

3GPP TSG CN Plenary Meeting #26
8th – 10th December 2004 Athens, Greece.

NP-040522

Source: TSG CN WG4
Title: Corrections on Supplementary Services TEI4
Agenda item: 7.11
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level N4-040	Phase	Subject	Cat	Ver_C
24.080	040	1	1664	Rel-4	Sequence numbering for SS via PS	F	4.3.1
24.080	041	1	1665	Rel-5	Sequence numbering for SS via PS	A	5.4.0
24.080	042	1	1666	Rel-6	Sequence numbering for SS via PS	A	6.1.0

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.080 CR 040** ⌘ rev **1** ⌘ Current version: **4.3.1** ⌘

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

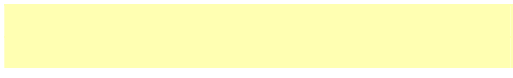
Title:	⌘ Sequence numbering for SS via PS		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 18/11/2004
Category:	⌘ F	Release:	⌘ Rel-4
	<i>Use <u>one</u> of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use <u>one</u> of the following releases:</i> Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change:	⌘ Essential Correction From Rel-4 onwards the SS protocol can be used also in the PS domain. In the CS domain the "Sequenced message transfer operation" is used for SS. If SS is used in the PS domain, it is not clear how the "Sequenced message transfer operation" should be used. One possible interpretation is that the same send sequence instance used for MM, CC and SS in the CS domain is also used for SS in the PS domain. But with this definition, there is the risk that the send sequence numbering during a CS call is affected by a parallel SS transaction via the PS domain and that as result the MSC will ignore the next CC uplink message erroneously.
Summary of change:	⌘ It is clarified, that a SS transaction via the PS domain does not use the layer 3 sequence numbering and thus does not impact the sequence numbering of the MM, CC and SS protocol in the CS domain.
Consequences if not approved:	⌘ Risk that in case of a CC transaction in parallel to an SS transaction via PS domain a CC or MM message will be ignored by the MSC although the message is not a duplication due to handover.

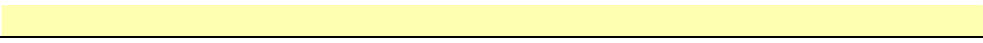
Clauses affected:	⌘ 3.4						
Other specs	⌘ <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">Y</td><td style="text-align: center;">N</td></tr><tr><td style="text-align: center;">X</td><td style="text-align: center;"></td></tr></table> Other core specifications	Y	N	X		⌘ CR 24.007 068	
Y	N						
X							

affected:

<input checked="" type="checkbox"/>	Test specifications
<input checked="" type="checkbox"/>	O&M Specifications



Other comments: ☞



3.4 Message type

The message type IE and its use are defined in TS 24.007. Table 3.1 defines the value part of the message type IE used in the supplementary service protocol.

Table 3.1: Message types

8	7	6	5	4	3	2	1	Message types
x	x	1	0	.	.	.	.	Clearing messages: - RELEASE COMPLETE
				1	0	1	0	
x	x	1	1	.	.	.	.	Miscellaneous message group: - FACILITY - REGISTER
				1	0	1	0	
				1	0	1	1	

For messages transmitted via CS domain the following applies:

- When the radio connection started with a core network node of earlier than R99, bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number in messages sent from the mobile station. In messages sent from the network, bits 7 and 8 are coded with a "0". See [3GPP TS 24.007\[4\]](#).
- When the radio connection started with a core network node of R'99 or later, bits 7 and 8 are reserved for the send sequence number in messages sent from the mobile station. In messages sent from the network, bits 7 and 8 are coded with a "0". See [3GPP TS 24.007\[4\]](#).

For messages transmitted via PS domain the following applies:

- No sequence number shall be used. Bits 7 and 8 shall be coded with a "0". See [3GPP TS 24.007\[4\]](#). If a sequence number is received on the network side it shall be ignored.

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.080 CR 041** ⌘ rev **1** ⌘ Current version: **5.4.0** ⌘

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

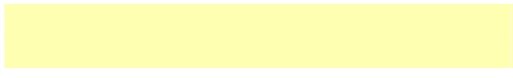
Title:	⌘ Sequence numbering for SS via PS		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 18/11/2004
Category:	⌘ A	Release:	⌘ Rel-5
	<i>Use <u>one</u> of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use <u>one</u> of the following releases:</i> Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change:	⌘ Essential Correction From Rel-4 onwards the SS protocol can be used also in the PS domain. In the CS domain the "Sequenced message transfer operation" is used for SS. If SS is used in the PS domain, it is not clear how the "Sequenced message transfer operation" should be used. One possible interpretation is that the same send sequence instance used for MM, CC and SS in the CS domain is also used for SS in the PS domain. But with this definition, there is the risk that the send sequence numbering during a CS call is affected by a parallel SS transaction via the PS domain and that as result the MSC will ignore the next CC uplink message erroneously.
Summary of change:	⌘ It is clarified, that a SS transaction via the PS domain does not use the layer 3 sequence numbering and thus does not impact the sequence numbering of the MM, CC and SS protocol in the CS domain.
Consequences if not approved:	⌘ Risk that in case of a CC transaction in parallel to an SS transaction via PS domain a CC or MM message will be ignored by the MSC although the message is not a duplication due to handover.

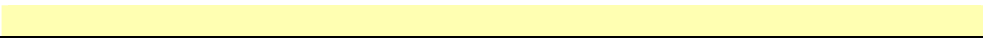
Clauses affected:	⌘ 3.4						
Other specs	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> </table> Other core specifications	Y	N	X		⌘ CR 24.007 069	
Y	N						
X							

affected:

<input checked="" type="checkbox"/>	Test specifications
<input checked="" type="checkbox"/>	O&M Specifications



Other comments: ☞



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				1	0	1	1	

For messages transmitted via CS domain the following applies:

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For messages transmitted via PS domain the following applies:

- No sequence number shall be used. Bits 7 and 8 shall be coded with a "0". See [3GPP TS 24.007 \[4\]](#). If a sequence number is received on the network side it shall be ignored.

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.080 CR 042** ⌘ rev **1** ⌘ Current version: **6.1.0** ⌘

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:	⌘ Sequence numbering for SS via PS		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 18/11/2004
Category:	⌘ A	Release:	⌘ Rel-6
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change:	⌘ From Rel-4 onwards the SS protocol can be used also in the PS domain. In the CS domain the "Sequenced message transfer operation" is used for SS. If SS is used in the PS domain, it is not clear how the "Sequenced message transfer operation" should be used. One possible interpretation is that the same send sequence instance used for MM, CC and SS in the CS domain is also used for SS in the PS domain. But with this definition, there is the risk that the send sequence numbering during a CS call is affected by a parallel SS transaction via the PS domain and that as result the MSC will ignore the next CC uplink message erroneously.
Summary of change:	⌘ It is clarified, that a SS transaction via the PS domain does not use the layer 3 sequence numbering and thus does not impact the sequence numbering of the MM, CC and SS protocol in the CS domain.
Consequences if not approved:	⌘ Risk that in case of a CC transaction in parallel to an SS transaction via PS domain a CC or MM message will be ignored by the MSC although the message is not a duplication due to handover.

Clauses affected:	⌘ 3.4								
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="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> </table> Other core specifications	Y	N	X			X	⌘ CR 24.007 070	
Y	N								
X									
	X								
	Test specifications								

O&M Specifications

Other comments: ☞

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				1	0	1	0		
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For messages transmitted via CS domain the following applies:

- When the radio connection started with a core network node of earlier than R99, bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number in messages sent from the mobile station. In messages sent from the network, bits 7 and 8 are coded with a "0". See [3GPP TS 24.007 \[4\]](#).
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For messages transmitted via PS domain the following applies:

- No sequence number shall be used. Bits 7 and 8 shall be coded with a "0". See [3GPP TS 24.007 \[4\]](#). If a sequence number is received on the network side it shall be ignored.