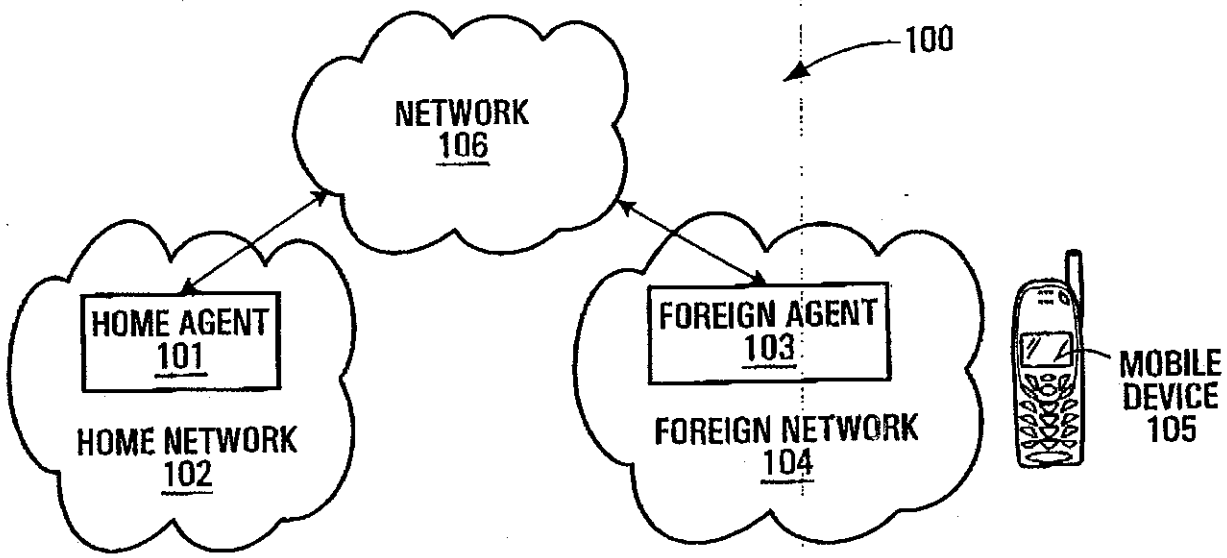

100
NETWORK
106
HOME AGENT
101
HOME NETWORK
102
FOREIGN AGENT
103
FOREIGN NETWORK
104
MOBILE
DEVICE
105

FIG. 1

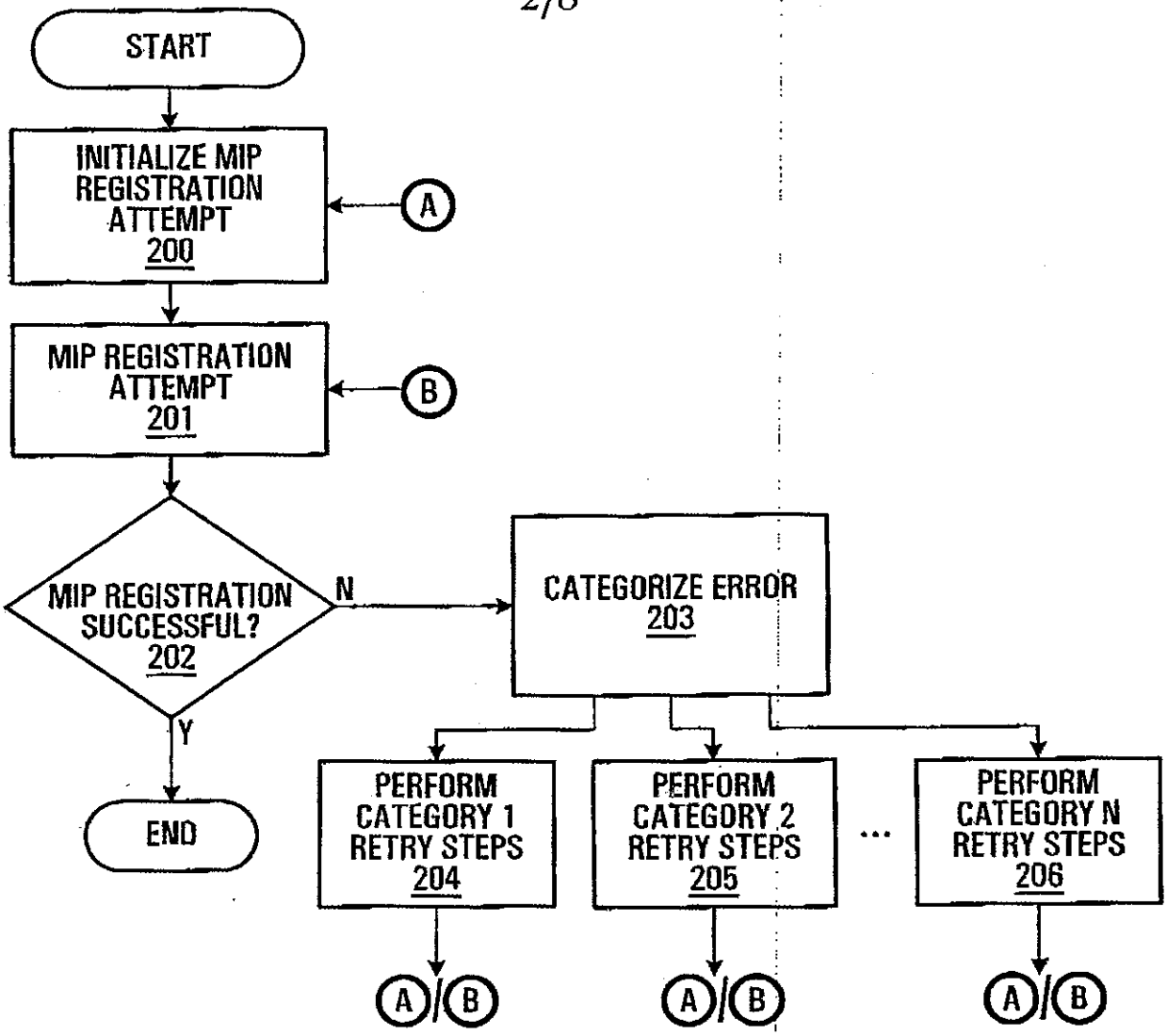

START
INITIALIZE MIP REGISTRATION ATTEMPT 200
A
MIP REGISTRATION ATTEMPT 201
B
MIP REGISTRATION SUCCESSFUL? 202
N
Y
END
CATEGORIZE ERROR 203
PERFORM CATEGORY 1 RETRY STEPS 204
PERFORM CATEGORY 2 RETRY STEPS 205
...
PERFORM CATEGORY N RETRY STEPS 206
A/B
A/B
A/B

FIG. 2

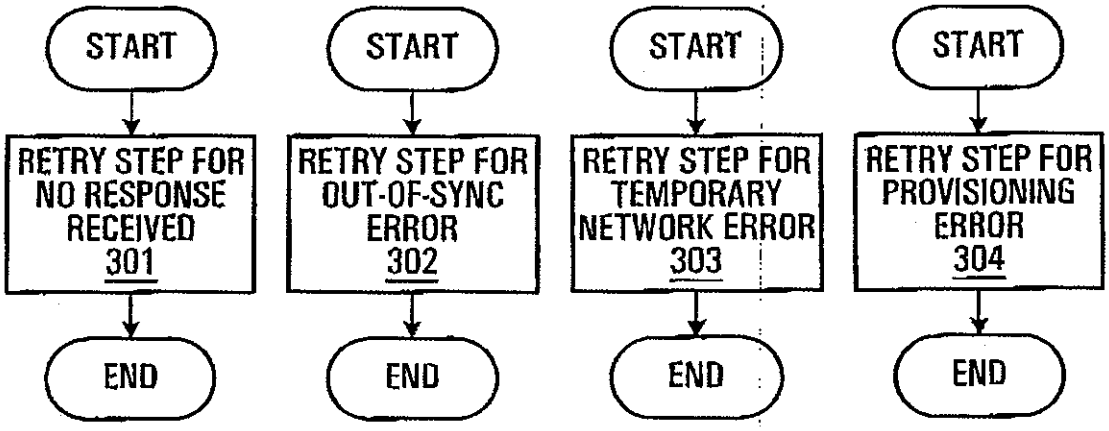

START
RETRY STEP FOR NO RESPONSE RECEIVED 301
END
START
RETRY STEP FOR OUT-OF-SYNC ERROR 302
END
START
RETRY STEP FOR TEMPORARY NETWORK ERROR 303
END
START
RETRY STEP FOR PROVISIONING ERROR 304
END

FIG. 3

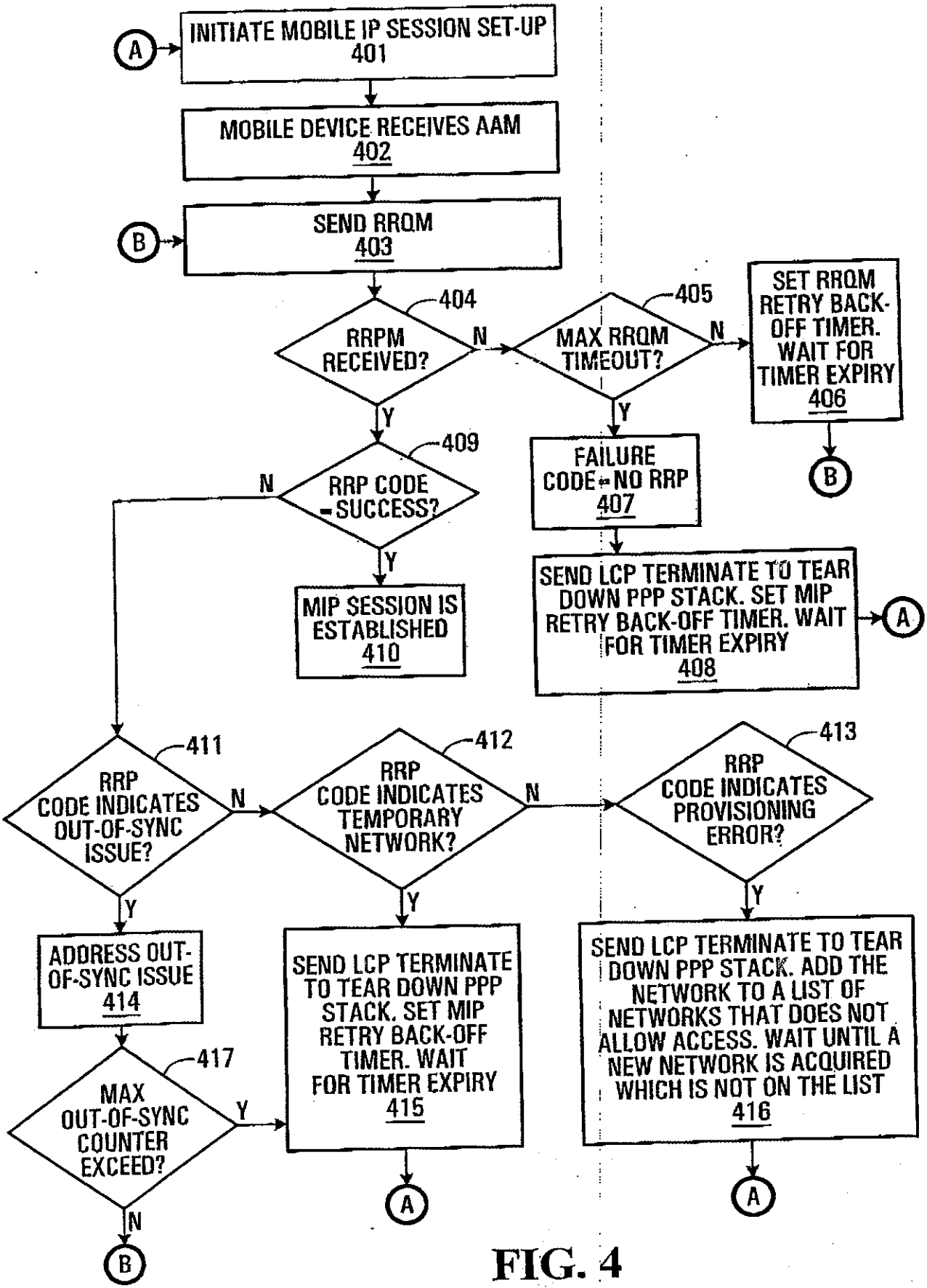
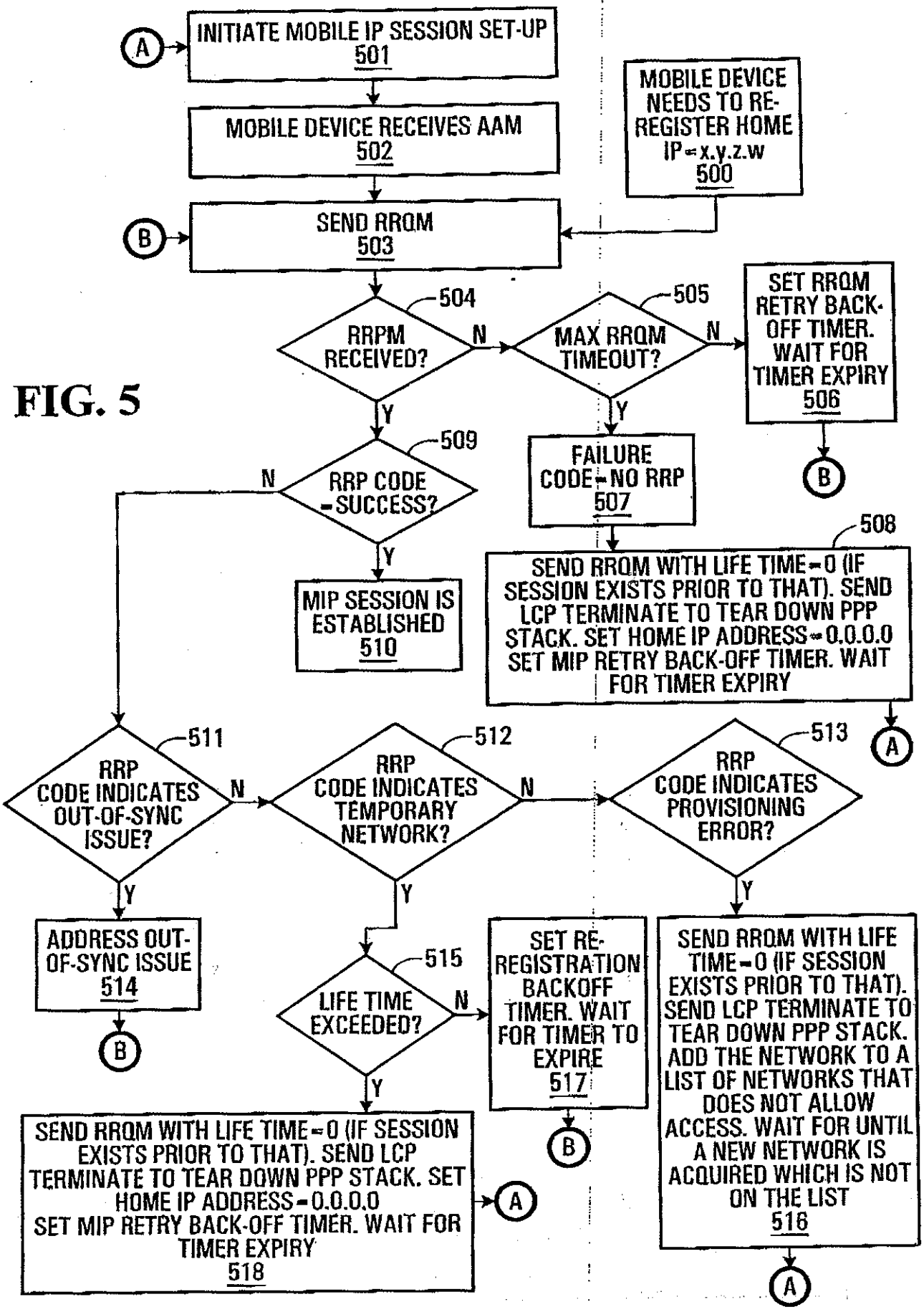

A
INITIATE MOBILE IP SESSION SET-UP
401
MOBILE DEVICE RECEIVES AAM
402
B
SEND RRQM
403
404
RRPM RECEIVED?
N
405
MAX RRQM TIMEOUT?
N
SET RRQM RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
406
B
Y
Y
409
RRP CODE = SUCCESS?
N
Y
FAILURE CODE = NO RRP
407
MIP SESSION IS ESTABLISHED
410
SEND LCP TERMINATE TO TEAR DOWN PPP STACK. SET MIP RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
408
A
411
RRP CODE INDICATES OUT-OF-SYNC ISSUE?
N
412
RRP CODE INDICATES TEMPORARY NETWORK?
N
413
RRP CODE INDICATES PROVISIONING ERROR?
Y
Y
Y
ADDRESS OUT-OF-SYNC ISSUE
414
SEND LCP TERMINATE TO TEAR DOWN PPP STACK. SET MIP RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
415
SEND LCP TERMINATE TO TEAR DOWN PPP STACK. ADD THE NETWORK TO A LIST OF NETWORKS THAT DOES NOT ALLOW ACCESS. WAIT UNTIL A NEW NETWORK IS ACQUIRED WHICH IS NOT ON THE LIST
416
417
MAX OUT-OF-SYNC COUNTER EXCEED?
Y
N
A
A
B

FIG. 4

FIG. 5


A
INITIATE MOBILE IP SESSION SET-UP
501
MOBILE DEVICE RECEIVES AAM
502
B
SEND RRQM
503
MOBILE DEVICE NEEDS TO RE-REGISTER HOME IP=x.y.z.w
500
504
RRPM RECEIVED?
N
505
MAX RRQM TIMEOUT?
N
SET RRQM RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
506
Y
Y
B
509
RRP CODE =SUCCESS?
N
Y
FAILURE CODE=NO RRP
507
508
MIP SESSION IS ESTABLISHED
510
SEND RRQM WITH LIFE TIME=0 (IF SESSION EXISTS PRIOR TO THAT). SEND LCP TERMINATE TO TEAR DOWN PPP STACK. SET HOME IP ADDRESS=0.0.0.0 SET MIP RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
A
511
RRP CODE INDICATES OUT-OF-SYNC ISSUE?
N
512
RRP CODE INDICATES TEMPORARY NETWORK?
N
513
RRP CODE INDICATES PROVISIONING ERROR?
Y
Y
Y
ADDRESS OUT-OF-SYNC ISSUE
514
B
515
LIFE TIME EXCEEDED?
N
SET RE-REGISTRATION BACKOFF TIMER. WAIT FOR TIMER TO EXPIRE
517
B
SEND RRQM WITH LIFE TIME=0 (IF SESSION EXISTS PRIOR TO THAT). SEND LCP TERMINATE TO TEAR DOWN PPP STACK. ADD THE NETWORK TO A LIST OF NETWORKS THAT DOES NOT ALLOW ACCESS. WAIT FOR UNTIL A NEW NETWORK IS ACQUIRED WHICH IS NOT ON THE LIST
516
A
Y
SEND RRQM WITH LIFE TIME=0 (IF SESSION EXISTS PRIOR TO THAT). SEND LCP TERMINATE TO TEAR DOWN PPP STACK. SET HOME IP ADDRESS=0.0.0.0 SET MIP RETRY BACK-OFF TIMER. WAIT FOR TIMER EXPIRY
518
A

Type of Error	IANA RRP Code	Originator of RRP Code	Description of Error
Temporary Out-of-sync issues	104	FA	Unknown Challenge
	105	FA	Missing Challenge (If MN does not include FA challenge ext or challenge value when it is required)
	106	FA	Stale Challenge (If FA receives RRQ with same Id and FA challenge and it has forwarded RRQ to HA)
	133	HA	Registration Identification mismatch

FIG. 6A

Type of Error	IANA RRP Code	Originator of RRP Code	Description of Error
Provisioning Issues	67	FA	Mobile node failed authentication
	68	FA	HA-FA authentication failure
	80	FA	Home network unreachable (ICMP error received)
	81	FA	HA host unreachable (ICMP error received)
	82	FA	HA port unreachable (ICMP error received)
	88	FA	HA unreachable (other ICMP error received)
	96	FA	nonzero home addr reqd
	97	FA	missing NAI
	98	FA	missing homeagent
	99	FA	missing homeaddr
	131	HA	mobile node failed authentication
	132	HA	FA failed authentication
	136	HA	unknown HA address

FIG. 6B

Type of Error	IANA RRP Code	Originator of RRP Code	Description of Error
Temporary Network Error	66	FA	Insufficient resources
	64	FA	Reason unspecified
	65	FA	Administratively prohibited
	69	FA	requested Lifetime too long
	70	FA	poorly formed Request
	71	FA	poorly formed Reply
	72	FA	requested encapsulation unavailable
	73	FA	reserved and unavailable
	74	FA	request reverse tunnel unavailable
	76	FA	mobile node too distant
	77	FA	invalid care-of address
	78	FA	registration timeout
	79	FA	delivery style not supported
	100	FA	ERROR-FA-1
	101	FA	ERROR-FA-2
	128	HA	reason unspecified
	129	HA	administratively prohibited
	130	HA	insufficient resources
	133	HA	registration Identification mismatch
	134	HA	poorly formed Request
	135	HA	too many simultaneous mobility bindings
	137	HA	request reverse tunnel unavailable
	138	HA	reverse runnel is mandatory and 'T' bit not set
	139	HA	requested encapsulation unavailable
	140	HA	ERROR-HA-1
	141	HA	ERROR-HA-2
	142	HA	ERROR_HA_UDP-ENCAP_UNAVAIL

FIG. 6C

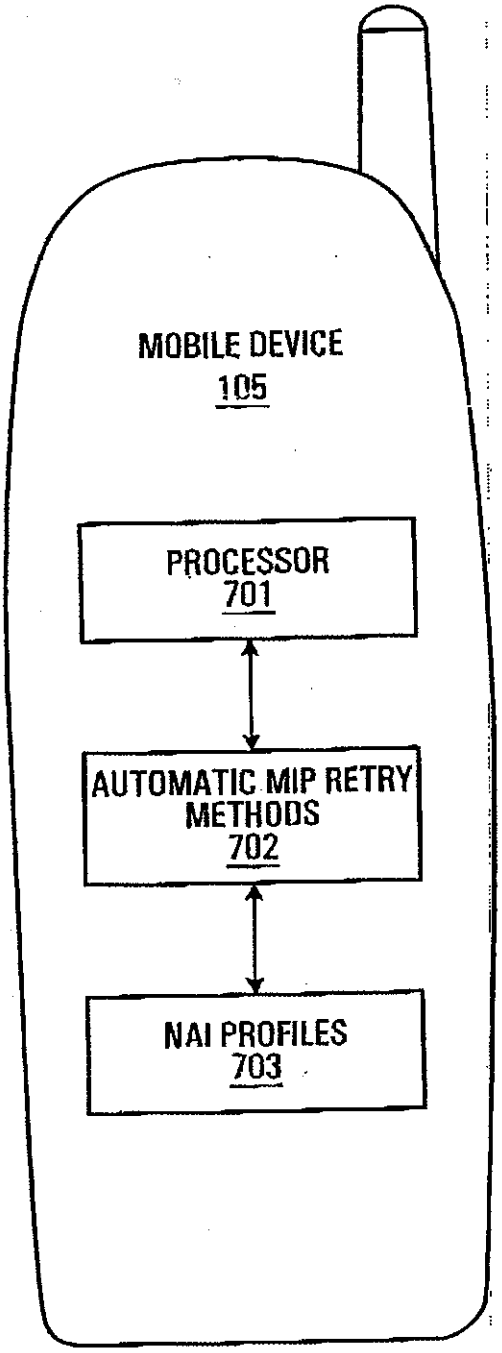

MOBILE DEVICE
105
PROCESSOR
701
AUTOMATIC MIP RETRY
METHODS
702
NAI PROFILES
703

FIG. 7