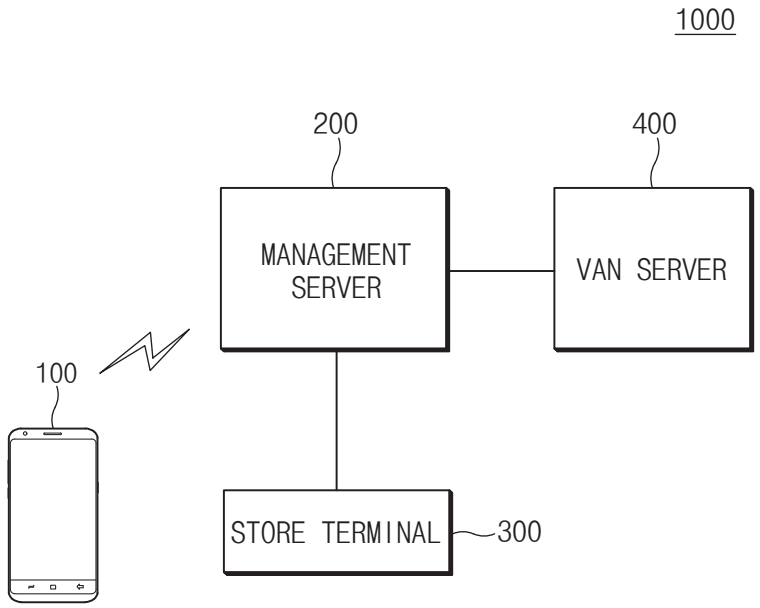
1000
200
400
MANAGEMENT SERVER
VAN SERVER
100
STORE TERMINAL
300

FIG.1

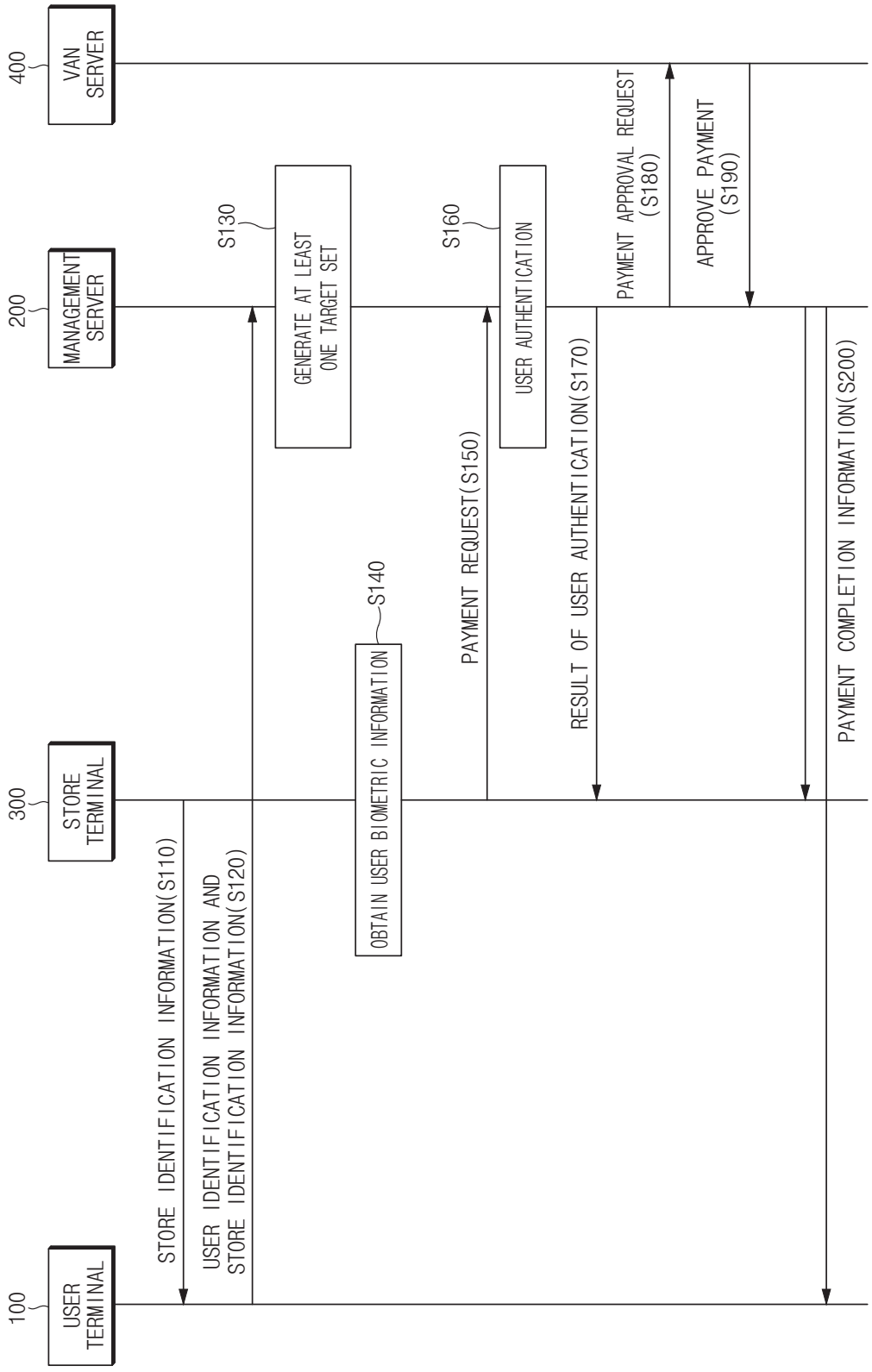
100
USER TERMINAL
300
STORE TERMINAL
200
MANAGEMENT SERVER
400
VAN SERVER
STORE IDENTIFICATION INFORMATION(S110)
USER IDENTIFICATION INFORMATION AND STORE IDENTIFICATION INFORMATION(S120)
S130
GENERATE AT LEAST ONE TARGET SET
S140
OBTAIN USER BIOMETRIC INFORMATION
PAYMENT REQUEST(S150)
S160
USER AUTHENTICATION
RESULT OF USER AUTHENTICATION(S170)
PAYMENT APPROVAL REQUEST (S180)
APPROVE PAYMENT (S190)
PAYMENT COMPLETION INFORMATION(S200)

FIG.2

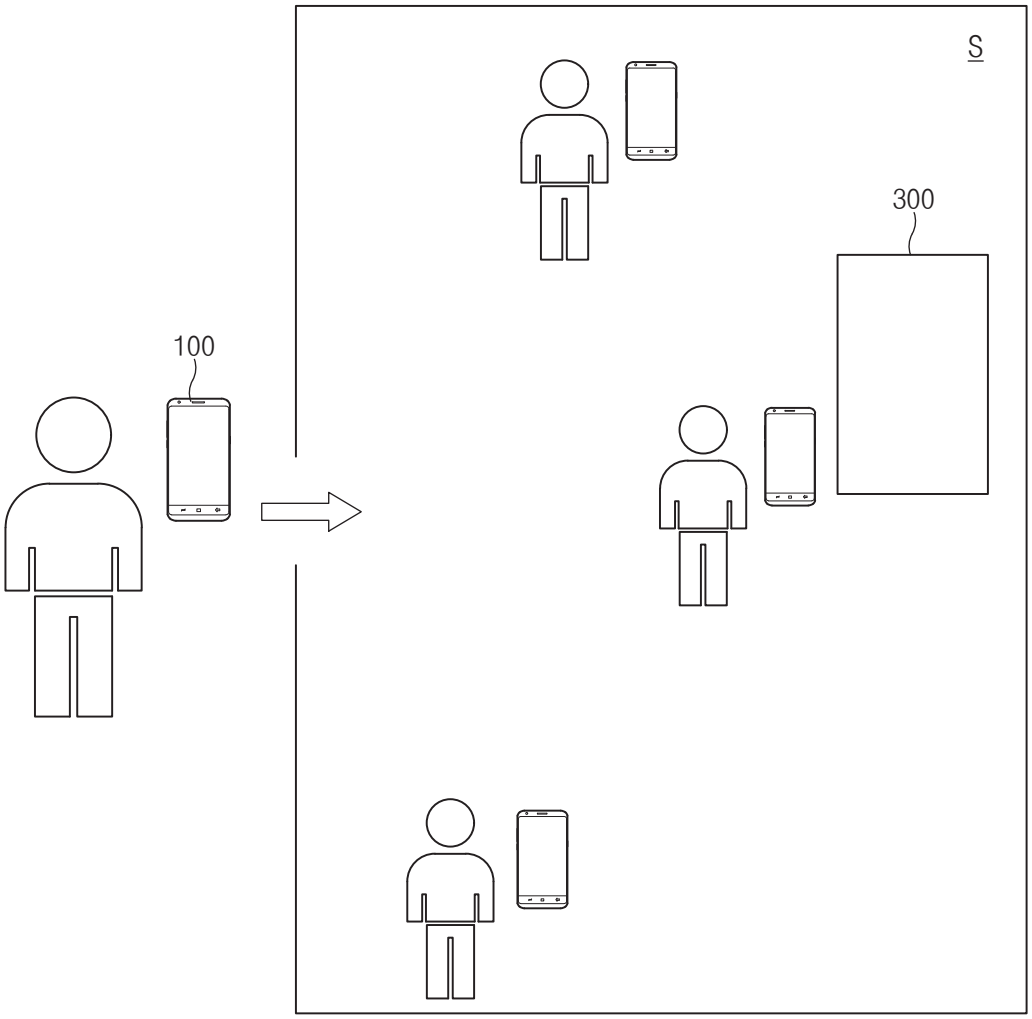

FIG.3

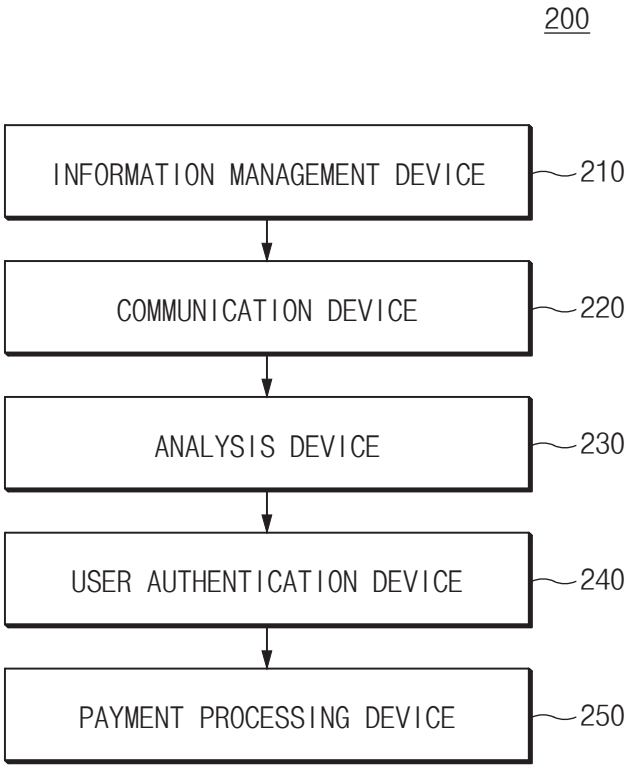
200
INFORMATION MANAGEMENT DEVICE
210
COMMUNICATION DEVICE
220
ANALYSIS DEVICE
230
USER AUTHENTICATION DEVICE
240
PAYMENT PROCESSING DEVICE
250

FIG.4

STORE IDENTIFICATION INFORMATION	USER IDENTIFICATION INFORMATION	PAYMENT HISTORY INFORMATION			PAYMENT REGISTRATION INFORMATION	USER TEMPLATE INFORMATION
		NUMBER	PLACE	AMOUNT		
STORE A	USER 1	1	STORE A	20,000 WON	CARD	Template a
	USER 2	3	STORE A	10,000 WON	CARD	Template b
	USER 3	4	STORE A	500 WON	ACCOUNT	Template c
	USER 4	5	STORE A	2,000 WON	CARD	Template d
	USER 5	7	STORE A	50,000 WON	CARD	Template e
STORE B	USER 6	8	STORE B	70,000 WON	CARD	Template f
	USER 7	2	STORE B	2,000 WON	ACCOUNT	Template g
	⋮					
	USER N	1	STORE B	15,000 WON	CARD	Template h

T1

D1

T2

FIG.5

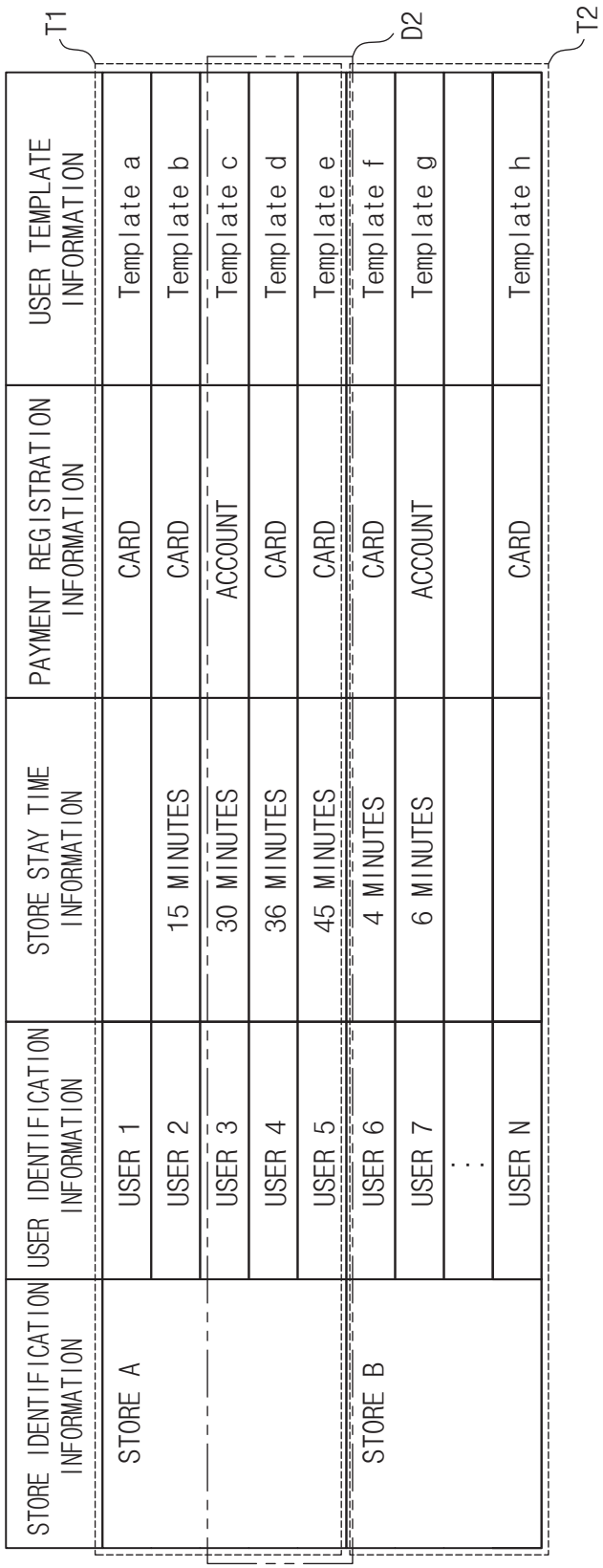
T1
D2
T2
STORE IDENTIFICATION INFORMATION
USER IDENTIFICATION INFORMATION
STORE STAY TIME INFORMATION
PAYMENT REGISTRATION INFORMATION
USER TEMPLATE INFORMATION
STORE A
USER 1
CARD
Template a
USER 2
15 MINUTES
CARD
Template b
USER 3
30 MINUTES
ACCOUNT
Template c
USER 4
36 MINUTES
CARD
Template d
USER 5
45 MINUTES
CARD
Template e
STORE B
USER 6
4 MINUTES
CARD
Template f
USER 7
6 MINUTES
ACCOUNT
Template g
USER N
CARD
Template h

FIG.6

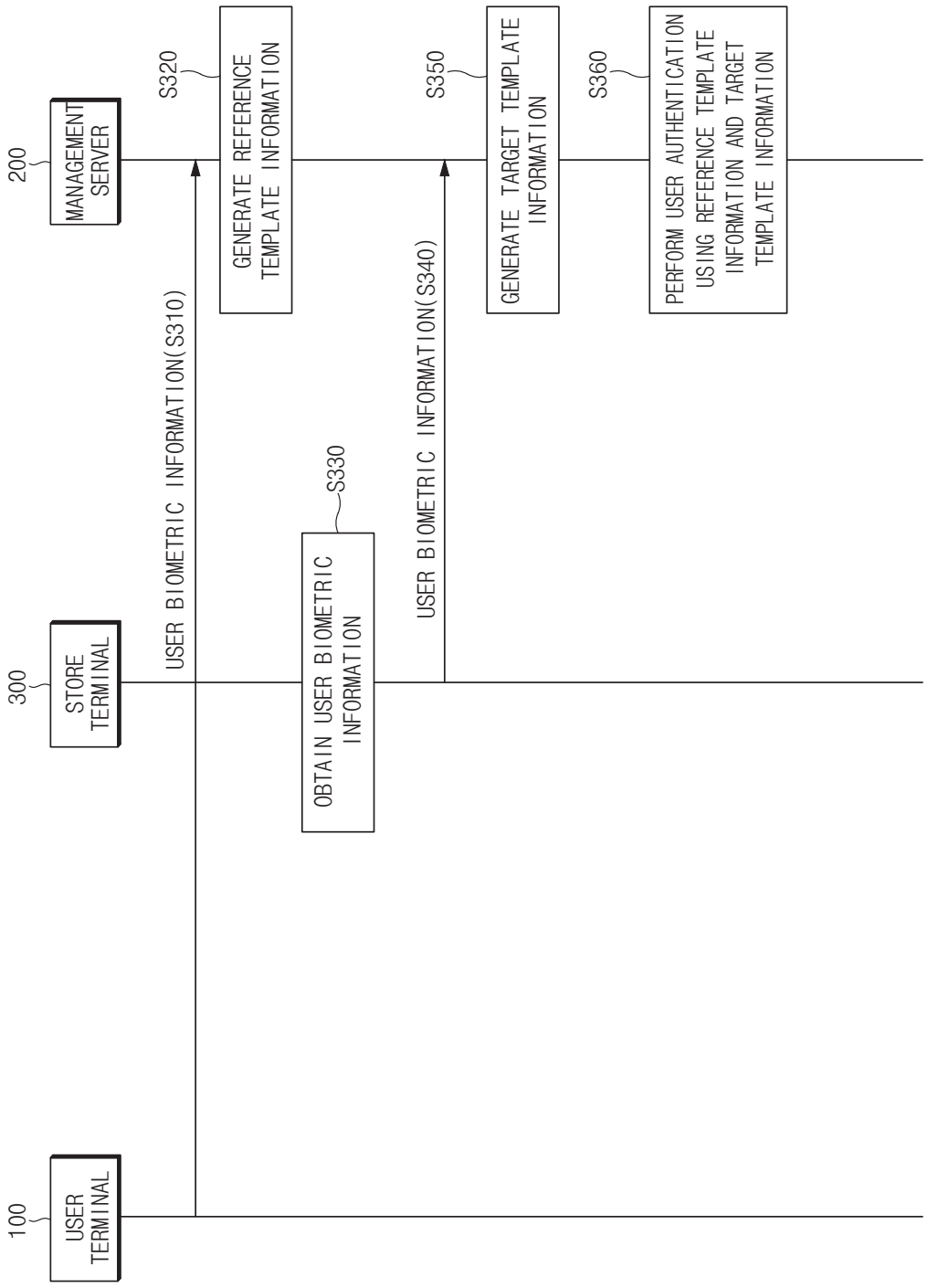
100
USER TERMINAL
200
MANAGEMENT SERVER
300
STORE TERMINAL
USER BIOMETRIC INFORMATION(S310)
S320
GENERATE REFERENCE TEMPLATE INFORMATION
S330
OBTAIN USER BIOMETRIC INFORMATION
USER BIOMETRIC INFORMATION(S340)
S350
GENERATE TARGET TEMPLATE INFORMATION
S360
PERFORM USER AUTHENTICATION USING REFERENCE TEMPLATE INFORMATION AND TARGET TEMPLATE INFORMATION

FIG.7

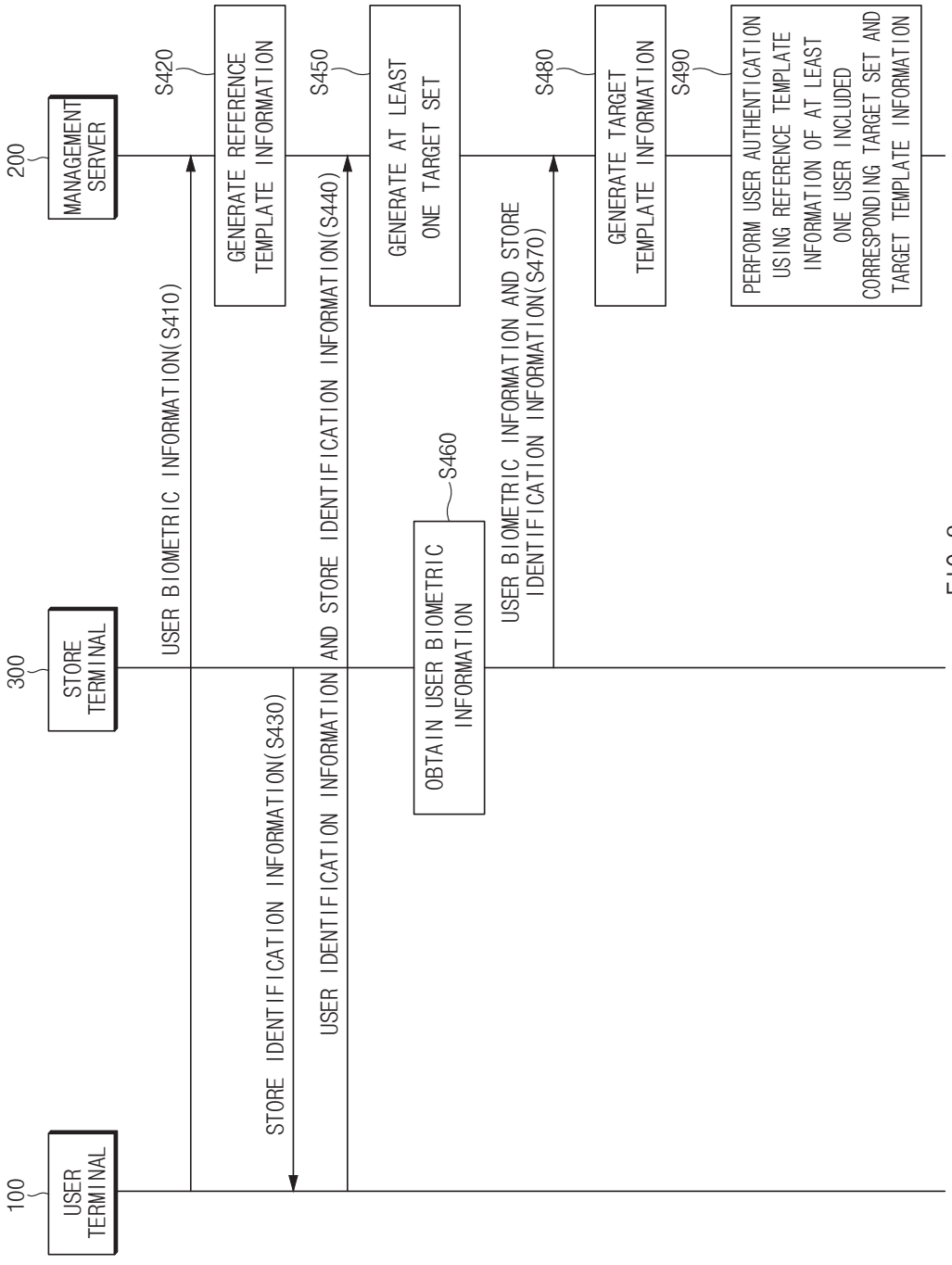
100
USER TERMINAL
300
STORE TERMINAL
200
MANAGEMENT SERVER
USER BIOMETRIC INFORMATION(S410)
S420
GENERATE REFERENCE TEMPLATE INFORMATION
STORE IDENTIFICATION INFORMATION(S430)
USER IDENTIFICATION INFORMATION AND STORE IDENTIFICATION INFORMATION(S440)
S450
GENERATE AT LEAST ONE TARGET SET
S460
OBTAIN USER BIOMETRIC INFORMATION
USER BIOMETRIC INFORMATION AND STORE IDENTIFICATION INFORMATION(S470)
S480
GENERATE TARGET TEMPLATE INFORMATION
S490
PERFORM USER AUTHENTICATION USING REFERENCE TEMPLATE INFORMATION OF AT LEAST ONE USER INCLUDED CORRESPONDING TARGET SET AND TARGET TEMPLATE INFORMATION

FIG.8

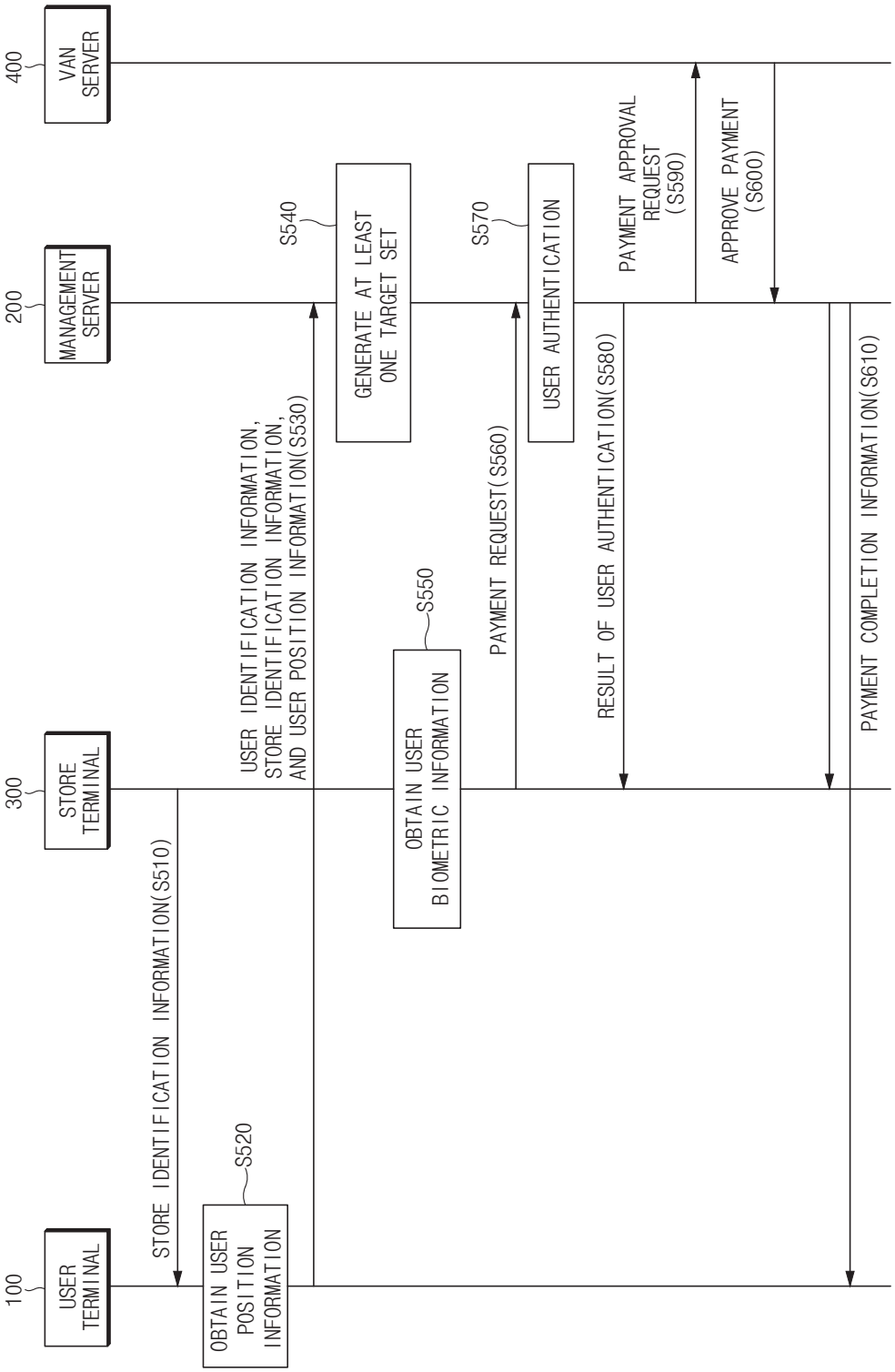
100
USER TERMINAL
200
MANAGEMENT SERVER
300
STORE TERMINAL
400
VAN SERVER
STORE IDENTIFICATION INFORMATION(S510)
S520
OBTAIN USER POSITION INFORMATION
USER IDENTIFICATION INFORMATION, STORE IDENTIFICATION INFORMATION, AND USER POSITION INFORMATION(S530)
S540
GENERATE AT LEAST ONE TARGET SET
S550
OBTAIN USER BIOMETRIC INFORMATION
PAYMENT REQUEST(S560)
S570
USER AUTHENTICATION
RESULT OF USER AUTHENTICATION(S580)
PAYMENT APPROVAL REQUEST (S590)
APPROVE PAYMENT (S600)
PAYMENT COMPLETION INFORMATION(S610)

FIG.9

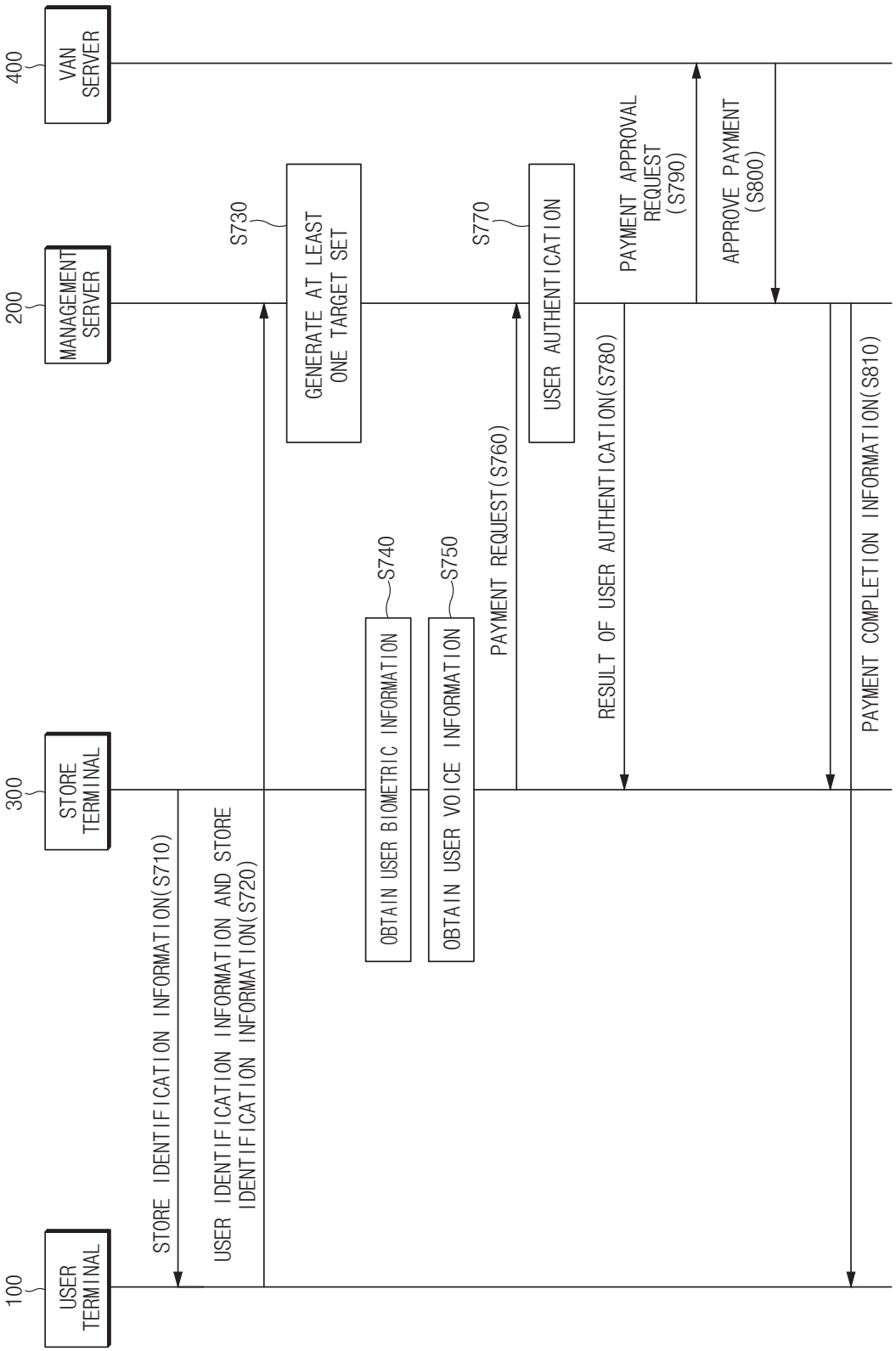
100
USER TERMINAL
200
MANAGEMENT SERVER
300
STORE TERMINAL
400
VAN SERVER
STORE IDENTIFICATION INFORMATION(S710)
USER IDENTIFICATION INFORMATION AND STORE IDENTIFICATION INFORMATION(S720)
S730
GENERATE AT LEAST ONE TARGET SET
S740
OBTAIN USER BIOMETRIC INFORMATION
S750
OBTAIN USER VOICE INFORMATION
PAYMENT REQUEST(S760)
S770
USER AUTHENTICATION
RESULT OF USER AUTHENTICATION(S780)
PAYMENT APPROVAL REQUEST (S790)
APPROVE PAYMENT (S800)
PAYMENT COMPLETION INFORMATION(S810)

FIG.10