3GPP TSG CN Plenary Meeting #26 **NP-040522**
8th – 10th December 2004 Athens, Greece.

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

3GPP TSG-CN4 Meeting #25 **Tdoc N4-041664**
Seoul, Korea, 15-19 November 2004

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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Sequence numbering for SS via PS
Source:	⌘	CN4
Work item code:	⌘	TEI4
Date:	⌘	18/11/2004
Category:	⌘	**F**
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:

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				
		Y	**N**			
Other specs	⌘	**X**		Other core specifications	⌘	CR 24.007 068

affected:		Test specifications 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:
				1	0	1	0	- RELEASE COMPLETE
x	x	1	1	.	.	.	.	Miscellaneous message group:
				1	0	1	0	- FACILITY
				1	0	1	1	- REGISTER

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~~is~~ used. Bits 7 and 8 ~~are~~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.

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Seoul, Korea, 15-19 November 2004

Tdoc N4-041665

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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

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:

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				
		Y	**N**			
Other specs	⌘	**X**		Other core specifications	⌘	CR 24.007 069

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

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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.

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				1	0	1	0	- RELEASE COMPLETE
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				1	0	1	0	- FACILITY
				1	0	1	1	- REGISTER

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~~is~~ used. Bits 7 and 8 shall be~~are~~ coded with a "0". See 3GPP TS 24.007 [4]. If a sequence number is received on the network side it shall be ignored.

3GPP TSG-CN4 Meeting #25 **Tdoc N4-041666**
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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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Sequence numbering for SS via PS
Source:	⌘	CN4
Work item code:	⌘	TEI4
Date:	⌘	18/11/2004
Category:	⌘	**A**
Release:	⌘	Rel-6

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:

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:	⌘	**Y** / **N**	Other core specifications	⌘	CR 24.007 070
		X /	Other core specifications		
		/ **X**	Test specifications		

	X	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
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				1	0	1	0	- RELEASE COMPLETE
x	x	1	1	.	.	.	.	Miscellaneous message group:
				1	0	1	0	- FACILITY
				1	0	1	1	- REGISTER

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~~is~~ used. Bits 7 and 8 shall be~~are~~ coded with a "0". See 3GPP TS 24.007 [4]. If a sequence number is received on the network side it shall be ignored.