3GPP TSG CN Plenary Meeting #12 **Tdoc NP-010288**
Stockholm, Sweden, 13th - 15th June 2001

Source: TSG CN WG4

Title: CRs on R99 Work Item Handover

Agenda item: 7.14

Document for: APPROVAL

Introduction:

This document contains 10 CRs on R99 Work Item "Handover", that have been agreed by TSG CN WG4, and are forwarded to TSG CN Plenary meeting #12 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.010	019		N4-010592	R99	Addition of selected UMTS algorithm indication to the handover procedures	F	3.5.0
29.010	020		N4-010593	Rel-4	Addition of selected UMTS algorithm indication to the handover procedures	A	4.0.0
29.010	021		N4-010594	R99	Addition of selected GSM algorithm indication to the handover procedures	F	3.5.0
29.010	022		N4-010595	Rel-4	Addition of selected GSM algorithm indication to the handover procedures	A	4.0.0
29.010	023		N4-010596	R99	Addition of allowed UMTS algorithms indication to the handover procedures	F	3.5.0
29.010	024		N4-010597	Rel-4	Addition of allowed UMTS algorithms indication to the handover procedures	A	4.0.0
29.010	025		N4-010598	R99	Addition of allowed GSM algorithms indication to the handover procedures	F	3.5.0
29.010	026		N4-010599	Rel-4	Addition of allowed GSM algorithms indication to the handover procedures	A	4.0.0
29.010	027		N4-010602	R99	Addition of GSM channel type and GSM chosen channel indications to handover procedures	F	3.5.0
29.010	028		N4-010603	Rel-4	Addition of GSM channel type and GSM chosen channel indications to handover procedures	A	4.0.0

3GPP TSG-CN4 Meeting #08 **Tdoc N4-010592**
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Puerto Rico, USA

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CHANGE REQUEST

⌘ **29.010** **CR** **019** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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:	⌘	Addition of selected UMTS algorithm indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	2.5.2001
Category:	⌘	**F** (Agreed by consensus)
Release:	⌘	R99

Use one of the following categories:
F *(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 principle of the inter-MSC handover is that MSC-A is aware what security algorithm are used in MSC-B. Currently the MSC-B indicates the selected UMTS algorithm to MSC-A in case of UMTS-UMTS inter MSC SRNC relocation. However, the selected algorithm shall be indicated also in case of GSM-UMTS inter MSC handover, BSSMAP Ciphering Mode Setting procedure and always whenever intersystem handover to UMTS is performed and also in the case of intra MSC-B intra UMTS relocation.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-A does not know what UMTS integrity and encryption algorithms MSC-B has chosen.

Clauses affected:	⌘	4.5.5, 4.6, 4.7.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.009 CR 025, 29.002 CR 225
Other comments:	⌘			

4.5.5 Processing in MSC-B, and information transfer on E-interface

The following parameters require processing (e.g. to store the parameter, to internally generate the parameter) in MSC-B. The relevant BSSMAP procedures are mentioned to ease the comprehension, their detailed description is the scope of GSM 08.08. Each BSSMAP message listed in GSM 09.08 being transferred on E-interface shall use the mechanisms given in subclause 4.5.4 and is described in GSM 08.08.

In case of intra-MSC-B handover/relocation and security interworking , after inter-MSC handover from GSM to GSM, the 3G_MSC-B needs additional information to be able to perform security mode and integrity protection procedures. These RANAP informations are transferred between MSC-A and 3G-MSC-B in MAP messages, defined in 3GPP TS 29.002.

****** NEXT MODIFIED SECTION ******

4.5.5.8 Selected UMTS Algorithm

After inter-MSC handover, the 3G_MSC-B can perform intra-MSC GSM to UMTS handover. A sequence of possible encryption and integrity protection algorithms, received from the 3G_MSC-A, can be sent to an RNS in Relocation Request or in Security Mode Command in case of cipher mode setting after intra.MSC-B handover from GSM to UMTS. The RNS chooses one of the listed algorithms and reports this back to the 3G_MSC in Relocation Request Acknowledge or Security Mode Complete respectively. The MSC-B provides the Selected UMTS algorithm information to the MSC-A. The Selected UMTS algorithms IE in the MAP Process Access Signalling Request message refers to the Chosen Integrity Protection Algorithm and Chosen Encryption Algorithm, defined in RANAP specification 3GPP TS 25.413

The selected algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover and possibly after intra-MSC-B handover from GSM to UMTS. In both cases Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

****** NEXT MODIFIED SECTION ******

4.6.5 Processing in MSC-B, and information transfer on E-interface

The handling is described in chapter 4.5.5.

4.6.6~~5~~ Cause Code Mapping

****** NEXT MODIFIED SECTION ******

4.7.5.6 Selected UMTS Algorithm

A sequence of possible encryption and integrity protection algorithms, received from the 3G_MSC-A, can be sent to an RNS in Relocation Request or in Security Mode Command in case of cipher mode setting after inter-MSC handover from GSM to UMTS. The RNS chooses one of the listed algorithms and reports this back to the 3G_MSC in Relocation Request Acknowledge or Security Mode Complete respectively. The MSC-B provides the Selected UMTS algorithm information to the MSC-A. The Selected UMTS algorithms IE in the MAP Process Access Signalling Request and MAP Prepare Handover Response messages refers to the Chosen Integrity Protection Algorithm and Chosen Encryption Algorithm, defined in RANAP specification 3GPP TS 25.413

The selected algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

If Ciphering has been performed before Inter-MSC Handover, Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Prepare Handover Response MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover, Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **020** ⌘ rev ⌘ 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:	⌘	Addition of selected UMTS algorithm indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	2.5.2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(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 principle of the inter-MSC handover is that MSC-A is aware what security algorithm are used in MSC-B. Currently the MSC-B indicates the selected UMTS algorithm to MSC-A in case of UMTS-UMTS inter MSC SRNC relocation. However, the selected algorithm shall be indicated also in case of GSM-UMTS inter MSC handover, BSSMAP Ciphering Mode Setting procedure and always whenever intersystem handover to UMTS is performed and also in the case of intra MSC-B intra UMTS relocation.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-A does not know what UMTS integrity and encryption algorithms MSC-B has chosen.

Clauses affected:	⌘	4.5.5, 4.6, 4.7.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.009 CR 027, 29.002 CR 239
Other comments:	⌘			

4.5.5 Processing in MSC-B, and information transfer on E-interface

The following parameters require processing (e.g. to store the parameter, to internally generate the parameter) in MSC-B. The relevant BSSMAP procedures are mentioned to ease the comprehension, their detailed description is the scope of GSM 08.08. Each BSSMAP message listed in GSM 09.08 being transferred on E-interface shall use the mechanisms given in subclause 4.5.4 and is described in GSM 08.08.

In case of intra-MSC-B handover/relocation and security interworking , after inter-MSC handover from GSM to GSM, the 3G_MSC-B needs additional information to be able to perform security mode and integrity protection procedures. These RANAP informations are transferred between MSC-A and 3G-MSC-B in MAP messages, defined in 3GPP TS 29.002.

****** NEXT MODIFIED SECTION ******

4.5.5.8 Selected UMTS Algorithm

After inter-MSC handover, the 3G_MSC-B can perform intra-MSC GSM to UMTS handover. A sequence of possible encryption and integrity protection algorithms, received from the 3G_MSC-A, can be sent to an RNS in Relocation Request or in Security Mode Command in case of cipher mode setting after intra.MSC-B handover from GSM to UMTS. The RNS chooses one of the listed algorithms and reports this back to the 3G_MSC in Relocation Request Acknowledge or Security Mode Complete respectively. The MSC-B provides the Selected UMTS algorithm information to the MSC-A. The Selected UMTS algorithms IE in the MAP Process Access Signalling Request message refers to the Chosen Integrity Protection Algorithm and Chosen Encryption Algorithm, defined in RANAP specification 3GPP TS 25.413

The selected algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover and possibly after intra-MSC-B handover from GSM to UMTS. In both cases Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

****** NEXT MODIFIED SECTION ******

4.6.5 Processing in MSC-B, and information transfer on E-interface

The handling is described in chapter 4.5.5.

4.6.6~~5~~ Cause Code Mapping

****** NEXT MODIFIED SECTION ******

4.7.5.6 Selected UMTS Algorithm

A sequence of possible encryption and integrity protection algorithms, received from the 3G_MSC-A, can be sent to an RNS in Relocation Request or in Security Mode Command in case of cipher mode setting after inter-MSC handover from GSM to UMTS. The RNS chooses one of the listed algorithms and reports this back to the 3G_MSC in Relocation Request Acknowledge or Security Mode Complete respectively. The MSC-B provides the Selected UMTS algorithm information to the MSC-A. The Selected UMTS algorithms IE in the MAP Process Access Signalling Request and MAP Prepare Handover Response messages refers to the Chosen Integrity Protection Algorithm and Chosen Encryption Algorithm, defined in RANAP specification 3GPP TS 25.413

The selected algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

If Ciphering has been performed before Inter-MSC Handover, Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Prepare Handover Response MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover, Selected UMTS algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **021** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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:	⌘	Addition of selected GSM algorithm indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	2.5.2001
Category:	⌘	**F** (Agreed by consensus)
Release:	⌘	R99

Use one of the following categories:
F *(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 principle of the inter-MSC handover is that MSC-A is aware what security algorithm is used in MSC-B.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-A does not know what algorithm MSC-B has chosen or in the worst case whether the connection is ciphered at all.

Clauses affected:	⌘	4.8.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.009 CR 025, 29.002 CR 243
Other comments:	⌘			

4.8.5.5 Selected GSM Algorithm

After inter-MSC relocation, the 3G_MSC-B can perform intra-MSC UMTS to GSM handover. A sequence of possible encryption algorithms, received from the 3G_MSC-A, can be sent to an BSS in Handover Request or in Cipher Mode Command in case of cipher mode setting after intra.MSC-B handover from UMTS to GSM. The BSS chooses one of the listed algorithms and reports this back to the 3G_MSC in Handover Request Acknowledge or Cipher Mode Complete respectively. The MSC-B provides the Selected GSM algorithm information to the MSC-A. The Selected GSM algorithms IE in the MAP Process Access Signalling Request message refers to the Algorithm identifier octet in the Chosen Encryption Algorithm GSM information.

The chosen algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Relocation, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Relocation.

If Ciphering has been performed before Inter-MSC Relocation, Selected GSM algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Handover Performed BSSMAP message.

If Ciphering has NOT been performed before Intra-MSC-B handover from UMTS to GSM after Inter-MSC Relocation, Selected GSM algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **022** ⌘ rev ⌘ 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:	⌘	Addition of selected GSM algorithm indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	2.5.2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(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 principle of the inter-MSC handover is that MSC-A is aware what security algorithm is used in MSC-B.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-A does not know what algorithm MSC-B has chosen or in the worst case whether the connection is ciphered at all.

Clauses affected:	⌘	4.8.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.009 CR 027, 29.002 CR 245
Other comments:	⌘			

4.8.5.5 Selected GSM Algorithm

After inter-MSC relocation, the 3G_MSC-B can perform intra-MSC UMTS to GSM handover. A sequence of possible encryption algorithms, received from the 3G_MSC-A, can be sent to an BSS in Handover Request or in Cipher Mode Command in case of cipher mode setting after intra.MSC-B handover from UMTS to GSM. The BSS chooses one of the listed algorithms and reports this back to the 3G_MSC in Handover Request Acknowledge or Cipher Mode Complete respectively. The MSC-B provides the Selected GSM algorithm information to the MSC-A. The Selected GSM algorithms IE in the MAP Process Access Signalling Request message refers to the Algorithm identifier octet in the Chosen Encryption Algorithm GSM information.

The chosen algorithm shall be stored by 3G_MSC-B, and sent to 3G_MSC-A.

Transfer of Information:

If ciphering has not been performed before Inter-MSC Relocation, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Relocation.

If Ciphering has been performed before Inter-MSC Relocation, Selected GSM algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Handover Performed BSSMAP message.

If Ciphering has NOT been performed before Intra-MSC-B handover from UMTS to GSM after Inter-MSC Relocation, Selected GSM algorithm information is received by 3G_MSC-A from 3G_MSC-B in:

– The Process Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **023** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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:	⌘	Addition of allowed UMTS algorithms indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	4.5.2001
Category:	⌘	**F** (Essential correction)
Release:	⌘	R99

Use one of the following categories:
F *(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:	⌘	During the basic handover MSC-A shall inform MSC-B about what UMTS algorithms are allowed in MSC-B. This indication is missing from 29.002 in case the user has GSM SIM.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-B can not make Intra-MSC intersystem handover from GSM to UMTS for GSM subscriber.

Clauses affected:	⌘	4.5.5, 4.6, 4.7.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.002 CR 242
Other comments:	⌘			

4.5.5 Processing in MSC-B, and information transfer on E-interface

The following parameters require processing (e.g. to store the parameter, to internally generate the parameter) in MSC-B. The relevant BSSMAP procedures are mentioned to ease the comprehension, their detailed description is the scope of GSM 08.08. Each BSSMAP message listed in GSM 09.08 being transferred on E-interface shall use the mechanisms given in subclause 4.5.4 and is described in GSM 08.08.

In case of intra-MSC-B handover/relocation and security interworking , after inter-MSC handover from GSM to GSM, the 3G_MSC-B needs additional information to be able to perform security mode and integrity protection procedures. These RANAP informations are transferred between MSC-A and 3G-MSC-B in MAP messages, defined in 3GPP TS 29.002.

****** NEXT MODIFIED SECTION ******

4.5.5.8 Allowed UMTS Algorithms

In case of GSM-subscriber, the Integrity Protection Information and UMTS Encryption Information are not transferred to the MSC-B during inter-MSC handover. Allowed UMTS algorithms is UMTS information that is required in RANAP Relocation Request and RANAP Security Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC GSM to UMTS handover and in subsequent security mode setting, after an inter-MSC handover. Therefore 3G_MSC-A must provide this information in case of an inter-MSC GSM to GSM handover. The Allowed UMTS algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Permitted Integrity Protection Algorithms in Integrity Protection Information and Permitted Encryption Algorithms in Encryption Information, defined in RANAP specification 3GPP TS 25.413.

Allowed UMTS algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Handover:

- The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover:

- The Forward Access Signalling Request MAP message.

****** NEXT MODIFIED SECTION ******

4.6.5 Processing in MSC-B, and information transfer on E-interface

The handling is described in chapter 4.5.5.

4.6.6~~5~~ Cause Code Mapping

****** NEXT MODIFIED SECTION ******

4.7.5.6 Allowed UMTS Algorithms

In case of GSM-subscriber, the Integrity Protection Information and UMTS Encryption Information are not transferred to the MSC-B during inter-MSC handover from GSM to UMTS. Allowed UMTS algorithms is UMTS information that is required in RANAP Relocation Request and RANAP Security Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an inter-MSC GSM to UMTS handover and in subsequent security mode setting, after an inter-MSC GSM to UMTS handover. Therefore 3G_MSC-A must provide this information in case of an inter-MSC GSM to UMTS handover. The Allowed UMTS algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Permitted Integrity Protection Algorithms in Integrity Protection Information and Permitted Encryption Algorithms in Encryption Information, defined in RANAP specification 3GPP TS 25.413.

Allowed UMTS algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Handover:

- The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover:

- The Forward Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **024** ⌘ rev ⌘ 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:	⌘	Addition of allowed UMTS algorithms indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	4.5.2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(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:	⌘	During the basic handover MSC-A shall inform MSC-B about what UMTS algorithms are allowed in MSC-B. This indication is missing from 29.002 in case the user has GSM SIM.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-B can not make Intra-MSC intersystem handover from GSM to UMTS for GSM subscriber.

Clauses affected:	⌘	4.5.5, 4.6, 4.7.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.002 CR 244
Other comments:	⌘			

4.5.5 Processing in MSC-B, and information transfer on E-interface

The following parameters require processing (e.g. to store the parameter, to internally generate the parameter) in MSC-B. The relevant BSSMAP procedures are mentioned to ease the comprehension, their detailed description is the scope of GSM 08.08. Each BSSMAP message listed in GSM 09.08 being transferred on E-interface shall use the mechanisms given in subclause 4.5.4 and is described in GSM 08.08.

In case of intra-MSC-B handover/relocation and security interworking , after inter-MSC handover from GSM to GSM, the 3G_MSC-B needs additional information to be able to perform security mode and integrity protection procedures. These RANAP informations are transferred between MSC-A and 3G-MSC-B in MAP messages, defined in 3GPP TS 29.002.

****** NEXT MODIFIED SECTION ******

4.5.5.8 Allowed UMTS Algorithms

In case of GSM-subscriber, the Integrity Protection Information and UMTS Encryption Information are not transferred to the MSC-B during inter-MSC handover. Allowed UMTS algorithms is UMTS information that is required in RANAP Relocation Request and RANAP Security Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC GSM to UMTS handover and in subsequent security mode setting, after an inter-MSC handover. Therefore 3G_MSC-A must provide this information in case of an inter-MSC GSM to GSM handover. The Allowed UMTS algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Permitted Integrity Protection Algorithms in Integrity Protection Information and Permitted Encryption Algorithms in Encryption Information, defined in RANAP specification 3GPP TS 25.413.

Allowed UMTS algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Handover:

- The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover:

- The Forward Access Signalling Request MAP message.

****** NEXT MODIFIED SECTION ******

4.6.5 Processing in MSC-B, and information transfer on E-interface

The handling is described in chapter 4.5.5.

4.6.6~~5~~ Cause Code Mapping

****** NEXT MODIFIED SECTION ******

4.7.5.6 Allowed UMTS Algorithms

In case of GSM-subscriber, the Integrity Protection Information and UMTS Encryption Information are not transferred to the MSC-B during inter-MSC handover from GSM to UMTS. Allowed UMTS algorithms is UMTS information that is required in RANAP Relocation Request and RANAP Security Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an inter-MSC GSM to UMTS handover and in subsequent security mode setting, after an inter-MSC GSM to UMTS handover. Therefore 3G_MSC-A must provide this information in case of an inter-MSC GSM to UMTS handover. The Allowed UMTS algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Permitted Integrity Protection Algorithms in Integrity Protection Information and Permitted Encryption Algorithms in Encryption Information, defined in RANAP specification 3GPP TS 25.413.

Allowed UMTS algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Handover, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Handover.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Handover:

- The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Handover:

- The Forward Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **025** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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:	⌘	Addition of allowed GSM algorithms indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	4.5.2001
Category:	⌘	**F** (Essential Correction)
Release:	⌘	R99

Use one of the following categories:
F *(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:	⌘	During the basic UMTS-UMTS relocation MSC-A shall inform MSC-B about what GSM algorithms are allowed in MSC-B. This information is needed if there is further Intra-MSC Intersystem handover in MSC-B from UMTS to GSM. This way the MSC-B knows what GSM algorithms are allowed to use. This indication is missing from 29.002.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-B can not make Intra-MSC Intersystem handover from UMTS to GSM.

Clauses affected:	⌘	4.8.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.002 CR 226
Other comments:	⌘			

4.8.5.5 Allowed GSM Algorithms

Allowed GSM algorithms is GSM information that is required in BSSMAP Handover Request and BSSMAP Cipher Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC UMTS to GSM handover and in subsequent ciphering mode setting, after an inter-MSC relocation. Therefore 3G_MSC-A must provide this information in case of an inter-MSC relocation. The Allowed GSM algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Algorithm identifier octet in the Permitted Algorithms GSM information.

Allowed GSM algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Relocation, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Relocation.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Relocation:

– The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Relocation:

– The Forward Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **026** ⌘ rev ⌘ 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:	⌘	Addition of allowed GSM algorithms indication to the handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	4.5.2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(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:	⌘	During the basic UMTS-UMTS relocation MSC-A shall inform MSC-B about what GSM algorithms are allowed in MSC-B. This information is needed if there is further Intra-MSC Intersystem handover in MSC-B from UMTS to GSM. This way the MSC-B knows what GSM algorithms are allowed to use. This indication is missing from 29.002.
Summary of change:	⌘	
Consequences if not approved:	⌘	MSC-B can not make Intra-MSC Intersystem handover from UMTS to GSM.

Clauses affected:	⌘	4.8.5		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.002 CR 241
Other comments:	⌘			

4.8.5.5 Allowed GSM Algorithms

Allowed GSM algorithms is GSM information that is required in BSSMAP Handover Request and BSSMAP Cipher Mode Command, and shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC UMTS to GSM handover and in subsequent ciphering mode setting, after an inter-MSC relocation. Therefore 3G_MSC-A must provide this information in case of an inter-MSC relocation. The Allowed GSM algorithms IE in the MAP Prepare Handover and in the MAP Forward Access Signalling Request messages refers to the Algorithm identifier octet in the Permitted Algorithms GSM information.

Allowed GSM algorithms shall be stored by 3G_MSC-B.

Transfer of information:

If ciphering has not been performed before Inter-MSC Relocation, this will be controlled by 3G_MSC-A after the completion of Inter-MSC Relocation.

Ciphering control towards 3G_MSC-B:

If Ciphering has been performed before Inter-MSC Relocation:

– The Prepare Handover Request MAP message.

If Ciphering has NOT been performed before Inter-MSC Relocation:

– The Forward Access Signalling Request MAP message.

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CHANGE REQUEST

⌘ **29.010** **CR** **027** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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: ⌘	Addition of GSM channel type and GSM chosen channel indications to handover procedures	
Source: ⌘	CN4	
Work item code: ⌘	Handover	***Date:*** ⌘ 4.5.2001
Category: ⌘	**F** (Essential Correction)	***Release:*** ⌘ R99

Use one of the following categories:
F *(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 type and GSM chosen channel and/or speech version indications are needed for correct handling of Support for Dual Services and enquiry calls in the context of Call Hold after UMTS to GSM intersystem handover. The parameters are needed in following cases: (1) GSM Channel Type (Radio Resource Information) to MAP Forward Access Signalling Request in the case that the encapsulated PDU is RANAP RAB Assignment Request (2) GSM Chosen Channel and/or speech version (Chosen Radio Resource Information) to MAP Process Access Signalling Request in the case that the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access (3) GSM Chosen Channel and/or speech version (Chosen Radio Resource Information) to MAP Prepare Handover Response in the case that the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access
Summary of change: ⌘	
Consequences if not approved: ⌘	Support for Dual Services feature and enquiry calls in the context of Call Hold supplementary service will not be available after UMTS to GSM intersystem handover

Clauses affected: ⌘	4.8.5	
Other specs ⌘	☒ Other core specifications	⌘ 29.002 CR 255

affected:	☐ Test specifications ☐ O&M Specifications	
Other comments:	⌘	

4.8.5.4 Channel Type

Channel Type is GSM information that is required in BSSMAP Handover Request and BSSMAP Assignment Request, and it shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC UMTS to GSM handover after an inter-MSC relocation and subsequent assignment procedures. The Channel Type derived from the Bearer Capability that is available in 3G_MSC-A. This mapping is described in 3GPP TS 27.001. Therefore 3G_MSC-A must provide this information in case of an inter-MSC relocation. The Radio Resource Information IE in the MAP Prepare Handover message refers to the Channel Type GSM information.

Channel Type shall be stored by 3G_MSC-B.

Transfer of information:

Received by 3G_MSC-B from 3G_MSC-A in:

- The Prepare Handover Request MAP message.
- The Forward Access Signalling Request message

4.8.5.5 Chosen Channel

BSSMAP Assignment Request may give the BSS some freedom in the selection of radio resource (for instance channel rate selection, speech version selection etc.). Chosen Channel and/or Speech Version is reported back to 3G_MSC-B in BSSMAP Assignment Complete. The Chosen Radio Resource Information IE in the MAP Prepare Handover Response and Process Access Signalling Request messages refers to the Chosen Channel and/or Speech Version GSM information.

The Channel Type and the characteristics of the chosen channel shall be stored by 3G_MSC-B, and the Chosen Channel and/or Speech Version information elements shall be transferred to MSC-A or 3G_MSC-A.

Transfer of information:

Received by MSC-A or 3G_MSC-A from 3G_MSC-B in:

- The Prepare Handover Response MAP message
- The Process Access Signalling request MAP message

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CHANGE REQUEST

⌘ **29.010** **CR** **028** ⌘ rev ⌘ 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:	⌘	Addition of GSM channel type and GSM chosen channel indications to handover procedures
Source:	⌘	CN4
Work item code:	⌘	Handover
Date:	⌘	4.5.2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(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 type and GSM chosen channel and/or speech version indications are needed for correct handling of Support for Dual Services and enquiry calls in the context of Call Hold after UMTS to GSM intersystem handover. The parameters are needed in following cases:

(1) GSM Channel Type (Radio Resource Information) to MAP Forward Access Signalling Request in the case that the encapsulated PDU is RANAP RAB Assignment Request
(2) GSM Chosen Channel and/or speech version (Chosen Radio Resource Information) to MAP Process Access Signalling Request in the case that the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access
(3) GSM Chosen Channel and/or speech version (Chosen Radio Resource Information) to MAP Prepare Handover Response in the case that the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access

Summary of change: ⌘

Consequences if not approved: ⌘ Support for Dual Services feature and enquiry calls in the context of Call Hold supplementary service will not be available after UMTS to GSM intersystem handover

Clauses affected: ⌘ 4.8.5

Other specs ⌘ ☒ Other core specifications ⌘ 29.002 CR 256

affected:	☐ Test specifications ☐ O&M Specifications	
Other comments:	⌘	

4.8.5.4 Channel Type

Channel Type is GSM information that is required in BSSMAP Handover Request and BSSMAP Assignment Request, and it shall be provided by 3G_MSC-A. 3G_MSC-B needs this information in case of an intra-MSC UMTS to GSM handover after an inter-MSC relocation and subsequent assignment procedures. The Channel Type derived from the Bearer Capability that is available in 3G_MSC-A. This mapping is described in 3GPP TS 27.001. Therefore 3G_MSC-A must provide this information in case of an inter-MSC relocation. The Radio Resource Information IE in the MAP Prepare Handover message refers to the Channel Type GSM information.

Channel Type shall be stored by 3G_MSC-B.

Transfer of information:

Received by 3G_MSC-B from 3G_MSC-A in:

- The Prepare Handover Request MAP message.
- The Forward Access Signalling Request message

4.8.5.5 Chosen Channel

BSSMAP Assignment Request may give the BSS some freedom in the selection of radio resource (for instance channel rate selection, speech version selection etc.). Chosen Channel and/or Speech Version is reported back to 3G_MSC-B in BSSMAP Assignment Complete. The Chosen Radio Resource Information IE in the MAP Prepare Handover Response and Process Access Signalling Request messages refers to the Chosen Channel and/or Speech Version GSM information.

The Channel Type and the characteristics of the chosen channel shall be stored by 3G_MSC-B, and the Chosen Channel and/or Speech Version information elements shall be transferred to MSC-A or 3G_MSC-A.

Transfer of information:

Received by MSC-A or 3G_MSC-A from 3G_MSC-B in:

- The Prepare Handover Response MAP message
- The Process Access Signalling request MAP message