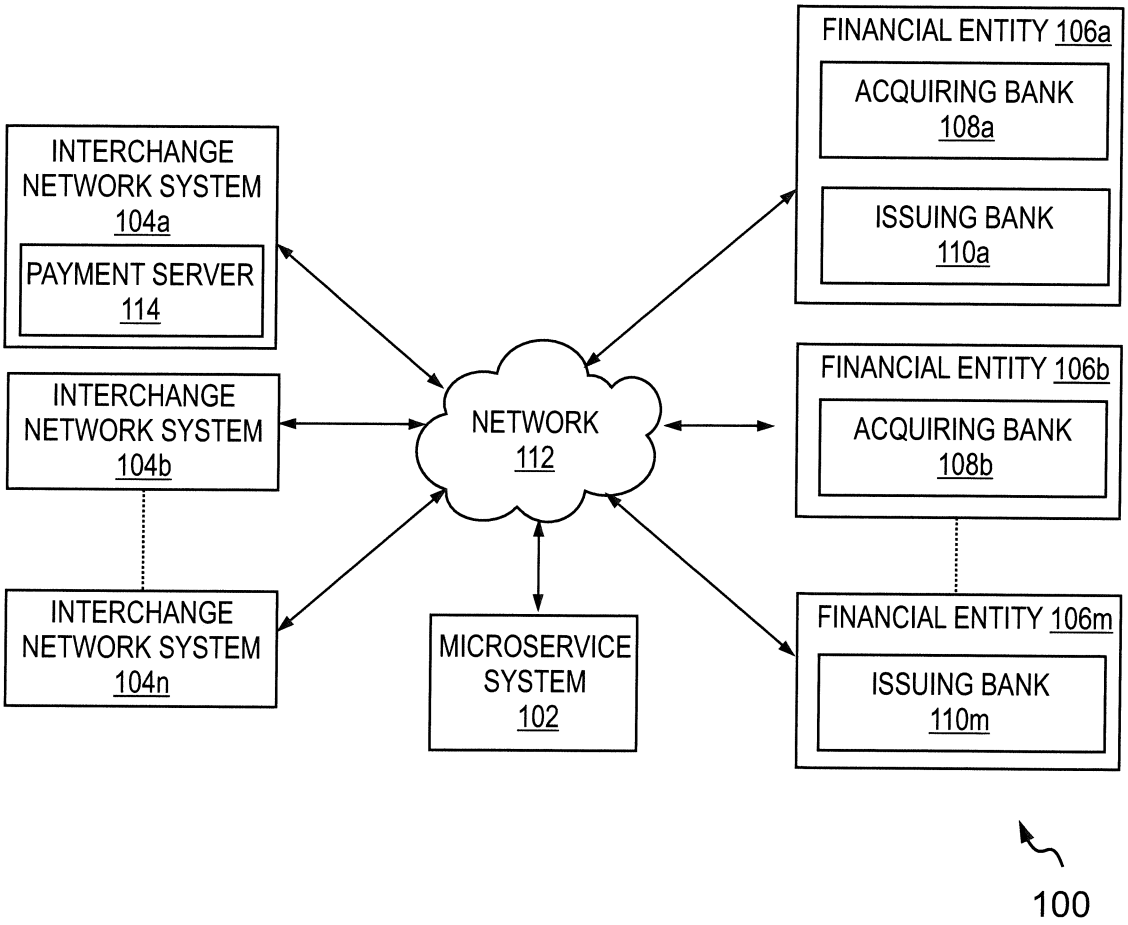

FINANCIAL ENTITY 106a
ACQUIRING BANK 108a
ISSUING BANK 110a
INTERCHANGE NETWORK SYSTEM 104a
PAYMENT SERVER 114
INTERCHANGE NETWORK SYSTEM 104b
NETWORK 112
FINANCIAL ENTITY 106b
ACQUIRING BANK 108b
INTERCHANGE NETWORK SYSTEM 104n
MICROSERVICE SYSTEM 102
FINANCIAL ENTITY 106m
ISSUING BANK 110m
100

FIG. 1

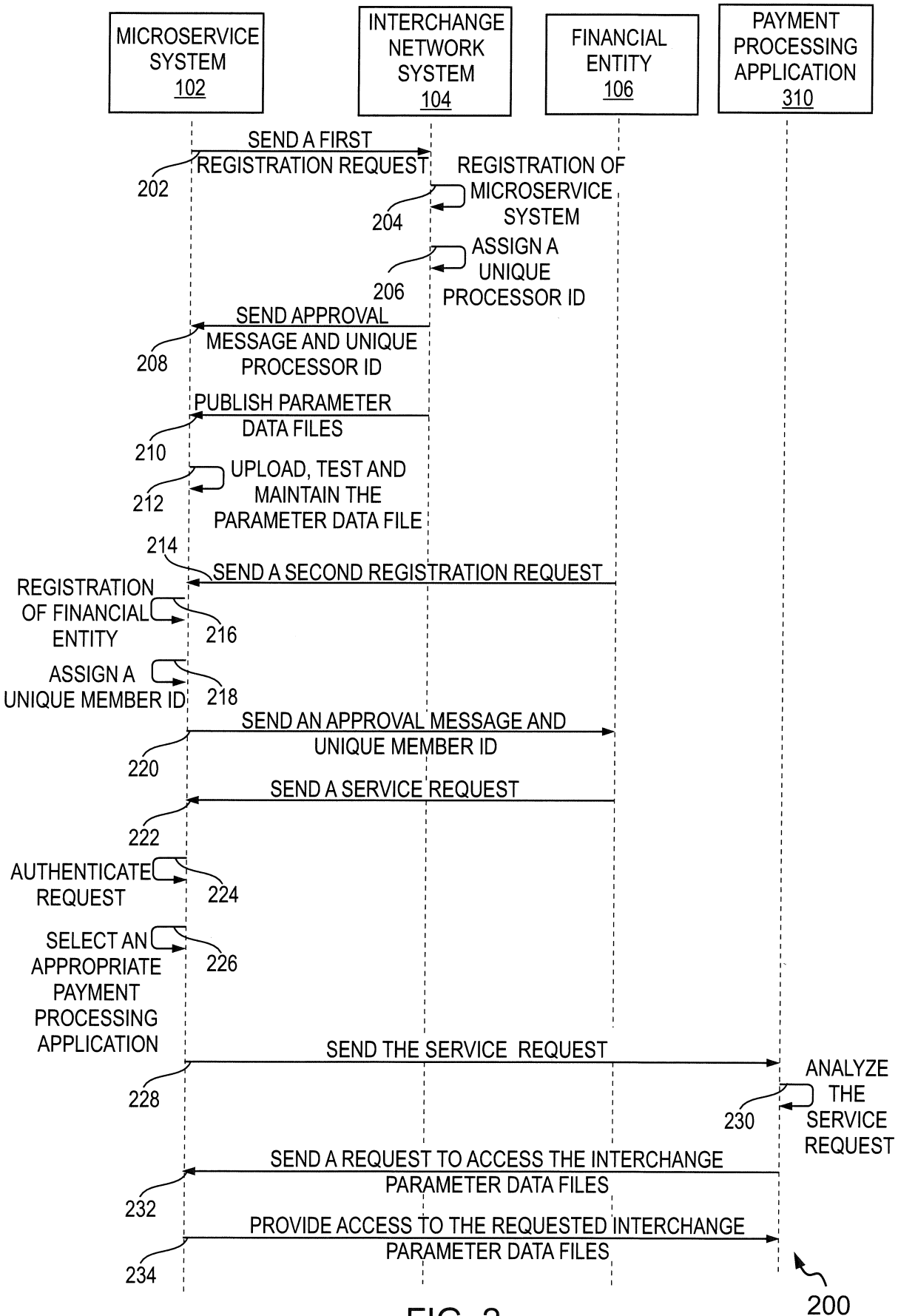

MICROSERVICE SYSTEM 102
INTERCHANGE NETWORK SYSTEM 104
FINANCIAL ENTITY 106
PAYMENT PROCESSING APPLICATION 310
SEND A FIRST REGISTRATION REQUEST
202
REGISTRATION OF MICROSERVICE SYSTEM
204
ASSIGN A UNIQUE PROCESSOR ID
206
SEND APPROVAL MESSAGE AND UNIQUE PROCESSOR ID
208
PUBLISH PARAMETER DATA FILES
210
UPLOAD, TEST AND MAINTAIN THE PARAMETER DATA FILE
212
214
SEND A SECOND REGISTRATION REQUEST
REGISTRATION OF FINANCIAL ENTITY
216
ASSIGN A UNIQUE MEMBER ID
218
SEND AN APPROVAL MESSAGE AND UNIQUE MEMBER ID
220
SEND A SERVICE REQUEST
222
AUTHENTICATE REQUEST
224
SELECT AN APPROPRIATE PAYMENT PROCESSING APPLICATION
226
SEND THE SERVICE REQUEST
228
ANALYZE THE SERVICE REQUEST
230
SEND A REQUEST TO ACCESS THE INTERCHANGE PARAMETER DATA FILES
232
PROVIDE ACCESS TO THE REQUESTED INTERCHANGE PARAMETER DATA FILES
234
200

FIG. 2

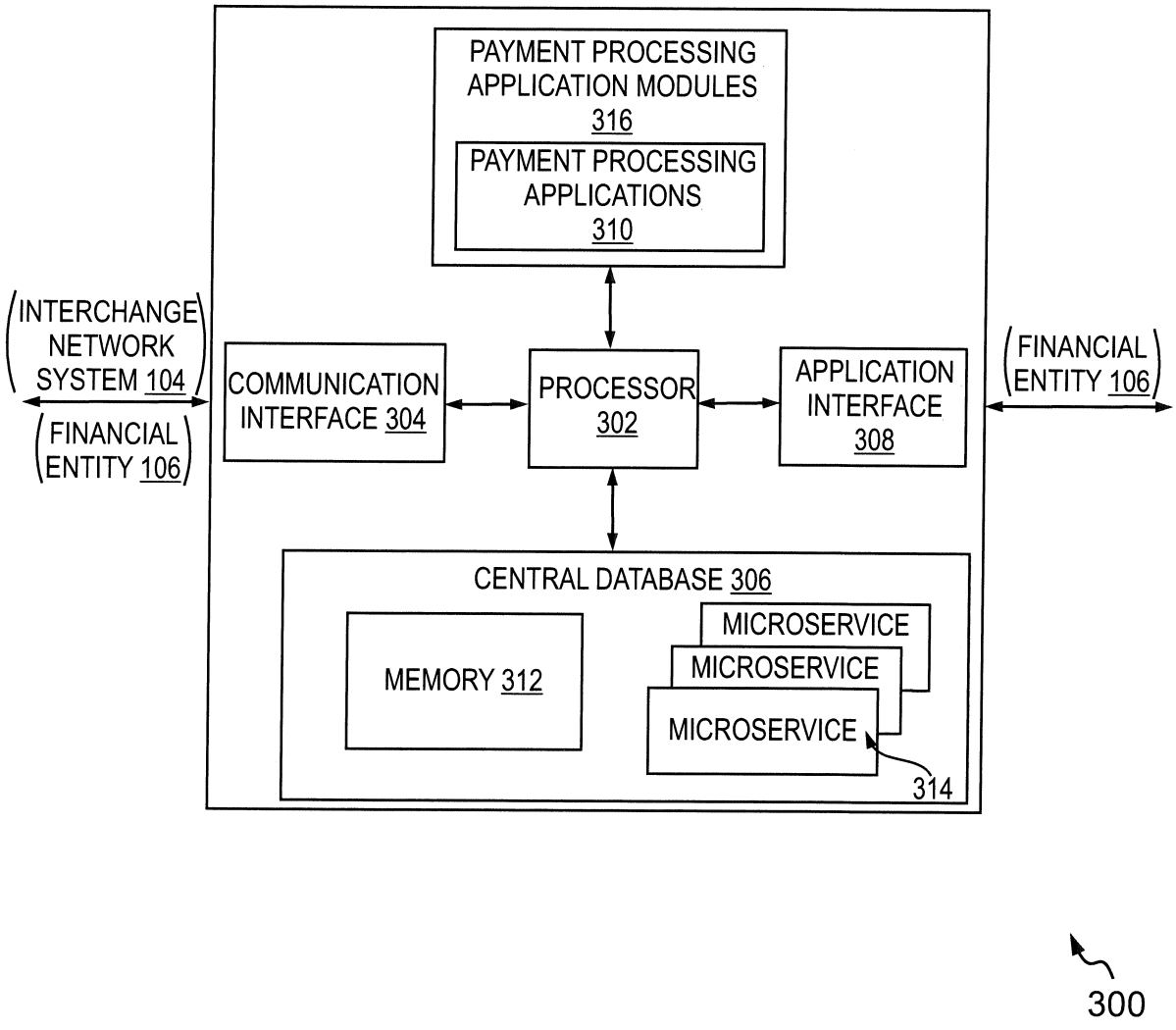

PAYMENT PROCESSING APPLICATION MODULES 316
PAYMENT PROCESSING APPLICATIONS 310
INTERCHANGE NETWORK SYSTEM 104
FINANCIAL ENTITY 106
COMMUNICATION INTERFACE 304
PROCESSOR 302
APPLICATION INTERFACE 308
FINANCIAL ENTITY 106
CENTRAL DATABASE 306
MEMORY 312
MICROSERVICE
MICROSERVICE
MICROSERVICE
314
300

FIG. 3

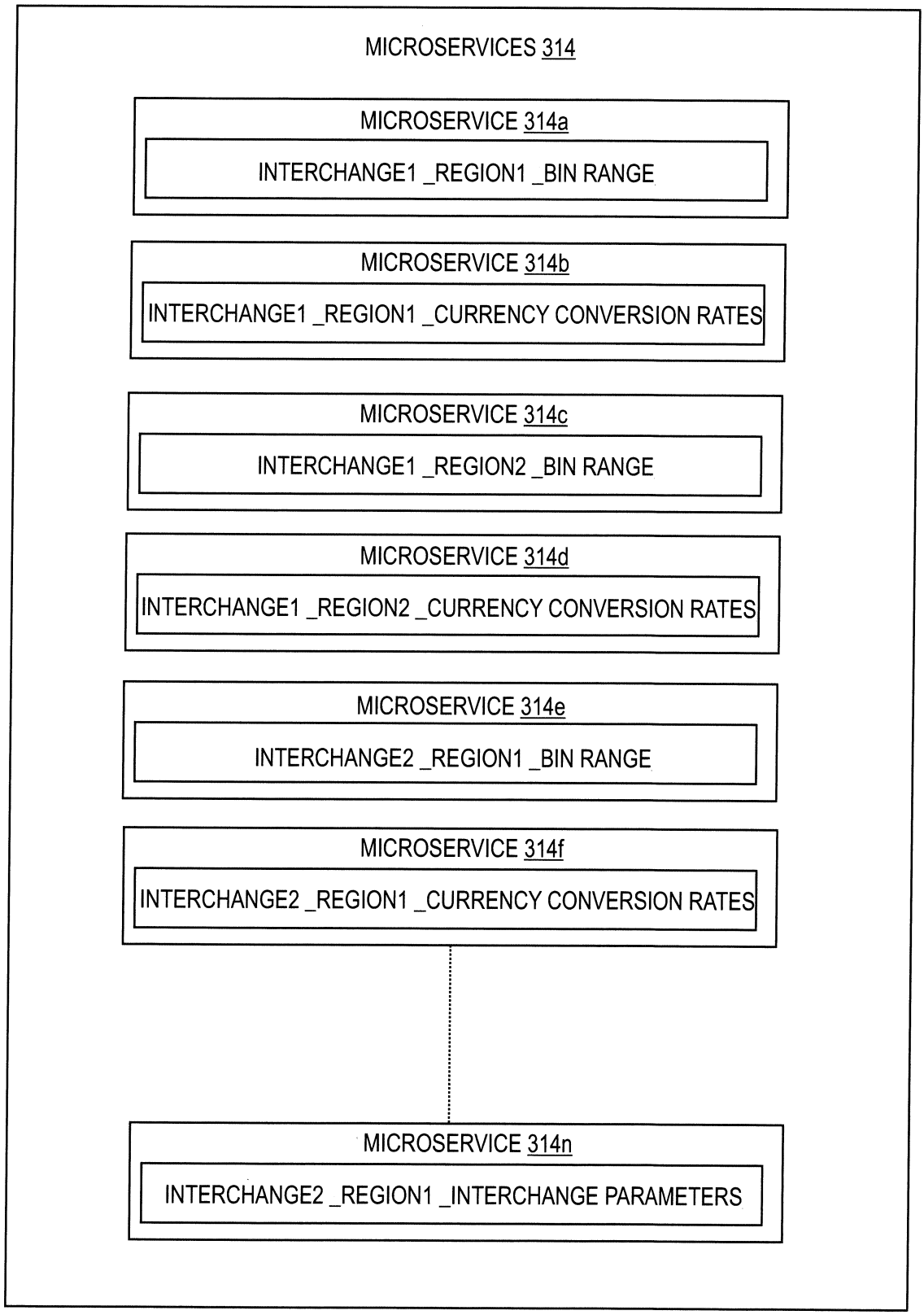

MICROSERVICES 314
MICROSERVICE 314a
INTERCHANGE1 _REGION1 _BIN RANGE
MICROSERVICE 314b
INTERCHANGE1 _REGION1 _CURRENCY CONVERSION RATES
MICROSERVICE 314c
INTERCHANGE1 _REGION2 _BIN RANGE
MICROSERVICE 314d
INTERCHANGE1 _REGION2 _CURRENCY CONVERSION RATES
MICROSERVICE 314e
INTERCHANGE2 _REGION1 _BIN RANGE
MICROSERVICE 314f
INTERCHANGE2 _REGION1 _CURRENCY CONVERSION RATES
MICROSERVICE 314n
INTERCHANGE2 _REGION1 _INTERCHANGE PARAMETERS

FIG. 4

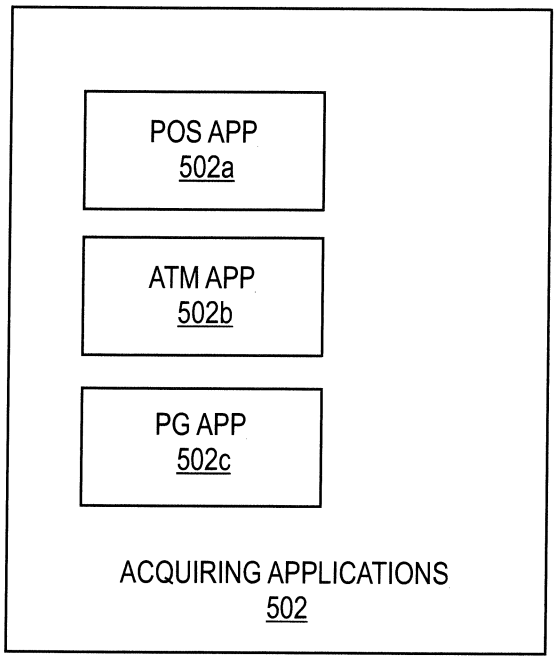

POS APP
502a
ATM APP
502b
PG APP
502c
ACQUIRING APPLICATIONS
502

FIG. 5A

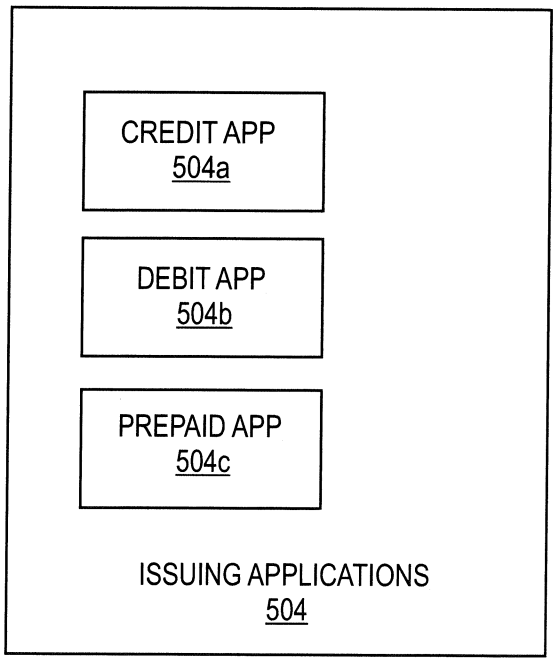

CREDIT APP
504a
DEBIT APP
504b
PREPAID APP
504c
ISSUING APPLICATIONS
504

FIG. 5B

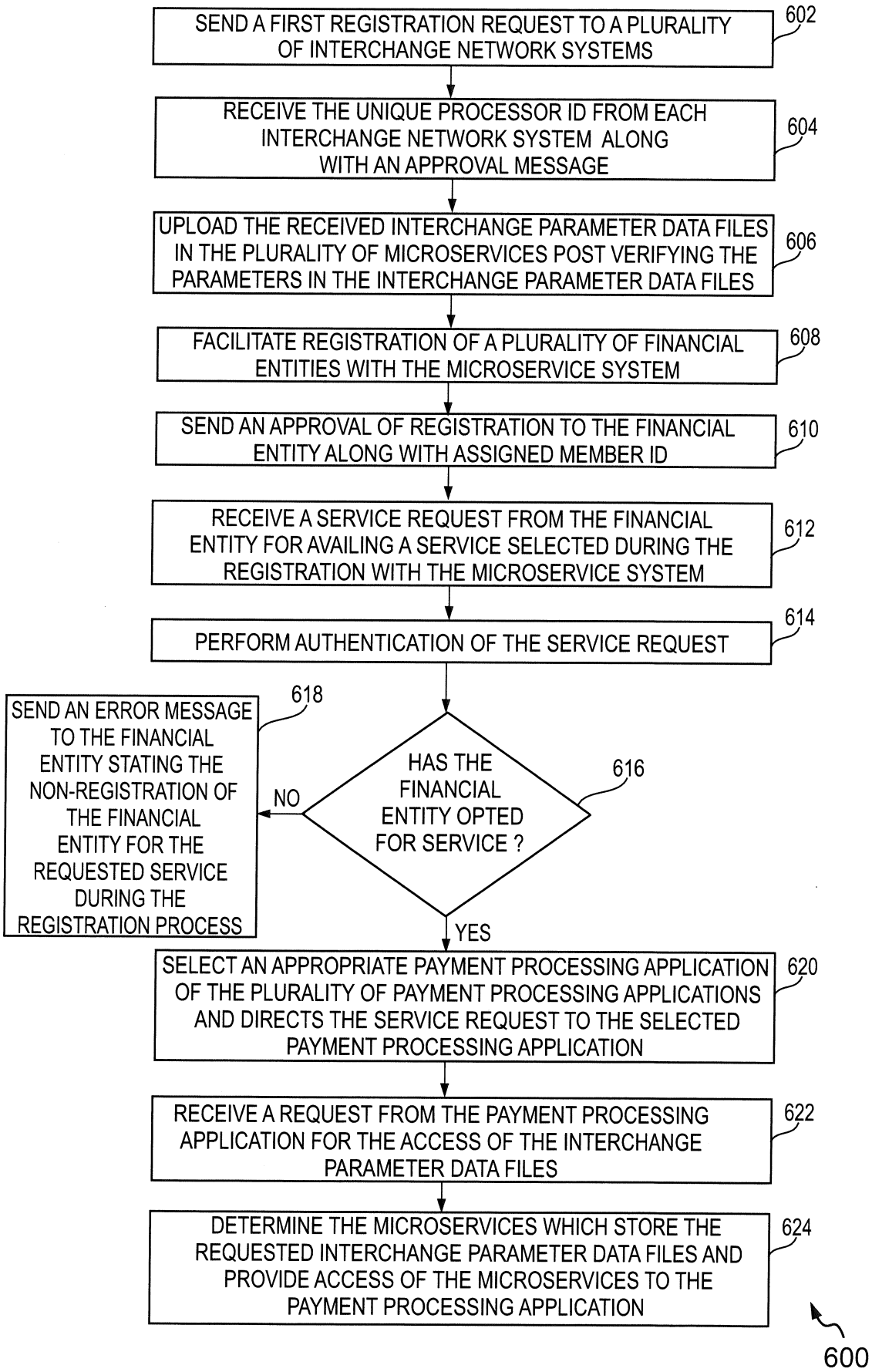

SEND A FIRST REGISTRATION REQUEST TO A PLURALITY OF INTERCHANGE NETWORK SYSTEMS
602
RECEIVE THE UNIQUE PROCESSOR ID FROM EACH INTERCHANGE NETWORK SYSTEM ALONG WITH AN APPROVAL MESSAGE
604
UPLOAD THE RECEIVED INTERCHANGE PARAMETER DATA FILES IN THE PLURALITY OF MICROSERVICES POST VERIFYING THE PARAMETERS IN THE INTERCHANGE PARAMETER DATA FILES
606
FACILITATE REGISTRATION OF A PLURALITY OF FINANCIAL ENTITIES WITH THE MICROSERVICE SYSTEM
608
SEND AN APPROVAL OF REGISTRATION TO THE FINANCIAL ENTITY ALONG WITH ASSIGNED MEMBER ID
610
RECEIVE A SERVICE REQUEST FROM THE FINANCIAL ENTITY FOR AVAILING A SERVICE SELECTED DURING THE REGISTRATION WITH THE MICROSERVICE SYSTEM
612
PERFORM AUTHENTICATION OF THE SERVICE REQUEST
614
HAS THE FINANCIAL ENTITY OPTED FOR SERVICE ?
616
NO
SEND AN ERROR MESSAGE TO THE FINANCIAL ENTITY STATING THE NON-REGISTRATION OF THE FINANCIAL ENTITY FOR THE REQUESTED SERVICE DURING THE REGISTRATION PROCESS
618
YES
SELECT AN APPROPRIATE PAYMENT PROCESSING APPLICATION OF THE PLURALITY OF PAYMENT PROCESSING APPLICATIONS AND DIRECTS THE SERVICE REQUEST TO THE SELECTED PAYMENT PROCESSING APPLICATION
620
RECEIVE A REQUEST FROM THE PAYMENT PROCESSING APPLICATION FOR THE ACCESS OF THE INTERCHANGE PARAMETER DATA FILES
622
DETERMINE THE MICROSERVICES WHICH STORE THE REQUESTED INTERCHANGE PARAMETER DATA FILES AND PROVIDE ACCESS OF THE MICROSERVICES TO THE PAYMENT PROCESSING APPLICATION
624
600

FIG. 6

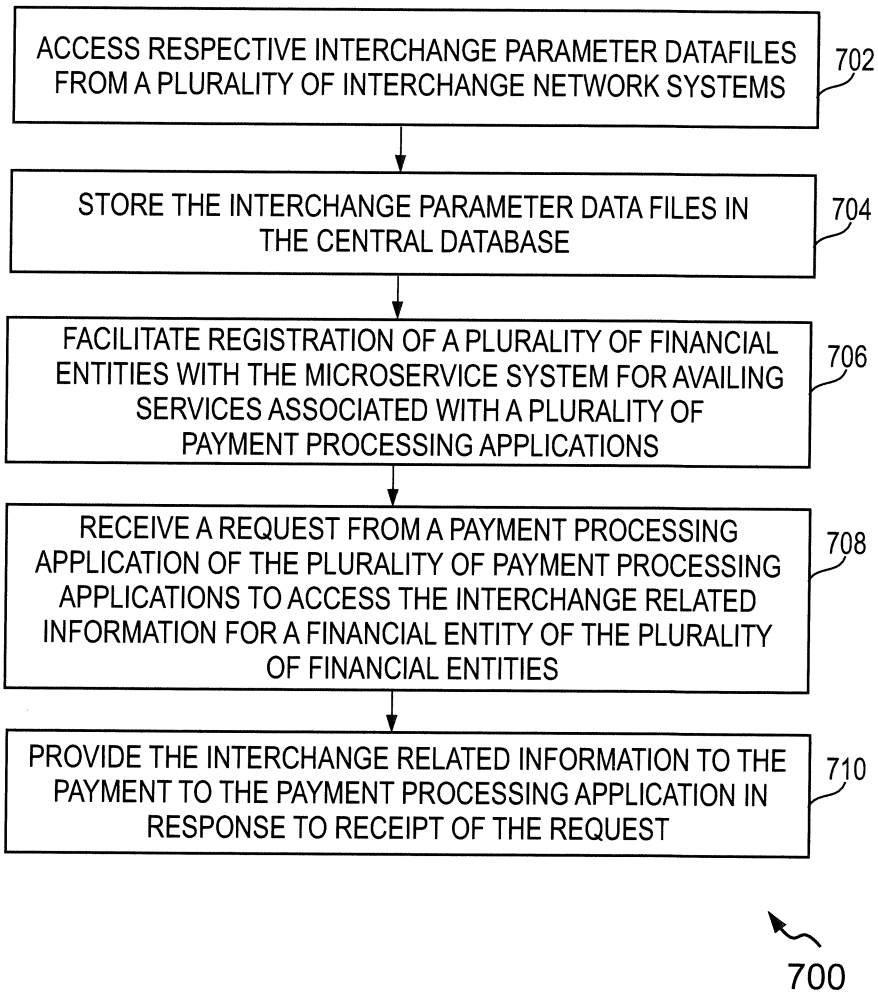

ACCESS RESPECTIVE INTERCHANGE PARAMETER DATAFILES FROM A PLURALITY OF INTERCHANGE NETWORK SYSTEMS
702
STORE THE INTERCHANGE PARAMETER DATA FILES IN THE CENTRAL DATABASE
704
FACILITATE REGISTRATION OF A PLURALITY OF FINANCIAL ENTITIES WITH THE MICROSERVICE SYSTEM FOR AVAILING SERVICES ASSOCIATED WITH A PLURALITY OF PAYMENT PROCESSING APPLICATIONS
706
RECEIVE A REQUEST FROM A PAYMENT PROCESSING APPLICATION OF THE PLURALITY OF PAYMENT PROCESSING APPLICATIONS TO ACCESS THE INTERCHANGE RELATED INFORMATION FOR A FINANCIAL ENTITY OF THE PLURALITY OF FINANCIAL ENTITIES
708
PROVIDE THE INTERCHANGE RELATED INFORMATION TO THE PAYMENT TO THE PAYMENT PROCESSING APPLICATION IN RESPONSE TO RECEIPT OF THE REQUEST
710
700

FIG. 7

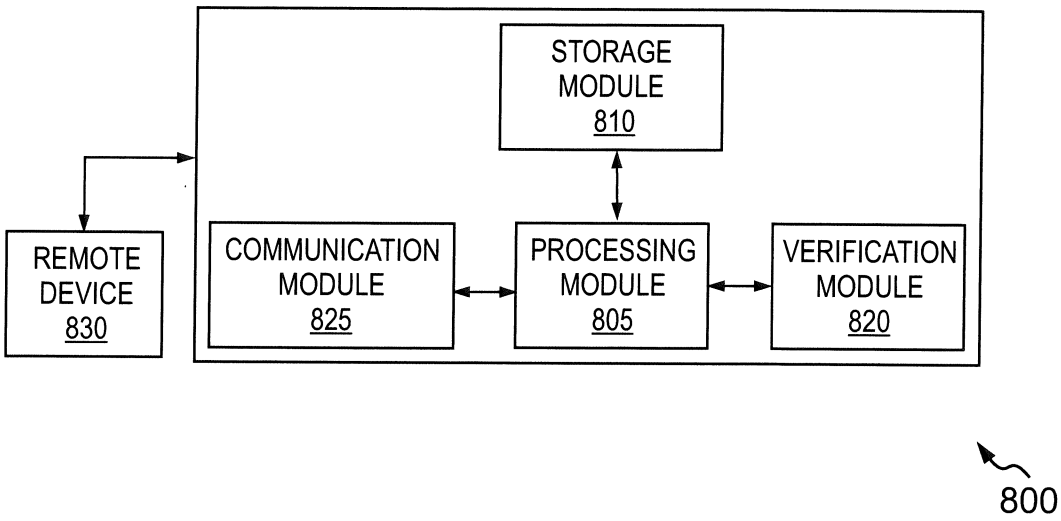

STORAGE
MODULE
810
REMOTE
DEVICE
830
COMMUNICATION
MODULE
825
PROCESSING
MODULE
805
VERIFICATION
MODULE
820
800

FIG. 8

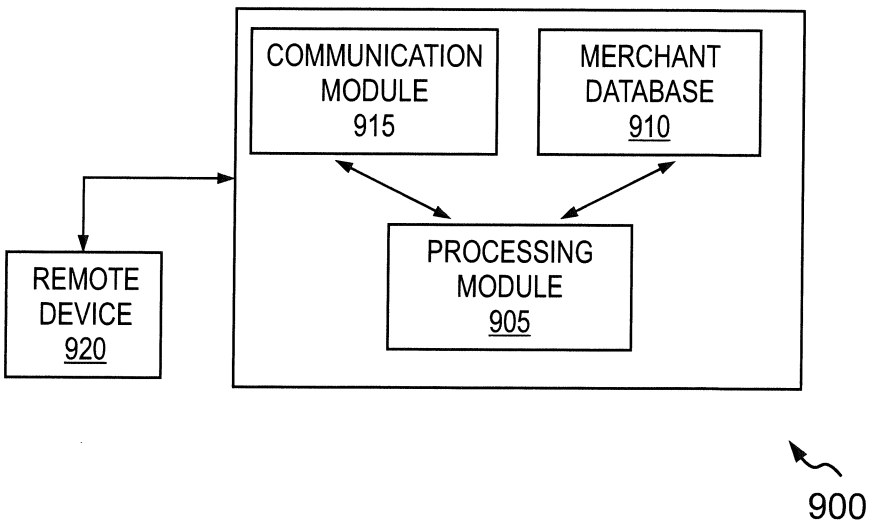

COMMUNICATION
MODULE
915
MERCHANT
DATABASE
910
REMOTE
DEVICE
920
PROCESSING
MODULE
905
900

FIG. 9

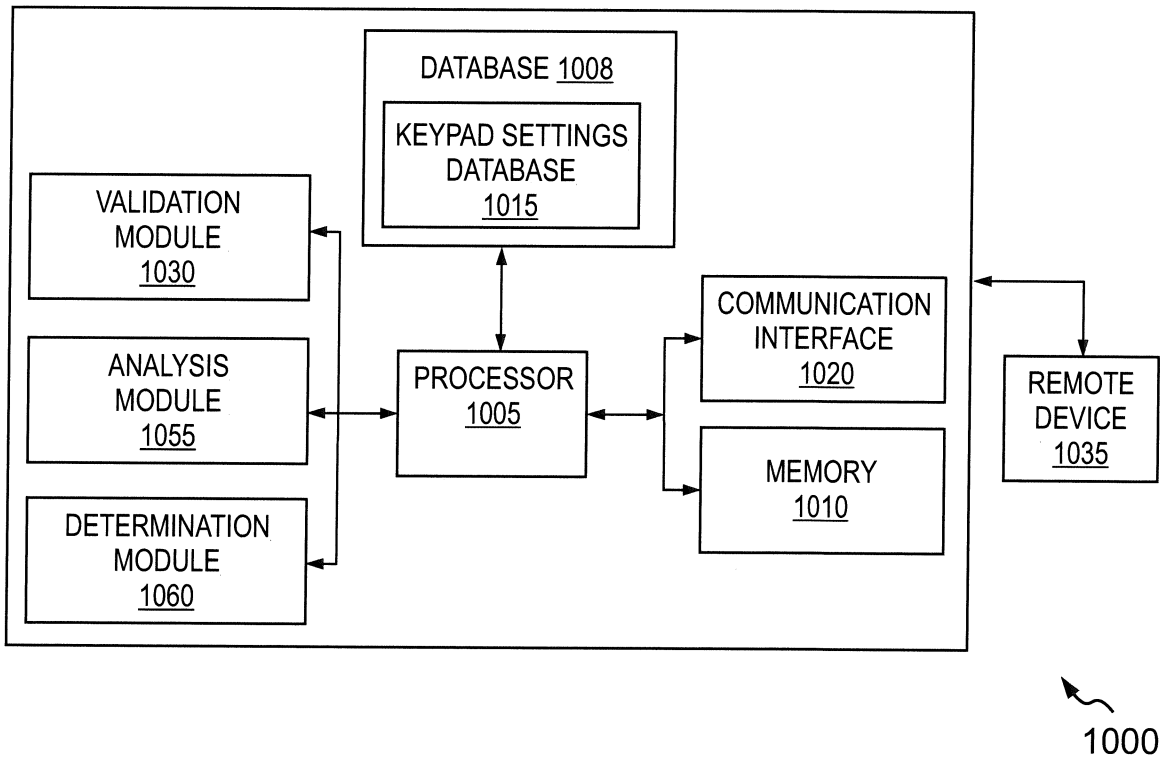

DATABASE 1008
KEYPAD SETTINGS DATABASE 1015
VALIDATION MODULE 1030
ANALYSIS MODULE 1055
DETERMINATION MODULE 1060
PROCESSOR 1005
COMMUNICATION INTERFACE 1020
MEMORY 1010
REMOTE DEVICE 1035
1000

FIG. 10