TSG RAN#14 December 11-14, 2001 **Tdoc RP-01-0733**

Kyoto, Japan

Source: TSG RAN WG1 Chairman

Report from TSG RAN WG1 chairman to TSG RAN#14

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Nokia Networks

WG1 CR list: RP-01-0734

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Executive Summary

- One HSDPA Ad Hoc (partly jointly with WG2) and one full WG1 meeting since last TSG RAN#13
- Release -99 CRs not reducing further, 27 CRs, of which 20 for FDD. (+1 one conditionally approved for SSDT)
  - However in most cases adding only e.g. references or small clarifications
- Release 4 CRs total is 16CRs, 3 for FDD and 13 CRs on TDD
- Highest number of Rel'5 papers for High Speed Downlink Packet Access (HSDPA), several details agreed.
- Second biggest topic are still Rel'99 issues
- On Rel'99 issues TSG RAN guidance asked on SSDT related issues, WG1 discussed the necessary corrections, one CR conditionally agreed, one issues not agreed, (see later slides on SSDT)

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Release -99

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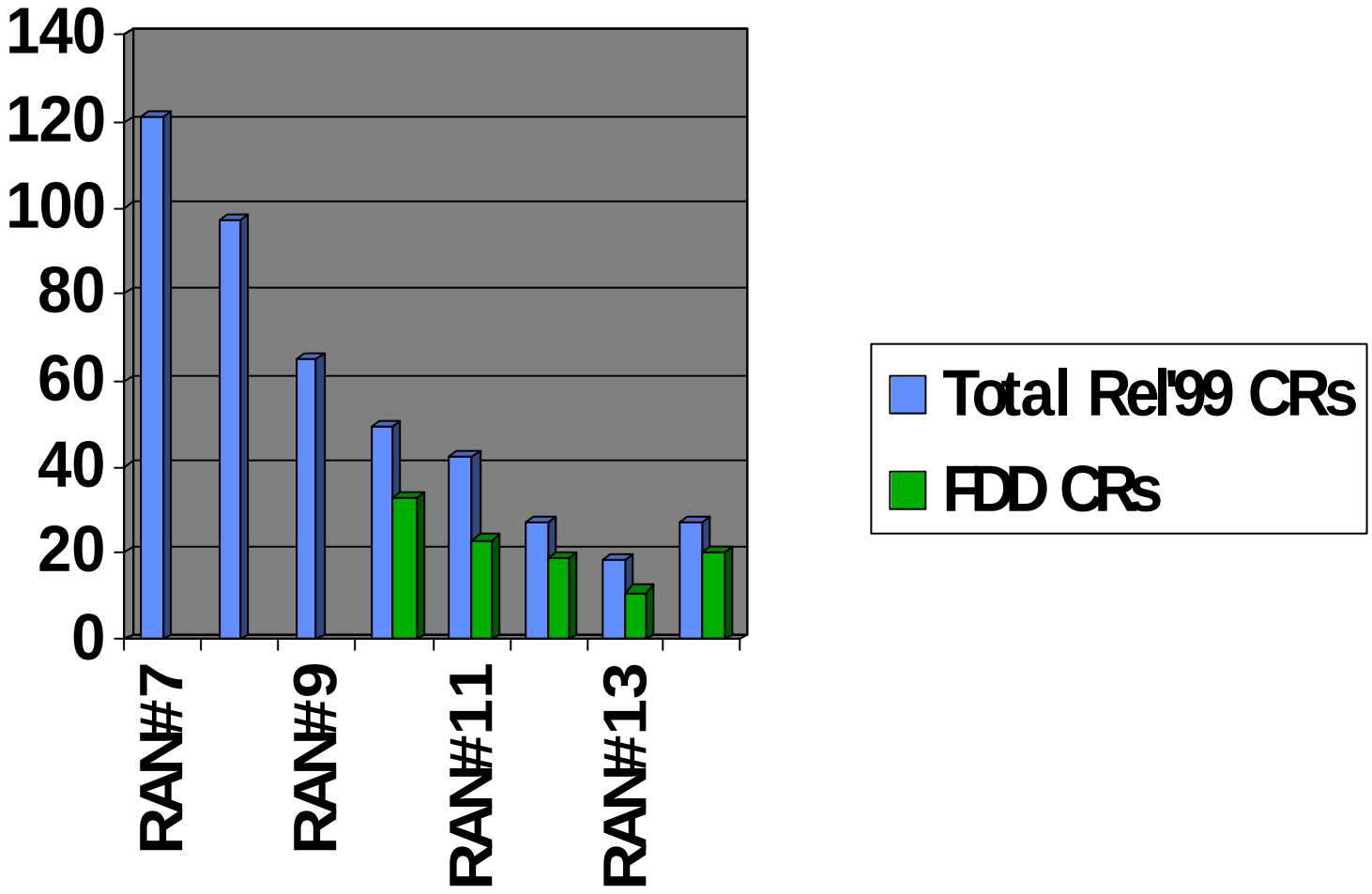
WG1 CRs (Rel'99) for RAN#14

- **TOTAL 27 CRs for RAN#14 approval**



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25.201 General Description
25.211 Physical Channels and Mapping of Transport Channels to Physical Channels
25.212 Multiplexing and Channel coding
25.213 Spreading and Modulation

- **25.201 1 CR**
  - on references of ODMA & slow power control
- **25.211 7 CRs**
  - CPCH related corrections (slot structure, phase reference)
  - When phase reference change can take place
  - One CR has been revised to editorial issues and revised version provided directly for TSG RAN (no objections on WG1 reflector)
- **25.212 2 CRs**
  - Compressed mode clarification
  - Note to state that multiple CCTrCHs of dedicated type will not be supported
- **25.213 1 CR**
  - Referencing corrections

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25.214 Physical Layer Procedures
25.215 Measurements

- **25.214 5 CRs**
  - DPC_Mode = 1 in compressed mode clarification
  - Closed loop TX diversity & compressed mode clarification
  - Downlink phase reference reconfiguration occurrence limitation
  - Slow power control reference removal and CPCH channels power control
- **25.215 4 CRs**
  - Clarification to internal measurement
  - GPS timing measurement corrections (When measurements are applicaple)
  - CPICH Ec/No & UTRA Carrier RSSI definition clarifications

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25.221 - 25.225 Rel'99 TDD specifications

- Total of 7 CRs
- Same measurement clarifications as FDD side
- TX diversity with common channels
- Midample related issues
- & other minor corrections

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Rate Matching Restriction in Rel'99

- It was identified that RRC specification contains such a parameter.
- WG1 preferred not to modify Rel'99 rate matching functionality to support that and also indicated that this issue should be preferably to be covered in WG2 specifications. It was felt that having separately to check on a frame by frame basis on L1 which are allowed TFCs was not desired.
- LS was provided to WG2 on the issue.
- WG1 chairmans view: Not an issue anymore as solved in WG2

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SSDT in Rel'99

- There was discussion on SSDT operation on it own and also in combination with other featureres:
- There was a CR agreed conditionally (if SSDT is kept in Rel'99) to clarify the UE TPC operation in SHO with SSDT
- For the UTRAN side, there is conflict with WG1 and WG3 specs as noticed in WG4, the threshold parameter for Node B is assumed to be given by the network (WG1) specs, but this is not supported by WG3 specs. This was expected to have problem is multivendor environment but exact way how to proceed was not agreed. Proponents were invited to input the proposed CR directly to TSG RAN for discussion. The views on the severity of the problems varied

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SSDT in Rel'99 (cont.)

- Possible solutions:
  - a) Fix everything in Rel'99
  - b) Fix everything but also restrict the SSDT in combination with TX diversity (closed loop)
  - c) As a or b but make SSDT optional
  - d) Remove SSDT from Release'99, Fix SSDT for Rel'4
  - e) Remove SSDT from Release'99 & Rel'4, move & fix it to Rel'5

- TSG RAN WG1 was not able to reach consensus on the approach, thus TSG RAN guidance is asked
- Related papers:RP-010775 Conditionally agreed Rel'99 CR on the issue (agreed if TSG RAN decides to fix SSDT in Rel'99)

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TPC in SHO in Rel'99

- It was proposed to define more in detail that UE will consider TPC commands only from those radio links that are actually combined in the receiver. WG1 basically agreed with the principle but it was felt to be unnecesssary to state that in WG1 specs, the issue should be taken into account in WG4 test cases.

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Release 4

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Release 4 (only) CRs provided on following items

- 25.214 PDSCH power control clarification
- 25215 UE GPS code phase measurment
  - UTRAN SFN-SFN measurement correction
- 6 TDD specific CRs,
  - Bit scrambling
  - Transmit diversity

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Release 5/6 work/study items

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Rel'5 WI: High Speed Downlink Packet Access (HSDPA) - Physical Layer

- The WI made significant further progress, e.g. ARQ & modulation principle agreed
- Issues that require further work in the coming meetings include
  - UE Capabilities
  - Downlink signaling coding (in 1 part or two parts, + confirmation with number bits in co-operation with WG2)
  - Detailed Timing issues (UE prcessing time, timing relationship between uplink channels)
- WG1 also reviewed input to WG2 on physical channel combinations (R1-01-1233) (for which there were no remarks)
- There was discussion on whether 16QAM should be mandatory (current status) for all HSDPA capable UEs or not. There is system performance/complexity trade-off with the issue.

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Rel'5 WI: High Speed Downlink Packet Access (HSDPA) - Physical Layer (cont)

- TSG RAN WG4 is kindly asked to check the testing aspects of the uplink signaling
- The status report and TR can be found from Tdocs RP-01-0823 & RP-01-0843

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Rel'5 Study Item: USTS

- Uplink Synchronous Transmission.
- Study item completed, TR was submitted including WG3 part to be reviewed by WG3 and then to be submitted to TSG RAN for approval,
- See separate status report and TR.

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Rel'5 WI: DSCH Hard Split mode enhancement

- Coding solution reviewed, more Rel'99 like presentation required, principle is OK
- Not all possible combination to be supported, in addition to the current 5-5 split 4-6 and 3-7 to be added most likely
- TSG RAN WG2/WG3 to investigate the specification changes
- Discussion on TFCI power control details to continue in WG1
- Updated TR presented for TSG RAN for information and status report can be found in Tdoc RP-01-0840 & RP-01-0841

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Rel'5/Rel'99 Beamforming

- TR was created and is provided for TSG RAN for information in RP-01-0800 and with the status report.
- The scope of this TR is to define potential measurements for UTRA FDD and their performance requirements for efficient support of RRM in case beamforming is used in UTRAN
- Two measurements were inputted in the TR and other WGs are asked to investige the issue as well (WG4 has started the discussions already)
- There are not actions for these UTRAN measurements needed from WG2 but WG3 should investigate the necessary specification changes.

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Rel'5 WI: Improvement of Inter-frequency and Inter-system Measurements

- No new FDD related contributions, WG1 is waiting for WG3 to investigate the RNC aspects (is there a problem in implementing this specific code with SF/2 concept or not) the issue and give feedback on the topic for WG1 consideration before progressing the idea further.
- On 1.28 Mcps TDD there was a proposal made for similar topic, the current WI was seen however FDD specific and for further discussions a separate SI/WI is preferred.
- No new status report issued on FDD issues.

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Rel'5 study item: Improved cell FACH state

- No activity due lack of inputs (There is a WG2 LS pending for answers)

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Rel' 5/6 WI: MIMO

- Together with TX diversity studies channel model was discussed to be used with MIMO/Tx diversity simulations
- The details seem to be difficult to agree, issue put to the email discussions and to be resumed in the next meeting
- The TR progressed and provided for information for TSG RAN in Tdoc RP-01-0796. Report in Tdoc RP-01-0797

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Rel'5 Study Item: Radiolink Performance Enhancements

- TX diversity was discussed (beyond Rel'5), updates for the TR were done
- See separate report, TR to be made available for TSG RAN#15 (03/2002)

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Release 5 1.28 Mcps TDD Progress

- 1.28 Mcps TDD node B synch
  - TR worked further & provided for TSG RAN for information
  - Several methods under consideration
  - See RP-01-0898 & RP-01-0899 (there were some comments on WG1 reflector for the status report)

- UE Positioning enhancement for 1.28 Mcps TDD
  - Issues to be reported by WG2

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Annex 1. Coming TSG RAN WG1 meetings

- **WG1#24 8-11.1.2002 Espoo, Finland (Host: Nokia)**
- **WG1#25 18-22.2002 Florida, USA (Host: Motorola)**
- **WG1#26 9-12.4.2002 TBD**
- **WG1#27 14-17.5.2002 Korea (Host: Samsung)**
- **WG1#28 25-28.6.2002 Oulu, Finland (alternative dates 1 week later, to be checked) (Host Nokia)**
- **WG1#29 20-23.8.2002 TBD**
- **WG1#30 24-27.9.2002 China (dates to be checked) (Host Samsung)**
- **WG1#31 12-15.11.2002 TBD**

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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**
- **AH37 = Improved cell FACH state**
- **AH38 = Beamforming**
- **AH39 = USTS**
- **AH40 = Release 4 issues**
- **AH99 = Release -99 issues**

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