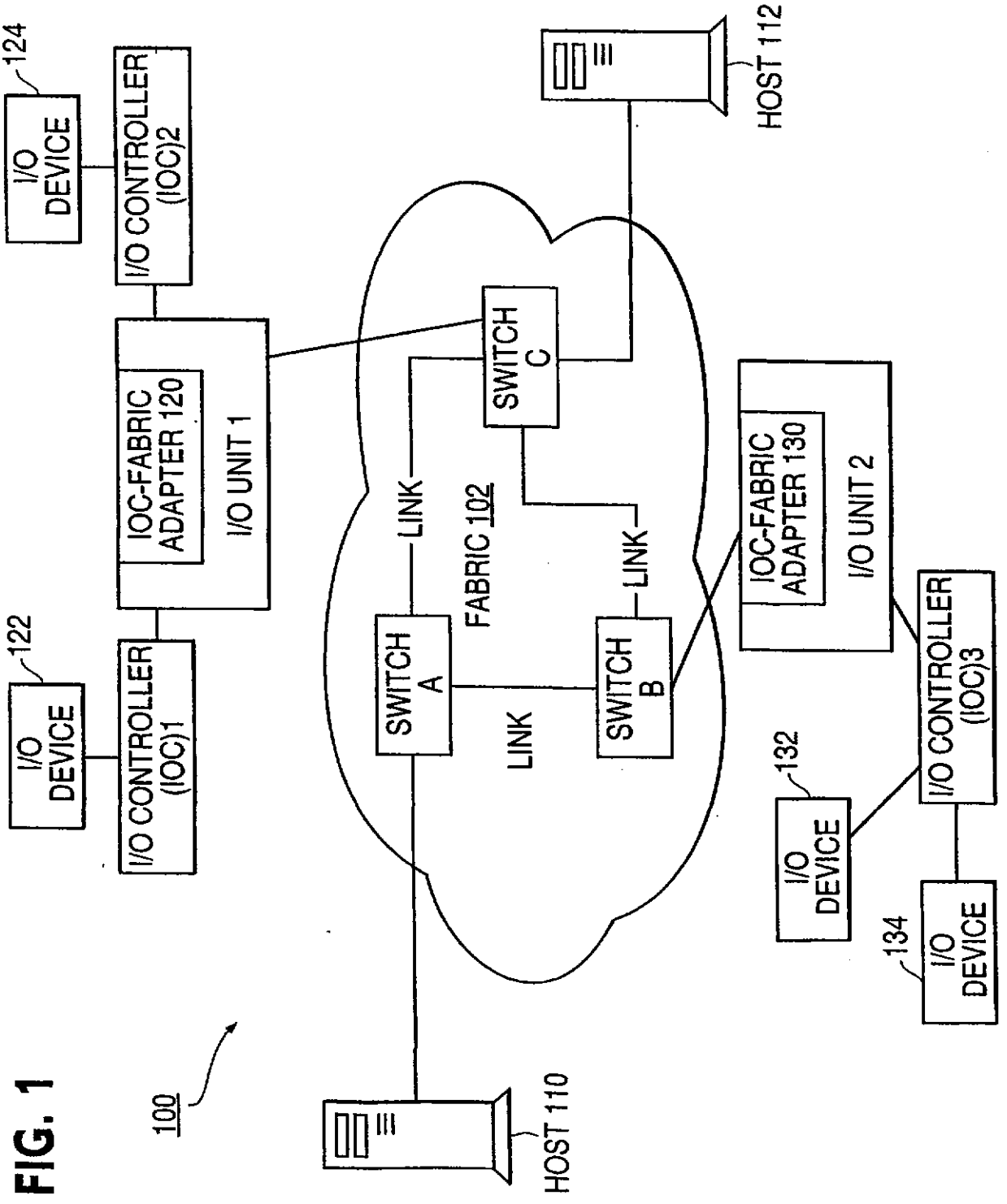

100
HOST 110
HOST 112
I/O DEVICE
124
I/O CONTROLLER (IOC)2
IOC-FABRIC ADAPTER 120
I/O UNIT 1
I/O DEVICE
122
I/O CONTROLLER (IOC)1
SWITCH A
SWITCH B
SWITCH C
LINK
LINK
LINK
FABRIC 102
IOC-FABRIC ADAPTER 130
I/O UNIT 2
I/O DEVICE
132
I/O CONTROLLER (IOC)3
I/O DEVICE
134

FIG. 1

FIG. 2

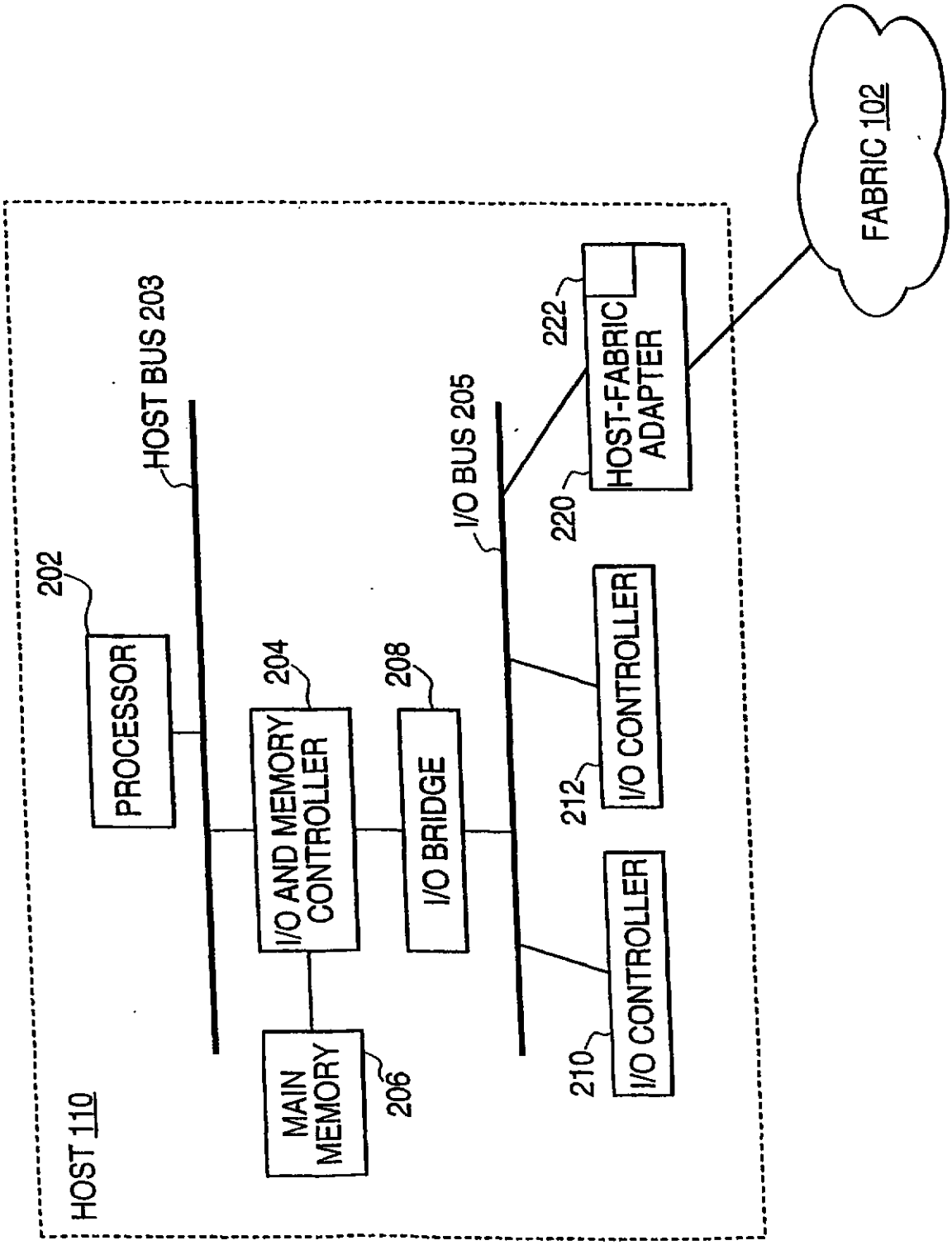

FABRIC 102
HOST 110
HOST BUS 203
I/O BUS 205
PROCESSOR
202
I/O AND MEMORY CONTROLLER
204
I/O BRIDGE
208
MAIN MEMORY
206
HOST-FABRIC ADAPTER
220
222
I/O CONTROLLER
212
I/O CONTROLLER
210

FIG. 3

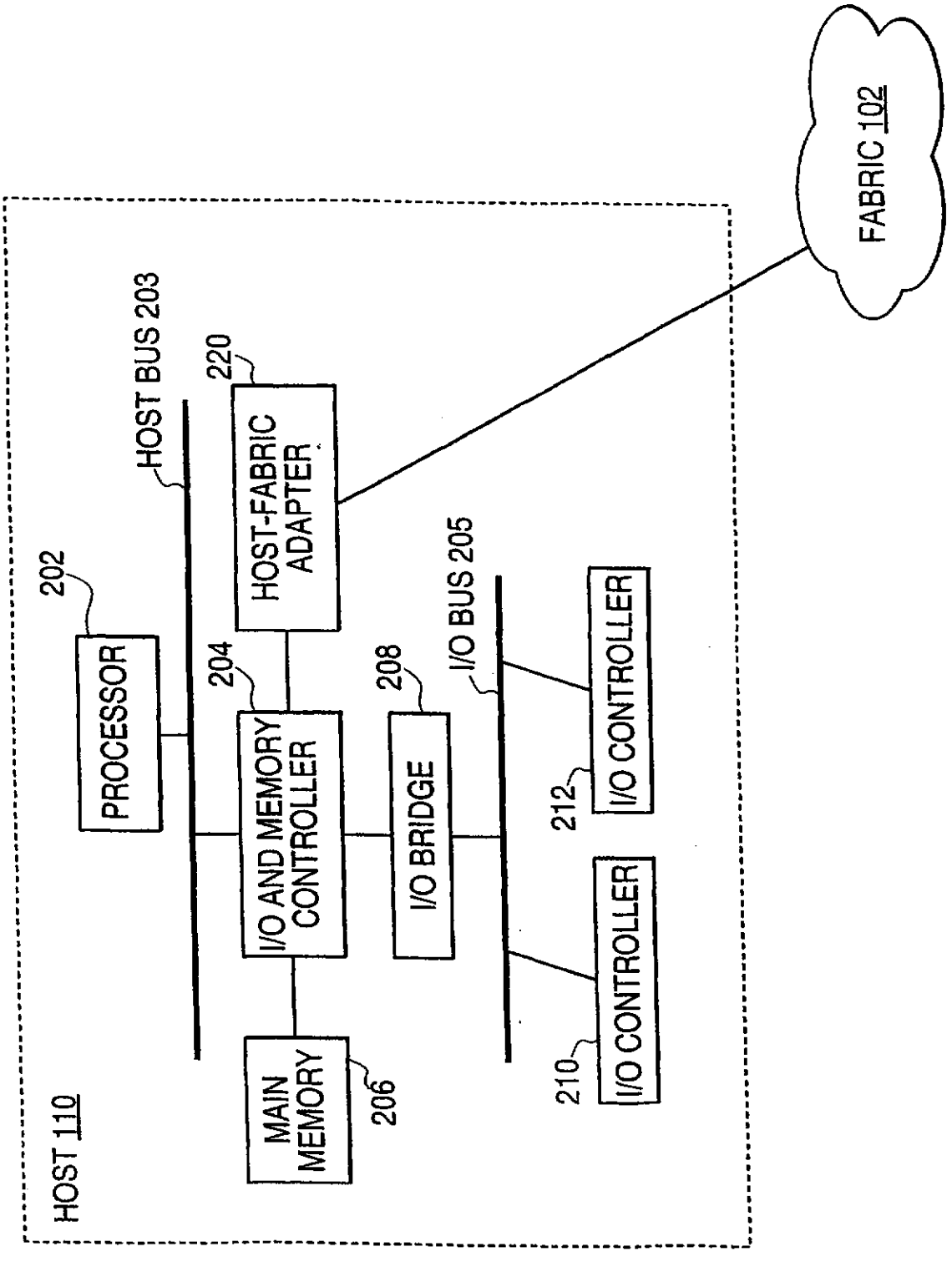

FABRIC 102
HOST 110
HOST BUS 203
220
HOST-FABRIC ADAPTER
202
PROCESSOR
204
I/O AND MEMORY CONTROLLER
208
I/O BRIDGE
I/O BUS 205
212
I/O CONTROLLER
210
I/O CONTROLLER
MAIN MEMORY
206

FIG. 4

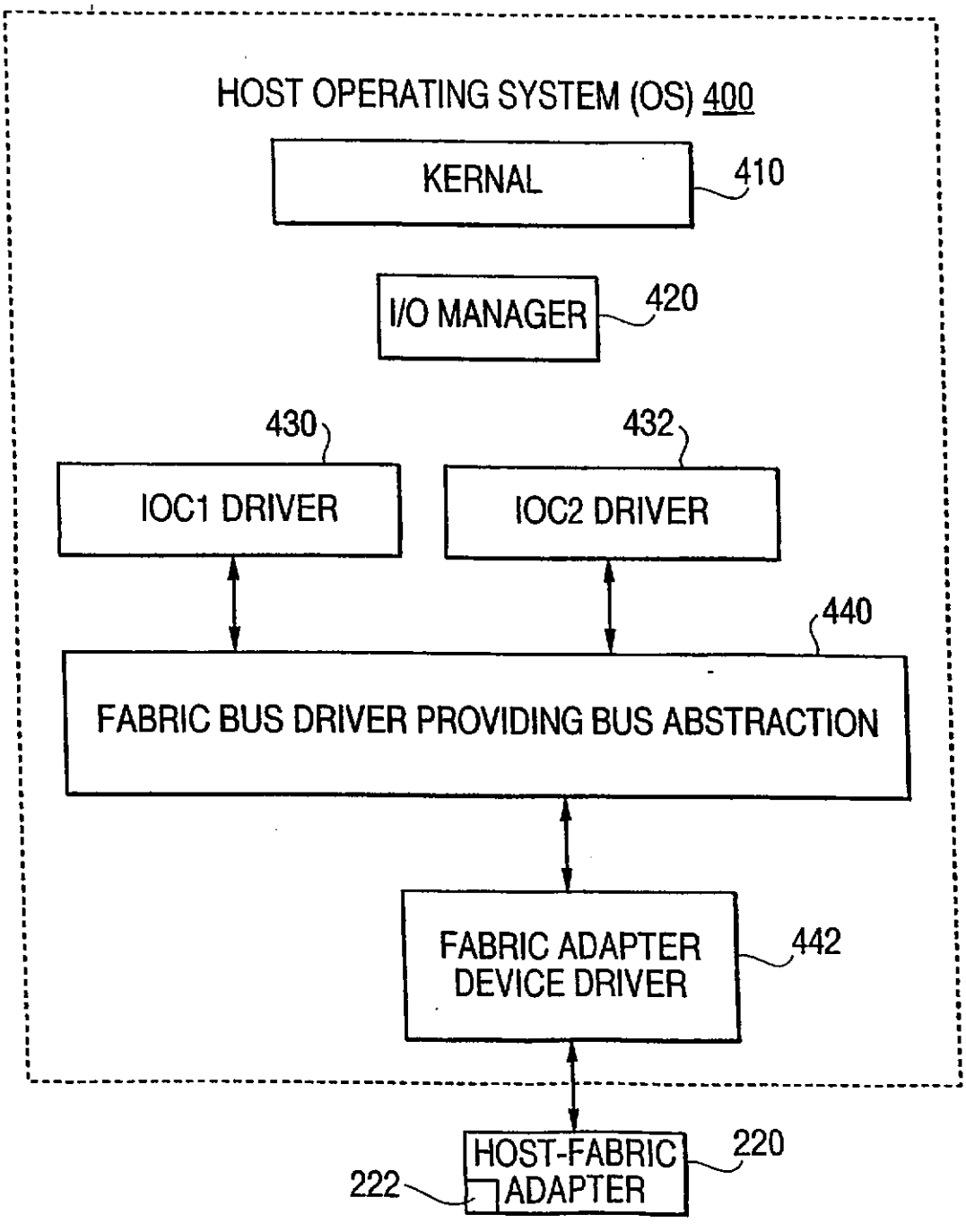

HOST OPERATING SYSTEM (OS) 400
KERNAL
410
I/O MANAGER
420
430
IOC1 DRIVER
432
IOC2 DRIVER
440
FABRIC BUS DRIVER PROVIDING BUS ABSTRACTION
FABRIC ADAPTER DEVICE DRIVER
442
HOST-FABRIC ADAPTER
220
222

FIG. 5

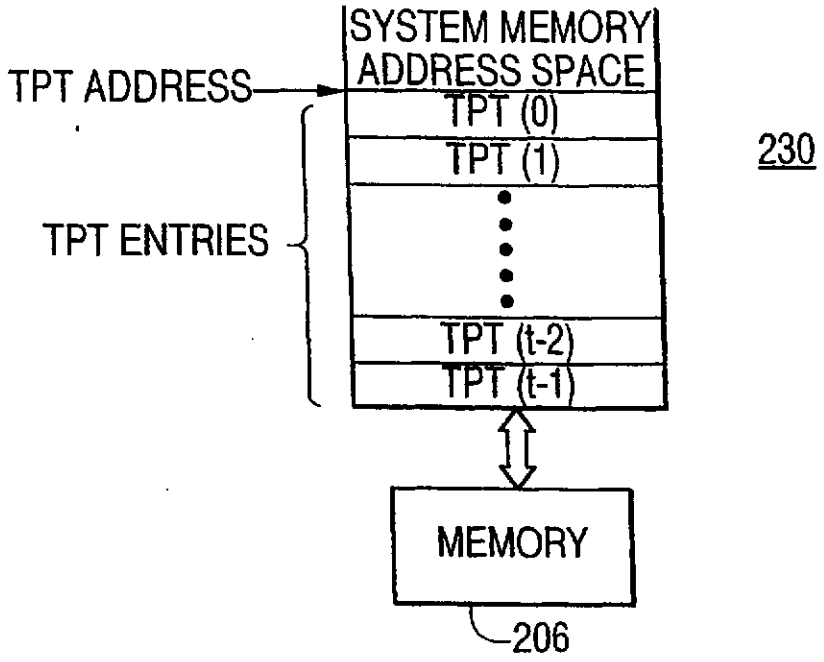
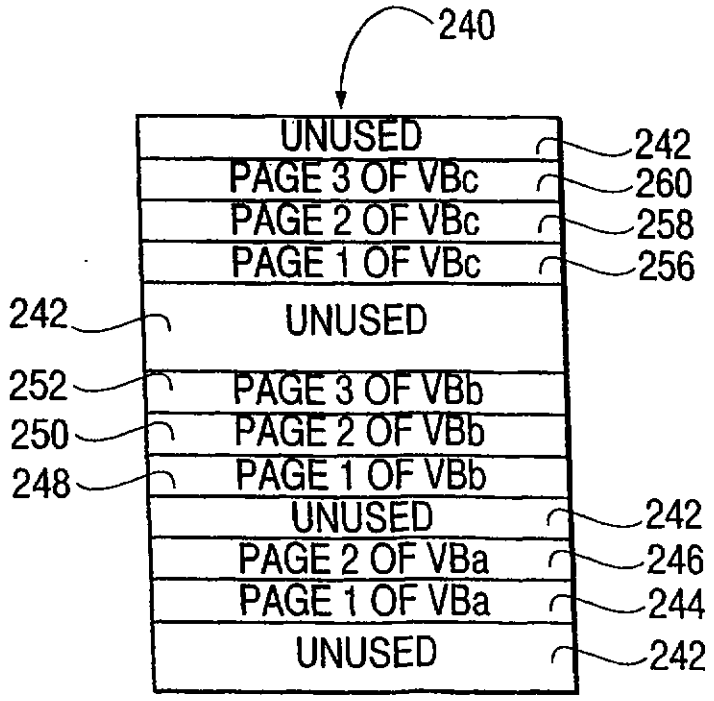

SYSTEM MEMORY ADDRESS SPACE
TPT ADDRESS
TPT (0)
TPT (1)
TPT ENTRIES
TPT (t-2)
TPT (t-1)
230
MEMORY
206

FIG. 6


240
UNUSED
242
PAGE 3 OF VBc
260
PAGE 2 OF VBc
258
PAGE 1 OF VBc
256
242
UNUSED
252
PAGE 3 OF VBb
250
PAGE 2 OF VBb
248
PAGE 1 OF VBb
UNUSED
242
PAGE 2 OF VBa
246
PAGE 1 OF VBa
244
UNUSED
242

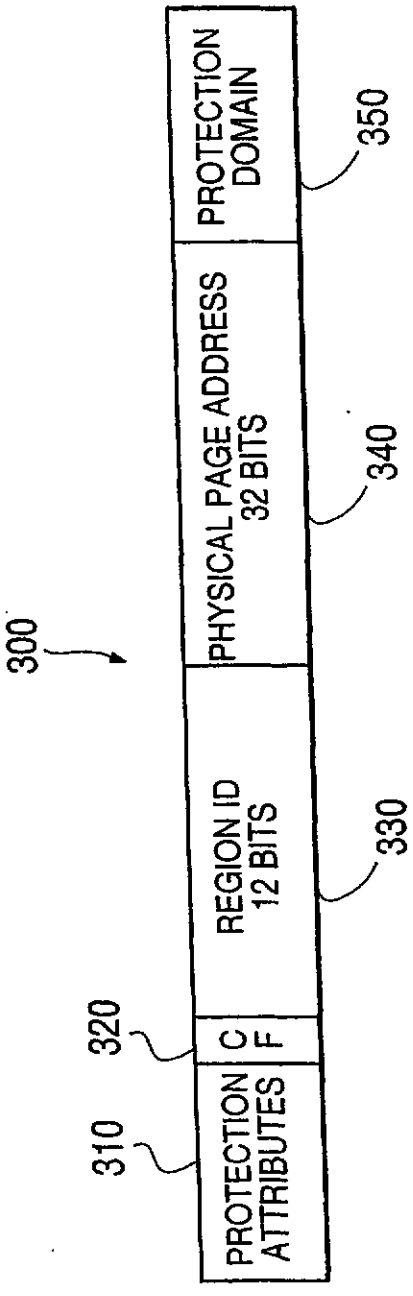

300
PROTECTION ATTRIBUTES
C
F
REGION ID 12 BITS
PHYSICAL PAGE ADDRESS 32 BITS
PROTECTION DOMAIN
310
320
330
340
350

FIG. 7

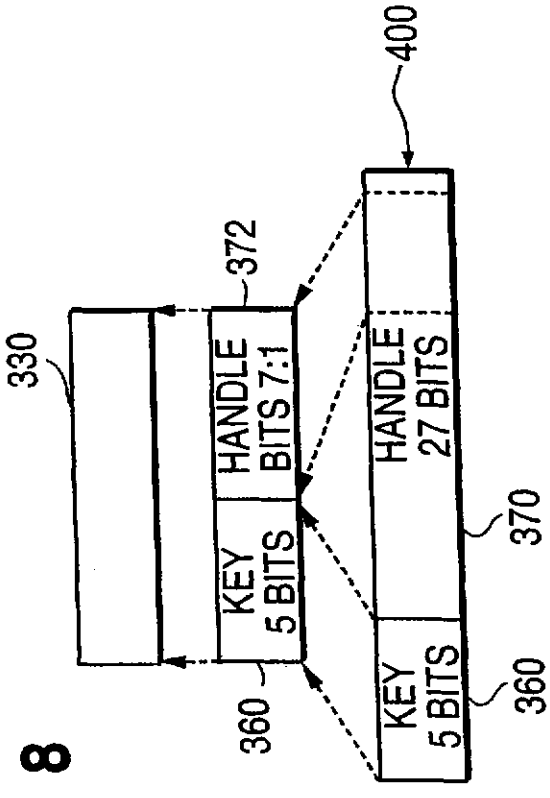

330
KEY 5 BITS
HANDLE BITS 7:1
HANDLE 27 BITS
KEY 5 BITS
360
372
400
370
360

FIG. 8

FIG. 9A

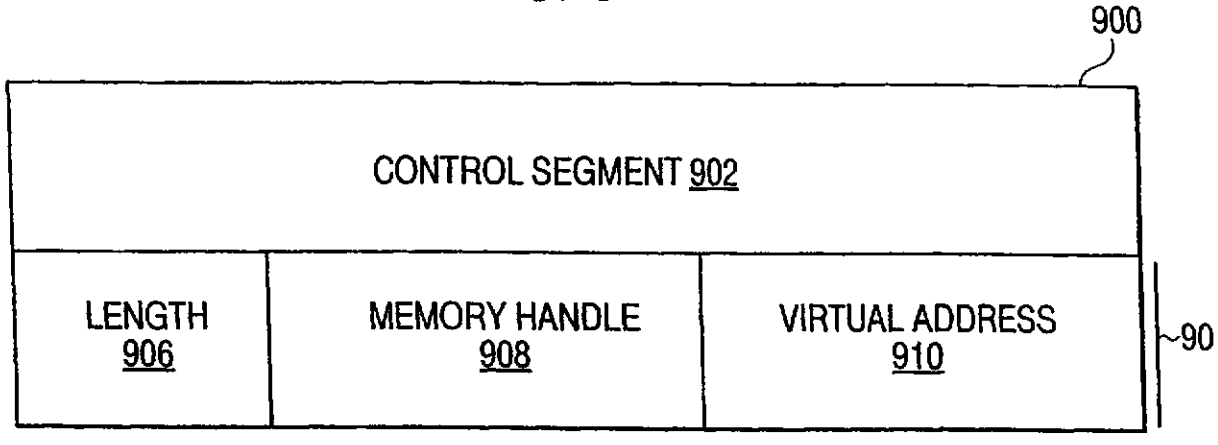

900
CONTROL SEGMENT 902
LENGTH 906
MEMORY HANDLE 908
VIRTUAL ADDRESS 910
90

FIG. 9B

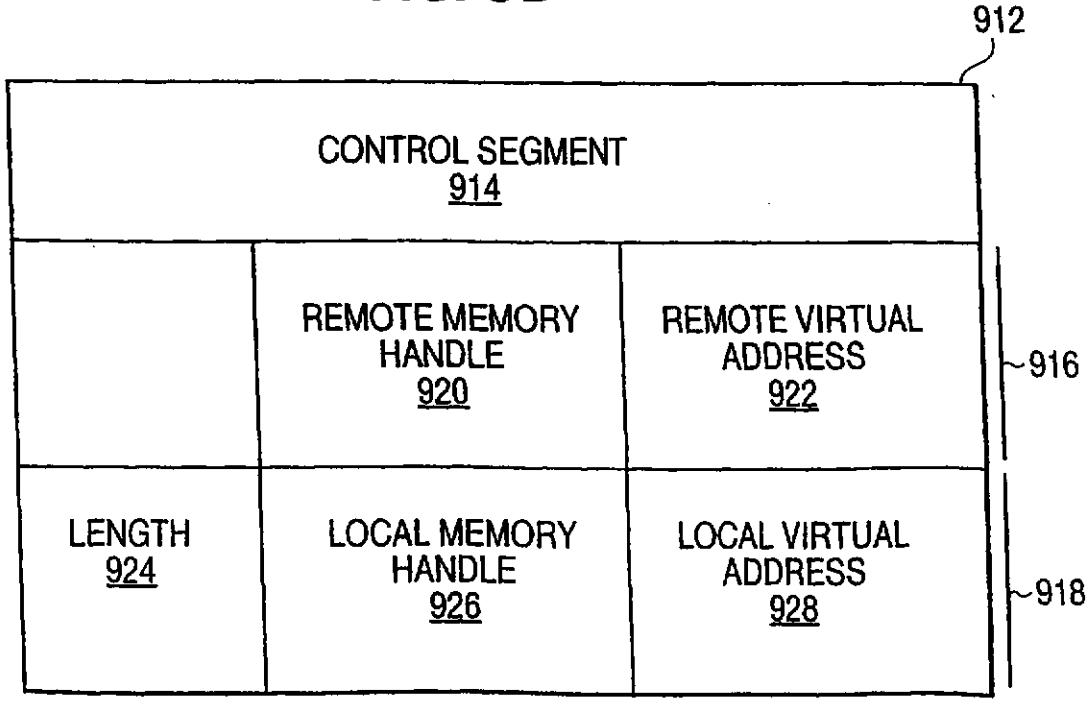

912
CONTROL SEGMENT 914
REMOTE MEMORY HANDLE 920
REMOTE VIRTUAL ADDRESS 922
916
LENGTH 924
LOCAL MEMORY HANDLE 926
LOCAL VIRTUAL ADDRESS 928
918

FIG. 10

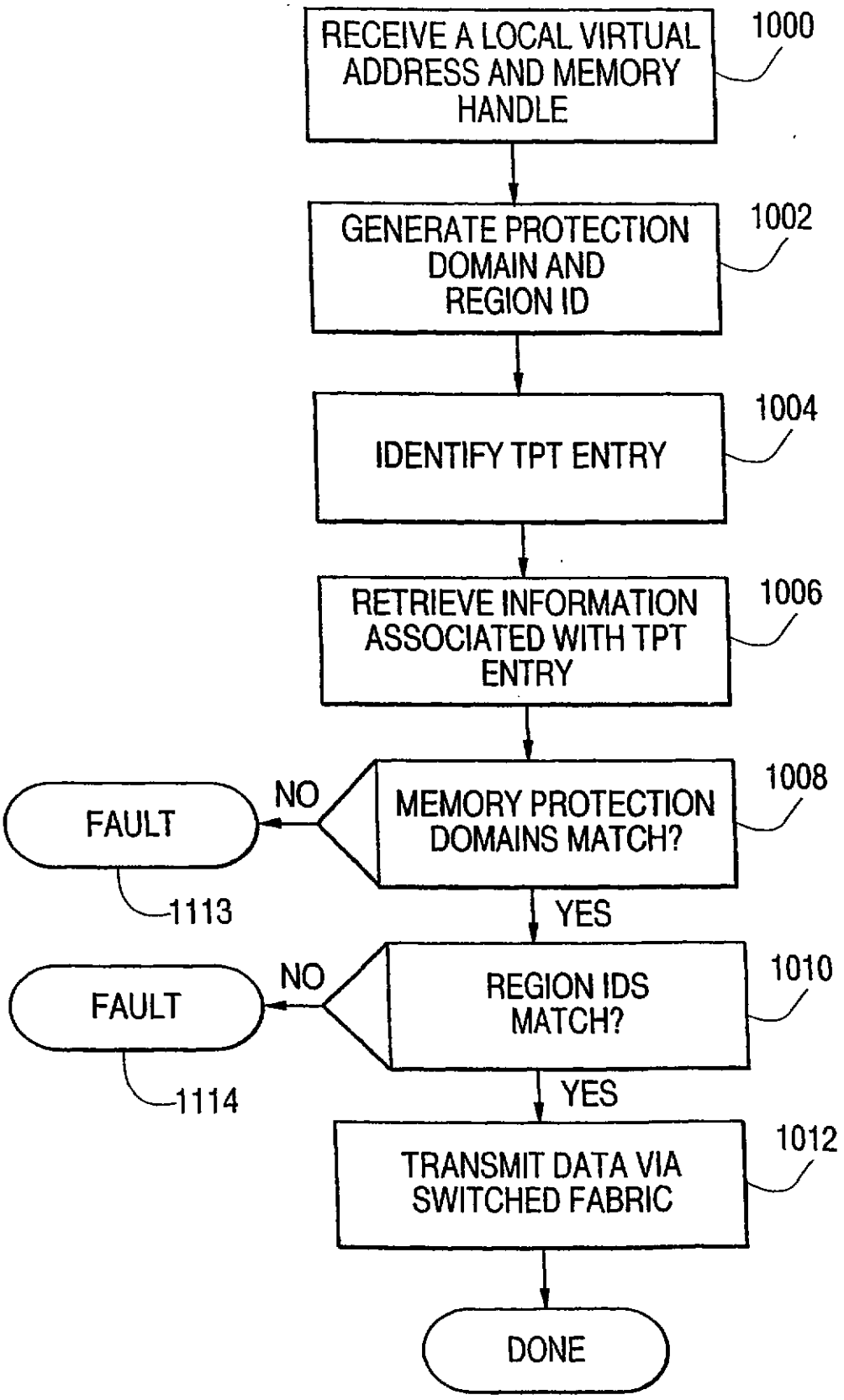
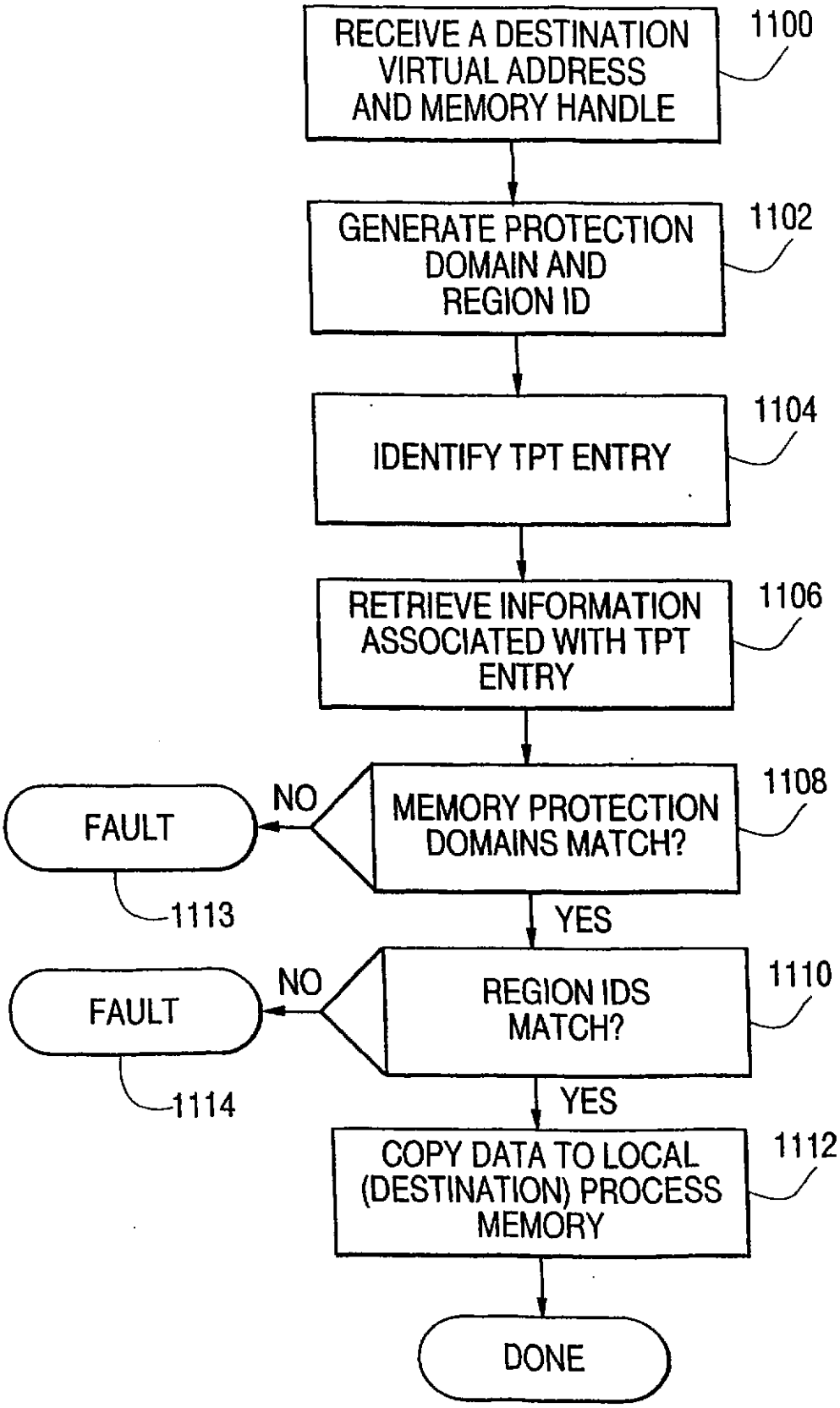

RECEIVE A LOCAL VIRTUAL ADDRESS AND MEMORY HANDLE
1000
GENERATE PROTECTION DOMAIN AND REGION ID
1002
IDENTIFY TPT ENTRY
1004
RETRIEVE INFORMATION ASSOCIATED WITH TPT ENTRY
1006
MEMORY PROTECTION DOMAINS MATCH?
1008
NO
FAULT
1113
YES
REGION IDS MATCH?
1010
NO
FAULT
1114
YES
TRANSMIT DATA VIA SWITCHED FABRIC
1012
DONE

FIG. 11


RECEIVE A DESTINATION VIRTUAL ADDRESS AND MEMORY HANDLE
1100
GENERATE PROTECTION DOMAIN AND REGION ID
1102
IDENTIFY TPT ENTRY
1104
RETRIEVE INFORMATION ASSOCIATED WITH TPT ENTRY
1106
MEMORY PROTECTION DOMAINS MATCH?
1108
NO
FAULT
1113
YES
REGION IDS MATCH?
1110
NO
FAULT
1114
YES
COPY DATA TO LOCAL (DESTINATION) PROCESS MEMORY
1112
DONE