

**Source:** TSG CN WG 1  
**Title:** CRs to R99 (with mirror CR) on Work Item Handover towards 23.009  
**Agenda item:** 7.14  
**Document for:** APPROVAL

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**Introduction:**

This document contains 2 CRs on **R99 with a mirror CR to** Work Item "**Handover**", that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #12 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Version-Current	Workitem
23.009	034	3	N1-010913	R99	Indication of Intra MSC handover from 3G_MSC-B to MSC-A/3G_MSC-A	F	3.6.0	Handover
23.009	035	3	N1-010914	Rel-4	Indication of Intra MSC handover from 3G_MSC-B to MSC-A/3G_MSC-A	A	4.0.0	Handover

## CHANGE REQUEST

⌘ **23.009 CR** 034 ⌘ rev 3 ⌘ Current version: 3.6.0 ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

**Title:** ⌘ Indication of Intra MSC handover from 3G\_MSC-B to MSC-A/3G\_MSC-A

**Source:** ⌘ Nokia

**Work item code:** ⌘ Handover

**Date:** ⌘ 14.05..2001

**Category:** ⌘ **F**

**Release:** ⌘ R99

Use one of the following categories:

- F** (essential correction)
- A** (corresponds to a correction in an earlier release)
- B** (Addition of feature),
- C** (Functional modification of feature)
- D** (Editorial modification)

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

- 2 (GSM Phase 2)
- R96 (Release 1996)
- R97 (Release 1997)
- R98 (Release 1998)
- R99 (Release 1999)
- REL-4 (Release 4)
- REL-5 (Release 5)

**Reason for change:** ⌘ The GSM channel mode configuration may change during intra GSM handovers. The chosen channel needs to be known by the interworking function (IWF) located in the anchor MSC (MSC-A or 3G-MSC-A).

Also the selected encryption algorithm may change during intra GSM handovers. This information needs also to be known by the anchor MSC (MSC-A or 3G-MSC-A).

~~For 3G\_MSC\_B to inform MSC-A or 3G\_MSC-A of chosen channel and selected encryption algorithm shall be sent to MSC-A or 3G\_MSC-A in A\_Handover\_Performed and MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST by the 3G-MSC-B.~~

**Summary of change:** ⌘ In section 4.4.1 "Role of 3G\_MSC-B" the text which is underlined below has been added:

3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B InterSystem handover and intra GSM handovers, by using the A\_HANDOVER\_PERFORMED message.

~~If BSSMAP is used on the E interface, 3G\_MSC\_B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B intra UMTS relocations (if security algorithms have been changed), by using the A\_HANDOVER\_PERFORMED message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

~~If RANAP is used on the E interface, 3G\_MSC\_B notifies 3G\_MSC-A of intra-3G\_MSC-B intra UMTS relocations (if security algorithms have been changed), by using the LOCATION REPORT message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

In case of intra-3G\_MSC-B intra UMTSSRNS relocation, if security algorithms have been changed then:

- a) When BSSMAP is used on the E interface, the A\_HANDOVER\_PERFORMED

message shall be sent.

b) When RANAP is used on the E interface, the LOCATION REPORT message shall be sent.

In both cases, the selected UMTS algorithm(s) shall be indicated in the MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

**Consequences if not approved:**

- ⌘ IWF located in anchor MSC can not adapt to the changes of channel configuration potentially taking place during intra 3G-MSC intra GSM handovers. Anchor MSC is not aware of currently used encryption algorithm.

**Clauses affected:**

- ⌘ 4.4.1

**Other specs affected:**

- |                                       |                           |                  |
|---------------------------------------|---------------------------|------------------|
| ⌘ <input checked="" type="checkbox"/> | Other core specifications | ⌘ 29.002, 29.010 |
| <input type="checkbox"/>              | Test specifications       |                  |
| <input type="checkbox"/>              | O&M Specifications        |                  |

**Other comments:**

- ⌘ There are related CRs to TS 29.002 and TS 29.010 which will be handled in the CN4 # 8.

This change request is also related to the discussion paper presented in this meeting (TSG CN1 R99 and older Ad-hoc), N1-010597.

~~Additionally, in the situation where an inter MSC SRNC relocation has been performed and a subsequent handover to GSM is performed, the location of MS may not be known by the anchor MSC since the location reporting does not support cell based location reporting (only based on SAI, which does not exist in GSM).~~

\*\*\*\*\* **First Modified Sections** \*\*\*\*\*

#### 4.4 3G\_MSC-B

For roles and functional composition of the 3G\_MSC-B working as pure GSM MSC, please see previous clause ("MSC-B").

##### 4.4.1 Role of 3G\_MSC-B

In the Intra-3G\_MSC handover/relocation case, the 3G\_MSC-B keeps the control of the whole Intra-3G\_MSC handover/relocation procedure. 3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B InterSystem handover and intra GSM handovers, by using the A\_HANDOVER\_PERFORMED message.

~~If BSSMAP is used on the E-interface, 3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B intra UMTS relocations (if security algorithms have been changed), by using the A\_HANDOVER\_PERFORMED message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

~~If RANAP is used on the E-interface, 3G\_MSC-B notifies 3G\_MSC-A of intra-3G\_MSC-B intra UMTS relocations (if security algorithms have been changed), by using the LOCATION REPORT message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

In case of intra-3G\_MSC-B intra-UMTSSRNS relocation, if security algorithms have been changed then:

a) When BSSMAP is used on the E interface, the A\_HANDOVER\_PERFORMED message shall be sent.

b) When RANAP is used on the E interface, the LOCATION REPORT message shall be sent.

In both cases, if security algorithms have been changed, the selected UMTS algorithm(s) shall be indicated in the MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

\*\*\*\*\* **Next Modified Section** \*\*\*\*\*

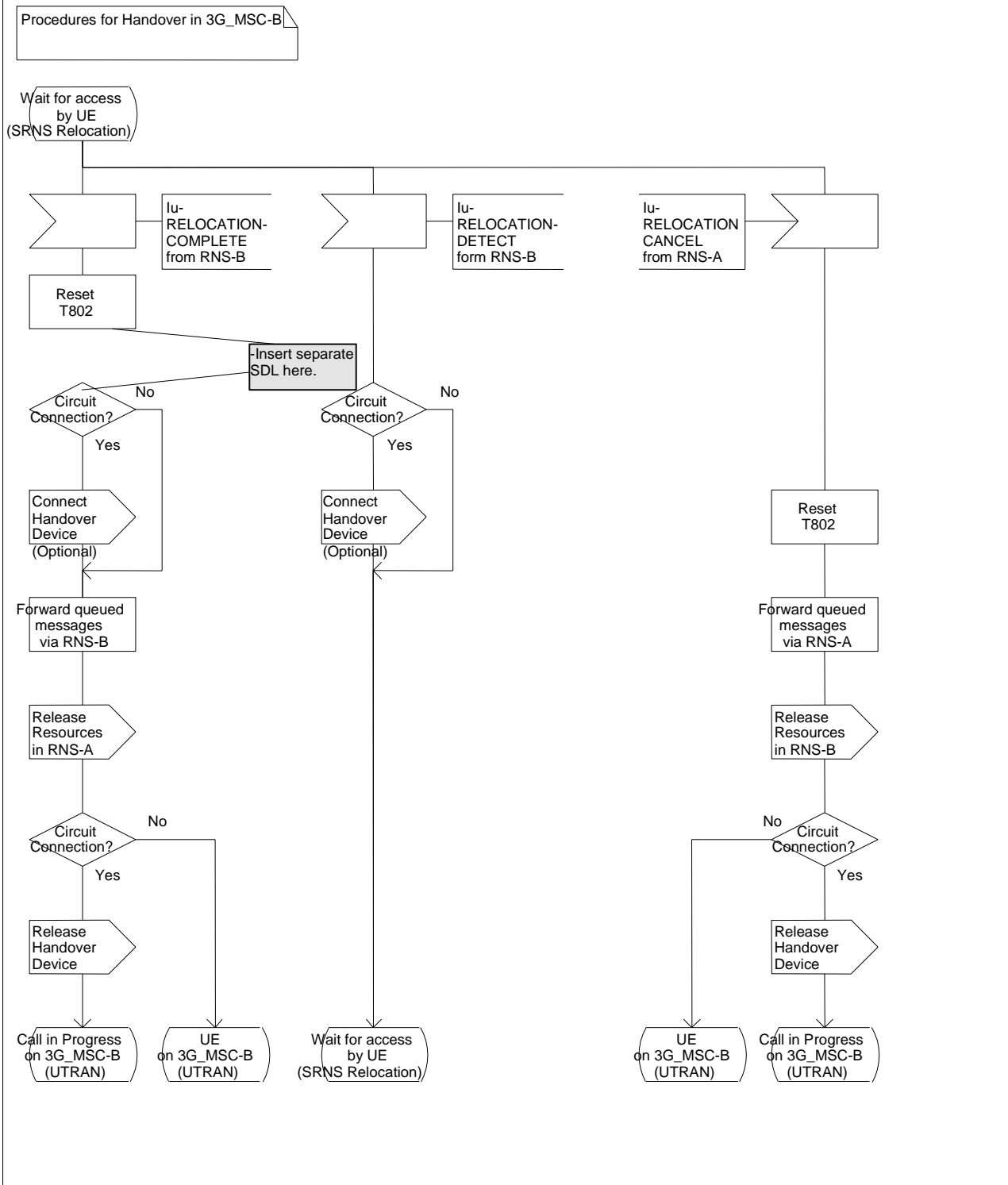
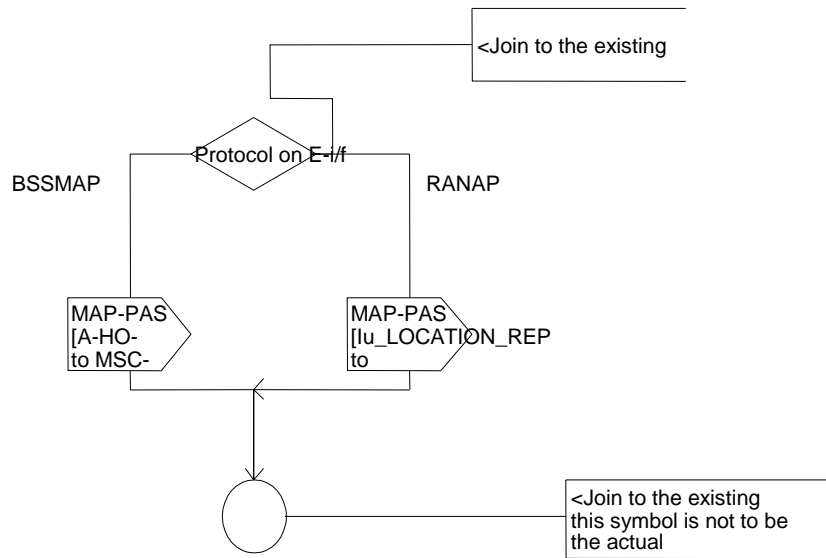
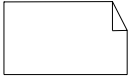


Figure 44 (sheet 45 of 54): Handover control procedure in 3G\_MSC-B

Procedure

1(1)



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## CHANGE REQUEST

⌘ **23.009 CR** 035 ⌘ rev 3 ⌘ Current version: 4.0.0 ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

**Title:** ⌘ Indication of Intra MSC handover from 3G\_MSC-B to MSC-A/3G\_MSC-A

**Source:** ⌘ Nokia

**Work item code:** ⌘ Handover

**Date:** ⌘ 15.05..2001

**Category:** ⌘ A  
F

**Release:** ⌘ Rel4

Use one of the following categories:

- F (essential correction)
- A (corresponds to a correction in an earlier release)
- B (Addition of feature),
- C (Functional modification of feature)
- D (Editorial modification)

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Use one of the following releases:

- 2 (GSM Phase 2)
- R96 (Release 1996)
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- R98 (Release 1998)
- R99 (Release 1999)
- REL-4 (Release 4)
- REL-5 (Release 5)

**Reason for change:** ⌘ The GSM channel mode configuration may change during intra GSM handovers. The chosen channel needs to be known by the interworking function (IWF) located in the anchor MSC (MSC-A or 3G-MSC-A).

Also the selected encryption algorithm may change during intra GSM handovers. This information needs also to be known by the anchor MSC (MSC-A or 3G-MSC-A).

~~For 3G\_MSC\_B to inform MSC-A or 3G\_MSC-A of chosen channel and selected encryption algorithm shall be sent to MSC-A or 3G\_MSC-A in A\_Handover\_Performed and MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST  
By the 3G\_MSC-B.~~

**Summary of change:** ⌘ In section 4.4.1 "Role of 3G\_MSC-B" the text which is underlined below has been added:

3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B InterSystem handover and intra GSM handovers, by using the A\_HANDOVER\_PERFORMED message.

~~If BSSMAP is used on the E-interface, 3G\_MSC\_B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC\_B intra UMTS relocations (if security algorithms have been changed), by using the A\_HANDOVER\_PERFORMED message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

~~If RANAP is used on the E-interface, 3G\_MSC\_B notifies 3G\_MSC-A of intra-3G\_MSC-B intra UMTS relocations (if security algorithms have been changed), by using the LOCATION REPORT message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.~~

In case of intra-3G\_MSC-B intra-UMTSSRNS relocation, if security algorithms have been changed then:

- a) When BSSMAP is used on the E interface, the A\_HANOVER\_PERFORMED message shall be sent.
  - b) When RANAP is used on the E interface, the LOCATION\_REPORT message shall be sent.
- In both cases, if security algorithms have been changed, the selected UMTS algorithm(s) shall be indicated in the MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

**Consequences if not approved:**

- ⌘ IWF located in anchor MSC can not adapt to the changes of channel configuration potentially taking place during intra 3G-MSC intra GSM handovers. Anchor MSC is not aware of currently used encryption algorithm.

**Clauses affected:**

- ⌘ 4.4.1

**Other specs affected:**

- ⌘  Other core specifications ⌘ 29.002, 29.010
- Test specifications
- O&M Specifications

**Other comments:**

- ⌘ There are related CRs to TS 29.002 and TS 29.010 which will be handled in the CN4 # 8.
- This change request is also related to the discussion paper presented in this meeting (TSG CN1 R99 and older Ad-hoc), N1-010597.
- ~~Additionally, in the situation where an inter MSC SRNC relocation has been performed and a subsequent handover to GSM is performed, the location of MS may not be known by the anchor MSC since the location reporting does not support cell-based location reporting (only based on SAI, which does not exist in GSM).~~



\*\*\*\*\* **First Modified Sections** \*\*\*\*\*

#### 4.4 3G\_MSC-B

For roles and functional composition of the 3G\_MSC-B working as pure GSM MSC, please see previous clause ("MSC-B").

##### 4.4.1 Role of 3G\_MSC-B

In the Intra-3G\_MSC handover/relocation case, the 3G\_MSC-B keeps the control of the whole Intra-3G\_MSC handover/relocation procedure. 3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B InterSystem handover and intra GSM handovers, by using the A\_HANDOVER\_PERFORMED message.

If BSSMAP is used on the E-interface, 3G\_MSC-B notifies MSC-A or 3G\_MSC-A of intra-3G\_MSC-B intra-UMTS relocations (if security algorithms have been changed), by using the A\_HANDOVER\_PERFORMED message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

If RANAP is used on the E-interface, 3G\_MSC-B notifies 3G\_MSC-A of intra-3G\_MSC-B intra-UMTS relocations (if security algorithms have been changed), by using the LOCATION REPORT message and indicating the selected UMTS algorithm(s) in MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

In case of intra-3G\_MSC-B intra-UMTS-SRNSrelocation, if security algorithms have been changed:

- a) When BSSMAP is used on the E interface, the A\_HANDOVER\_PERFORMED message shall be sent.
- b) When RANAP is used on the E interface, the LOCATION REPORT message shall be sent.

In both cases, if security algorithms have been changed, the selected UMTS algorithm(s) shall be indicated in the MAP\_PROCESS\_ACCESS\_SIGNALLING\_REQUEST.

\*\*\*\*\* **Next Modified Section** \*\*\*\*\*

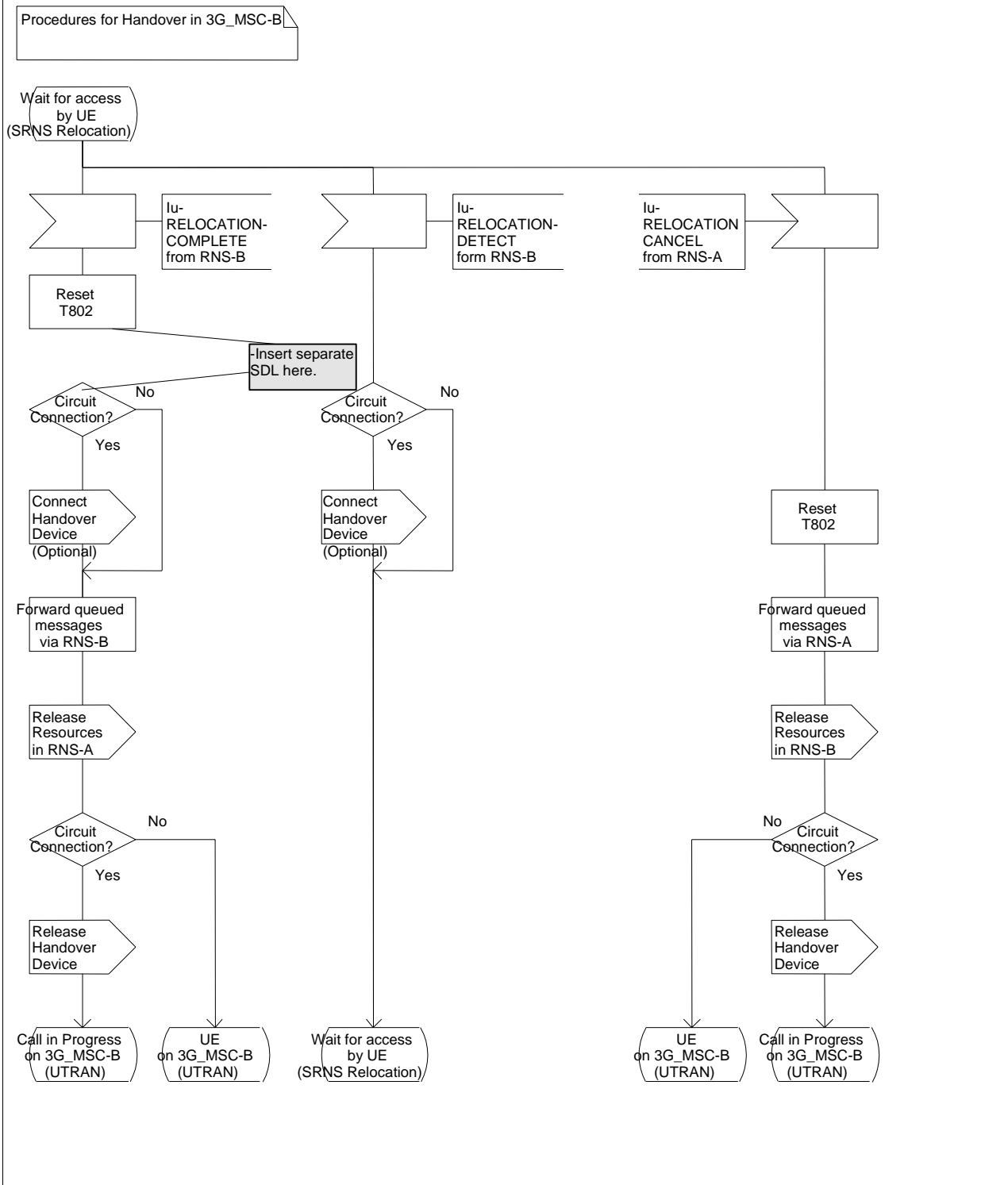
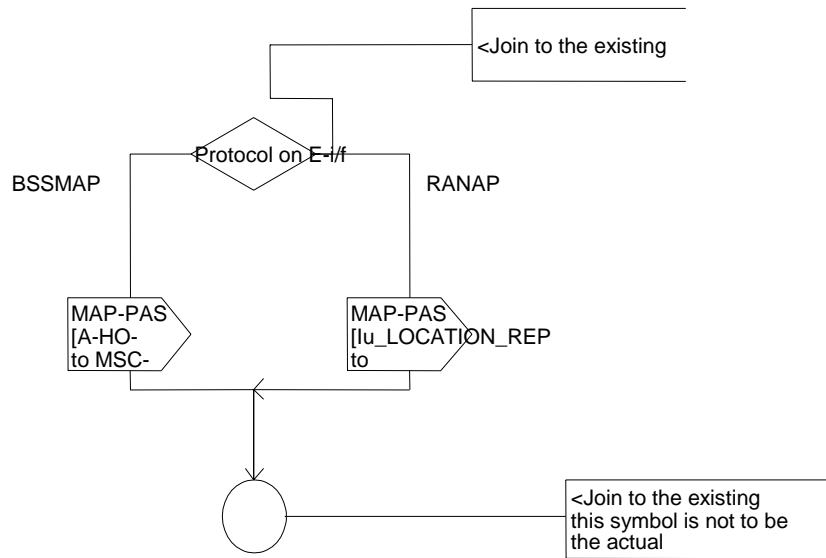


Figure 44 (sheet 45 of 54): Handover control procedure in 3G\_MSC-B

Procedure

1(1)



<New SDL to be inserted between task box and decision diamond>