

**3GPP TSG RAN WG1 Meeting #44bis
Athens, Greece, 27 – 31 March, 2006**

R1-061099

Agenda item 3
Title: Approved Report of 3GPP TSG RAN WG1 #44 meeting
Document for: Information
Source: RAN1 Secretary



Notes: All timestamps in this document are in GMT-7H unless otherwise noted.

Fact Summary

Meeting: 3GPP TSG RAN WG1 #44 Meeting
Dates: 13th through 17th February, 2006
Venue: Hyatt Regency Denver, Colorado, USA
Host: North American Friends of 3GPP
Attendees: 183 delegates
Documents: 494 (including some withdrawn and post-meeting artefacts)

Yoshikazu Ishii
ETSI Mobile Competence Center
yoshikazu.ishii@etsi.org

Table of contents

| | |
|---|----|
| Executive summary | 1 |
| 1. Opening of the meeting | 2 |
| 1.1 Call for IPR | 2 |
| 2 Approval of the agenda..... | 2 |
| 3. Approval of the minutes from the previous meetings..... | 2 |
| 4. Report from TSG RAN#30 and RAN1 LTE Ad Hoc..... | 4 |
| 5. Liaison statement handling | 5 |
| 6. Maintenance of R99, Rel4, Rel5, Rel6..... | 8 |
| 6.1 R99 CRs + shadow CRs | 8 |
| 6.2 Rel4 CRs + shadow CRs | 8 |
| 6.3 Rel5 CRs + shadow CRs | 8 |
| 6.4 Rel6 CRs | 8 |
| 6.5 Other | 9 |
| 7. 3.84 Mcps TDD Enhanced Uplink..... | 12 |
| 8. 7.68 Mcps TDD Option | 13 |
| 9. MIMO in UTRA (Rel'7 Work Item)..... | 15 |
| 10. Continuous Connectivity for Packet Data Users..... | 18 |
| 11. Improved support of gaming over HSPA..... | 22 |
| 12. Improvements of MBMS | 23 |
| 13. Evolved UTRA and UTRAN (Physical Layer)..... | 24 |
| 13.1 Description of OFDMA Downlink used in the concept evaluation | 25 |
| 13.1.1 Contributions reflecting results from email reflector discussions..... | 26 |
| 13.1.2 Downlink MIMO Scheme used in the concept evaluation | 26 |
| 13.1.3 Remaining downlink issues from the January Ad Hoc on LTE that need to be resolved..... | 29 |
| 13.2 Description of SC-FDMA Uplink used in the concept evaluation | 38 |
| 13.2.1 Contributions reflecting results from email reflector discussions..... | 38 |
| 13.2.2 Basic Transmission Scheme..... | 38 |
| 13.2.3 Physical Layer Procedures..... | 44 |
| 13.2.4 Physical Layer Measurements..... | 50 |
| 13.2.5 Downlink related UE Capability | 50 |
| 14. RAN1/RAN3 Joint session on RRM for LTE..... | 52 |
| 15. Other business..... | 54 |
| 16. Closing of the meeting | 55 |
| Annex A: List of participants at RAN1 #44 | 56 |
| Annex B: TSG RAN WG1 meetings in 2006..... | 62 |
| Annex C: List of CRs agreed at RAN1#44..... | 63 |
| Annex D: List of Outgoing LSs..... | 64 |
| Annex E: List of Tdocs at RAN1 #44 | 65 |
| Annex F: List of actions (E-mail Approval) | 96 |

Executive summary

RAN WG1#44 meeting took place in Hyatt Regency Hotel in Denver, USA. The meeting started at 9:05 on Monday 13th February and finished at 17:05 on Friday 17th February.

On the first day, after treating incoming LS and some Rel-5 and Rel-6 CRs, the documents for Rel-7 TDD topics such as 3.84 Mcps TDD Enhanced Uplink and 7.68Mcps TDD Option were treated and the set of CRs to RAN1 core specs on 7.68 Mcps option were agreed.

Further proposals, comparisons and details of concepts for the WI Continuous Connectivity for Packet Data Users were discussed on Monday and Friday, and as a results 14 text proposal (1 after email approval) for TR 25.903 were agreed. As for MIMO for UTRA (Rel-7 WI), two different proposed schemes were discussed for the selection of evaluation scheme and as a conclusion RAN1 chairman decided to report the RAN1 situation on the selection of the evaluation scheme to the RAN plenary and recommend to select PARC for the further evaluation.

LTE session started from the morning on the second day, 14th February. In this meeting there were more than 330 contributions for LTE topics so that a lot of contributions were not treated due to lack of time. Some topics not treated in this meeting would be discussed on the RAN1 reflector until the next meeting. MIMO for LTE was discussed at MIMO Ad hoc session parallel to the main session on Tuesday and Wednesday. As the results of LTE discussion, 30 text proposals including the texts for email approval after the meeting were agreed to be included in TR25.814. As for LTE topics, in addition to RAN1 discussion, RAN1/RAN3 joint session on RRM for LTE was held on Wednesday evening and the short report is shown in section 14 on this minutes.

The number of contributions for this meeting was 471 (without withdrawn contributions), and those documents were categorized as followed.

| Agenda Item | Input Document | Discussed Document |
|---|----------------|--------------------|
| Liaison Statement | 33 | 32 |
| Maintenance of R99, Rel4, Rel5, Rel6 and other | 21 | 21 |
| 3.84 Mcps TDD Enhanced Uplink | 3 | 3 |
| 7.68 Mcps TDD Option | 14 | 14 |
| MIMO in UTRA | 13 | 12 |
| Continuous Connectivity for Packet Data Users | 36 | 36 |
| Improved support of gaming over HSPA | 0 | 0 |
| Improvements of MBMS | 0 | 0 |
| Evolved UTRA and UTRAN (Physical Layer) | 8 | 8 |
| Evolved UTRA and UTRAN (Physical Layer): Downlink | 187 | 85 |
| Evolved UTRA and UTRAN (Physical Layer): Uplink | 156 | 89 |

1. Opening of the meeting

13/02/2006 09:05

RAN1 Chairman, Mr. Dirk Gerstenberger and welcomed the participants to the RAN WG1 LTE Ad Hoc meeting and opened the meeting at 09.05.

Mr. Sharat Chander from Cingular Wireless welcomed the delegates on behalf of the North American Friends of 3GPP.

1.1 Call for IPR

13/02/2006 09:05

The Chairman drew attention to Members' obligations under the 3GPP Partner Organizations' IPR policies. Every Individual Member organization is obliged to declare to the Partner Organization or Organizations of which it is a member any IPR owned by the Individual Member or any other organization which is or is likely to become essential to the work of 3GPP.

The attention of the members of this Technical Specification Group is drawn to the fact **that 3GPP Individual Members have the obligation** under the IPR Policies of their respective Organizational Partners to **inform their respective Organizational Partners of Essential IPRs they become aware of.**

The members take note that they are hereby invited:

- to investigate in their company whether their company does own IPRs which are, or are likely to become Essential in respect of the work of the Technical Specification Group.
- to notify the Director-General, or the Chairman of their **respective** Organizational Partners, of all potential IPRs that their company may own, by means of the IPR Statement and the Licensing declaration forms (e.g. see the ETSI IPR forms <http://webapp.etsi.org/lpr/>).

2 Approval of the agenda

R1-060270 Draft Agenda

(RAN1 Chairman)

13/02/2006 09:10 Presented by Mr. Dirk Gerstenberger.

Discussion (Question / Comment):

Mr. RAN1 Chairman explained the scheduling during this meeting. Non-LTE will be discussed in Monday and LTE will start from Tuesday. We start the interference mitigation topic and then UP link topics. For downlink topics, we will treat the topics and documents useful for the other WGs such as interference mitigation, UE capability, cell search, measurement. MIMO Rel-7 will be treated in the evening of Tuesday.

On Thursday evening, joint session with RAN3 will be held, the topics is the signalling and so on.

Decision: This draft agenda was approved without any comments.

3. Approval of the minutes from the previous meetings

R1-060272 Draft Report from RAN1#43 Meeting

(RAN1 Secretary)

13/02/2006 09:15 Presented by Mr. Yoshikazu Ishii.

Discussion (Question / Comment):

Decision: This draft report was approved in R1-050755.

R1-060755 Approved Report from RAN1#43 Meeting

(RAN1 Secretary)

R1-060273 Draft Report from RAN1 LTE Ad Hoc Meeting

(RAN1 Secretary)

13/02/2006 09:15 Presented by Mr. Yoshikazu Ishii.

Discussion (Question / Comment):

Decision: **This draft report was approved in R1-050756**
R1-060756 **Approved Report from RAN1 LTE Ad Hoc Meeting**

(RAN1 Secretary)

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.