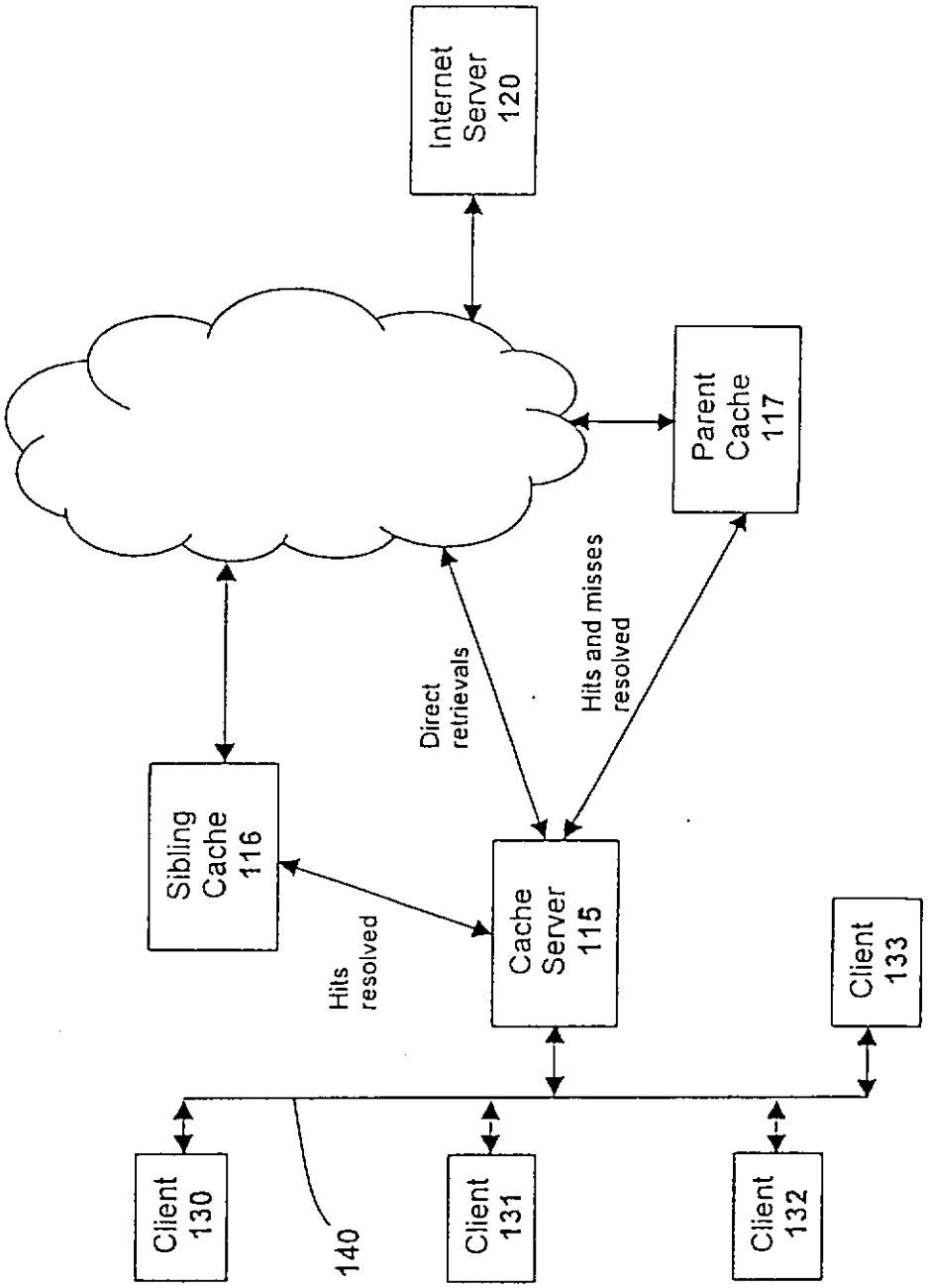


FIG. 1
(Prior Art)

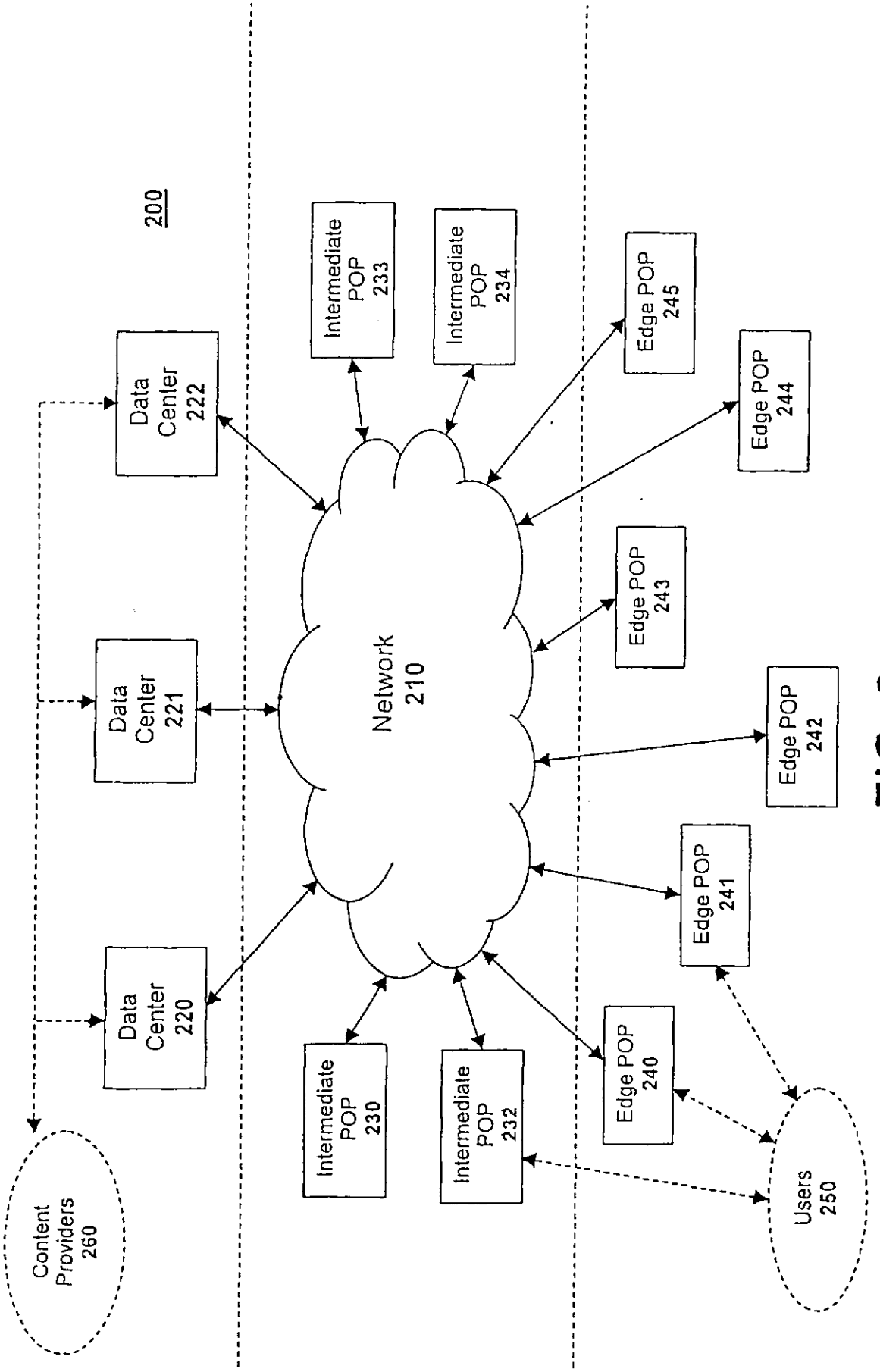

200
Data Center 222
Data Center 221
Data Center 220
Intermediate POP 233
Intermediate POP 234
Edge POP 245
Edge POP 244
Edge POP 243
Edge POP 242
Edge POP 241
Edge POP 240
Network 210
Intermediate POP 230
Intermediate POP 232
Content Providers 260
Users 250

FIG. 2

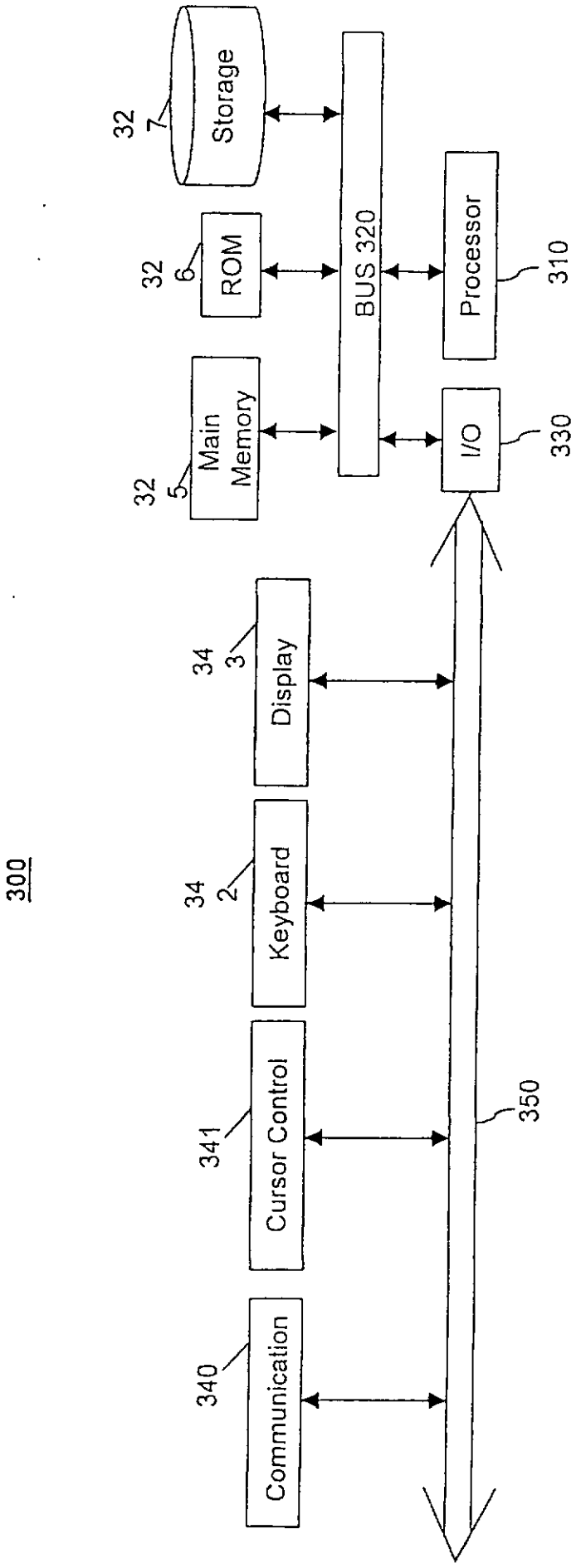

300
Storage
32
7
ROM
32
6
Main Memory
32
5
BUS 320
Processor
310
I/O
330
Display
34
3
Keyboard
34
2
Cursor Control
341
Communication
340
350

FIG. 3

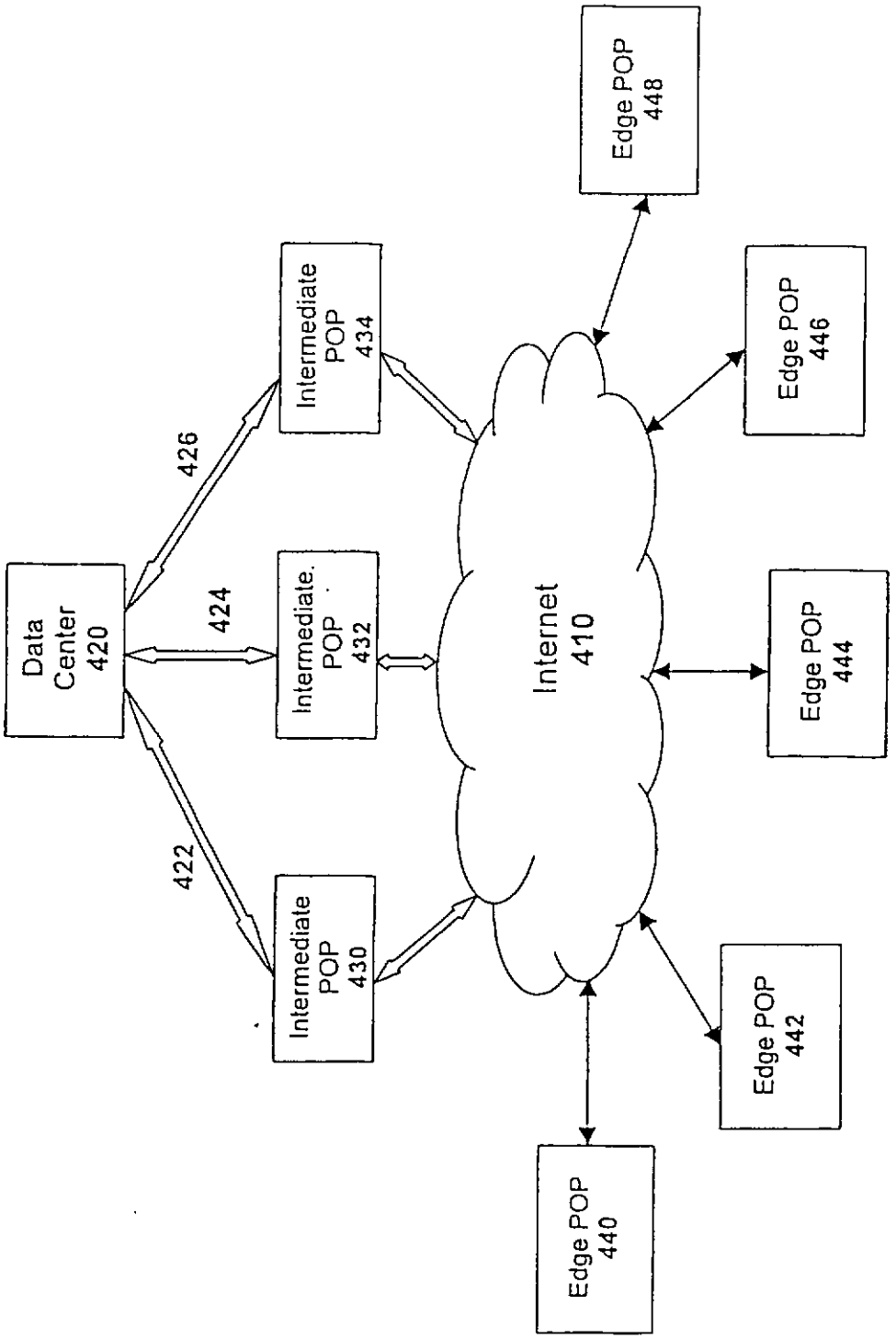

Data Center 420
426
424
422
Intermediate POP 434
Intermediate POP 432
Intermediate POP 430
Internet 410
Edge POP 448
Edge POP 446
Edge POP 444
Edge POP 442
Edge POP 440

FIG. 4

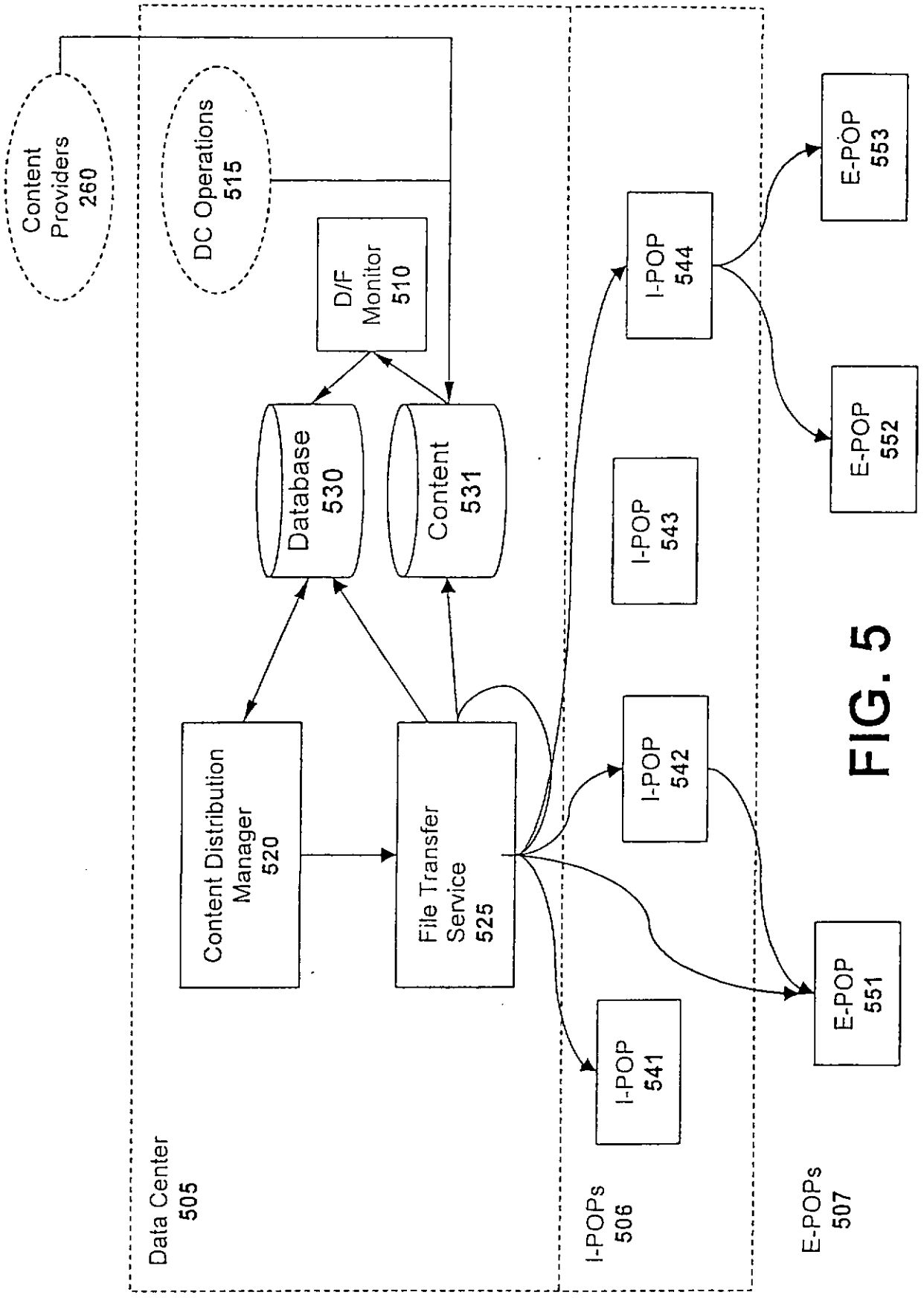

Content Providers 260
DC Operations 515
D/F Monitor 510
Database 530
Content 531
Content Distribution Manager 520
File Transfer Service 525
Data Center 505
I-POP 541
I-POP 542
I-POP 543
I-POP 544
I-POPs 506
E-POP 551
E-POP 552
E-POP 553
E-POPs 507

FIG. 5

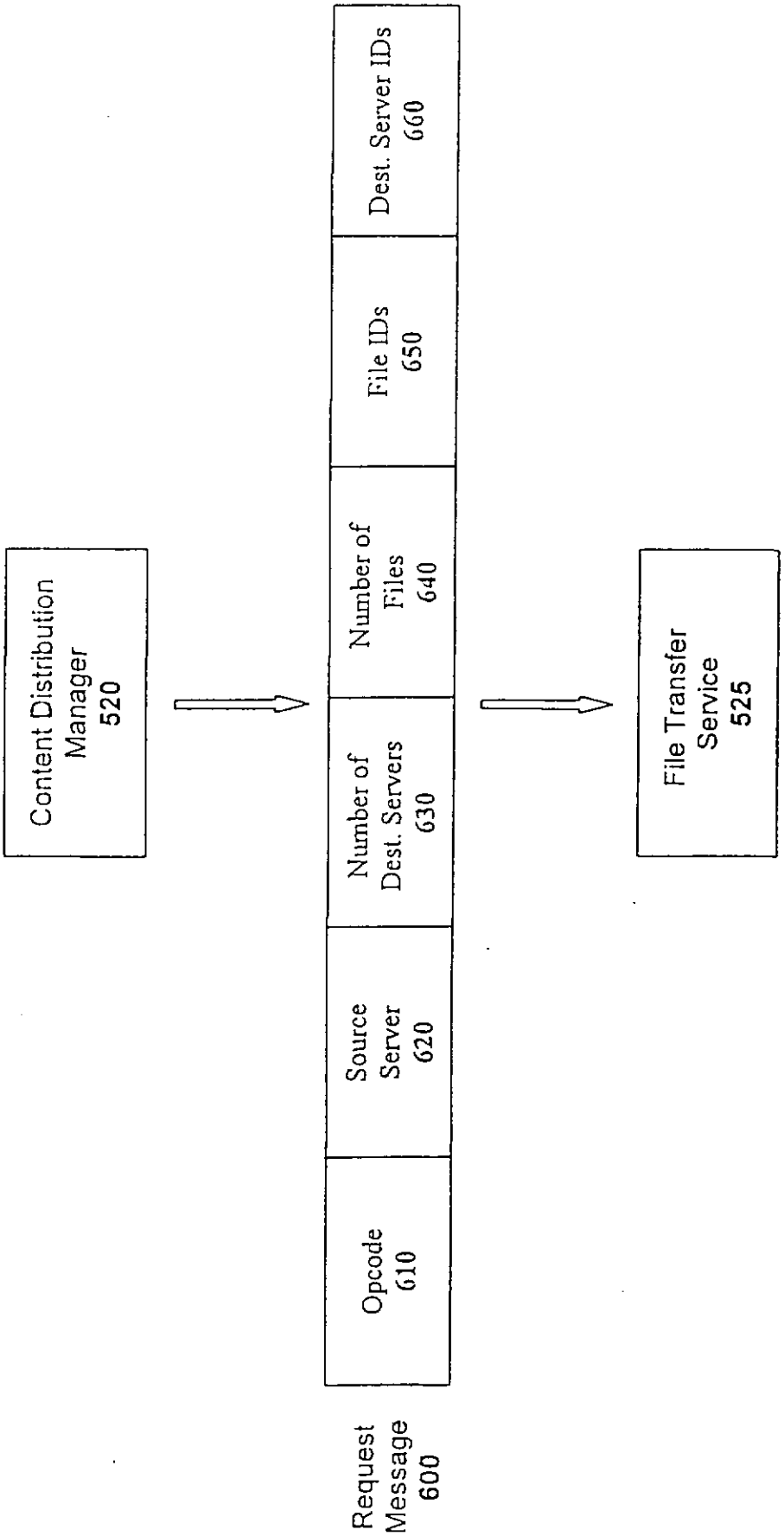

Content Distribution Manager 520
Request Message 600
Opcode 610
Source Server 620
Number of Dest. Servers 630
Number of Files 640
File IDs 650
Dest. Server IDs 660
File Transfer Service 525

FIG. 6

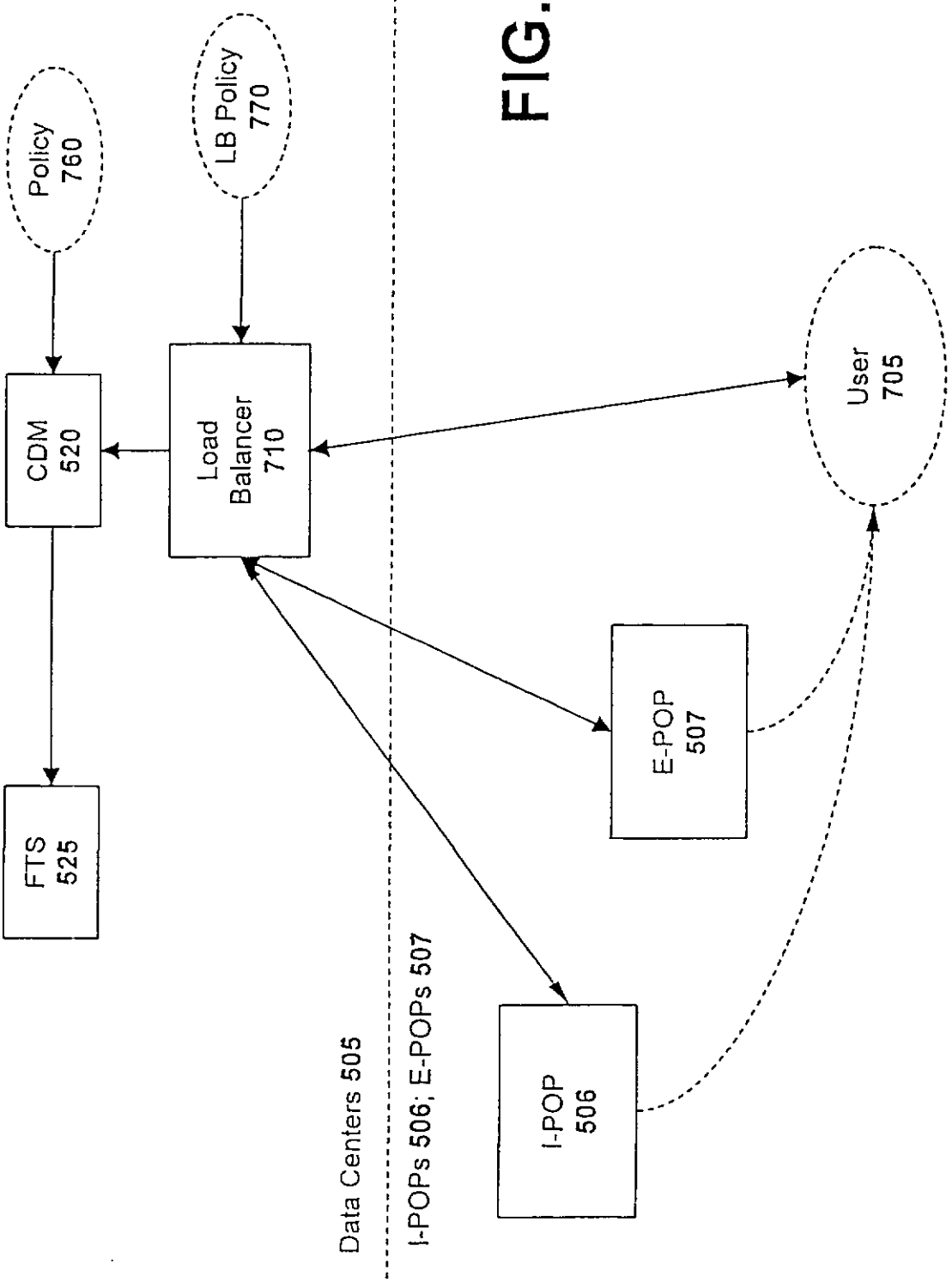

Policy 760
LB Policy 770
CDM 520
Load Balancer 710
User 705
FTS 525
E-POP 507
I-POP 506
Data Centers 505
I-POPs 506; E-POPs 507

FIG. 7

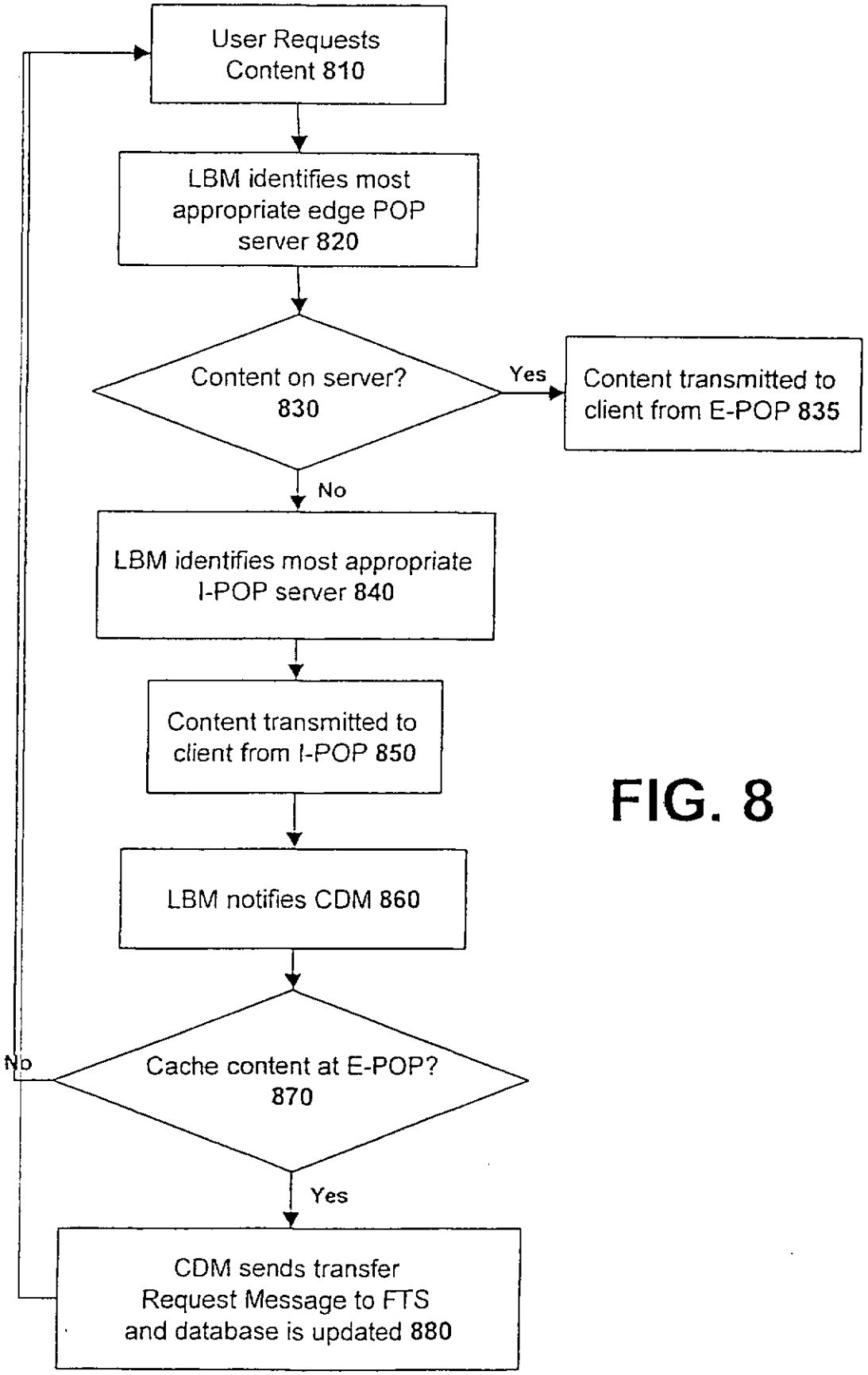

User Requests Content 810
LBM identifies most appropriate edge POP server 820
Content on server? 830
Yes
Content transmitted to client from E-POP 835
No
LBM identifies most appropriate I-POP server 840
Content transmitted to client from I-POP 850
LBM notifies CDM 860
Cache content at E-POP? 870
No
Yes
CDM sends transfer Request Message to FTS and database is updated 880

FIG. 8

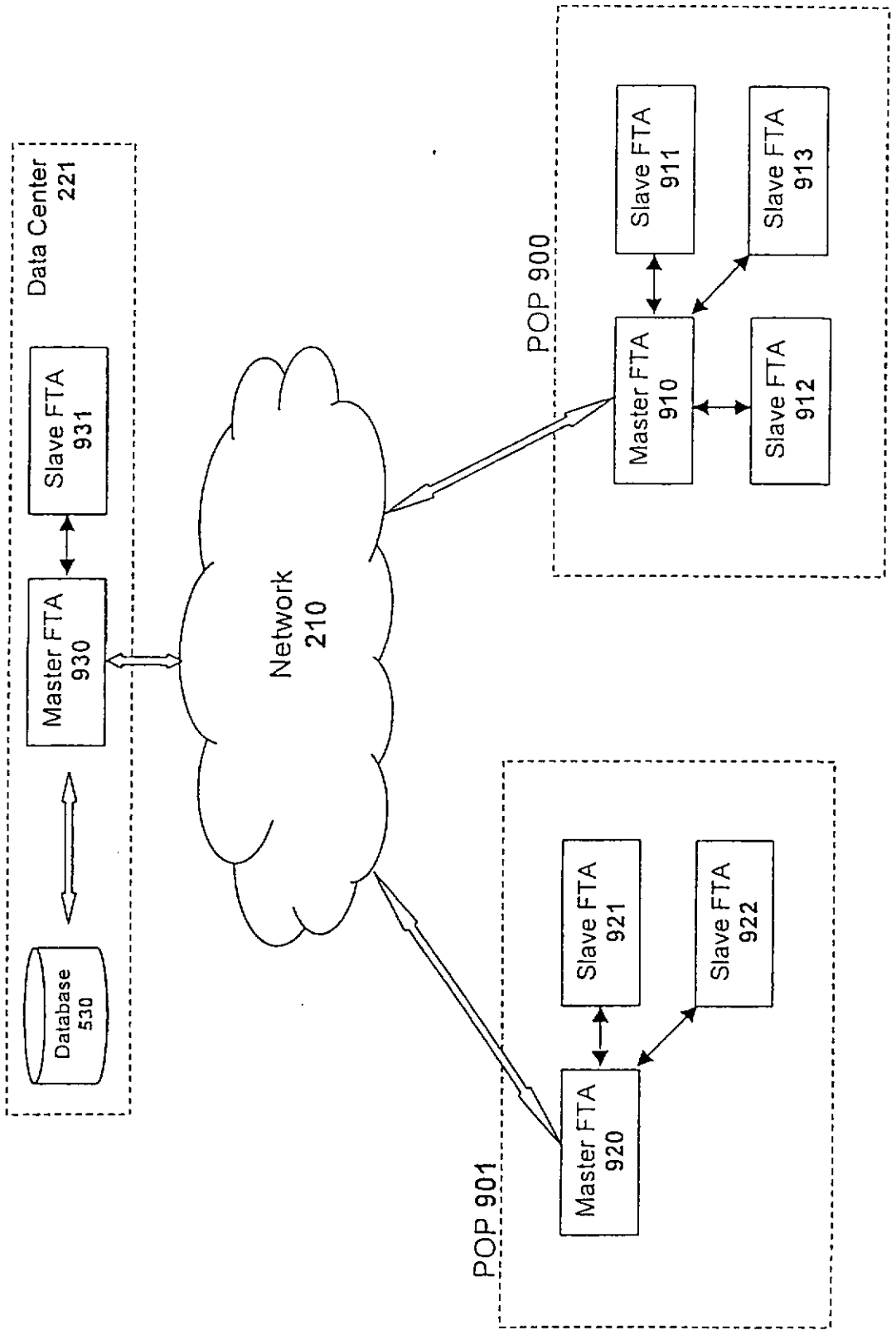

Data Center
221
Slave FTA
931
Master FTA
930
Database
530
Network
210
POP 900
Slave FTA
911
Slave FTA
913
Master FTA
910
Slave FTA
912
POP 901
Slave FTA
921
Slave FTA
922
Master FTA
920

FIG. 9

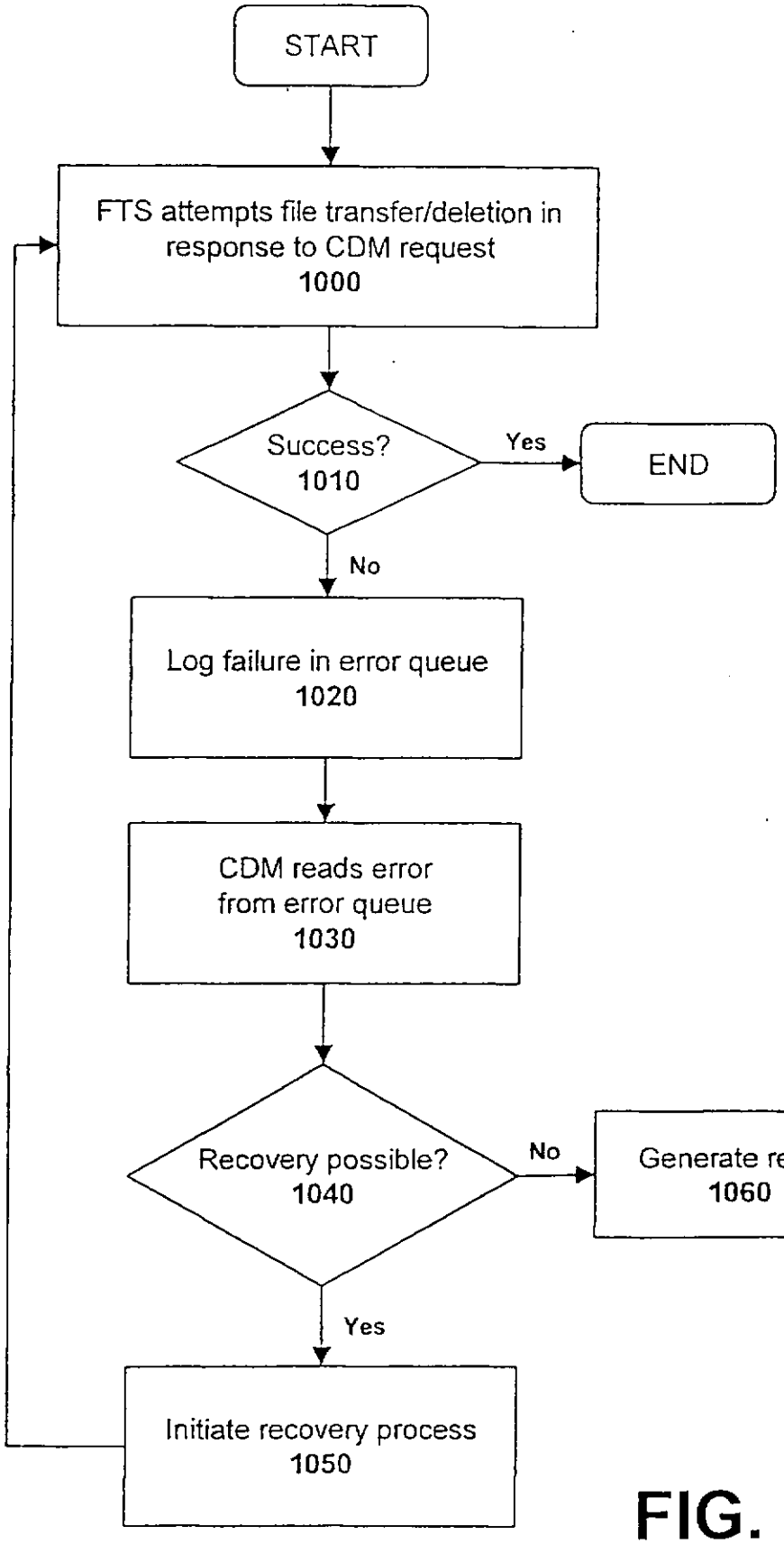

START
FTS attempts file transfer/deletion in response to CDM request
1000
Success?
1010
Yes
END
No
Log failure in error queue
1020
CDM reads error from error queue
1030
Recovery possible?
1040
No
Generate report
1060
Yes
Initiate recovery process
1050

FIG. 10

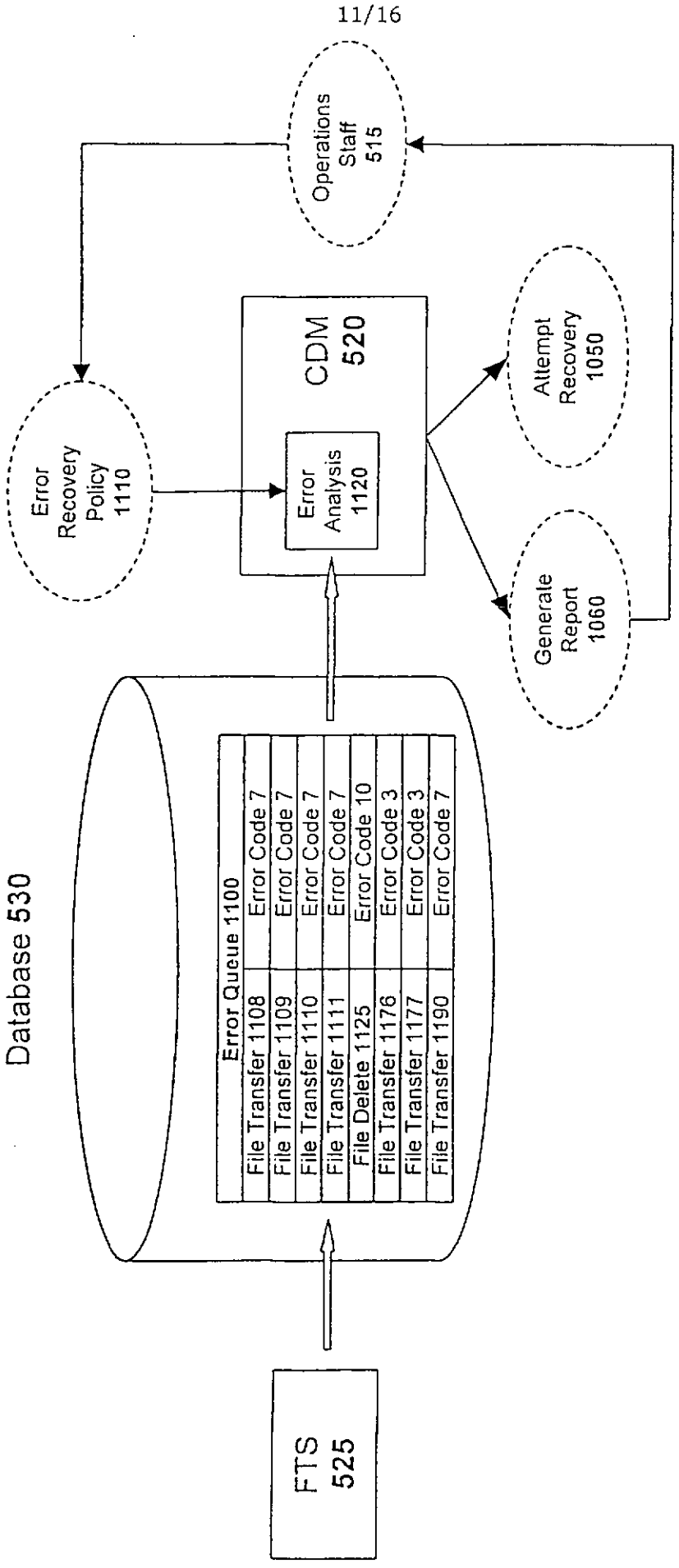

Operations Staff 515
CDM 520
Error Analysis 1120
Error Recovery Policy 1110
Attempt Recovery 1050
Generate Report 1060
Database 530
Error Queue 1100
File Transfer 1108 Error Code 7
File Transfer 1109 Error Code 7
File Transfer 1110 Error Code 7
File Transfer 1111 Error Code 7
File Delete 1125 Error Code 10
File Transfer 1176 Error Code 3
File Transfer 1177 Error Code 3
File Transfer 1190 Error Code 7
FTS 525

FIG. 11

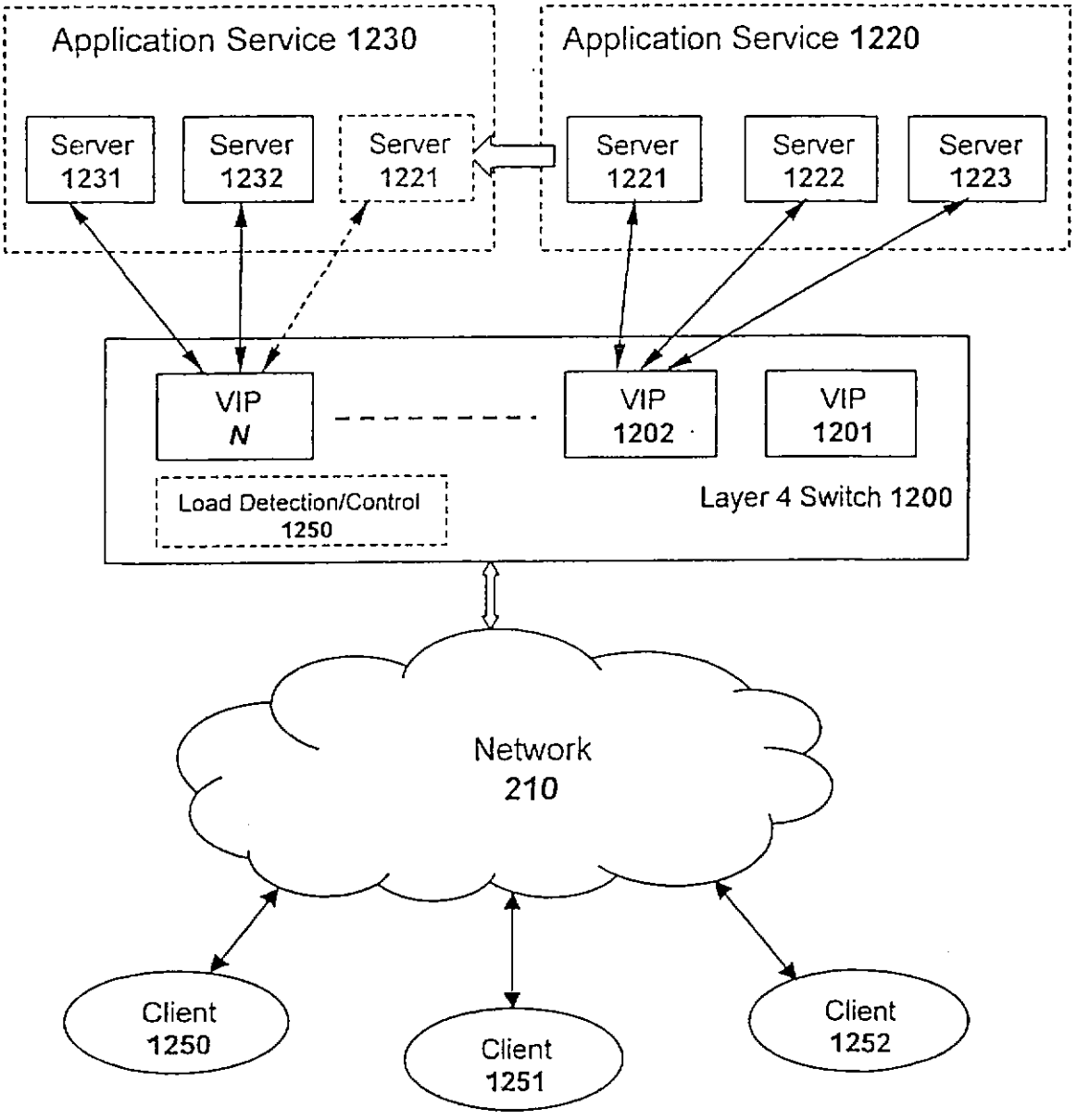

Application Service 1230
Application Service 1220
Server 1231
Server 1232
Server 1221
Server 1221
Server 1222
Server 1223
VIP N
VIP 1202
VIP 1201
Load Detection/Control 1250
Layer 4 Switch 1200
Network 210
Client 1250
Client 1251
Client 1252

FIG. 12

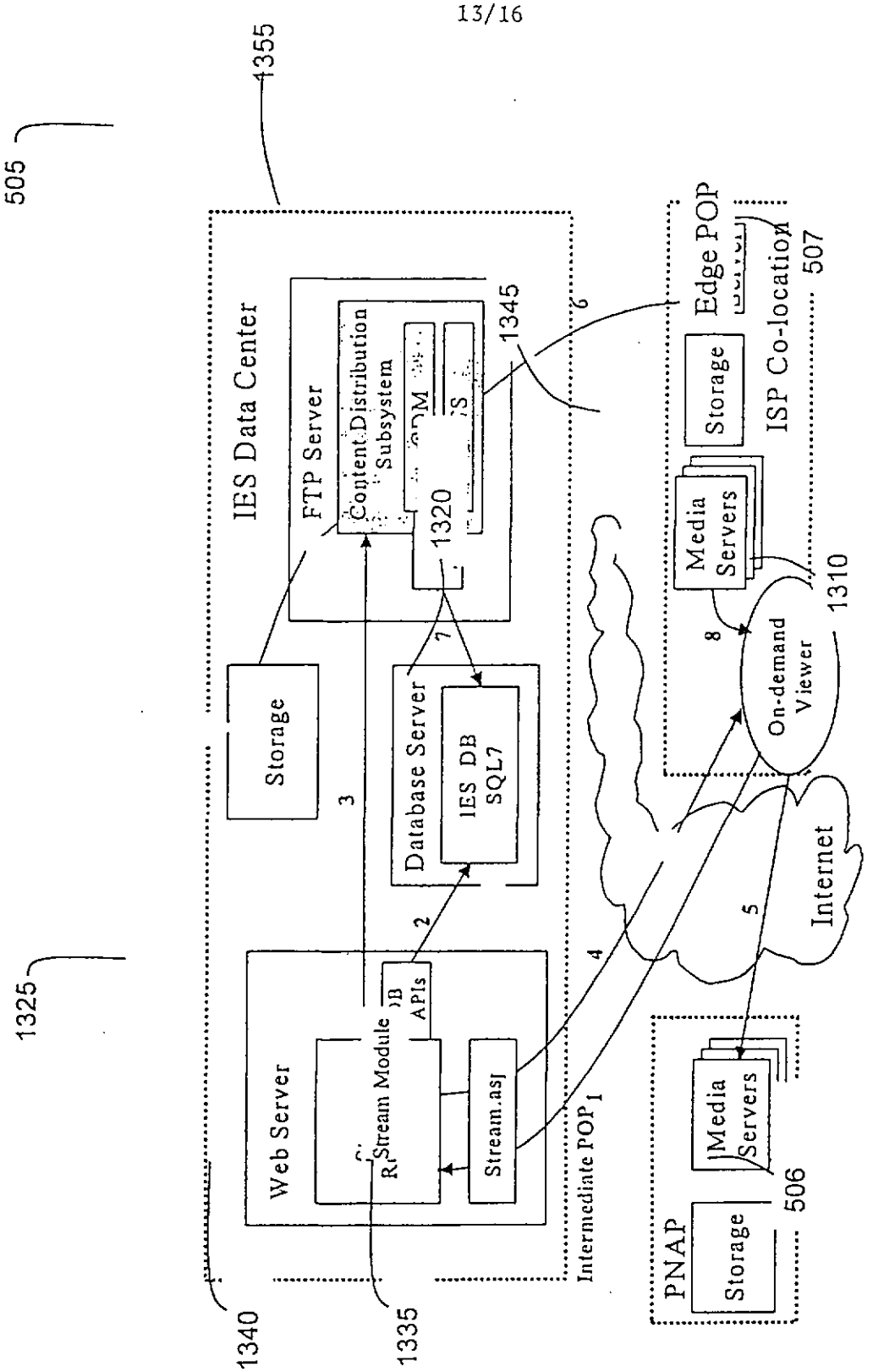

505
1355
IES Data Center
FTP Server
Content Distribution Subsystem
1320
1345
Storage
Database Server
IES DB SQL7
Web Server
Stream Module
APIs
Stream.asf
1325
1340
1335
Intermediate POP 1
Edge POP
Storage
Media Servers
ISP Co-location
507
On-demand Viewer
1310
Internet
PNAP
Storage
Media Servers
506
1
2
3
4
5
6
7
8

FIG. 13

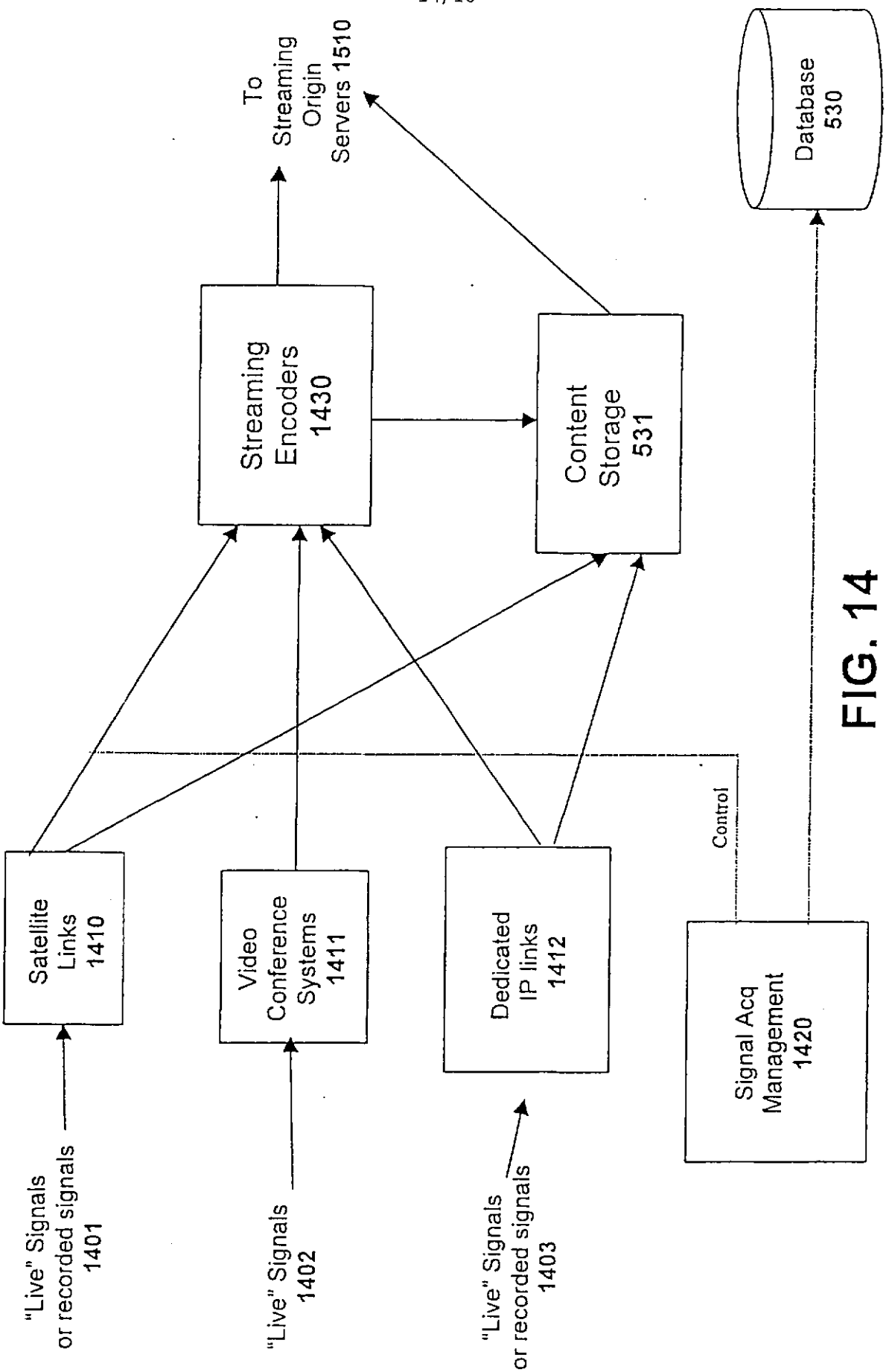

To Streaming Origin Servers 1510
Database 530
Streaming Encoders 1430
Content Storage 531
Satellite Links 1410
Video Conference Systems 1411
Dedicated IP links 1412
Control
Signal Acq Management 1420
"Live" Signals or recorded signals 1401
"Live" Signals 1402
"Live" Signals or recorded signals 1403

FIG. 14

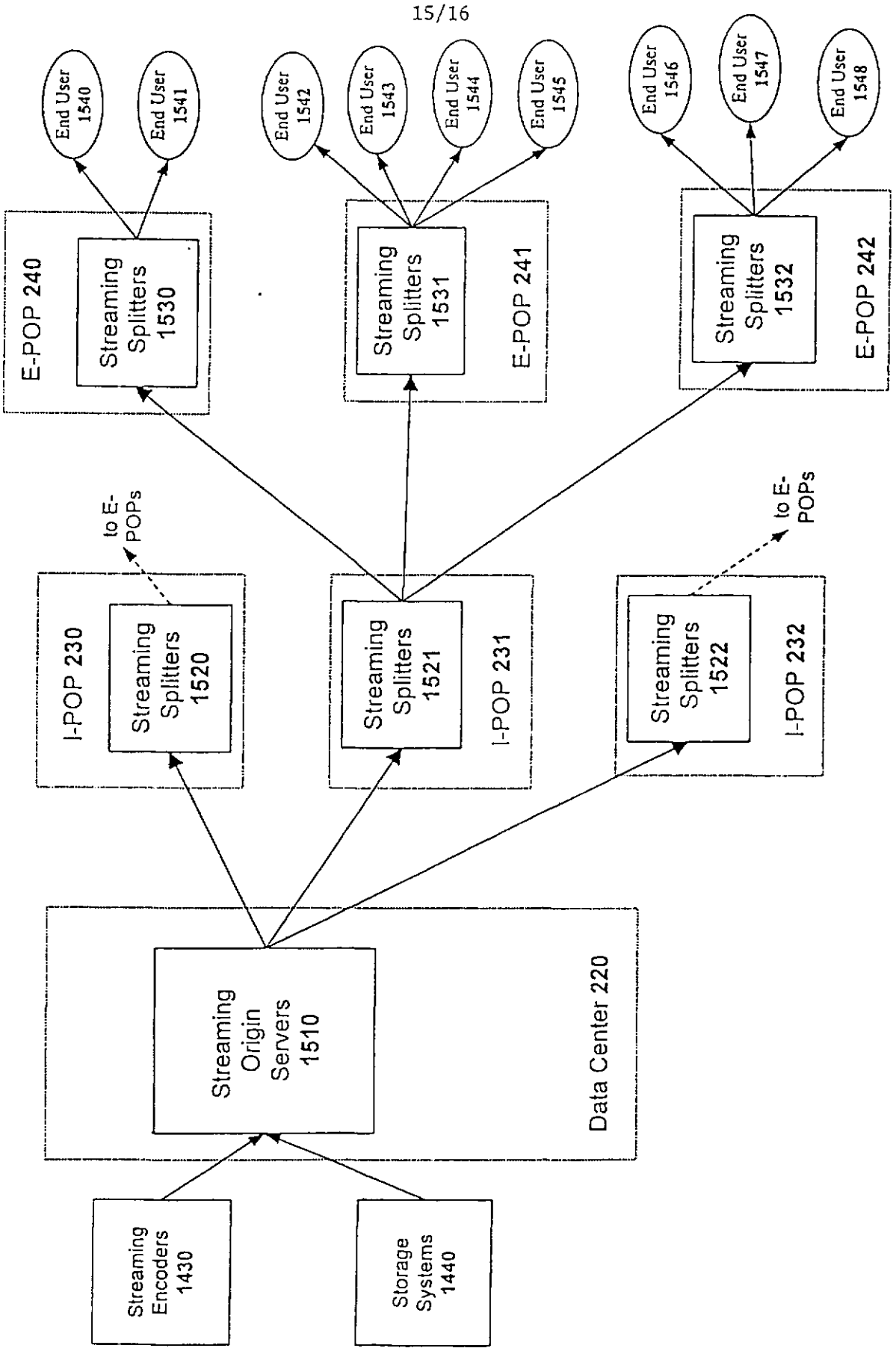

End User 1540
End User 1541
End User 1542
End User 1543
End User 1544
End User 1545
End User 1546
End User 1547
End User 1548
E-POP 240
Streaming Splitters 1530
E-POP 241
Streaming Splitters 1531
E-POP 242
Streaming Splitters 1532
to E-POPs
I-POP 230
Streaming Splitters 1520
I-POP 231
Streaming Splitters 1521
to E-POPs
I-POP 232
Streaming Splitters 1522
Streaming Origin Servers 1510
Data Center 220
Streaming Encoders 1430
Storage Systems 1440

FIG. 15

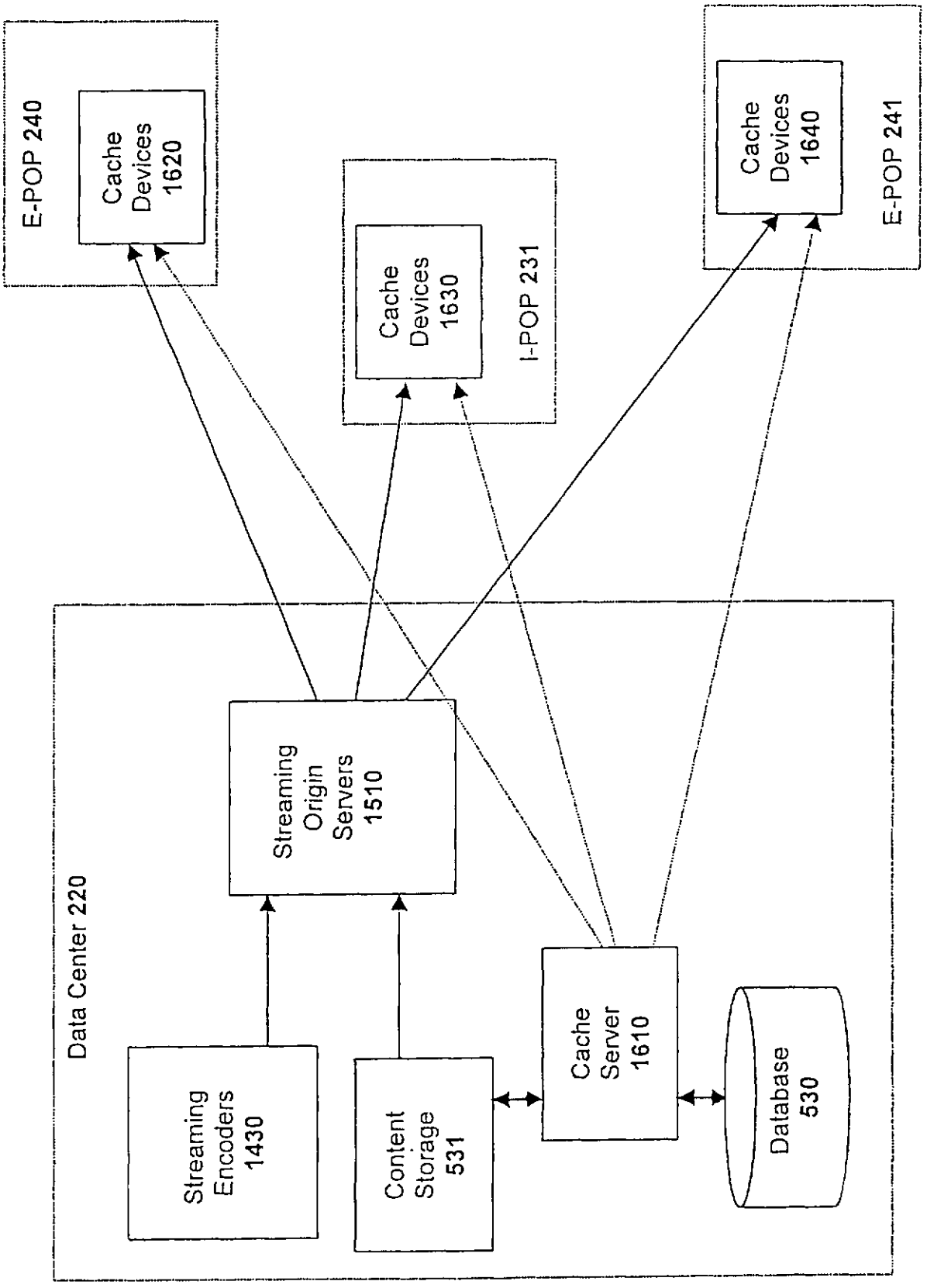

E-POP 240
Cache Devices 1620
I-POP 231
Cache Devices 1630
E-POP 241
Cache Devices 1640
Data Center 220
Streaming Origin Servers 1510
Streaming Encoders 1430
Content Storage 531
Cache Server 1610
Database 530

FIG. 16