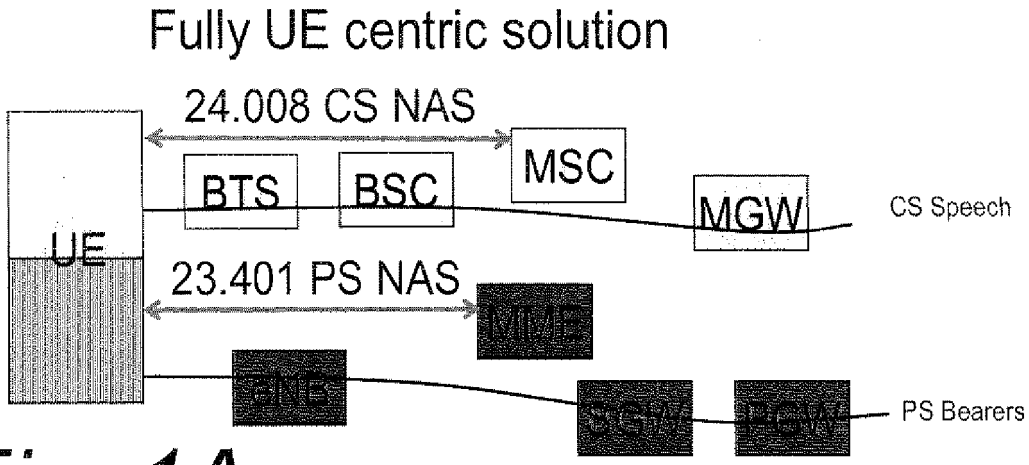

Fully UE centric solution
24.008 CS NAS
BTS
BSC
MSC
MGW
CS Speech
UE
23.401 PS NAS
MME
eNB
SGW
PGW
PS Bearers

Fig. 1A

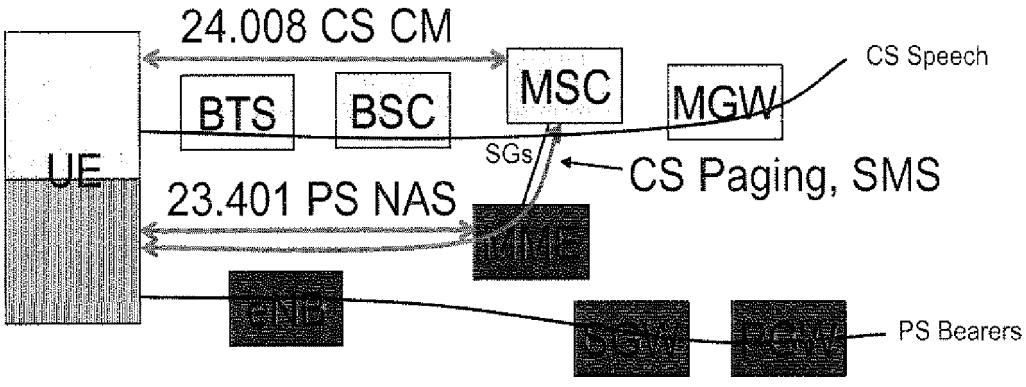

Network assisted solution
24.008 CS CM
BTS
BSC
MSC
MGW
CS Speech
SGs
CS Paging, SMS
UE
23.401 PS NAS
MME
eNB
SGW
PGW
PS Bearers

Fig. 1B

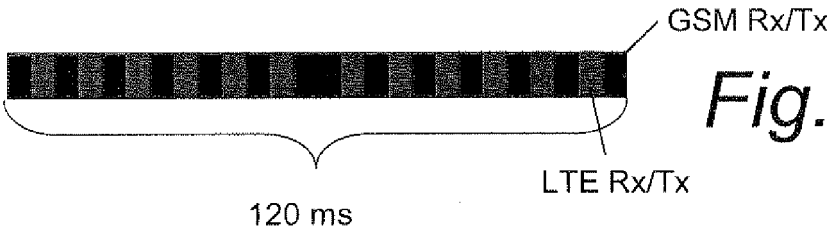


Fig. 2A

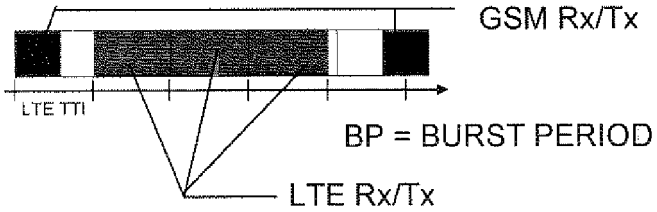


Fig. 2B

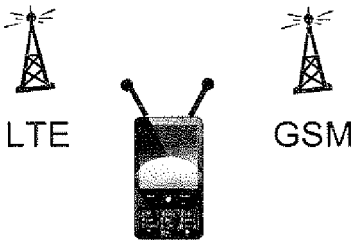


Fig. 2C

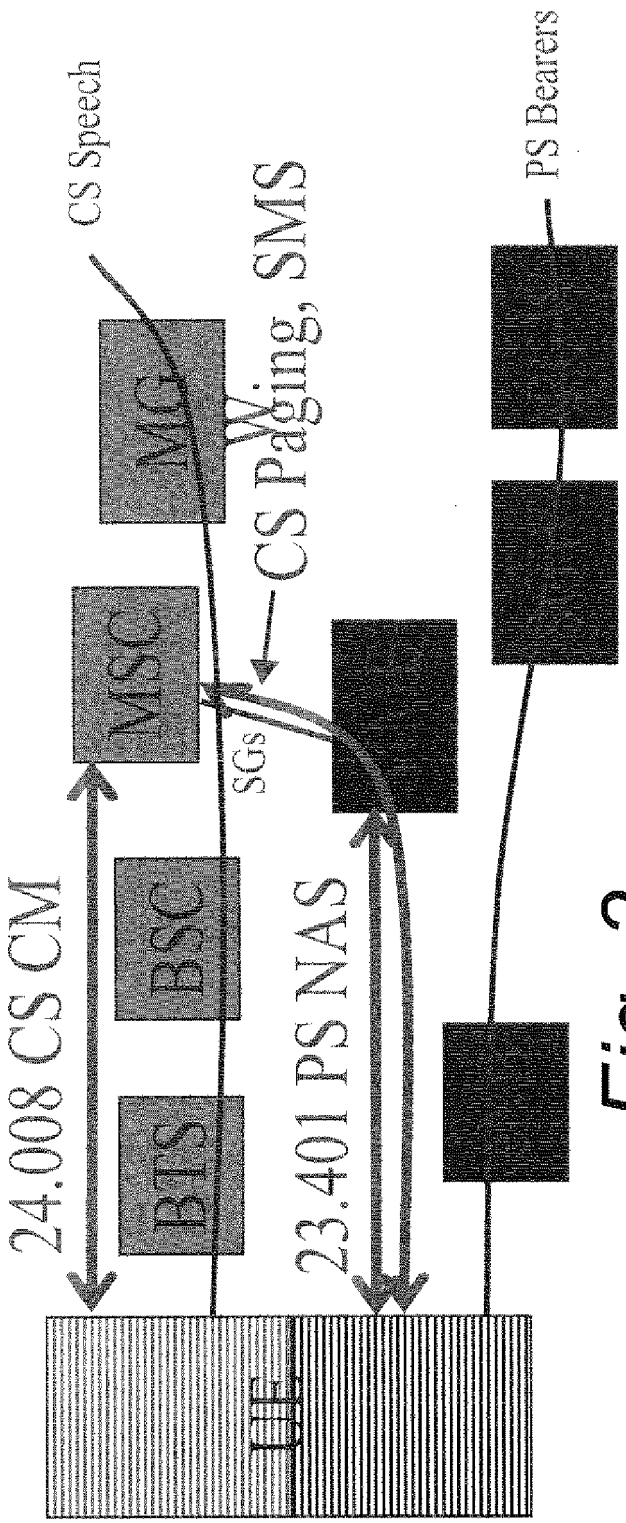

CS Speech
PS Bearers
MGW
MSC
SGs
CS Paging, SMS
BSC
BTS
24.008 CS CM
23.401 PS NAS
UE

Fig. 3

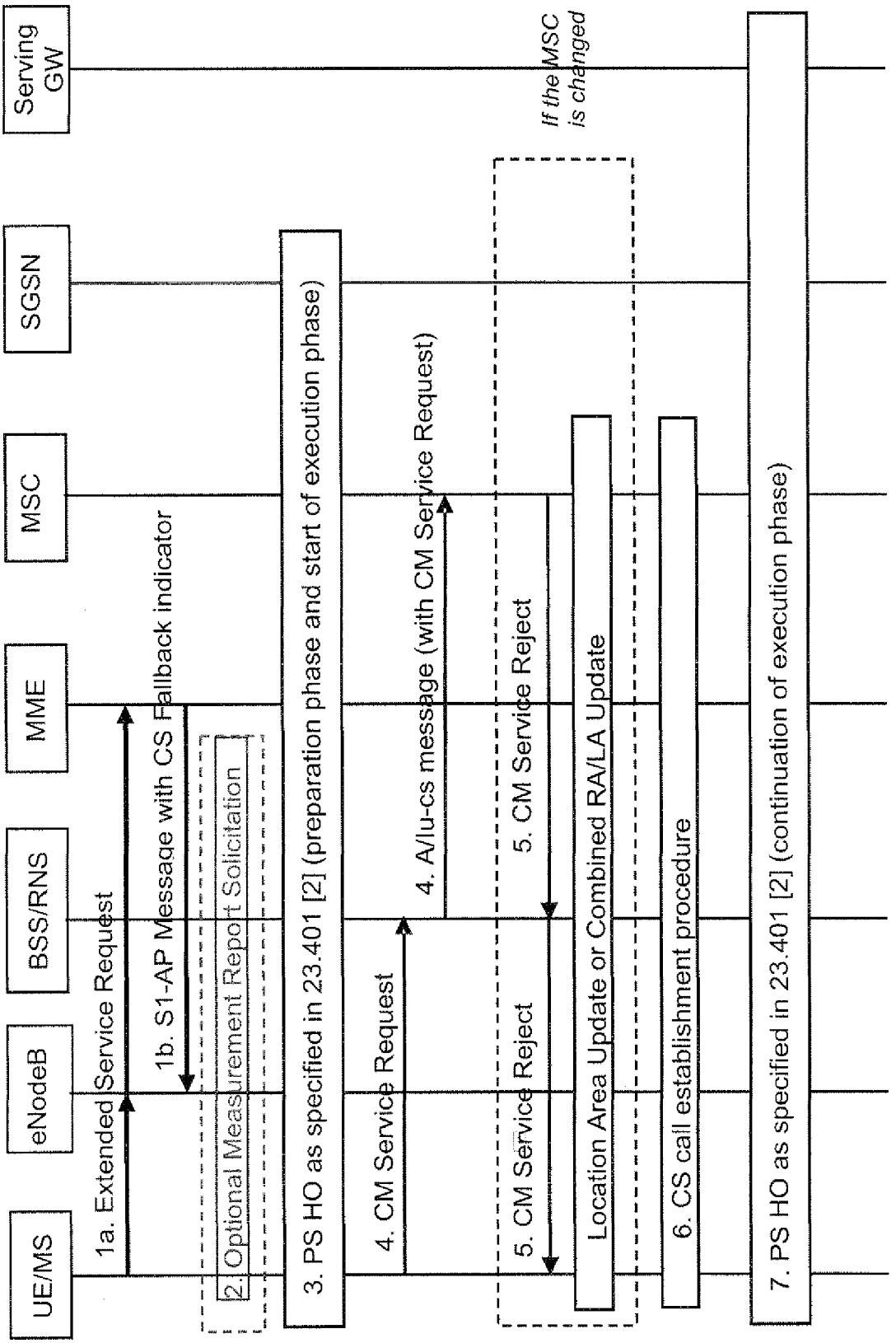

UE/MS
eNodeB
BSS/RNS
MME
MSC
SGSN
Serving GW
1a. Extended Service Request
1b. S1-AP Message with CS Fallback indicator
2. Optional Measurement Report Solicitation
3. PS HO as specified in 23.401 [2] (preparation phase and start of execution phase)
4. CM Service Request
4. A/Iu-cs message (with CM Service Request)
5. CM Service Reject
5. CM Service Reject
Location Area Update or Combined RA/LA Update
6. CS call establishment procedure
7. PS HO as specified in 23.401 [2] (continuation of execution phase)
If the MSC is changed

Fig. 4

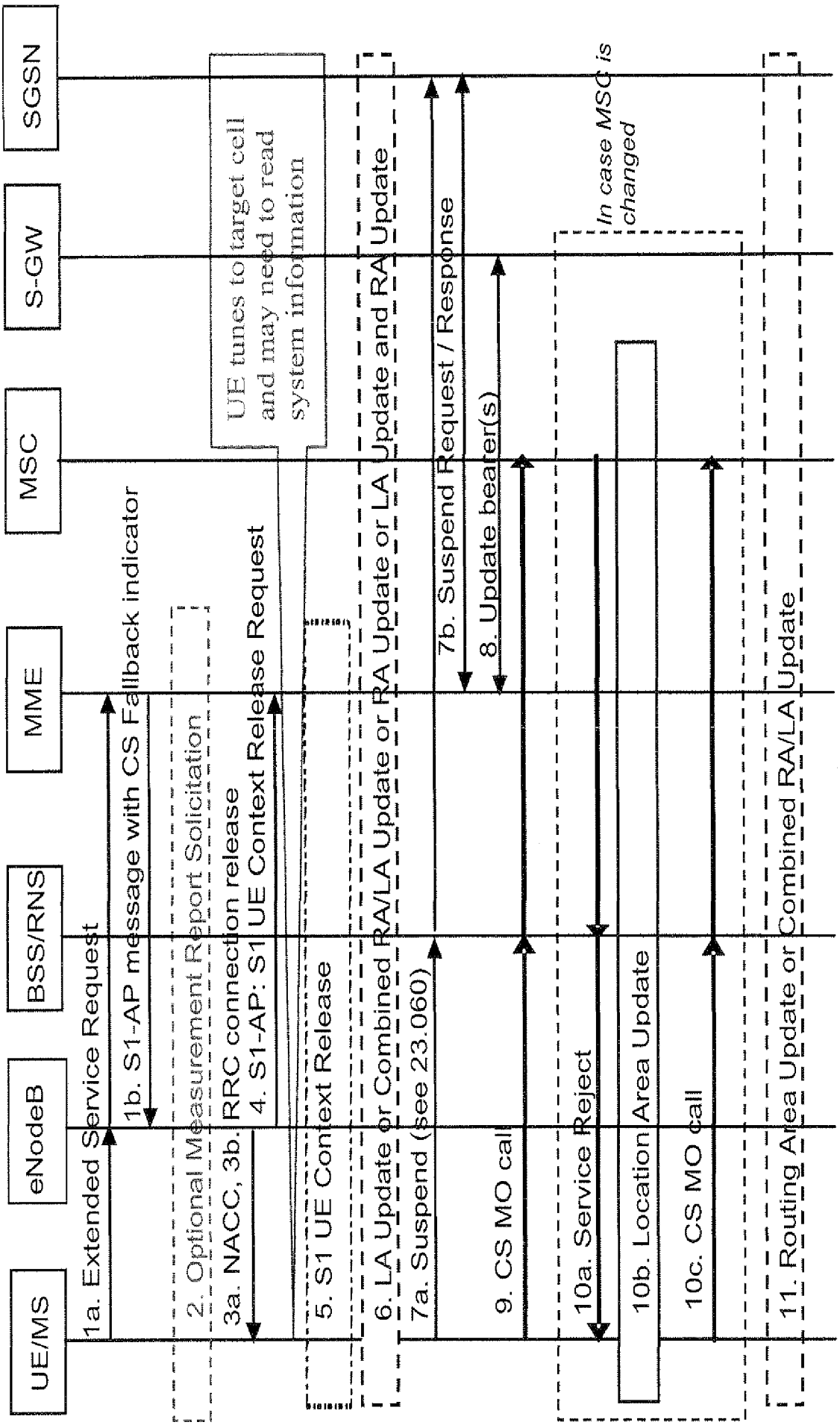

UE/MS
eNodeB
BSS/RNS
MME
MSC
S-GW
SGSN
1a. Extended Service Request
1b. S1-AP message with CS Fallback indicator
2. Optional Measurement Report Solicitation
3a. NACC, 3b. RRC connection release
4. S1-AP: S1 UE Context Release Request
UE tunes to target cell and may need to read system information
5. S1 UE Context Release
6. LA Update or Combined RA/LA Update or RA Update or LA Update and RA Update
7a. Suspend (see 23.060)
7b. Suspend Request / Response
8. Update bearer(s)
9. CS MO call
10a. Service Reject
In case MSC is changed
10b. Location Area Update
10c. CS MO call
11. Routing Area Update or Combined RA/LA Update

Fig. 5

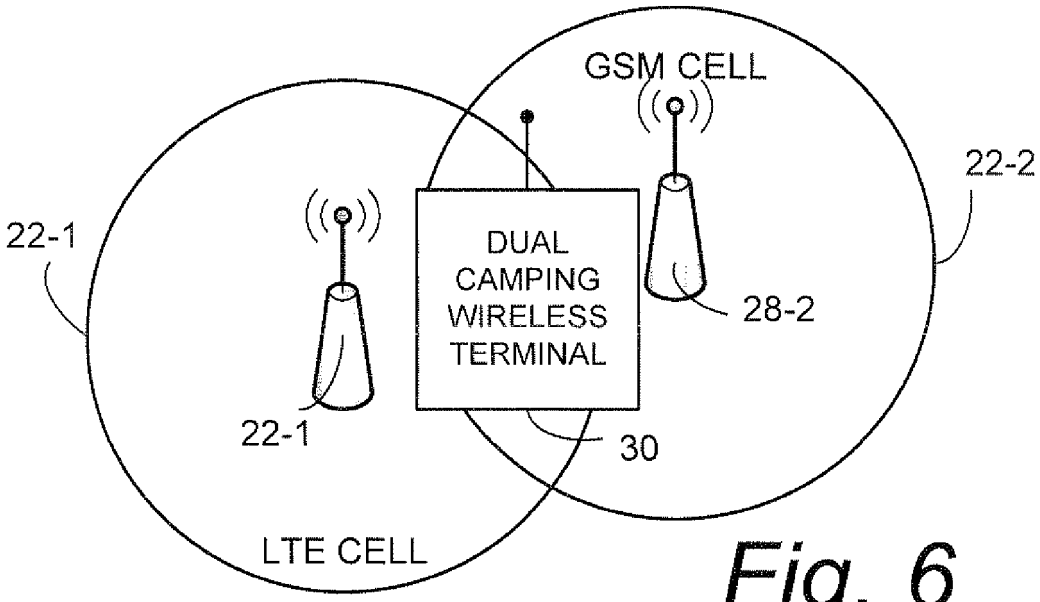

GSM CELL
22-2
22-1
DUAL
CAMPING
WIRELESS
TERMINAL
28-2
22-1
30
LTE CELL

Fig. 6

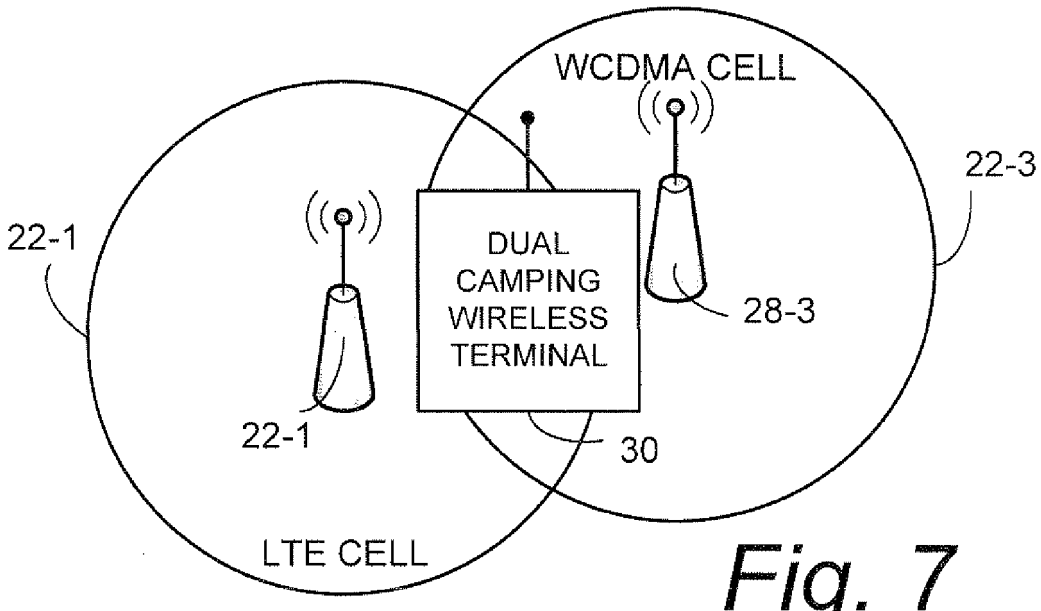

WCDMA CELL
22-3
22-1
DUAL
CAMPING
WIRELESS
TERMINAL
28-3
22-1
30
LTE CELL

Fig. 7

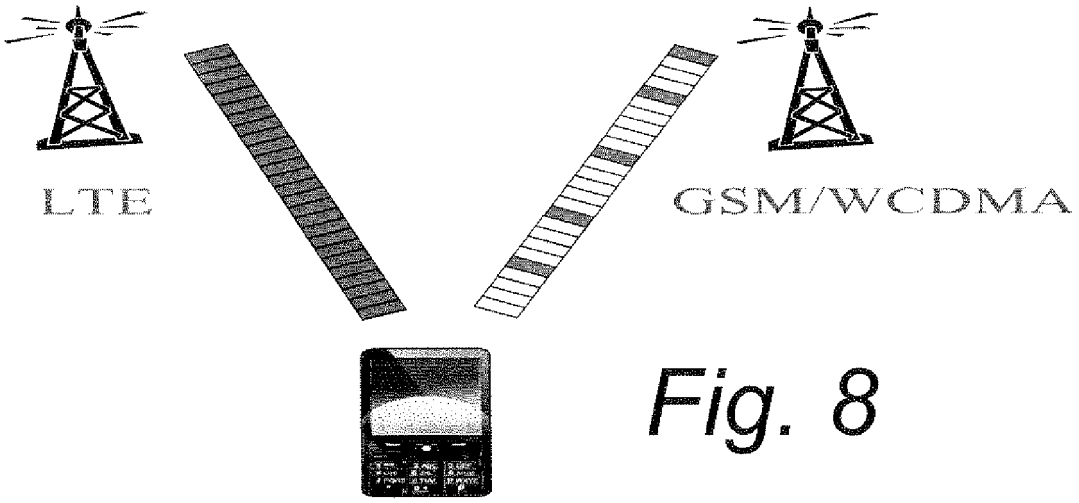


Fig. 8

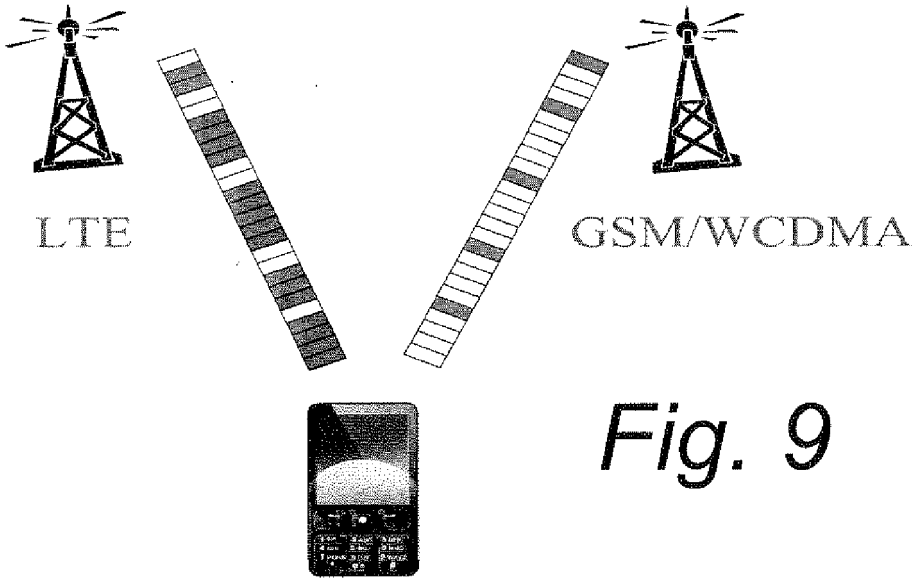


Fig. 9

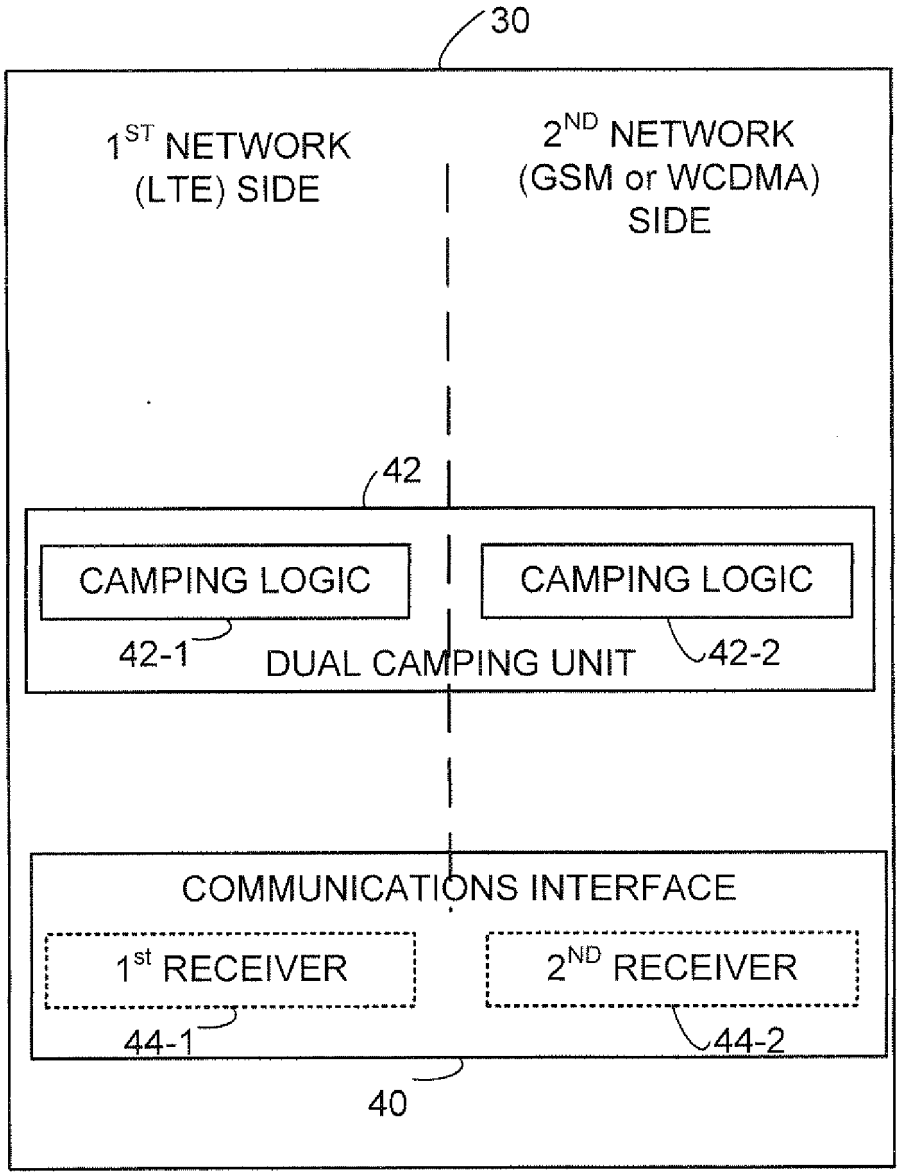

30
1ST NETWORK (LTE) SIDE
2ND NETWORK (GSM or WCDMA) SIDE
42
CAMPING LOGIC
CAMPING LOGIC
42-1
DUAL CAMPING UNIT
42-2
COMMUNICATIONS INTERFACE
1st RECEIVER
2ND RECEIVER
44-1
44-2
40

Fig. 10

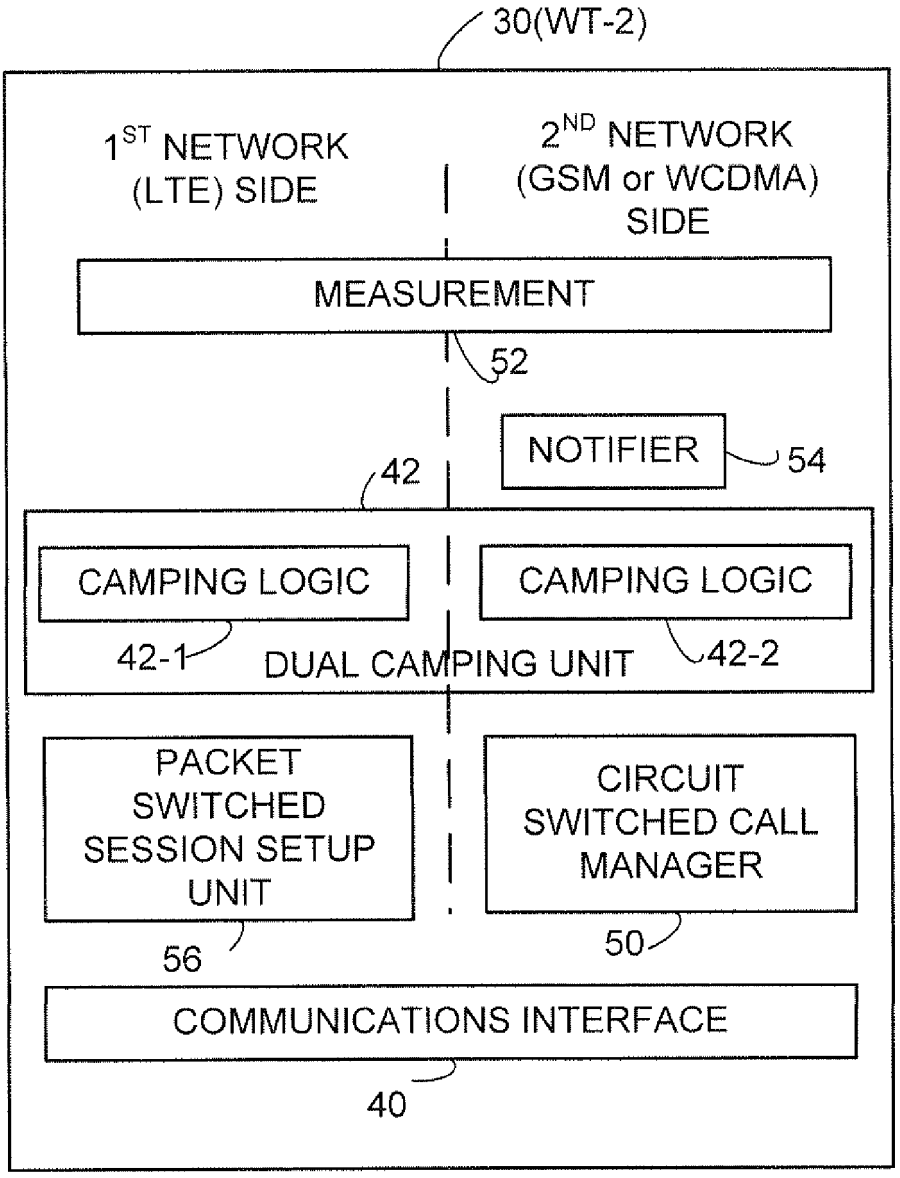

30(WT-2)
1ST NETWORK (LTE) SIDE
2ND NETWORK (GSM or WCDMA) SIDE
MEASUREMENT
52
NOTIFIER
54
42
CAMPING LOGIC
CAMPING LOGIC
42-1
DUAL CAMPING UNIT
42-2
PACKET SWITCHED SESSION SETUP UNIT
CIRCUIT SWITCHED CALL MANAGER
56
50
COMMUNICATIONS INTERFACE
40

Fig. 11

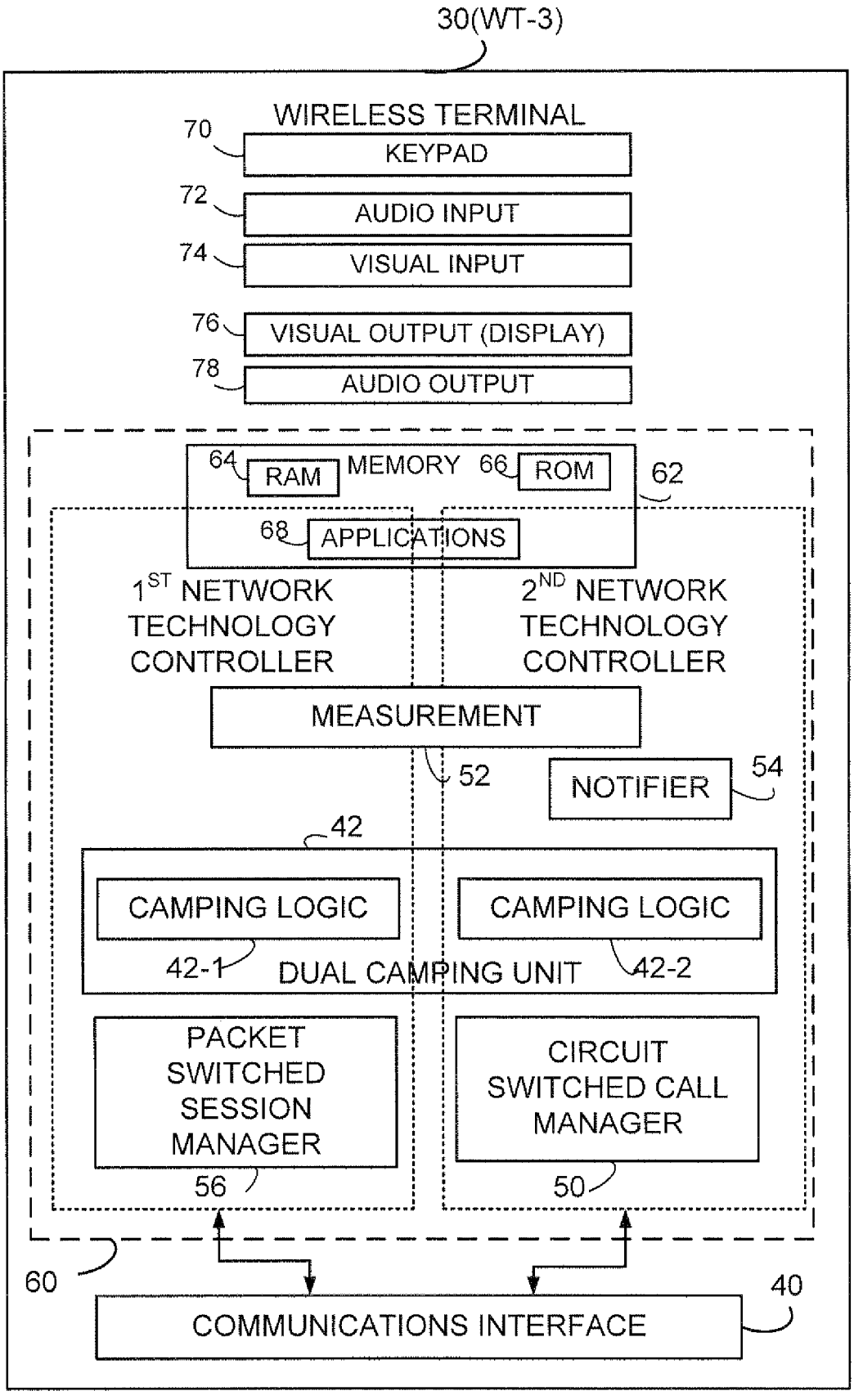

30(WT-3)
WIRELESS TERMINAL
70
KEYPAD
72
AUDIO INPUT
74
VISUAL INPUT
76
VISUAL OUTPUT (DISPLAY)
78
AUDIO OUTPUT
64
RAM
MEMORY
66
ROM
62
68
APPLICATIONS
1ST NETWORK TECHNOLOGY CONTROLLER
2ND NETWORK TECHNOLOGY CONTROLLER
MEASUREMENT
52
NOTIFIER
54
42
CAMPING LOGIC
CAMPING LOGIC
42-1
DUAL CAMPING UNIT
42-2
PACKET SWITCHED SESSION MANAGER
56
CIRCUIT SWITCHED CALL MANAGER
50
60
40
COMMUNICATIONS INTERFACE

Fig. 12

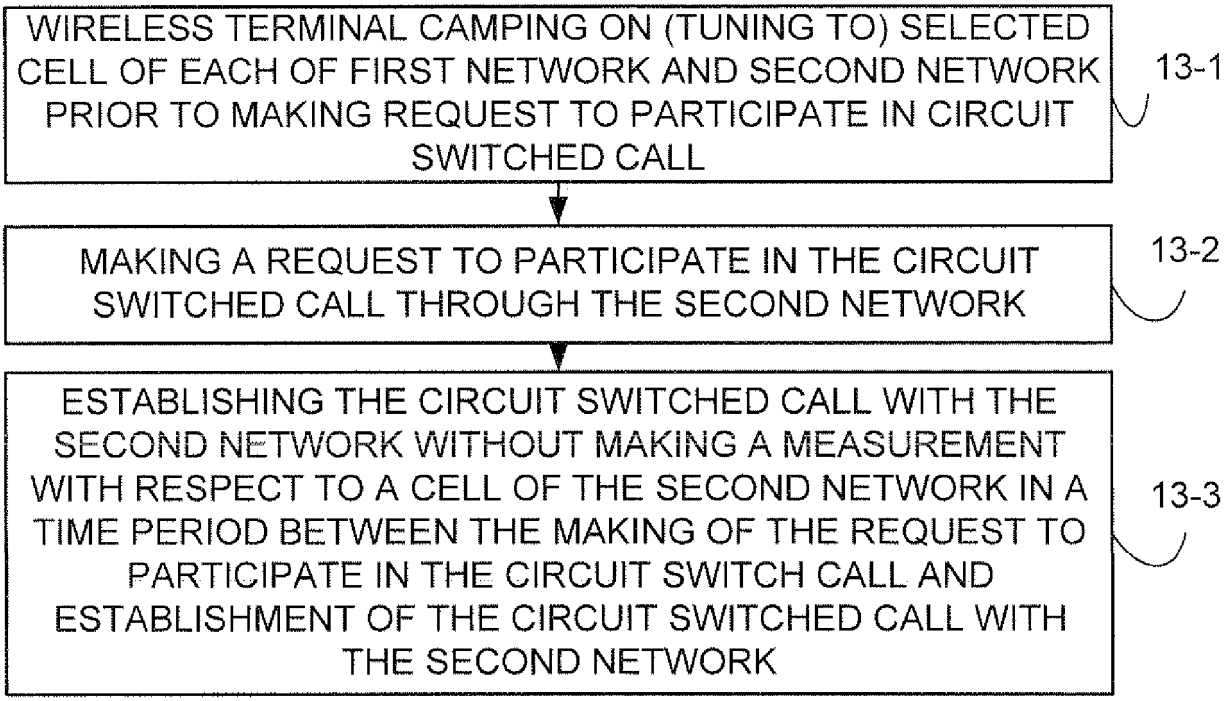

WIRELESS TERMINAL CAMPING ON (TUNING TO) SELECTED CELL OF EACH OF FIRST NETWORK AND SECOND NETWORK PRIOR TO MAKING REQUEST TO PARTICIPATE IN CIRCUIT SWITCHED CALL
13-1
MAKING A REQUEST TO PARTICIPATE IN THE CIRCUIT SWITCHED CALL THROUGH THE SECOND NETWORK
13-2
ESTABLISHING THE CIRCUIT SWITCHED CALL WITH THE SECOND NETWORK WITHOUT MAKING A MEASUREMENT WITH RESPECT TO A CELL OF THE SECOND NETWORK IN A TIME PERIOD BETWEEN THE MAKING OF THE REQUEST TO PARTICIPATE IN THE CIRCUIT SWITCH CALL AND ESTABLISHMENT OF THE CIRCUIT SWITCHED CALL WITH THE SECOND NETWORK
13-3

Fig. 13

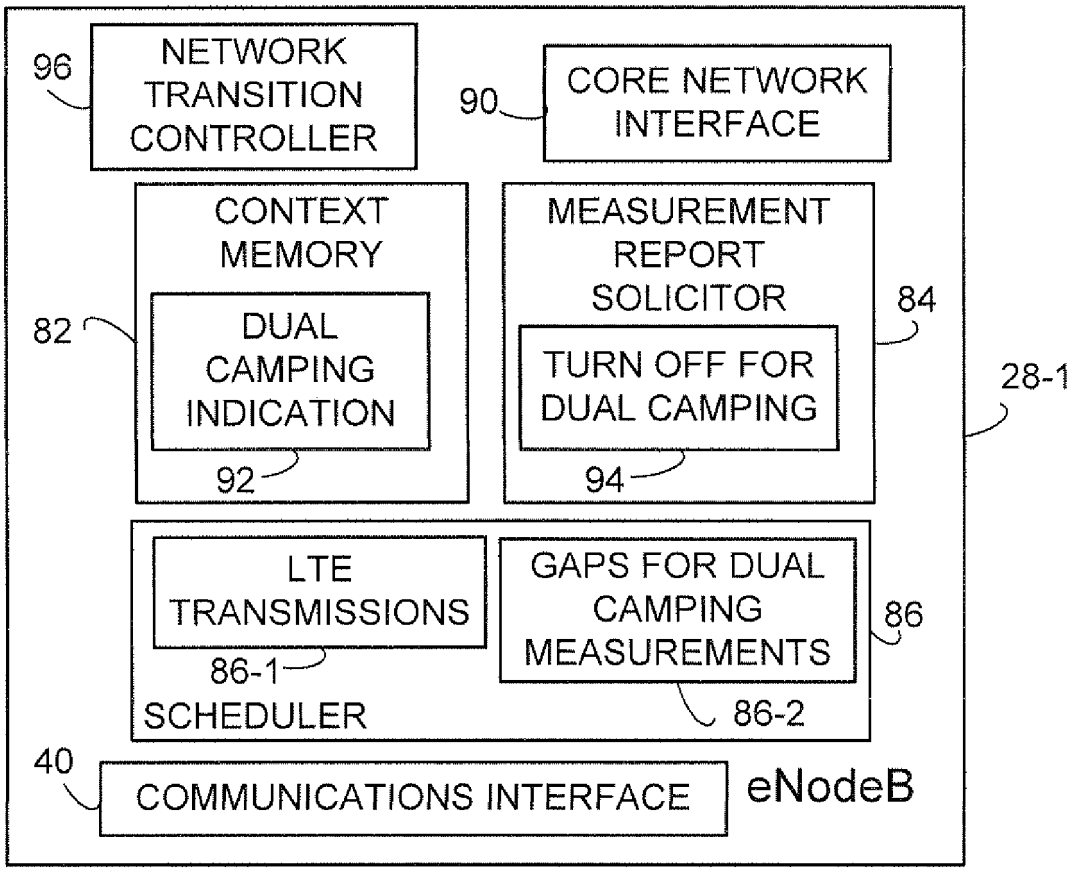

96
NETWORK TRANSITION CONTROLLER
90
CORE NETWORK INTERFACE
CONTEXT MEMORY
82
DUAL CAMPING INDICATION
92
MEASUREMENT REPORT SOLICITOR
84
TURN OFF FOR DUAL CAMPING
94
28-1
LTE TRANSMISSIONS
86-1
GAPS FOR DUAL CAMPING MEASUREMENTS
86
86-2
SCHEDULER
40
COMMUNICATIONS INTERFACE
eNodeB

Fig. 14

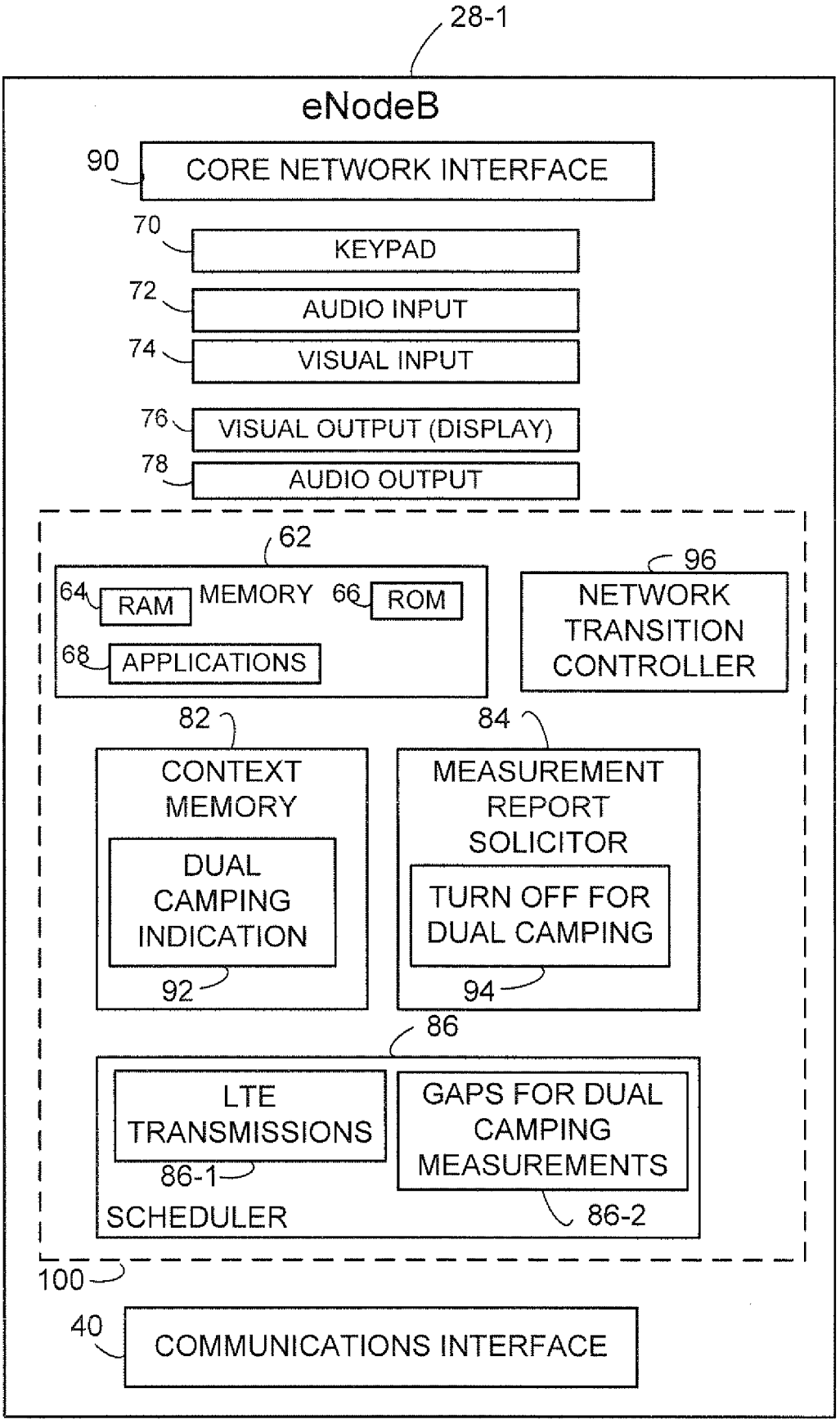

28-1
eNodeB
90
CORE NETWORK INTERFACE
70
KEYPAD
72
AUDIO INPUT
74
VISUAL INPUT
76
VISUAL OUTPUT (DISPLAY)
78
AUDIO OUTPUT
62
64
RAM
MEMORY
66
ROM
68
APPLICATIONS
96
NETWORK TRANSITION CONTROLLER
82
CONTEXT MEMORY
DUAL CAMPING INDICATION
92
84
MEASUREMENT REPORT SOLICITOR
TURN OFF FOR DUAL CAMPING
94
86
LTE TRANSMISSIONS
86-1
GAPS FOR DUAL CAMPING MEASUREMENTS
86-2
SCHEDULER
100
40
COMMUNICATIONS INTERFACE

Fig. 15

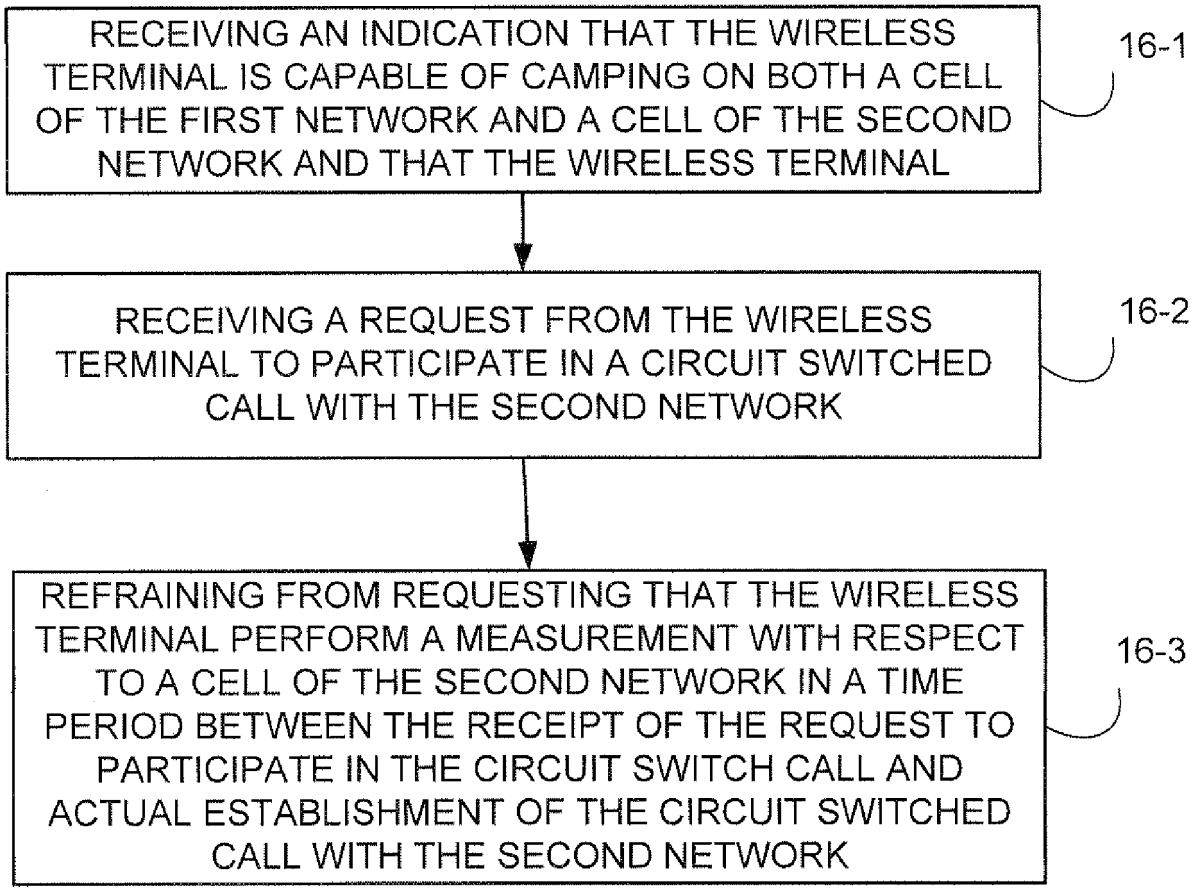

RECEIVING AN INDICATION THAT THE WIRELESS TERMINAL IS CAPABLE OF CAMPING ON BOTH A CELL OF THE FIRST NETWORK AND A CELL OF THE SECOND NETWORK AND THAT THE WIRELESS TERMINAL
16-1
RECEIVING A REQUEST FROM THE WIRELESS TERMINAL TO PARTICIPATE IN A CIRCUIT SWITCHED CALL WITH THE SECOND NETWORK
16-2
REFRAINING FROM REQUESTING THAT THE WIRELESS TERMINAL PERFORM A MEASUREMENT WITH RESPECT TO A CELL OF THE SECOND NETWORK IN A TIME PERIOD BETWEEN THE RECEIPT OF THE REQUEST TO PARTICIPATE IN THE CIRCUIT SWITCH CALL AND ACTUAL ESTABLISHMENT OF THE CIRCUIT SWITCHED CALL WITH THE SECOND NETWORK
16-3

Fig. 16

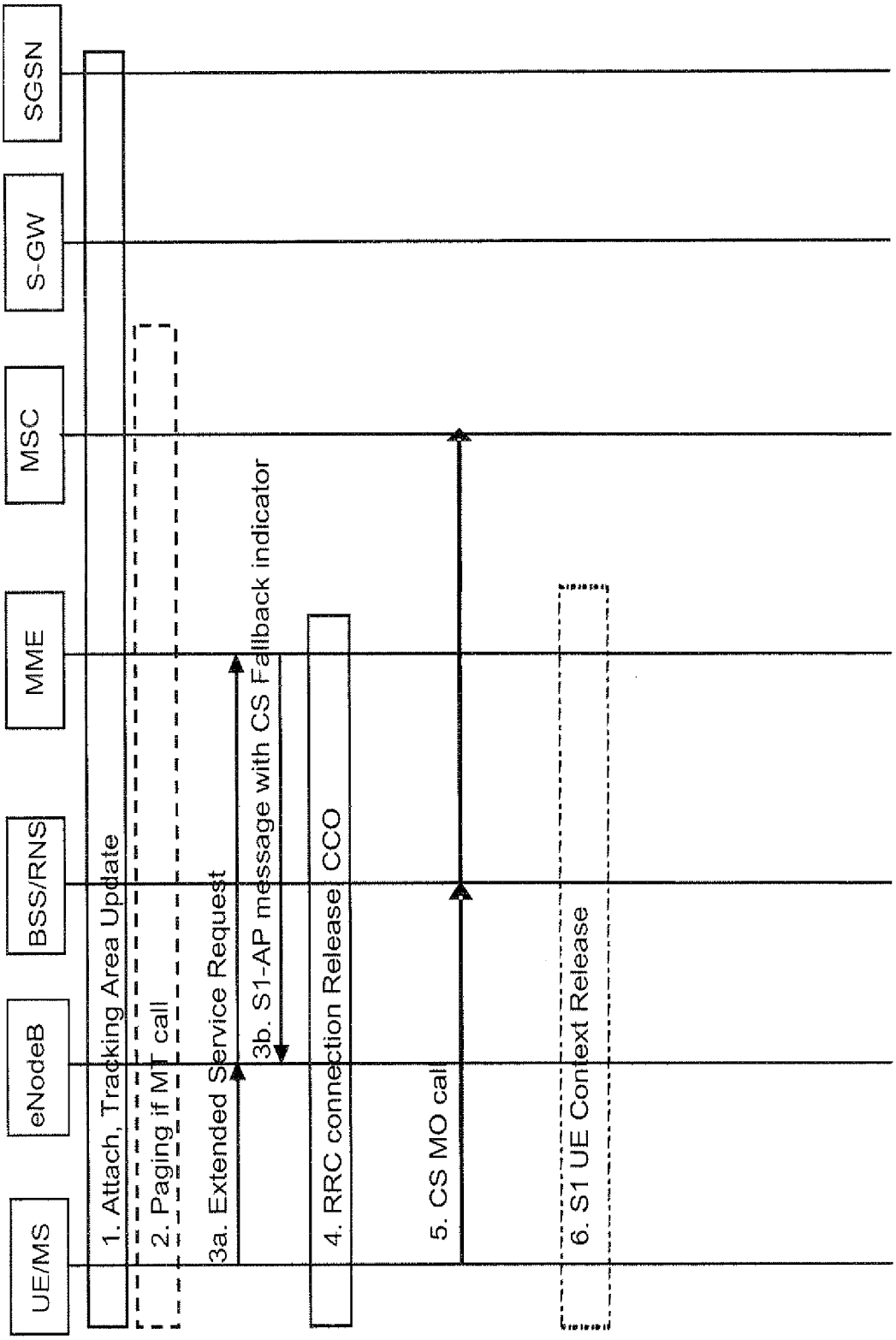

UE/MS
eNodeB
BSS/RNS
MME
MSC
S-GW
SGSN
1. Attach, Tracking Area Update
2. Paging if MT call
3a. Extended Service Request
3b. S1-AP message with CS Fallback indicator
4. RRC connection Release CCO
5. CS MO call
6. S1 UE Context Release

Fig. 17

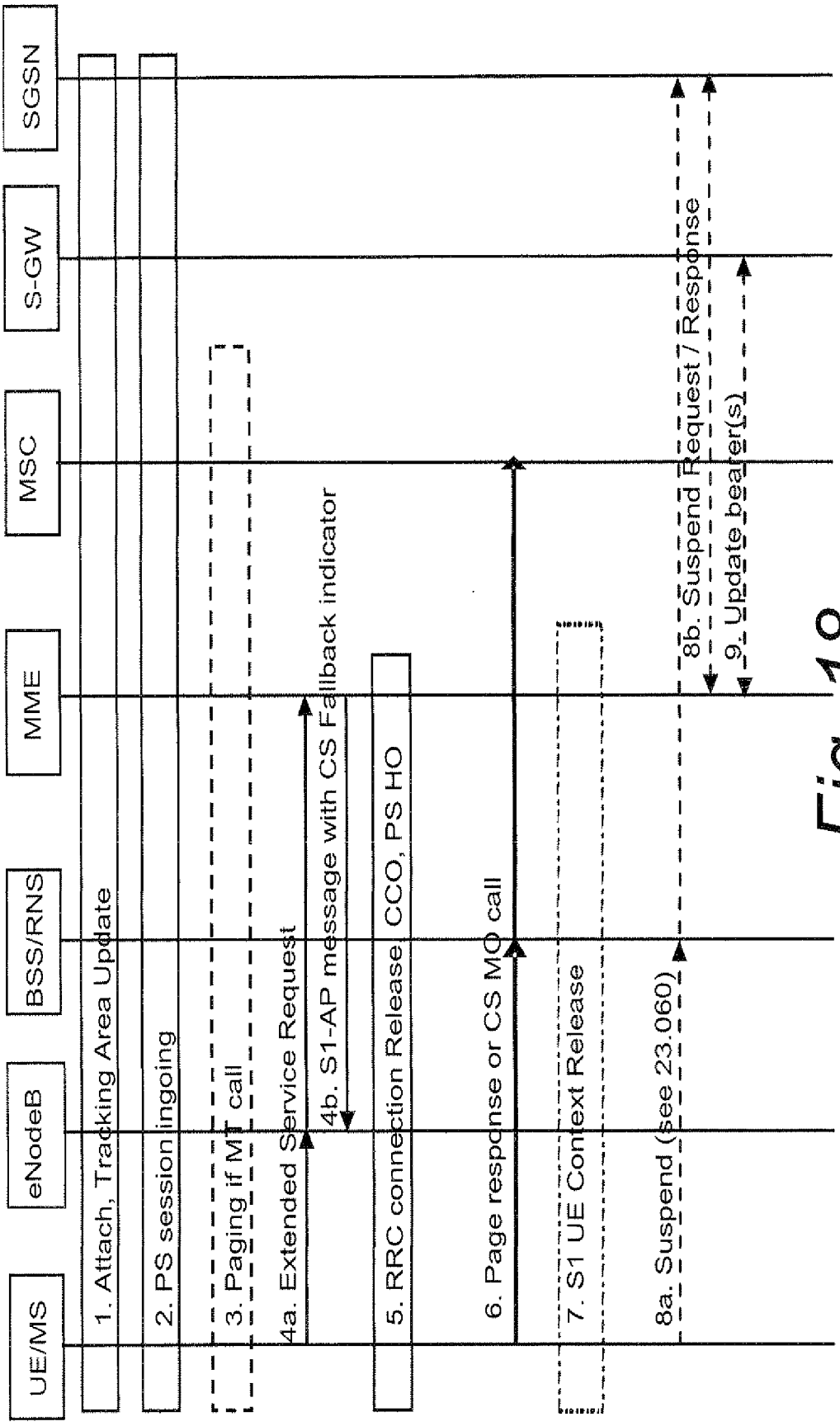

UE/MS
eNodeB
BSS/RNS
MME
MSC
S-GW
SGSN
1. Attach, Tracking Area Update
2. PS session ingoing
3. Paging if MT call
4a. Extended Service Request
4b. S1-AP message with CS Fallback indicator
5. RRC connection Release CCO, PS HO
6. Page response or CS MO call
7. S1 UE Context Release
8a. Suspend (see 23.060)
8b. Suspend Request / Response
9. Update bearer(s)

Fig. 18

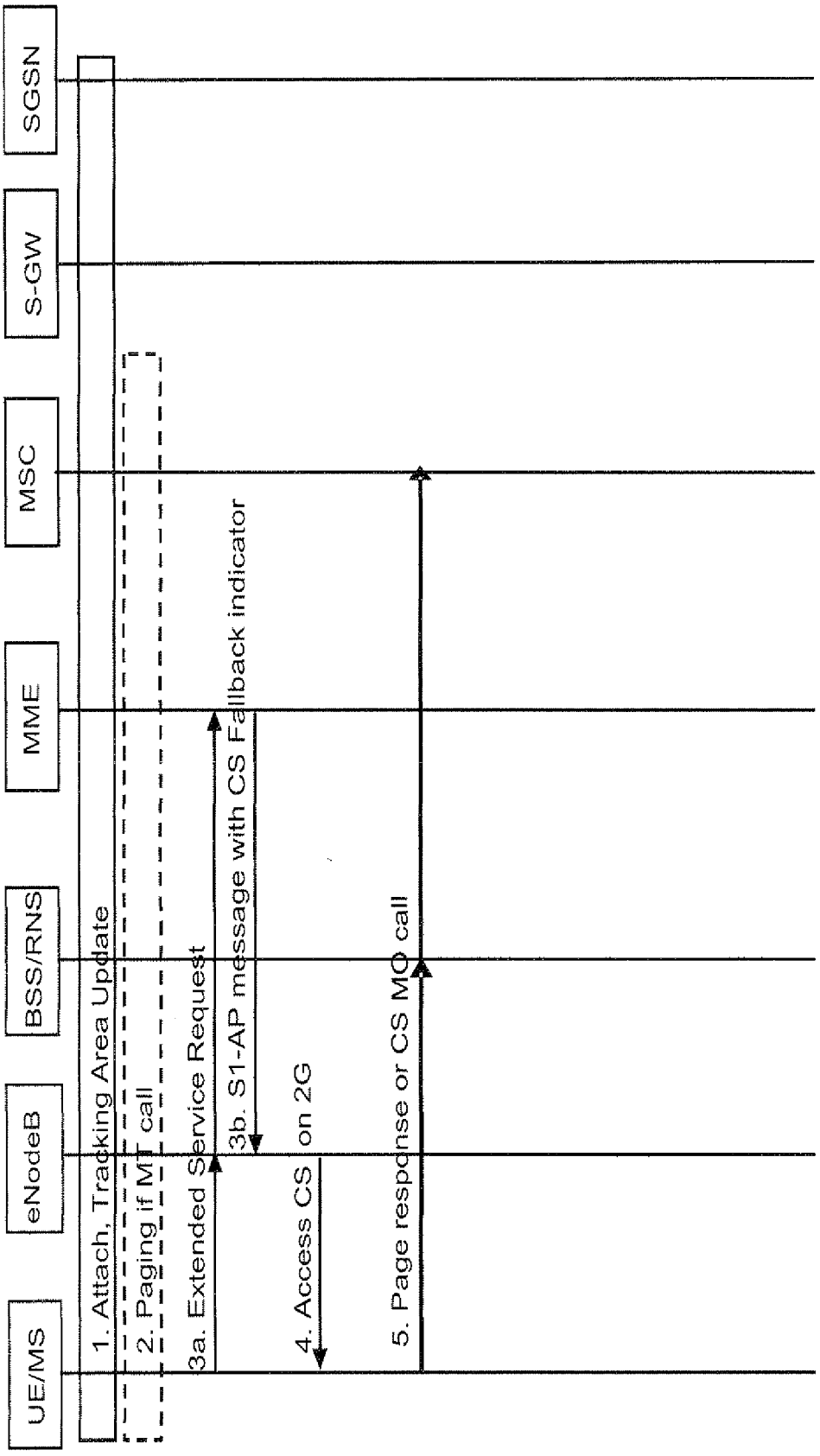
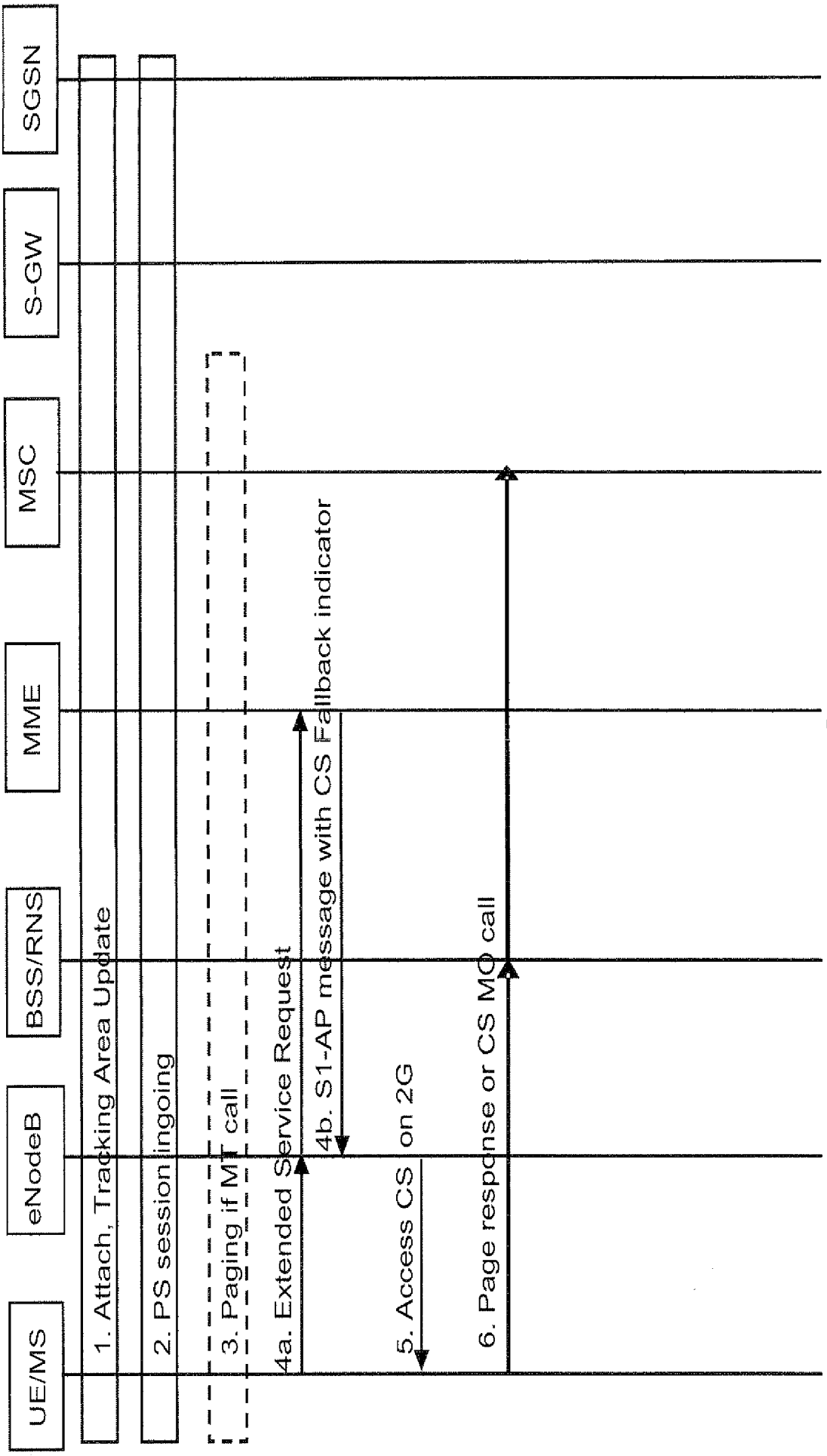

UE/MS
eNodeB
BSS/RNS
MME
MSC
S-GW
SGSN
1. Attach, Tracking Area Update
2. Paging if MT call
3a. Extended Service Request
3b. S1-AP message with CS Fallback indicator
4. Access CS on 2G
5. Page response or CS MO call

Fig. 19


UE/MS
eNodeB
BSS/RNS
MME
MSC
S-GW
SGSN
1. Attach, Tracking Area Update
2. PS session ingoing
3. Paging if MT call
4a. Extended Service Request
4b. S1-AP message with CS Fallback indicator
5. Access CS on 2G
6. Page response or CS MO call

Ffg. 20