TSG-RAN Meeting #26 Athen, Greece, 08-10 December 2004

RP-040504 Agenda item 7.3.5

Source: TSG-RAN WG2.

Title: CRs to 25.322 Rel-5 (and Rel-6)

The following CRs are in RP-040504:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.322	261	1	Rel-5	Correction of MRW SUFI content setting rule	F	5.8.0	5.9.0	R2-042251	TEI5
25.322	262	1	Rel-6	Correction of MRW SUFI content setting rule	Α	6.1.0	6.2.0	R2-042252	TEI5
25.322	263	1	Rel-5	Correction of Poll Prohibit function	F	5.8.0	5.9.0	R2-042255	TEI5
25.322	264	1	Rel-6	Correction of Poll Prohibit function	Α	6.1.0	6.2.0	R2-042256	TEI5

		CHANGE	REQ	UEST	•		CR-Form-v7.1
*	25.322	CR <mark>261</mark>	жrev	1 **	Current vers	5.8	.0 *
For <u>HELF</u>	on using this fo	orm, see bottom of this	s page or	look at th	e pop-up text	fover the %	symbols.
Proposed ch	ange affects:	UICC apps第 <mark> </mark>	MEX	Radio A	ccess Netwo	rk X Core	e Network
Title:	₩ Correction	on of MRW SUFI cont	ent setting	g rule			
Source:	器 RAN WO	G2					
Work item co	ode: 郑 TEI5				Date: ₩	07/10/200)4
Category:	F (cc A (cc B (ac C (fu D (ec Detailed e	f the following categories rrection) presponds to a correction dition of feature), nctional modification of the ditorial modification) explanations of the above a 3GPP TR 21.900.	on in an ear feature)		Ph2	Rel-5 the following (GSM Phase (Release 19 (Release 19 (Release 19 (Release 4) (Release 4) (Release 5) (Release 6) (Release 7)	e 2) 196) 197) 198)
Reason for c	hange: ¥	The current rule to se case that a discarded LI of this SDU does n	SDU exa	nctly fills a ny new S	a PDU and the SDU. In this ca	e next PDU ase, an unn	that carries ecessary

Summary of change: ₩

 Rule for setting MRW SUFI content is corrected to check whether the AMD PDU, which contains the LI of the last discarded SDU, contains new SDU and set the last SN_MRW_i field and N_{LENGTH} field accordingly.

Isolated Impact Change Analysis.

This change only impacts the MRW SUFI content setting rule for RLC AM entities.

No backward compatibility issues are foreseen.

Implementation of this CR by a Release 99 UE will not cause compatibility issues.

<u>If UTRAN implements the change while UE does not</u>: UE may initiate unnecessary RLC reset procedure. UTRAN will reset its RLC entity accordingly. Otherwise, UTRAN will work normally.

IF UE implements the change while UTRAN does not: UTRAN may initiate unnecessary RLC reset procedure. UE will reset its RLC entity accordingly. Otherwise, UE will work normally.

Consequences if

For the case that a discarded SDU exactly fills a PDU and the next PDU that

not approved:

carries LI of this SDU does not carry any new SDU, an unnecessary RLC reset procedure will be initiated after the MRW procedure ends.

Clauses affected:	第 11.6.2.2
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications
Other comments:	*

How to create CRs using this form:

- 1) Fill out the above form. The symbols above marked \$\mathbb{X}\$ 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.

11.6.2.2 STATUS PDU contents to set

The Sender shall:

- if "Send MRW" is configured:
 - if the last discarded SDU ended in an AMD PDU, and its "Length Indicator" is present in the same AMD PDU, and no new SDU is present inside this the AMD PDU which contains the "Length Indicator" of the last discarded SDU:
 - set the last SN_MRW_i field in the MRW SUFI to 1 + "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set the N_{LENGTH} field in the MRW SUFI to "0000".
 - otherwise:
 - set the last SN_MRW_i field in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set the N_{LENGTH} field in the MRW SUFI so that the last data octet to be discarded in the Receiver shall be the octet indicated by the N_{LENGTH}:th "Length Indicator" field of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set each of the other SN_MRW_i fields in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the i:th discarded SDU.
- otherwise ("Send MRW" is not configured):
 - if the last SDU to be discarded in the Receiver ended in an AMD PDU, and its "Length Indicator" is present in the same AMD PDU, and no new SDU is present inside this-the AMD PDU which contains the "Length Indicator" of the last discarded SDU:
 - set the last SN_MRW_i field in the MRW SUFI to 1 + "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - set the N_{LENGTH} field in the MRW SUFI to "0000".
 - otherwise:
 - set the last SN_MRW_i field in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - set the N_{LENGTH} field in the MRW SUFI so that the last data octet to be discarded in the Receiver shall be the octet indicated by the N_{LENGTH}:th "Length Indicator" field of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - optionally set each of the other SN_MRW_i fields in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the i:th SDU to be discarded in the Receiver;
- if the MRW SUFI contains only one SN_MRW_i field and the value of SN_MRW_i field ≥ VT(A)+Configured_Tx_Window_Size:
 - set the LENGTH field in the MRW SUFI to "0000".
- otherwise:
 - set the LENGTH field in the MRW SUFI to the number of SN_MRW_i fields in the same MRW SUFI. In this case, SN_MRW_1 shall be in the interval $VT(A) \le SN_MRW_1 < VT(A) + Configured_Tx_Window_Size$.

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For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols.

ME X Radio Access Network X Core Network UICC apps# Proposed change affects: Title: Correction of MRW SUFI content setting rule Source: 第 RAN WG2 Release: # Rel-6 ₩ A Category: Use one of the following releases: Use one of the following categories: (GSM Phase 2) **F** (correction) Ph2 **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 Rel-4 (Release 4) Rel-5 be found in 3GPP TR 21.900. (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change: #

The current rule to set the content of a MRW SUFI does not consider the
case that a discarded SDU exactly fills a PDU and the next PDU that carries
LI of this SDU does not carry any new SDU. In this case, an unnecessary
RLC reset will always be initiated after the MRW procedure ends.

Summary of change: ₩

 Rule for setting MRW SUFI content is corrected to check whether the AMD PDU, which contains the LI of the last discarded SDU, contains new SDU and set the last SN_MRW_i field and N_{LENGTH} field accordingly.

Isolated Impact Change Analysis.

This change only impacts the MRW SUFI content setting rule for RLC AM entities.

No backward compatibility issues are foreseen.

Implementation of this CR by a Release 99 UE will not cause compatibility issues.

<u>If UTRAN implements the change while UE does not</u>: UE may initiate unnecessary RLC reset procedure. UTRAN will reset its RLC entity accordingly. Otherwise, UTRAN will work normally.

IF UE implements the change while UTRAN does not: UTRAN may initiate unnecessary RLC reset procedure. UE will reset its RLC entity accordingly. Otherwise, UE will work normally.

Consequences if

For the case that a discarded SDU exactly fills a PDU and the next PDU that

not approved:

carries LI of this SDU does not carry any new SDU, an unnecessary RLC reset procedure will be initiated after the MRW procedure ends.

Clauses affected:	第 11.6.2.2
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications
Other comments:	*

How to create CRs using this form:

- 1) Fill out the above form. The symbols above marked \$\mathbb{X}\$ 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.

11.6.2.2 STATUS PDU contents to set

The Sender shall:

- if "Send MRW" is configured:
 - if the last discarded SDU ended in an AMD PDU, and its "Length Indicator" is present in the same AMD PDU, and no new SDU is present inside this the AMD PDU which contains the "Length Indicator" of the last discarded SDU:
 - set the last SN_MRW_i field in the MRW SUFI to 1 + "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set the N_{LENGTH} field in the MRW SUFI to "0000".
 - otherwise:
 - set the last SN_MRW_i field in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set the N_{LENGTH} field in the MRW SUFI so that the last data octet to be discarded in the Receiver shall be the octet indicated by the N_{LENGTH}:th "Length Indicator" field of the AMD PDU which contains the "Length Indicator" of the last discarded SDU;
 - set each of the other SN_MRW_i fields in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the i:th discarded SDU.
- otherwise ("Send MRW" is not configured):
 - if the last SDU to be discarded in the Receiver ended in an AMD PDU, and its "Length Indicator" is present in the same AMD PDU, and no new SDU is present inside this-the AMD PDU which contains the "Length Indicator" of the last discarded SDU:
 - set the last SN_MRW_i field in the MRW SUFI to 1 + "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - set the N_{LENGTH} field in the MRW SUFI to "0000".
 - otherwise:
 - set the last SN_MRW_i field in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - set the N_{LENGTH} field in the MRW SUFI so that the last data octet to be discarded in the Receiver shall be the octet indicated by the N_{LENGTH}:th "Length Indicator" field of the AMD PDU which contains the "Length Indicator" of the last SDU to be discarded in the Receiver;
 - optionally set each of the other SN_MRW_i fields in the MRW SUFI to the "Sequence Number" of the AMD PDU which contains the "Length Indicator" of the i:th SDU to be discarded in the Receiver;
- if the MRW SUFI contains only one SN_MRW_i field and the value of SN_MRW_i field ≥ VT(A)+Configured_Tx_Window_Size:
 - set the LENGTH field in the MRW SUFI to "0000".
- otherwise:
 - set the LENGTH field in the MRW SUFI to the number of SN_MRW_i fields in the same MRW SUFI. In this case, SN_MRW_1 shall be in the interval $VT(A) \le SN_MRW_1 < VT(A) + Configured_Tx_Window_Size$.

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Title:	\mathfrak{H}	Correction of Poll Prohibit function			
Source:	\mathbb{H}	RAN WG2			
Work item code	: #	TEI5		Date: ₩	07/10/2004
Category:		F Use one of the following categories: F (correction) A (corresponds to a correction in an B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories found in 3GPP TR 21.900.	earlier release)	Ph2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	Rel-5 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6) (Release 7)

Reason for change: ₩

- Current Poll Prohibit function delays all poll triggers when poll is prohibited.
 However, it only sends out a poll for delayed poll triggered by "Poll timer" or
 "Timer based" after Timer_Poll_Prohibit expires. RLC AM entities may be
 stalled by the current Poll Prohibit function if the delayed poll is from triggers
 other than "Poll timer" and "Timer based".
- 2. When Timer_Poll_Prohibit expires and there was a delayed poll, all transmitted PDUs may have been positively acknowledged. However, the current rule for sending a delayed poll does not check this possibility but, instead, uncoditionally select a PDU and schedule it for transmission to carry the poll.

Summary of change: ₩

- Poll Prohibit function is corrected to send out a poll after Timer_Poll_Prohibit expires for delayed polls triggered by any configured poll trigger when poll is prohibited.
- 2. A condition is added to check if there is transmitted PDU that is not yet been acknowledged before sending a poll for delayed polls after Timer_Poll_Prohibit expires.

Isolated Impact Change Analysis.

This change only impacts the Poll Prohibit function for RLC AM entities. No backward compatibility issues are foreseen.

Implementation of this CR by a Release 99 UE will not cause compatibility

issues.

If UTRAN implements the change while UE does not: UE may be the source to cause deadlock situations. Otherwise, UTRAN will work normally.

IF UE implements the change while UTRAN does not: UTRAN may be the source to cause deadlock situations. Otherwise, UE will work normally.

Consequences if not approved:

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- 1. If the first proposed change is not approved, RLC AM entities may be stalled if the delayed poll is from triggers other than "Poll timer" and "Timer based".
- 2. If the second proposed change is not approved, there is a misalignment between the procedure part (subclause 11.3.2) and the polling function part (subclause 9.7.1). If a UE is implemented according to the procedure part, a PDU will be retransmitted to carry a poll even when there is no new PDU to be transmitted and all the transmitted PDUs have been positively acknowledged. When this poll is received, the Receiver will report a STATUS PDU, which is not needed by the Sender. Radio resource is wasted in both UL and DL directions.

Clauses affected:	第 11.3.2
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications
Other comments:	lpha

How to create CRs using this form:

- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

11.3.2 Transmission of AMD PDU

Upon a request of acknowledged mode data transfer from upper layers or upon retransmission of AMD PDUs, the Sender shall:

- when RLC SDUs are received from upper layers:
 - segment, and if possible concatenate the RLC SDUs into AMD PDUs where the fixed PDU size is configured by upper layer (see subclause 9.2.2.9);
 - set a "Length Indicator" field for each SDU that ends in the AMD PDU according to subclause 9.2.2.8;
 - if "Timer based SDU Discard with explicit signalling" is configured:
 - start a timer Timer_Discard for each SDU received from upper layer (see subclause 9.7.3);
 - schedule the AMD PDUs for transmission;
- for each AMD PDU which has been negatively acknowledged (see subclause 11.5.3):
 - if the "Sequence Number" of the AMD PDU is less than VT(MS):
 - schedule the AMD PDU for retransmission:
- if a poll has been triggered by <u>one of configured polling functions</u> either the poll triggers "Poll timer" or "Timer based" (see subclause 9.7.1); and
- if polling is not prohibited (see subclause 9.5); and
- if no AMD PDU is scheduled for transmission or retransmission; and
- if there is at least one PDU that has been transmitted and has not yet been acknowledged:
 - if the value of "Configured_Tx_Window_Size" is larger than or equal to "2048":
 - select the AMD PDU with "Sequence Number" equal to VT(S)-1.
 - otherwise if the "Configured_Tx_Window_Size" is less than "2048";
 - select the AMD PDU with "Sequence Number" equal to VT(S)-1; or
 - select an AMD PDU that has not yet been acknowledged by the peer entity;
- schedule the selected AMD PDU for retransmission (in order to transmit a poll).

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ME X Radio Access Network X Core Network Proposed change affects: UICC apps# Title: ★ Correction of Poll Prohibit function Source: 第 RAN WG2 Release: # Rel-6 ₩ A Category: Use one of the following releases: Use <u>one</u> of the following categories: (GSM Phase 2) **F** (correction) Ph2 **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 Rel-4 (Release 4) Rel-5 be found in 3GPP TR 21.900. (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change:

- 1. Current Poll Prohibit function delays all poll triggers when poll is prohibited. However, it only sends out a poll for delayed poll triggered by "Poll timer" or "Timer based" after Timer_Poll_Prohibit expires. RLC AM entities may be stalled by the current Poll Prohibit function if the delayed poll is from triggers other than "Poll timer" and "Timer based".
- 2. When Timer_Poll_Prohibit expires and there was a delayed poll, all transmitted PDUs may have been positively acknowledged. However, the current rule for sending a delayed poll does not check this possibility but, instead, uncoditionally select a PDU and schedule it for transmission to carry the poll.

Summary of change:

- Poll Prohibit function is corrected to send out a poll after Timer Poll Prohibit expires for delayed polls triggered by any configured poll trigger when poll is prohibited.
- 2. A condition is added to check if there is transmitted PDU that is not yet been acknowledged before sending a poll for delayed polls after Timer_Poll_Prohibit expires.

Isolated Impact Change Analysis.

This change only impacts the Poll Prohibit function for RLC AM entities. No backward compatibility issues are foreseen.

Implementation of this CR by a Release 99 UE will not cause compatibility

issues.

If UTRAN implements the change while UE does not: UE may be the source to cause deadlock situations. Otherwise, UTRAN will work normally.

IF UE implements the change while UTRAN does not: UTRAN may be the source to cause deadlock situations. Otherwise, UE will work normally.

Consequences if not approved:

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- 1. If the first proposed change is not approved, RLC AM entities may be stalled if the delayed poll is from triggers other than "Poll timer" and "Timer based".
- 2. If the second proposed change is not approved, there is a misalignment between the procedure part (subclause 11.3.2) and the polling function part (subclause 9.7.1). If a UE is implemented according to the procedure part, a PDU will be retransmitted to carry a poll even when there is no new PDU to be transmitted and all the transmitted PDUs have been positively acknowledged. When this poll is received, the Receiver will report a STATUS PDU, which is not needed by the Sender. Radio resource is wasted in both UL and DL directions.

Clauses affected:	光 11.3.2
Other specs affected:	Y N X Other core specifications X Test specifications O&M Specifications
Other comments:	x

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11.3.2 Transmission of AMD PDU

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 - if "Timer based SDU Discard with explicit signalling" is configured:
 - start a timer Timer_Discard for each SDU received from upper layer (see subclause 9.7.3);
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- for each AMD PDU which has been negatively acknowledged (see subclause 11.5.3):
 - if the "Sequence Number" of the AMD PDU is less than VT(MS):
 - schedule the AMD PDU for retransmission:
- if a poll has been triggered by <u>one of configured polling functions</u> either the poll triggers "Poll timer" or "Timer based" (see subclause 9.7.1); and
- if polling is not prohibited (see subclause 9.5); and
- if no AMD PDU is scheduled for transmission or retransmission; and
- if there is at least one PDU that has been transmitted and has not yet been acknowledged:
 - if the value of "Configured_Tx_Window_Size" is larger than or equal to "2048":
 - select the AMD PDU with "Sequence Number" equal to VT(S)-1.
 - otherwise if the "Configured_Tx_Window_Size" is less than "2048";
 - select the AMD PDU with "Sequence Number" equal to VT(S)-1; or
 - select an AMD PDU that has not yet been acknowledged by the peer entity;
- schedule the selected AMD PDU for retransmission (in order to transmit a poll).