ORIGINAL

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By Deputy Clerk

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA

Elster Electricity LLC,	)	
Plaintiff,	)	**Civil Action No.:** 1 05-CV 1138
v.	)	**JURY TRIAL DEMANDED**
IPCO, LLC,	)	CC
Defendant.	)	

COMPLAINT

Plaintiff Elster Electricity LLC hereby complains and alleges against Defendant IPCO, LLC as follows

PARTIES

1 Elster Electricity LLC ("Elster") is Delaware corporation having its principal place of business at 208 South Rogers Lane, Raleigh, NC 27610 Elster is in the business of developing, manufacturing and selling electricity metering products and metering automation systems

2 On information and belief, IPCO, LLC ("IPCO") has its principal place of business at 200 Galleria Parkway, Suite 1820, Atlanta, GA 30339 On information and belief, IPCO has no business other than licensing and enforcing patents

JURISDICTION

3 This is a civil action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code The Court has jurisdiction over the subject matter of this action under 28 U S C §§ 1331, 1338(a), 2201 and 2202

4 Venue is proper in this District under 28 U S C §§ 1391(b) & (c) and 1400(b)

FACTUAL BACKGROUND

U.S. Patent No. 6,249,516

5 On June 19, 2001, the United States Patent and Trademark Office issued U S Patent No 6,249,516 ("the 516 patent"), entitled "Wireless Network Gateway and Method for Providing Same" (attached hereto as Exhibit 1) The 516 patent purports to be directed to a server having a digital controller, a network interface, and a radio modem that provides a gateway between two networks, one of which is a wireless network

6 On information and belief, the 516 patent was assigned from CommUnique, LLC to defendant IPCO on December 11, 2004

Facts Relating to Declaratory Judgment Jurisdiction

7 There is an actual controversy between the parties, namely a disputed claim of patent infringement, and a direct threat of litigation by IPCO, for patent infringement against Elster

8 Outside counsel for IPCO initiated contact with Elster by letter of April 7, 2005 (attached hereto as Exhibit 2) In the letter, counsel for IPCO alleged that "Elster's EnergyAxis System infringes one or more claims of U S Patent No 6,249,516 " Counsel further stated that "[g]iven the extent of Elster's manufacturing, our client is quite concerned about the infringement of its intellectual property rights " Counsel also threatened Elster with litigation,

stating that "[i]f we do not hear from you by the close of business on Monday, April 18, 2005, we will initiate litigation against Elster for infringement of the '516 patent."

9 Elster responded in a letter dated April 15, 2005 (attached hereto as Exhibit 3) In the letter, Elster informed IPCO that it was currently studying the 516 patent and requested that IPCO give Elster until June of 2005 to complete the study to assess the 516 patent and IPCO's charge of patent infringement

10 By letter of April 18, 2005 (attached hereto as Exhibit 4), outside counsel for IPCO responded that it was "unwilling to wait until June to address this matter," but agreed to "forego filing litigation for an additional week, until April 28, 2005."

11 Elster met with representatives of IPCO in Raleigh, North Carolina on April 28, 2005 During the meeting, IPCO again contended that Elster's EnergyAxis System infringed its 516 patent and offered Elster a license to the patent The terms of the license offered by IPCO were unacceptable to Elster The meeting concluded without any resolution of the dispute nor any indication from IPCO that it would further postpone the litigation that it has threatened

12 Based on IPCO's statements that Elster's EnergyAxis System infringes the 516 patent and IPCO's stated intention to file a lawsuit against Elster, Elster has a reasonable apprehension that it will be sued by IPCO for patent infringement related to its EnergyAxis System

13 The threat of suit by IPCO is imminent because the parties have terminated licensing negotiations and IPCO has provided no indication that it is willing to further postpone filing suit

REQUESTED RELIEF

Claim I – Declaratory Judgment of Noninfringement

14 Elster hereby incorporates the allegations contained in paragraphs 1-13 of this Complaint and further allege as follows

15 An actual, live and justiciable controversy exists between Elster and IPCO as to the infringement of the 516 patent

16 Elster's EnergyAxis System does not literally infringe any claim of the 516 patent

17 Elster's EnergyAxis System does not infringe any claim of the 516 patent under the doctrine of equivalents

18 Elster is entitled to a judgment declaring that the EnergyAxis System does not infringe, literally or under the doctrine of equivalents, any claim of the 516 patent

Claim II – Declaratory Judgment of Invalidity

19 Elster hereby incorporates the allegations contained in paragraphs 1-18 of this Complaint and further alleges as follows

20 An actual controversy exists as to whether the claims of the 516 patent are invalid under 35 U S C §§ 102, 103 and 112

21 The 516 patent is invalid under one or more of 35 U S C §§ 102, 103 and 112

22 Elster is entitled to a judgment declaring that each claim of the 516 patent is invalid

PRAYER FOR RELIEF

WHEREFORE, Elster prays that this Court enter judgment as follows

a Declaring that Elster's EnergyAxis System does not infringe, literally or under the doctrine of equivalents, any claim of the 516 patent,

b Declaring that each of the claims of the 516 patent is invalid and that IPCO is without any right or authority to enforce or threaten to enforce any claim of the 516 patent against Elster or any other party.

c Granting Elster all monetary relief appropriate, including Elster's reasonable attorneys' fees and costs incurred in this action, and

d Granting Elster such other and further relief, either in equity or law, as the Court deems appropriate under the circumstances of this case

Elster respectfully demands a trial by jury on all issues so triable

Dated this 29th day of April 2005

Respectfully submitted,

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EXHIBIT 1

US006249516B1

(12) **United States Patent**
Brownrigg et al.

(10) **Patent No.: US 6,249,516 B1**
(45) **Date of Patent: Jun. 19, 2001**

(54) **WIRELESS NETWORK GATEWAY AND METHOD FOR PROVIDING SAME**

(76) Inventors: **Edwin B. Brownrigg**, 328 King Rd., Roseville, CA (US) 95678; **Thomas W Wilson**, 139 Avington Rd Alameda, CA (US) 94502

(*) Notice: Subject to any disclaimer the term of this patent is extended or adjusted under 35 U S C 154(b) by 0 days

(21) Appl No **09/492,930**

(22) Filed **Jan 27, 2000**

Related U S Application Data

(62) Division of application No 08/760,895 filed on Dec 6 1995, now Pat No 6,044,062

(51) **Int. Cl.**[7] **H04L 12/66**

(52) **U S. Cl.** **370/338** 370/401

(58) **Field of Search** 370/338 349, 370/352, 353, 354, 355, 356, 400 401, 466, 467, 328, 351, 241, 455/11 1

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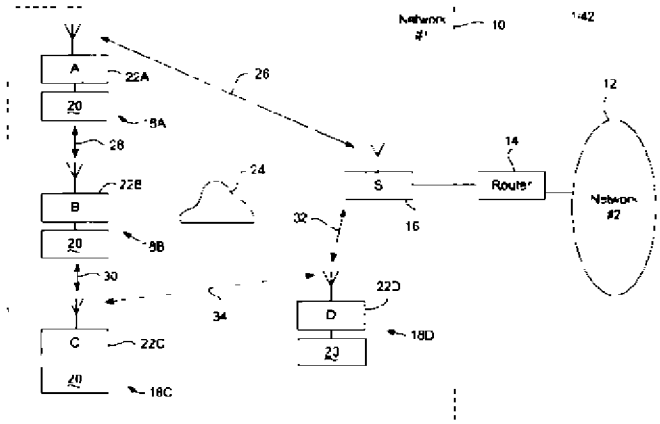
* cited by examiner

Primary Examiner—Huy D Vu
(74) *Attorney, Agent, or Firm*—Oppenheimer Wolff & Donnelly LLP

(57) **ABSTRACT**

A wireless network system includes a server having a server controller and a server radio modem, and a number of clients each including a client controller and a client radio modem The server controller implements a server process that includes the receipt and the transmission of data packets via the radio modem The client controllers of each of the clients implements a client process that includes the receipt and transmission of data packets via the client radio modem The client process of each of the clients initiates, selects, and maintains a radio transmission path to the server that is either a direct path to the server, or is an indirect path or "link" to the server through at least one of the remainder of the clients A method for providing wireless network communication includes providing a server implementing a server process including receiving data packets via a radio modem, sending data packets via the server radio modem, communicating with the network, and performing housekeeping functions, and further includes providing a number of clients, each implementing a client process sending and receiving data packets via a client radio modem, maintaining a send/receive data buffer, and selecting a radio transmission path to the server The radio transmission path or "link" is either a direct path to the server, or an indirect path to the server through at least one of the remainder of the clients The process preferably optimizes the link to minimize the number of "hops" to the server

19 Claims, 42 Drawing Sheets



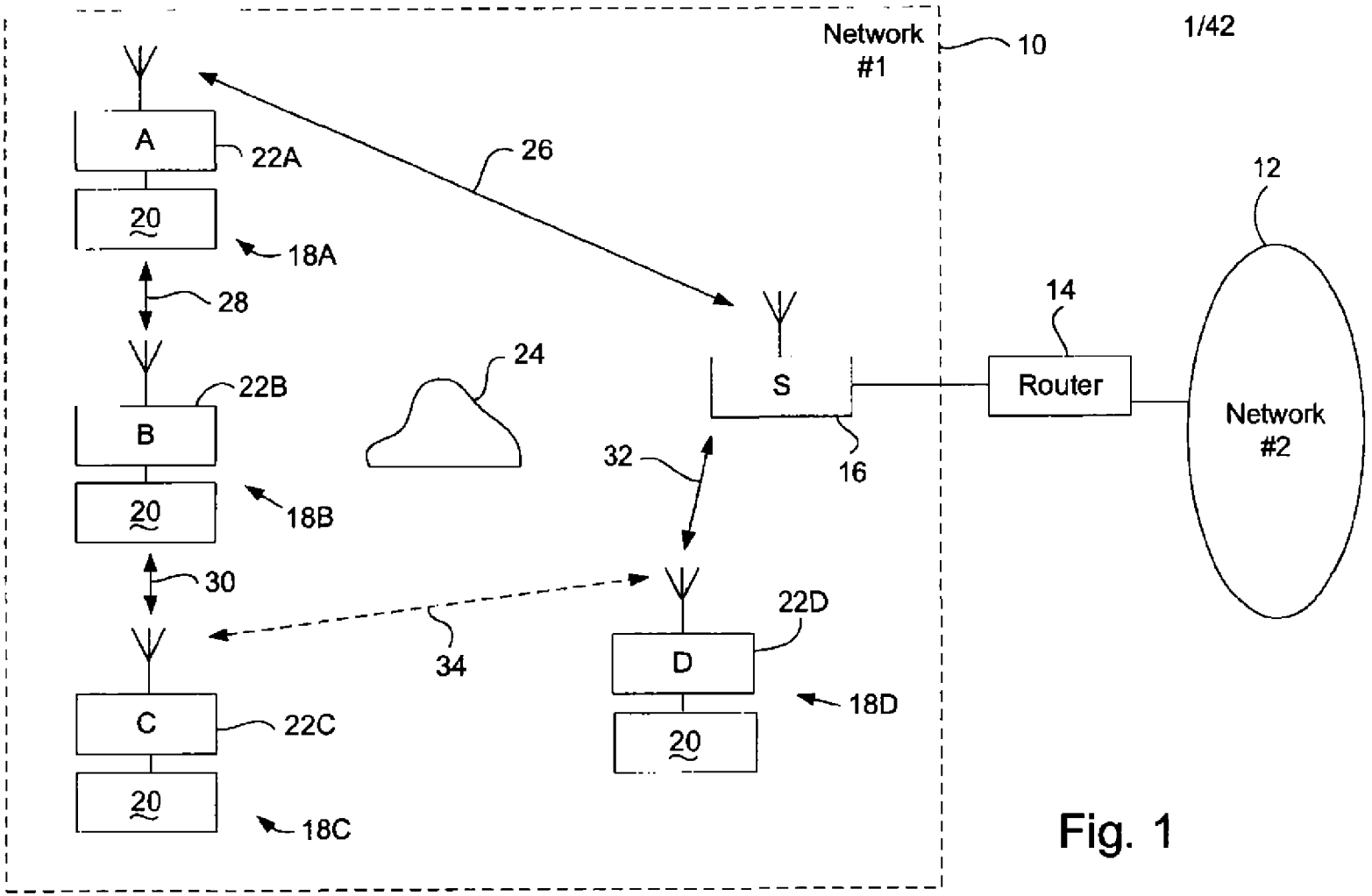

1/42
Network #1
10
A
22A
20
18A
26
28
B
22B
20
18B
24
S
16
14
Router
12
Network #2
32
30
34
C
22C
20
18C
D
22D
18D
20

Fig. 1

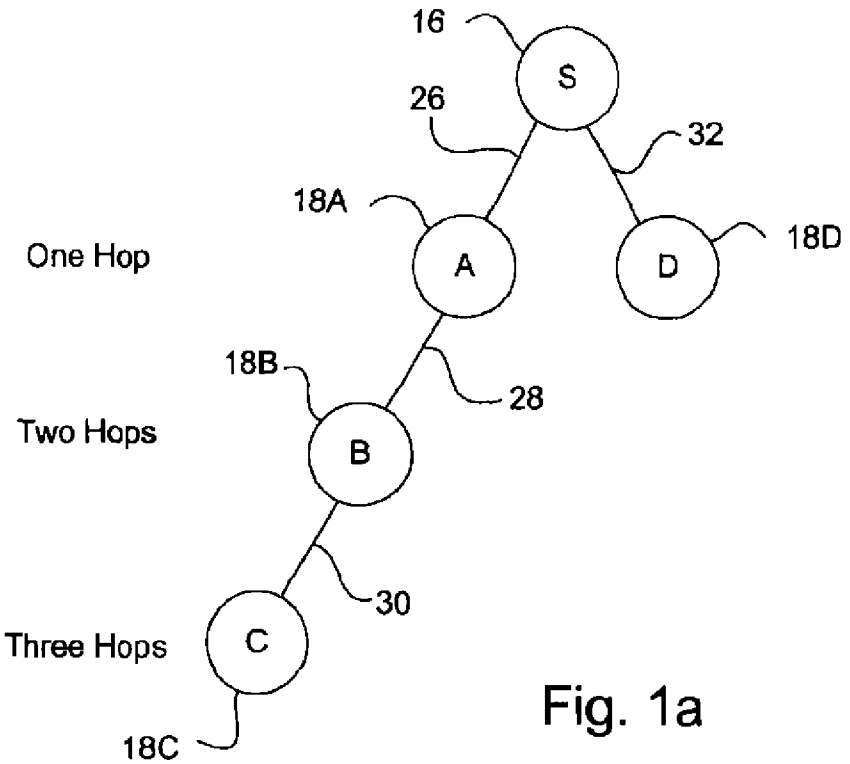

16
S
26
32
18A
A
D
18D
One Hop
18B
28
Two Hops
B
30
Three Hops
C
18C

Fig. 1a

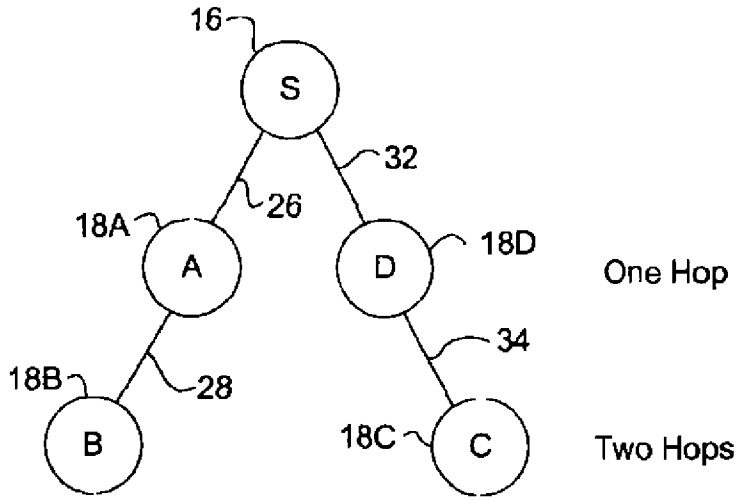

16
S
32
26
18A
A
D
18D
One Hop
34
18B
28
B
18C
C
Two Hops

Fig. 1b

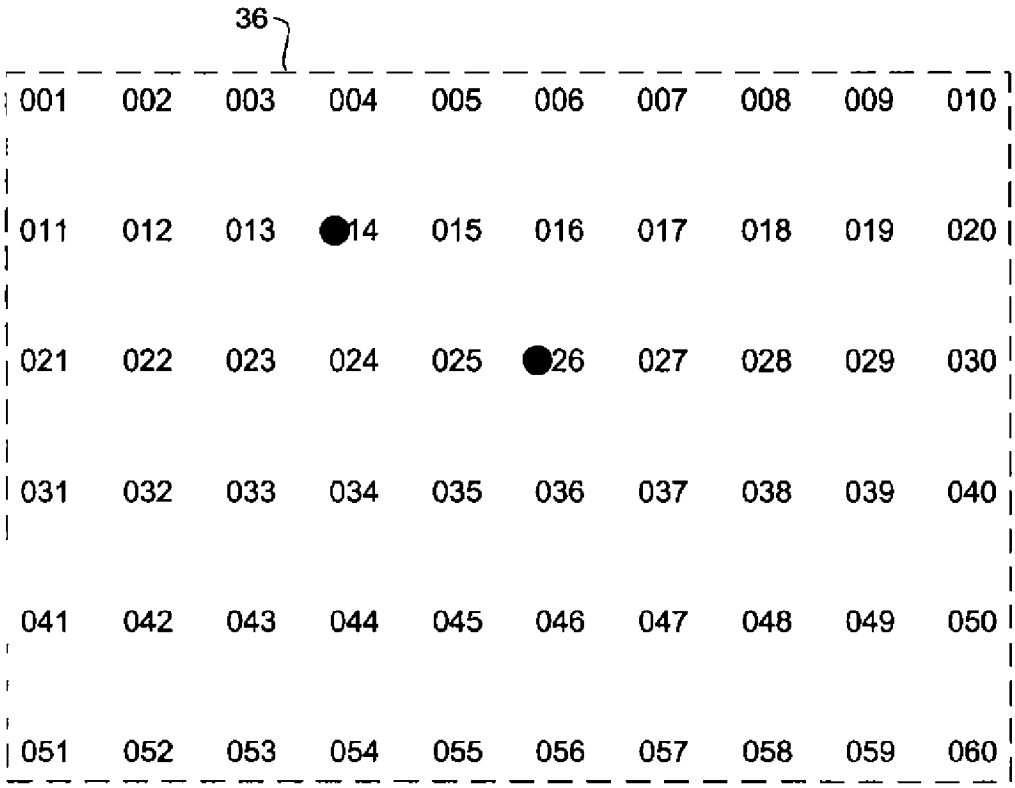
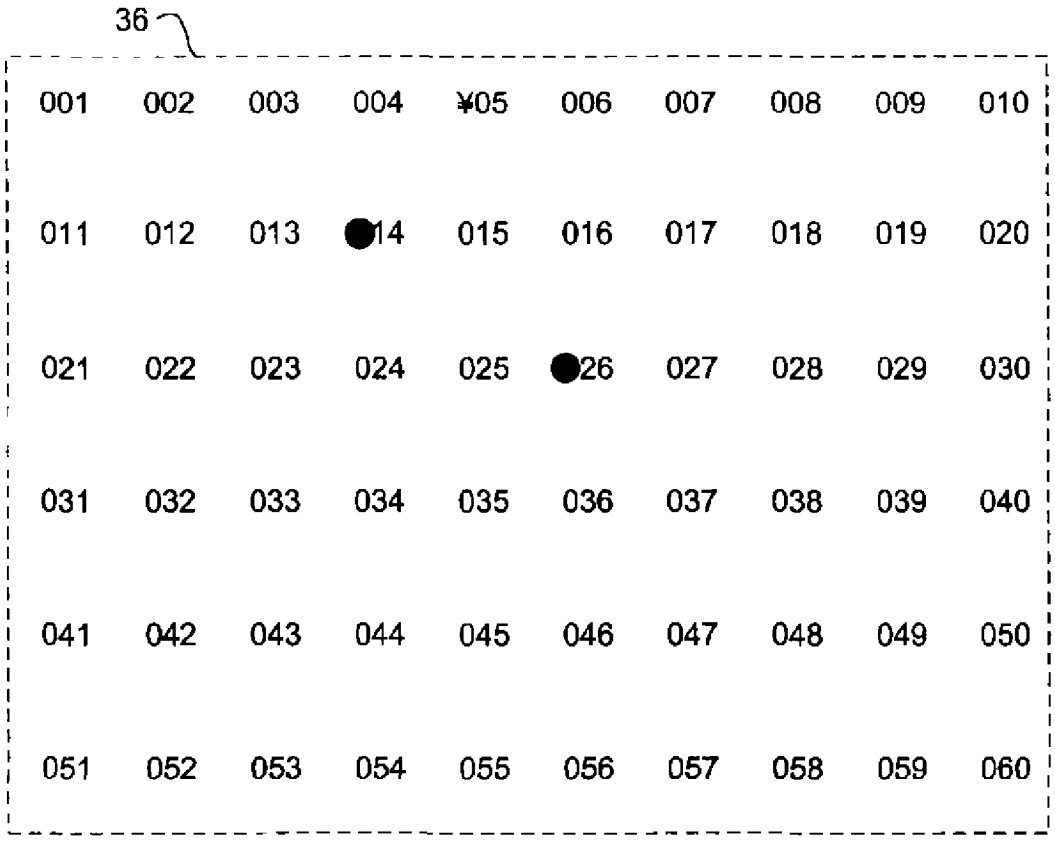

36
001 002 003 004 005 006 007 008 009 010
011 012 013 014 015 016 017 018 019 020
021 022 023 024 025 026 027 028 029 030
031 032 033 034 035 036 037 038 039 040
041 042 043 044 045 046 047 048 049 050
051 052 053 054 055 056 057 058 059 060

Fig. 2a



There is only one Internet server in range of client 5.

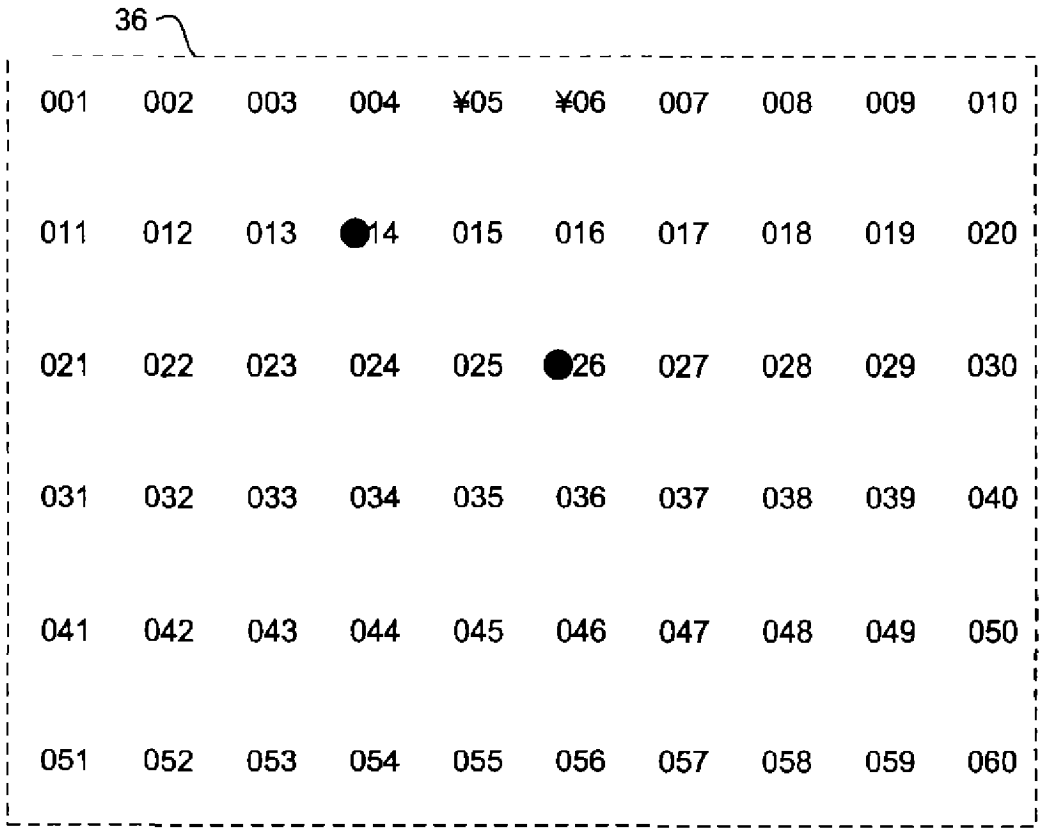
5 will issue an "I am alive" packet seeking a route to the Internet

Internet server 14 will respond and add user client 5 to its routing table as its left son.

The updated routing table of Internet server 14 is 14(05).

The route from user client 5 to the Internet is 05>14

Fig. 2b



There is only one user client in range of client 6

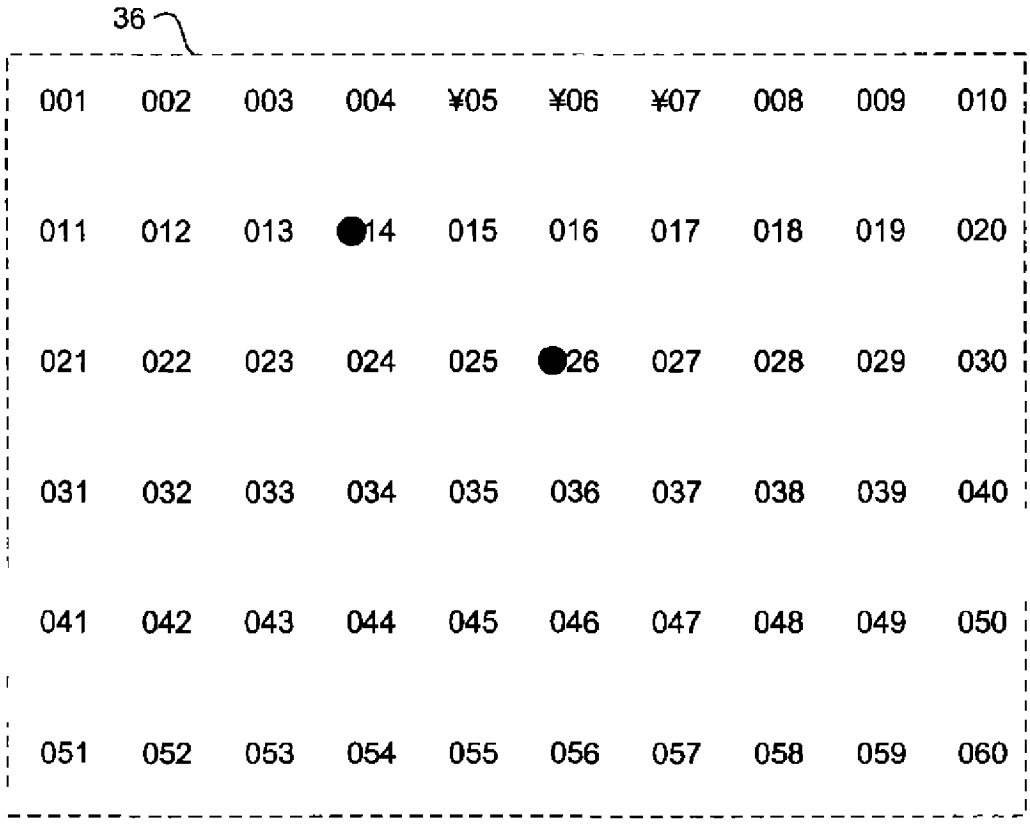
6 will issue an "I am alive" packet seeking a client repeater route to the Internet

5 will respond and add 6 to its routing table as its left son

The updated routing table of Internet server 14 is.
14(05(06))

The route from user client 6 to the Internet is 06>05>14

Fig. 2c



There is only one user client in range of client 7

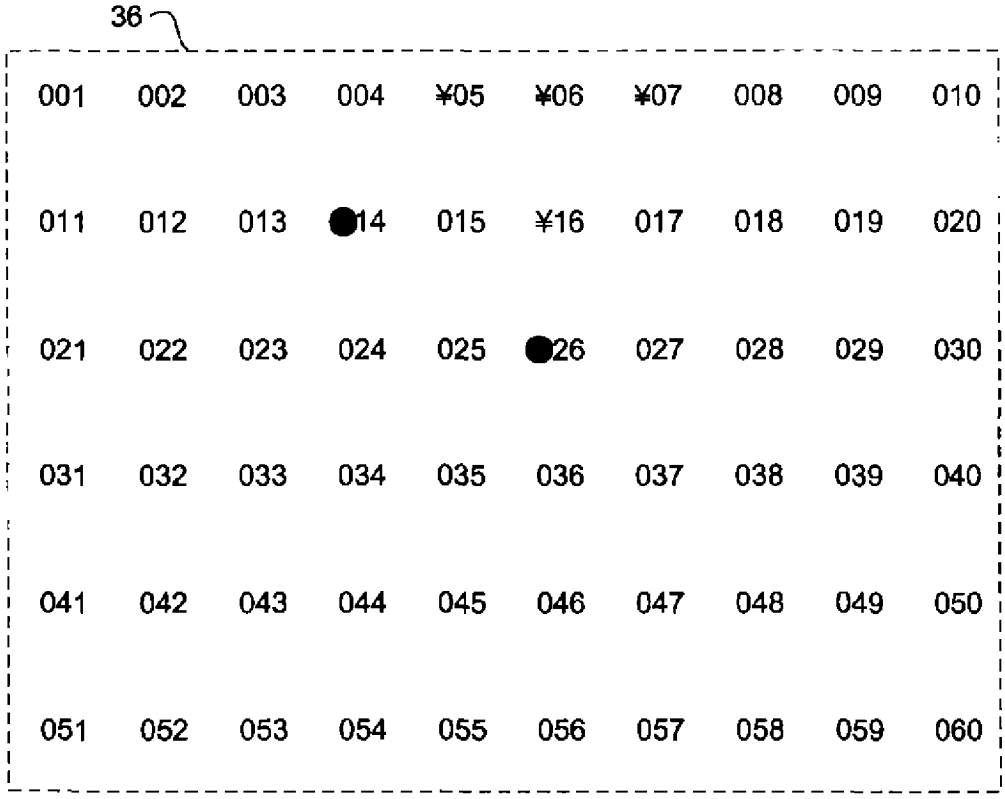
7 will issue an "I am alive" packet seeking a client repeater route to the Internet

6 will respond and add 7 to its routing table as its left son

The updated routing table of Internet server 14 is. 14(05(06(07))).

The route from user client 7 to the Internet is: 07>06>05>14

Fig. 2d



There is only one Internet server in range of client 16

16 will issue an "I am alive" packet seeking a route to the Internet.

Internet server 26 will respond and add user client 16 to its routing table as its left son

The updated routing table of Internet server 26 is 26(16).

The route from user client 16 to the Internet is. 16>26

Fig. 2e

Server 14 = 14(05(06))
Server 26 = 26(16(07))

Client 05 = 05(06); >14
Client 06 = 06; >05>14
Client 07 = 07; >16>26
Client 16 = 16(07); >26

In a universe of 6 nodes, of which 2 are servers, the average hop distance from a client to an Internet server is 1.5.

Fig. 2f

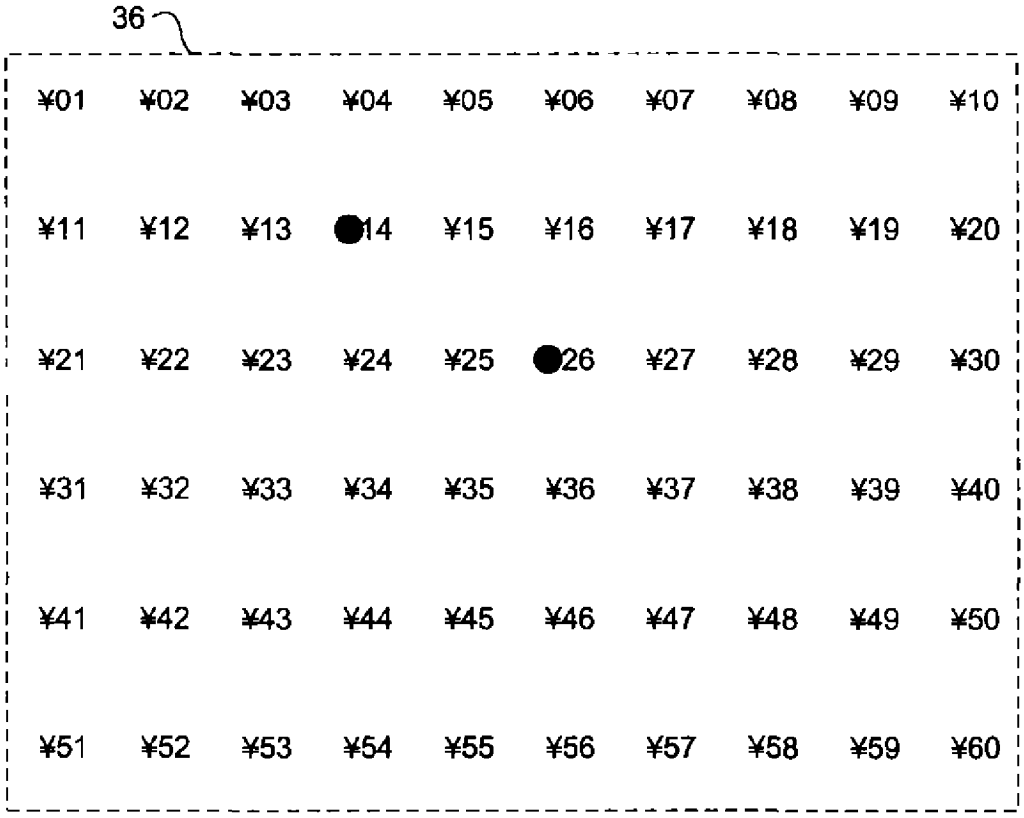

36
¥01 ¥02 ¥03 ¥04 ¥05 ¥06 ¥07 ¥08 ¥09 ¥10
¥11 ¥12 ¥13 ¥14 ¥15 ¥16 ¥17 ¥18 ¥19 ¥20
¥21 ¥22 ¥23 ¥24 ¥25 ¥26 ¥27 ¥28 ¥29 ¥30
¥31 ¥32 ¥33 ¥34 ¥35 ¥36 ¥37 ¥38 ¥39 ¥40
¥41 ¥42 ¥43 ¥44 ¥45 ¥46 ¥47 ¥48 ¥49 ¥50
¥51 ¥52 ¥53 ¥54 ¥55 ¥56 ¥57 ¥58 ¥59 ¥60

Fig. 2g

Server 14 =
14(24(34),23(32(41(51),42(52)),33(43)),13(22(31)),05(06),
04,03(02(11),12(01,21)))

Server 26 =
26(37(48(59(60),49(50),58),38(39(40)),28(29(30)),47(57)),
36(46(56)),35(44(53,54),45(55)),27(18(19(20))),25,
17(08(09(10)),07),16,15)

Client 01 = 01; >12>03>14
Client 02 = 02(11), >03>14
Client 03 = 03(02(11),12(01,21)); >14
Client 04 = 04; >14
Client 05 = 05(06); >14
Client 06 = 06; >05>14
Client 07 = 07; >17>26
Client 08 = 08(09(10)), >17>26
Client 09 = 09(10); >08>17>26
Client 10 = 10; >09>08>17>26
Client 11 = 11; >02>03>14
Client 12 = 12(01,21); >03>14
Client 13 = 13(22(31)); >14
Client 15 = 15; >26
Client 16 = 16, >26
Client 17 = 17(08(09(10)),07); >26
Client 18 = 18(19(20)), >27>26
Client 19 = 19(20), >18>27>26
Client 20 = 20; >19>18>27>26
Client 21 = 21, >12>03>14
Client 22 = 22(31); >13>14
Client 23 = 23(32(41(51),42(52)),33(43)); >14
Client 24 = 24(34); >14
Client 25 = 25; >26
Client 27 = 27(18(19(20))), >26
Client 28 = 28(29(30)),>37>26
Client 29 = 29(30);>28>37>26
Client 30 = 30,>29>28>37>26
Client 31 = 31;>22>13>14

Fig. 2h'

Client 32 = 32(41(51),42(52)); >23>14
Client 33 = 33(43),>23>14
Client 34 = 34,>24>14
Client 35 = 35(44(53,54),45(55));>26
Client 36 = 36(46(56)),>26
Client 37 = 37(48(59(60),49(50),58),38(39(40)),
28(29(30)),47(57));>26
Client 38 = 38(39(40)),>37>26
Client 39 = 39(40);>38>37>26
Client 40 = 40;>39>38>37>26
Client 41 = 41(51);>32>23>14
Client 42 = 42(52);>32>23>14
Client 43 = 43;>33>23>14
Client 44 = 44(53,54),>35>26
Client 45 = 45(55),>35>26
Client 46 = 46(56);>36>26
Client 47 = 47(57),>37>26
Client 48 = 48(59(60),49(50),58);>37>26
Client 49 = 49(50);>48>37>26
Client 50 = 50;>49>48>37>26
Client 51 = 51;>41>32>23>14
Client 52 = 52;>42>32>23>14
Client 53 = 53;>44>35>26
Client 54 = 54;>44>35>26
Client 55 = 55;>45>35>26
Client 56 = 56;>46>36>26
Client 57 = 57,>47>37>26
Client 58 = 58;>48>37>26
Client 59 = 59(60),>48>37>26
Client 60 = 60,>59>48>37>26

In a universe of 60 nodes, of which 2 are servers, the average hop distance from a client to an Internet server is 2 36206897.

Fig. 2h"

Traversing user client universe

User client, 9, has 5 user client neighbors.

User client, 9, will probe each for the shortest route to the Internet.
9's current route to the Internet is: nonexistant.

9 is now probing 10.
User client, 9, has no Internet server
9's current route to the Internet is: nonexistant.

9 is now probing 20.
User client, 9, has no Internet server.
9's current route to the Internet is: nonexistant.

9 is now probing 19.
User client, 9, has no Internet server.
9's current route to the Internet is: nonexistant

9 is now probing 18.
User client, 9, has no Internet server.
9's current route to the Internet is: nonexistant.

9 is now probing 8
User client 8 will add 9 to its routing table as its left son

The updated routing table of Internet server 14 is:
14(05(06(07(08(09)))),04,03).

The route from user client 9 to the Internet is:
09>08>07>06>05>14.

Fig. 2i

Traversing user client universe .

User client, 29, has 8 user client neighbors.

User client, 29, will probe each for the shortest route to the Internet.
29's current route to the Internet is: nonexistant.

29 is now probing 19
User client 19 will add 29 to its routing table as its left son.

The updated routing table of Internet server 14 is.
14(24,23,13,05(06(07(08(18(28),09(19(29),10(20)))))),
04,03(12(22,21)))

The route from user client 29 to the Internet is:
29>19>09>08>07>06>05>14.

Fig. 2j

Traversing user client universe . . .

User client, 7, has 5 user client neighbors.

User client, 7, will probe each for the shortest route to the Internet
7's current route to the Internet is: 07>06>05>14

7 is now probing 8.
7's current route to the Internet is: 07>06>05>14

7 is now probing 18.
7's current route to the Internet is: 07>06>05>14

7 is now probing 17
User client, 7, has probed its neighbor, user client, 17, and found a shorter path to the Internet.

The old routing table of Internet server, 14, is.
14(24(34(44(54))),23(33(43(53))),13,05(06(07(08(18(28(38(48(58)))),
09(19(29(39(49(59)))),10(20(30(40(50(60)))))))))),04,03(02,12(01,
22(32(42(52))),21(31(41(51))))))

The updated routing table of Internet server, 26, is:
26(37(47(57)),36(46(56)),35(45(55)),27,25,17(07(08(18(28(38
(48(58)))),09(19(29(39(49(59)))),10(20(30(40(50(60)))))))))),16,15).

The route from user client, 7, to the Internet is: 07>17>26.
7's current route to the Internet is 07>17>26.

7 is now probing 16.
7's current route to the Internet is: 07>17>26.

7 is now probing 6.
7's final route is 07>17>26

Fig. 2k

Traversing user client universe . ..

User client, 8, has 5 user client neighbors.

User client, 8, will probe each for the shortest route to the Internet.
8's current route to the Internet is 08>07>17>26.

8 is now probing 9.
8's current route to the Internet is· 08>07>17>26

8 is now probing 19.
8's current route to the Internet is. 08>07>17>26

8 is now probing 18.
8's current route to the Internet is. 08>07>17>26.

8 is now probing 17.
User client, 8, has probed its neighbor, user client, 17, and found a shorter path to the Internet.

The old routing table of Internet server, 26, is.
26(37(47(57)),36(46(56)),35(45(55)),27,25,17(07(08(18(28(38(48(58)))),09(19(29(39(49(59)))),10(20(30(40(50(60)))))))),16,15).

The updated routing table of Internet server, 26, is
26(37(47(57)),36(46(56)),35(45(55)),27,25,17(08(18(28(38(48(58)))),09(19(29(39(49(59)))),10(20(30(40(50(60)))))))),07),16,15).

The route from user client, 8, to the Internet is 08>17>26.
8's current route to the Internet is: 08>17>26.

8 is now probing 7.
8's final route is 08>17>26.

Fig. 2I

Traversing user client universe .

User client, 18, has 8 user client neighbors

User client, 18, will probe each for the shortest route to the Internet.
18's current route to the Internet is: 18>08>17>26.

18 is now probing 8
18's current route to the Internet is 18>08>17>26

18 is now probing 9.
18's current route to the Internet is: 18>08>17>26.

18 is now probing 19.
18's current route to the Internet is: 18>08>17>26.

18 is now probing 29.
18's current route to the Internet is: 18>08>17>26

18 is now probing 28.
18's current route to the Internet is: 18>08>17>26.

18 is now probing 27.
User client, 18, has probed its neighbor, user client, 27, and found a shorter path to the Internet
The old routing table of Internet server, 26, is.
26(37(47(57)),36(46(56)),35(45(55)),27,25,17(08(18(28(38(48(58)))),09(19(29(39(49(59)))),10(20(30(40(50(60)))))),07),16,15)

The updated routing table of Internet server, 26, is
26(37(47(57)),36(46(56)),35(45(55)),27(18(28(38(48(58))))),25,17(08(09(19(29(39(49(59)))),10(20(30(40(50(60)))))),07),16,15).

The route from user client, 18, to the Internet is: 18>27>26.
18's current route to the Internet is 18>27>26.

18 is now probing . . ..

18's final route is 18>27>26.

Fig. 2m

User client, 29, has 8 user client neighbors

User client, 29, will probe each for the shortest route to the Internet
29's current route to the Internet is 29>19>18>27>26

29 is now probing 19
29's current route to the Internet is 29>19>18>27>26.

29 is now probing 20
29's current route to the Internet is: 29>19>18>27>26.

29 is now probing 30.
29's current route to the Internet is: 29>19>18>27>26

29 is now probing 40
29's current route to the Internet is: 29>19>18>27>26.

29 is now probing 39.
29's current route to the Internet is 29>19>18>27>26.

29 is now probing 38.
29's current route to the Internet is: 29>19>18>27>26

29 is now probing 28.
User client, 29, has probed its neighbor, user client, 28, and found a shorter path to the Internet
The old routing table of Internet server, 26, is.
26(37(28(38(48(58))),47(57)),36(46(56)),35(45(55)),27(18(19(20(30(40(50(60)))),29(39(49(59)))))),25,17(08(09(10)),07),16,15)

The updated routing table of Internet server, 26, is:
26(37(28(29(39(49(59))),38(48(58))),47(57)),36(46(56)),35(45(55)),27(18(19(20(30(40(50(60)))))),25,17(08(09(10)),07),16,15).

The route from user client, 29, to the Internet is· 29>28>37>26.
29's current route to the Internet is. 29>28>37>26.

29 is now probing 18.
29's final route is 29>28>37>26.

Fig. 2n

Traversing user client universe . . .

User client, 44, has 8 user client neighbors.

User client, 44, will probe each for the shortest route to the Internet
44's current route to the Internet is. 44>34>24>14.

44 is now probing 34
44's current route to the Internet is: 44>34>24>14

44 is now probing 35
User client, 44, has probed its neighbor, user client, 35, and found a shorter path to the Internet.
The old routing table of Internet server, 14, is.
14(24(34(44(54))),23(32(41(51),42(52)),33(43(53))),13(22(31)),
05(06),04,03(02,12(01(11),21))).

The updated routing table of Internet server, 14, is:
14(24(34),23(32(41(51),42(52)),33(43(53))),13(22(31)),05(06),04,
03(02,12(01(11),21))).

The updated routing table of Internet server, 26, is:
26(37(38(39(40(50(60)),49(59)),48(58)),28(29(30)),47(57)),36(46
(56)),35(44(54),45(55)),27(18(19(20))),25,17(08(09(10)),07),16,15).

The route from user client, 44, to the Internet is: 44>35>26
44's current route to the Internet is· 44>28>37>26.

44 is now probing . .
.

.
44's final route is 44>35>26.

Fig. 2o

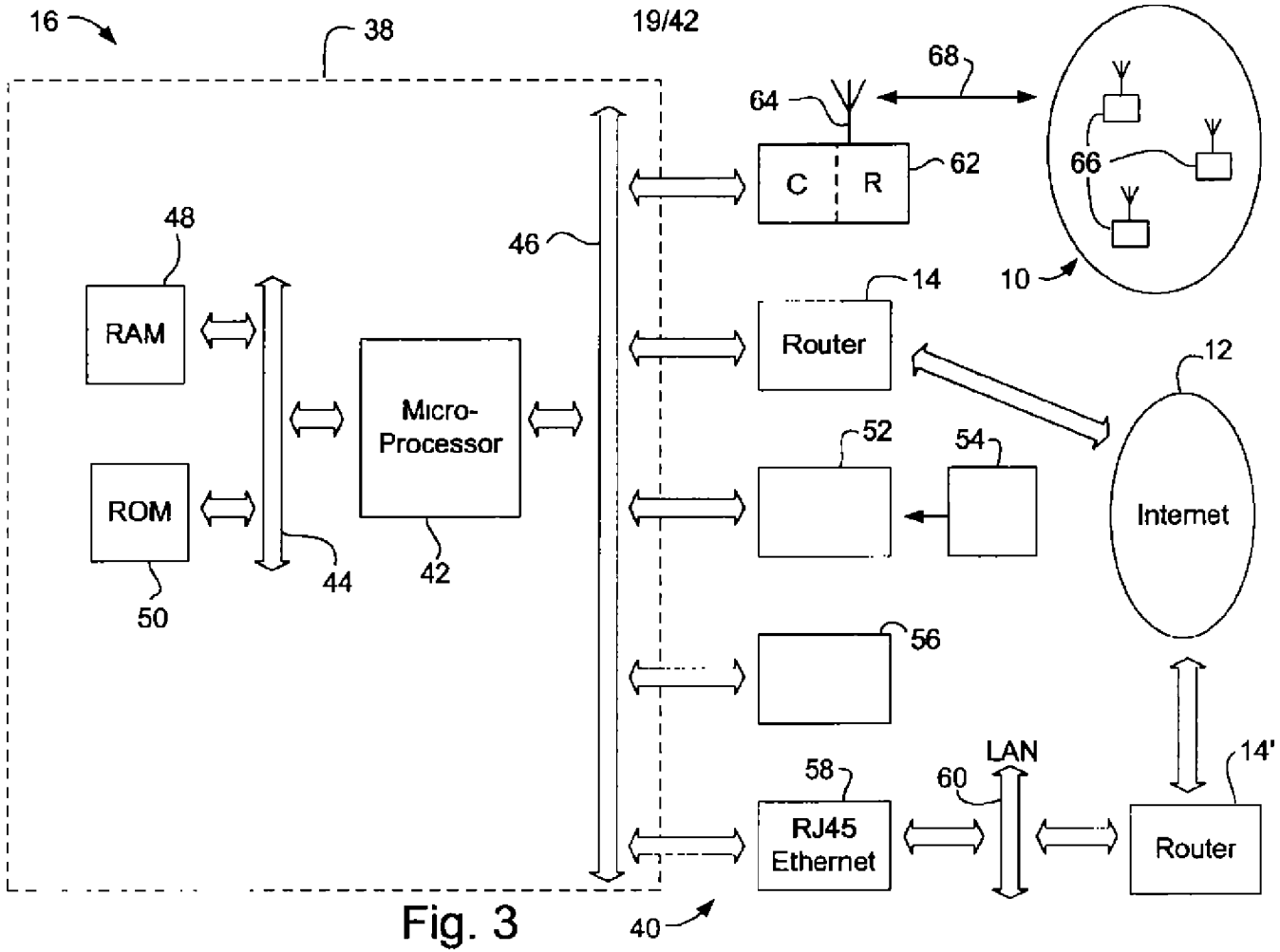

16
38
19/42
68
64
C
R
62
66
10
48
46
RAM
14
Router
12
Micro-
Processor
52
54
ROM
Internet
44
42
50
56
LAN
58
60
14'
RJ45
Ethernet
Router
40

Fig. 3

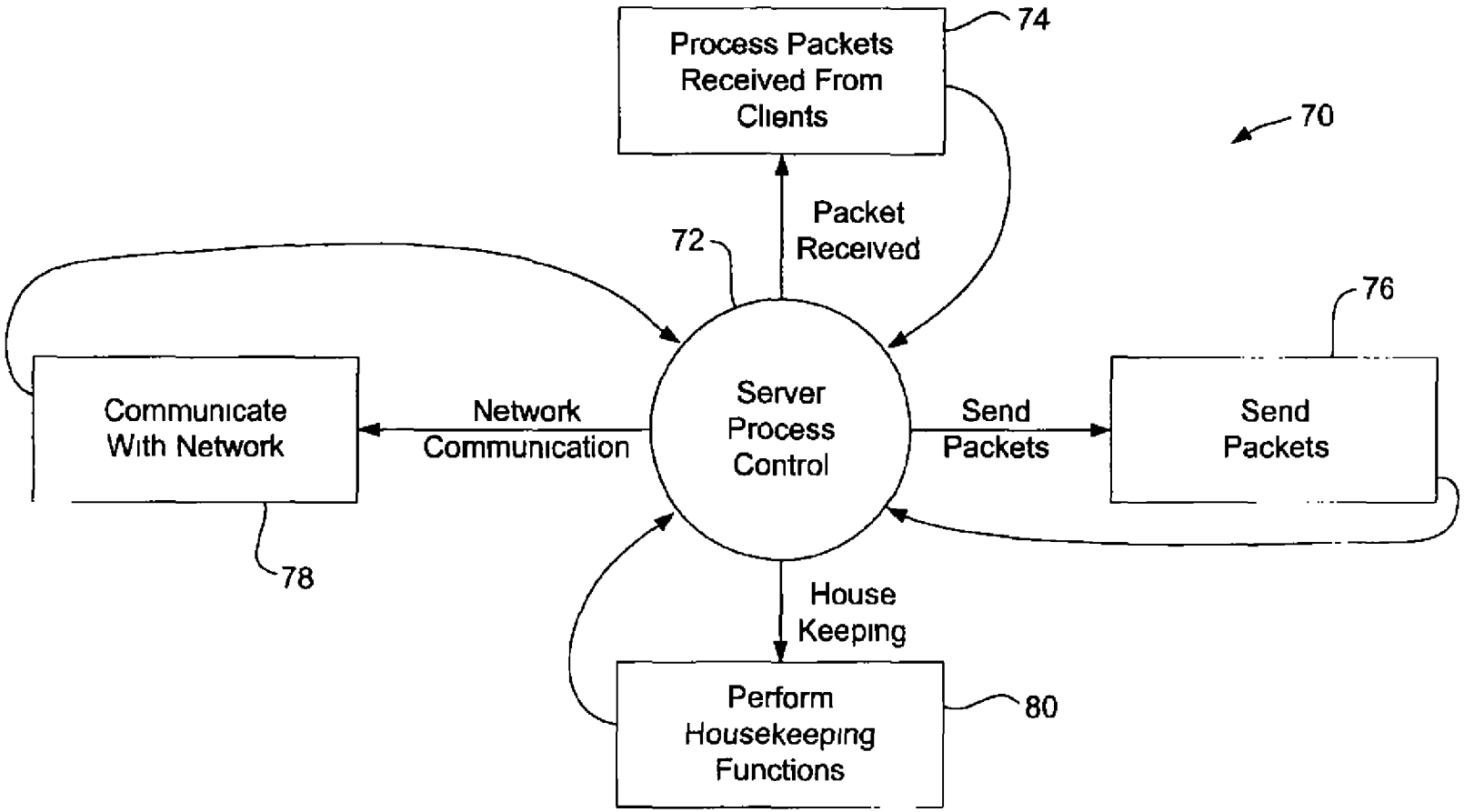

Process Packets Received From Clients
74
70
Packet Received
72
76
Communicate With Network
Network Communication
Server Process Control
Send Packets
Send Packets
78
House Keeping
Perform Housekeeping Functions
80

Fig. 4

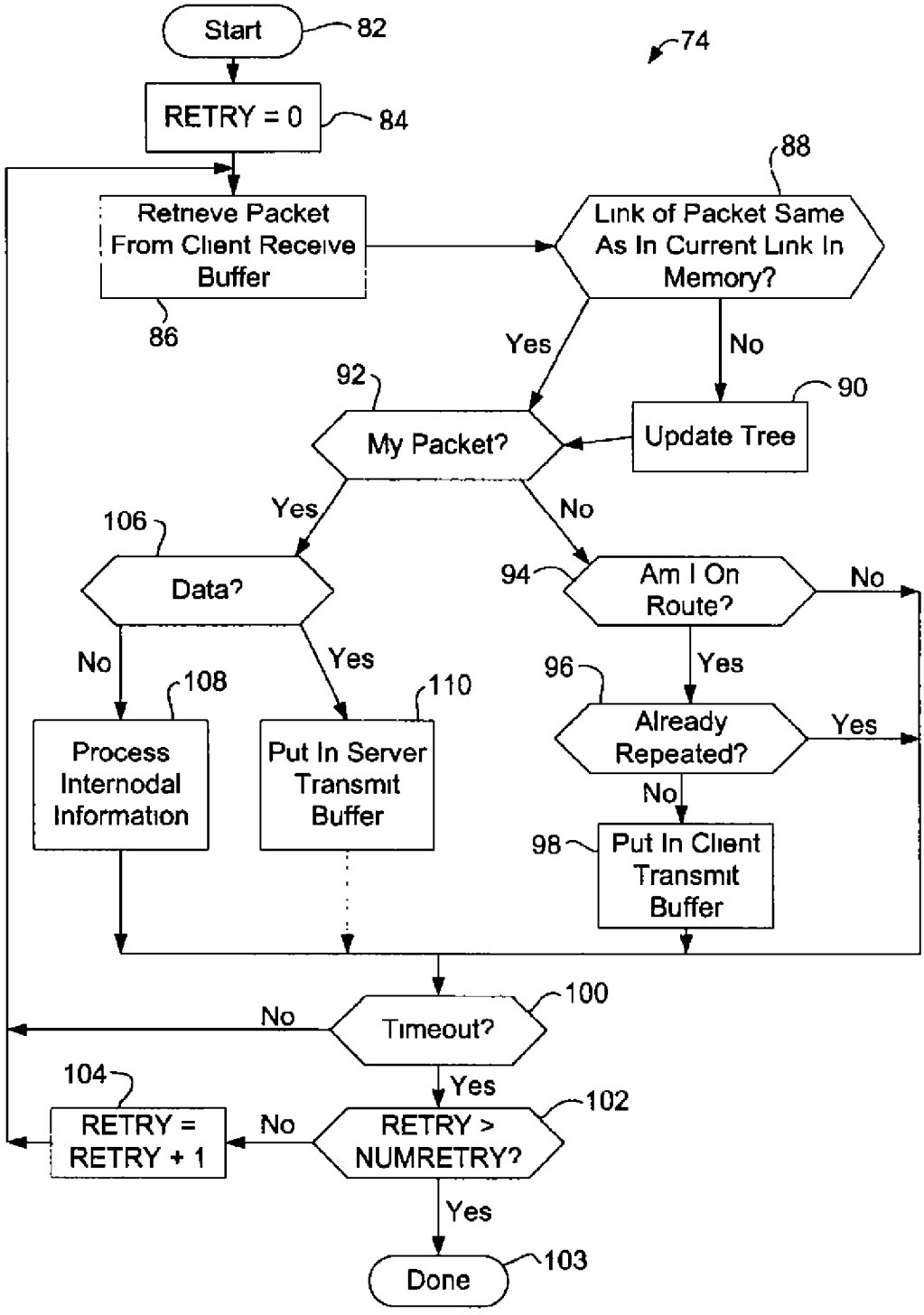

Start
82
74
RETRY = 0
84
88
Retrieve Packet From Client Receive Buffer
86
Link of Packet Same As In Current Link In Memory?
Yes
No
92
My Packet?
90
Update Tree
Yes
No
106
Data?
94
Am I On Route?
No
No
Yes
96
Yes
108
110
Process Internodal Information
Put In Server Transmit Buffer
Already Repeated?
Yes
No
98
Put In Client Transmit Buffer
100
No
Timeout?
104
Yes
102
RETRY = RETRY + 1
No
RETRY > NUMRETRY?
Yes
Done
103

Fig. 5

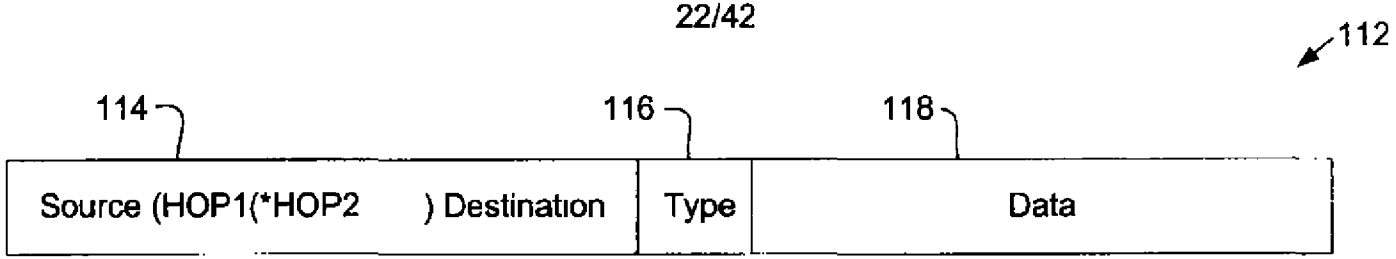


Fig. 5a

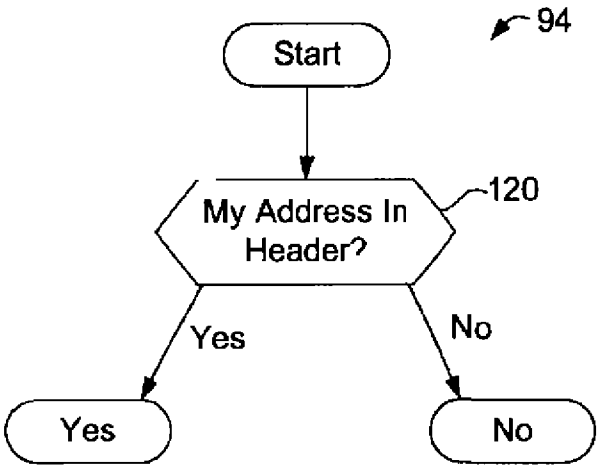


Fig. 5b

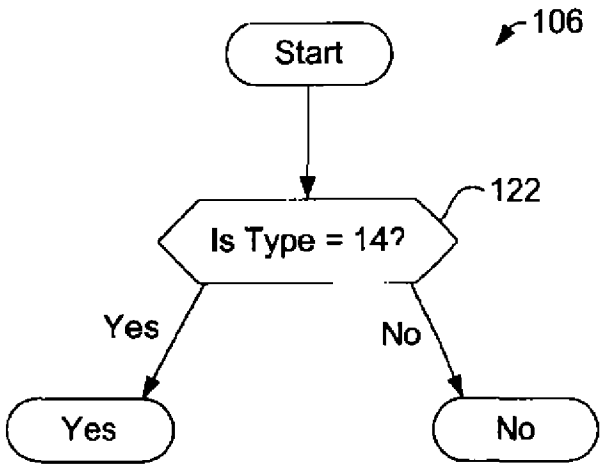


Fig. 5c

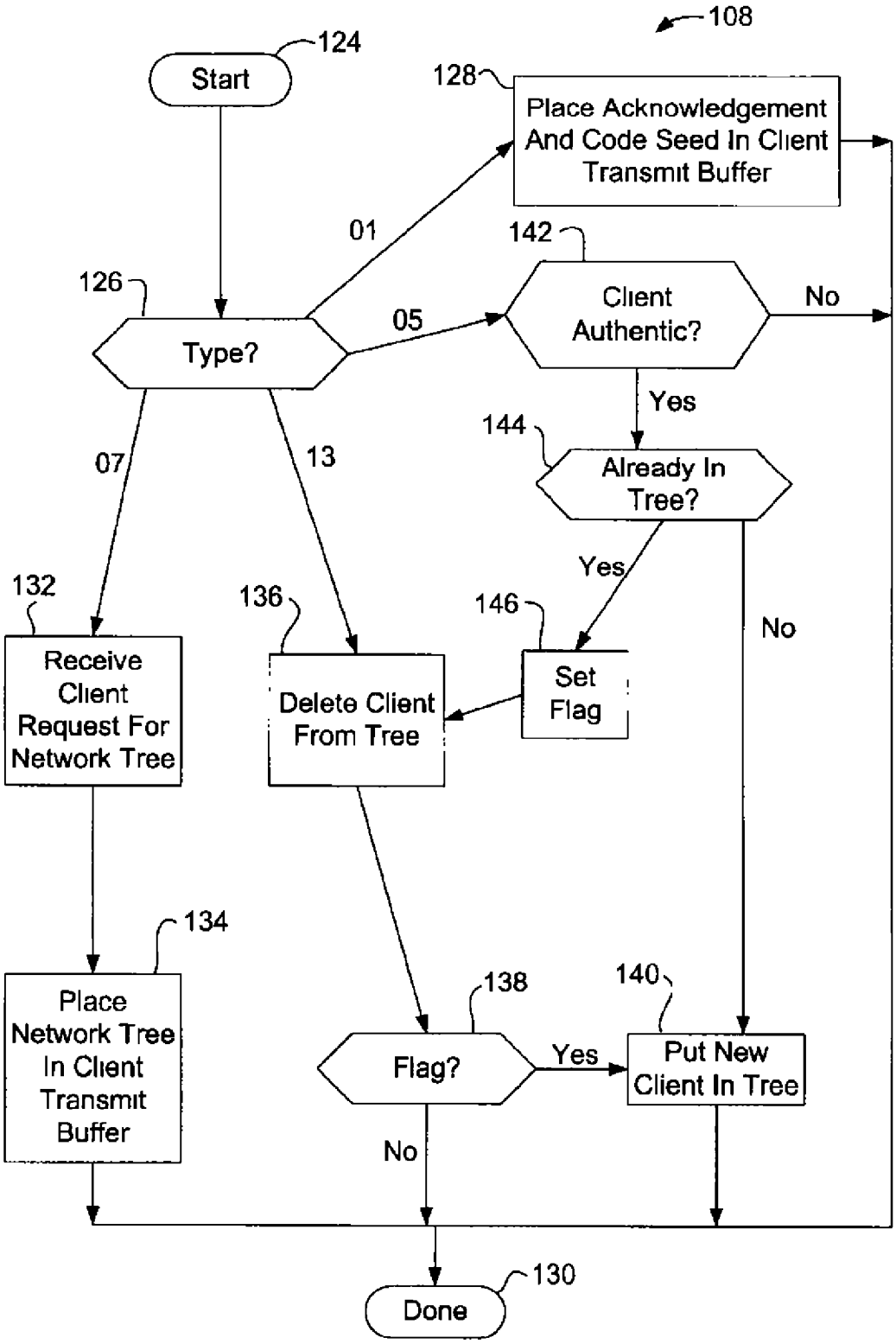

108
124
Start
128
Place Acknowledgement And Code Seed In Client Transmit Buffer
01
142
126
Client Authentic?
No
Type?
05
Yes
144
07
13
Already In Tree?
Yes
132
136
146
No
Receive Client Request For Network Tree
Delete Client From Tree
Set Flag
134
138
140
Place Network Tree In Client Transmit Buffer
Flag?
Yes
Put New Client In Tree
No
130
Done

Fig. 6

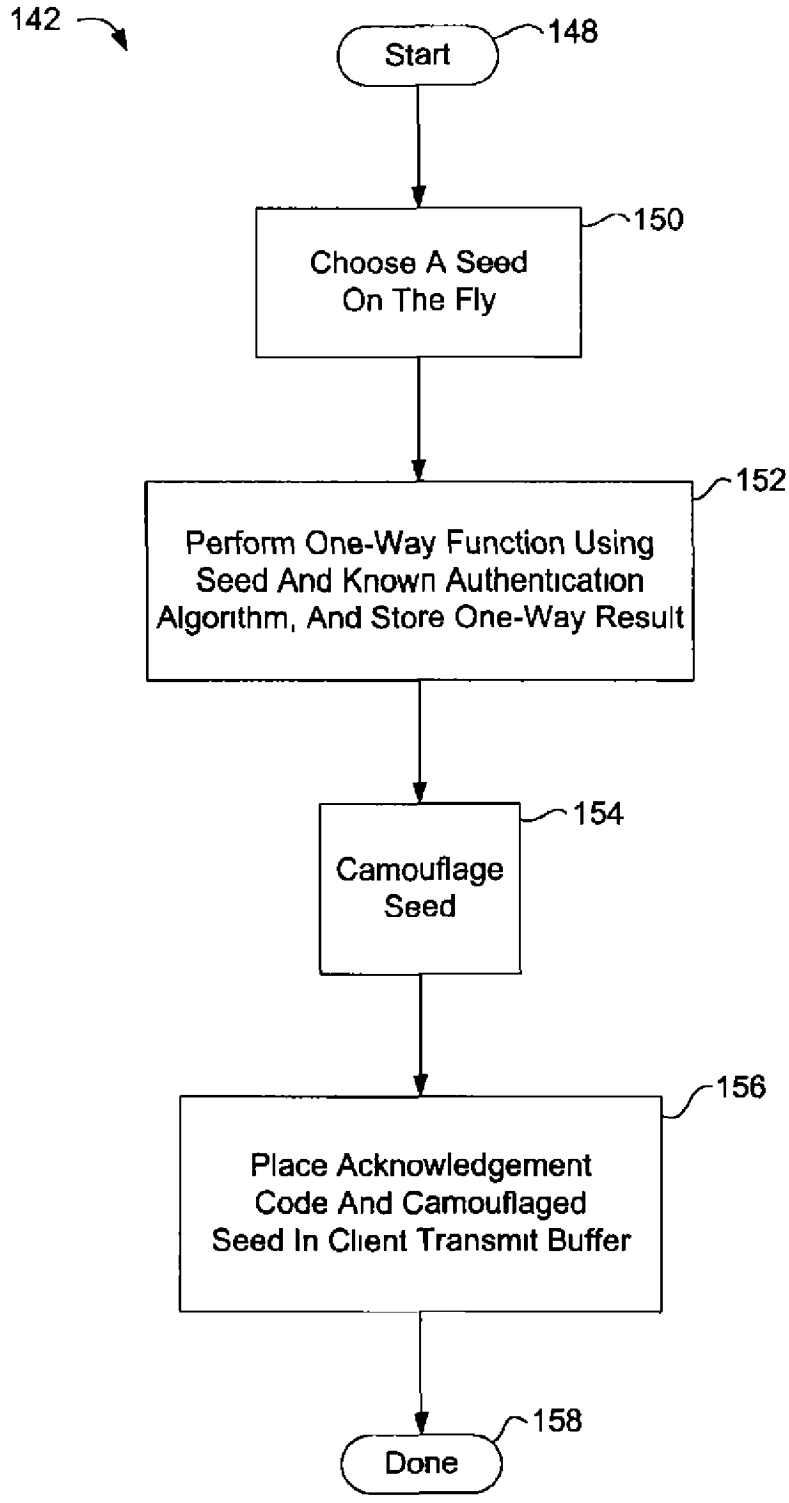

142
Start
148
Choose A Seed On The Fly
150
Perform One-Way Function Using Seed And Known Authentication Algorithm, And Store One-Way Result
152
Camouflage Seed
154
Place Acknowledgement Code And Camouflaged Seed In Client Transmit Buffer
156
Done
158

Fig. 6a

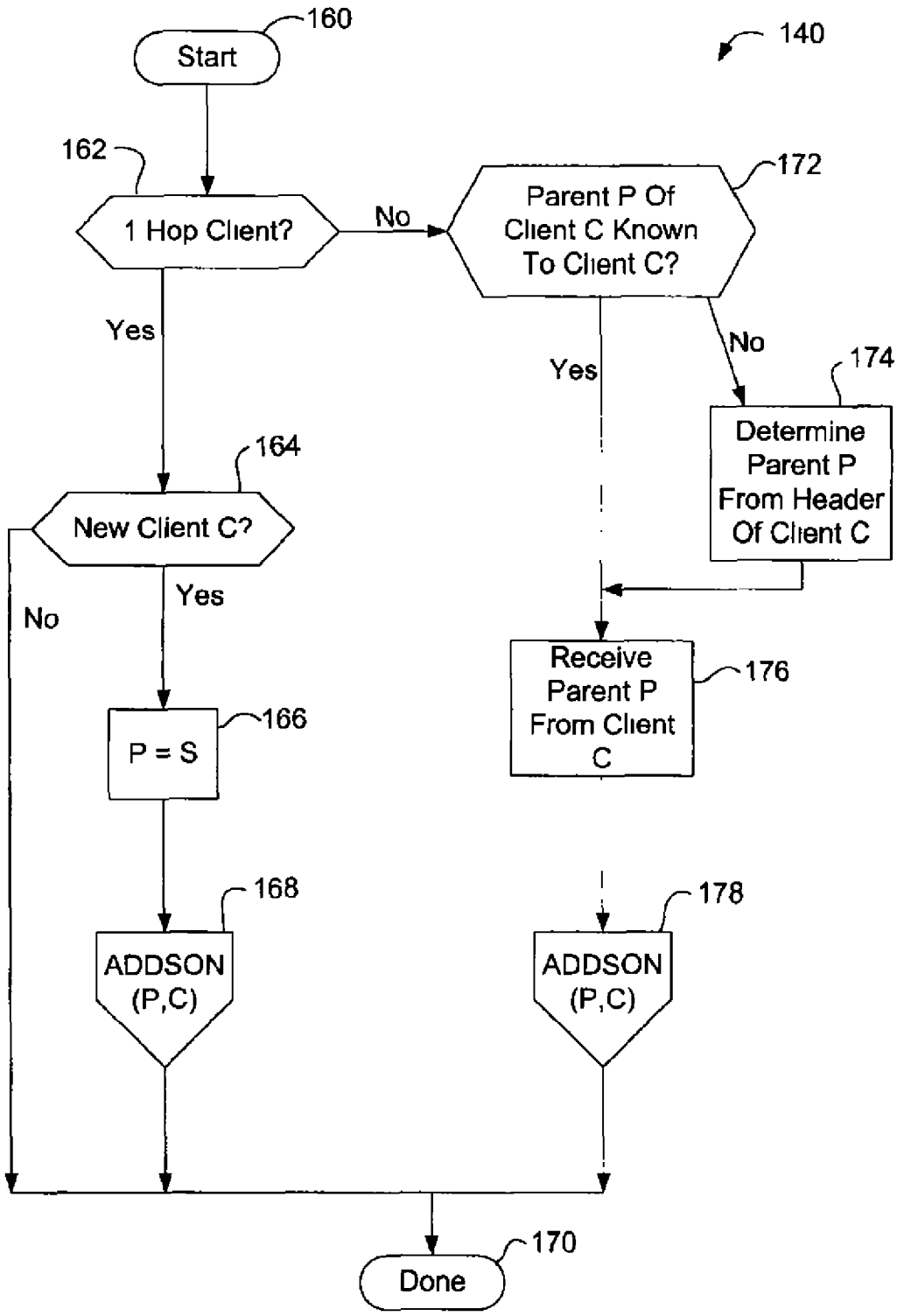

160
Start
140
162
1 Hop Client?
No
172
Parent P Of Client C Known To Client C?
Yes
No
Yes
174
Determine Parent P From Header Of Client C
164
New Client C?
Yes
No
Receive Parent P From Client C
176
P = S
166
168
ADDSON (P,C)
178
ADDSON (P,C)
170
Done

Fig. 6b

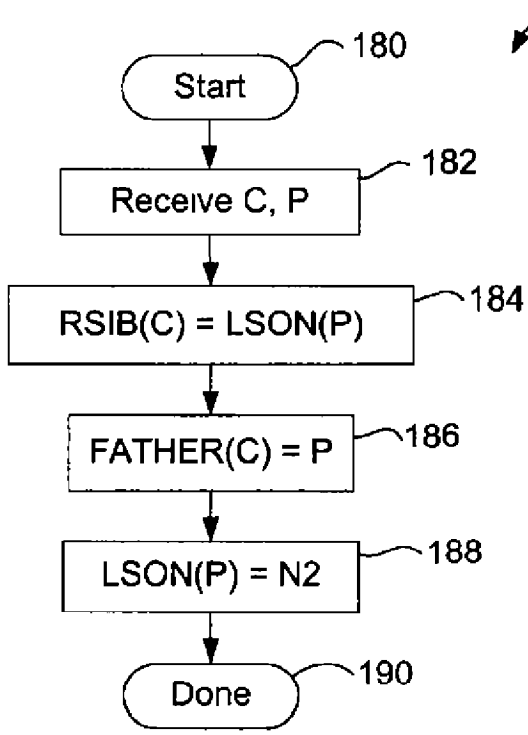


Fig. 7

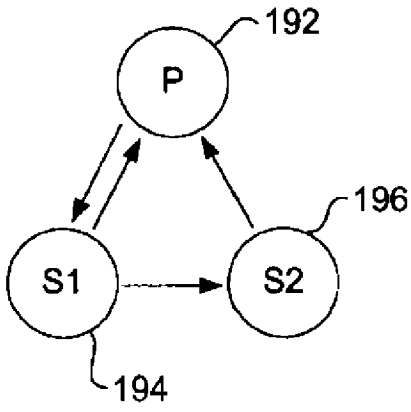


Fig. 7a

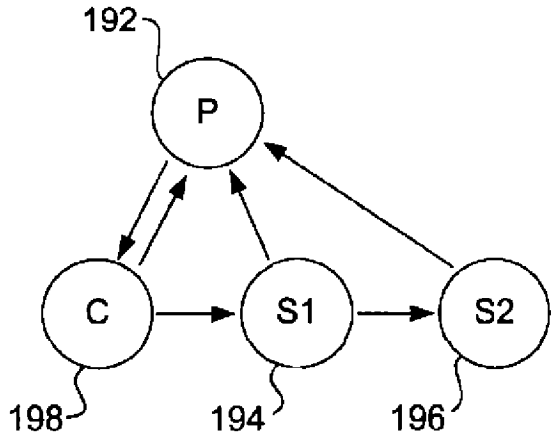


Fig. 7b

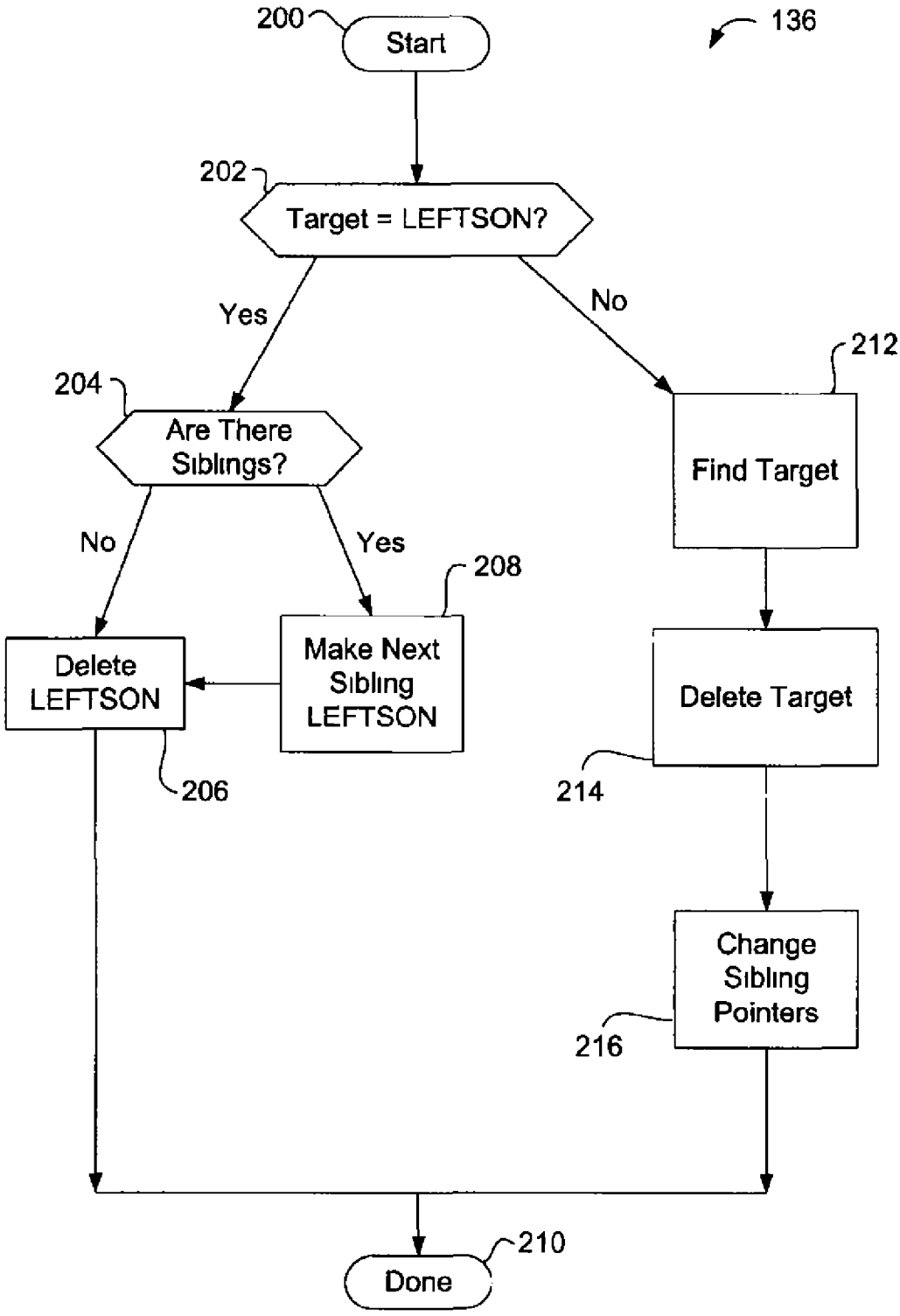

200
Start
136
202
Target = LEFTSON?
Yes
No
204
Are There Siblings?
212
Find Target
No
Yes
208
Delete LEFTSON
Make Next Sibling LEFTSON
Delete Target
206
214
Change Sibling Pointers
216
210
Done

Fig. 8