3GPP TSG RAN Meeting #22 **RP-030658**
Maui, Hawaii, US, 9 - 12 December 2003

3GPP SA4#29 Meeting *Tdoc S4-030847*
Tampere, Finland, November 24-28, 2003

Title: **LS on Multiple MBMS Issues**
Source: **SA4**
To: **RAN, RAN1, RAN2, RAN3, RAN4, GERAN, GERAN1, GERAN2**
Cc: **SA1, SA2**

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Attachments: None.

1. Introduction

At the joint MBMS meeting in Baden (October 13-14 2003), a contribution from 9 companies involved in GERAN standardisation was discussed (MBMS-AH030032), in which several questions and assumptions were posed. SA4 would like to communicate its understanding of the known answers with the intention to socialize the answers in RAN and GERAN so as to set a baseline of knowledge.

2. Questions, Assumptions and Responses

2.1 Service Requirements

2.1.1 Parallel reception of MBMS sessions

Q: How many parallel MBMS sessions shall the MS be able to receive simultaneously?
A: 22.246 [2] has clarified the position on parallel sessions "It shall be possible for an MBMS user service to make use of different application independent MBMS transport services at different times or in parallel. The MBMS transport services used may vary for instance in QoS parameters or target broadcast or multicast area." The application independent transport service is the MBMS service defined in 22.146. The MBMS joint meeting in Baden concluded that whether the MS can receive multiple services is up to MS capabilities.

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2.1.2 Possibility to fetch missing data from a server

Q: Should the MS have the possibility to "fetch" missing data outside of the p-t-m transmission?
A :TS22.246 specifies that point to point repairing of errors shall be available.

2.1.3 Arrival rate of MBMS sessions

Q: In a given cell, what is the expected frequency and distribution of session start messages received at the GERAN?
A : Joint meeting [1] conclusion - RAN/GERAN WGs should set the maximum allowable session arrival rate, in order to allow the application to be built accordingly.

2.1.4 Maximum ongoing sessions

Q: What is the maximum number of parallel sessions GERAN (as opposed to the MS – see previous question) needs to support at a given time in a given cell?
A : Joint meeting conclusion - no conclusion on this question, but if the MS is capable of receiving parallel sessions then it seems only logical that the network would be providing them.

2.1.5 QoS parameters

Q: What is the range of QoS parameters (compared to 3GPP TS 23.107) GERAN needs to support for MBMS services?
A : Joint meeting conclusion - no conclusion other than download is not required to be 100% error free in all cases.
From the SA4 point of view the QoS information listed in TR 26.937 are also valid for MBMS services. SA4 is currently working on higher layer error protection (e.g. FEC) mechanisms for MBMS. SA4 would like to know from both RAN and GERAN what are the typical ranges of SDU error rates anticipated in the access network.

2.1.6 Handling of MBMS streaming

Q: What requirement does the handling of MBMS streaming service put on GERAN?

Q: Should it be possible for a mobile entering the cell with an ongoing MBMS session to discover the transmission and start receiving data from it? (Assuming the content coding allows for this behaviour)

A : Joint meeting conclusion - Required. TS 23.246 [3] also states "MBMS service announcement/discovery mechanisms shall allow users to request or be informed about the range of MBMS services available… This could include standard mechanisms such as SMS, or depending on the capability of the terminal, applications that encourage user interrogation. The method chosen to inform users about MBMS services may have to account for the users location, (e.g. current cell, in the HPLMN or VPLMN). Users who have not already subscribed to a MBMS service should also be able to discover MBMS services."

Q: If an MS enters a cell supporting MBMS, should the MS be able to discover whether a session is ongoing when there is no transmission of this session in the cell and should it be able to request data transmission for this session?

A : Joint meeting conclusion – Required See also answer to question immediately above.

Q: Does the content need to be "synchronized" between different cells and if so, to what extent?

A : Joint meeting conclusion – Required.

2.1.7 Handling of MBMS "download and play"

Q: What requirement does an MBMS "download and play" service put on GERAN?

Q: Should it be possible for a mobile entering the cell with an ongoing MBMS session to discover the transmission and start receiving data from it? (Assuming the content coding allows for this behaviour)

A : Joint meeting conclusion : Required. See also answers to 2.1.6 above.

Q: If an MS enters a cell supporting MBMS, should the MS be able to discover whether a session is ongoing when there is no transmission of this session in the cell and should it be able to request data transmission for this session?

A: Joint meeting conclusion : Required. See also answers to 2.1.6 above.

Q: Does the content need to be "synchronized" between different cells and if so, to what extent?

A: Joint meeting conclusion : Yes.

Q: What are the differences in requirements on the GERAN for "streaming" and "download and play" services?

A: No conclusion

2.2 Notification

2.2.1 Timing requirement between session start message and data transfer

Q: What are the requirements (if any) on timing between the reception of the session start message in GERAN, reception of the data in GERAN and the commencing of the data transfer over the air interface?

A: 23.246 states "The time delay between a Session Start indication and actual data should be long enough for the network actions required at Session Start to take place e.g. provision of service information to the UTRAN, establishment of the user plane." While 23.246 does not mention GERAN in this context SA4 sees the requirements as being the same.

2.2.2 Notification during ongoing CS call and/or PS session

Q: Is there a requirement that the MS is able to receive MBMS notification during ongoing CS call and/or PS session?

A: Joint meeting conclusion : the network should allow for this, so that the user can terminate his CS call if he wishes to.

2.2.3 Arrival rate of MBMS sessions

See answers in 2.1 above.

3. Actions

To RAN 1, RAN2, RAN3, RAN4, GERAN, GERAN1 and GERAN 2 working groups

To take note of the answers above in their work on MBMS and notify SA4 if their understanding differs from SA4's understanding.

To RAN and GERAN

To inform SA4 what are the typical ranges of SDU error rates anticipated in the access network.

4. References

[1] MBMS-AH030029 MBMS SA1/SA2/SA4/RAN1/RAN2/RAN3/RAN4/GERAN1/GERAN2 Joint Meeting Minutes
[2] TS 22.246 v2.0.0 MBMS User Services
[3] TS 23.246 v6.0.0 MBMS Architecture and functional description

5. Date of Next SA4 Meetings

SA4 #30	23-27 Feb 2004	Sophia Antipolis
SA4 #31	17-21 May 2004	t.b.d.