

Status Report for SI to TSG

Agenda Item: 8.7.1

Study Item Name: "Radio Link Performance Enhancements "

SOURCE: Rapporteur

TSG: RAN

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Ref. to WI sheet: [RAN_Work_Items.doc](#)

Progress Report since the last TSG (for all involved WGs):

Tx diversity for multiple antennas

1. A proposal for adopting MIMO link level channel models with assuming only one antenna at the UE was approved in RAN WG1#29. System level models are yet to be agreed on.
2. TR25.869 was updated with two approved text proposals.
3. Discussion on the scope of the TR took place in RAN WG1#29, as there have been proposals on schemes with also 2 antennas.

HSDPA enhancements

One document on variable rate CQI was discussed at RAN WG1#29 meeting. As there were also other contributions on this issue and some other proposed HSDPA enhancements for Release'6, it was agreed at that a TR on "HSDPA enhancements" would be created under Radio Link Performance Enhancements SI.

Power Control enhancement

RAN WG1 has been discussing a proposal for incorporation of a multilevel power control scheme in the TDD specifications. No agreement was reached based on the contributed material by RAN WG1#29 meeting. Finally, it was agreed that a TR for power control enhancements would be created under Radio Link Performance Enhancements SI.

List of Completed elements (for complex work items):

Tx diversity for multiple antennas

- o Description of studied schemes

List of open issues:

Tx diversity for multiple antennas

- o System simulation model.
- o Evaluation of presented pilot schemes + conclusion.
- o Reviewed performance results.
- o Impacts to UE and UTRAN implementation.
- o Impacts to physical layer operation.
- o Complete "backwards compatibility to R99/R4" considerations.
- o Evaluation of described schemes (comparing of different techniques).
- o Conclusion

Estimates of the level of completion (when possible):

Tx diversity for multiple antennas

- Basic techniques are introduced.

SI completion date review resulting from the discussion at the working group:

Tx diversity for multiple antennas

- TR was expected to be presented for approval for TSG RAN#18 but this is not possible due to following reasons:
 - RAN WG1 has not yet agreed on the evaluation methodology of different Tx diversity schemes in the TR
 - system simulation parameters have not been agreed
 - after completing the previous two points, it will take quite some time to evaluate the schemes and agree on the conclusion
- RAN WG1 proposal is to extend the completion date for TR25.869 until 09/2003

References to WG's internal documentation and/or TRs:

- R1-02-1441, "Tx diversity solutions for multiple antennas"