Source: TSG-RAN WG2

Title: 25.322 CR to Rel-6 on MBMS

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.322	271	-	Rel-6	Inclusion of transmitter constraints	F	6.2.0	6.3.0	R2-050651	MBMS-RAN

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.322** CR **271** | ⌘ **rev** | | ⌘ | Current version: | **6.2.0** | ⌘ |

*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 **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Inclusion of Transmitter Constraints

Source:	⌘	RAN WG2

Work item code: ⌘	MBMS-RAN	**Date:** ⌘	14th January 2005

Category:	⌘	**F**		**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:
2   *(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: ⌘	When UM out of sequence SDU delivery is configured there are constraints on transmitter operation if the possibility of producing false SDUs is to be avoided. There is currently no record of these constraints in the TS.

Summary of change: ⌘	A note is added to section 11.2.3.2 indicating that, when configured for UM out of sequence SDU delivery, the transmitting RLC should not:

1. Following transmission of a PDU with sequence number SN, including retransmissions, permit VT(US) to advance beyond 128+SN-OSD_Window_Size within a time equal to the duration of Timer_OSD.

2. Concatenate within a single PDU, SDUs or fractions of SDUs that contain MBMS Access Information messages with SDUs or fractions of SDUs that contain other MCCH message types.

Consequences if not approved:	⌘	There is a risk that the transmitting RLC may cause false SDU creation.

Clauses affected:	⌘	11.2.3.2

		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	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.

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11.2.3.2   Out of sequence SDU delivery

To enable the recovery of SDUs from UMD PDUs that are received in different transmissions the receiving function shall store PDUs until all SDUs that are associated with the PDU can be reconstructed or until they are discarded in accordance with the procedures described below. SDUs are transferred to the upper layers as soon as all PDUs that contain the SDU (and any associated PDU containing the special "Length Indicator" "0000 000 or "0000 0000 0000 000") have been received.

Upon delivery of a set of UMD PDUs from the lower layer, the Receiver shall for each PDU (in the following SN denotes the sequence number of each PDU):

- If the PDU is the first PDU received:

    - VR(UOH) shall be assigned the value SN-1.

- if $VR(UOH) \geq SN > VR(UOH) - OSD\_Window\_Size$ then:

    - if a PDU with sequence number SN is already stored:

        - discard the PDU;

    - else:

        - store the PDU in sequence number order.

- else:

    - VR(UOH) = SN thereby advancing the storage window;

    - store the PDU in sequence number order;

    - remove from storage any PDUs whose sequence numbers, SN, are outside of the storage window $VR(UOH) \geq SN > VR(UOH) - OSD\_Window\_Size$;

    - if Timer_OSD is active then Timer_OSD shall be stopped;

    - Timer_OSD shall be started.

- if PDU with sequence number SN was stored:

    - taking account of any consecutively numbered stored PDUs (with lower or higher indexes) and using the values of the "Length Indicators", if any, in each PDU:

        - re-assemble the PDUs into SDUs;

        - submit the RLC SDUs to upper layers through the UM-SAP;

        - remove from storage any PDUs for which all associated SDUs have been re-assembled. PDUs containing the special length indicators "0000 000", "0000 0000 0000 000" or "1111 1111 1111 011"should not be deleted unless SDUs associated with this length indicator have been recovered or will be capable of recovery.

        NOTE:If PDUs are removed from storage after SDU recovery then retransmitted PDUs may result in the duplicate transfer of SDUs to the higher layers.

- if Timer_OSD expires:

    - remove from storage all stored PDUs.

    NOTE1: When configured for out of sequence SDU delivery the transmitter shall not, following transmission of a PDU with sequence number SN, including retransmissions, permit VT(US) to advance beyond 128+SN-OSD_Window_Size within a time equal to the duration of Timer_OSD.

NOTE2: The transmitter should not concatenate within a single PDU, SDUs or fractions of SDUs that contain MBMS Access Information messages with SDUs or fractions of SDUs that contain other MCCH message types.