TSG RAN#17 September 3-6, 2002 **Tdoc RP-02-0566**

Biarritz, France

Source: TSG RAN WG1 Chairman

Report from TSG RAN WG1 chairman to TSG RAN#17

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WG1 CR list: RP-02-0567

Executive Summary

- **Two full WG1 meeting since last TSG RAN#16, joint Ad Hoc on MIMO channel modelling with 3GPP2 08/02**
- **Release -99 CRs 6 for FDD, 5 for TDD**
- **Release 4 CRs total is 5 FDD, 7 TDD CRs**
- **Release 5 CRs**
  - **HSDPA Related: 13 for FDD, 4 for TDD**
  - **Others 6 CRs**
- **Highest number of papers for High Speed Downlink Packet Access (HSDPA) as well as the meeting time.**
- **Not too much time for Release 6 related issues**

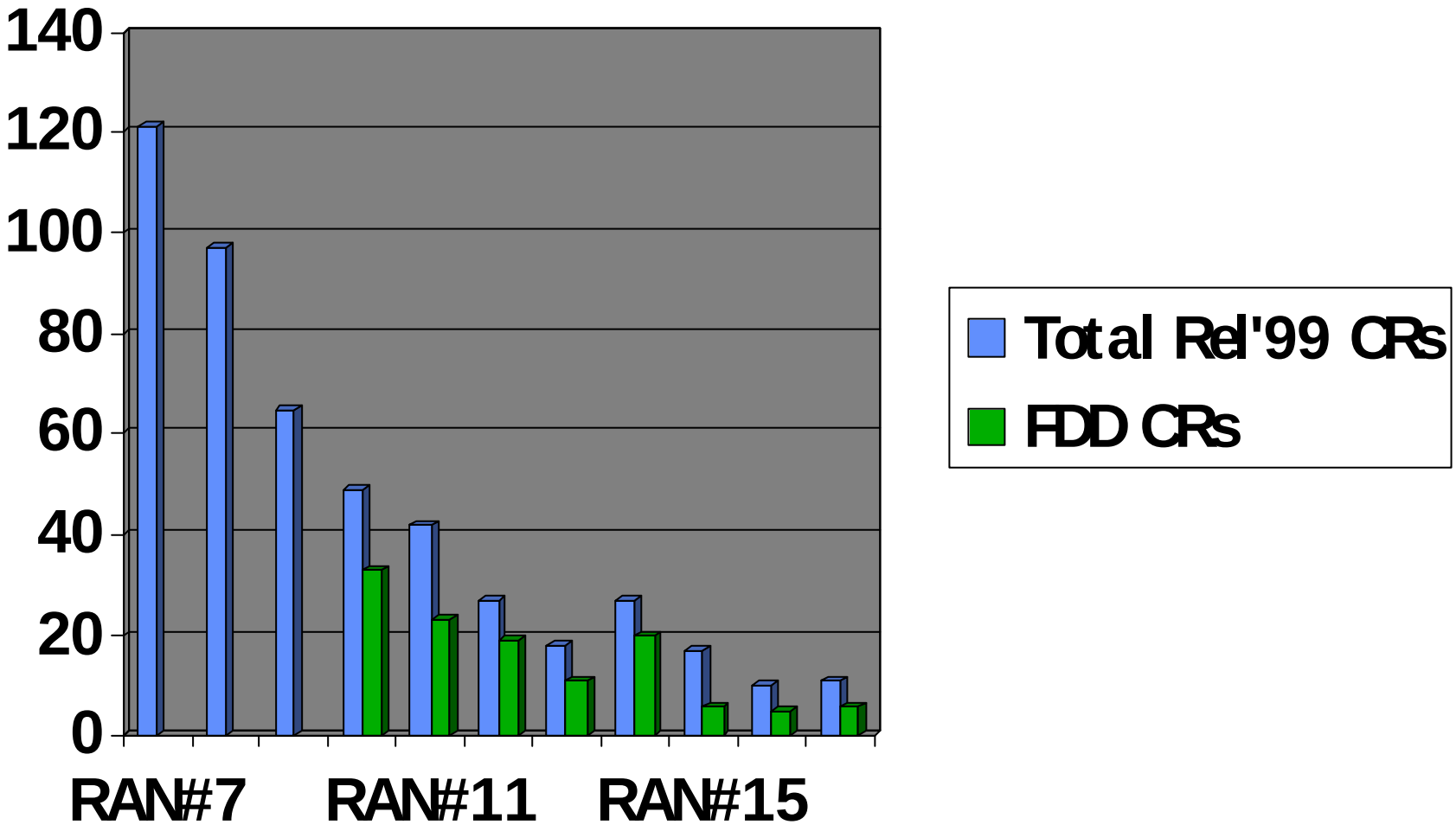
Release -99

Rel’99 General

- Release’99 activity is rather low, total 11 CRs
- For FDD the issues were:
  - Earlier CR related to the validity of slot structures with TX diversity had an error and thus correction was needed was needed to avoid undesired change in the spec (and implementation).
  - Transport channel numbering (also TDD)
- For TDD the issues were:
  - Transmit diversity with beacon channel functionality
  - Channelisation code mappings

WG1 CRs (Rel'99) for RAN#17

- **TOTAL 11 Rel’99 CRs for RAN#17 approval**



A GLOBAL INITIATIVE

25.211 – 25.215 FDD specifications

- 25.211, 25.214
  - TX diversity earlier correction reversal
- 25.212
  - Transport channel numbering
- 25.214
  - Maximum power adjustment during compressed mode (linked to WG3)
  - Reference (linked to WG4)
- 25.215
  - SFN-SFN type 1 measurement
  - Linked to WG2

25.221 - 25.225 Rel'99 TDD specifications

- 25.212
  - Transport channel numbering (as with FDD)
- 25.225
  - SSFN-SFN Type 1 measurement (as with FDD)
- 25.221
  - Channelisation code mapping
  - Transmit diversity for TDD beacon channels (also 25.224)

Release 4

Rel-4 (only) CRs provided on following items

- FDD
  - Enhanced DSCH power control parameter change
  - Numbering corrections
  - Observed time different to GSM cell
  - Compressed mode limitation
  - Transmitted carrier power measurement
- TDD
  - Channelisation code mapping (1.28 Mcps)
  - S-CCPCH description (1.28 Mcps)
  - Uplink synchronisation procedure
  - PRACH open loop power control (1.28 Mcps)
  - SFN-SFN Type 2 measurement

Release 5 CRs

Rel-5: HSDPA Related Issues

- Major effort on correcting details & on HSDPA co-existance with existing features (from earlier Releases), 17 CRs approved
- The following topics were solved (reported last RAN as open :
  - Use of 16QAM, whether 16QAM is required from all HSDPA capable UEs
  - Applicability of beamforming with HSDPA (dedicated pilots only case)
  - CQI feedback rate change as a function of downlink activity
  - TDD interleaving with HSDPA
  - Uplink parameters for offsets
  - L1 data distribution (L1 scrambling function, LS received from WG2)
- Issues solved partly were:
  - Applicability of TX diversity (closed loop) modes (mode 1 issues sorted out)
  - Some more work on the closed loop mode 2 needed with respect to verification and (if raised still by someone) on the power balancing
- Not closed
  - HS-DPCCH operation in SHO, are some further enhancements needed
  - Email discussion on whether something still desired to add to Rel-5 on this.
- For few CRs updates version was approved via email and the revised version is replacing the one approved in WG1#28.
- Also other corrections e.g. on timing and channel encoding chain
- No specific text considered necessary with IPDL and HSDPA relationship.

Rel-5: Other activity

- Also to aling the specs with drafting rules (some figures/sections/tables had been inserted in the way which caused problems for other WGs referring to section/figure/tables with exact numbering)
- This will be done for TDD specs for TSG RAN#18
- For transmit diversity the UE operation in SHO was made more tight (now no tx diversity/Tx diversity operation required to be supported by the Ues)
- Verification description was added for TX diversity mode 2

Release 6 activity

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Rel-6: issues (see separate status reports)

- Papers on MBMS were presented. WG2 expected to ask for opinions if e.g. modifications for current physical channel operation needed
- One new topic for TDD power control raised as REL-6 TEI WI
- FCS was discussed, future discussed will be on intra-Node FCS, Inter Node B FCS not to be worked further
- Inputs were made, but not fully covered on:
- Beamforming enhancements
- TX diversity
- OFDM
- 1.28 Mcps TDD inter-system HO
  - TR update for email approval

Issues coming from discussions for the attention of other WGs

- RAN WG4: From the discussions of PS RABs, it was noted that it would be beneficial for WG4 to have a performance test cases with DTX cases included (not data in every frame) (not for Release'99 anymore)
- RAN WG4: The requirements related to SFN-SFN Type 1 requirements to be checked (as one case was removed)
- RAN: WG1 discussing Rel'4 RAB combinations for 34.108, such as SF 256 for AMR (lower rate than full rate AMR)
- RAN/RAN WG4: The new categories for QPSK only HSDPA to be added for 25.306. These could be considered to be removed in Rel-6, when WG4 has addressed the performance of advanced receivers and reached agreement on related complexity and other issues.
  - Background: No significant gain with 16QAM with traditional receiver (RAKE) so from the time-to-market point of view QPSK only UE category UEs agreed. More advanced receiver (potentially) improves the situation which should be addressed then by WG4 what is reasonable to require from UEs.
- RAN WG3: Beamforming support on missing on Iub/Iur (for Release'99 feature for different phase references). (Release in Iub/Iur to be decided by WG3)

Annex 1. TSG RAN WG1 meetings

- WG1#25 9-12.4.2002 Paris, France (Host: Nortel Networks)
- WG1#26 13-16.5.2002 Kyongju ,Korea (Host: Samsung)
- WG1#27 2-5.7.2002 Oulu, Finland (Host Nokia, Sonera, TAC Finland, Elisa Communications, Finnet) (Tue-Fri)
- WG1#28 19-22.8.2002 Seattle, USA (Host: North American Friends of 3GPP) (Mon-Thu)
- **WG1#28bis 9-10.10.2002 (for Rel-6 issues + LSs, TBD)**
- **WG1#29 5-8.11.2002 China (Host Samsung) (Tue-Fri) (new date!)**
- **WG1#30 January 2003 (San Diego, US)**
- **WG1#31 February 2003 (Tokyo, Japan)**

Annex 2: WG1 Email Ad Hocs Codes

- **AH31 = 1.28 Mcps TDD UE positioning & Node B synch**
- **AH32 = HSDPA General**
- **AH33 = HSDPA UE capability**
- **AH34 = DSCH hard split mode**
- **AH35 = Interfrequency and intersystem measurements (e.g. compressed mode)**
- **AH36 = MIMO and TX diversity issues, including channel models**
- **AH38 = Beamforming**
- **AH40 = Release 4 issues**
- **AH99 = Release -99 issues**
- **TO be updated to reflect new WI/Sis for Rel'6.**