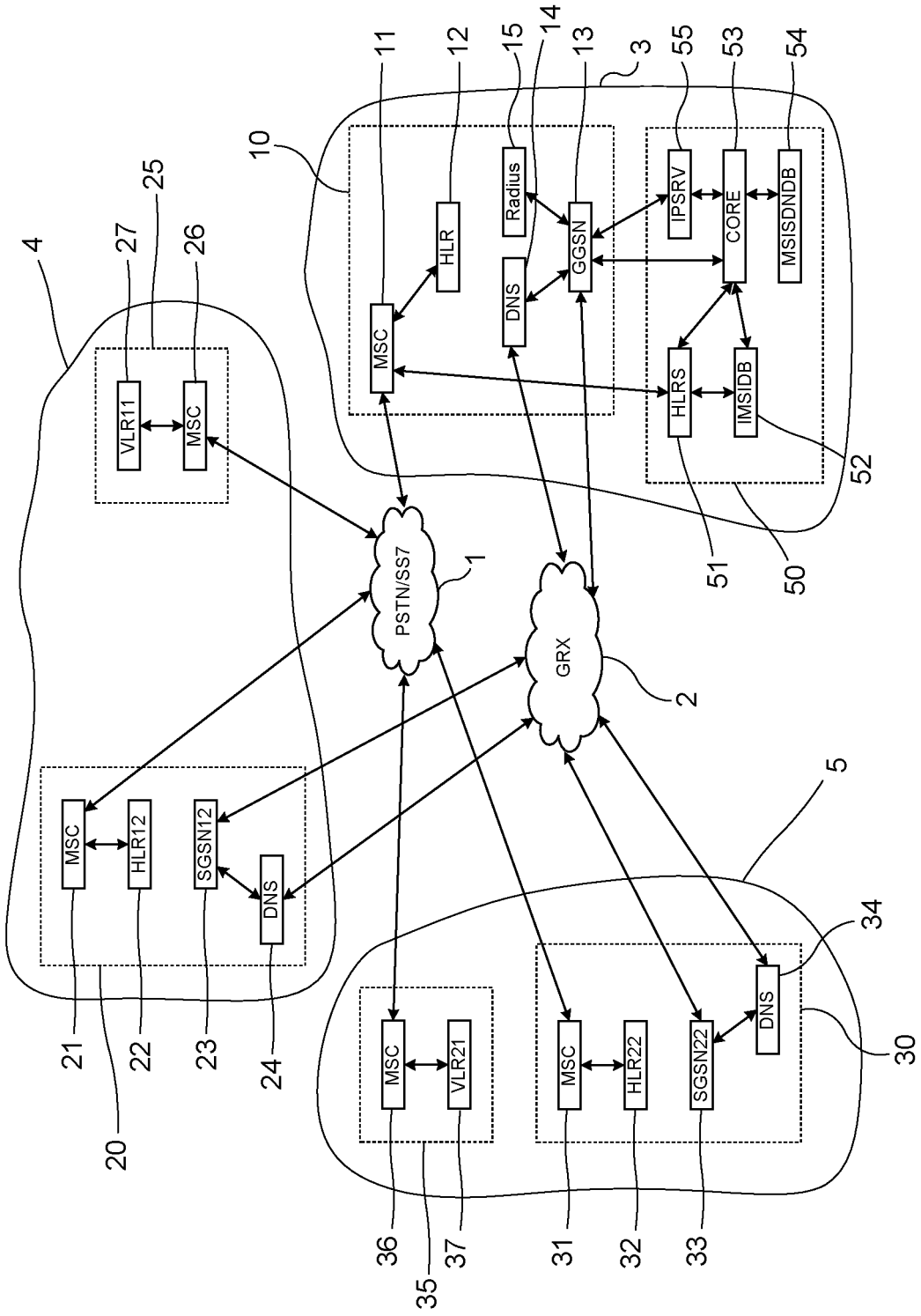
Fig. 1


PSTN/SS7
GRX
MSC
HLR
Radius
DNS
GGSN
IPSRV
CORE
MSISDNDB
HLRS
IMSIDB
VLR11
MSC
MSC
HLR12
SGSN12
DNS
MSC
VLR21
MSC
HLR22
SGSN22
DNS
1
2
3
4
5
10
11
12
13
14
15
20
21
22
23
24
25
26
27
30
31
32
33
34
35
36
37
50
51
52
53
54
55

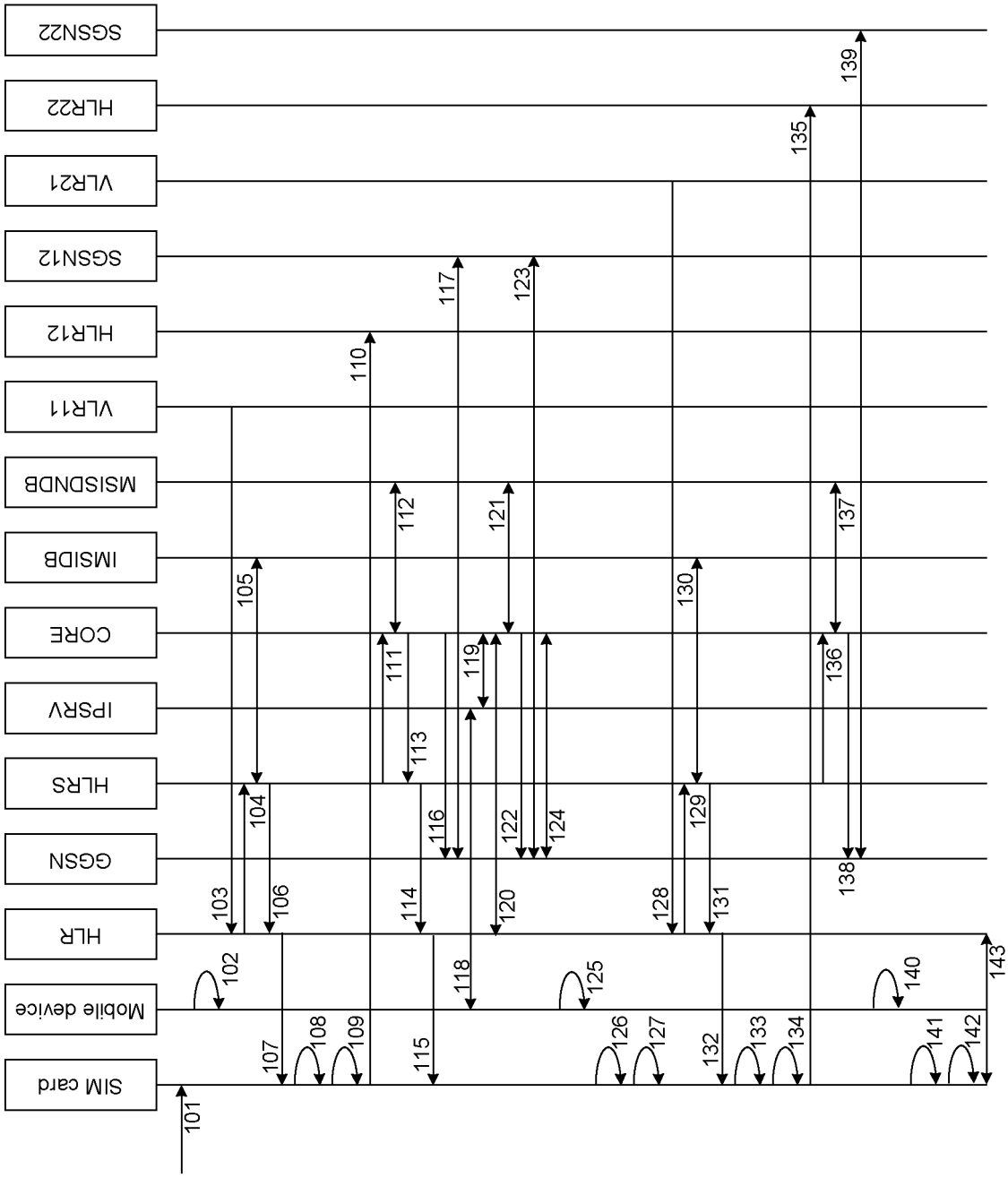

SIM card
Mobile device
HLR
GGSN
HLRS
IPSRV
CORE
IMSIDB
MSISDNDB
VLR11
HLR12
SGSN12
VLR21
HLR22
SGSN22
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143

Fig. 2

Fig. 3

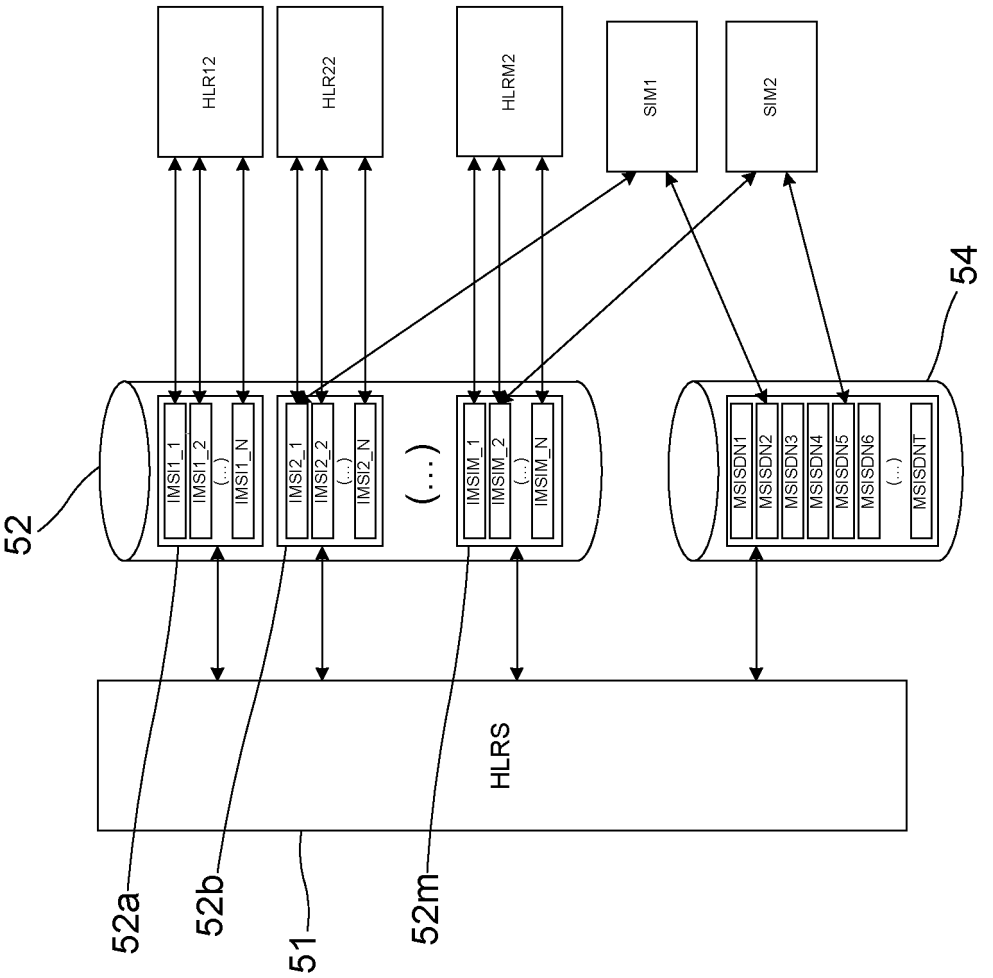

HLR12
HLR22
HLRM2
SIM1
SIM2
IMSI1_1
IMSI1_2
(...)
IMSI1_N
IMSI2_1
IMSI2_2
(...)
IMSI2_N
(...)
IMSIM_1
IMSIM_2
(...)
IMSIM_N
MSISDN1
MSISDN2
MSISDN3
MSISDN4
MSISDN5
MSISDN6
(...)
MSISDNT
HLRS
52
52a
52b
51
52m
54

Fig. 4

