TSG RAN Meeting #23
10-12 March, 2004
Phoenix, AZ, USA

Report from TSG RAN WG1 Chairman to TSG RAN#23

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TSG RAN WG1 Chairman

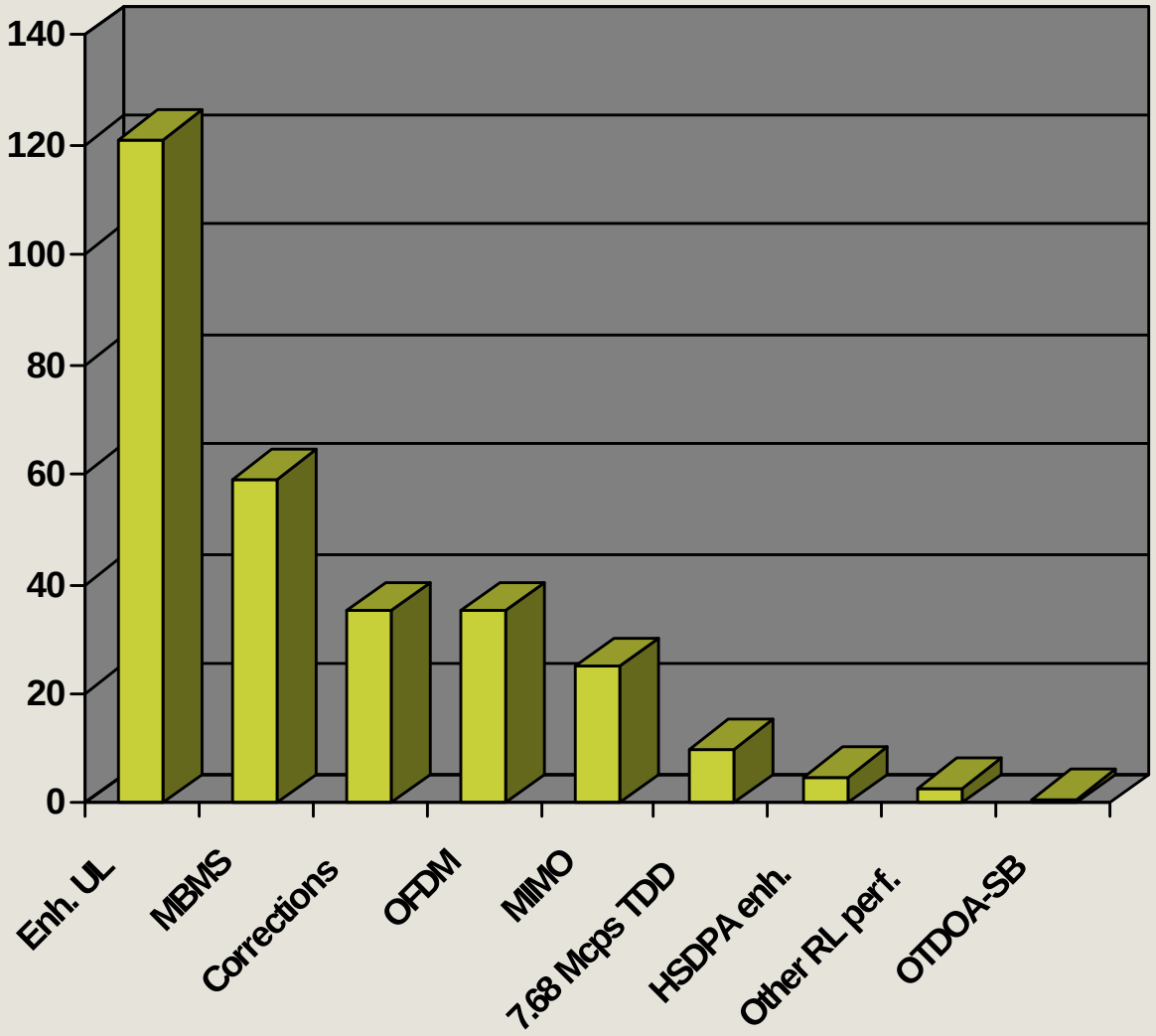
RAN1-RAN4 Ad Hoc
January 27-30, 2004
Korpilampi, Finland

RAN1#36
February 16-20, 2004
Malaga, Spain

Executive Summary

- Agreed change requests
  - 1 CR for Rel4 TDD
  - 2 CRs for Rel5 FDD, 1 CR each for Rel6 FDD/TDD
- RAN1/4 Ad Hoc in Korpilampi
  - 109 contributions submitted, around 60 delegates
  - HSDPA TFC selection agreed
  - HSDPA PAR *not* agreed
  - Major progress on WCDMA Enhanced Uplink study item
- RAN1#36 in Malaga
  - 245 contributions submitted, around 100 delegates
  - ✍ WCDMA Enhanced Uplink study item concluded
  - Good progress on MBMS and OFDM discussions

Contributions per topic for RAN1/4 AH, RAN1#36



Change requests

CRs for Release 99, Release 4, Release 5

- Release 99
  - No CRs for FDD/TDD
- Release 4
    - 25.225: Time alignment definition for 1.28 Mcps TDD
- Release 5
  - FDD
    - 25.212: CCTrCH definition for HS-DSCH
    - 25.214: Beta values for HS-DPCCH in compressed mode, ACK/NACK repetition factor
    - HSDPA reconfiguration
      - Discussed over the email reflector, company input (RP-040123)

CRs for Release 5, Release 6

- Release 5 (results from RAN1-RAN4 ad hoc)
  - HSDPA uplink TFC selection agreed (RAN4 to produce a CR)
  - HSDPA uplink PAR issue *not* agreed
    - 1dB PAR increase requires up to 2dB PA back-off, two options:
      - » Leave the specifications as they are
      - » Introduce a beta-factor dependent power reduction
    - No further inputs to RAN1#36, discussion continued in RAN4
- Release 6
  - FDD
    - 25.211: S-CPICH and closed loop TX diversity
  - TDD
    - 25.225: Interference measurement in UpPTS (1.28Mcps TDD)

Work items & study items

WI/SI where RAN WG1 is the leading group (1/6)

- Enhanced Uplink DCH (See RP-040021)
  - Study item concluded
  - RAN1 recommends creation of a work item on WCDMA Uplink Enhancements, covering
    - NodeB controlled scheduling
    - Hybrid ARQ
    - Shorter TTI
  - Higher order modulation (8PSK or higher) is not recommended
  - Fast DCH setup is not recommended to be part of the work item on WCDMA Uplink Enhancements
  - TR 25.896 (v2.0.0) presented to RAN for approval (RP-040046)

WI/SI where RAN WG1 is the leading group (2/6)

- Uplink enhancements for UTRA TDD (See RP-040025)
  - Latest TR 25.804 (v0.1.0)
  - Description of reference techniques agreed
  - Description of HARQ added to the TR

WI/SI where RAN WG1 is the leading group (3/6)

- OFDM (See RP-040124)
  - TR 25.892 (v1.1.0) presented to RAN for information
  - First system level performance results (OFDM vs WCDMA) agreed
  - Link level performance results for OFDM-CPICH agreed
  - Modelling of NodeB impairments and OFDM HARQ combining agreed
  - Complexity aspects agreed, covering
    - OFDM UE data demodulation, UE RF functionality
    - NodeB impact
  - Synchronisation aspects agreed
  - Quasi-consensus over remaining steps for OFDM performance evaluation in the study item

WI/SI where RAN WG1 is the leading group (4/6)

- Beamforming enhancements (WI closed at RAN#22)
  - TR 25.887 v2.0.0 presented to RAN for approval (RP-040083)
- MIMO (See RP-040015)
  - Latest TR 25.876 (v1.3.0)
  - Description of an additional candidate technique added to the TR
    - Double STTD with sub-group rate control (DSTTD-SGRC)
  - Further revised proposals to be discussed at RAN1#37
  - Discussion on system level evaluation continued
  - 2 contributions on correctness of the SCM channel model
  - How to conclude the SCM activity?

WI/SI where RAN WG1 is the leading group (5/6)

- Radio link performance enhancements (See RP-040018)
  - TDD power control enhancements
    - No inputs
  - Downlink transmission schemes with more than two antennas
    - Latest TR 25.869 (v1.2.0)
    - Description of 4Tx OL-CL diversity scheme added to the TR
    - Fast beam selection in SHO discussed
  - HSDPA enhancements
    - Latest TR 25.899 (v0.4.0)
    - 3 contributions on ACK/NACK error impact, HS-DPCCH duty cycle and CQI enhancement were not covered due to lack of time, to be discussed via email until RAN1#37

WI/SI where RAN WG1 is the leading group (6/6)

- Improvements of interfrequency and intersystem measurements (See RP-040003)
  - Discussion on compressed mode code sharing
    - Minor impact on L1 specifications
    - Achievable gains depend on the shared code allocation
- Higher chiprates for TDD (See RP-040022)
  - Minor corrections to TR 25.895 agreed
  - 8 contributions were not covered due to lack of time, to be discussed via email until RAN1#37
- TEI6
  - 2 Rel6 CRs agreed

WI/SI where RAN WG1 is not the leading group

- MBMS (See also RP-040014)
  - Latest version of the TR 25.803 (v1.3.0) (R1-040390)
  - Results from joint RAN1-RAN2 session
    - Agreement on selective combining
    - Agreement not to introduce outer coding on radio layer
      - L1 channel coding to cover for measurement losses
      - RAN1 to work on basis of RAN2's agreements on DRX on MBMS in FACH and same measurement occasions as in R99
    - Notification (MICH)
      - CDM MICH agreed, 12 bit solution removed
      - RAN1 to select a power efficient solution, including low load case
    - UTRAN quick repair
      - Uplink NACK could be added in a later release, but may not be needed for Rel6

WI/SI where RAN WG1 is not the leading group

- MBMS (cont.)
  - TDD MBMS level of synchronisation
    - NodeB synchronisation is possible
    - MRC and selective combining are possible for MBMS TDD
  - Minimum UE capability for a MBMS capable UE
    - P-CCPCH + any of
      - (1+n) S-CCPCH (1 dedicated + n MBMS)
      - PICH + MICH
      - PICH + n S-CCPCH
      - MICH + 1 S-CCPCH
    - Number of RL n:
      - 1 RL with max 80ms TTI
      - 2 RL with max 80ms TTI
      - 3 RL with max 40ms TTI
    - MBMS (radio bearer) bit rate x: 64kbps ? x ? 256kbps
      - To be further discussed in RAN1

WI/SI where RAN WG1 is not the leading group

- UE positioning enhancements (See also RP-040012)
  - Set of simulation results for Soft-IPDL presented, to be verified by other companies until RAN1#37
  - Signaling aspects for IPDL alignment to be further investigated by RAN2 and RAN3

Annex: RAN1 meeting schedule

Meeting	Date	Location	Host
RAN1#37	10-14 May 2004	Montreal, Canada	North American Friends of 3GPP
RAN1#38	16-20 August 2004	Prague, Czech Republic	European Friends of 3GPP
RAN1#39	15-19 November 2004	TBD, Japan	TBD

- All scheduled RAN1 meetings are co-located with RAN2&3
- RAN1#38 and RAN1#39 are also co-located with RAN4