

TSG-RAN Meeting #19  
Birmingham, UK  
11 – 14 March 2003

RP-030143

**Title:** Status Report of WI “Introduction of the Multimedia Broadcast  
Multicast Service (MBMS) in RAN”  
**Document for:** Approval  
**Source:** Nokia (WI Rapporteur)  
**Agenda Item** 9.5.1

---

## Status Report for WI to TSG

**Work Item Name:** "Introduction of the Multimedia Broadcast Multicast Service (MBMS) in RAN"

**SOURCE:** Nokia (Dimitris Koulakiotis)

**TSG:** RAN WG2

**E-mail address rapporteur:** dimitris.koulakiotis@nokia.com

**Ref. to WI sheet:** RAN\_Work\_Items.doc

### **Progress Report since the last TSG (for all involved WGs):**

Since RAN#18, MBMS discussions took place in the following RAN WG meetings:

- ~~///~~ MBMS RAN2/3 AdHoc (2 days).
- ~~///~~ RAN2/3 #34: Due to lack of time, no joint session with RAN3 took place.
- ~~///~~ RAN1 #30: 3 contributions were submitted/treated.
- ~~///~~ RAN1 #31: 5 contributions were submitted/treated.

A two-days MBMS AdHoc meeting took place in mid-January between RAN2 and RAN3. Among the contributions submitted, around 50+ were treated, covering a number of MBMS RAN areas. Although extensive discussions took place, no agreement(s) could be reached in the areas listed below:

- ?? MBMS service context establishment procedure between RNC and SGSN.
- ?? Iu user plane :One, or multiple.
- ?? MBMS linking for RRC connected mode UEs.
- ?? Ways to bring UEs in connected mode for counting.
- ?? Counting methods and RRC states where UEs could be counted.

By the end of the AdHoc, the only agreements that could be captured in the RAN stage-2 TS 25.346 were on the following:

- ?? MBMS MAC Architecture.
- ?? Working assumptions regarding the UE RRC states during MBMS reception:
  - o p-t-p transmission of MBMS data should follow Rel-99 rules as defined for other dedicated services.
  - o p-t-m reception applies to all RRC states and modes, subject to UE capability.
- ?? Some initial text on MBMS channel type Notifications.

Regarding the TR 25.992 on UTRAN/ GERAN MBMS requirements: GERAN reviewed the TR and liased RAN2 comments that were taken into account and incorporated into the TR. In addition further clarifications were made and two definitions (for "counting" and "tracking") were added.

RAN2#34 had a session on MBMS, but no time for a meeting together with RAN3. Considerable agreements were reached:

- ?? For cells where counting is needed (i.e. threshold ? 0) UEs need to be brought to RRC connected mode to be counted by the RNC.
- ?? UTRAN indicates the need for counting (i.e request UEs to go to RRC connected mode) in the "group" Notification. This indication can be switched on/off on per cell basis.
- ?? The exact number of UEs that need to be brought to RRC connected mode for counting is an RRM issue.
- ?? Following counting, the number of UEs that need to be maintained in RRC connected mode or release their connections, for MBMS reception is also an RRM issue.
- ?? To avoid bringing a large number of UEs for counting to RRC connected mode at the same time, RNC can control the load due to the RRC connection establishment requests, by setting an access "probability factor".
- ?? When RRC connection is established, the list of MBMS service(s) is obtained from CN on Iu.
- ?? The possibility for the RNC to receive service ID in the RRC connection request is [FFS]. This would allow aborting the RRC connection prior to the end of the establishment. Security and integrity protection needs to be addressed.

The TR 25.992-030 was presented and endorsed by RAN2#34 and agreed to be presented for info to RAN#19 plenary (RP-030016).  
RAN3#34 had no time for MBMS discussions. The RAN3 internal MBMS TR R3.013 skeleton was presented and noted.

RAN1#30 and #31 continued the discussions on L1 aspects of MBMS. Papers presented and noted on the following areas:

- ?? Extension of TTI for MBMS.
- ?? Time diversity and STTD for MBMS.
- ?? HS-DSCH for MBMS. UE capabilities for MBMS (the requirement for simultaneous reception of MBMS & paging was discussed in terms of UE capability impact and needs more attention).
- ?? MBMS for LCR TDD.
- ?? Evaluation of repetition schemes for MBMS.

**List of Completed elements (for complex work items):**

- ?? TSG SA1: Stage-1 (TS-22.146) has been completed.
- ?? TSG SA2: Stage-2 (TR 23.846) has been completed.

**List of open issues:**

- ?? Completion on RAN MBMS functions, descriptions and requirements.
- ?? UTRAN MBMS architecture principles and signalling flows.
- ?? MBMS Notifications solution.
- ?? Counting.
- ?? MBMS UTRAN protocol stack.
- ?? MBMS Logical/Transport channels.
- ?? L1 MBMS issues.
- ?? MBMS Ciphering (During SA2#30, the joint SA2/SA3 MBMS session decided to take the use of "application level encryption" as a working assumption).

**Estimates of the level of completion (when possible):**

The current WI completion date (from the last RAN plenary) is June 2003, an updated WID has been submitted to this RAN plenary, which proposes an extension to September 2003 (which is in line with the CN MBMS WI extension), based on the estimated date of completion of TS 25.346 (RAN stage-2) and also stage-3 work.

The proposed updated WID is presented in RP-030015.

**WI completion date review resulting from the discussion at the working group:**

Alignment with the equivalent TSG SA WG2 WI on MBMS architecture i.e. Rel-6.

**References to WG's internal documentation and/or TRs:**

Latest updates of the MBMS TR 25.992 and TS 25.346 submitted to RAN2/3#34:

- R2-030122: TS 25.346-040
- R2-030121: TR 25.992-030
- R3-030102: R3.013: Skeleton was only presented and noted during RAN3#34.

NOTE: The version on the TR and TS inside the documents indicated above, is shown as "v130" and "v140" respectively. This is wrong since they have not yet been presented for into in RAN plenary, the right version is "v030" and "v040" respectively.