

FIG. 1

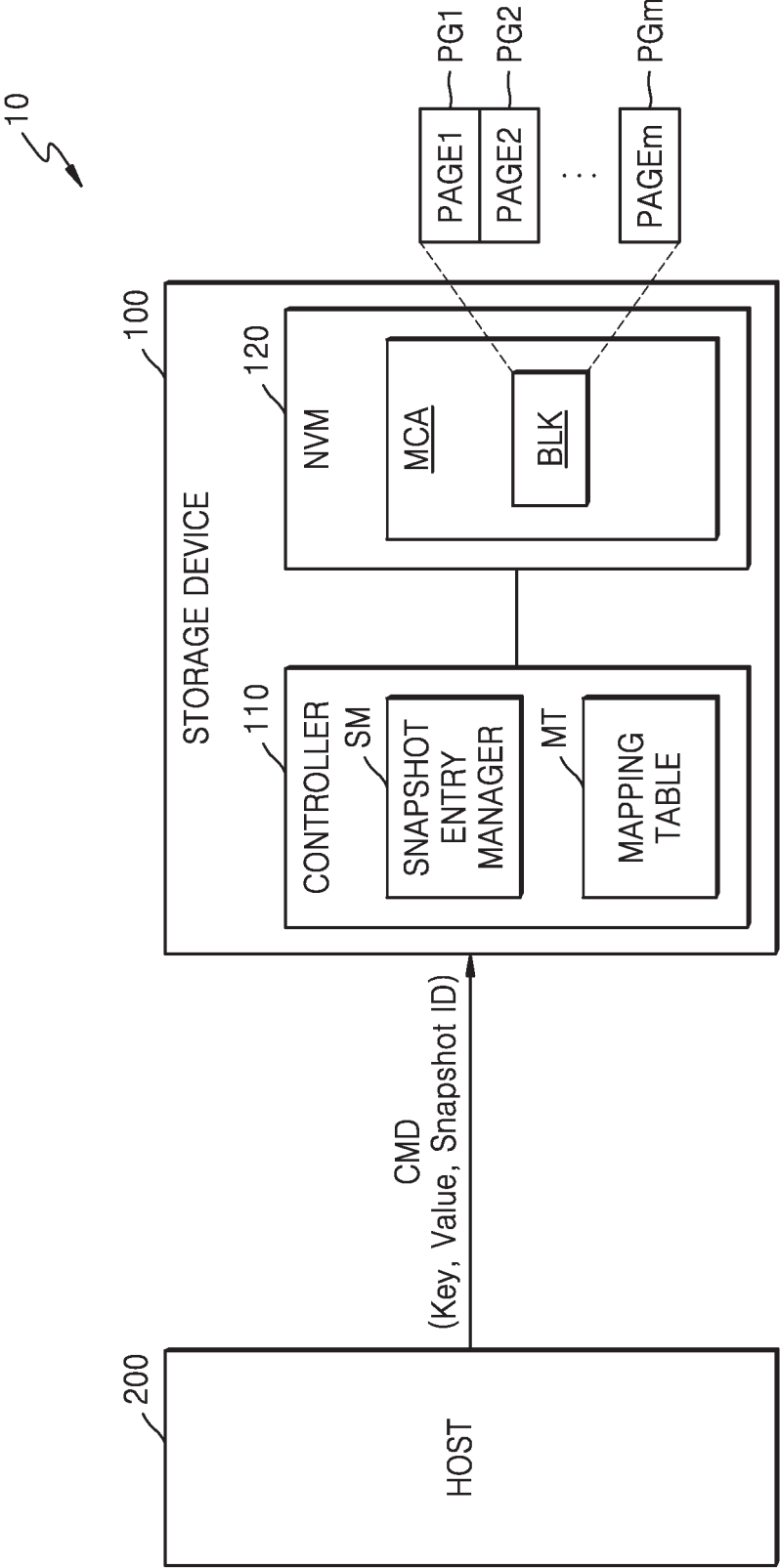


FIG. 2

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SNAPSHOT ID	KEY	VALUE
ID0	K1	V1a
ID1	K1	V1b
ID0	K2	V2a
ID1	K2	V2b
ID2	K2	V2c
...	...	...
ID0	Kn	Vn

TP1a } TP1
TP1b }
TP2a } TP2
TP2b }
TP2c }
TP3

FIG. 3

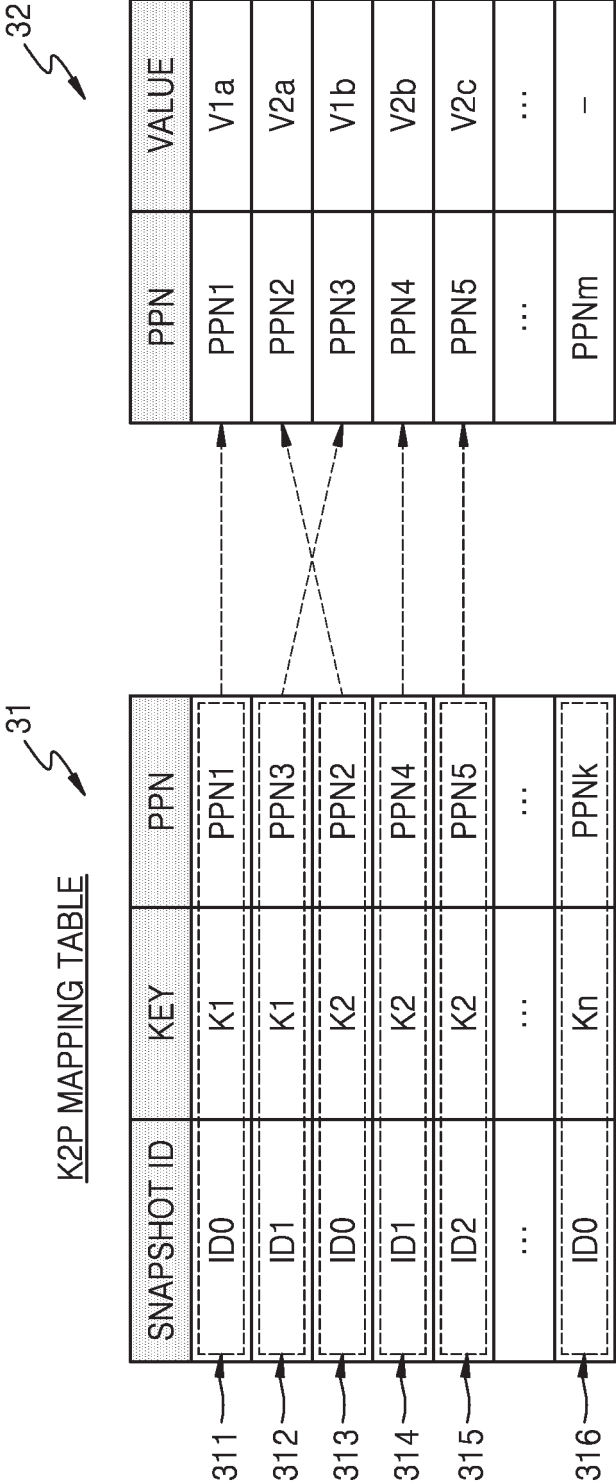


FIG. 4A

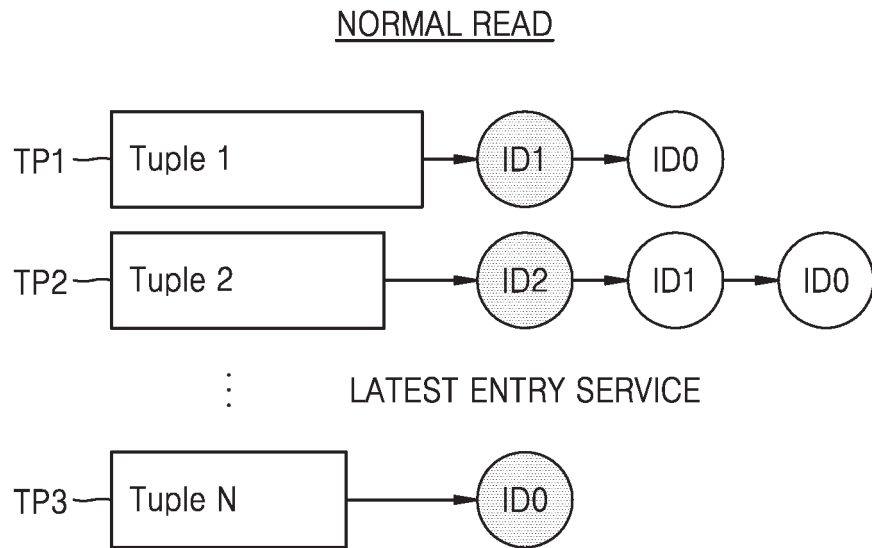


FIG. 4B

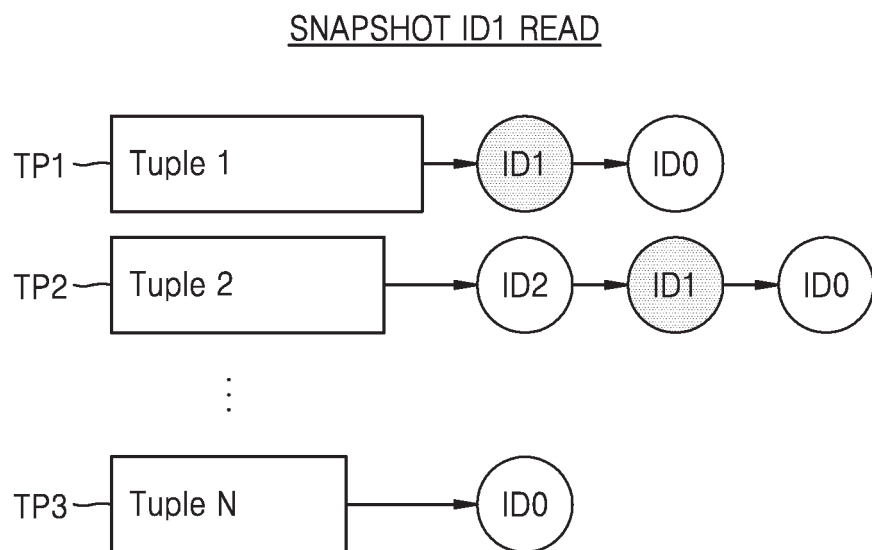


FIG. 5

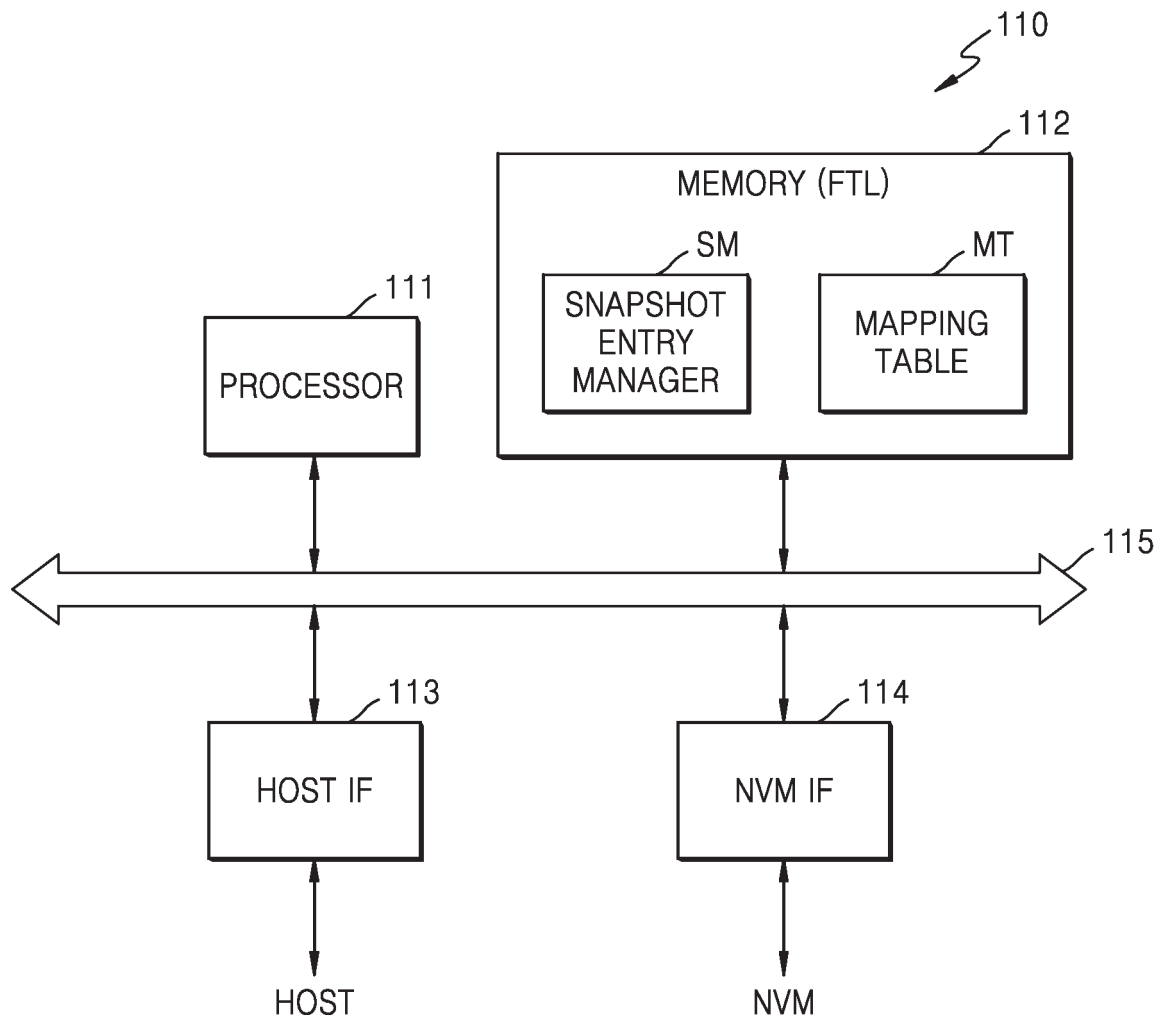


FIG. 6

FIG. 6 is a table diagram showing a mapping table (MTa). The table has four columns: SNAPSHOT ID, KEY, PPN, and LINK. The rows are numbered 61 through 66 on the left. Arrows on the right side of the table point to specific rows, and some rows are marked with an 'X'.

	SNAPSHOT ID	KEY	PPN	LINK	
61	ID1	K1	PPN3	ADDR1	
62	ID0	—	PPN1	NULL	→ X
63	ID2	K2	PPN5	ADDR2	
64	ID1	—	PPN4	ADDR3	
65	ID0	—	PPN2	NULL	→ X
66	ID2	K3	PPN6	NULL	→ X

FIG. 7A

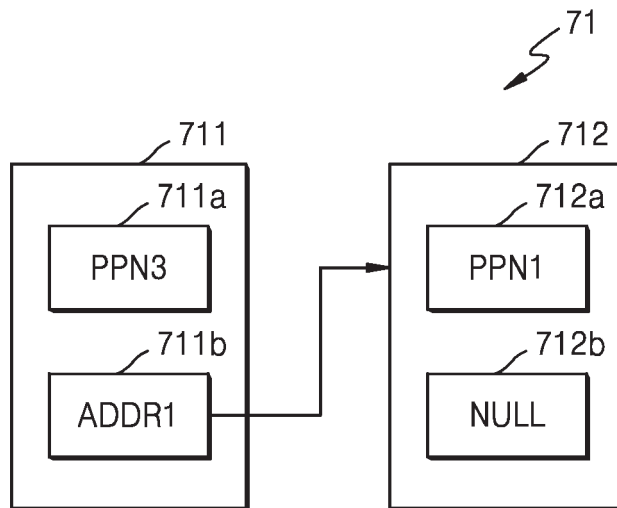


FIG. 7B

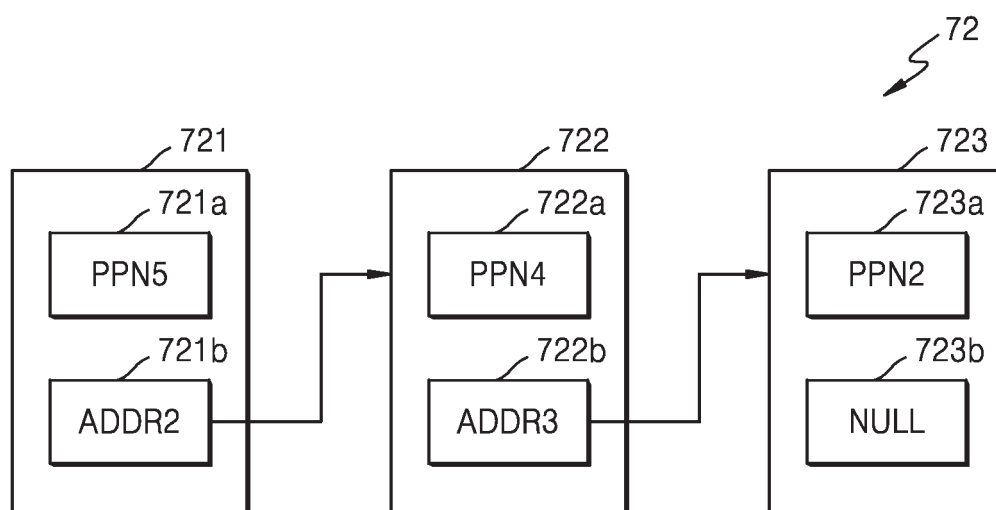


FIG. 8

MTb

	SNAPSHOT ID	KEY	PPN	FLAG
81	ID1	K1	PPN3	1
82	ID0	—	PPN1	0
83	ID2	K2	PPN5	1
84	ID1	—	PPN4	0
85	ID0	—	PPN2	0
86	ID2	K3	PPN6	1

FIG. 9

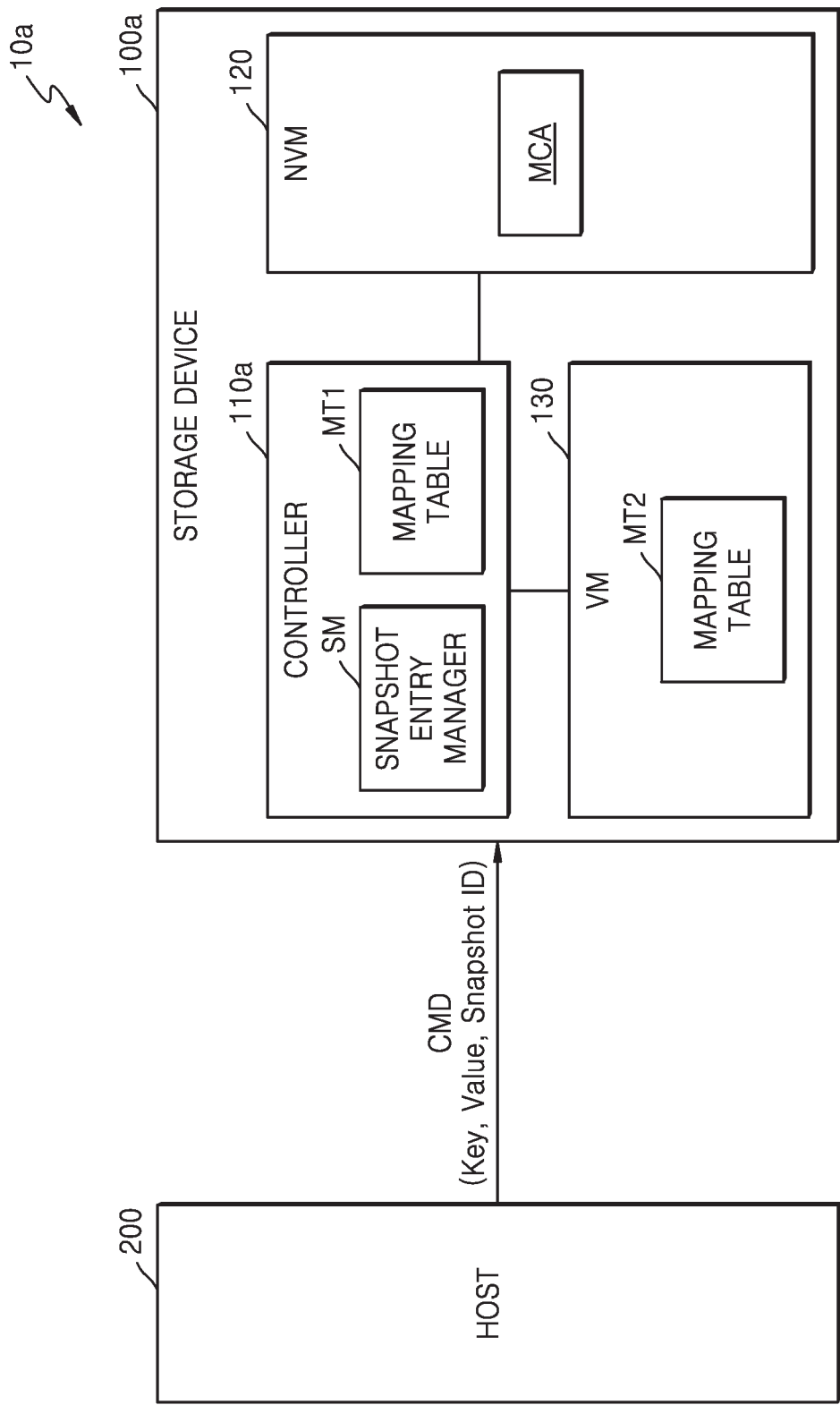


FIG. 10

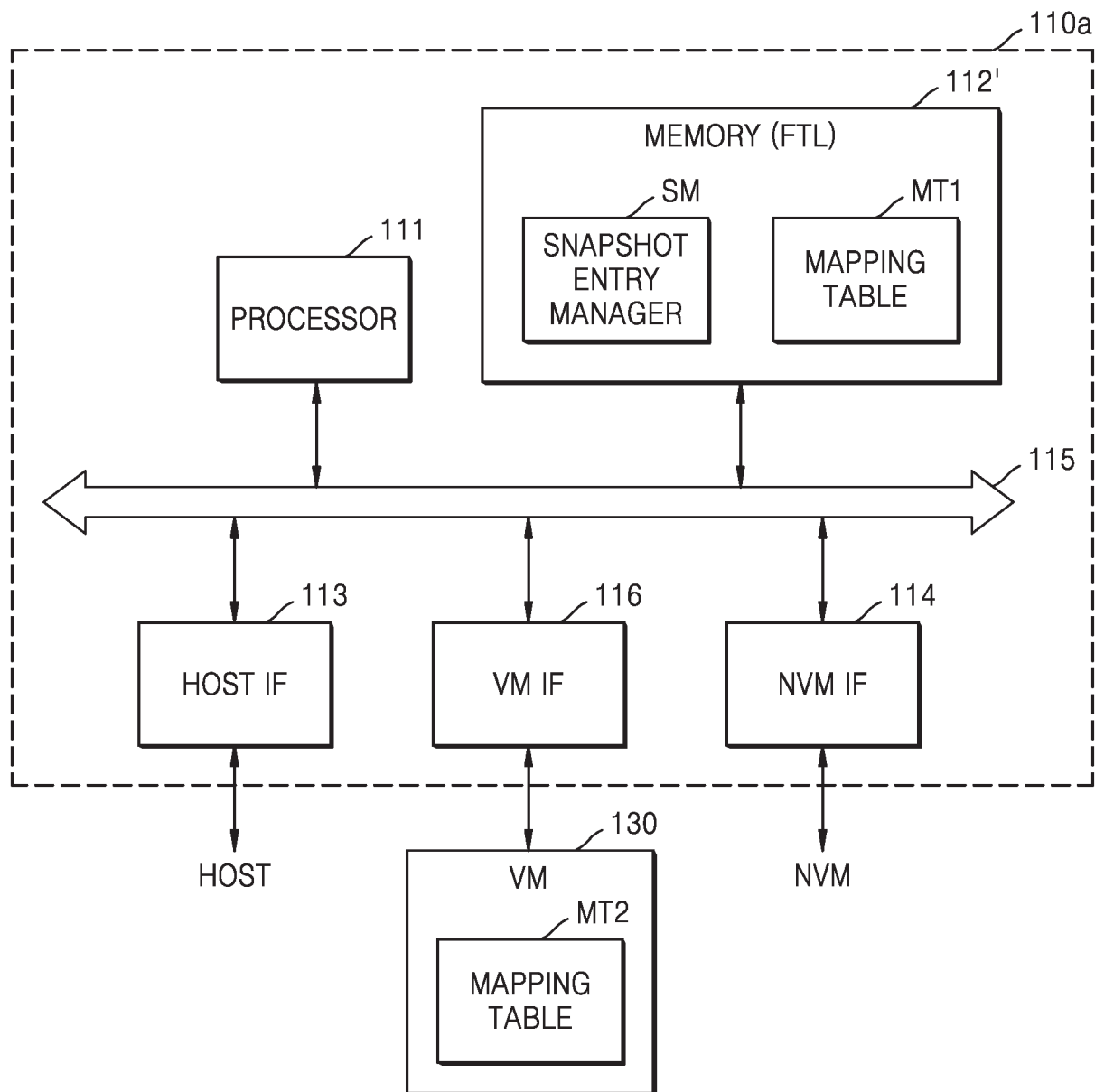


FIG. 11A

MT1a

	SNAPSHOT ID	KEY	PPN
111a	ID1	K1	PPN3
111b	ID2	K2	PPN5
111c	ID2	K3	PPN6

FIG. 11B

MT2a

	SNAPSHOT ID	KEY	PPN
111d	ID0	K1	PPN1
111e	ID1	K2	PPN4
111f	ID0	K2	PPN2

FIG. 12

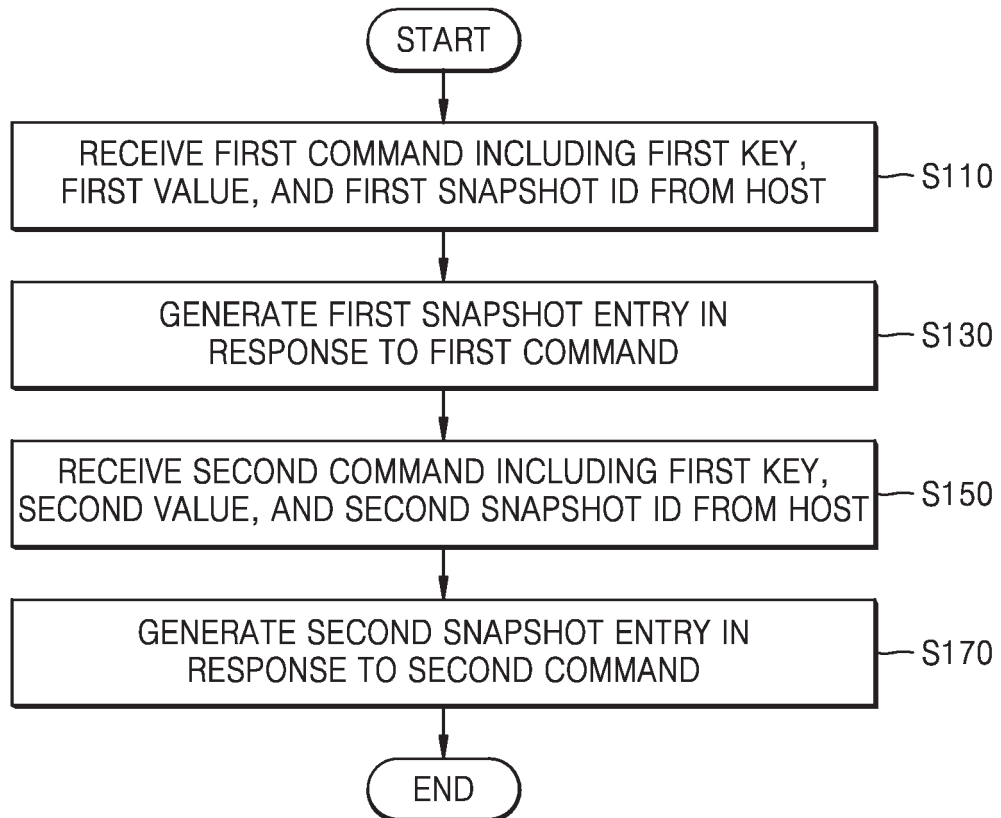


FIG. 13

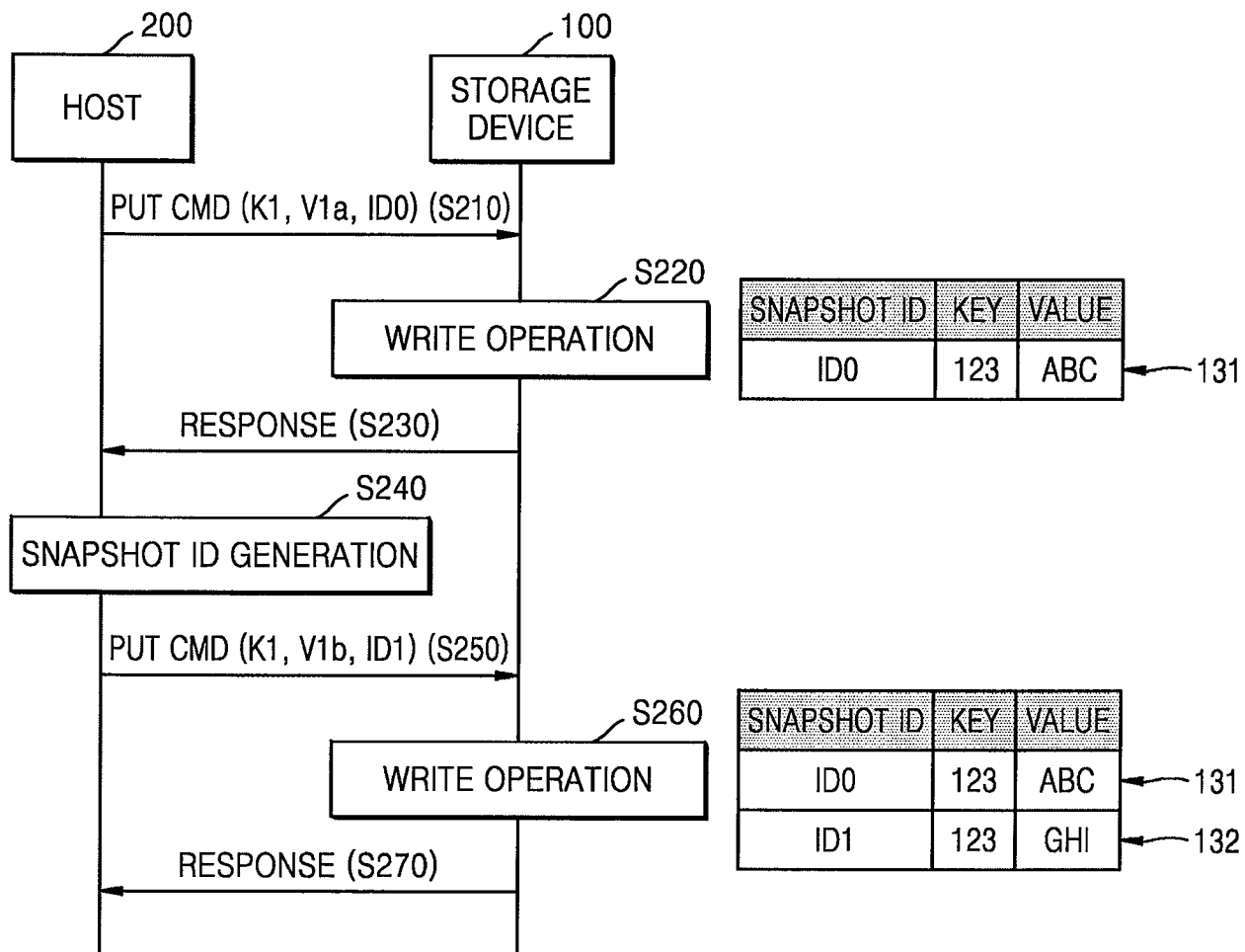


FIG. 14

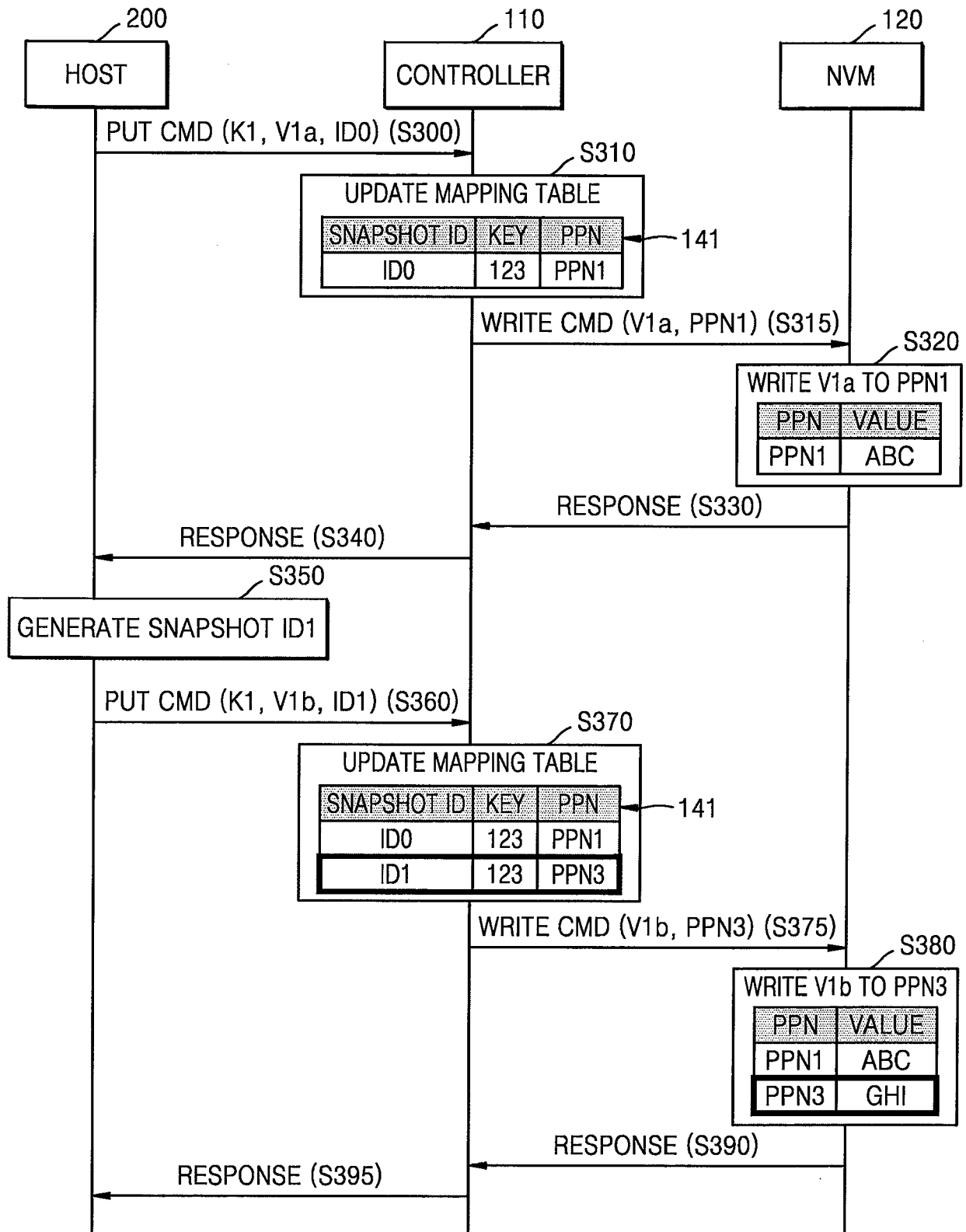


FIG. 15

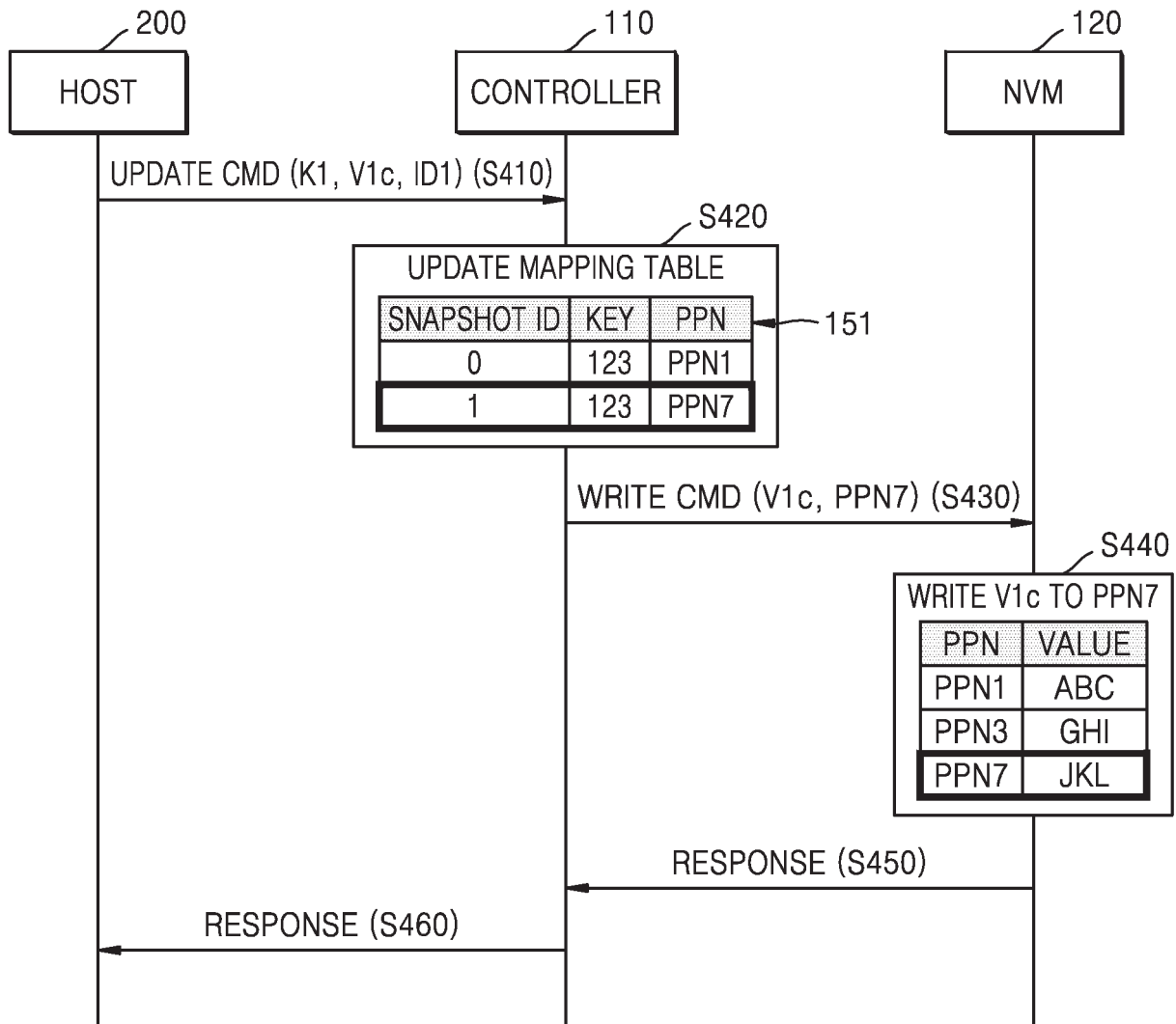


FIG. 16

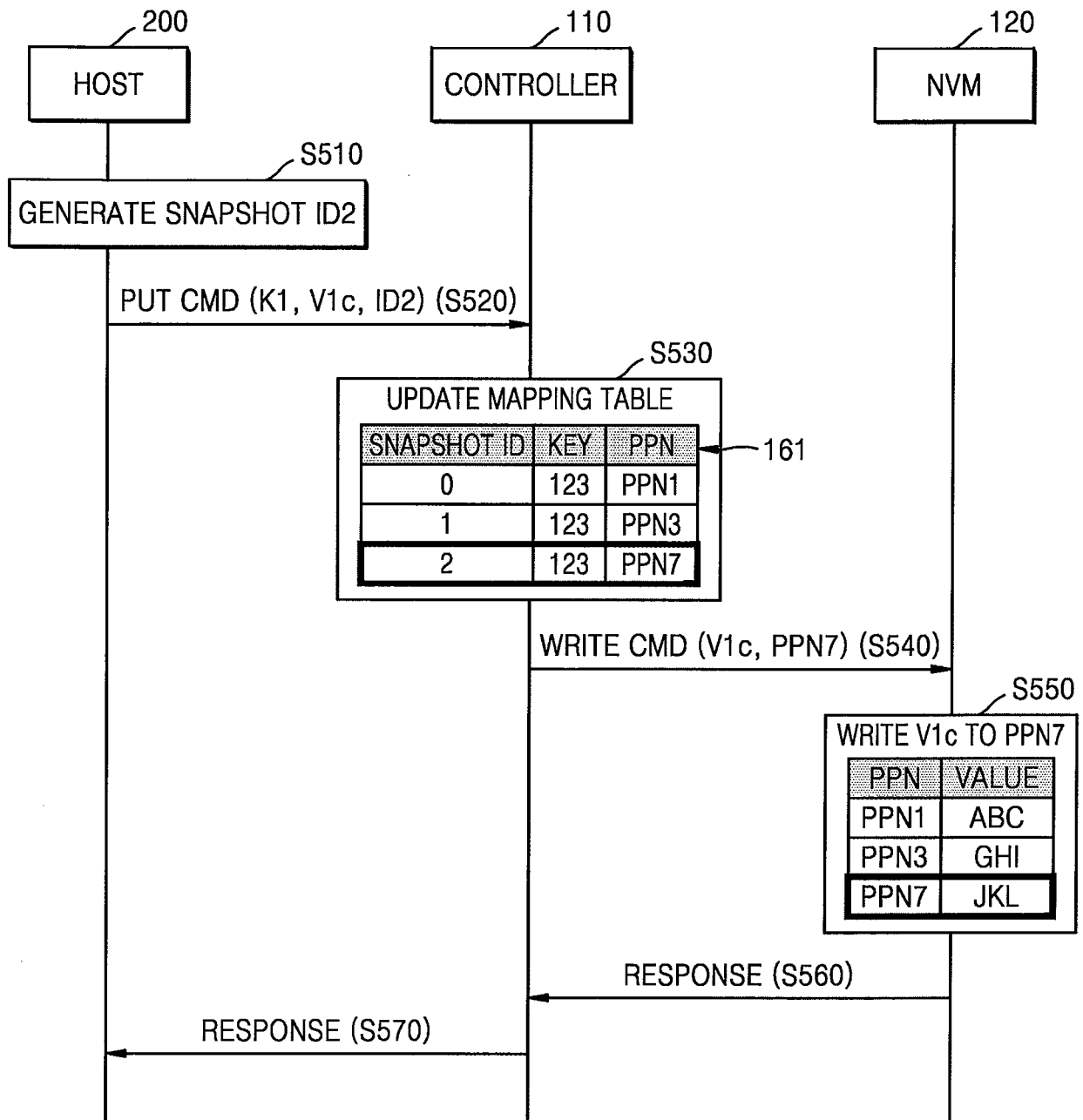


FIG. 17

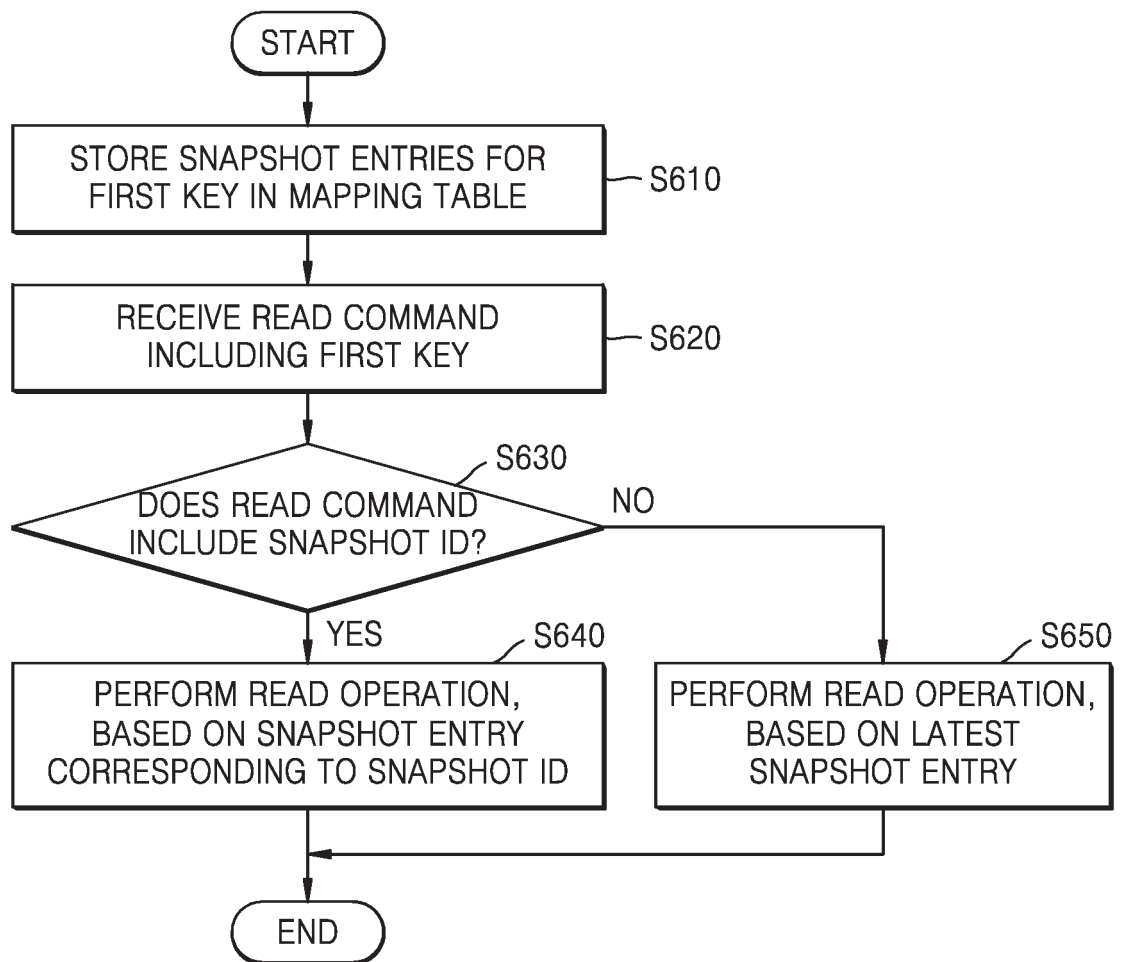


FIG. 18

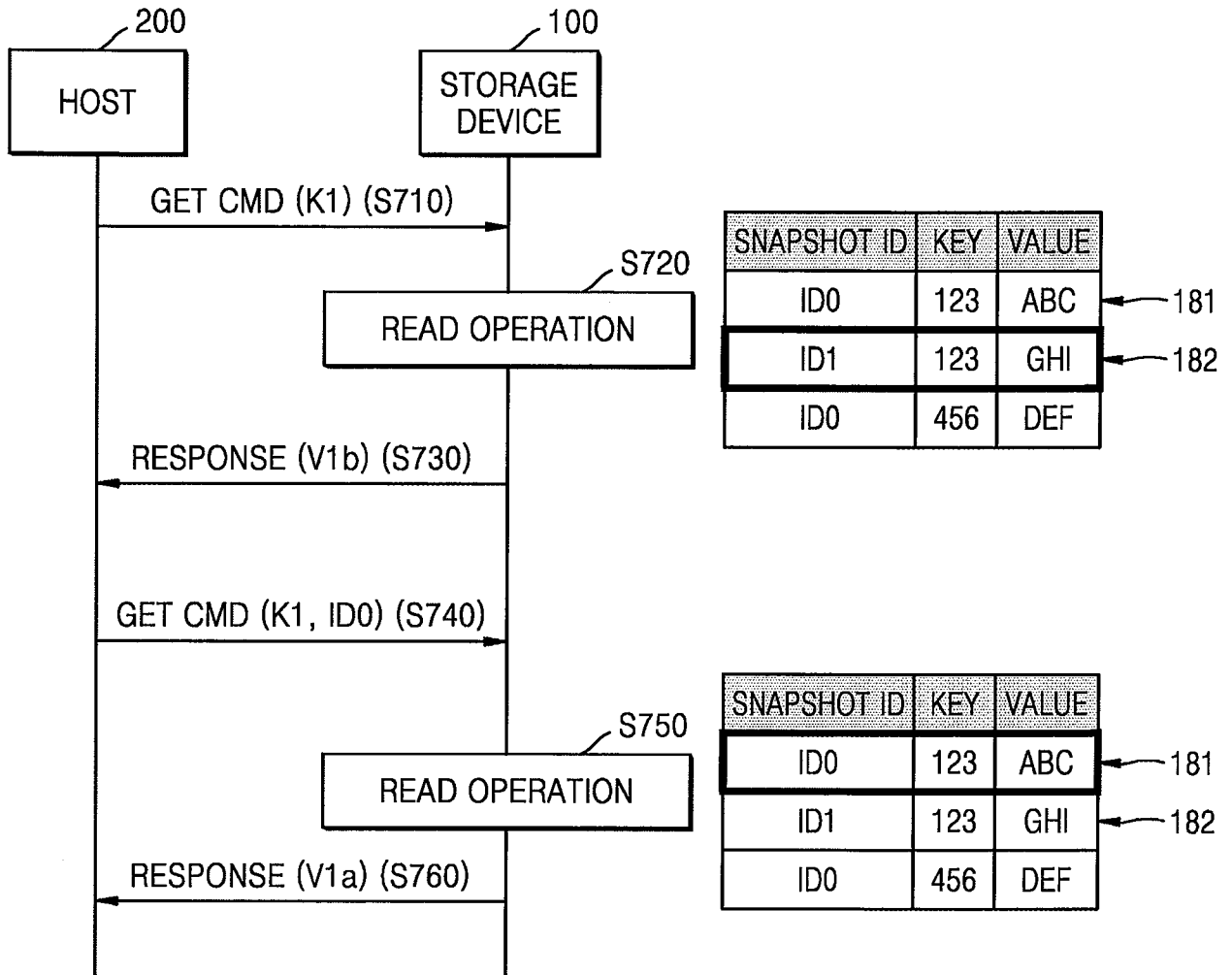


FIG. 19

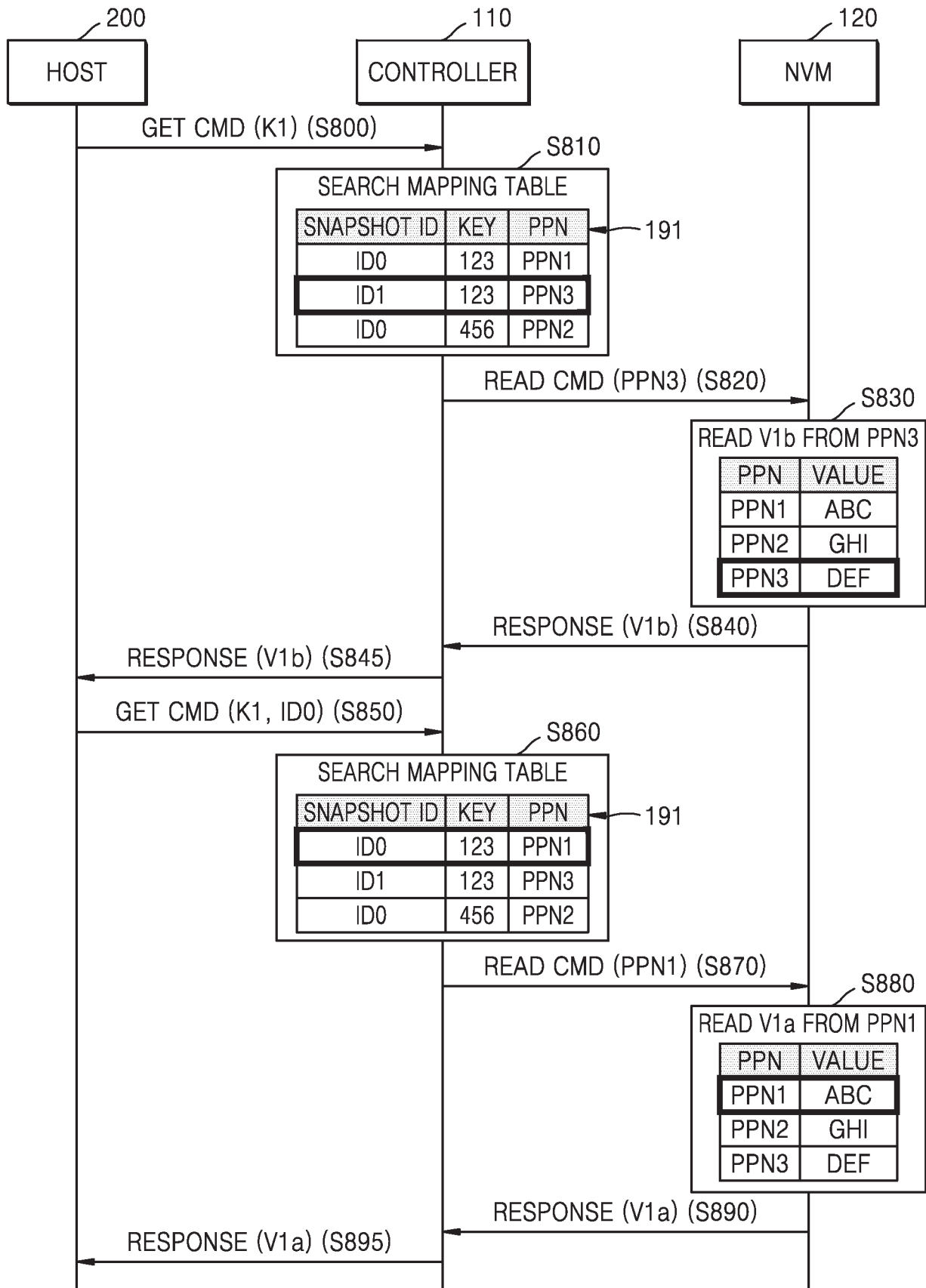


FIG. 20

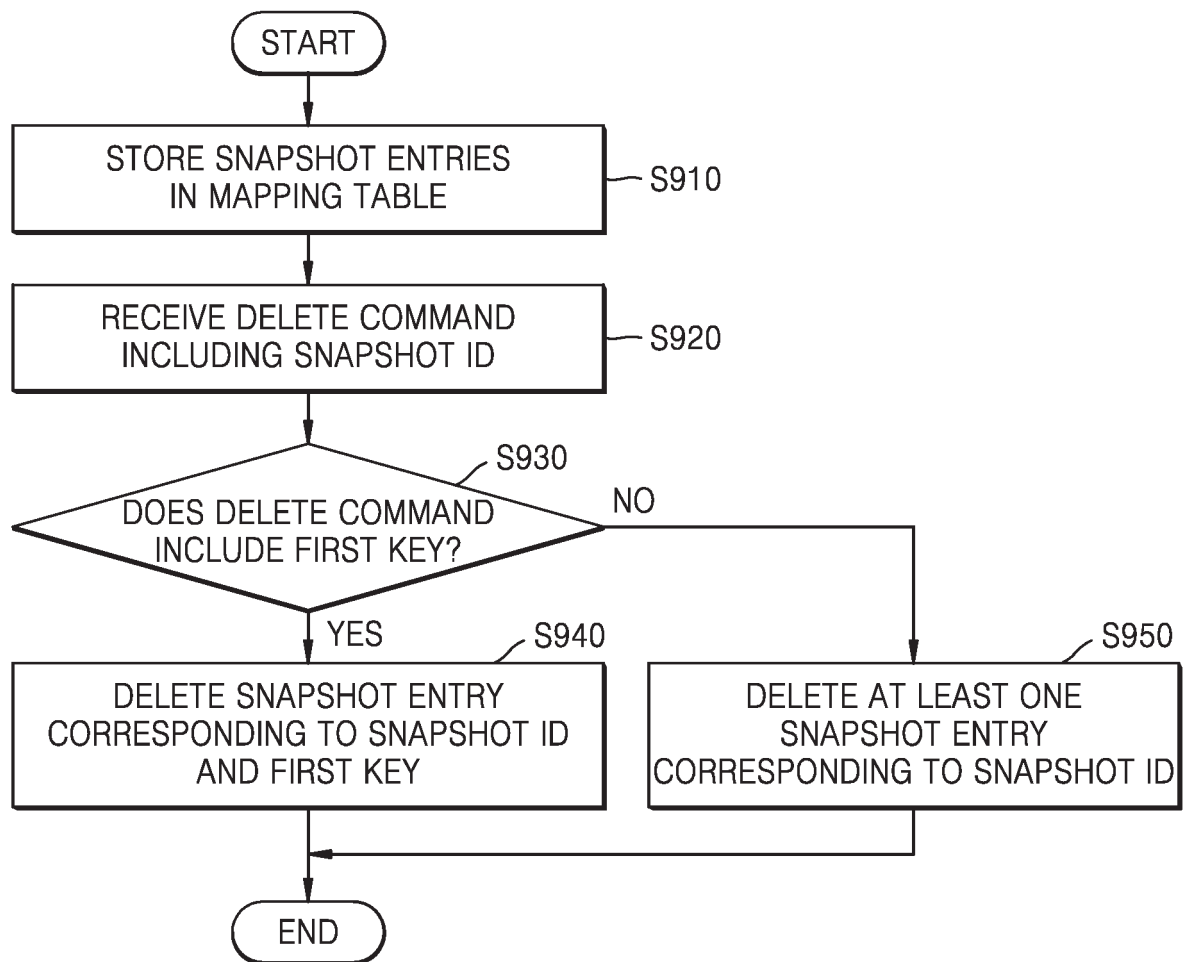


FIG. 21

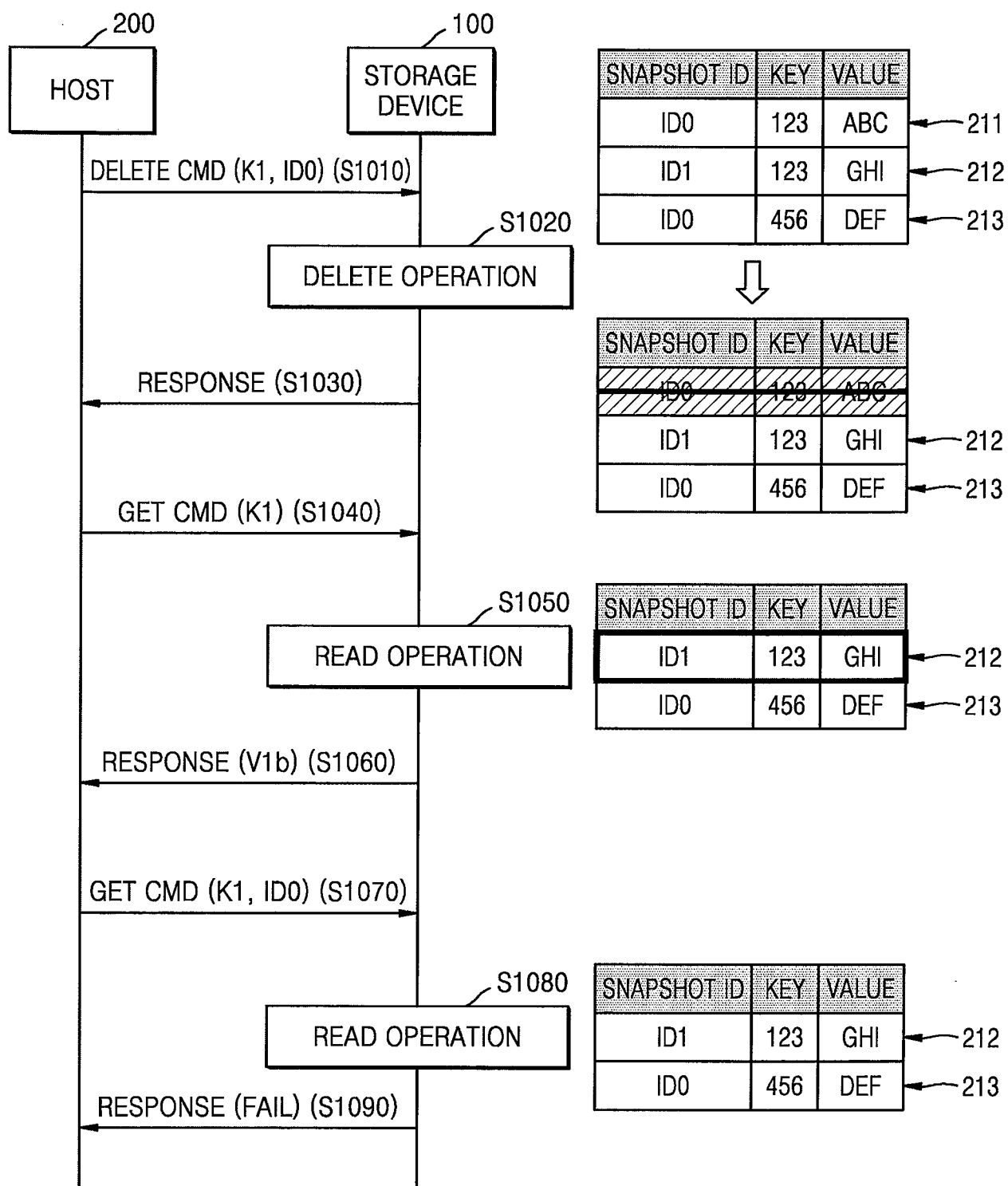


FIG. 22

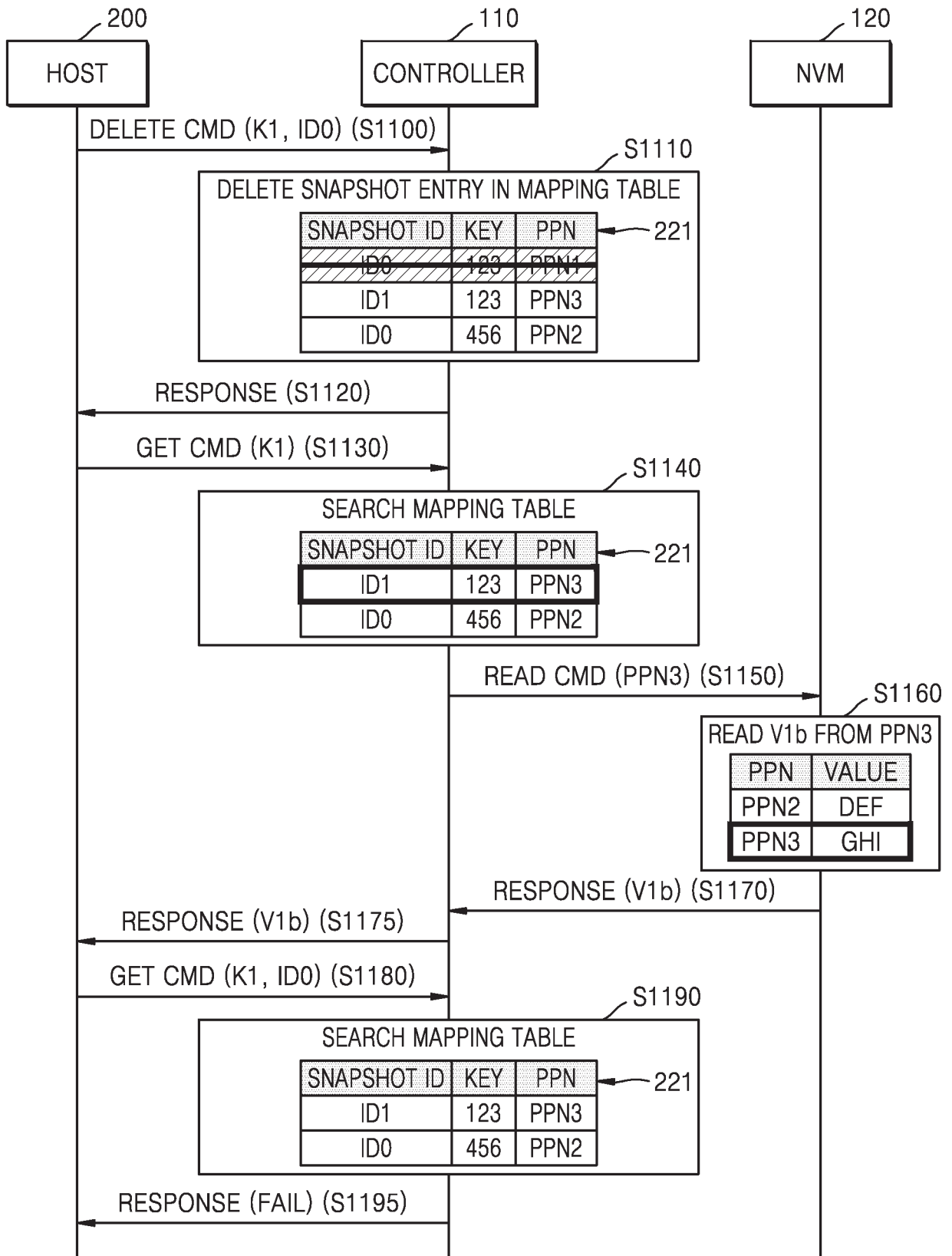


FIG. 23

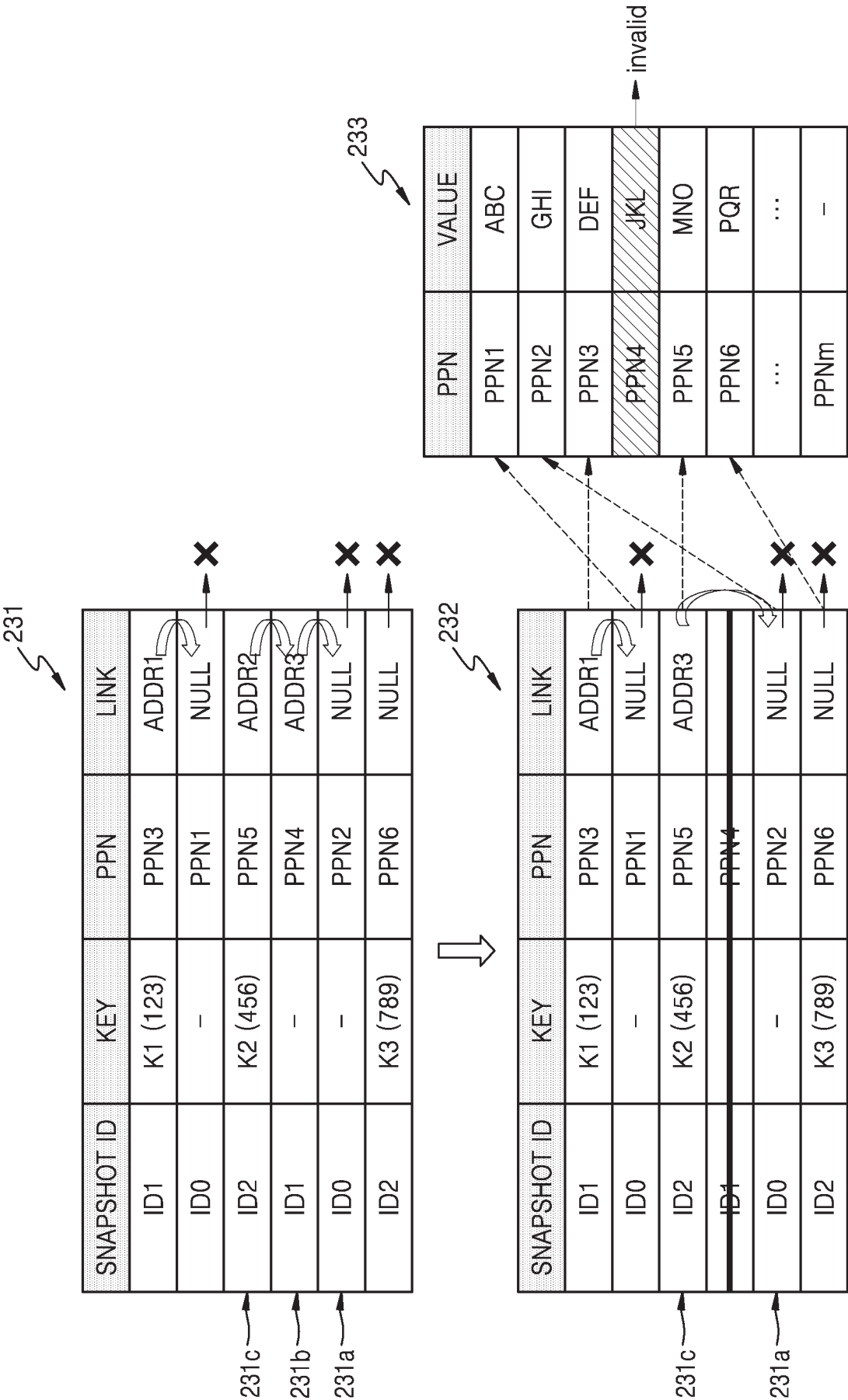


FIG. 24

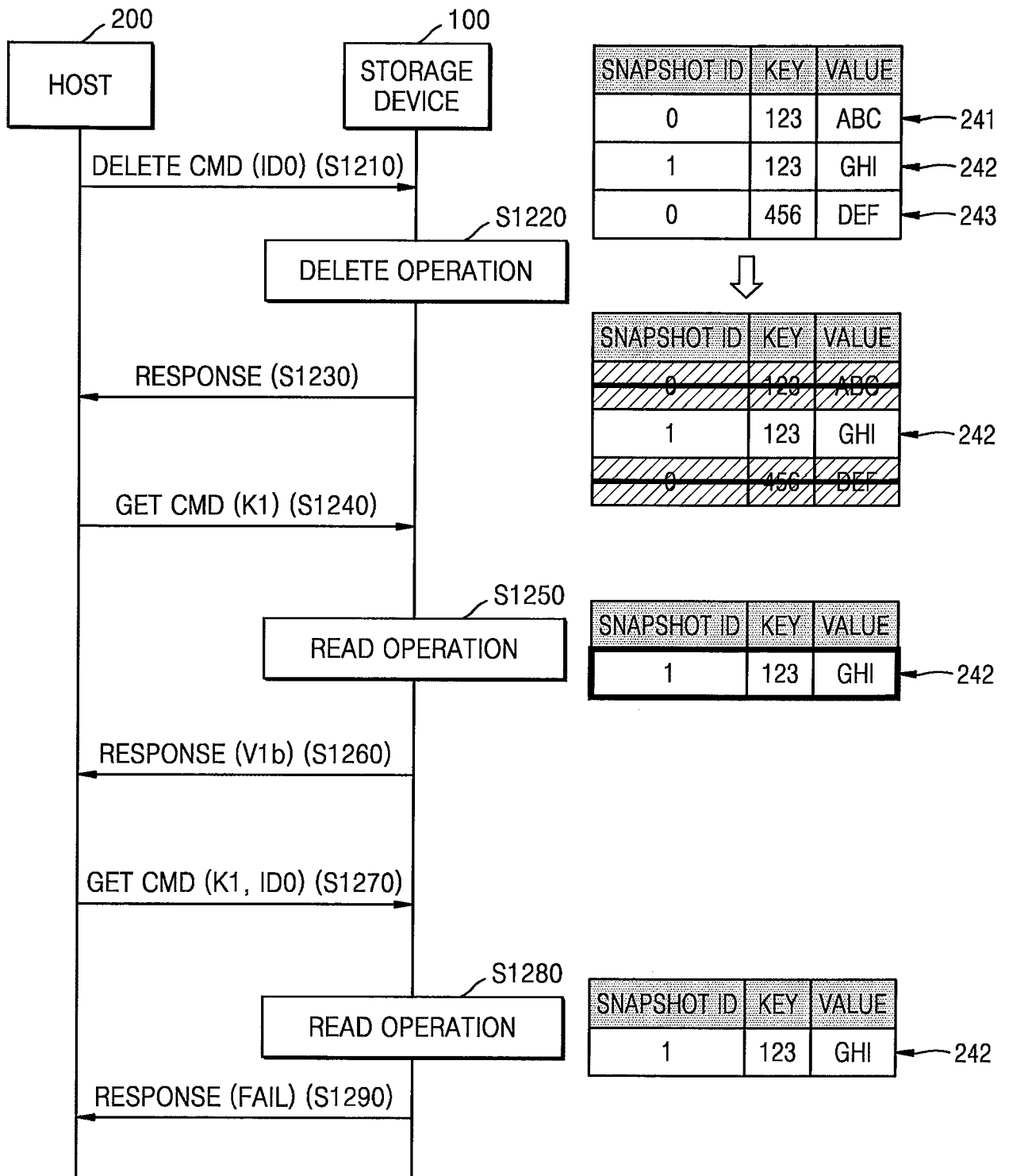


FIG. 25

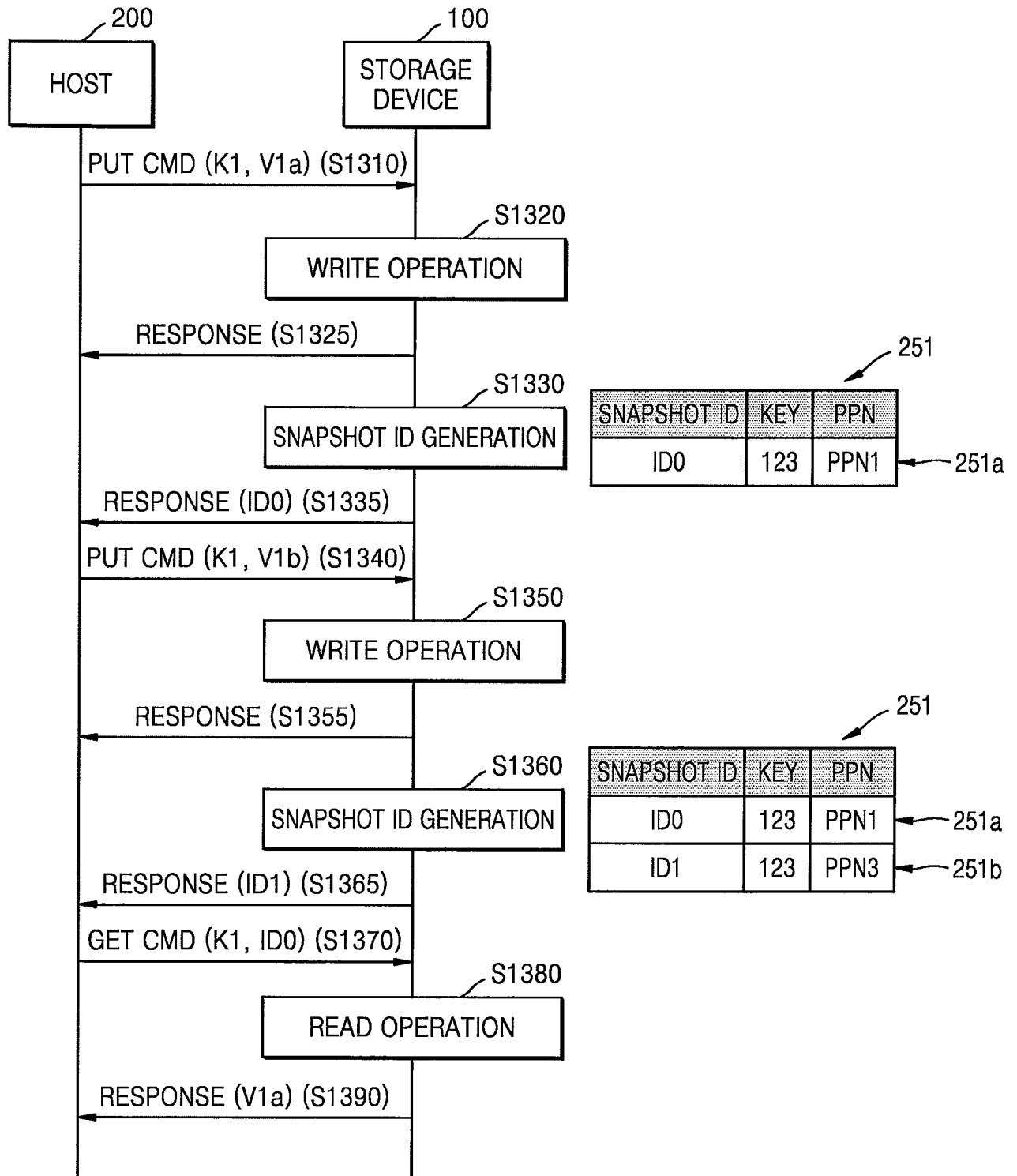
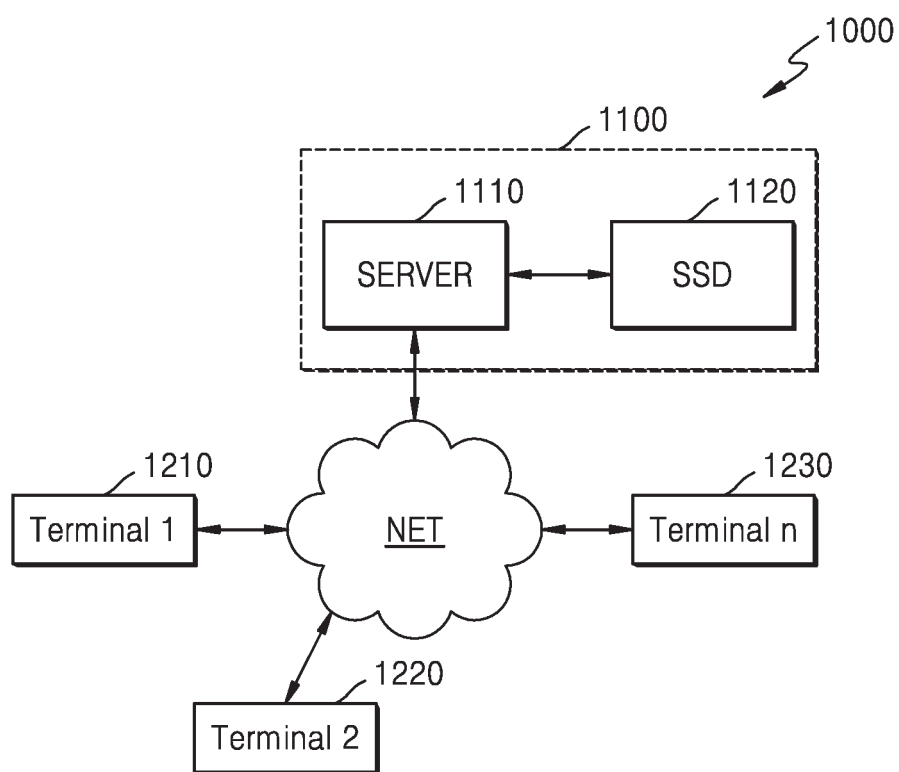


FIG. 26



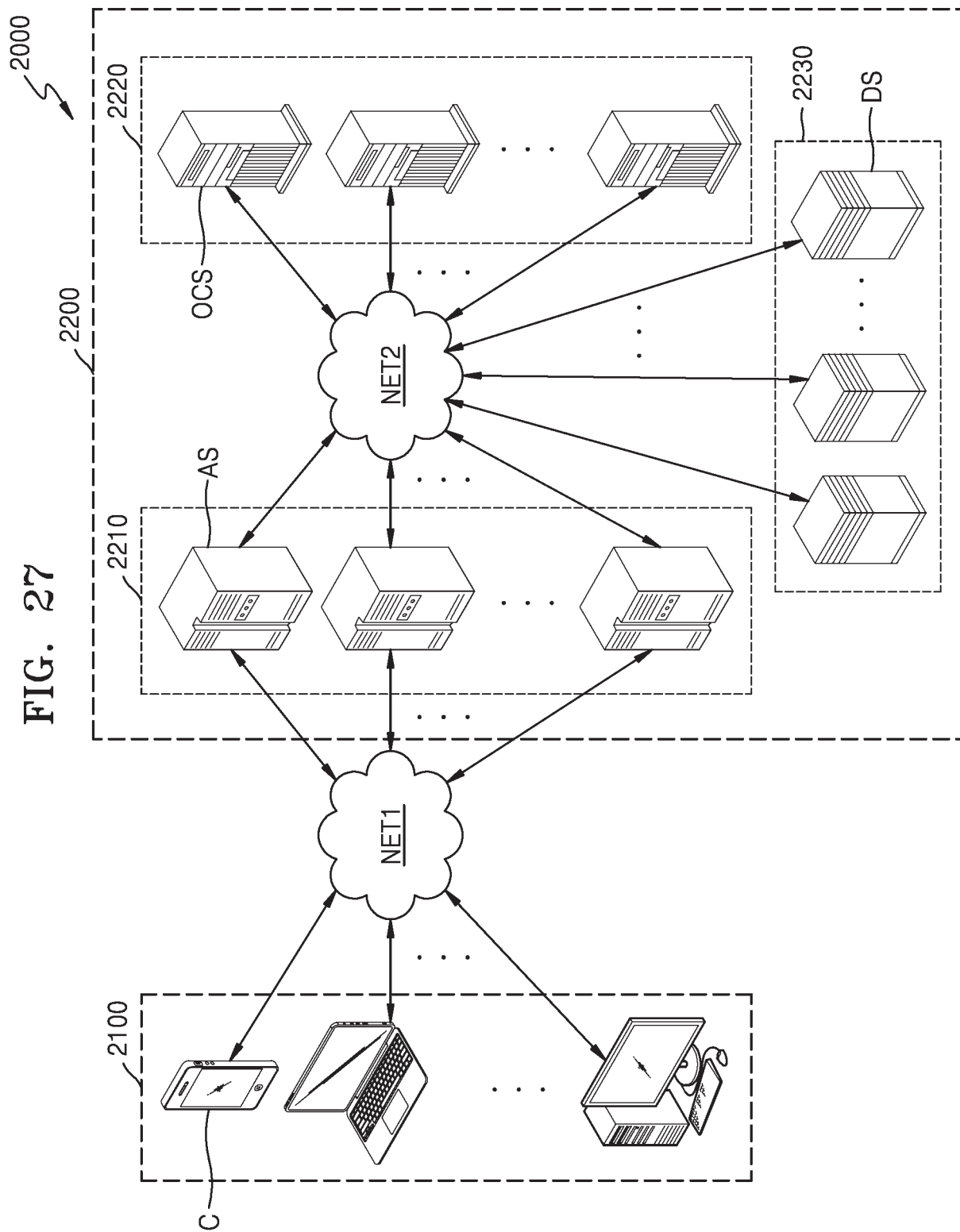


FIG. 28

