FIG. 1

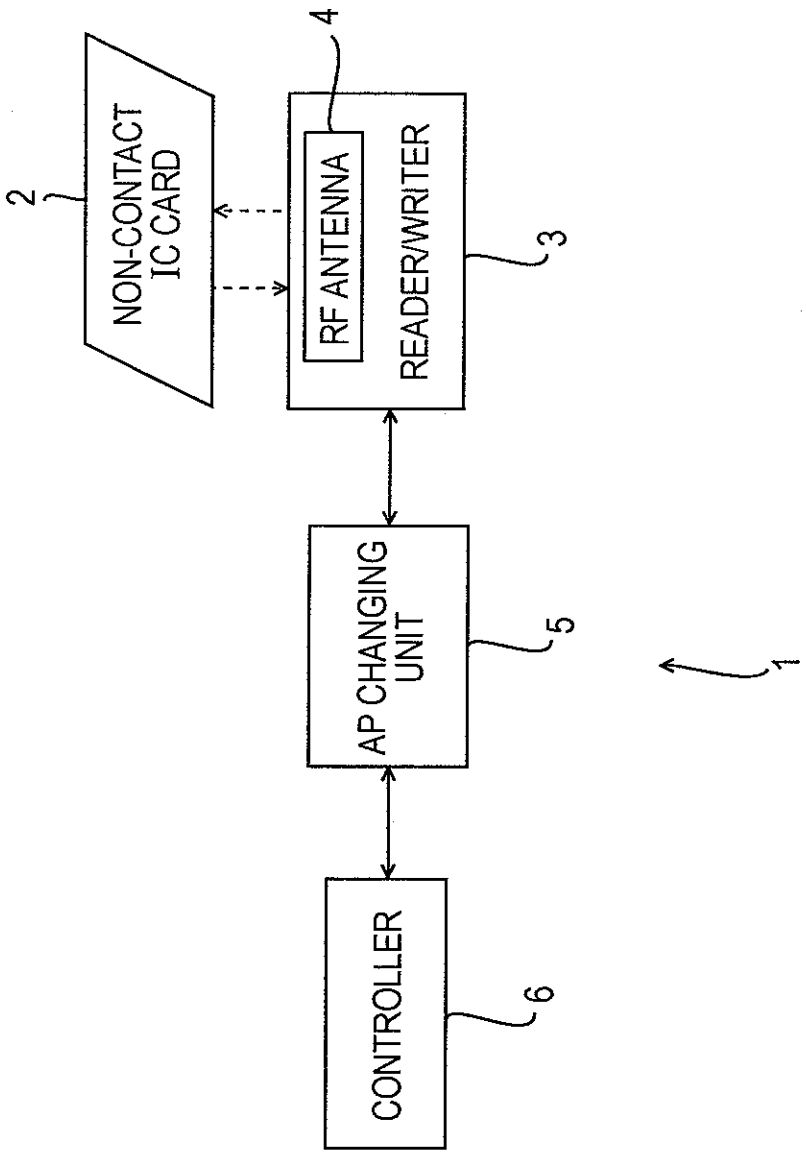

2
NON-CONTACT IC CARD
4
RF ANTENNA
READER/WRITER
3
AP CHANGING UNIT
5
1
CONTROLLER
6

FIG. 2

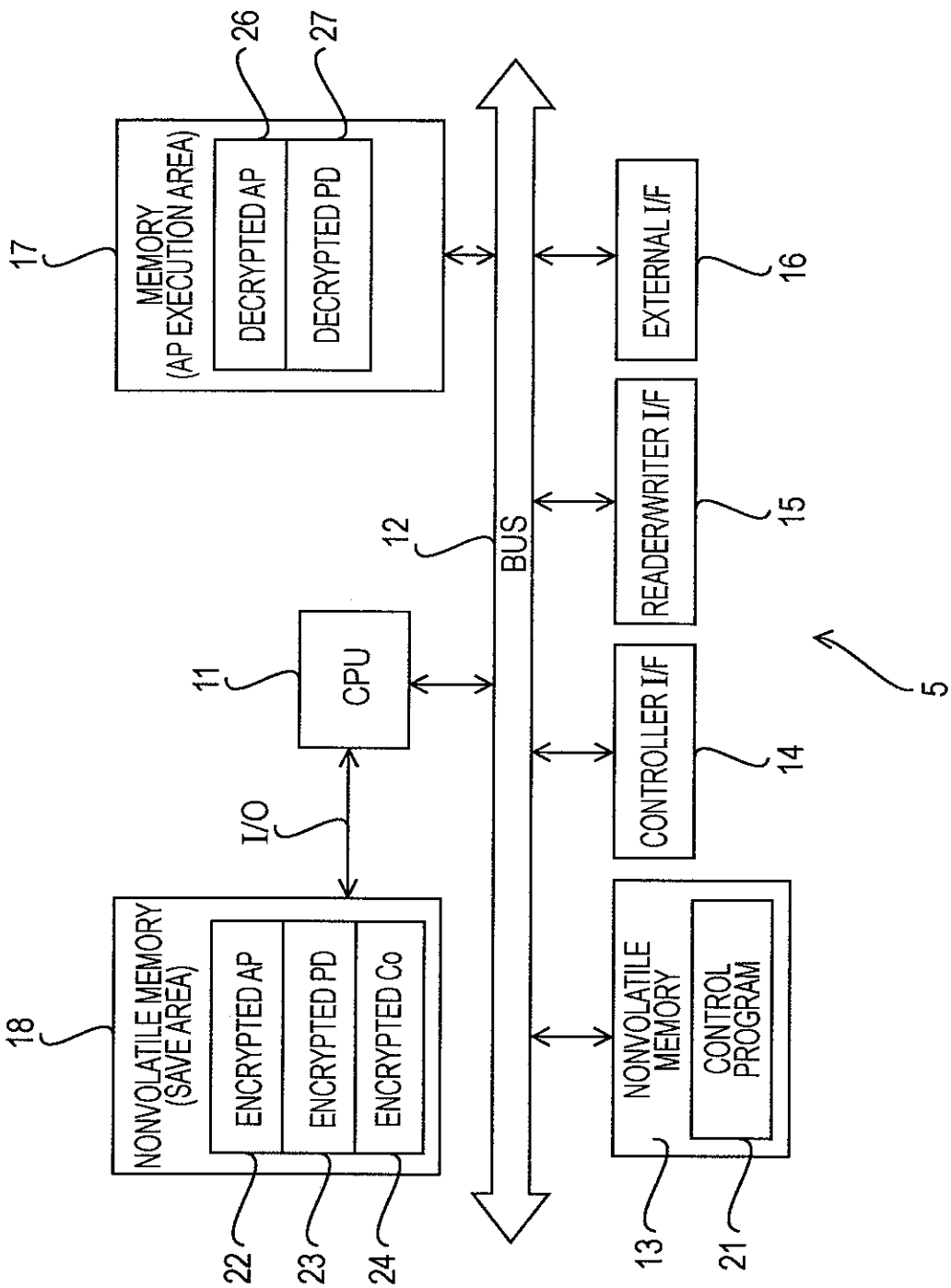

MEMORY
(AP EXECUTION AREA)
DECRYPTED AP
DECRYPTED PD
17
26
27
BUS
12
CPU
11
I/O
NONVOLATILE MEMORY
(SAVE AREA)
ENCRYPTED AP
ENCRYPTED PD
ENCRYPTED Co
18
22
23
24
EXTERNAL I/F
16
READER/WRITER I/F
15
CONTROLLER I/F
14
NONVOLATILE MEMORY
CONTROL PROGRAM
13
21
5

FIG. 3

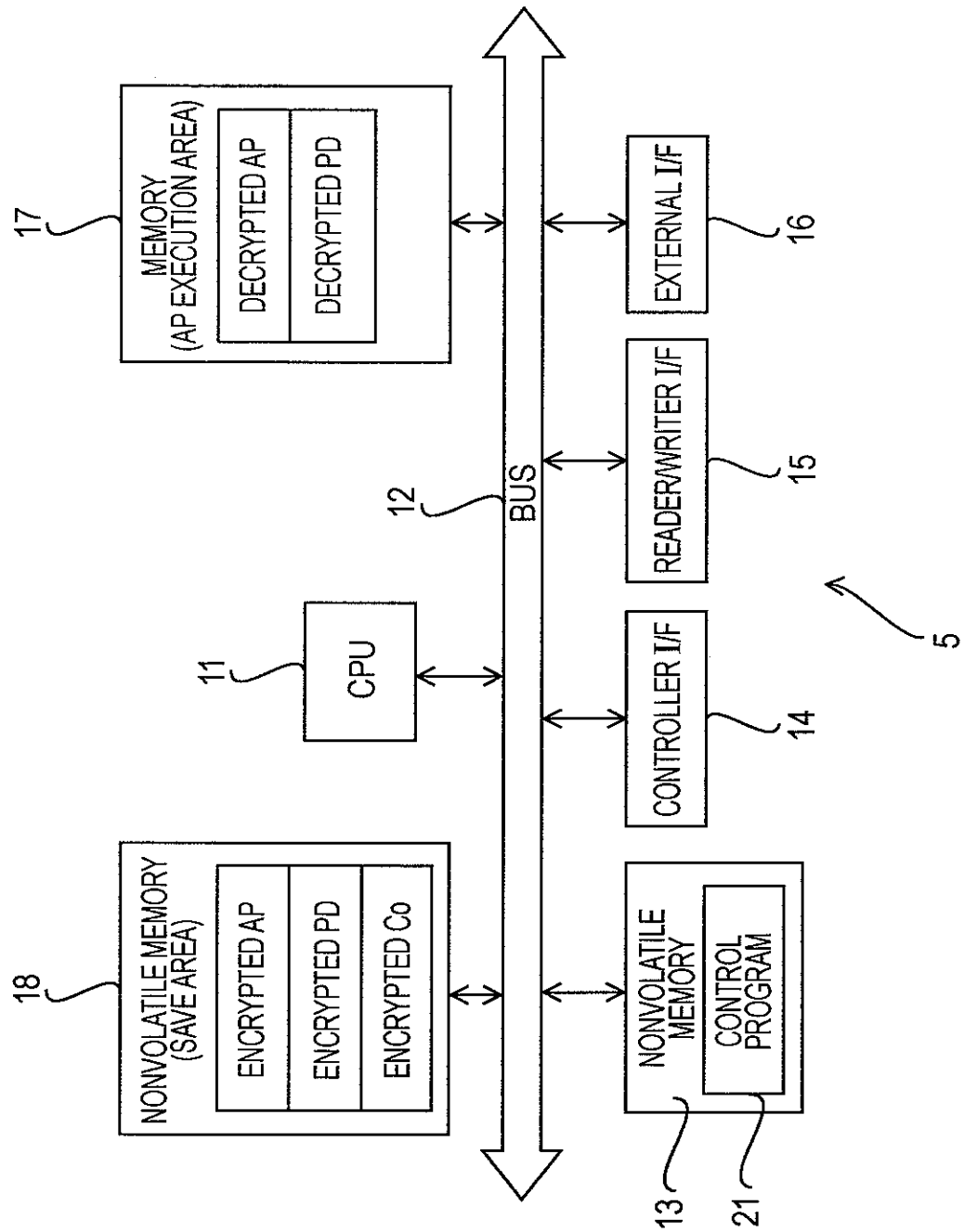

MEMORY
(AP EXECUTION AREA)
DECRYPTED AP
DECRYPTED PD
17
EXTERNAL I/F
16
READER/WRITER I/F
15
BUS
12
CPU
11
CONTROLLER I/F
14
5
NONVOLATILE MEMORY
(SAVE AREA)
ENCRYPTED AP
ENCRYPTED PD
ENCRYPTED Co
18
NONVOLATILE
MEMORY
CONTROL
PROGRAM
13
21

FIG. 4

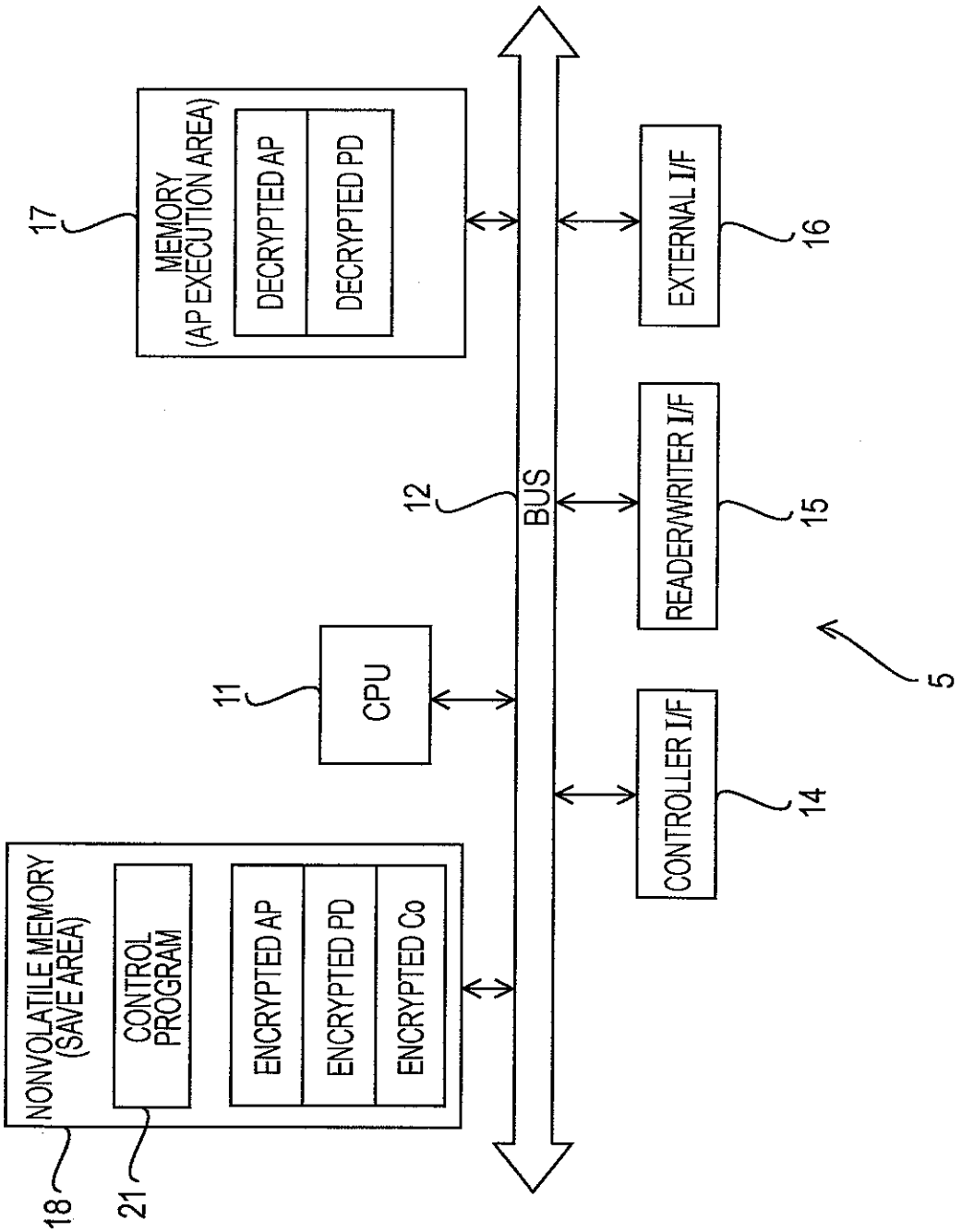

NONVOLATILE MEMORY
(SAVE AREA)
CONTROL PROGRAM
ENCRYPTED AP
ENCRYPTED PD
ENCRYPTED Co
18
21
CPU
11
BUS
12
MEMORY
(AP EXECUTION AREA)
DECRYPTED AP
DECRYPTED PD
17
CONTROLLER I/F
14
READER/WRITER I/F
15
EXTERNAL I/F
16
5

FIG. 5

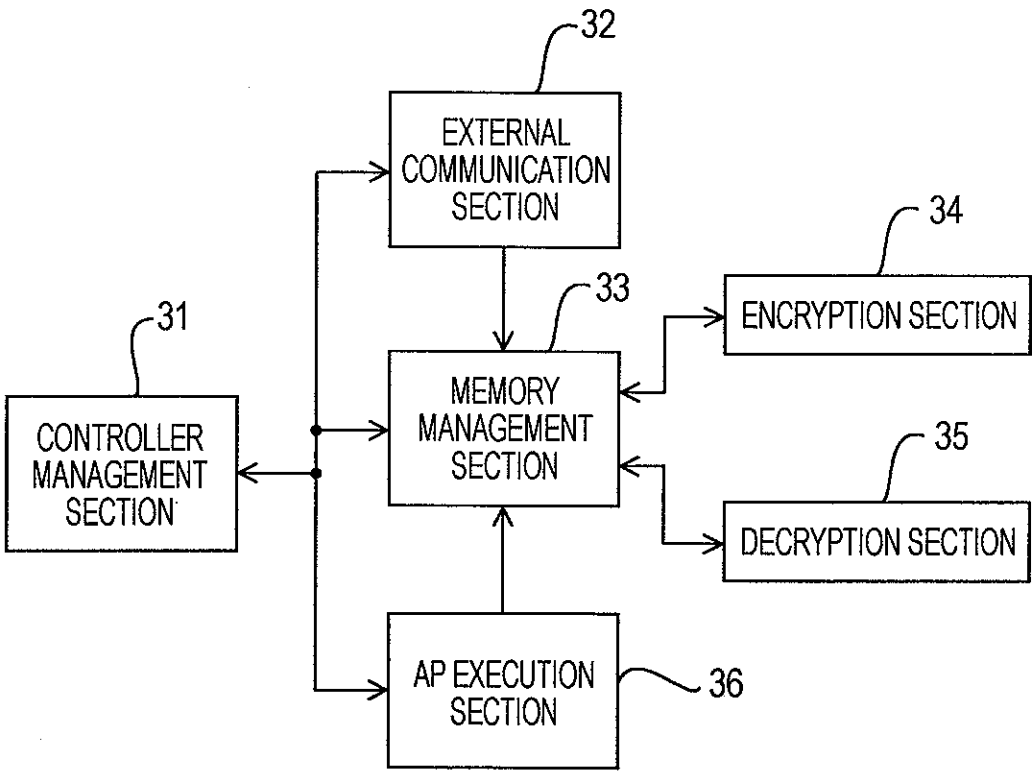

32
EXTERNAL COMMUNICATION SECTION
34
ENCRYPTION SECTION
33
31
MEMORY MANAGEMENT SECTION
CONTROLLER MANAGEMENT SECTION
35
DECRYPTION SECTION
AP EXECUTION SECTION
36

FIG. 6

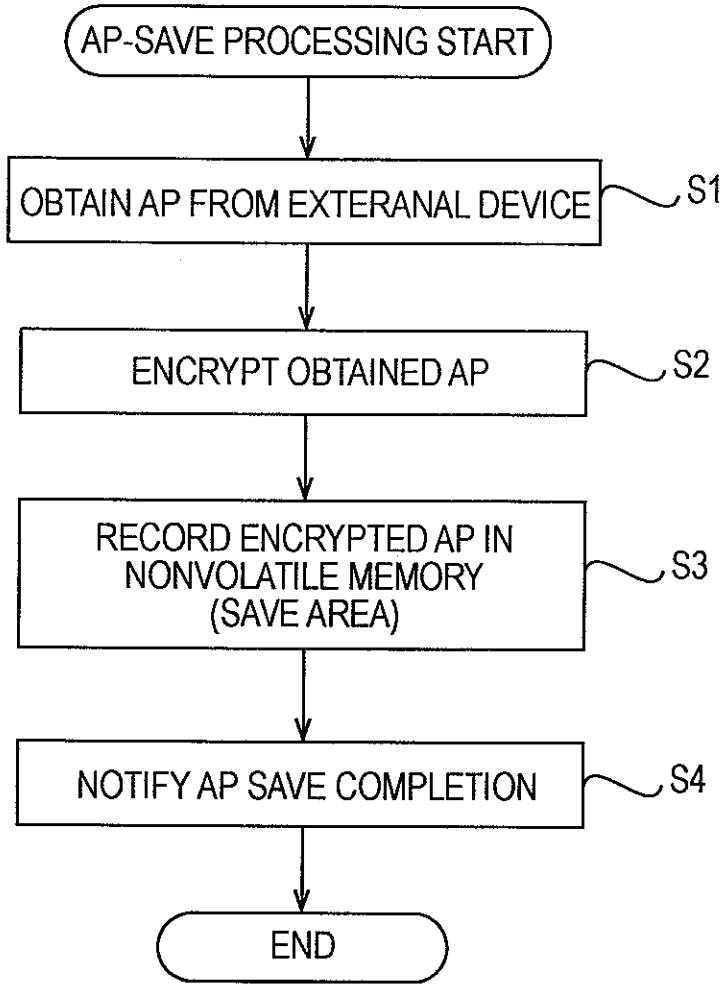
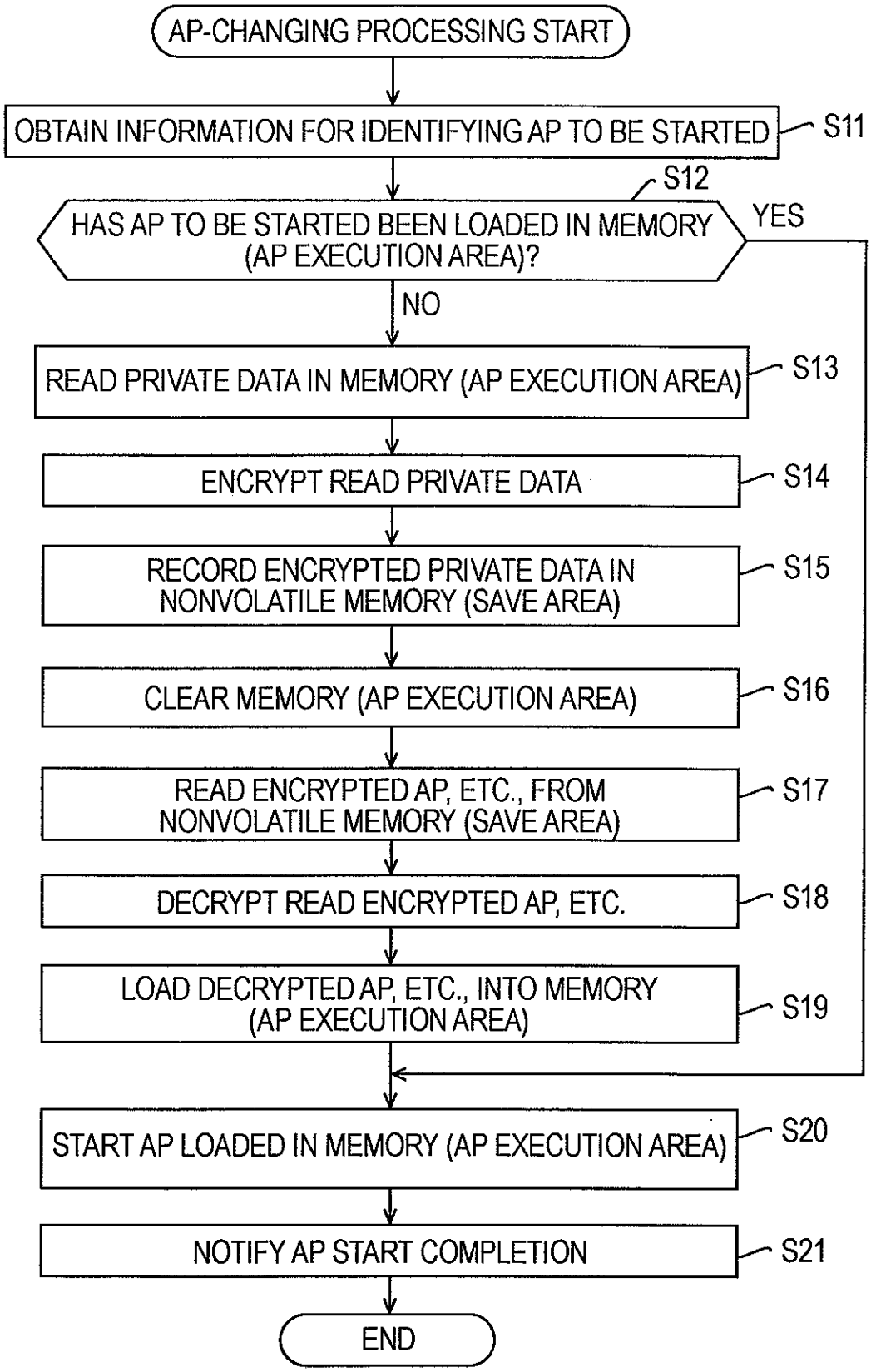

AP-SAVE PROCESSING START
OBTAIN AP FROM EXTERANAL DEVICE
S1
ENCRYPT OBTAINED AP
S2
RECORD ENCRYPTED AP IN NONVOLATILE MEMORY (SAVE AREA)
S3
NOTIFY AP SAVE COMPLETION
S4
END

FIG. 7


AP-CHANGING PROCESSING START
OBTAIN INFORMATION FOR IDENTIFYING AP TO BE STARTED
S11
S12
HAS AP TO BE STARTED BEEN LOADED IN MEMORY (AP EXECUTION AREA)?
YES
NO
READ PRIVATE DATA IN MEMORY (AP EXECUTION AREA)
S13
ENCRYPT READ PRIVATE DATA
S14
RECORD ENCRYPTED PRIVATE DATA IN NONVOLATILE MEMORY (SAVE AREA)
S15
CLEAR MEMORY (AP EXECUTION AREA)
S16
READ ENCRYPTED AP, ETC., FROM NONVOLATILE MEMORY (SAVE AREA)
S17
DECRYPT READ ENCRYPTED AP, ETC.
S18
LOAD DECRYPTED AP, ETC., INTO MEMORY (AP EXECUTION AREA)
S19
START AP LOADED IN MEMORY (AP EXECUTION AREA)
S20
NOTIFY AP START COMPLETION
S21
END