TSG RAN#12

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Source: TSG RAN WG1 Chairman

TSG RAN WG1 Status on HSDPA

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Uplink Signaling

- WG1 working assumption: Current DPCCH structure + code multiplexed ACK/NACK signaling
- Further details: SF=256 with ACK/NACK signaling
- DPCCH (+DPDCH) should be possible to be receive with Rel'99/Rel'4 base stations.
- Items for further studies include:
  - coding tms needs further work
  - Is there need for some other feedback signaling than ACK/NACK or is DPCCH power level info sufficient at Node B together with ACK/NACK feedback

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Downlink Signaling

- Basic configuration is: DPCH + some shared Control channel + HS-PDSCH.
- Open issues include: Is the L1 signaling on the DPCH (DPCCH) that relates to the HS-PDSCH?
  - Proposals exists that there would be a pointer etc. prior the HS-PDSCH to direct to the control channel.
  - Alternatively UE is monitoring the shared control channel which would carry all allocation information
- This was discussed with WG2 and rather question is that is there also possibility to share a DCH with more than one UE in DL.

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Channel coding & HARQ

- Turbo coding used by all UEs using HSDPA
- Current Turbo interleaver used with segmentation for larger packet exceeding 5114 bits (as of Rel'99/Rel'4)
- Working assumption from the previous joint meeting of only one TrCh per TTI will simplify rate matching
- One ACK/NACK per TTI has been assumed from the past as well.
- Chase vs IIR still to be decided, potential gains vs complexity issues
- DTX handling with QAM modulation needs to be addressed (if DTX used)

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HS-PDSCH Structure

- Working assumption is SF 16
- The semi-static TTI (short), selection between 1 slot and 3 slots TTIs to be done (or more than one?)
- Open Items to study include:
  - Should there be also 10 ms TTI supported?
  - Should the TTI be variable or semi-static
  - What is the level of code multiplexing (How many UEs in parallel?)

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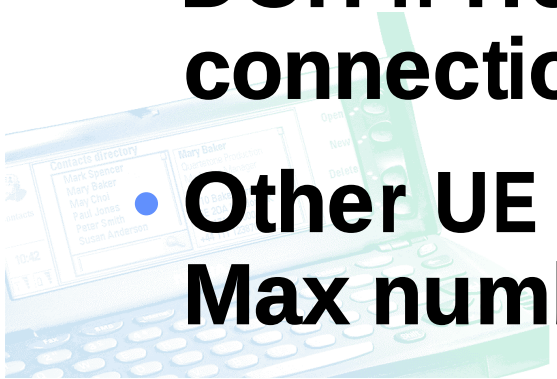
UE Capability

- All UEs to support QPSK - 16 QAM (Whether 8 PSK will be kept remains to be seen)
- 64 QAM as optional for UEs
- There is connection between Rel'99/4 DCH/DSCH capability, e.g. UE capable of 384 kbps DCH will not support 384 kbps on DCH if HS-DSCH is in use for the connection.
- Other UE capability parameters proposed: Max number of physical channels (e.g. 5, 10



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TDD Specific/Further Details

- **TDD Processing and buffering complexity presented**
- **Bit/Symbol level Combining with ARQ & Turbo coding was discussed based on simulations**

- **To cover in the next phase: Link Level Simulations with HARQ (Chase Combining), ARQ details.**

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HSDPA Papers in WG1

- **More than 50 papers on HSDPA papers covered + look for the WG2 TR and Meeting Report from the joint meeting in April.**
- **Next WG1 meeting covering HSDPA to take place end of June 26-28th, Espoo, Finland**
  - **(WG1 Rel'5 Ad Hoc)**
- **WG1 HSDPA TR Outline to be discussed over email**

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