TSG RAN Meeting #21
16-19 September, 2003
Frankfurt am Main, Germany

Report from TSG RAN WG1 Chairman to TSG RAN#21

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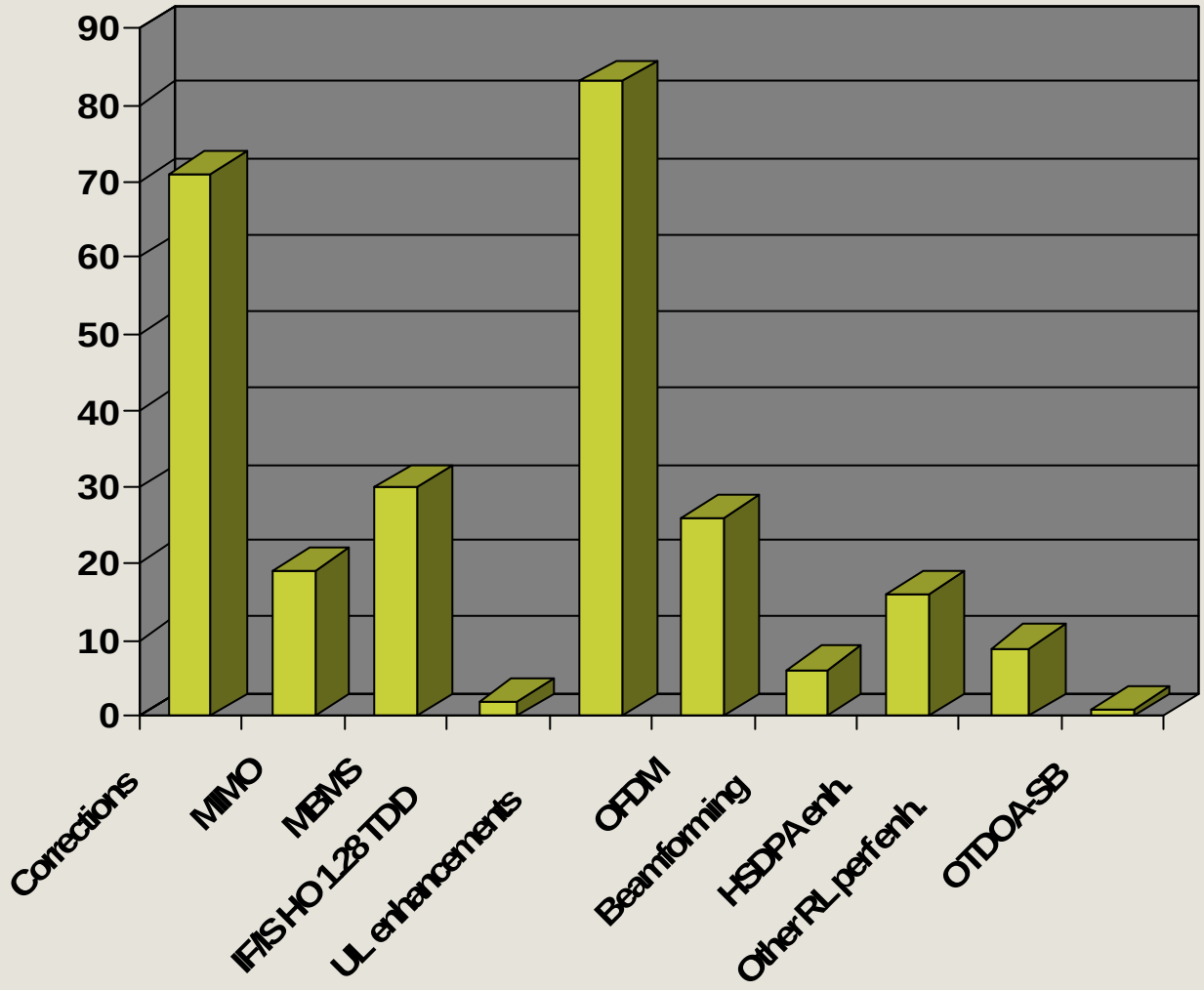
Executive Summary

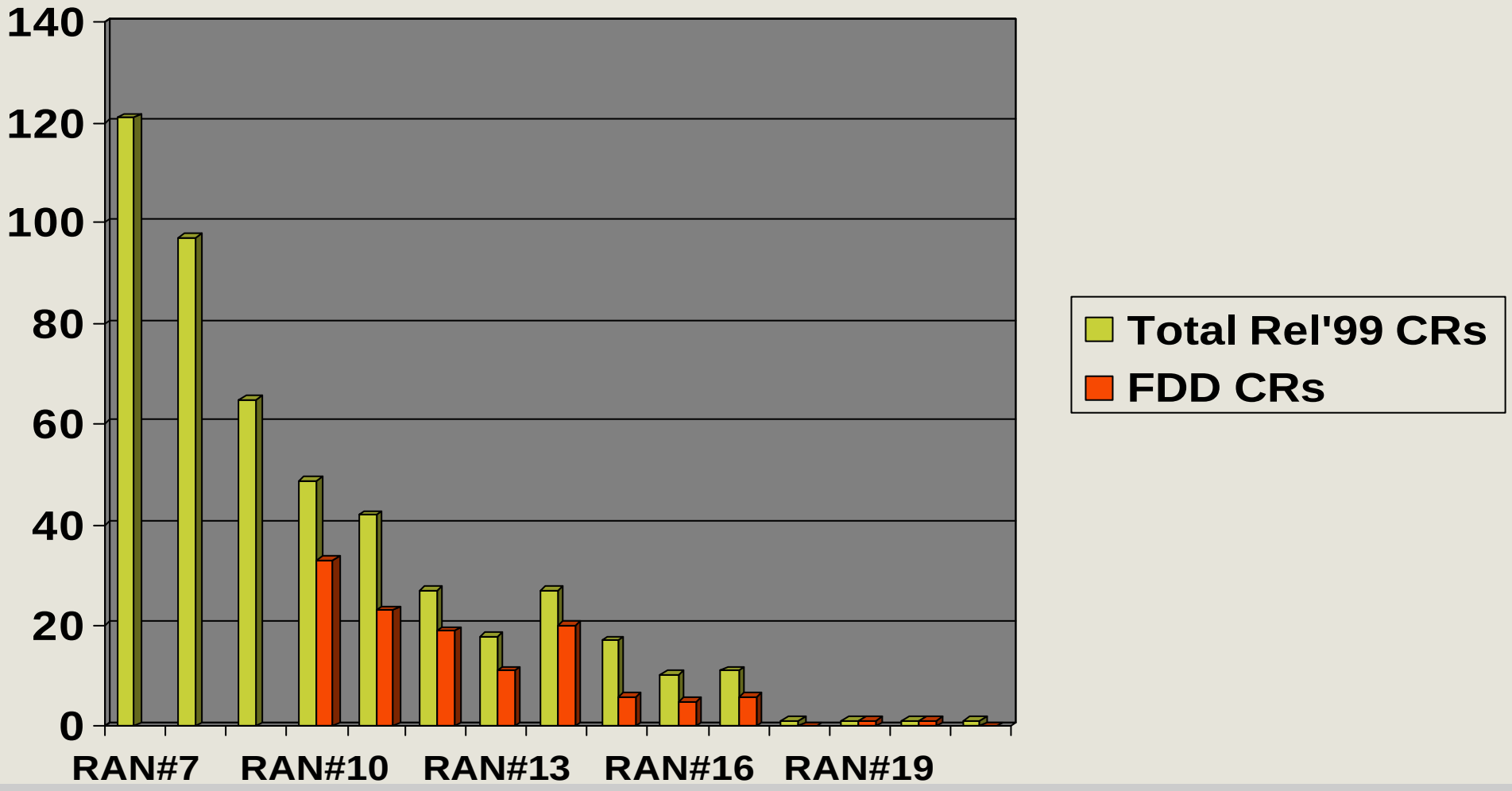
- No CRs for Rel99 FDD!
- One CR for Rel99 TDD (related to GSM/1.28Mcps handover)
- No CRs for Rel4 FDD/TDD
- 13(FDD) + 1(TDD) correction & clarification CRs agreed for Rel5
  - smaller HSDPA corrections/clarifications, transport format detection, SIR measurement with beamforming, TDD PDSCH power control
- 1 CR for Rel6 (beamforming) agreed in two versions, depending on RAN3 solution
- SI on improvements of interfrequency and intersystem measurements for 1.28 Mcps TDD concluded (no specification changes needed)
- RAN1#33 took place in New York City, August 25-29
- Around 100 delegates attended RAN1#33
- More than 300 contributions submitted to RAN1#33
- Around 70% of the time used for Rel'6 discussions

Submitted contributions per topic



Release 99 & Release 4

Total of 1 Rel99 CR agreed for RAN#21, 0 for FDD



Release 99 & Release 4

- No CRs for FDD (R99/Rel4)
- 25.224 (Rel99)
  - DTX and special burst in case of no data on S-CCPCH and beacon channels
    - UE cell search performance would be degraded
    - UE inter-mode / inter-RAT measurements for Handover preparation (e.g. from GSM, 1.28Mcps TDD) are likely to fail
- 768 kbps RAB proposal (LS to TSG T1)
  - “Recommended” for 34.108 (Rel4), 20ms TTI alternative added
  - Note: Different conclusion was reached in RAN2!

Release 5

Release 5 (FDD)

- 25.211 & 25.214
  - Removal of TX diversity closed loop mode 1 for HS-SCCH
- 25.212
  - Clarification on single transport format detection
  - Blind transport format detection on DPCH when HS-DSCH is received
- 25.213
  - 16QAM modulation description
  - Scrambling code and phase reference combinations for HS-channels
- 25.214 *"technically endorsed"*
  - HS-DPCCH power scaling
  - Clarification of HS-SCCH reception
  - CQI repetition & CQI reporting with downlink compressed mode
- 25.215
  - UTRAN SIR measurement for beamforming, cell portion definition

Release 5 (TDD)

- 25.224
  - Clarification on PDSCH downlink power control procedure

Other Rel'5 related issues

- Uplink power control during uplink out-of-sync
  - RAN1 discussed that a NodeB should not send power down commands when uplink sync is lost and the UE is in soft handover (such a NodeB implementation would lead to dropped calls)
    - RAN3 was asked to include a soft handover indication to the NodeB to enable better NodeB power control implementations
    - RAN1 view is that UE implementations shall not try to compensate for inadequate NodeB implementations, i.e. UE power control shall be "as normal"
- Turbo coding / rate matching irregularity
  - Degraded performance for specific puncturing rates
  - RAN1 agreement not to change the rate matching algorithm or to introduce a new interleaver
    - Problematic code rates can be avoided, e.g. by the HSDPA scheduler

Other Rel'5 related issues (cont.)

- HSDPA reconfigurations
  - Detailed UE behaviour for a number of parameter reconfigurations is under discussion, based on a CR for 25.214
- HSDPA transport block size signaling
  - RAN1 informed RAN2 that it is not feasible to store the received data as described in the RAN2 CR. RAN2 should decide on UE behaviour.
- HSDPA UE conformance testing
  - Discussion on radio bearers for HS-DSCH, combinations with other radio bearers and suitable uplink DPCH bitrate to be continued at RAN1#34
- RAN2 asked to include signaling of PO2 in RRC
  - For potentially improved UE power control performance in SHO
- TDD measurements for transmit diversity
  - TX code power, RSCP, ISCP and SIR measurements are under discussion, based on a CR for 25.225

Release 6

WI/SI where RAN WG1 is the leading group (1/7)

- Enhanced Uplink DCH (See RP-030399)
  - The biggest topic in RAN1 both in terms of number of contributions and contributing companies
  - Discussed areas include: Scheduling, HARQ, channel structure
  - 4 text proposals agreed for inclusion in TR 25.896
    - ✍HARQ performance results (with/without soft combining)
    - ✍HARQ operation in SHO, PhCH structure, shorter frame size,...
  - Technical contents of additional 6 text proposals agreed
    - Email discussion on the final wording ongoing
      - ✍Rel99 reference performance
      - ✍HARQ efficiency
      - HARQ performance in SHO
      - NodeB controlled scheduling with persistence control
  - Updated TR 25.896 v0.4.2

WI/SI where RAN WG1 is the leading group (2/7)

- Uplink enhancements for UTRA TDD (See RP-030405)
  - TR outline agreed
- Radio link performance enhancements (See RP-030395)
  - TDD power control enhancements TR structure agreed
    - Updated TR 25.898 (v0.1.0)
  - Updated TR for TX diversity with more than two antennas
    - Updated TR 25.869 (v1.2.0)
  - Other inputs to be discussed at RAN1#34

WI/SI where RAN WG1 is the leading group (3/7)

- MIMO (See RP-030390 for physical layer)
  - Correction CR for TR 25.996 (Rel6) agreed
  - Offline drafting activity on text proposals for MIMO TR
  - Discussion of MIMO proposals to be continued at RAN1#34
  - How to conclude the SCM activity?

WI/SI where RAN WG1 is the leading group (4/7)

- Beamforming enhancements (See RP-030384)
  - Rel6 CRs for RAN1 agreed as two versions, depending on the RAN3 conclusion on measurement reporting
  - RAN1 part of the CR package is completed now
  - New proposal: Fast Beam Selection method
    - S-CPICH based intra-NodeB fast beam selection for DPCH
    - Questions were raised if this fits under the study item or whether it should be discussed under e.g. the TX diversity study (as part of RL performance enhancement SI), since the proposed method is quite different from what has been discussed under the Beamforming WI over the past two years

WI/SI where RAN WG1 is the leading group (5/7)

- OFDM (See RP-030398)
  - 2 text proposals were agreed for inclusion in TR 25.892
    - HS-DSCH signaling
    - Concluded that OFDM/IOTA meets the UMTS emission spectrum masks without requiring any additional filtering
  - No agreement was reached on a system simulation methodology for OFDM nor on the performance results presented. Discuss further at the next meeting.
  - RAN4 expertise is requested for evaluation of 64QAM (EVM etc.) and on realistic maximum user C/I values within a cell that may be considered in system simulation studies for OFDM
  - Updated TR will be sent to RAN4 after RAN1#34

WI/SI where RAN WG1 is the leading group (6/7)

- Improvements of interfrequency and intersystem measurements (See RP-030377)
  - No inputs
- Improvements of interfrequency and intersystem measurements for 1.28 TDD (See RP-030397)
  - RAN1 study concluded that no changes to the specifications are needed
  - TR 25.888 (v2.0.0) presented to RAN for approval

WI/SI where RAN WG1 is the leading group (7/7)

- Higher chiprates for TDD (See RP-030400)
  - Updated TR 25.895 agreed (v0.2.0)
  - Rel99 link level results agreed for inclusion in the TR
  - Rel5 system level results are under review
- TEI6
  - No inputs discussed

WI/SI where RAN WG1 is not the leading group

- MBMS (See also RP-030389)
  - Structure of TR 25.803 agreed
  - 6 text proposals with Rel5 baseline results (FDD/TDD) agreed
    - Included in an updated version of the TR (v0.1.0 in R1-030950)
  - Discussion on new L1 techniques continued
    - PCE ”Power Control Enhanced” was presented to replace PTM (Point-To-Multipoint) transmission,
    - Outer coding simulation results need further discussion
- OTDOA-SB (See also RP-030403)
  - No progress on the current method that was studied so far
  - New proposal made for ”Soft-IPDL”
  - Suggestions were made to discontinue the current SI and to focus on studying the new proposal instead

Annex: RAN1 meeting schedule (2004 tentative)

Meeting	Date	Location	Host
RAN1#34	06-10 October 2003	Seoul, Korea	Samsung
RAN1#35	17-21 November 2003	Lisboa, Portugal	European Friends of 3GPP
RAN1#36	16-20 February 2004	TBD	North American Friends of 3GPP
RAN1#37	10-14 May 2004	TBD	TBD
RAN1#38	16-20 August 2004	Prague, Czech Republic (TBC)	European Friends of 3GPP
RAN1#39	15-19 November 2004	TBD	TBD

- Assumption is one RAN1 meeting per TSG cycle (according to PCG discussion)