

Source: TSG CN WG 3
Title: CRs to Rel-4 (with mirror CRs) Work Item "BICSN"
Agenda item: 7.8
Document for: APPROVAL

Introduction:

This document contains 4 CRs on **Rel-4 (including mirror CRs)** Work Item "BICSN", that have been agreed by **TSG CN WG3**, and are forwarded to TSG CN Plenary meeting #17 for approval.

Doc-2nd-	Spec	CR	Rev	Subject	Cat	Phase	Version-	Workitem
N3-020665	23.910	040	-	Handling of CSD calls and Inter-MSC Relocation	F	Rel-4	4.4.0	BICSN
N3-020694	23.910	041	-	Handling of CSD calls and Inter-MSC Relocation	A	Rel-5	5.0.0	BICSN
N3-020664	29.007	054	1	Handling of CSD calls and Inter-MSC Relocation	F	Rel-4	4.4.0	BICSN
N3-020693	29.007	055	1	Handling of CSD calls and Inter-MSC Relocation	A	Rel-5	5.2.0	BICSN

CR-Form-v7

CHANGE REQUEST

29.007 CR 054 # rev 1 # Current version: 4.4.0

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Handling of CSD calls and Inter-MSC Relocation		
Source:	# TSG_CN WG3		
Work item code:	# BICSN	Date:	# 03/07/02
Category:	# F	Release:	# REL-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# CSD Calls cannot be supported for Inter-MSC handover as it is not possible to indicate how to configure the Nb mode, nor can it be determined at the MAP signalling phase if the call will go via any interim nodes which may or may not be TDM. Therefore the existing text in 29.007 describing how NbUP shall be handled for ATM/IP networks cannot be followed.
Summary of change:	# For Inter-MSC handovers it shall be assumed that TDM may exist in the connection and therefore only the procedures for the TDM case shall apply. For NbUP this shall be transported within a 64k SDU as for PCM.
Consequences if not approved:	# Interim nodes may configure the NbUP incorrectly and Inter-MSC handover of CSD calls may fail.

Clauses affected:	# 11.3, 11.5						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Y	N	X		Other core specifications	# TS 29.232 cr043 TS 23.910 cr040
Y	N						
X							
		Test specifications					
		O&M Specifications					
Other comments:	#						

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

11.3 Handover within Iu mode PLMNs

After a handover from an Iu mode MSC to another Iu mode MSC the user plane between the anchor MSC or MGW and the visited MSC or MGW shall comply to:

- the Iu UP protocol if both MSC are connected via an ATM interface;
- the A-TRAU' protocol if both MSCs are connected via a TDM interface except for the transparent case FNUR = 32 kbit/s (ITC = UDI or RDI), FNUR = 56 kbit/s (ITC=RDI) and FNUR = 64 kbit/s (ITC=UDI). For these exceptions a plain 64 kbit/s channel is used between the MSCs. The rate adaptation between 64 kbit/s and 32 kbit/s is based on ITU-T I.460 [2].
- the Nb UP protocol if both MGWs are connected via an ATM interface or IP interface. The NbUP shall be configured in support mode, the data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied. This is needed for the framing to be handled the same for all transports but the Frame Quality Classification control shall be ignored (3GUP property Delivery Of Erroneous SDUs = yes) and therefore interim nodes shall only pass on the CRC. The data is encoded between MSC-B/MGW-B (non-Anchor) and MSC-A/MGW-A (Anchor) as for the TDM case (A-TRAU' protocol or plain 64kbit/s).

11.5 Transport within the Core Network

The Nb UP protocol is used to transport user data in the Core Network, see 3GPP TS 29.415 [80]. Figure 16 below shows different cases to consider:

1. Transport on the access side of the IWF
2. Transport beyond the IWF, i.e., between the IWF and the fixed network

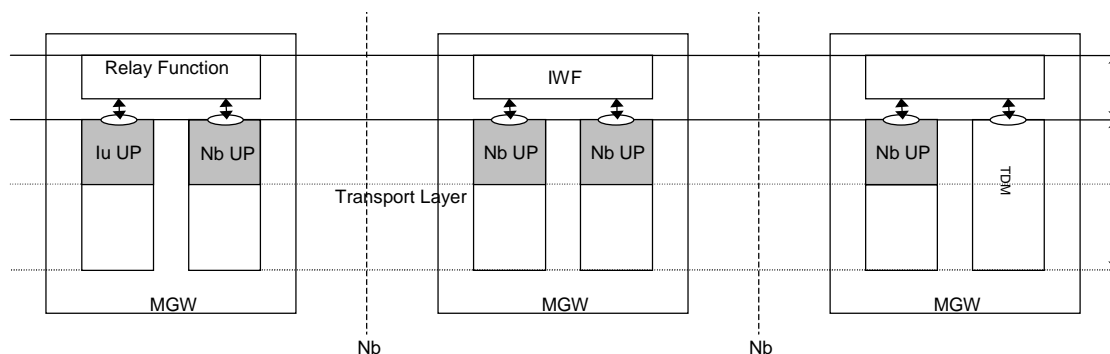


Figure 16: Transport of data within the Core Network

11.5.1 Transport on the access side of the IWF

This section is applicable in cases where the IWF is not interfacing an Iu UP layer protocol entity, ~~as a result of, e.g., at handover, with the exception of Inter-MSC Relocation – see 11.5.3.~~

11.5.1.1 Non-transparent case

The Nb UP is used in support mode. The same SDU sizes and transmission intervals that are used on the Iu interface are used over the Nb interface, see 3GPP TR 23.910 [53] and 3GPP TS 27.001 [43]. A Relay Function (see 3GPP TS 29.232 [82]) is used to relay the user data and control information (such as rate control) in MGWs between the MGW where the IWF is residing and the Iu interface.

11.5.1.2 Transparent case

The Nb UP is used in transparent mode. The same SDU sizes and transmission intervals that are used on the Iu interface are used over the Nb interface, see 3GPP TR 23.910 [53] and 3GPP TS 27.001 [43]. The PDUs are passed unmodified through all MGWs between the MGW where the IWF is residing and the Iu interface.

11.5.2 Transport beyond the IWF

11.5.2.1 UDI and RDI

The data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied.

At the border between the CN and the fixed (ISDN) network, conversion between Nb UP and TDM shall be applied. In case of RDI interworking, the 56 kbit/s RDI bit stream is transmitted within the CN as 64 kbit/s bit stream where the last bit of each octet is ignored. For this reason the octet alignment shall be preserved in the SDUs transported in the CN.

11.5.2.2 Modem

The modem signals are PCM encoded and transported on a 64 kbit/s bit stream. The transmission is otherwise identical to the UDI/RDI case, see Section 11.5.2.1

11.5.3 Transport between Anchor MGW and Non-Anchor MGW

The Nb UP is used in support mode; all interim Server nodes are assumed not to be aware of the relocation case – i.e. receive BICC IAM with same information as for connections beyond the IWF (clause 11.5.2). Figure 17 indicates the relevant connections, where MSC-A/MGW-A are the Anchor nodes and MSC-B/MGW-B are the Non-Anchor nodes.

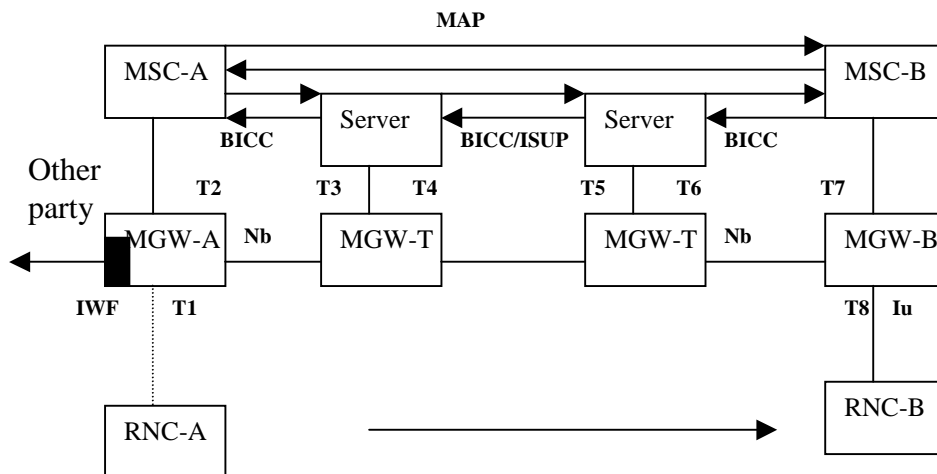


Figure 17: Bearer Independent connections for Inter-MSC SRNS Relocation

The IuUP shall be initialised on each Nb leg in a forward direction (regardless if Forward Bearer or Backward Bearer procedures are used), i.e. in the direction of the IAM. For further details see TS 23.205 [83]

11.5.3.1 Non-Transparent CSD

Table 14: Non-Transparent CSD MGW Termination Properties For Inter-MSR SRNS Relocation

<u>Termination Packages/Parameters</u>	<u>MSC-A</u>		<u>MSC-B</u>		<u>Intermediate Nodes</u>
	<u>T1</u>	<u>T2</u>	<u>T7</u>	<u>T8</u>	<u>T3, T4, T5, T6</u>
<u>TMR</u>	=	<u>UDI</u>	<u>UDI</u>	=	<u>UDI</u>
<u>threegcsd:plmnb</u>	<u>PLMN_BC</u>	<u>PLMN_BC</u>	=	=	=
<u>threegup:interface</u>	<u>RAN</u>	<u>CN</u>	<u>CN</u>	<u>RAN</u>	<u>CN</u>
<u>threegup:initdir</u>	<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>	<u>IN</u>
<u>threegup:mode</u>	<u>support</u>	<u>support</u>	<u>support</u>	<u>support</u>	<u>support</u>
<u>threegcsde:bitrate</u>	=	=	=	<u>BITRATE</u>	=

11.5.3.2 Transparent CSD

Table 15: Transparent CSD MGW Termination Properties For Inter-MSR SRNS Relocation

<u>Termination Packages/Parameters</u>	<u>MSC-A</u>		<u>MSC-B</u>		<u>Intermediate Nodes</u>
	<u>T1</u>	<u>T2</u>	<u>T7</u>	<u>T8</u>	<u>T3, T4, T5, T6</u>
<u>TMR</u>	=	<u>UDI</u>	<u>UDI</u>	=	<u>UDI</u>
<u>threegcsd:plmnb</u>	=	=	=	=	=
<u>threegup:interface</u>	<u>RAN</u>	<u>CN</u>	<u>CN</u>	<u>RAN</u>	<u>CN</u>
<u>threegup:mode</u>	<u>transparent</u>	<u>support</u>	<u>support</u>	<u>transparent</u>	<u>support</u>
<u>threegup:initdir</u>	=	<u>OUT</u>	<u>IN</u>	=	<u>IN</u>
<u>threegcsden:bitrate</u>	=	=	=	<u>BITRATE</u> (note+ 1)	=

Note 1: This is optional for the case when rate is 64kb/s then no rate adaptation is required.

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CHANGE REQUEST

23.910 CR 040 # rev **-** # Current version: **4.4.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Handling of CSD calls and Inter-MSC Relocation		
Source:	# TSG_CN WG3		
Work item code:	# BICSN	Date:	# 03/07/02
Category:	# F	Release:	# REL-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# CSD Calls cannot be supported for Inter-MSC handover as it is not possible to indicate how to configure the Nb mode, nor can it be determined at the MAP signalling phase if the call will go via any interim nodes which may or may not be TDM. Therefore the existing text describing how NbUP shall be handled for ATM/IP networks cannot be followed.
Summary of change:	# For Inter-MSC handovers it shall be assumed that TDM may exist in the connection and therefore only the procedures for the TDM case shall apply. For NbUP this shall be transported within a 64k SDU as for PCM.
Consequences if not approved:	# Interim nodes may configure the NbUP incorrectly and Inter-MSC handover of CSD calls may fail.

Clauses affected:	# 10.2.3,						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Y	N	X		Other core specifications	# TS 29.232 cr043 TS 29.007 cr054
Y	N						
X							
		Test specifications					
		O&M Specifications					
Other comments:	# 11.3, 11.5						

How to create CRs using this form:

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

10.2.3 Handover within 3G PLMNs

After a handover from a 3G MSC to another 3G MSC the user plane between the anchor MSC or MGW and the visited MSC or MGW shall comply to

- the Iu UP protocol if both MSC are connected via an ATM interface.
- the A-TRAU' protocol if both MSC are connected via a TDM interface except for the transparent cases FNUR = 32 kbit/s (ITC = UDI), FNUR = 56 kbit/s (ITC=RDI) and FNUR = 64 kbit/s (ITC=UDI). For these exceptions a plain 64 kbit/s channel is used between the MSCs. The rate adaptation between 64kbit/s and 32kbit/s is based on ITU-T I.460.
- the Nb UP protocol if both MGWs are connected via an ATM interface or IP interface. The NbUP shall be configured in support mode, the data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied. This is needed for the framing to be handled the same for all transports but the Frame Quality Classification control shall be ignored (3GUP property Delivery Of Erroneous SDUs = yes) and therefore interim nodes shall only pass on the CRC. The data is encoded between MSC-B/MGW-B (non-Anchor) and MSC-A/MGW-A (Anchor) as for the TDM case (A-TRAU' protocol or plain 64kbits/s).

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CHANGE REQUEST

29.007 CR 055 # rev **1** # Current version: **5.2.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Handling of CSD calls and Inter-MSC Relocation		
Source:	# TSG_CN WG3		
Work item code:	# CSSPLIT	Date:	# 03/07/02
Category:	# A	Release:	# REL-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
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			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# CSD Calls cannot be supported for Inter-MSC handover as it is not possible to indicate how to configure the Nb mode, nor can it be determined at the MAP signalling phase if the call will go via any interim nodes which may or may not be TDM. Therefore the existing text in 29.007 describing how NbUP shall be handled for ATM/IP networks cannot be followed.
Summary of change:	# For Inter-MSC handovers it shall be assumed that TDM may exist in the connection and therefore only the procedures for the TDM case shall apply. For NbUP this shall be transported within a 64k SDU as for PCM.
Consequences if not approved:	# Interim nodes may configure the NbUP incorrectly and Inter-MSC handover of CSD calls may fail.

Clauses affected:	# 11.3, 11.5										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# TS 29.232 cr044
Y	N										
X											
	X										
	X										
		Test specifications	# TS 23.910 cr ?								
		O&M Specifications									
Other comments:	#										

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11.3 Handover within Iu mode PLMNs

After a handover from an Iu mode MSC to another Iu mode MSC the user plane between the anchor MSC or MGW and the visited MSC or MGW shall comply to:

- the Iu UP protocol if both MSC are connected via an ATM interface;
- the A-TRAU' protocol if both MSCs are connected via a TDM interface except for the transparent case FNUR = 32 kbit/s (ITC = UDI or RDI), FNUR = 56 kbit/s (ITC=RDI) and FNUR = 64 kbit/s (ITC=UDI). For these exceptions a plain 64 kbit/s channel is used between the MSCs. The rate adaptation between 64 kbit/s and 32 kbit/s is based on ITU-T I.460 [2].
- the Nb UP protocol if both MGWs are connected via an ATM interface or IP interface. The NbUP shall be configured in support mode, the data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied. This is needed for the framing to be handled the same for all transports but the Frame Quality Classification control shall be ignored (3GUP property Delivery Of Erroneous SDUs = yes) and therefore interim nodes shall only pass on the CRC. The data is encoded between MSC-B/MGW-B (non-Anchor) and MSC-A/MGW-A (Anchor) as for the TDM case (A-TRAU' protocol or plain 64kbits/s).

11.5 Transport within the Core Network

The Nb UP protocol is used to transport user data in the Core Network, see 3GPP TS 29.415 [80]. Figure 16 below shows different cases to consider:

1. Transport on the access side of the IWF
2. Transport beyond the IWF, i.e., between the IWF and the fixed network

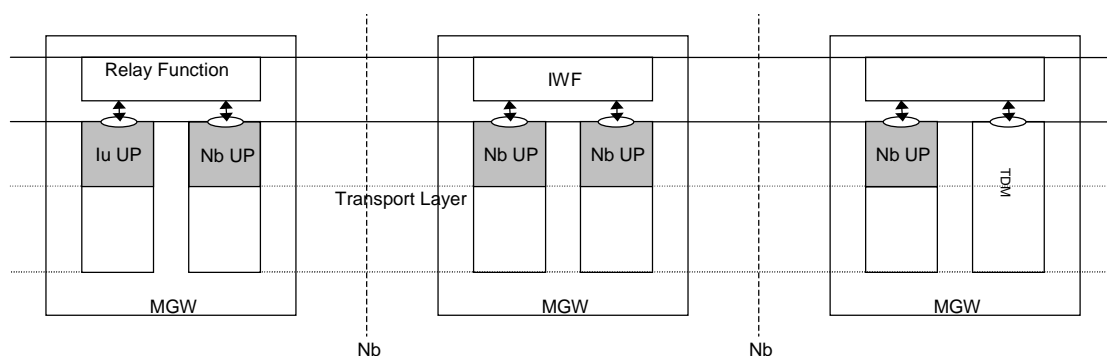


Figure 16: Transport of data within the Core Network

11.5.1 Transport on the access side of the IWF

This section is applicable in cases where the IWF is not interfacing an Iu UP layer protocol entity, ~~as a result of, e.g., at handover, with the exception of Inter-MSC Relocation – see 11.5.3.~~

11.5.1.1 Non-transparent case

The Nb UP is used in support mode. The same SDU sizes and transmission intervals that are used on the Iu interface are used over the Nb interface, see 3GPP TR 23.910 [53] and 3GPP TS 27.001 [43]. A Relay Function (see 3GPP TS 29.232 [82]) is used to relay the user data and control information (such as rate control) in MGWs between the MGW where the IWF is residing and the Iu interface.

11.5.1.2 Transparent case

The Nb UP is used in transparent mode. The same SDU sizes and transmission intervals that are used on the Iu interface are used over the Nb interface, see 3GPP TR 23.910 [53] and 3GPP TS 27.001 [43]. The PDUs are passed unmodified through all MGWs between the MGW where the IWF is residing and the Iu interface.

11.5.2 Transport beyond the IWF

11.5.2.1 UDI and RDI

The data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied.

At the border between the CN and the fixed (ISDN) network, conversion between Nb UP and TDM shall be applied. In case of RDI interworking, the 56 kbit/s RDI bit stream is transmitted within the CN as 64 kbit/s bit stream where the last bit of each octet is ignored. For this reason the octet alignment shall be preserved in the SDUs transported in the CN.

11.5.2.2 Modem

The modem signals are PCM encoded and transported on a 64 kbit/s bit stream. The transmission is otherwise identical to the UDI/RDI case, see Section 11.5.2.1

11.5.3 Transport between Anchor MGW and Non-Anchor MGW

The Nb UP is used in support mode; all interim Server nodes are assumed not to be aware of the relocation case – i.e. receive BICC IAM with same information as for connections beyond the IWF (clause 11.5.2). Figure 17 indicates the relevant connections, where MSC-A/MGW-A are the Anchor nodes and MSC-B/MGW-B are the Non-Anchor nodes.

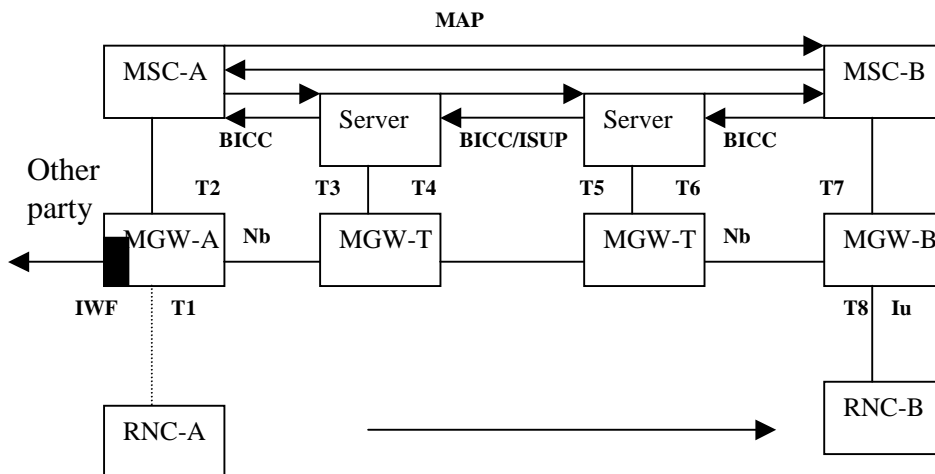


Figure 17: Bearer Independent connections for Inter-MSC SRNS Relocation

The IuUP shall be initialised on each Nb leg in a forward direction (regardless if Forward Bearer or Backward Bearer procedures are used), i.e. in the direction of the IAM. For further details see TS 23.205 [83]

11.5.3.1 Non-Transparent CSD

Table 14: Non-Transparent CSD MGW Termination Properties For Inter-MSC SRNS Relocation

<u>Termination Packages/Parameters</u>	<u>MSC-A</u>		<u>MSC-B</u>		<u>Intermediate Nodes</u>
	<u>T1</u>	<u>T2</u>	<u>T7</u>	<u>T8</u>	<u>T3, T4, T5, T6</u>
<u>TMR</u>	=	<u>UDI</u>	<u>UDI</u>	=	<u>UDI</u>
<u>threegcsd:plmnb</u>	<u>PLMN_BC</u>	<u>PLMN_BC</u>	=	=	=
<u>threegup:interface</u>	<u>RAN</u>	<u>CN</u>	<u>CN</u>	<u>RAN</u>	<u>CN</u>
<u>threegup:initdir</u>	<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>	<u>IN</u>
<u>threegup:mode</u>	<u>support</u>	<u>support</u>	<u>support</u>	<u>support</u>	<u>support</u>
<u>threegcsde:bitrate</u>	=	=	=	<u>BITRATE</u>	=

11.5.3.2 Transparent CSD

Table 15: Transparent CSD MGW Termination Properties For Inter-MSC SRNS Relocation

<u>Termination Packages/Parameters</u>	<u>MSC-A</u>		<u>MSC-B</u>		<u>Intermediate Nodes</u>
	<u>T1</u>	<u>T2</u>	<u>T7</u>	<u>T8</u>	<u>T3, T4, T5, T6</u>
<u>TMR</u>	=	<u>UDI</u>	<u>UDI</u>	=	<u>UDI</u>
<u>threegcsd:plmnb</u>	=	=	=	=	=
<u>threegup:interface</u>	<u>RAN</u>	<u>CN</u>	<u>CN</u>	<u>RAN</u>	<u>CN</u>
<u>threegup:mode</u>	<u>transparent</u>	<u>support</u>	<u>support</u>	<u>transparent</u>	<u>support</u>
<u>threegup:initdir</u>	=	<u>OUT</u>	<u>IN</u>	=	<u>IN</u>
<u>threegcsden:bitrate</u>	=	=	=	<u>BITRATE</u> (note 1 1)	=

Note 1: This is optional for the case when rate is 64kb/s then no rate adaptation is required.

CR-Form-v7

CHANGE REQUEST

23.910 CR 041 # rev **-** # Current version: **5.0.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Handling of CSD calls and Inter-MSC Relocation		
Source:	# TSG_CN WG3		
Work item code:	# CSSPLIT	Date:	# 03/07/02
Category:	# A	Release:	# REL-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	# CSD Calls cannot be supported for Inter-MSC handover as it is not possible to indicate how to configure the Nb mode, nor can it be determined at the MAP signalling phase if the call will go via any interim nodes which may or may not be TDM. Therefore the existing text describing how NbUP shall be handled for ATM/IP networks cannot be followed.
Summary of change:	# For Inter-MSC handovers it shall be assumed that TDM may exist in the connection and therefore only the procedures for the TDM case shall apply. For NbUP this shall be transported within a 64k SDU as for PCM.
Consequences if not approved:	# Interim nodes may configure the NbUP incorrectly and Inter-MSC handover of CSD calls may fail.

Clauses affected:	# 10.2.3,						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Y	N	X		Other core specifications	# TS 29.232 cr044 TS 29.007 cr055
Y	N						
X							
		Test specifications					
		O&M Specifications					
Other comments:	#						

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

10.2.3 Handover within 3G PLMNs

After a handover from a 3G MSC to another 3G MSC the user plane between the anchor MSC or MGW and the visited MSC or MGW shall comply to

- the Iu UP protocol if both MSC are connected via an ATM interface.
- the A-TRAU' protocol if both MSC are connected via a TDM interface except for the transparent cases FNUR = 32 kbit/s (ITC = UDI), FNUR = 56 kbit/s (ITC=RDI) and FNUR = 64 kbit/s (ITC=UDI). For these exceptions a plain 64 kbit/s channel is used between the MSCs. The rate adaptation between 64kbit/s and 32kbit/s is based on ITU-T I.460.
- the Nb UP protocol if both MGWs are connected via an ATM interface or IP interface. The NbUP shall be configured in support mode, the data is transported in a 64 kbit/s bit stream, formatted in SDUs of 40 octets and transmitted every 5 ms, in accordance with Annex P of ITU-T I.366.2 [81]. PDU type 0 is used, i.e., payload CRC is applied. This is needed for the framing to be handled the same for all transports but the Frame Quality Classification control shall be ignored (3GUP property Delivery Of Erroneous SDUs = yes) and therefore interim nodes shall only pass on the CRC. The data is encoded between MSC-B/MGW-B (non-Anchor) and MSC-A/MGW-A (Anchor) as for the TDM case (A-TRAU' protocol or plain 64kbits/s).