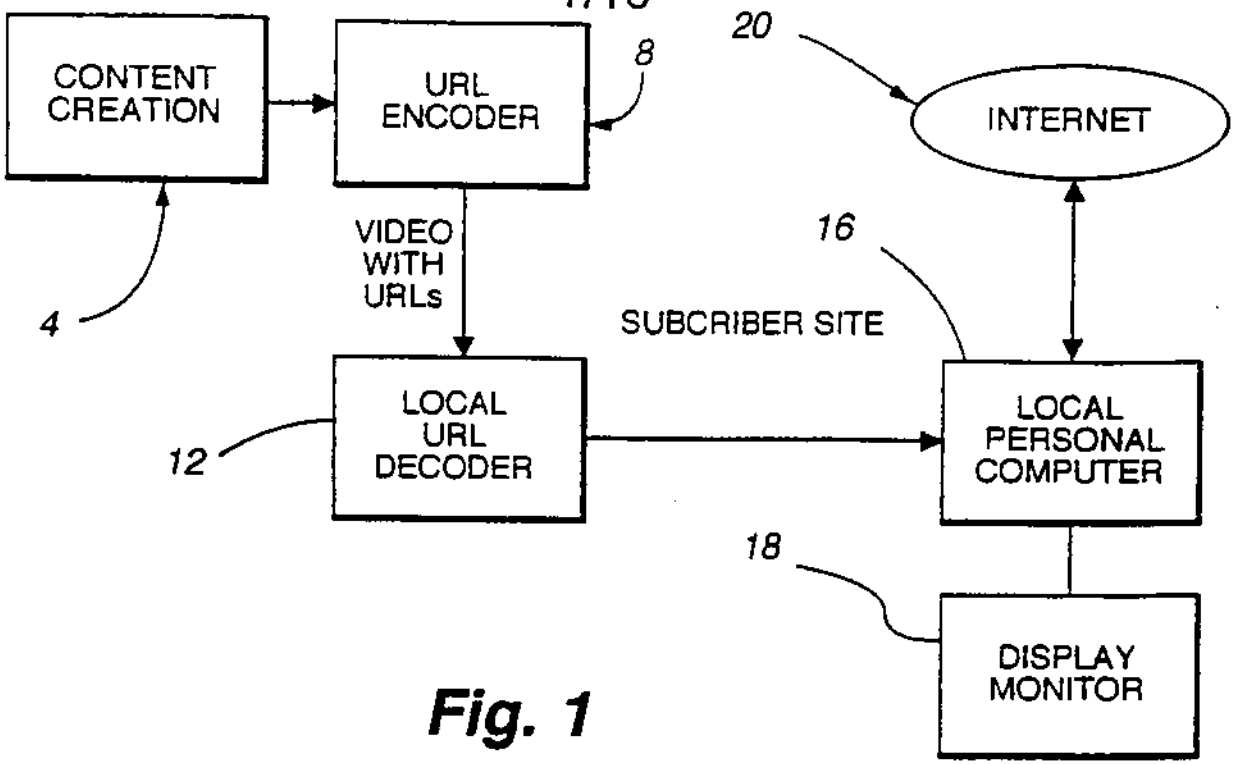

CONTENT CREATION
URL ENCODER
8
20
INTERNET
VIDEO WITH URLs
16
4
SUBCRIBER SITE
LOCAL URL DECODER
12
LOCAL PERSONAL COMPUTER
18
DISPLAY MONITOR

Fig. 1

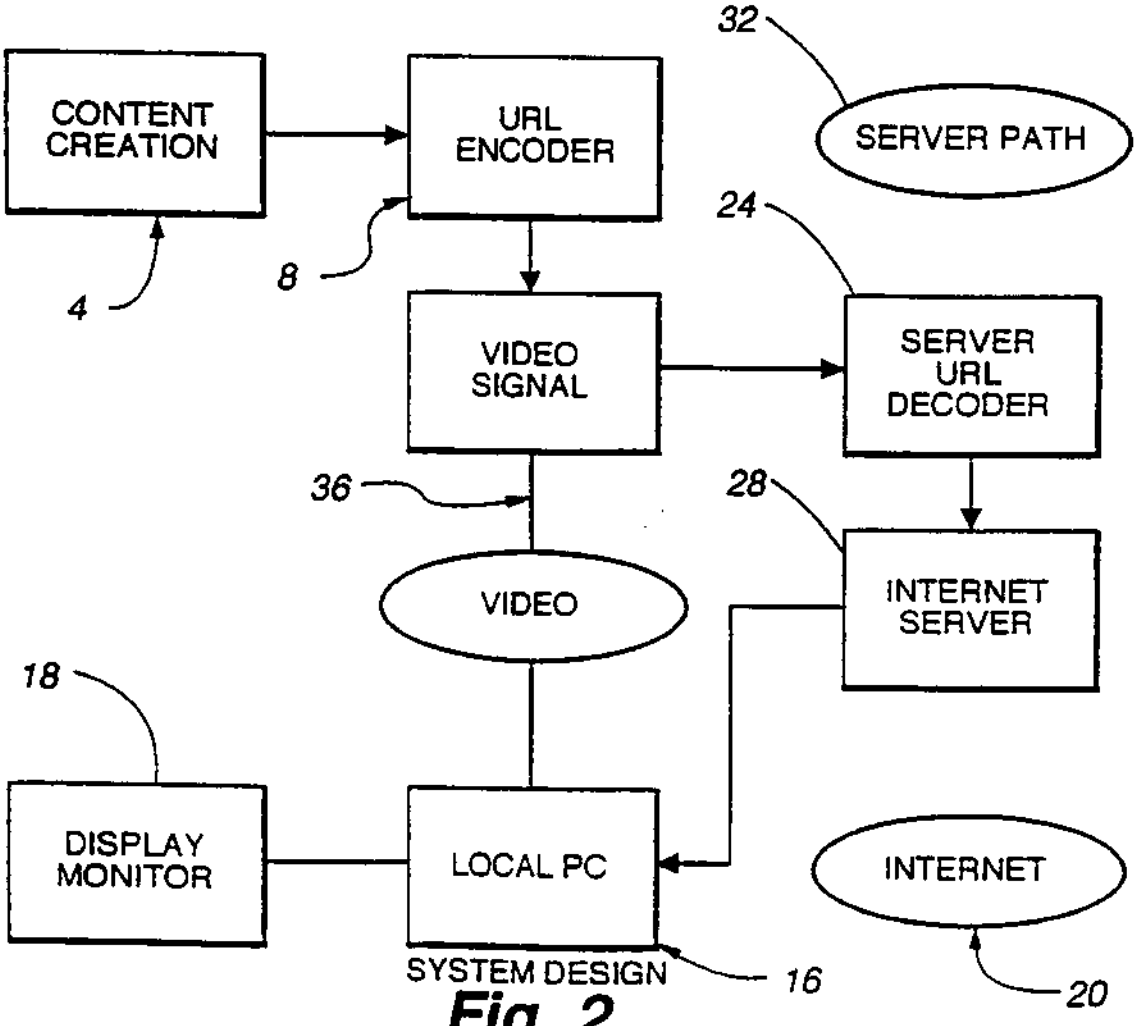
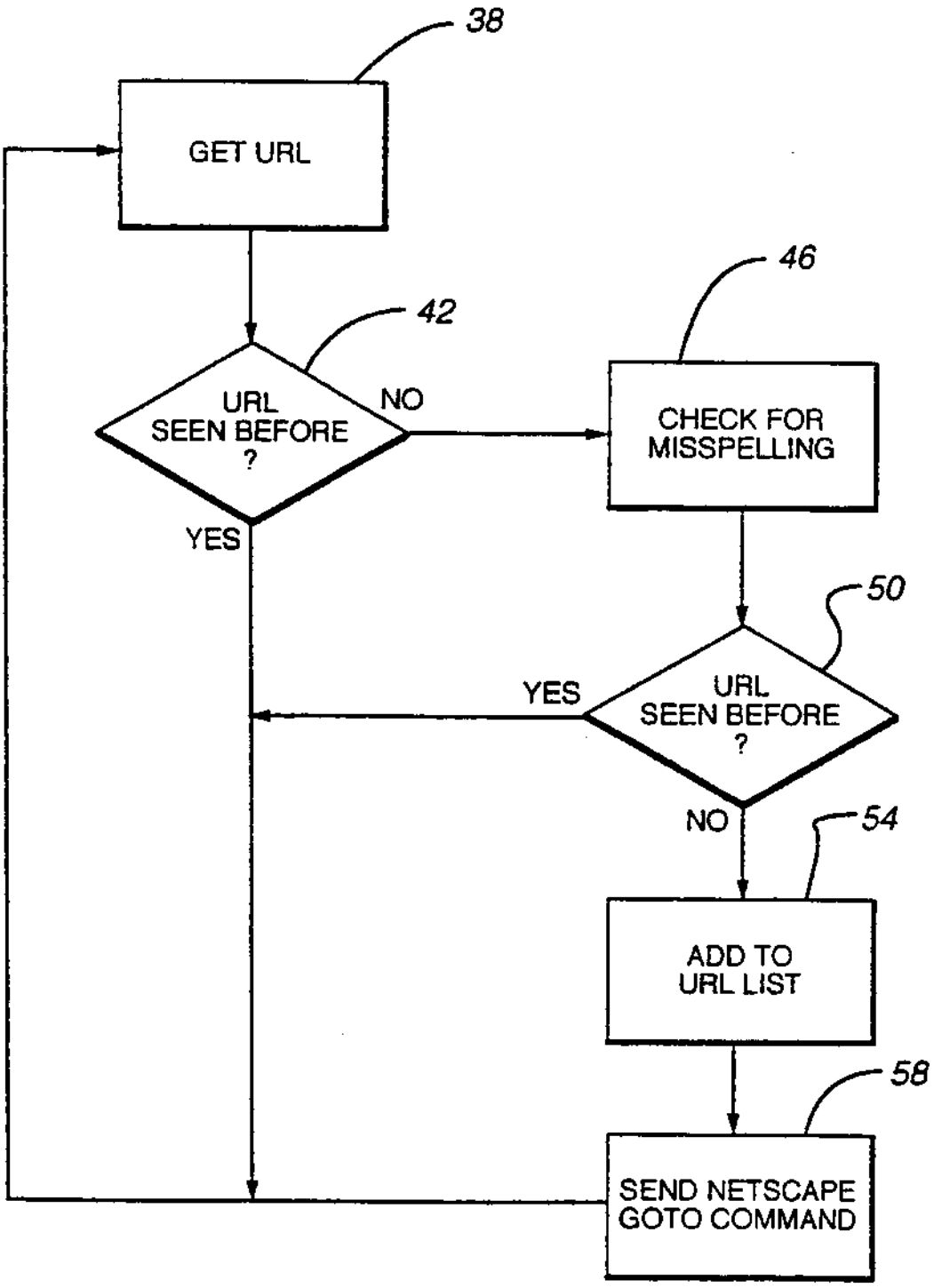

32
CONTENT CREATION
URL ENCODER
SERVER PATH
24
4
8
VIDEO SIGNAL
SERVER URL DECODER
36
28
VIDEO
INTERNET SERVER
18
DISPLAY MONITOR
LOCAL PC
INTERNET
SYSTEM DESIGN
16
20

Fig. 2



SOFTWARE DESIGN

Fig. 3

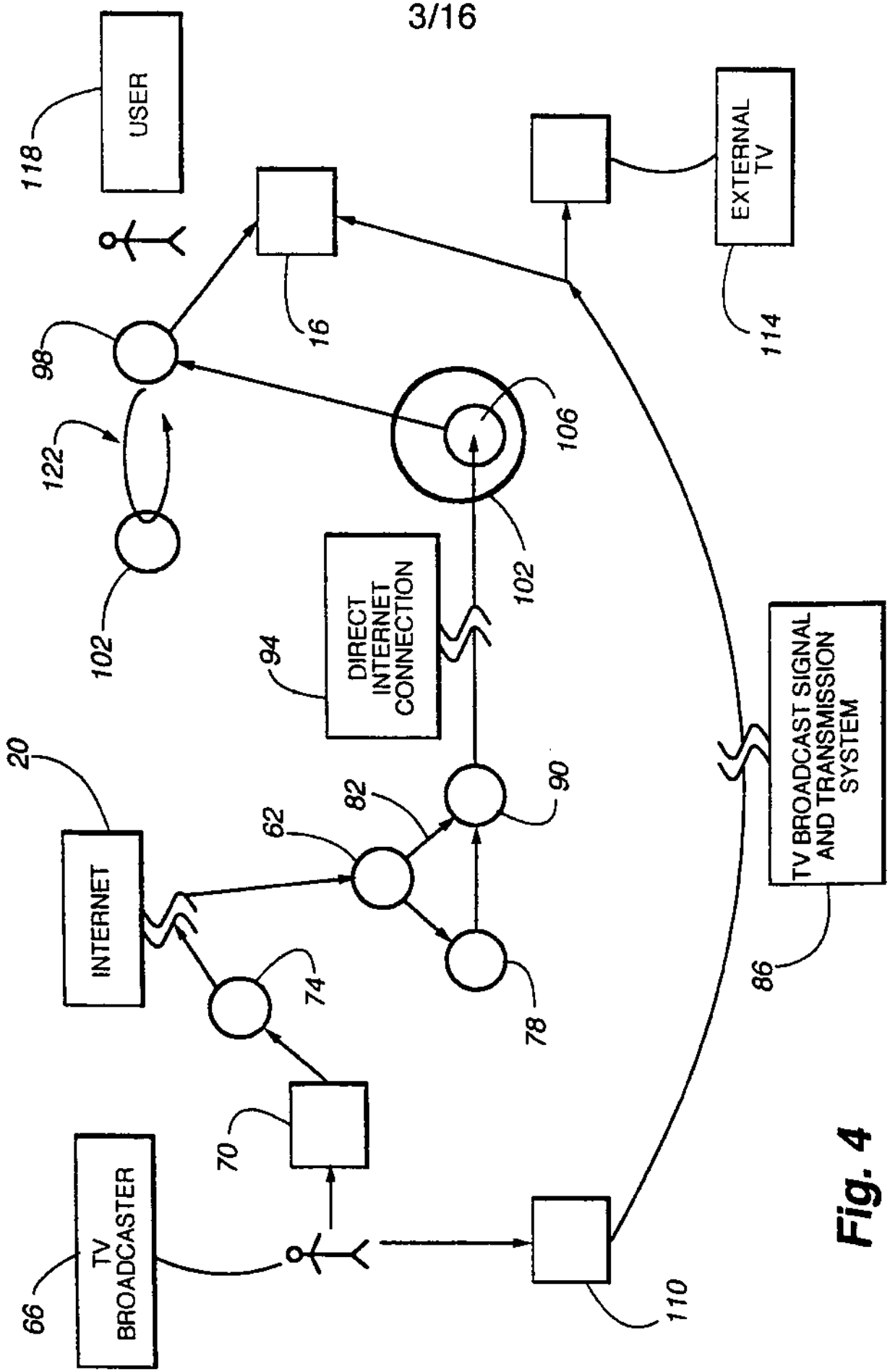

USER
118
16
98
122
102
106
102
EXTERNAL TV
114
DIRECT INTERNET CONNECTION
94
20
INTERNET
62
82
90
74
78
TV BROADCAST SIGNAL AND TRANSMISSION SYSTEM
86
70
TV BROADCASTER
66
110

Fig. 4

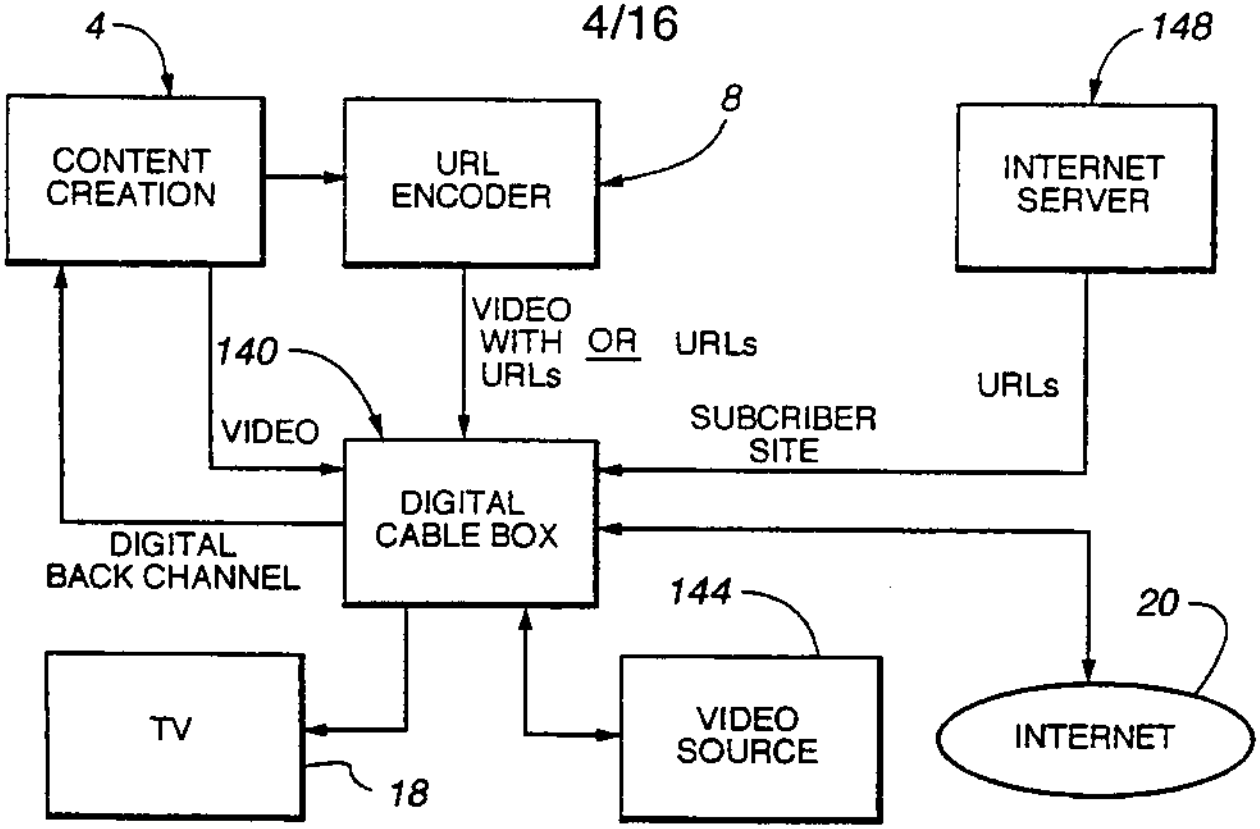

4
CONTENT CREATION
URL ENCODER
8
148
INTERNET SERVER
VIDEO WITH URLs OR URLs
140
VIDEO
URLs
SUBCRIBER SITE
DIGITAL CABLE BOX
DIGITAL BACK CHANNEL
144
20
TV
VIDEO SOURCE
INTERNET
18

Fig. 5

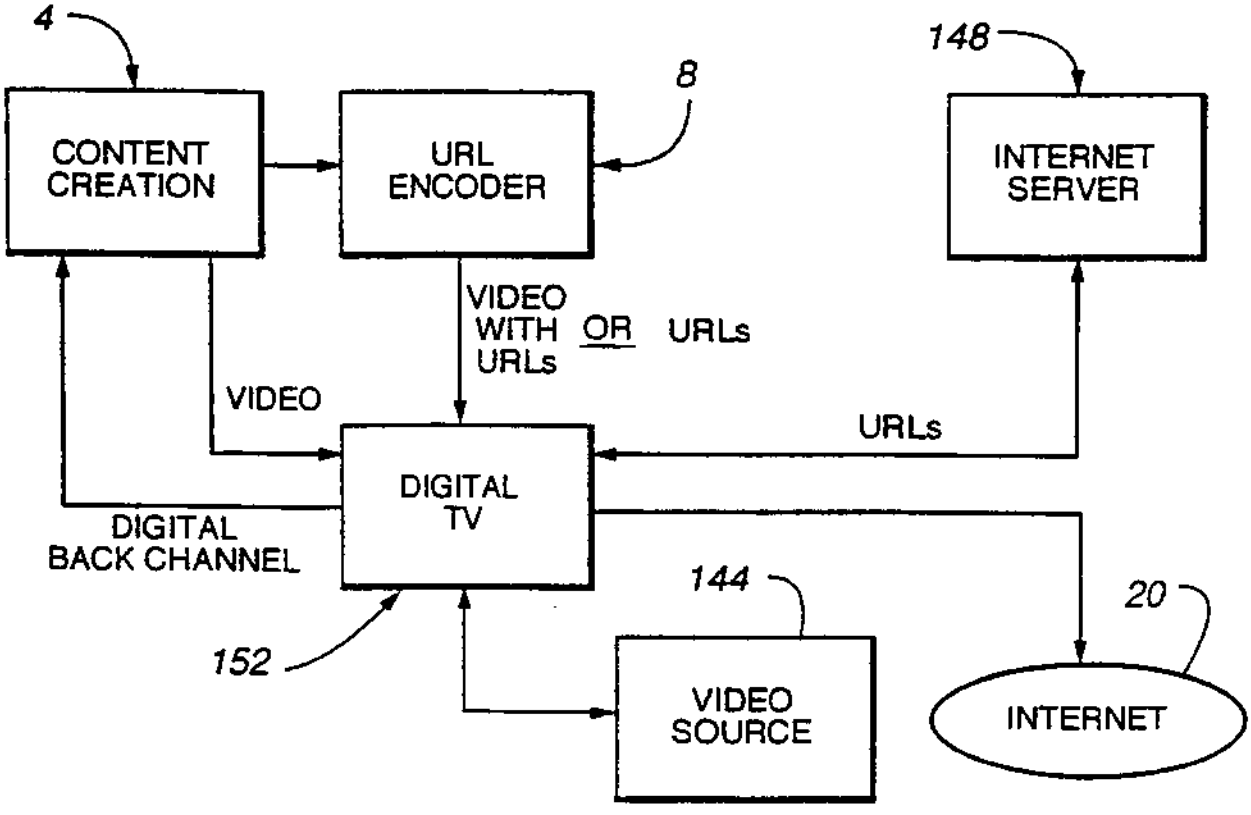

4
CONTENT CREATION
URL ENCODER
8
148
INTERNET SERVER
VIDEO WITH URLs OR URLs
VIDEO
URLs
DIGITAL TV
DIGITAL BACK CHANNEL
144
20
152
VIDEO SOURCE
INTERNET

Fig. 6

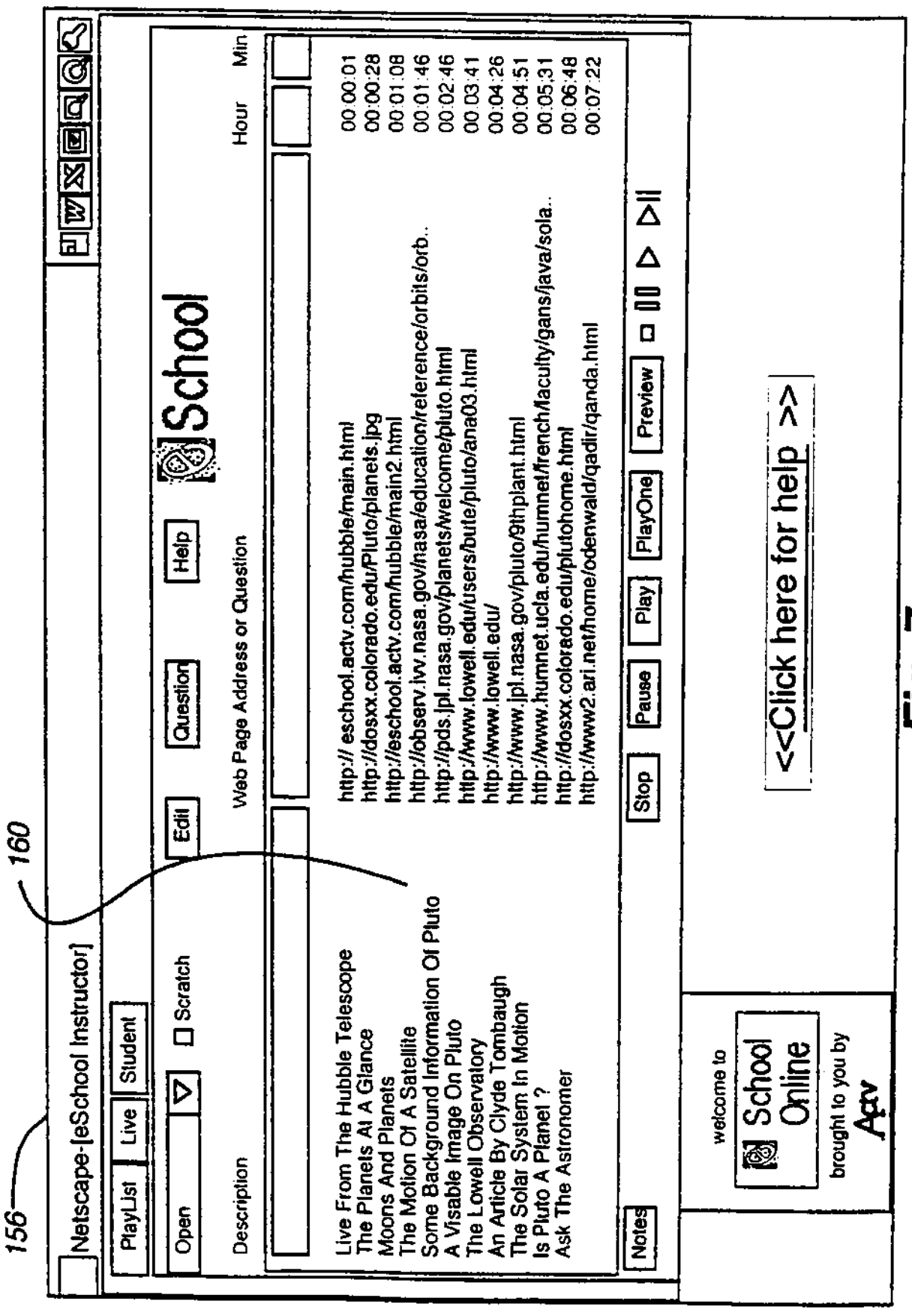

156
160
Netscape-[eSchool Instructor]
PlayList
Live
Student
Open
Scratch
Edit
Question
Help
School
Description
Web Page Address or Question
Hour
Min
Live From The Hubble Telescope
The Planets At A Glance
Moons And Planets
The Motion Of A Satellite
Some Background Information Of Pluto
A Visable Image On Pluto
The Lowell Observatory
An Article By Clyde Tombaugh
The Solar System In Motion
Is Pluto A Planet ?
Ask The Astronomer
http:// eschool.actv.com/hubble/main.html
http://dosxx.colorado.edu/Pluto/planets.jpg
http://eschool.actv.com/hubble/main2.html
http://observ.ivv.nasa.gov/nasa/education/reference/orbits/orb..
http://pds.jpl.nasa.gov/planets/welcome/pluto.html
http://www.lowell.edu/users/bute/pluto/ana03.html
http://www.lowell.edu/
http://www.jpl.nasa.gov/pluto/9thplant.html
http://www.humnet.ucla.edu/humnet/french/faculty/gans/java/sola..
http://dosxx.colorado.edu/plutohome.html
http://www2.ari.net/home/odenwald/qadir/qanda.html
00:00:01
00:00:28
00:01:08
00:01:46
00:02:46
00:03:41
00:04:26
00:04:51
00:05:31
00:06:48
00:07:22
Notes
Stop
Pause
Play
PlayOne
Preview
welcome to
School Online
brought to you by
Actv
<<Click here for help >>

Fig. 7

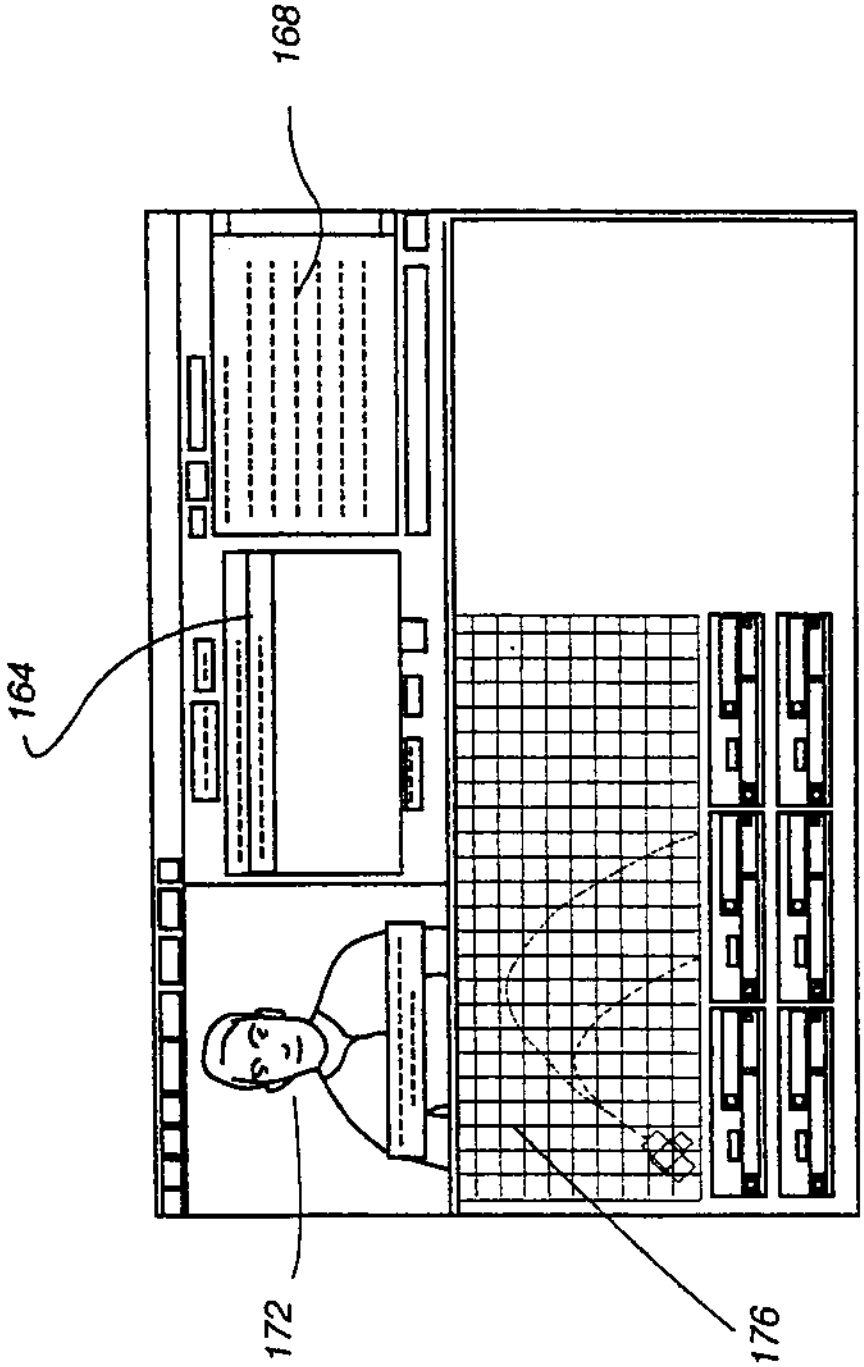


Fig. 8

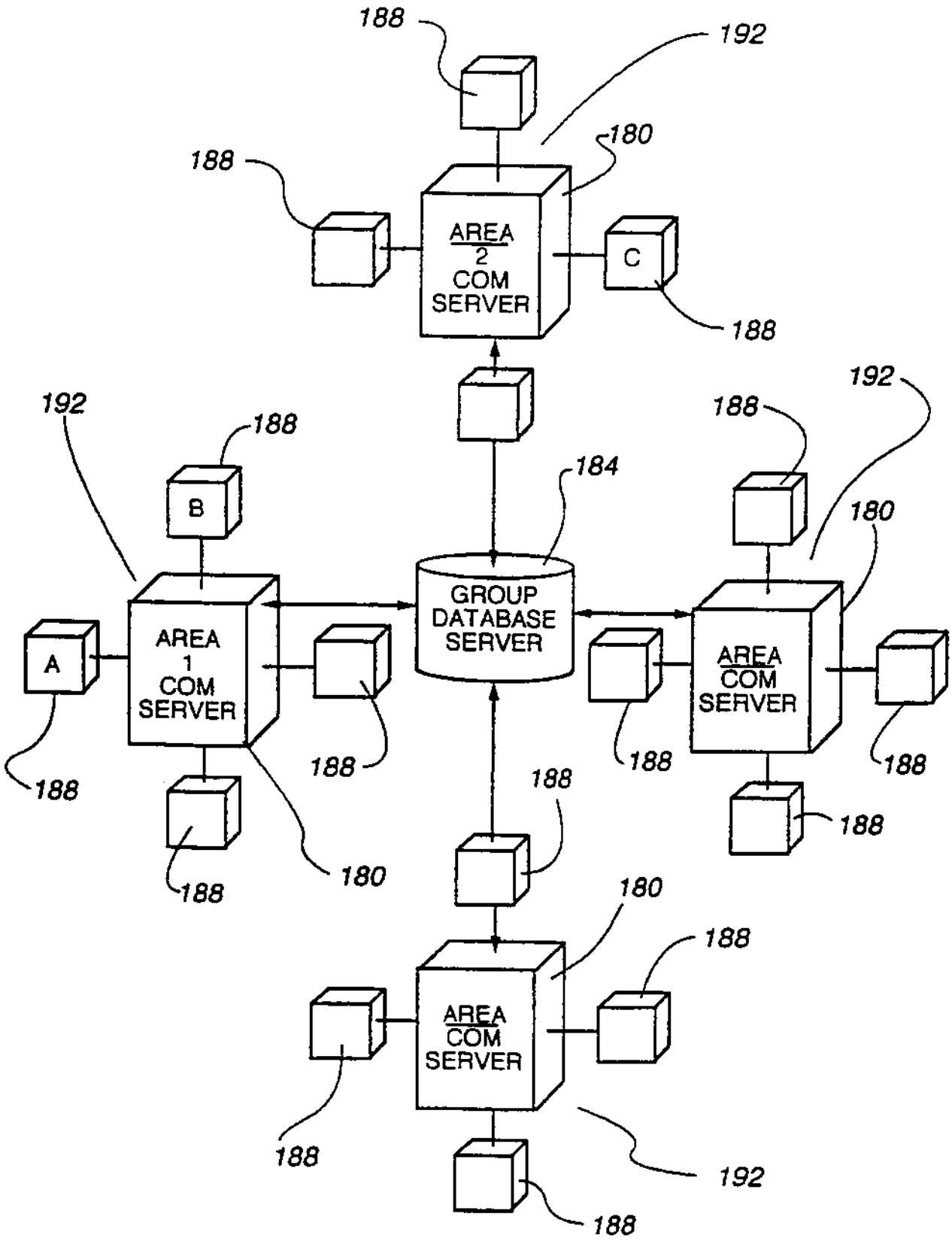

188
192
180
188
AREA 2 COM SERVER
C
188
192
188
192
188
B
184
188
180
A
AREA 1 COM SERVER
GROUP DATABASE SERVER
AREA COM SERVER
188
188
188
188
188
188
180
188
180
AREA COM SERVER
188
188
192
188

Fig. 9

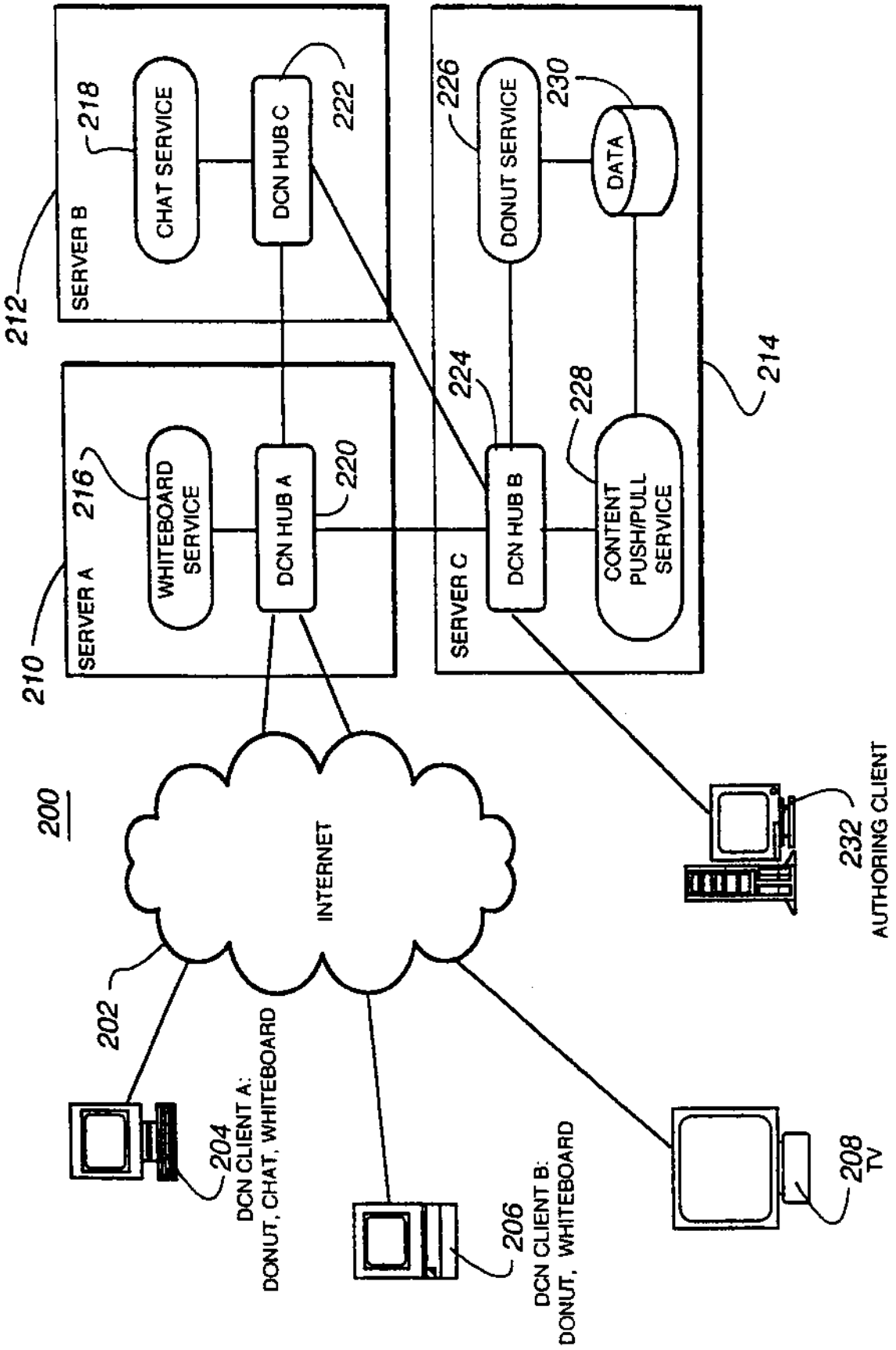

200
SERVER A
216
WHITEBOARD SERVICE
DCN HUB A
220
210
SERVER B
218
CHAT SERVICE
DCN HUB C
222
212
SERVER C
224
DCN HUB B
226
DONUT SERVICE
230
DATA
228
CONTENT PUSH/PULL SERVICE
214
INTERNET
202
204
DCN CLIENT A:
DONUT, CHAT, WHITEBOARD
206
DCN CLIENT B:
DONUT, WHITEBOARD
208
TV
232
AUTHORING CLIENT

Fig. 10A

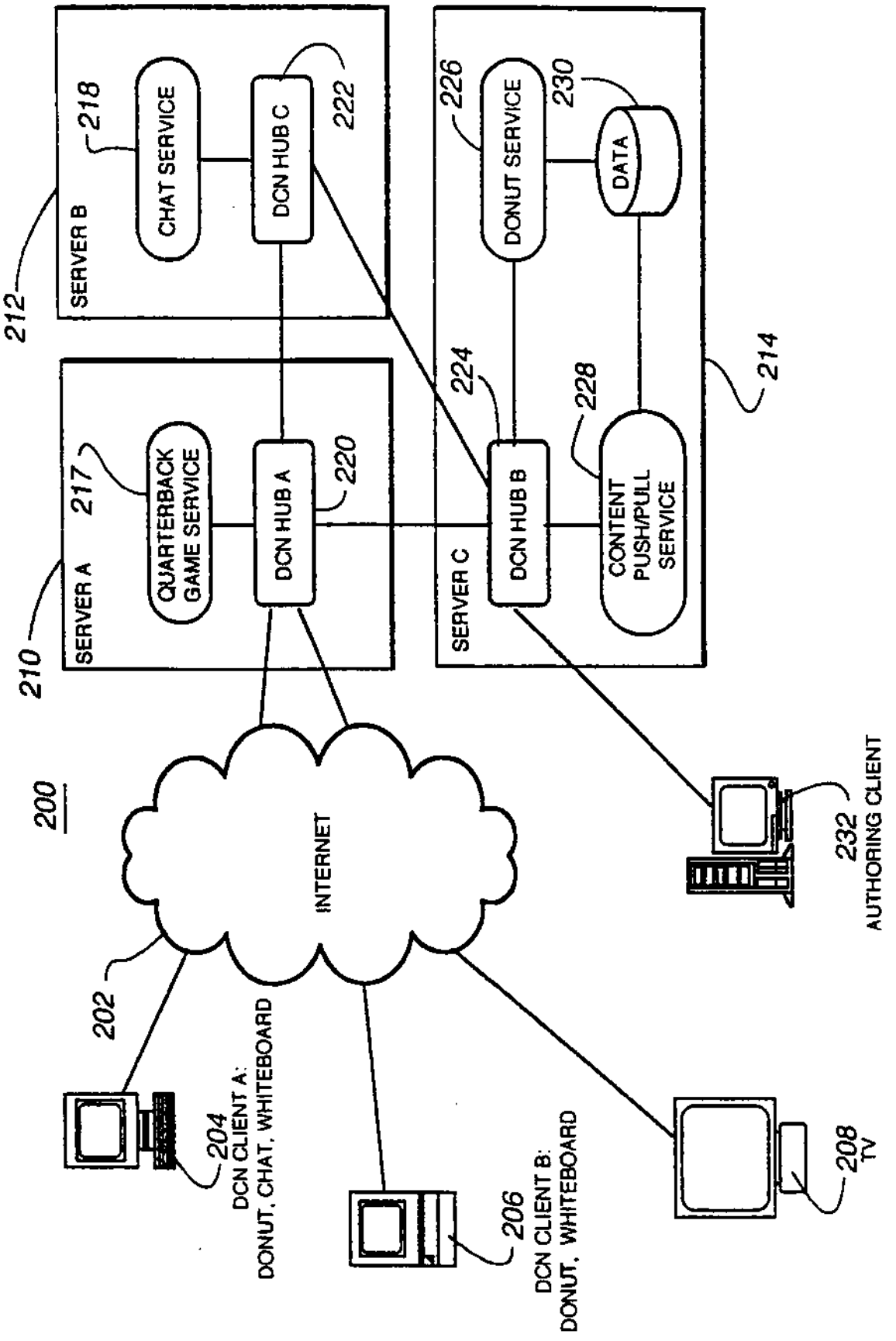

200
SERVER A
217
QUARTERBACK GAME SERVICE
DCN HUB A
220
210
SERVER B
218
CHAT SERVICE
DCN HUB C
222
212
SERVER C
224
DCN HUB B
226
DONUT SERVICE
230
DATA
228
CONTENT PUSH/PULL SERVICE
214
INTERNET
202
204
DCN CLIENT A:
DONUT, CHAT, WHITEBOARD
206
DCN CLIENT B:
DONUT, WHITEBOARD
208
TV
232
AUTHORING CLIENT

Fig. 10B

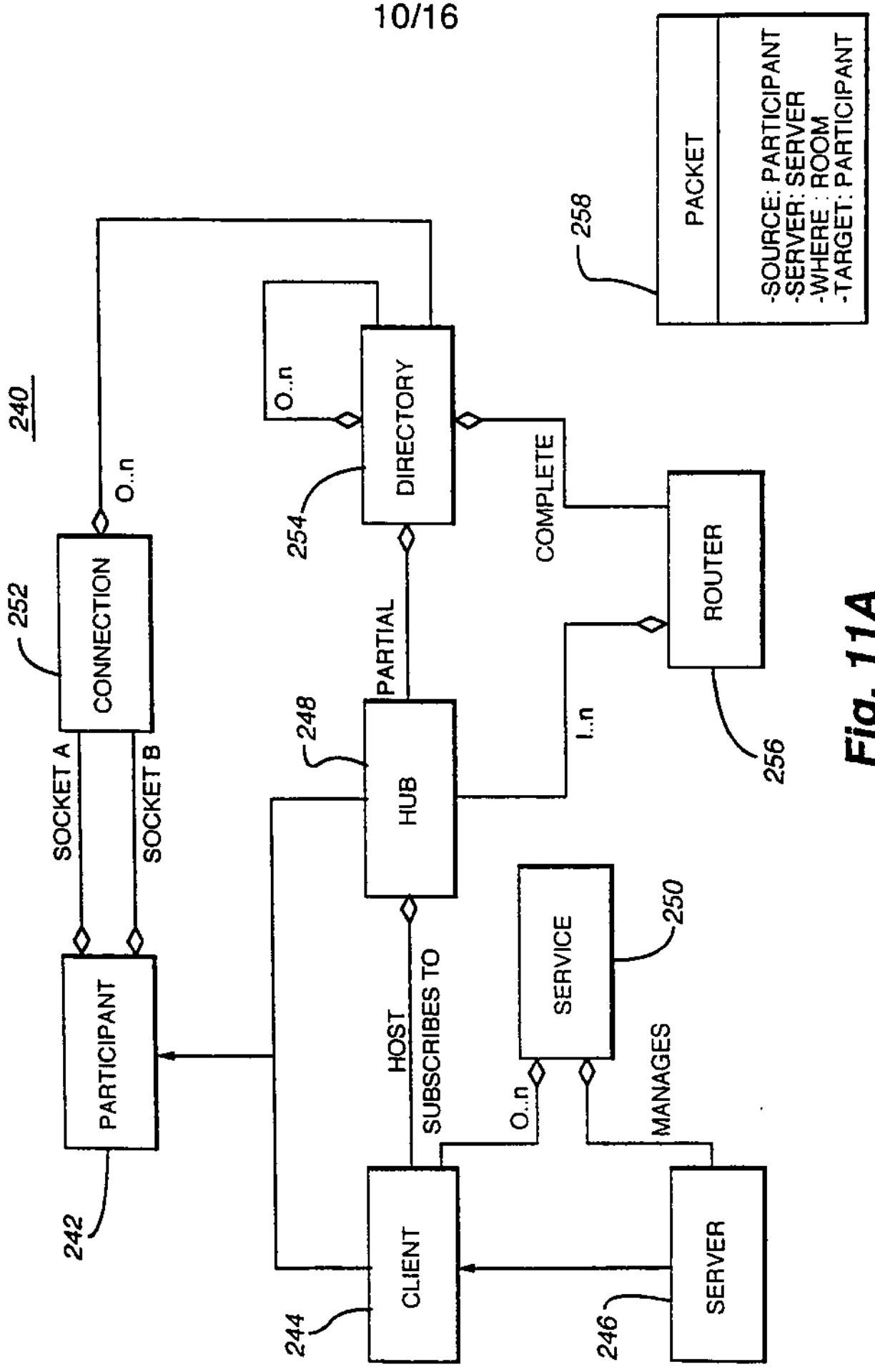

240
PACKET
-SOURCE: PARTICIPANT
-SERVER: SERVER
-WHERE : ROOM
-TARGET: PARTICIPANT
258
DIRECTORY
O..n
254
COMPLETE
ROUTER
256
CONNECTION
252
O..n
PARTIAL
HUB
248
1..n
SOCKET A
SOCKET B
PARTICIPANT
242
HOST
SUBSCRIBES TO
SERVICE
250
O..n
MANAGES
CLIENT
244
SERVER
246

Fig. 11A

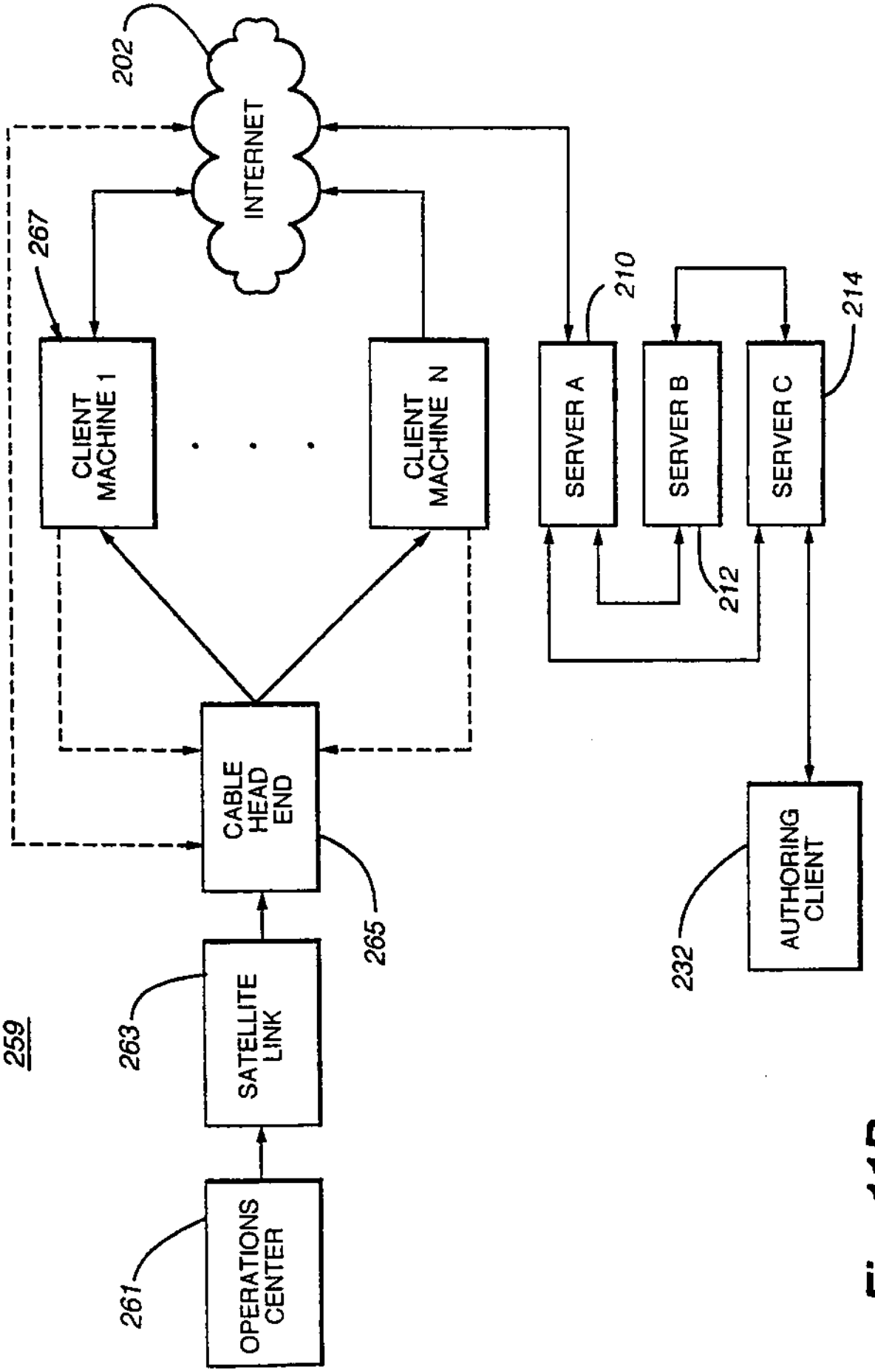

202
INTERNET
267
CLIENT MACHINE 1
CLIENT MACHINE N
210
SERVER A
SERVER B
SERVER C
214
212
CABLE HEAD END
265
259
263
SATELLITE LINK
261
OPERATIONS CENTER
232
AUTHORING CLIENT

Fig. 11B

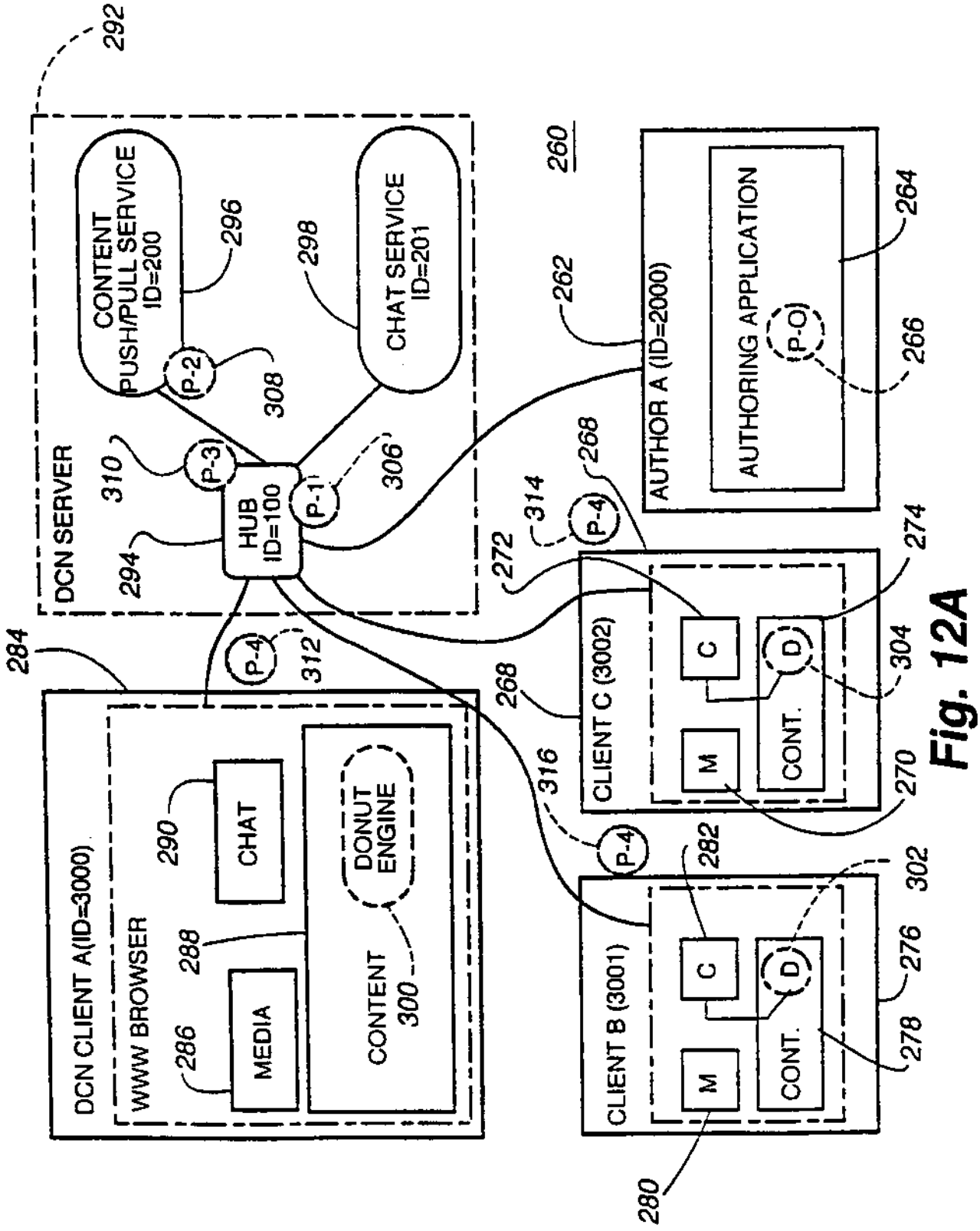

292
DCN SERVER
CONTENT PUSH/PULL SERVICE ID=200
296
CHAT SERVICE ID=201
298
308
310
P-3
HUB ID=100
P-1
306
294
272
314
P-4
268
260
AUTHOR A (ID=2000)
262
AUTHORING APPLICATION
P-O
264
266
284
P-4
312
DCN CLIENT A(ID=3000)
WWW BROWSER
290
CHAT
288
DONUT ENGINE
CONTENT 300
MEDIA
286
CLIENT C (3002)
C
M
CONT.
D
274
304
270
316
P-4
282
CLIENT B (3001)
C
M
CONT.
D
302
276
278
280

Fig. 12A

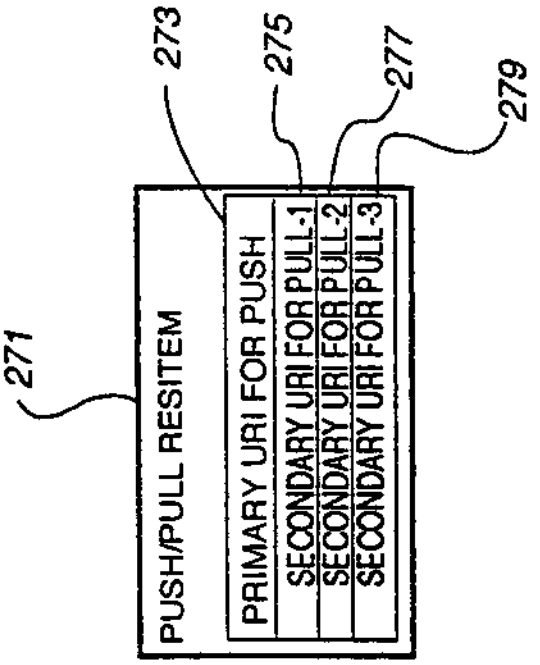

271
273
275
277
279
PUSH/PULL RESITEM
PRIMARY URI FOR PUSH
SECONDARY URI FOR PULL-1
SECONDARY URI FOR PULL-2
SECONDARY URI FOR PULL-3

Fig. 12B

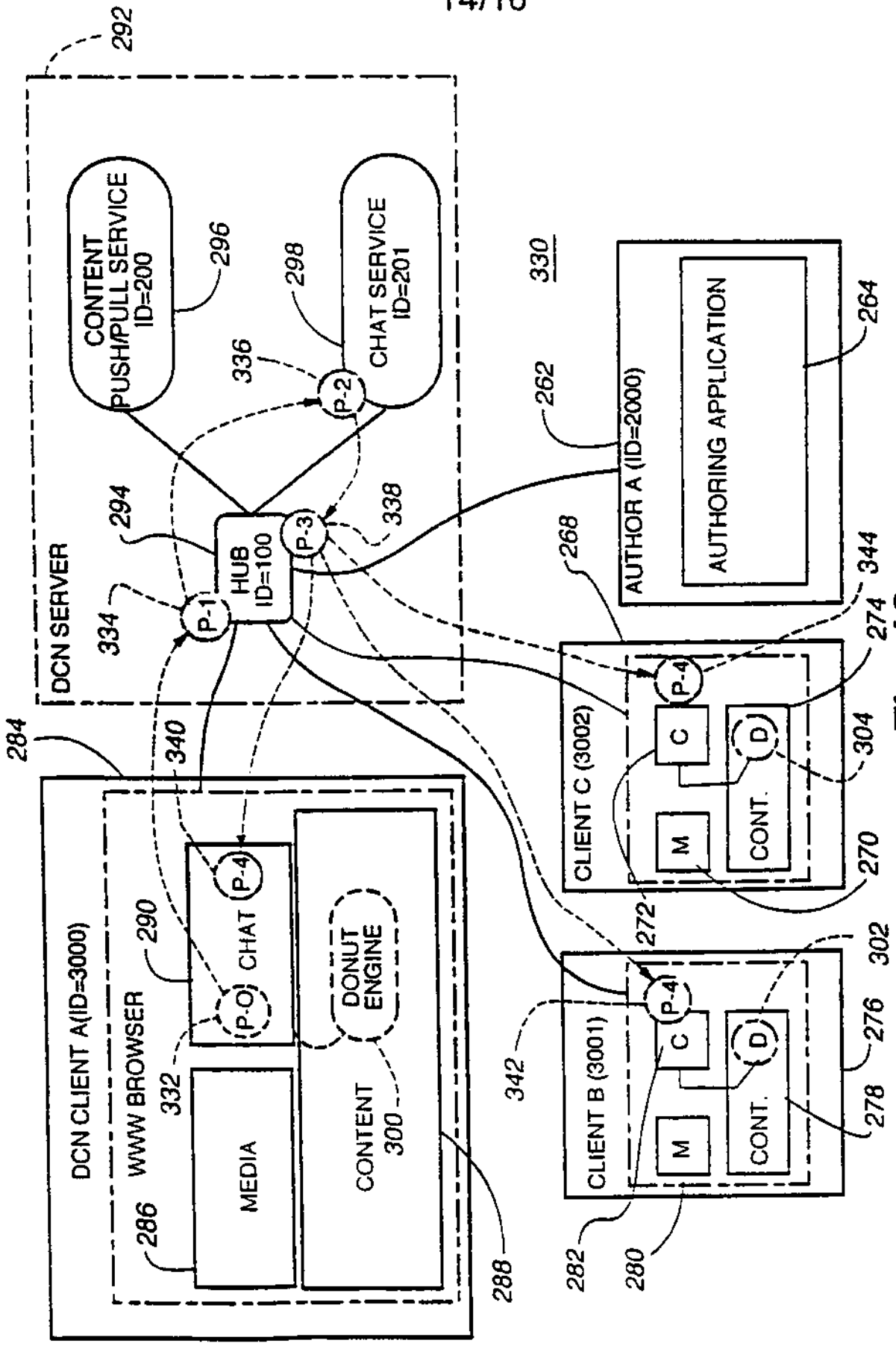

292
DCN SERVER
CONTENT PUSH/PULL SERVICE ID=200
296
CHAT SERVICE ID=201
298
336
P-2
338
294
HUB ID=100
P-3
334
P-1
340
284
DCN CLIENT A(ID=3000)
WWW BROWSER
290
286
P-0
CHAT
P-4
MEDIA
332
DONUT ENGINE
CONTENT 300
288
330
262
AUTHOR A (ID=2000)
AUTHORING APPLICATION
264
268
344
CLIENT C (3002)
274
P-4
C
D
M
CONT.
304
270
272
CLIENT B (3001)
342
302
276
278
282
280

Fig. 13

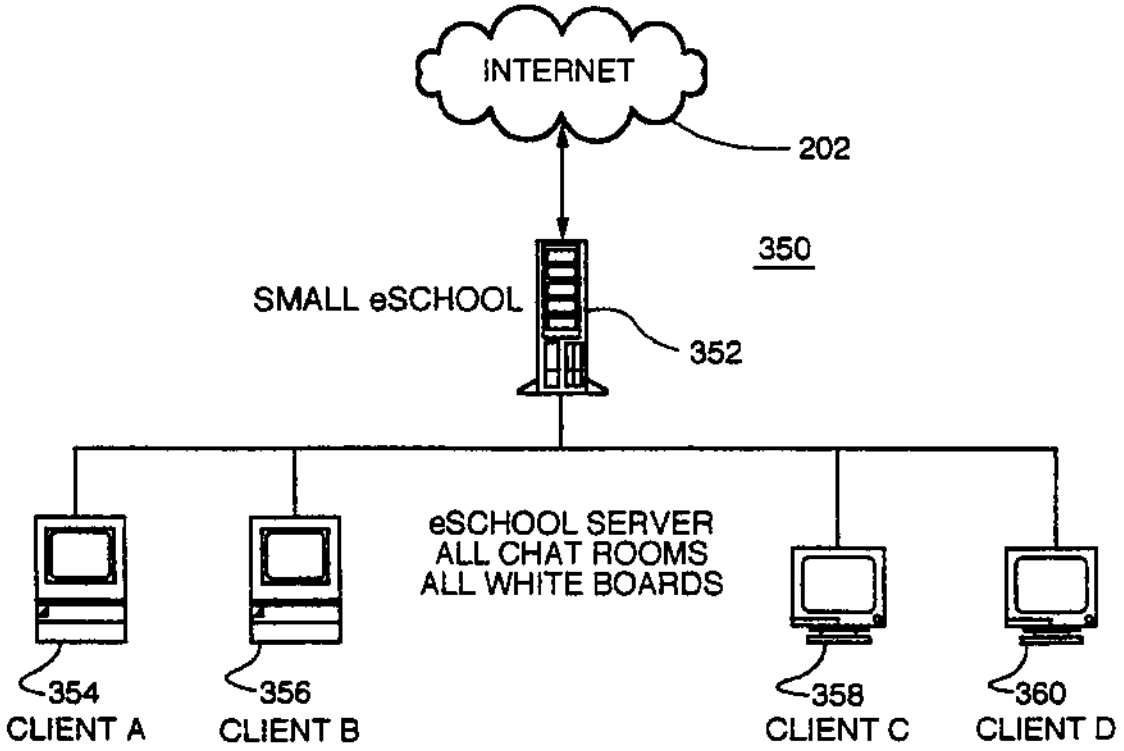


Fig. 14A

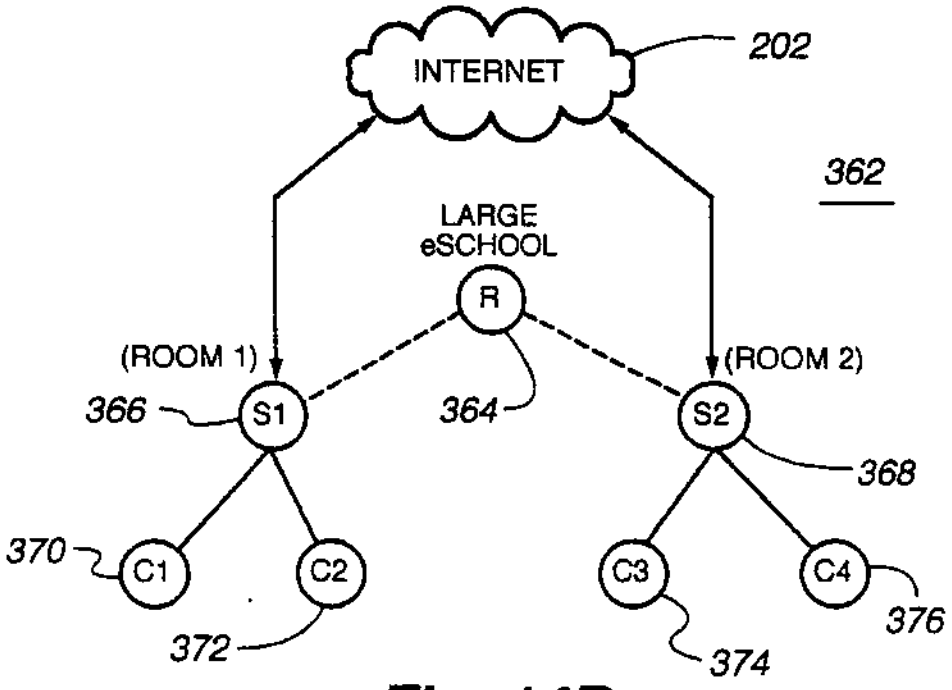


Fig. 14B

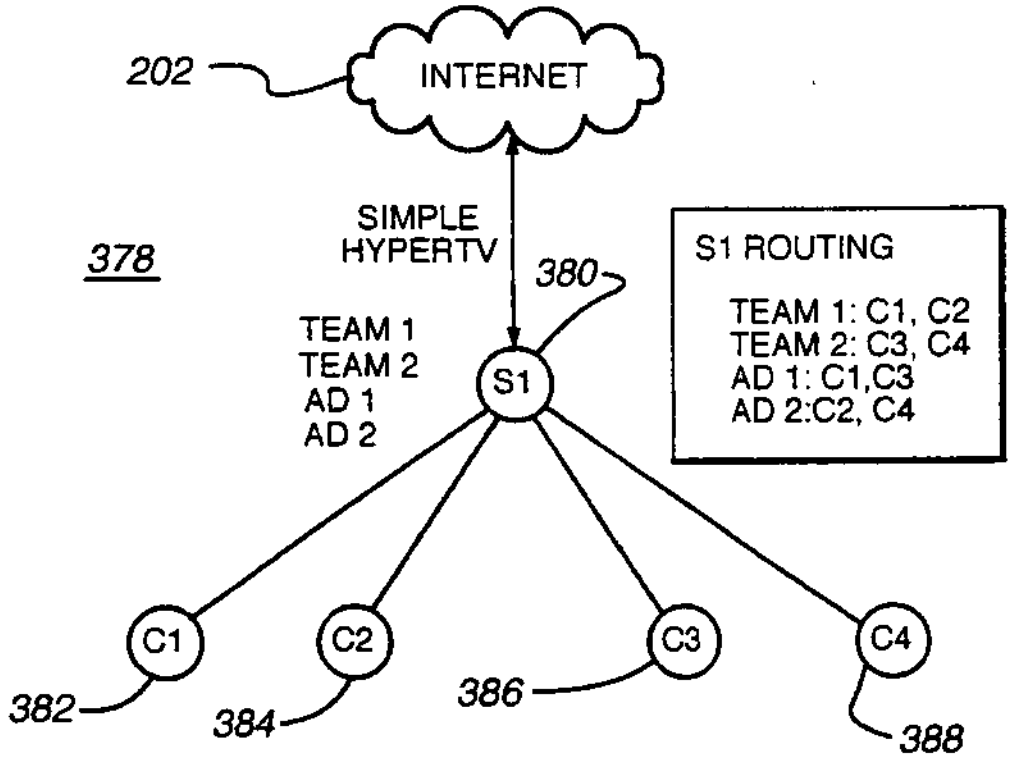


Fig. 14C

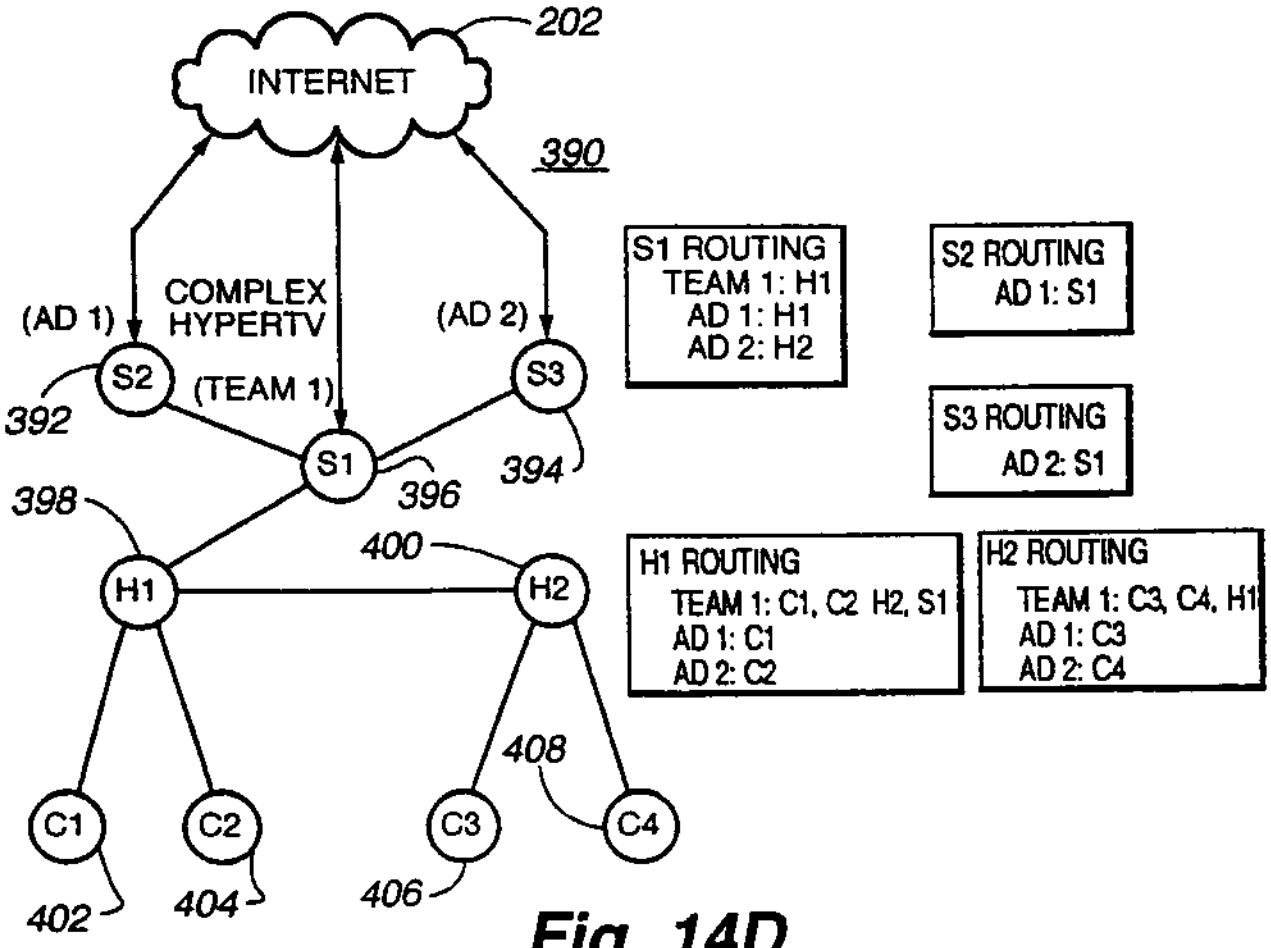


Fig. 14D