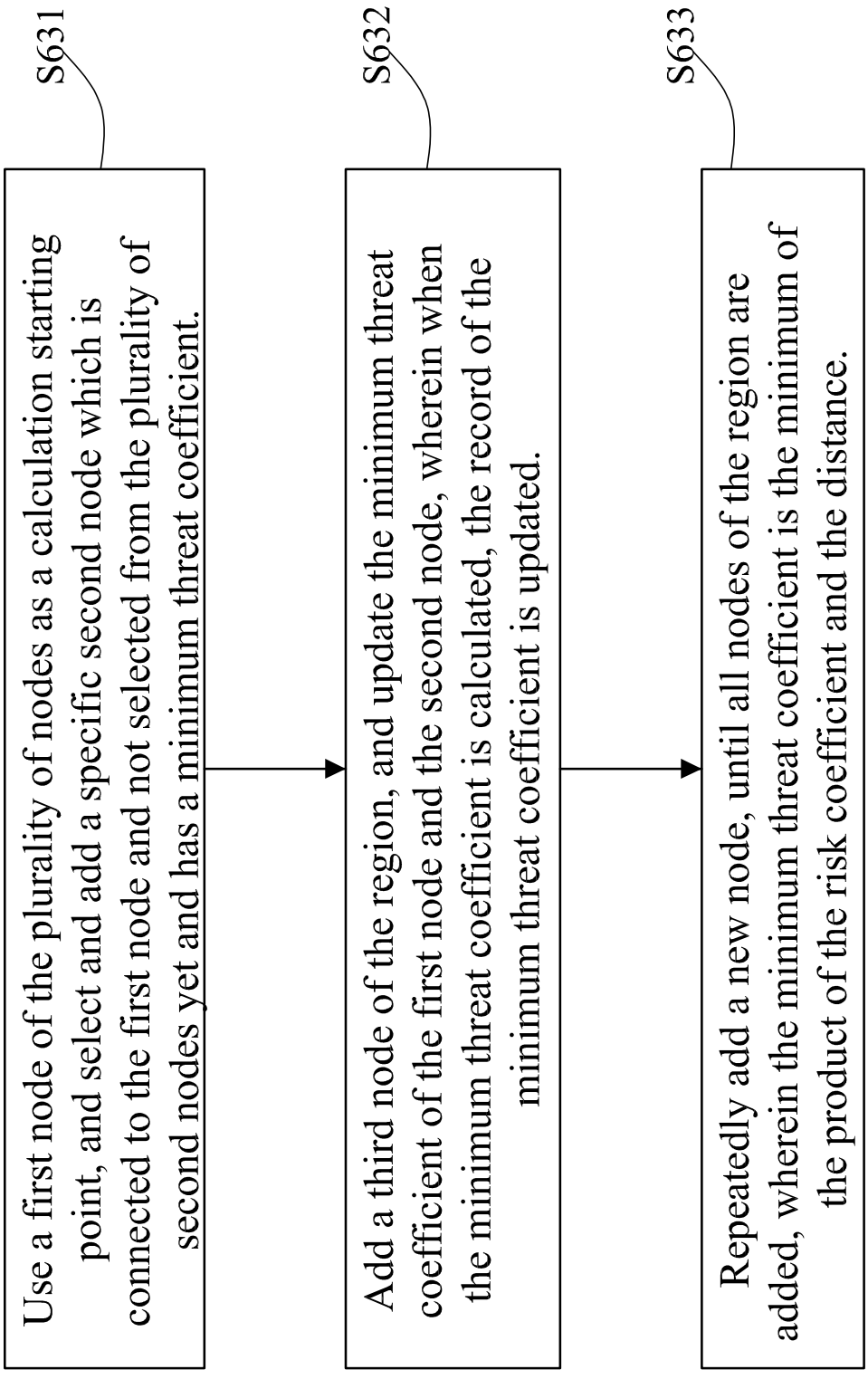

S631
Use a first node of the plurality of nodes as a calculation starting point, and select and add a specific second node which is connected to the first node and not selected from the plurality of second nodes yet and has a minimum threat coefficient.
S632
Add a third node of the region, and update the minimum threat coefficient of the first node and the second node, wherein when the minimum threat coefficient is calculated, the record of the minimum threat coefficient is updated.
S633
Repeatedly add a new node, until all nodes of the region are added, wherein the minimum threat coefficient is the minimum of the product of the risk coefficient and the distance.

FIG. 7