Fig. 1

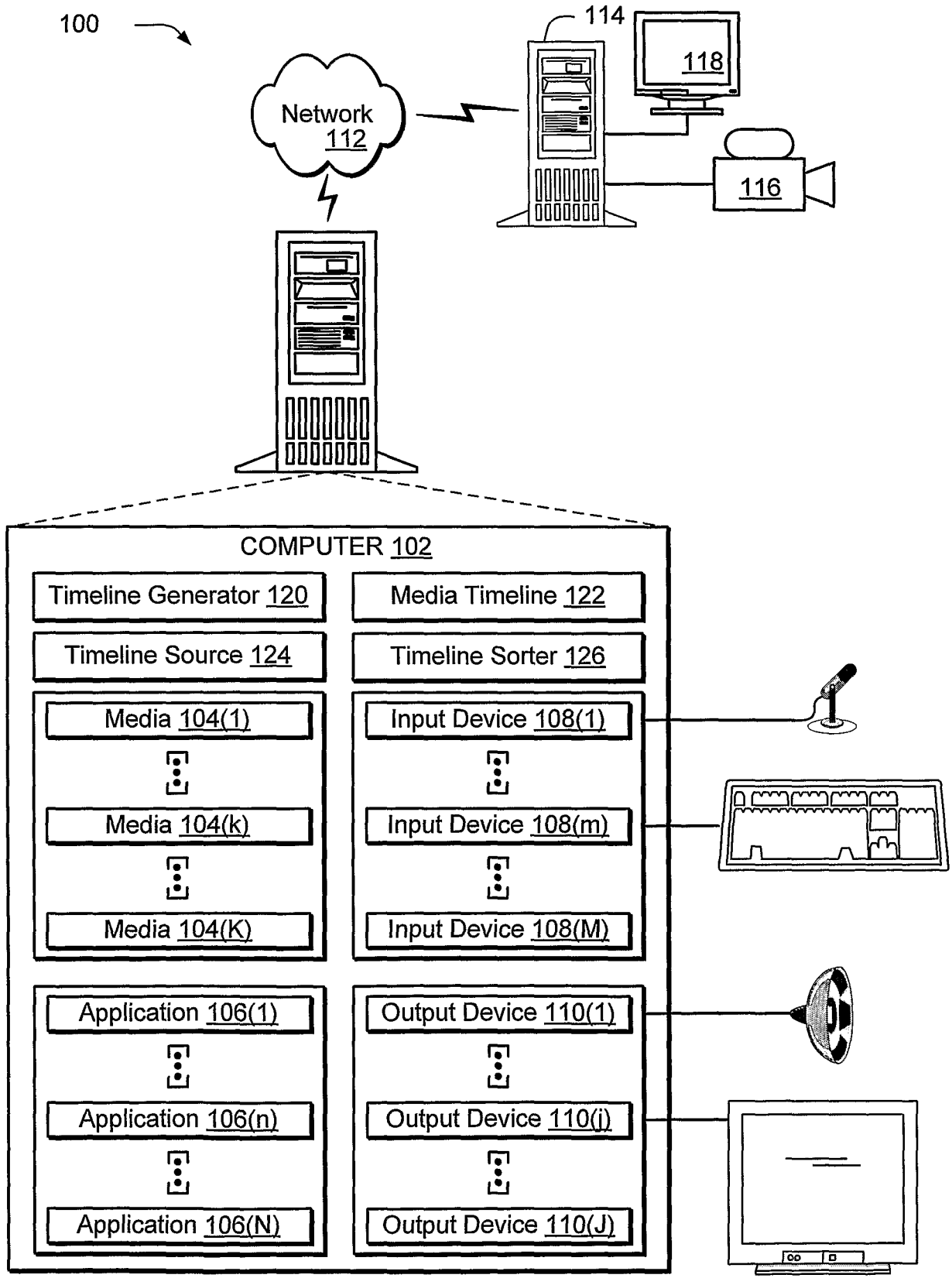

100
114
118
Network
112
116
COMPUTER 102
Timeline Generator 120
Media Timeline 122
Timeline Source 124
Timeline Sorter 126
Media 104(1)
Media 104(k)
Media 104(K)
Input Device 108(1)
Input Device 108(m)
Input Device 108(M)
Application 106(1)
Application 106(n)
Application 106(N)
Output Device 110(1)
Output Device 110(j)
Output Device 110(J)

Fig. 2

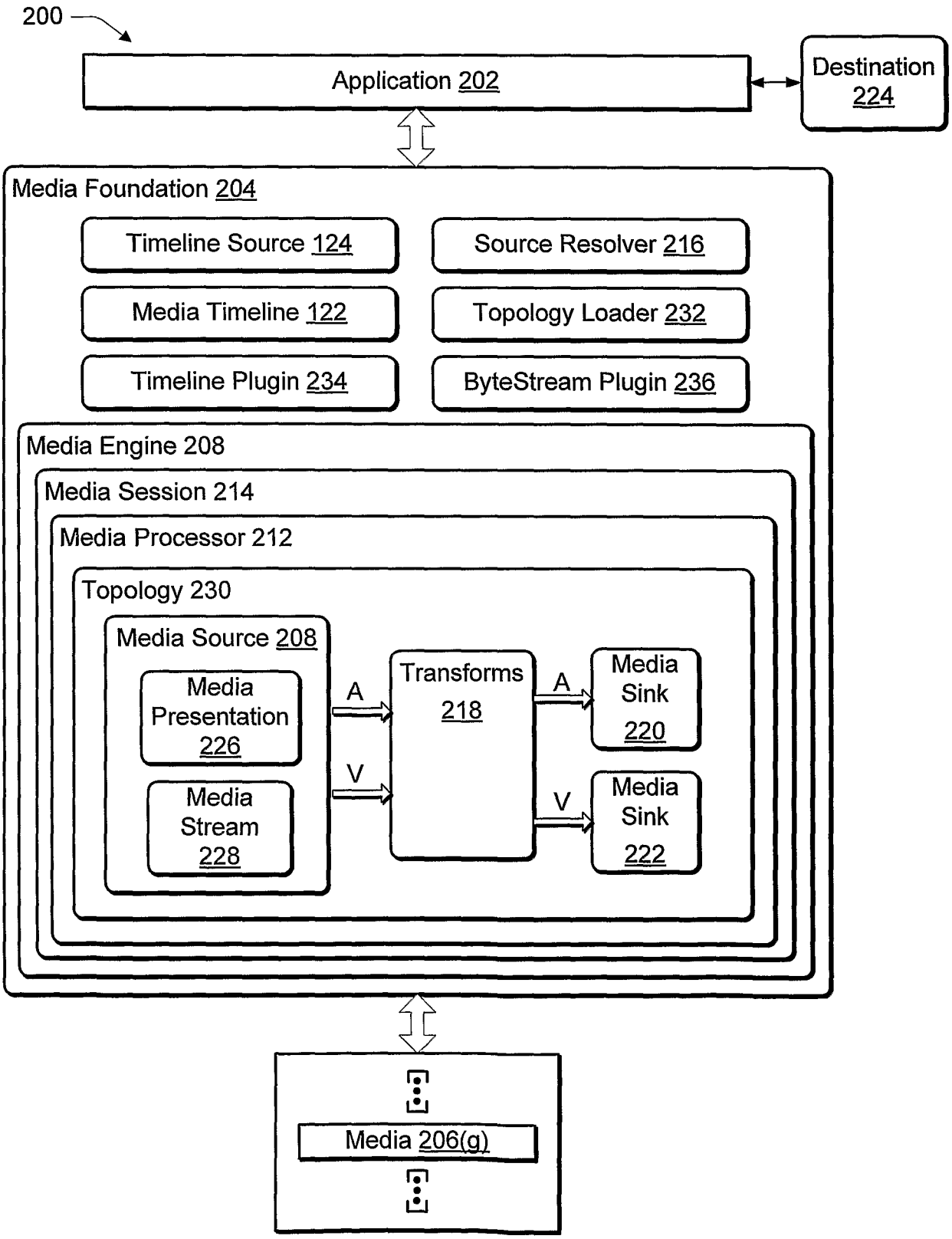

200
Application 202
Destination 224
Media Foundation 204
Timeline Source 124
Source Resolver 216
Media Timeline 122
Topology Loader 232
Timeline Plugin 234
ByteStream Plugin 236
Media Engine 208
Media Session 214
Media Processor 212
Topology 230
Media Source 208
Media Presentation 226
Media Stream 228
A
V
Transforms 218
A
V
Media Sink 220
Media Sink 222
Media 206(g)

Fig. 3

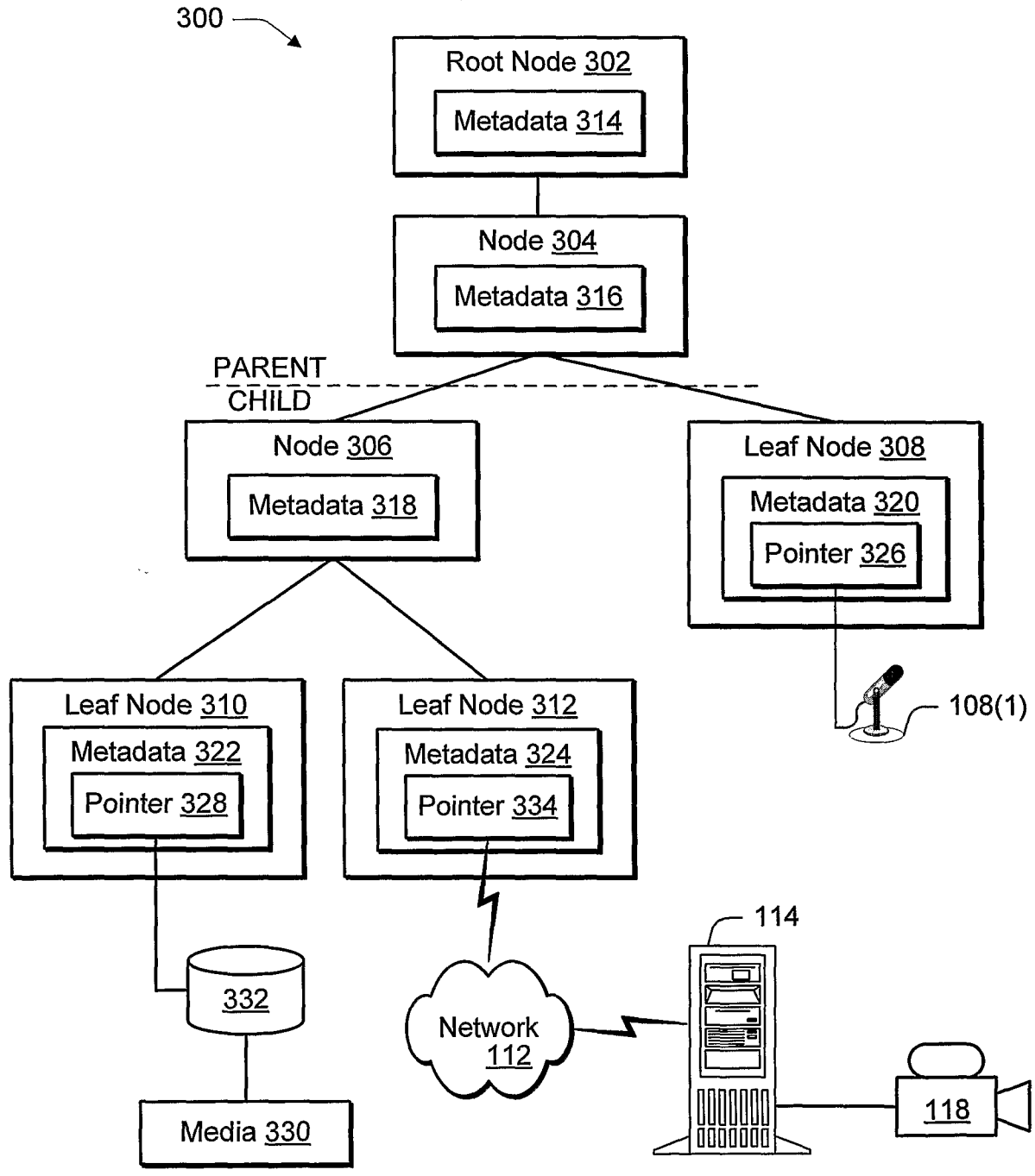

300
Root Node 302
Metadata 314
Node 304
Metadata 316
PARENT
CHILD
Node 306
Metadata 318
Leaf Node 308
Metadata 320
Pointer 326
108(1)
Leaf Node 310
Metadata 322
Pointer 328
Leaf Node 312
Metadata 324
Pointer 334
114
332
Network
112
Media 330
118

Fig. 4

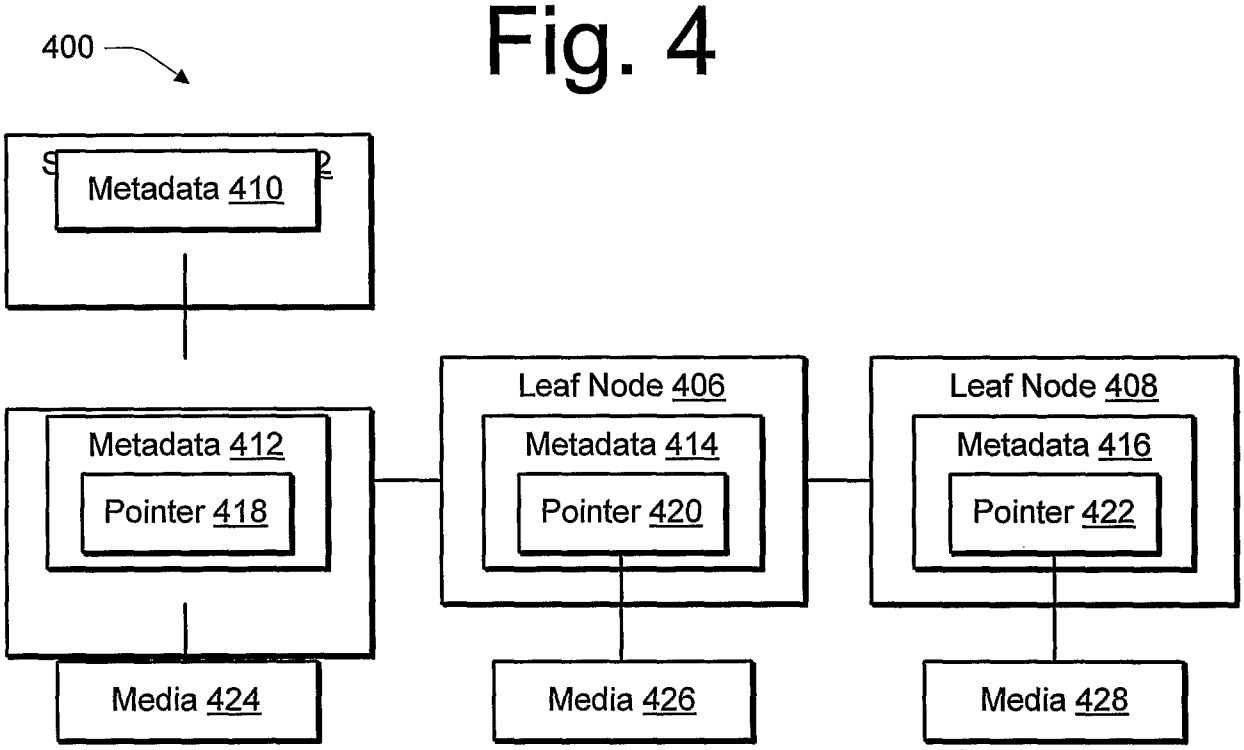

400
Metadata 410
Metadata 412
Pointer 418
Media 424
Leaf Node 406
Metadata 414
Pointer 420
Media 426
Leaf Node 408
Metadata 416
Pointer 422
Media 428

Fig. 5

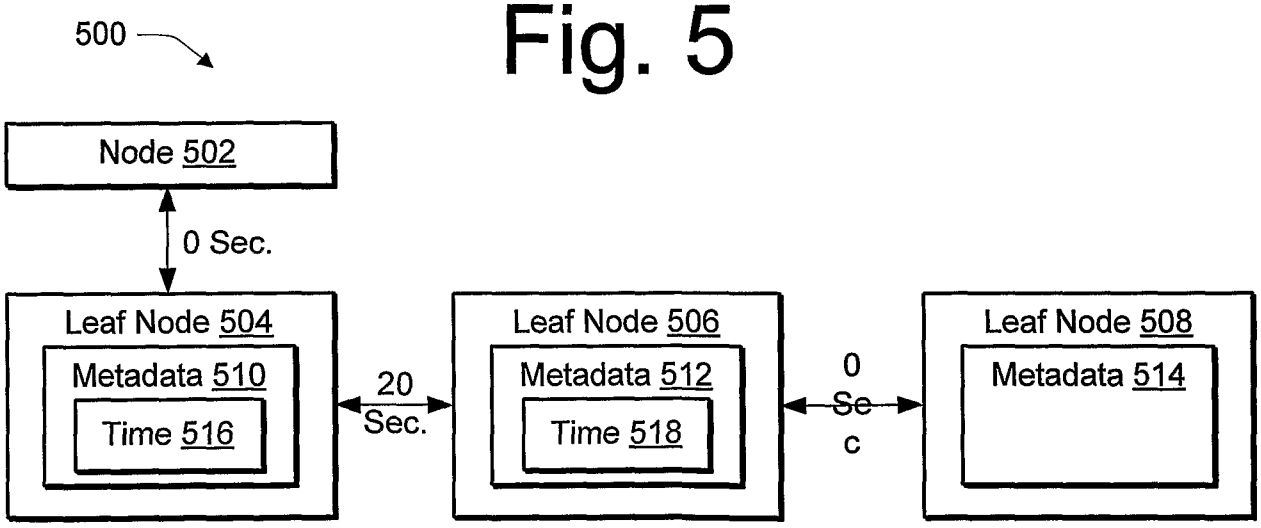

500
Node 502
0 Sec.
Leaf Node 504
Metadata 510
Time 516
20 Sec.
Leaf Node 506
Metadata 512
Time 518
0 Sec
Leaf Node 508
Metadata 514

Fig. 6

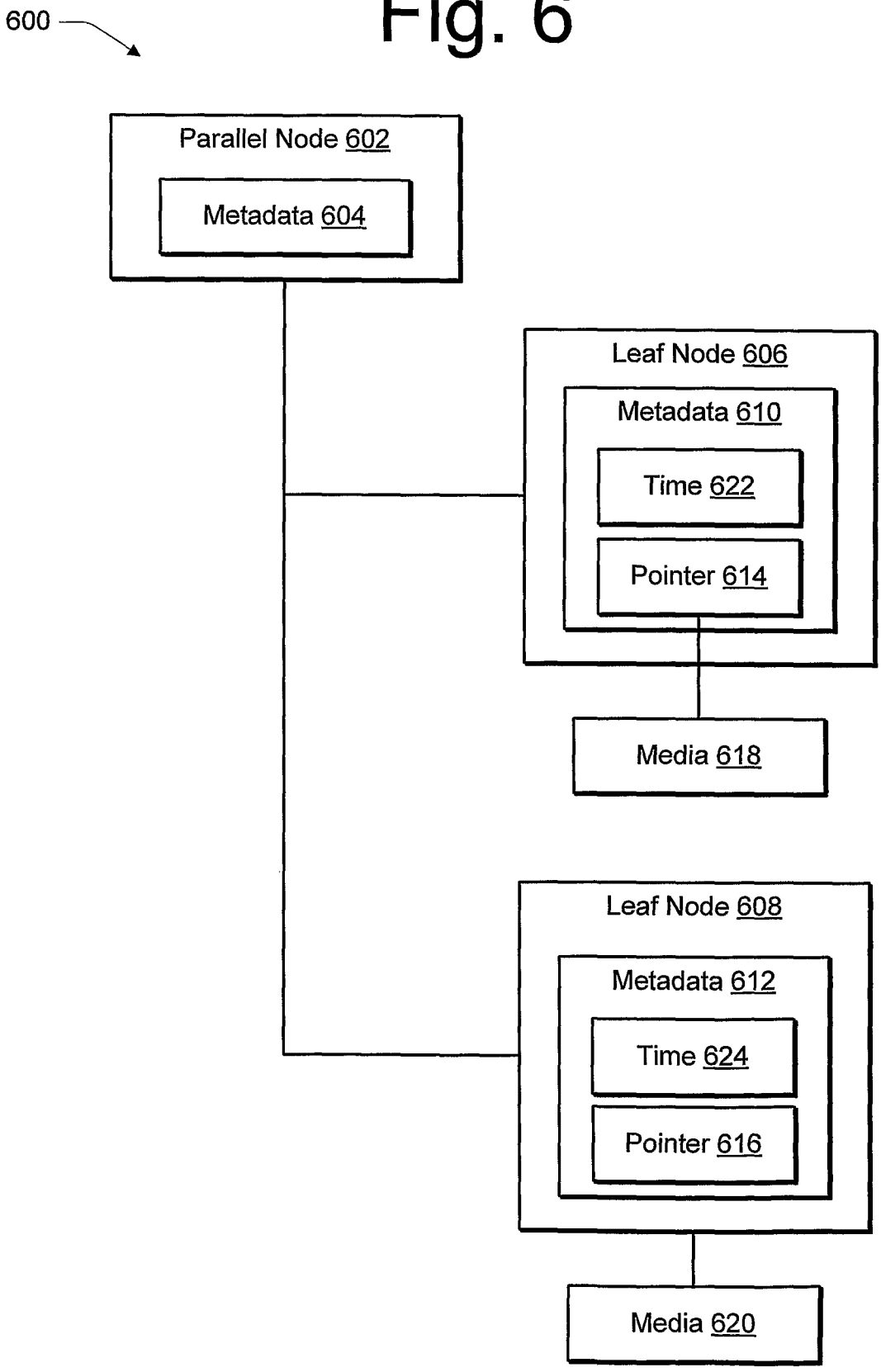

600
Parallel Node 602
Metadata 604
Leaf Node 606
Metadata 610
Time 622
Pointer 614
Media 618
Leaf Node 608
Metadata 612
Time 624
Pointer 616
Media 620

Fig. 7

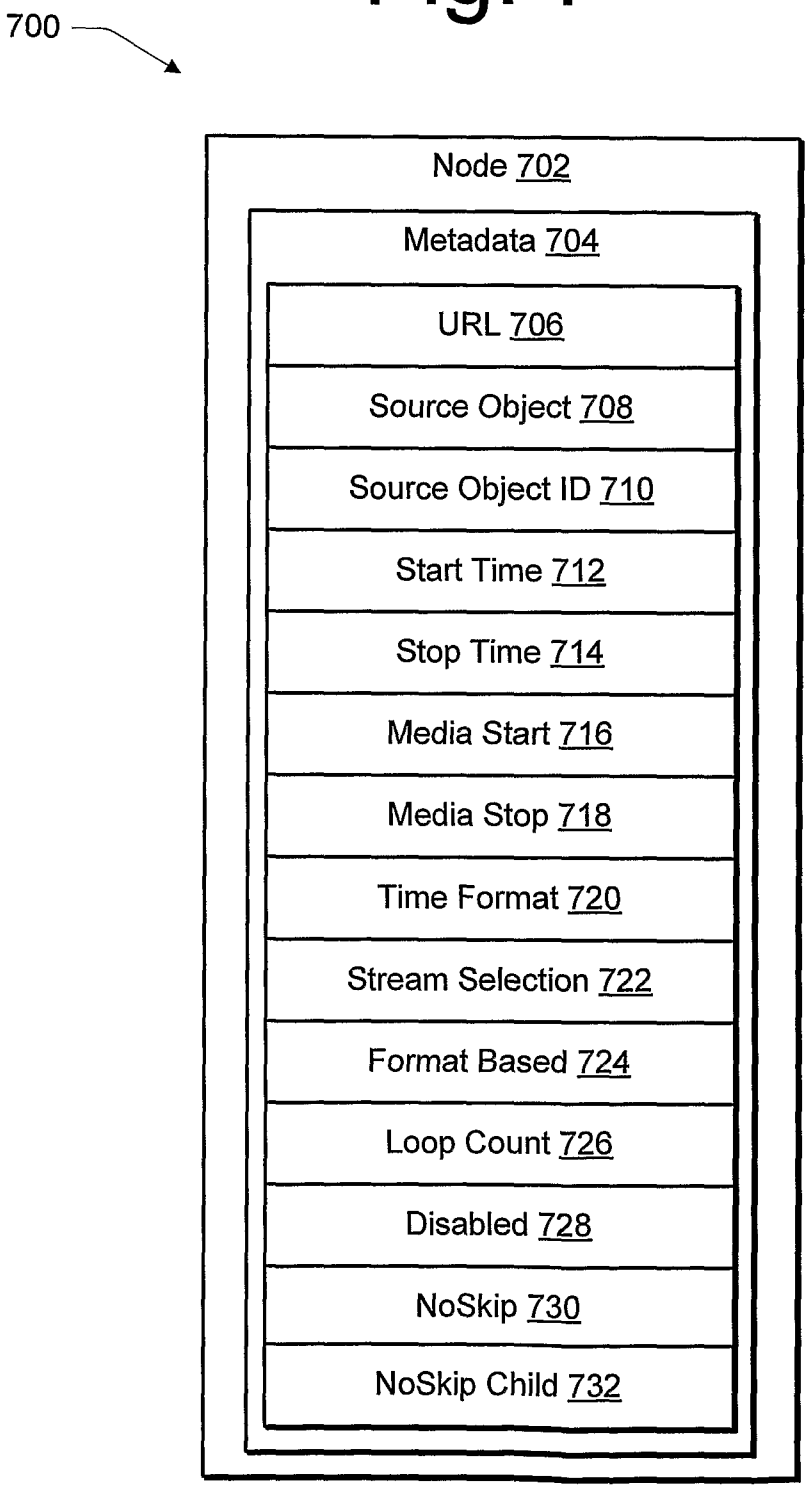

700
Node 702
Metadata 704
URL 706
Source Object 708
Source Object ID 710
Start Time 712
Stop Time 714
Media Start 716
Media Stop 718
Time Format 720
Stream Selection 722
Format Based 724
Loop Count 726
Disabled 728
NoSkip 730
NoSkip Child 732

Fig. 8

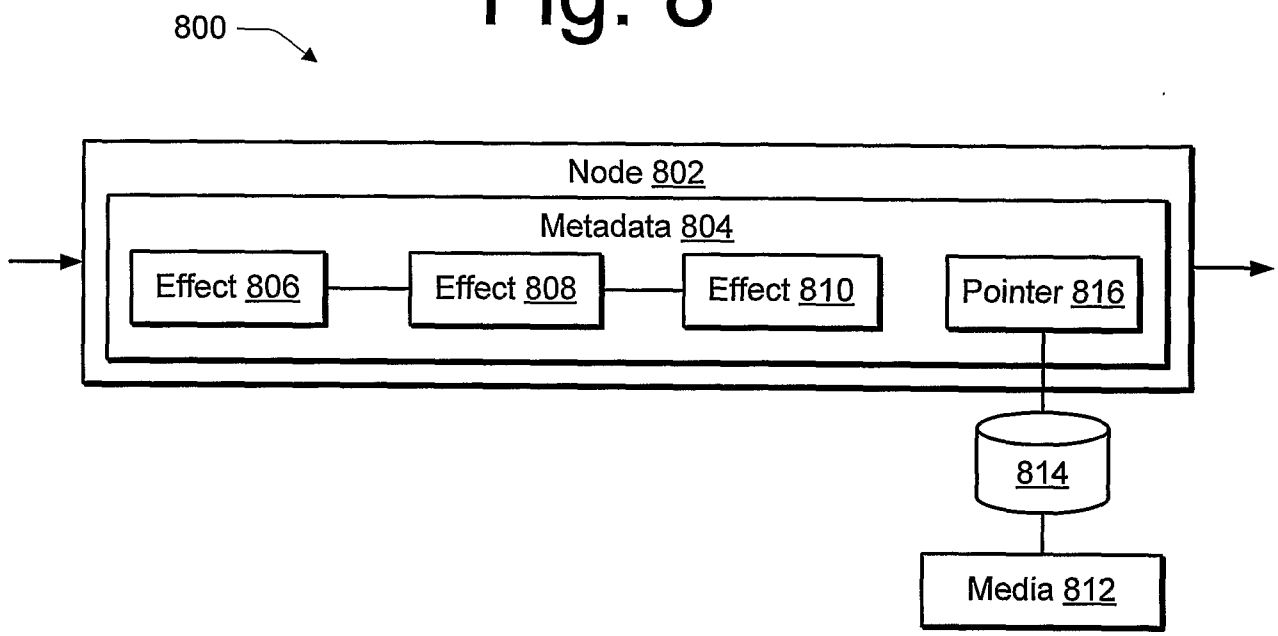

800
Node 802
Metadata 804
Effect 806
Effect 808
Effect 810
Pointer 816
814
Media 812

Fig. 9

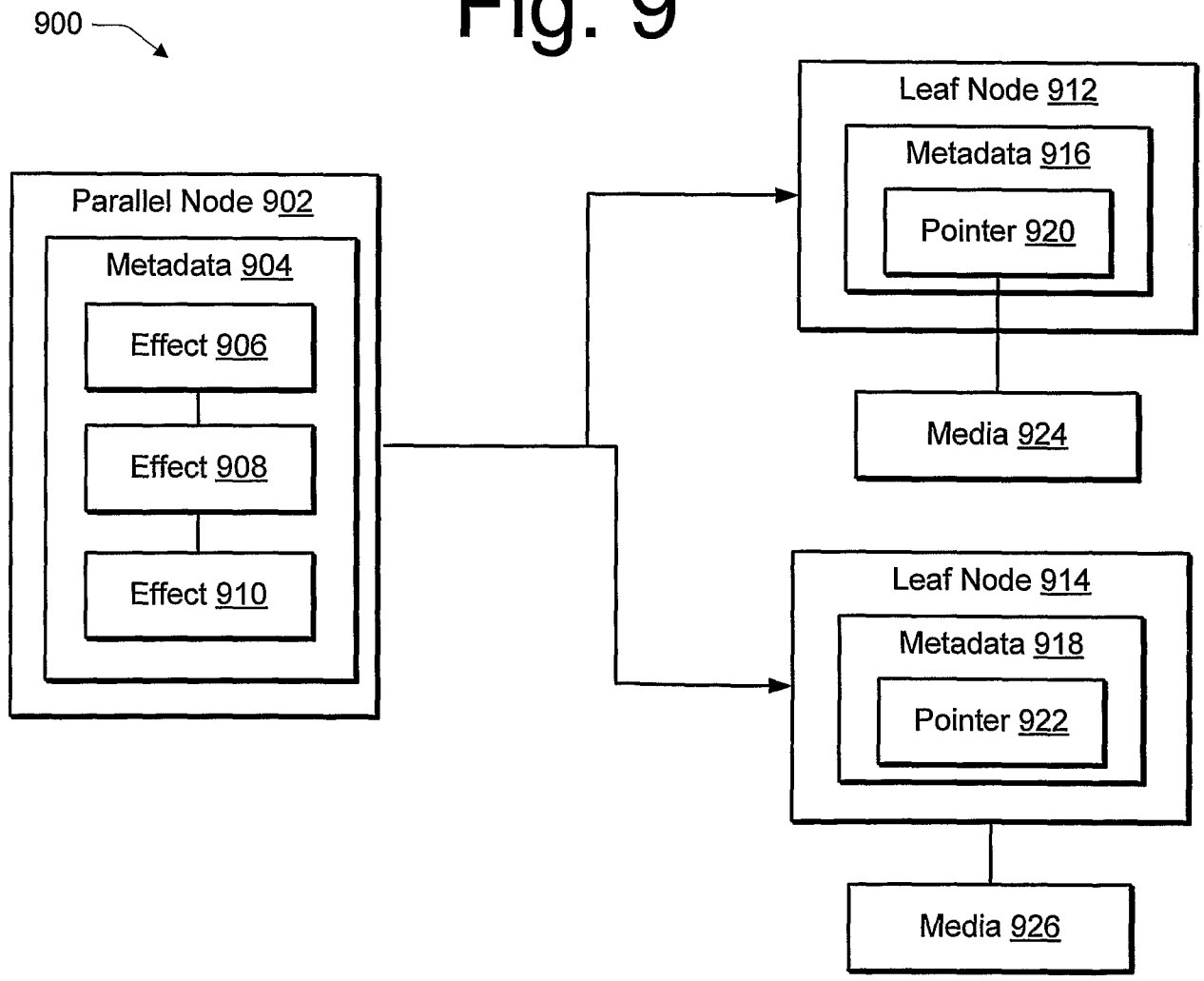

900
Parallel Node 902
Metadata 904
Effect 906
Effect 908
Effect 910
Leaf Node 912
Metadata 916
Pointer 920
Media 924
Leaf Node 914
Metadata 918
Pointer 922
Media 926

Fig. 10

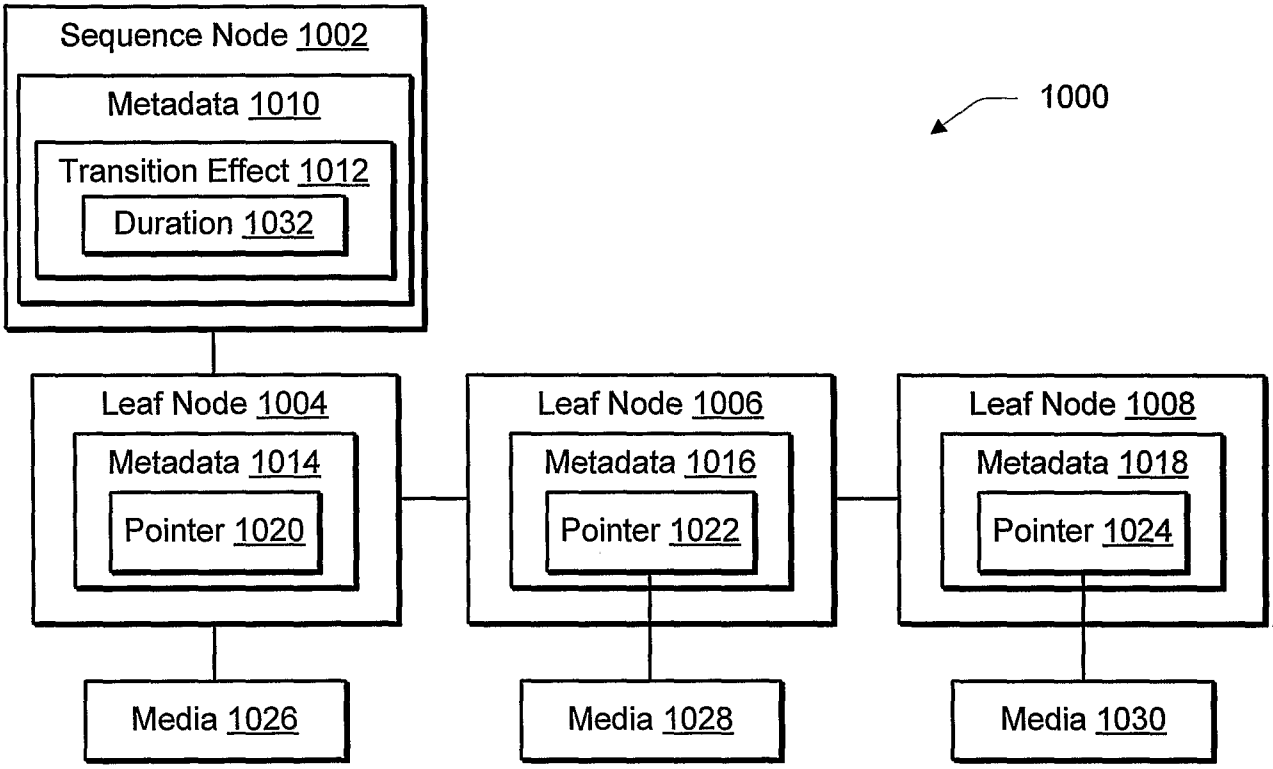

Sequence Node 1002
Metadata 1010
Transition Effect 1012
Duration 1032
1000
Leaf Node 1004
Metadata 1014
Pointer 1020
Leaf Node 1006
Metadata 1016
Pointer 1022
Leaf Node 1008
Metadata 1018
Pointer 1024
Media 1026
Media 1028
Media 1030

Fig. 11

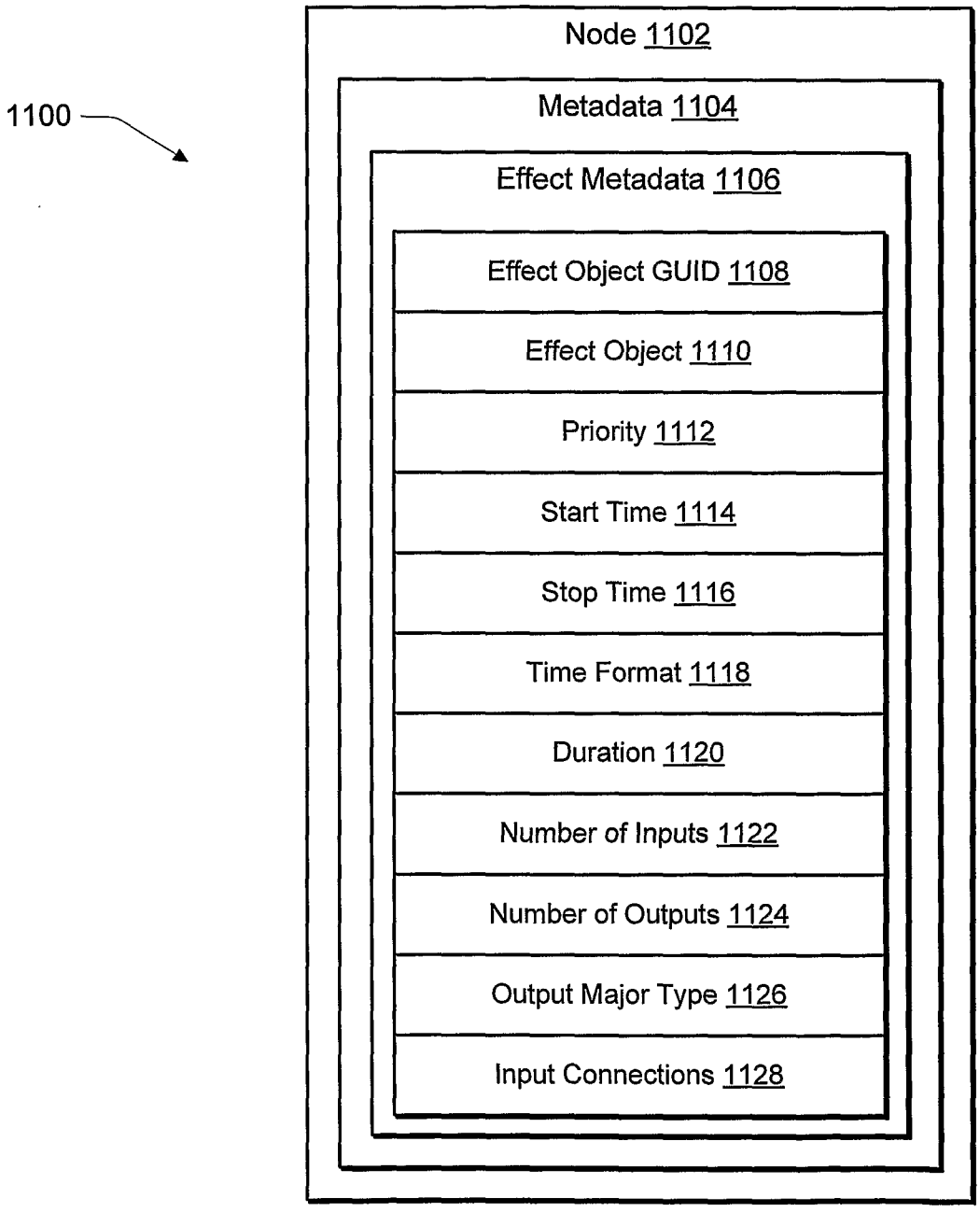

1100
Node 1102
Metadata 1104
Effect Metadata 1106
Effect Object GUID 1108
Effect Object 1110
Priority 1112
Start Time 1114
Stop Time 1116
Time Format 1118
Duration 1120
Number of Inputs 1122
Number of Outputs 1124
Output Major Type 1126
Input Connections 1128

Fig. 12

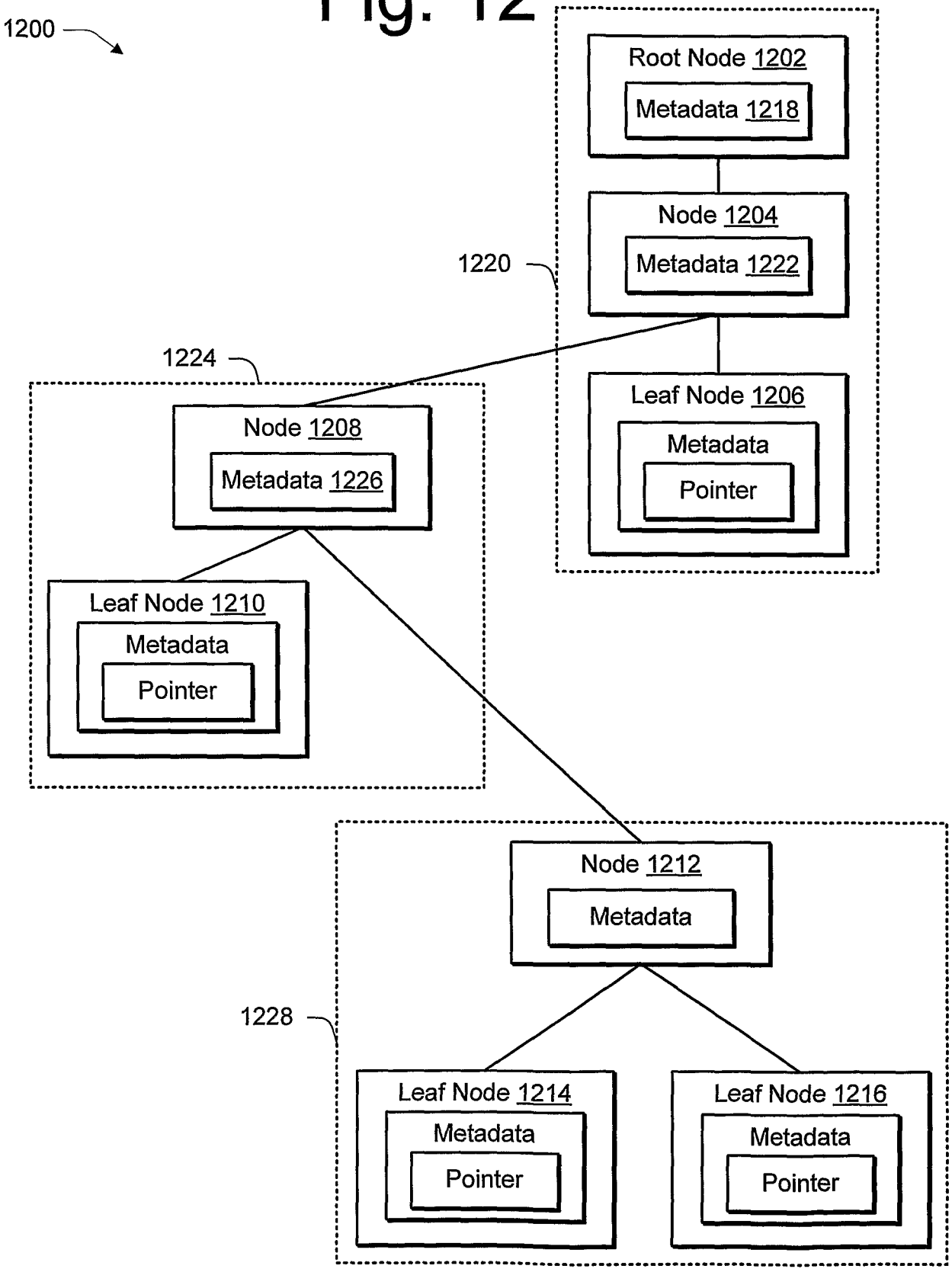

1200
Root Node 1202
Metadata 1218
Node 1204
Metadata 1222
1220
1224
Leaf Node 1206
Metadata
Pointer
Node 1208
Metadata 1226
Leaf Node 1210
Metadata
Pointer
Node 1212
Metadata
1228
Leaf Node 1214
Metadata
Pointer
Leaf Node 1216
Metadata
Pointer

Fig. 13

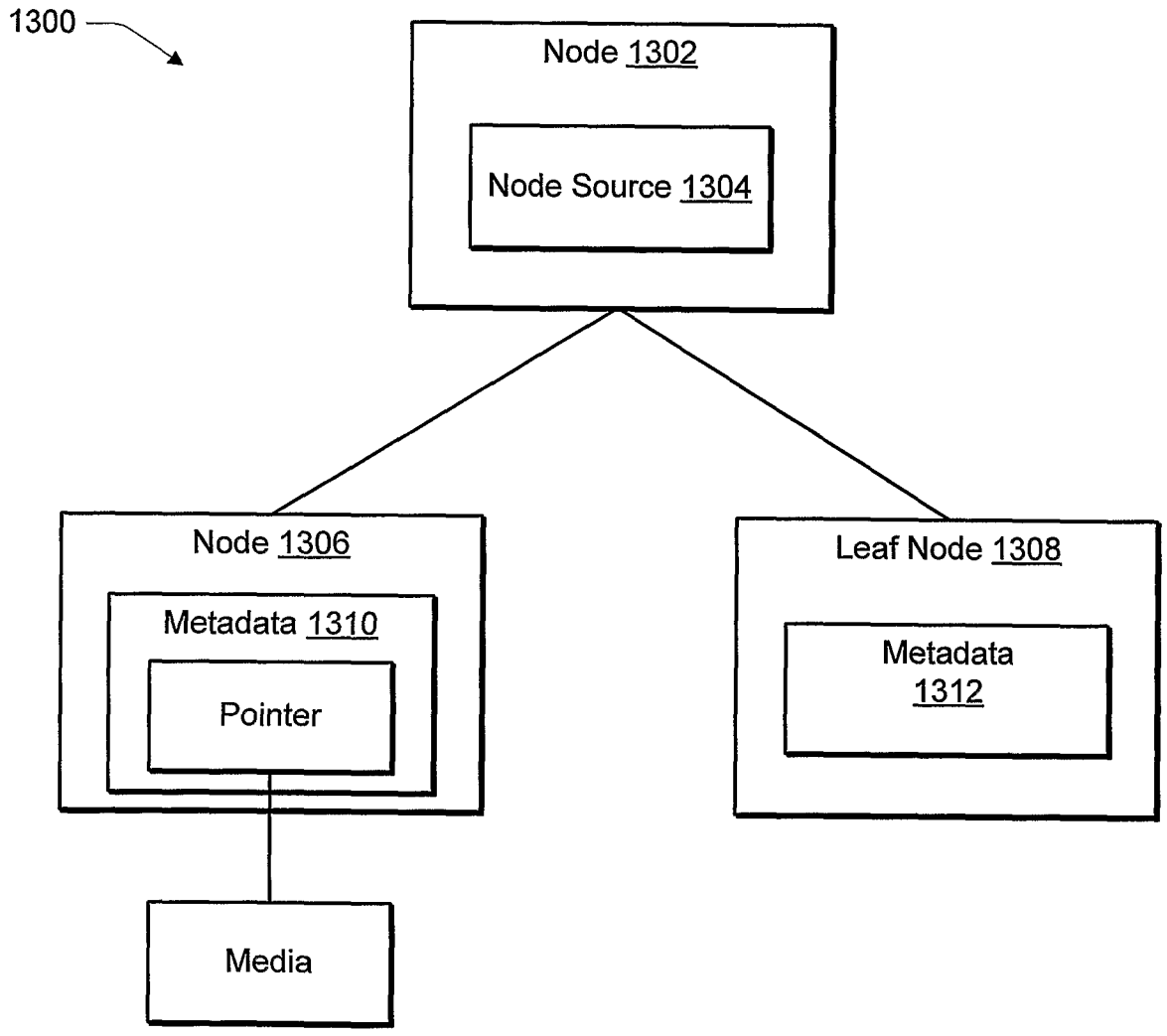

1300
Node 1302
Node Source 1304
Node 1306
Metadata 1310
Pointer
Leaf Node 1308
Metadata
1312
Media

Fig. 14

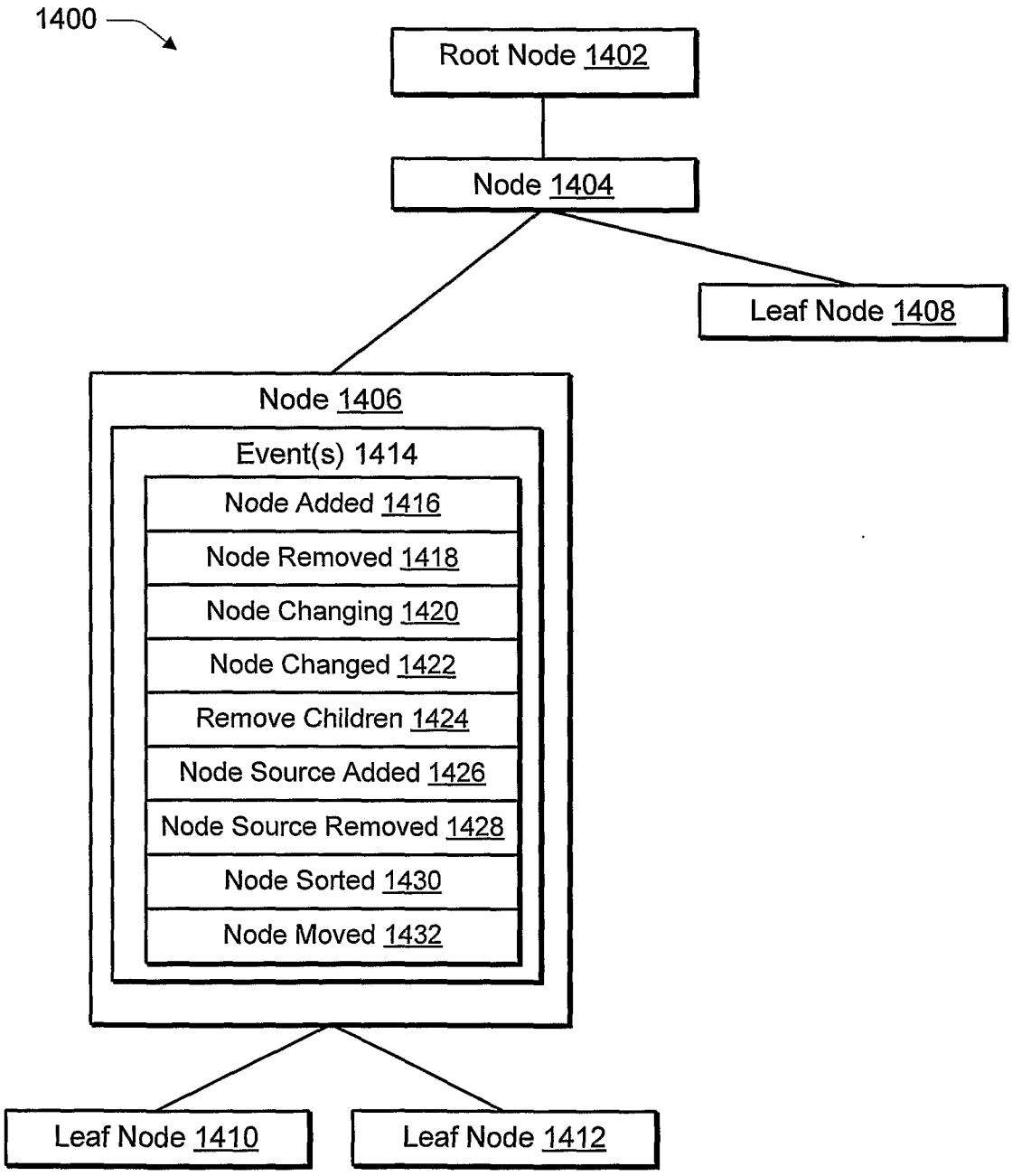

1400
Root Node 1402
Node 1404
Leaf Node 1408
Node 1406
Event(s) 1414
Node Added 1416
Node Removed 1418
Node Changing 1420
Node Changed 1422
Remove Children 1424
Node Source Added 1426
Node Source Removed 1428
Node Sorted 1430
Node Moved 1432
Leaf Node 1410
Leaf Node 1412

Fig. 15

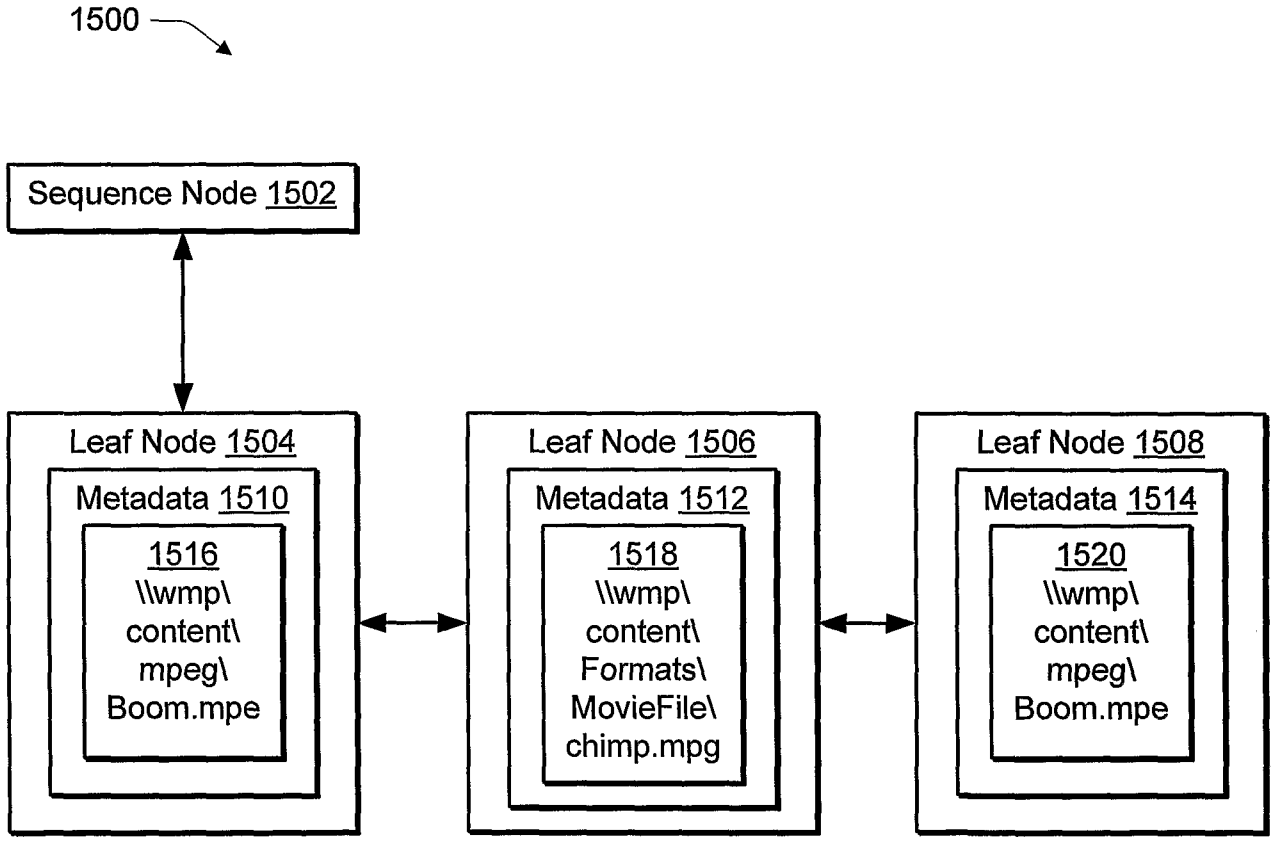

1500
Sequence Node 1502
Leaf Node 1504
Metadata 1510
1516
\\wmp\
content\
mpeg\
Boom.mpe
Leaf Node 1506
Metadata 1512
1518
\\wmp\
content\
Formats\
MovieFile\
chimp.mpg
Leaf Node 1508
Metadata 1514
1520
\\wmp\
content\
mpeg\
Boom.mpe

Fig. 16

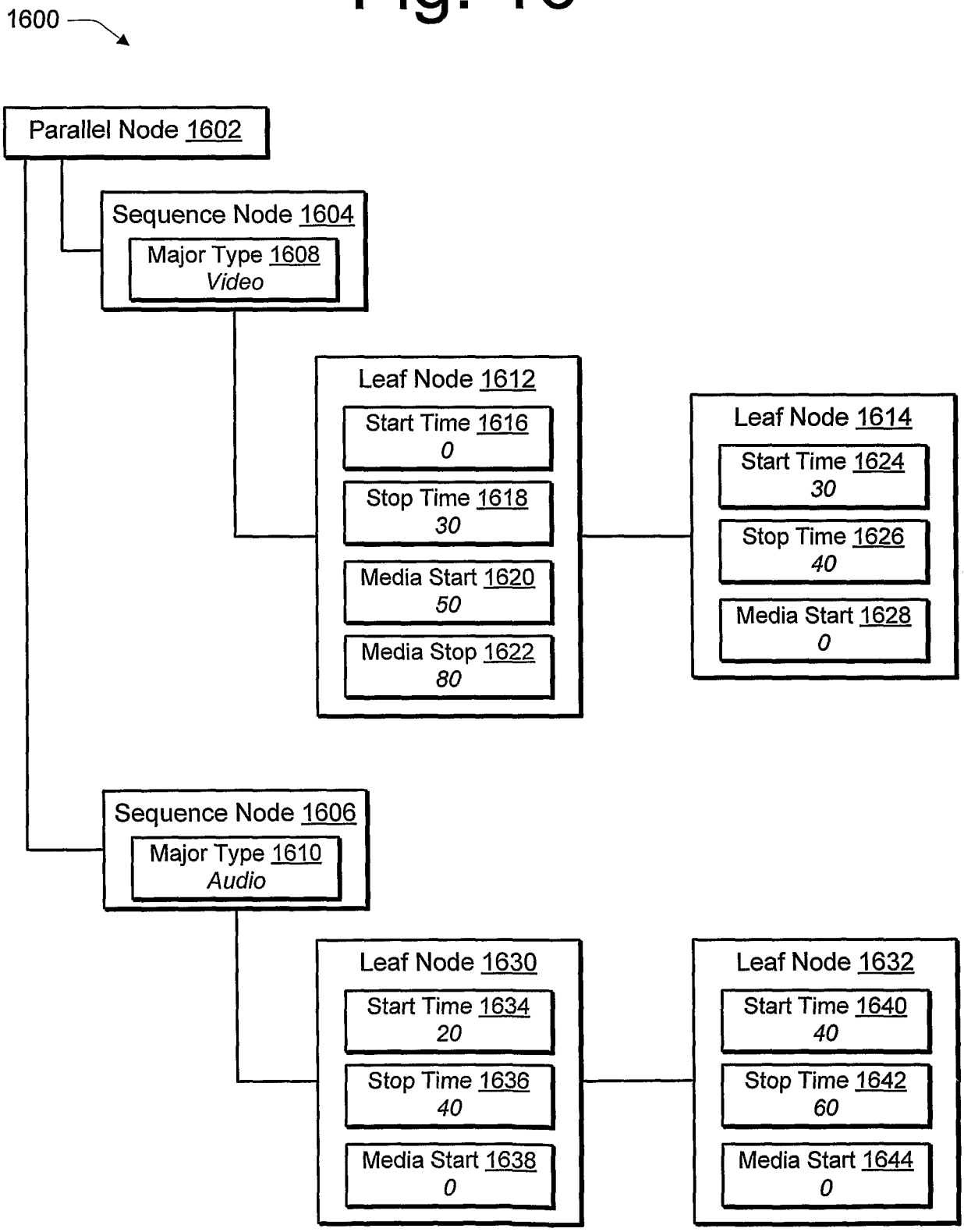

1600
Parallel Node 1602
Sequence Node 1604
Major Type 1608
Video
Leaf Node 1612
Start Time 1616
0
Stop Time 1618
30
Media Start 1620
50
Media Stop 1622
80
Leaf Node 1614
Start Time 1624
30
Stop Time 1626
40
Media Start 1628
0
Sequence Node 1606
Major Type 1610
Audio
Leaf Node 1630
Start Time 1634
20
Stop Time 1636
40
Media Start 1638
0
Leaf Node 1632
Start Time 1640
40
Stop Time 1642
60
Media Start 1644
0

Fig. 17

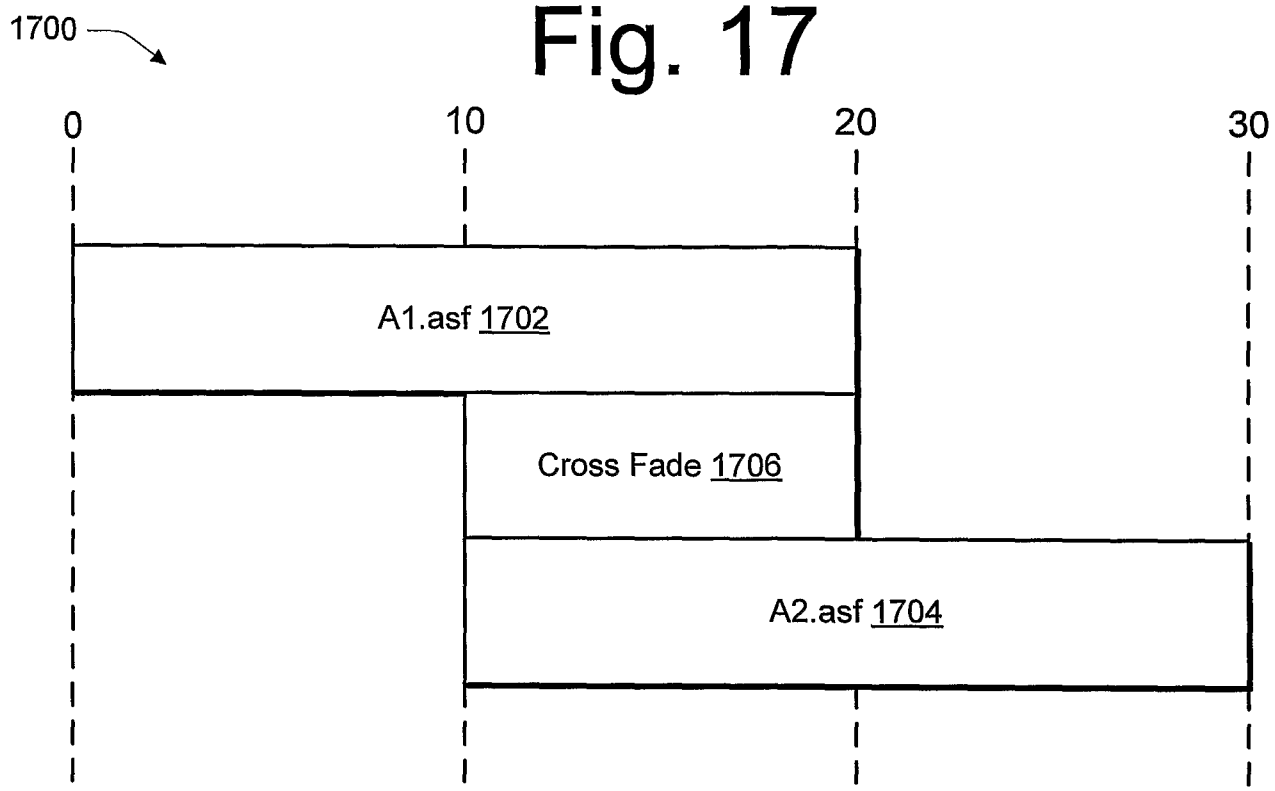

1700
0
10
20
30
A1.asf 1702
Cross Fade 1706
A2.asf 1704

Fig. 18

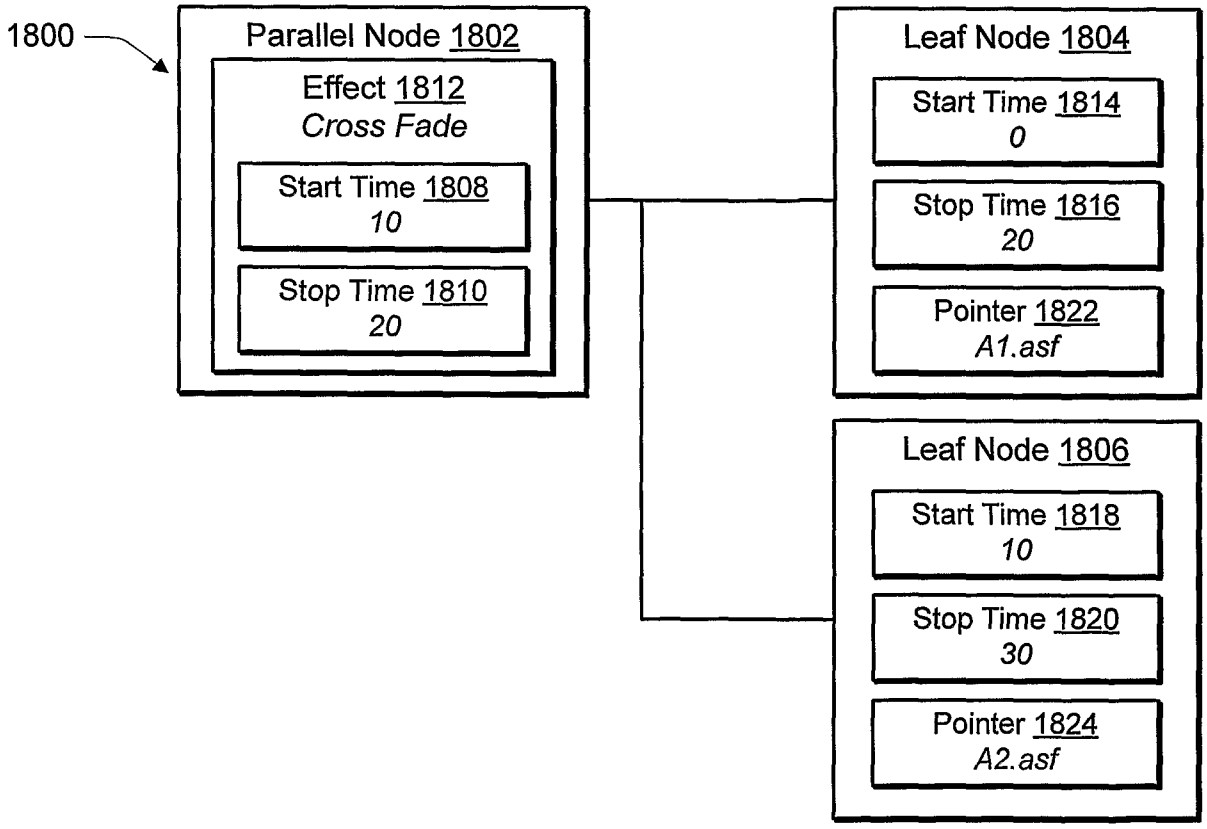

1800
Parallel Node 1802
Effect 1812
Cross Fade
Start Time 1808
10
Stop Time 1810
20
Leaf Node 1804
Start Time 1814
0
Stop Time 1816
20
Pointer 1822
A1.asf
Leaf Node 1806
Start Time 1818
10
Stop Time 1820
30
Pointer 1824
A2.asf

Fig. 19

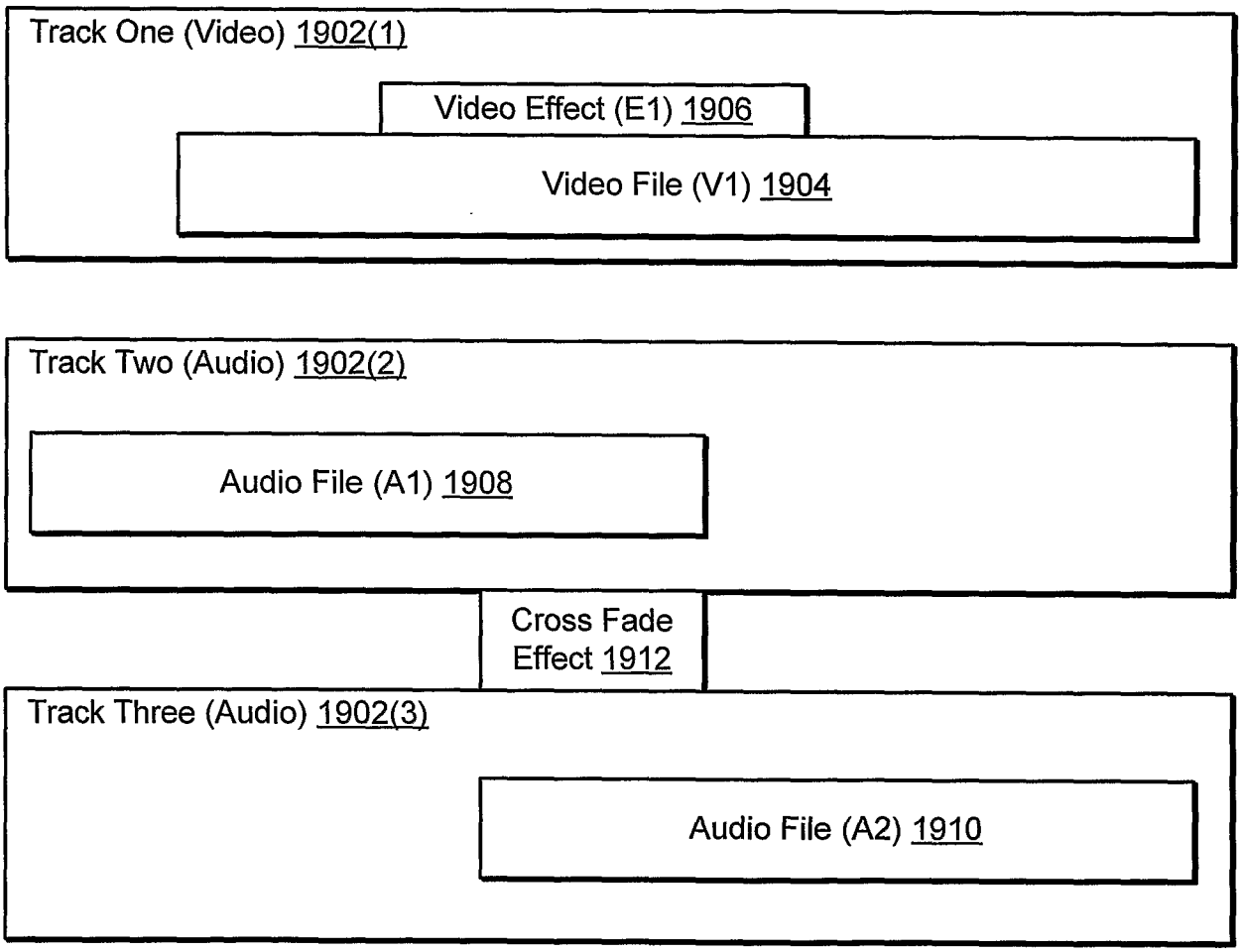
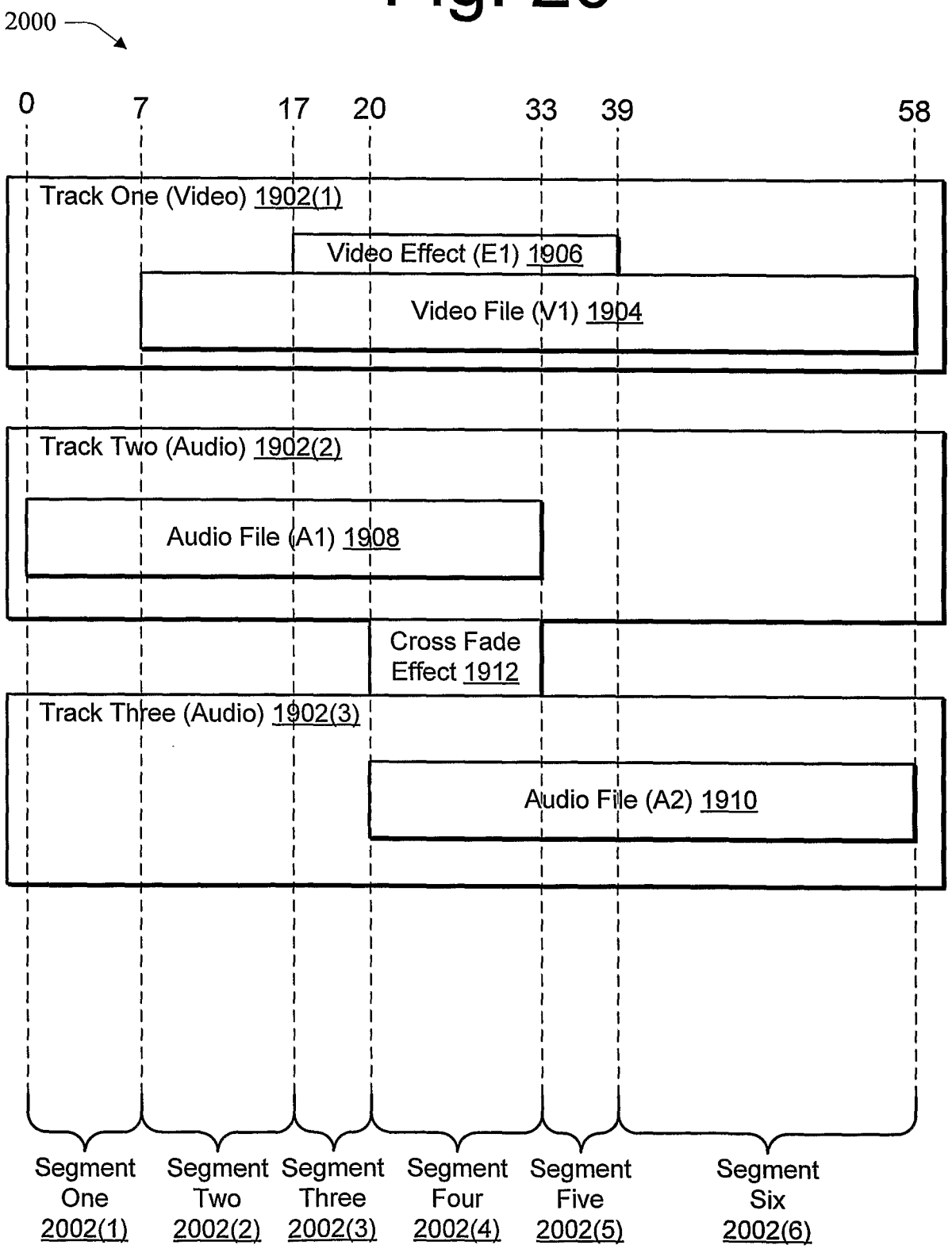

1900
Track One (Video) 1902(1)
Video Effect (E1) 1906
Video File (V1) 1904
Track Two (Audio) 1902(2)
Audio File (A1) 1908
Cross Fade Effect 1912
Track Three (Audio) 1902(3)
Audio File (A2) 1910

Fig. 20


2000
0
7
17
20
33
39
58
Track One (Video) 1902(1)
Video Effect (E1) 1906
Video File (V1) 1904
Track Two (Audio) 1902(2)
Audio File (A1) 1908
Cross Fade Effect 1912
Track Three (Audio) 1902(3)
Audio File (A2) 1910
Segment One 2002(1)
Segment Two 2002(2)
Segment Three 2002(3)
Segment Four 2002(4)
Segment Five 2002(5)
Segment Six 2002(6)

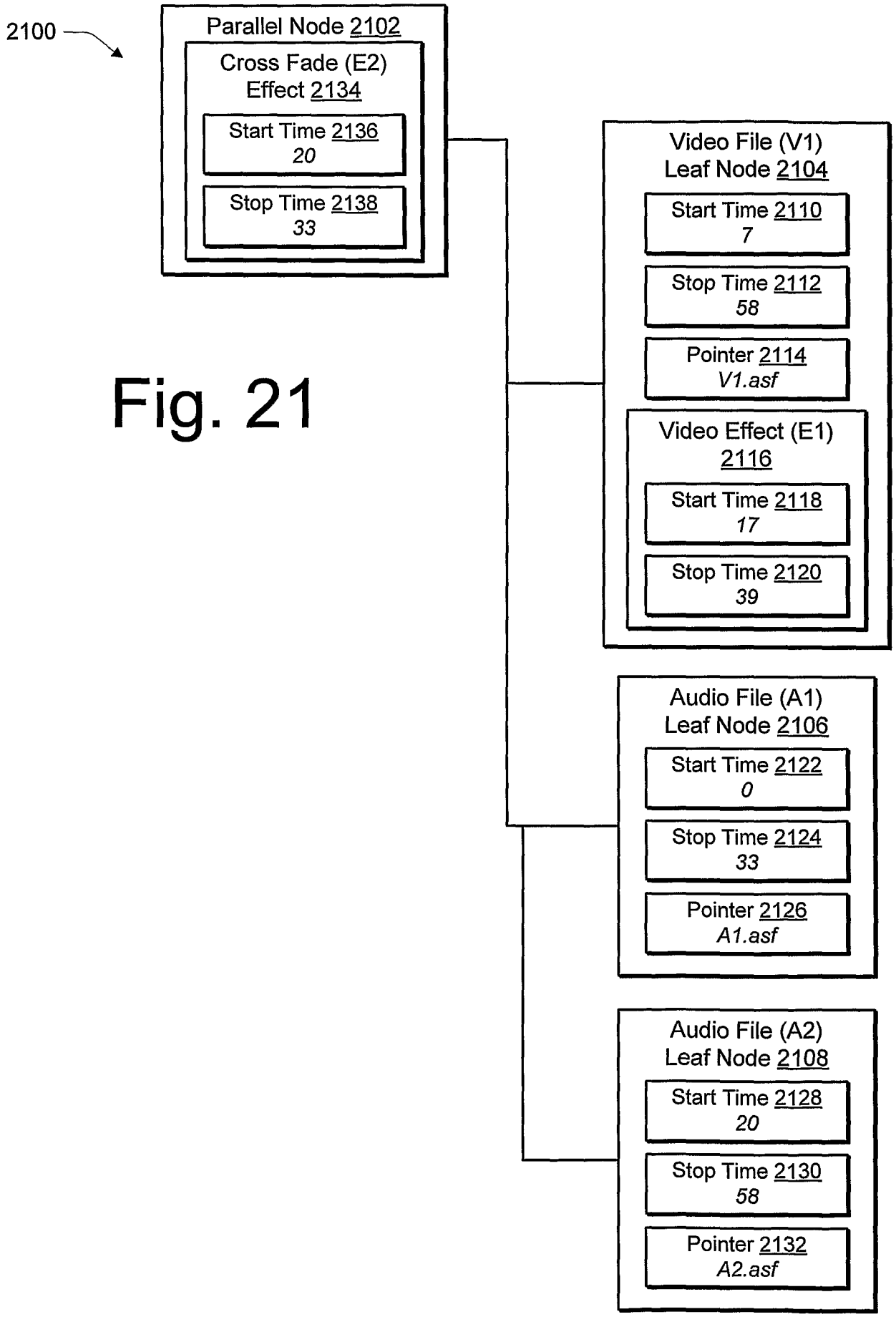

2100
Parallel Node 2102
Cross Fade (E2) Effect 2134
Start Time 2136
20
Stop Time 2138
33
Video File (V1) Leaf Node 2104
Start Time 2110
7
Stop Time 2112
58
Pointer 2114
V1.asf
Video Effect (E1) 2116
Start Time 2118
17
Stop Time 2120
39
Audio File (A1) Leaf Node 2106
Start Time 2122
0
Stop Time 2124
33
Pointer 2126
A1.asf
Audio File (A2) Leaf Node 2108
Start Time 2128
20
Stop Time 2130
58
Pointer 2132
A2.asf

Fig. 21

Fig. 22

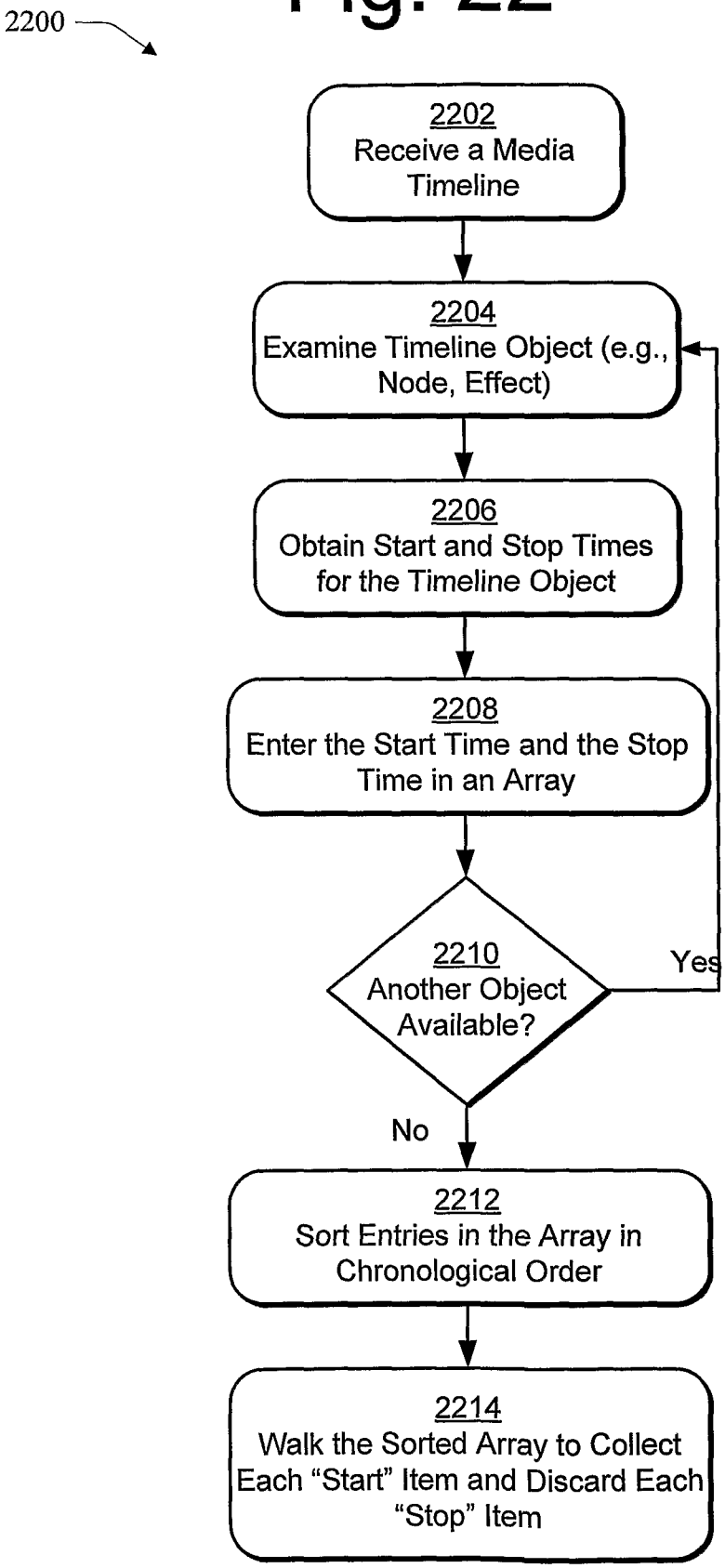

2200
2202
Receive a Media Timeline
2204
Examine Timeline Object (e.g., Node, Effect)
2206
Obtain Start and Stop Times for the Timeline Object
2208
Enter the Start Time and the Stop Time in an Array
2210
Another Object Available?
Yes
No
2212
Sort Entries in the Array in Chronological Order
2214
Walk the Sorted Array to Collect Each "Start" Item and Discard Each "Stop" Item

Fig. 23

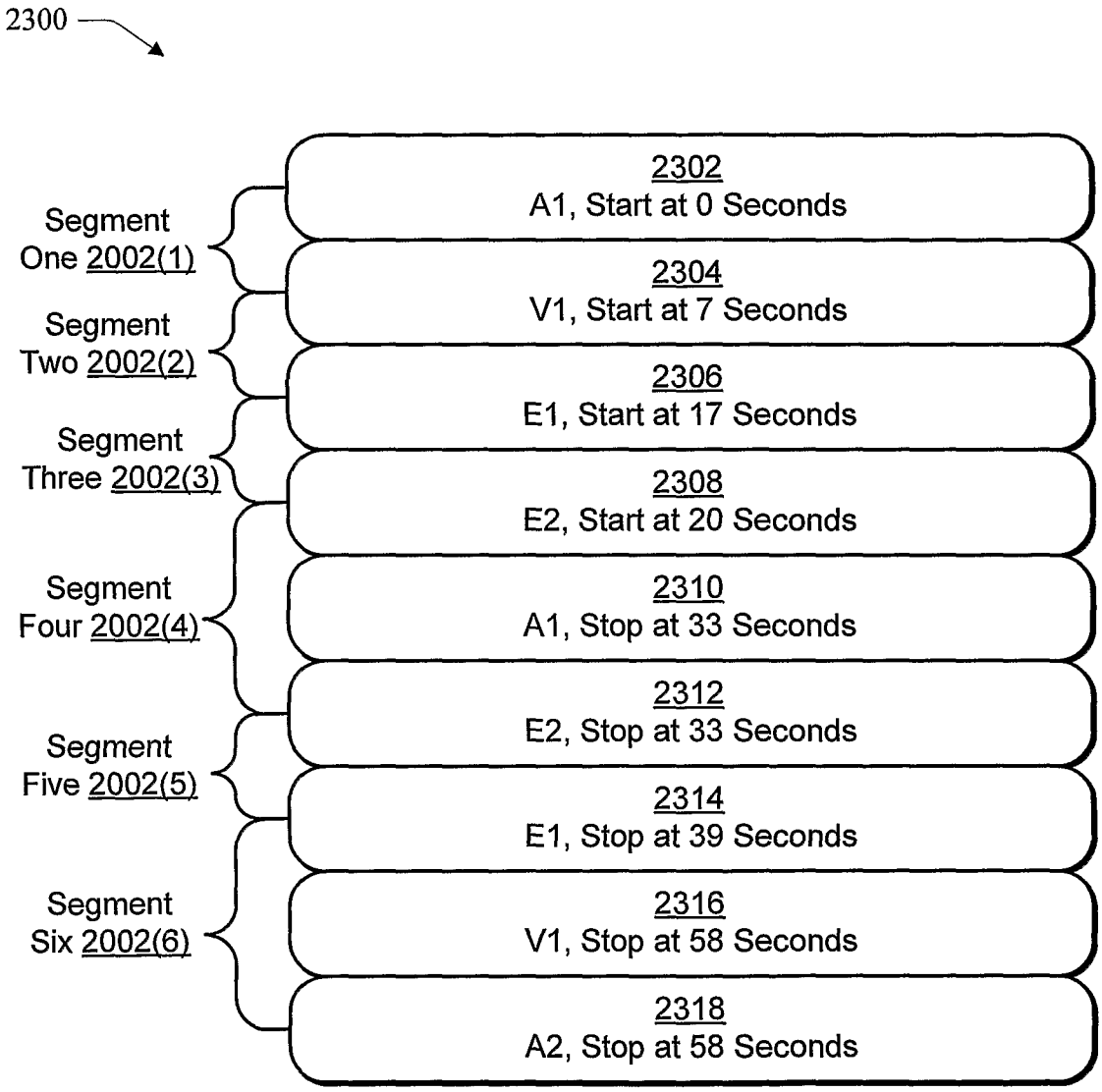

2300
Segment One 2002(1)
Segment Two 2002(2)
Segment Three 2002(3)
Segment Four 2002(4)
Segment Five 2002(5)
Segment Six 2002(6)
2302
A1, Start at 0 Seconds
2304
V1, Start at 7 Seconds
2306
E1, Start at 17 Seconds
2308
E2, Start at 20 Seconds
2310
A1, Stop at 33 Seconds
2312
E2, Stop at 33 Seconds
2314
E1, Stop at 39 Seconds
2316
V1, Stop at 58 Seconds
2318
A2, Stop at 58 Seconds

Fig. 24

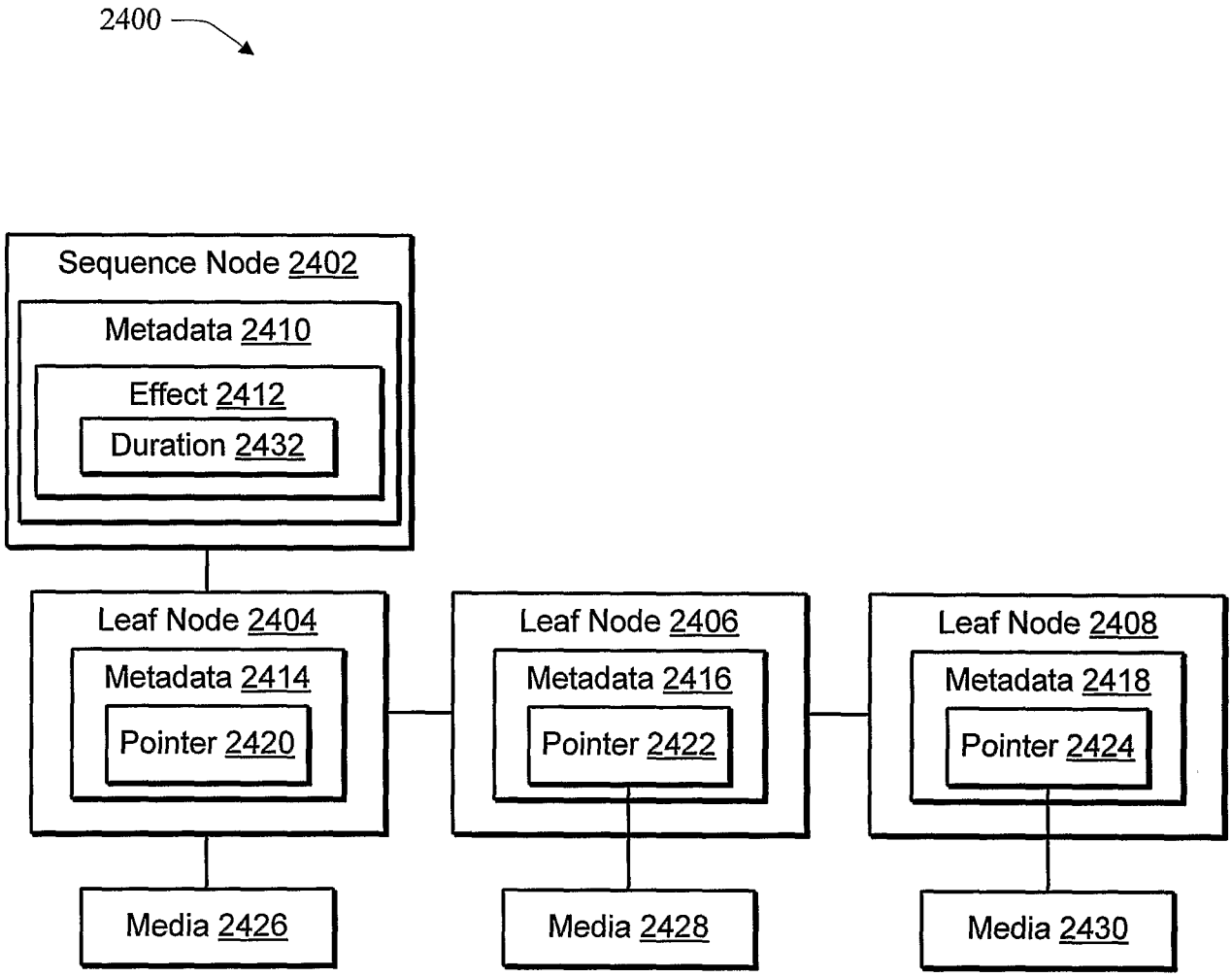

2400
Sequence Node 2402
Metadata 2410
Effect 2412
Duration 2432
Leaf Node 2404
Metadata 2414
Pointer 2420
Leaf Node 2406
Metadata 2416
Pointer 2422
Leaf Node 2408
Metadata 2418
Pointer 2424
Media 2426
Media 2428
Media 2430

Fig. 25

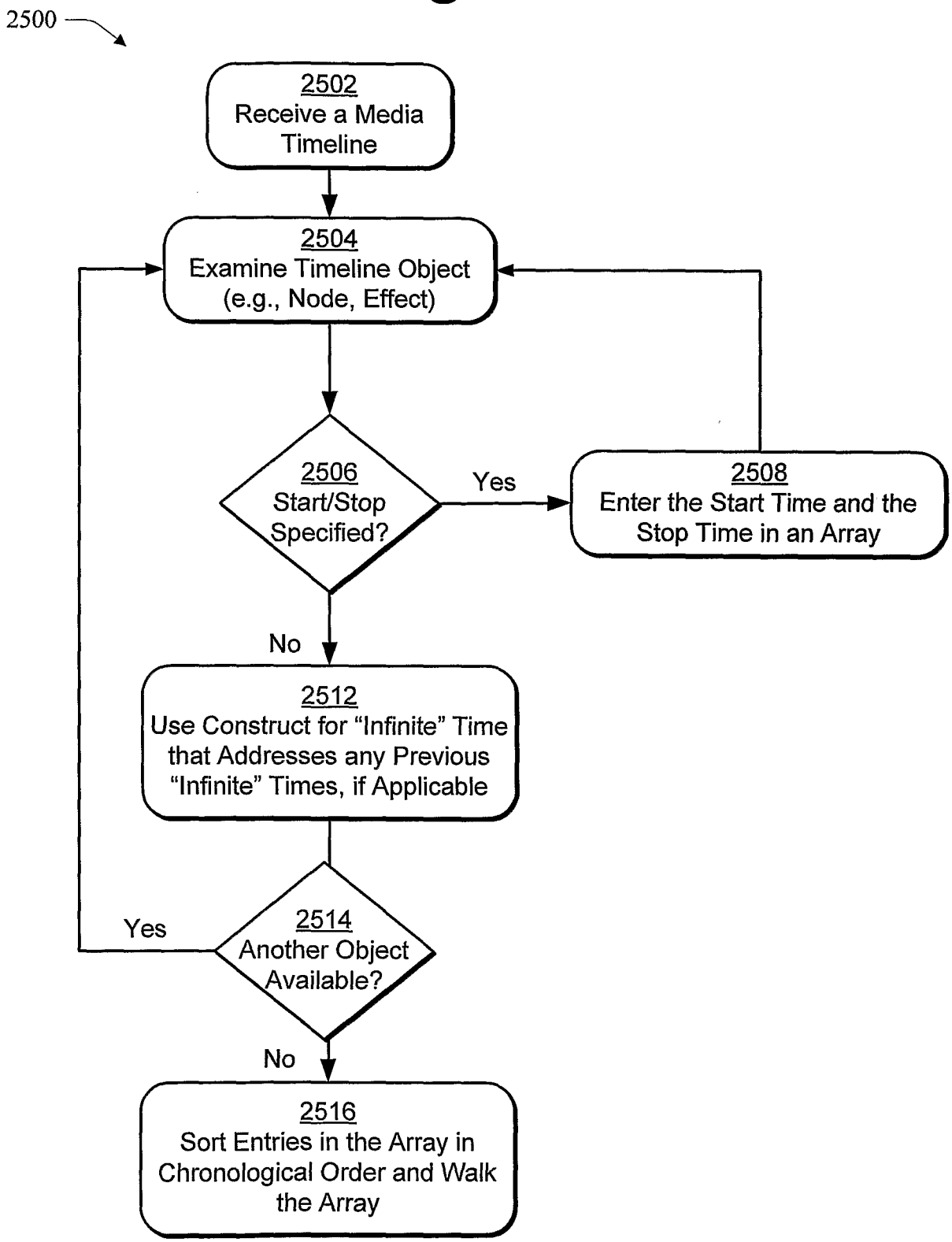

2500
2502
Receive a Media Timeline
2504
Examine Timeline Object (e.g., Node, Effect)
2506
Start/Stop Specified?
Yes
2508
Enter the Start Time and the Stop Time in an Array
No
2512
Use Construct for "Infinite" Time that Addresses any Previous "Infinite" Times, if Applicable
2514
Another Object Available?
Yes
No
2516
Sort Entries in the Array in Chronological Order and Walk the Array

Fig. 26

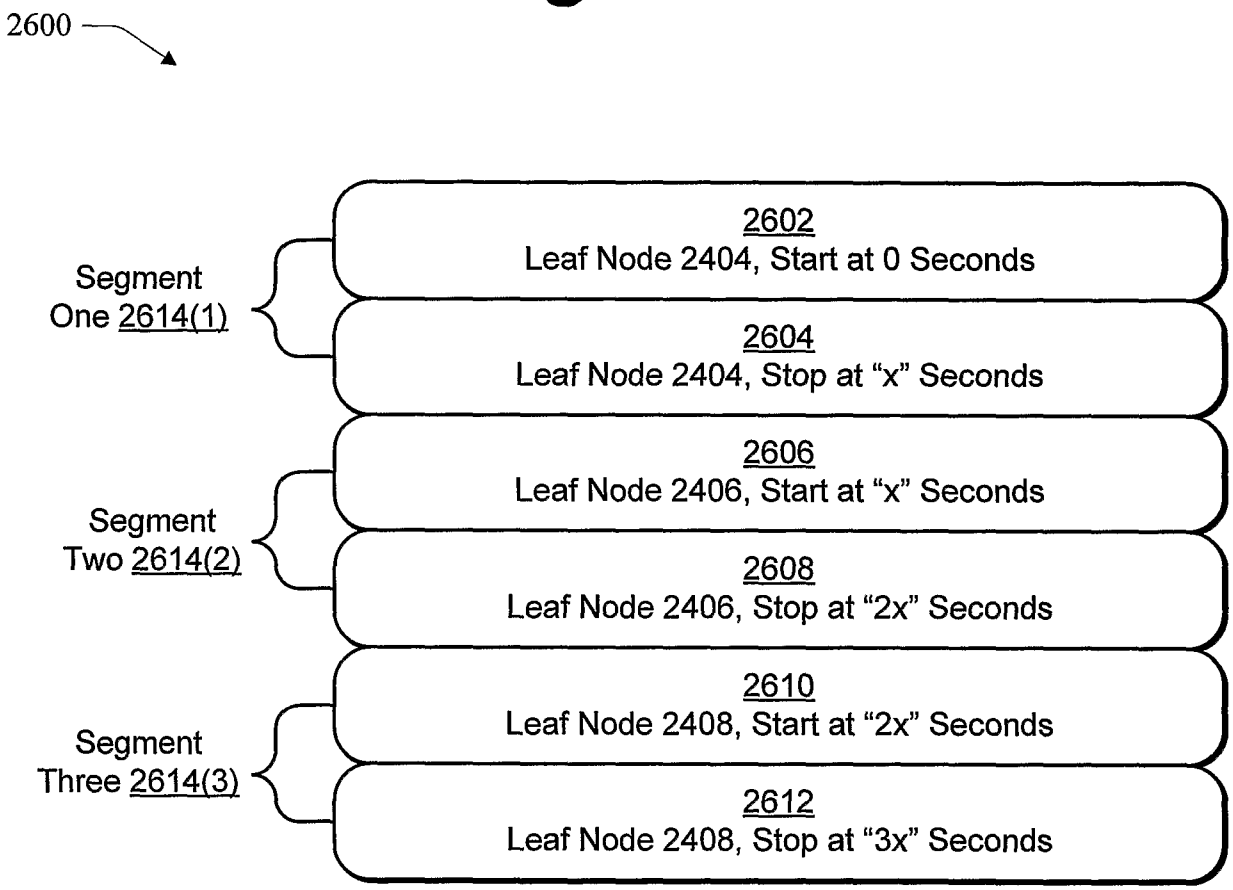

2600
Segment One 2614(1)
2602
Leaf Node 2404, Start at 0 Seconds
2604
Leaf Node 2404, Stop at "x" Seconds
Segment Two 2614(2)
2606
Leaf Node 2406, Start at "x" Seconds
2608
Leaf Node 2406, Stop at "2x" Seconds
Segment Three 2614(3)
2610
Leaf Node 2408, Start at "2x" Seconds
2612
Leaf Node 2408, Stop at "3x" Seconds

Fig. 27

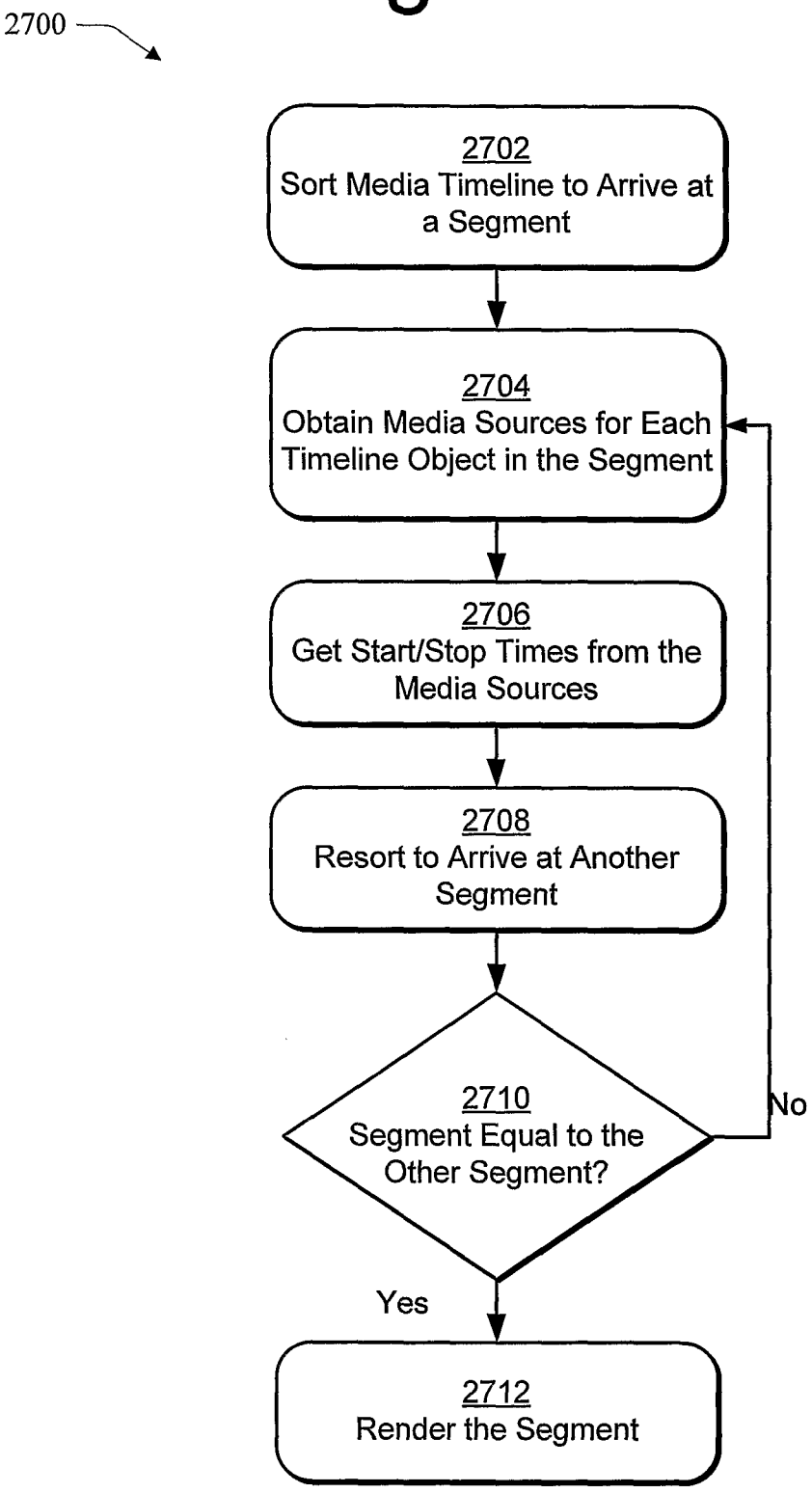
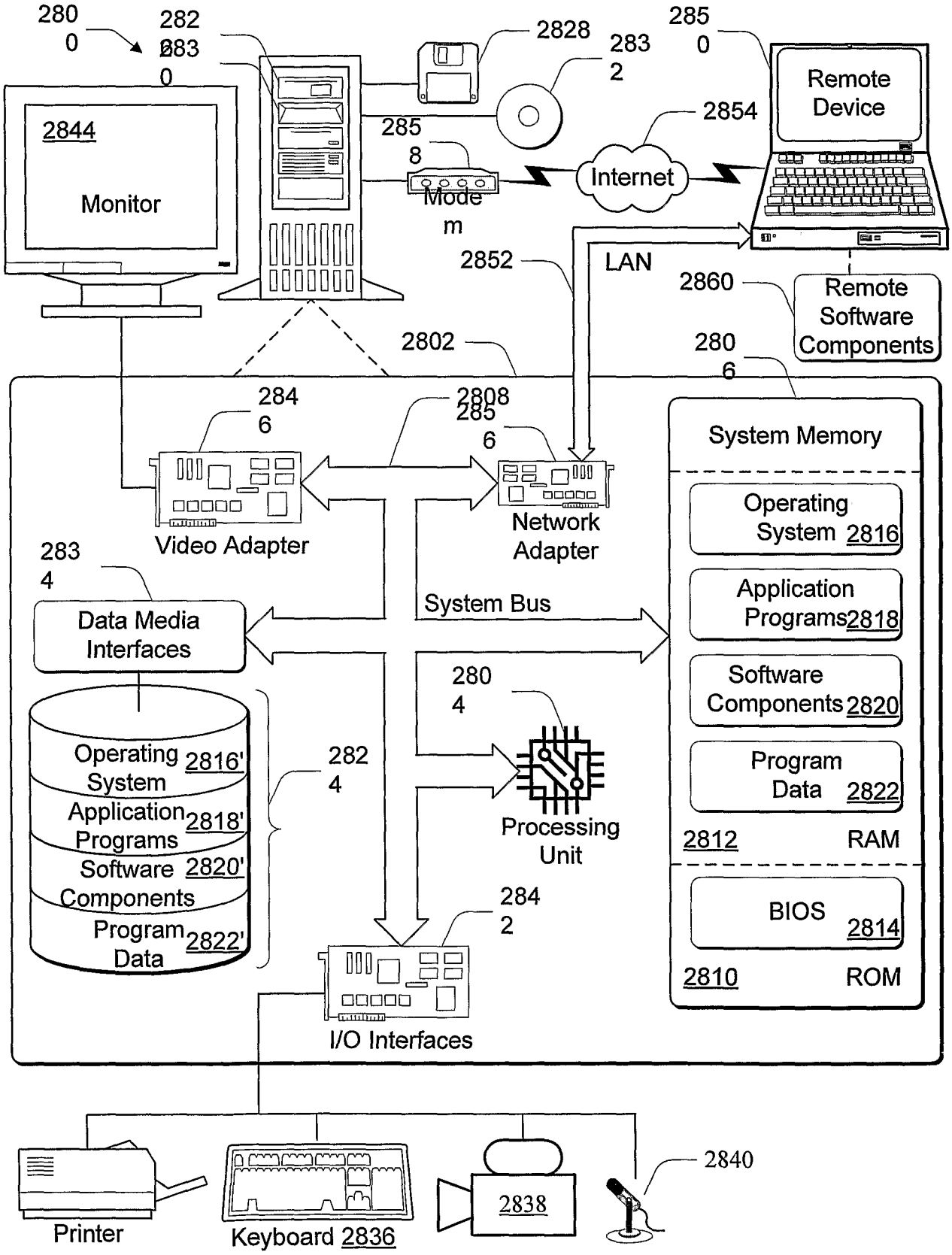

2700
2702
Sort Media Timeline to Arrive at a Segment
2704
Obtain Media Sources for Each Timeline Object in the Segment
2706
Get Start/Stop Times from the Media Sources
2708
Resort to Arrive at Another Segment
2710
Segment Equal to the Other Segment?
No
Yes
2712
Render the Segment

Fig. 28


2800
2820
2828
2832
2850
Remote Device
2844
Monitor
2858
Modem
Internet
2854
2852
LAN
2860
Remote Software Components
2802
2806
2846
2808
2856
System Memory
Video Adapter
Network Adapter
Operating System 2816
2834
Application Programs 2818
Data Media Interfaces
System Bus
Software Components 2820
2804
Program Data 2822
Operating System 2816'
Application Programs 2818'
Software Components 2820'
Program Data 2822'
2824
Processing Unit
2812
RAM
BIOS 2814
2842
2810
ROM
I/O Interfaces
Printer
Keyboard 2836
2838
2840