TSG-RAN Meeting #14   *RP-010806*
Kyoto, Japan, 11 - 15 December 2001

(GP-012841, copy TSG-RAN) LS on MBMS

Title:	**Liaison statement on MBMS**
Source:	**TSG GERAN WG1**
To:	**TSG SA WG1**
Cc:	TSG RAN, SA2
Attachment :	TD GP-012612 **LS from S1 to G2: Retransmission and acknowledgement in MBMS**
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TSG GERAN WG1 thanks TSG SA WG1 for their LS concerning MBMS. TSG GERAN WG1 has reviewed the LS together with the requirements in TS 22.146 v5.0.0 and is happy to provide the answers to the questions from SA1 below. TSG GERAN realizes that many of the requirements from MBMS has a direct impact on the radio interface of GERAN, and would therefore suggest that SA WG1 direct future correspondence on this matter directly to GERAN WG1,

1. Acknowledgements

TSG GERAN WG1 understands that acknowledgements at network level may be desirable in order to be able to guarantee a specific quality of Service (QoS). It is however the opinion of GERAN WG1 that radio network acknowledgements would require the use of dedicated channels which in turn clearly violates the requirement on efficient use of radio resources.
On shared channels it is the opinion of TSG GERAN WG1 that the best way forward is to cipher the user data on application level and base the charging on the ability of the end user to decipher the stream (e.g. by purchasing a deciphering key valid for a limited time).

2. Retransmissions

In view of the above stated views on the limitation of acknowledgments, TSG GERAN WG1 concurs with SA WG1 on the opinion that erroneously received data packets should not be retransmitted but discarded by the receiver.

3. General

Looking at the requirements on MBMS in TS 22.146 v5.0.0 it is unclear to GERAN WG1 what QoS should be supported, which data rates are required, requirements on cell change in terms of data loss, if the MBMS service is intended as a store and forward type of service or a real time service etc. These uncertainties together with the limitations of a radio interface shows a clear need for a closer cooperation between SA WG1 and the 3GPP radio groups before a detailed Stage 2 can be drafted. Furthermore, taking into account the time schedule of TSG GERAN, TSG GERAN WG1 believes it unfeasible to complete the required specifications in the Rel-5 time frame.

4. Actions

TSG GERAN WG1 kindly asks SA WG1 on its opinion regarding the best way forward for the coordination of the MBMS requirements and the radio layers in GERAN and UTRAN.

Dates of Next TSG GERAN WG1 Meetings:

Title	Date	Location	Country
GERAN WG1#8	4-8 Feb 02	Rome	Italy
GERAN WG1#9	15-19 Apr 02	Tbd	United States
GERAN WG1#10	24-28 Jun 02	Tbd	Tbd

TSG-SA WG 1 (Services) meeting #14
Kobe, Japan, 5-9 November 2001

S1-011236
Agenda Item:

Title:	**Retransmission and acknowledgement in MBMS**
Source:	**TSG SA WG1**
To:	TSG RAN WG2, TSG GERAN WG2
Cc:	TSG RAN WG3

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SA1 have progressed the work on the development of a Stage 1 for the MBMS service, which was approved by SA#13 as TS22.146 v.5.0.0. SA1 wish to consult to RAN WG2 and GERAN WG2 on the open issues of acknowledgement and retransmission.

1. Acknowledgement

Whilst it is possible to have acknowledgements at application level S1 is unsure of the viability of having acknowledgements at the network level. Acknowledgements at network level may be required for charging purposes. S1 appreciates that a solution to this may not be trivial and RAN probably has not yet considered MBMS but before placing any requirements within the stage 1 with respect to acknowledged transmissions, SA1 would like to ask RAN WG2 and GERAN WG2 to comment on the feasibility.

Action RAN WG2 / GERAN WG2 : Please comment on the viability of acknowledgements within MBMS at the network level (i.e.: Radio)

2. Retransmission

It is the S1 view that real-time applications, e.g. video, that benefit the most from the use of multicast, may not benefit from wholesale re-transmission of the content of a broadcast / multicast since this would add additional delay. It would also be a waste of bandwidth to re-transmit to the whole multicast group if only one user has requested a repeat transmission. This does not preclude the use of any low-level error correction techniques which are a matter for RAN2 alone.

Therefore SA WG1 informs RAN WG2 and GERAN WG2 that it is our view that MBMS should not support retransmissions and should discard erroneous data. However, this should not preclude higher layer procedures for acknowledgement.

RAN3 are copied on this LS for information and are invited to respond if they believe there are architectural issues that will affect the work of SA1 on these issues.

Dates of Next SA1 Meetings:

Title	Date	Location	Country
SA1 Adhocs	14 – 18 Jan 02	Phoenix	United States
SA1#15	11 – 15 Feb 02	tbd	Austria
SA1 Adhocs	8 – 12 Apr 02	Sophia Antipolis	France
SA1#16	13 – 17 May 02	Victoria	Canada