

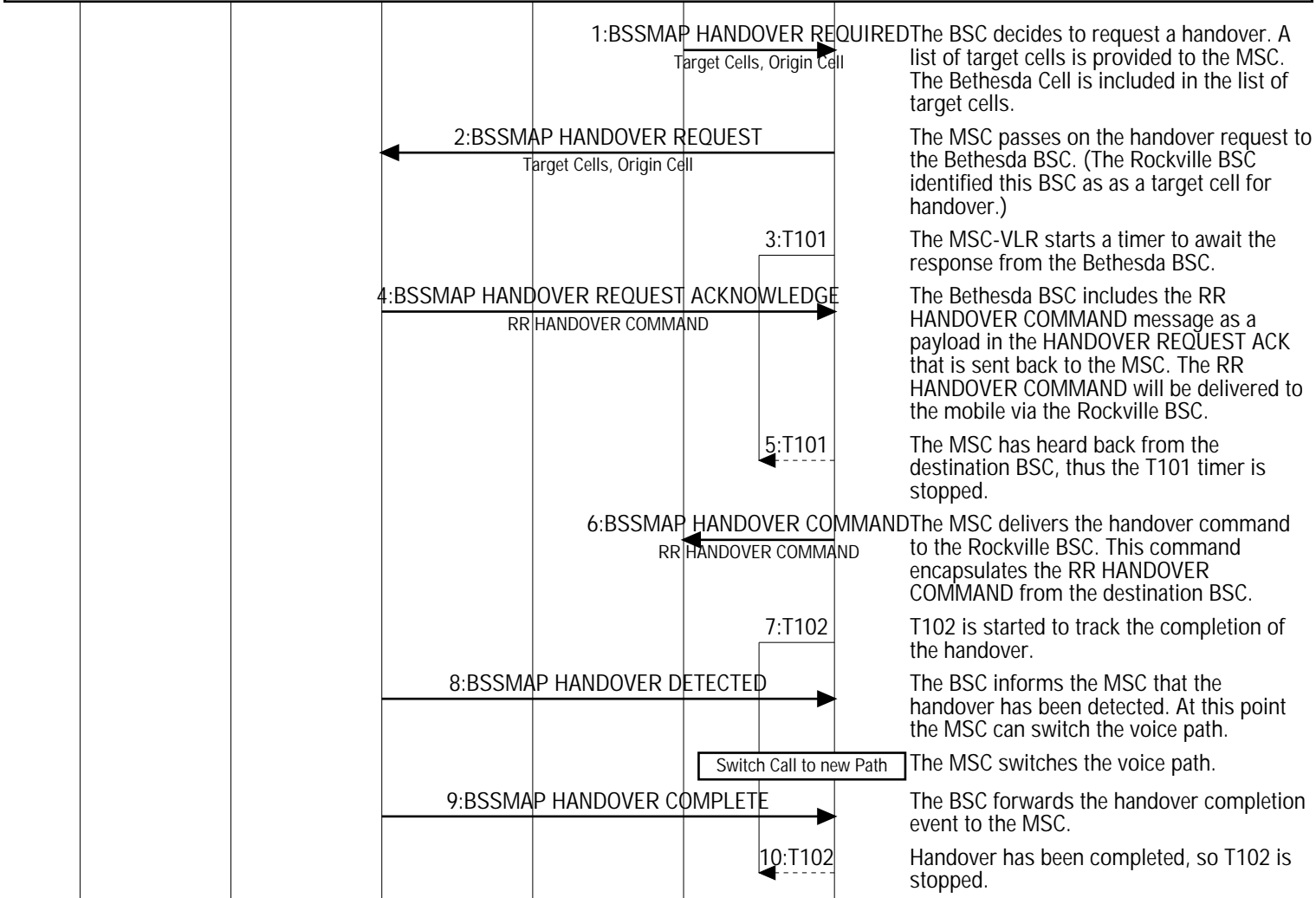
MSC_VLR Interfaces (Intra MSC Handover Call Flow)						
Highway	GSM Coverage				GSM Equipment	EventHelix.com/EventStudio 2.5
GSM Mobile	Bethesda		Rockville		MSC VLRs	
Mobile	Bethesda Cell	Bethesda BSC	Rockville Cell	Rockville BSC	Maryland MSC VLR	31-Dec-04 08:05 (Page 1)

This call flow was generated with EventStudio 2.5 (<http://www.EventHelix.com/EventStudio>).

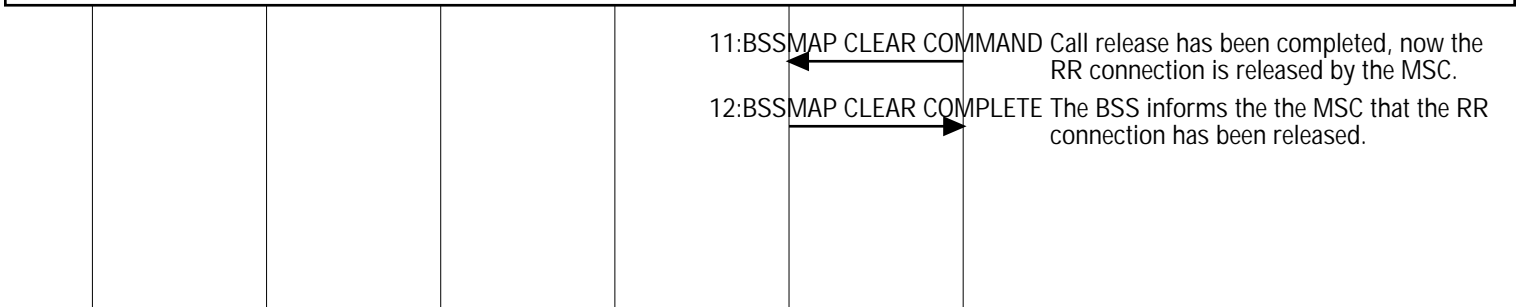
How does a GSM mobile phone maintain a call even when moving from one cell to another?
 The calls are maintained by handing over a call from one cell to another. This call flow covers a simple case of call handover in GSM. Here a user has an active call and is moving from the Rockville Cell to the Bethesda Cell. As the user moves, the call will be handed over by the Rockville Cell to the Bethesda Cell.
 Copyright © 2000-2004 EventHelix.com Inc. All Rights Reserved.

The GSM Mobile has an active call in the Rockville Cell.

The user reaches the boundary between the Rocville Cell and Bethesda cell.



Release call resources in Rockville BSC.



MSC_VLR Interfaces (Inter MSC Handover Call Flow)						
Highway	GSM Coverage					EventHelix.com/EventStudio 2.5
GSM Mobile	Bethesda			Rockville		
Mobile	Bethesda Cell	Bethesda BSC	Bethesda MSC VLR	Rockville MSC VLR	Rockville BSC	Rockville Cell
31-Dec-04 08:05 (Page 2)						

This call flow was generated with EventStudio 2.5 (<http://www.EventHelix.com/EventStudio>).

How does a GSM mobile phone maintain a call even when moving from a cell controlled by one MSC to a cell controlled by a different MSC?

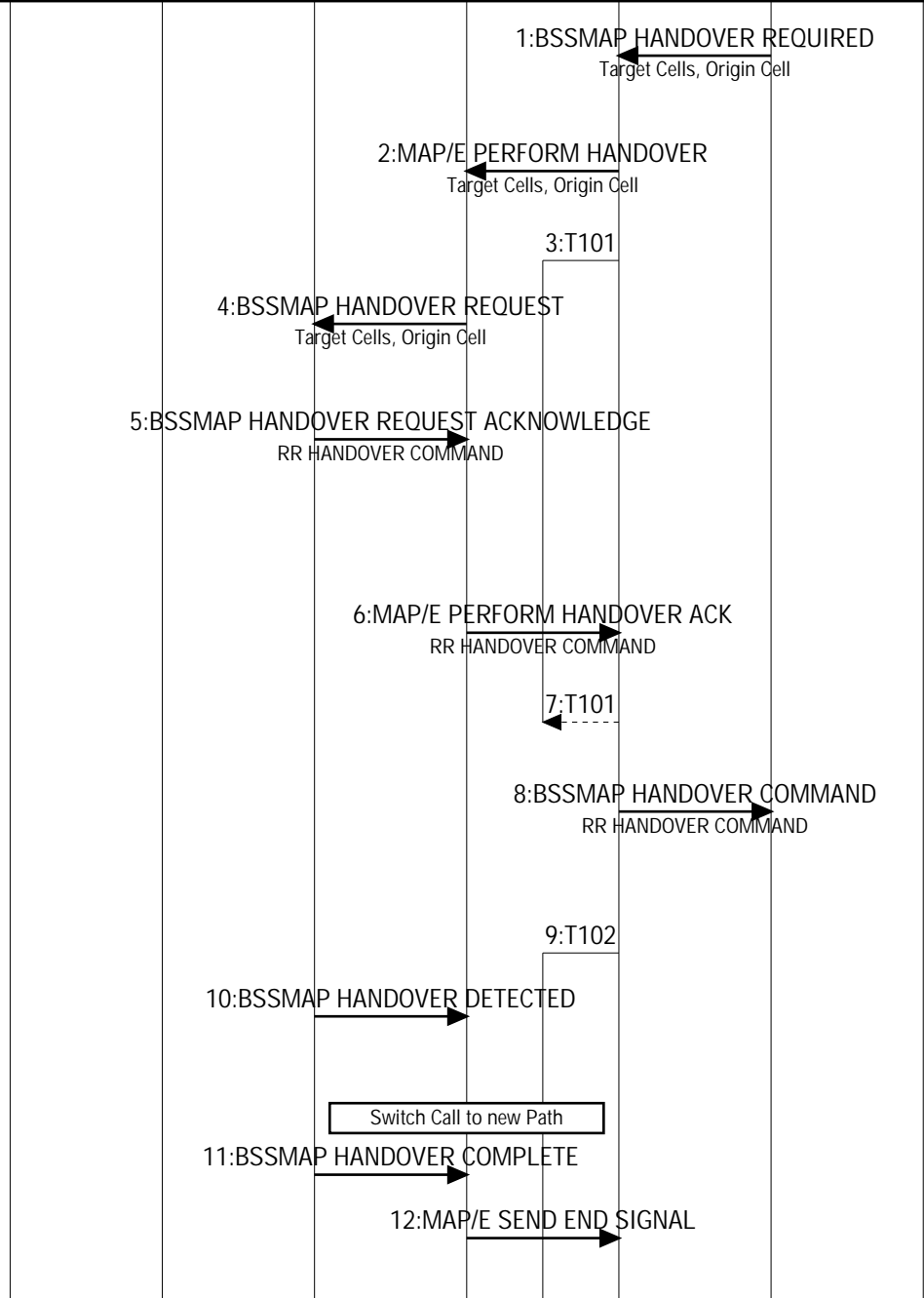
The calls are maintained by handing over the call from the source MSC to the target MSC. The MAP/E protocol is used to manage the interactions between the source MSC and the target MSC.

In this example, a user has an active call and is moving from the Rockville Cell to the Bethesda Cell. As the user moves, the call will be handed over by the Rockville Cell to the Bethesda Cell. The Bethesda cell and the Rockville cell are controlled by different MSCs, thus an Inter-MSC handover will be performed from the Rockville MSC to the Bethesda MSC.

Copyright © 2000-2004 EventHelix.com Inc. All Rights Reserved.

The GSM Mobile has an active call in the Rockville Cell.

The user reaches the boundary between the Rocville Cell and Bethesda cell.



The BSC decides to request a handover. A list of target cells is provided to the MSC. The Bethesda Cell is included in the list of target cells.

This is an inter MSC handover, so pass the handover request to the target MSC via a MAP/E message.

The MSC-VLR starts a timer to await the response from the Bethesda BSC.

The MSC passes on the handover request to the Bethesda BSC. (The Rockville BSC identified this BSC as a target cell for handover.)

The Bethesda BSC includes the RR HANDOVER COMMAND message as a payload in the HANDOVER REQUEST ACK that is sent back to the MSC. The RR HANDOVER COMMAND will be delivered to the mobile via the Rockville BSC.

Pass the handover request acknowledgement from the target MSC to the source MSC.

The MSC has heard back from the destination MSC, thus the T101 timer is stopped.

The MSC delivers the handover command to the Rockville BSC. This command encapsulates the RR HANDOVER COMMAND from the destination BSC.

T102 is started to track the completion of the handover.

The BSC informs the MSC that the handover has been detected. At this point the MSC can switch the voice path.

The MSC switches the voice path.

The BSC forwards the handover completion event to the MSC.

Initiate call release at the source MSC for the handover.

MSC_VLR Interfaces (Inter MSC Handover Call Flow)						
Highway	GSM Coverage					EventHelix.com/EventStudio 2.5
GSM Mobile	Bethesda			Rockville		
Mobile	Bethesda Cell	Bethesda BSC	Bethesda MSC VLR	Rockville MSC VLR	Rockville BSC	Rockville Cell
31-Dec-04 08:05 (Page 3)						

13:T102

Handover has been completed, so T102 is stopped.

Release call resources in Rockville BSC.

14:BSSMAP CLEAR COMMAND

15:BSSMAP CLEAR COMPLETE

16:MAP/E SEND END SIGNAL RESPONSE

Call release has been completed, now the RR connection is released by the MSC.

The BSS informs the the MSC that the RR connection has been released.

Signal the end of the call.