

| PSTN Interfaces (GSM Originating Call) | | | | | |
|--|--------|----------------|---------|---------------|---------------------------------|
| Cell | | Mobile Network | | Fixed Network | EventStudio System Designer 4.0 |
| Mobile Station | | Base Stations | NSS | PSTN | |
| User | Mobile | BSS | MSC VLR | PSTN | 13-Sep-08 21:38 (Page 1) |

LEG: GSM Mobile Originated Call

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This scenario describes the call setup for a GSM originating call. A mobile user calling a land line subscriber is covered here.

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Begin RR Connection Establishment

Call related information needs to be transported from the mobile phone to the Mobile Switching Center (MSC). This requires the establishment of a Radio Resource (RR) connection to MSC. The first phase of the call setup just sets up this RR connection.

Note: The RR CHANNEL REQUEST is sent on a Random Access Channel (RACH). This is a slotted aloha channel that can be used at random, without any coordination between the mobiles. Any mobile can transmit on this channel whenever it wishes. If two mobiles transmit on the channel at the same time, their messages will be lost in a collision. The mobiles will detect the collision via a timeout and retransmit the message after a random back off.

LEG: Skip Authentication Procedure

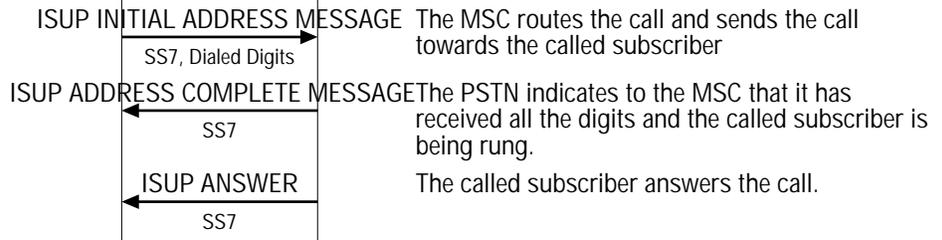
Enable Ciphering

RR Connection Establishment Completed

At this point a connection has been setup between the Mobile and the MSC. From this point onward, the BSS is just acting as a conduit for transporting the signaling messages between the Mobile and the MSC.

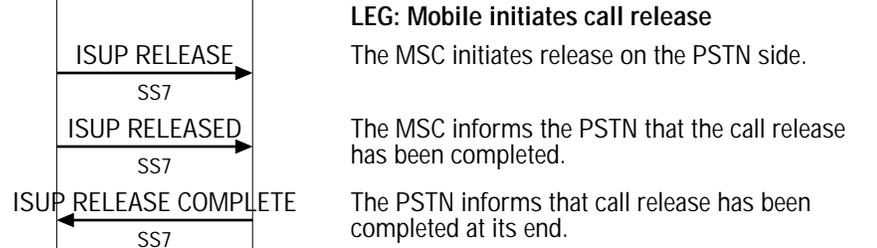
Call Setup

Mode Modify



Conversation

Call Release



RR Connection Release