Agenda Item: 8

Source: **RAN and RAN WG Chairmen and Convenors**

Title: Organisation of the work within RAN and between RAN and other TSGs

Document for: Approval

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There has been discussions on how to handle subjects which are across several RAN Working Groups i.e. the RAN "system aspects". Also, the interactions with other TSGs e.g. TSG SA, need to be considered also. This document reflects the result of the discussions that took place between the Chairmen and Convenors of TSG RAN and TS RAN WGs.

The global principles which have been proposed are summarised below:
- The responsibility for the co-ordination of the work on UTRAN will be done in TSG RAN plenary meetings. Activities can take place between meetings using the e-mail reflector in order to progress between meetings, but actual technical discussions can also take place during TSG RAN plenary.
- The work will follow a top down approach, coming from service requirements, the into RAN system global requirements, and then go down the layers until physical layer requirements.
- Initial requirements being expressed from the highest level - i.e. service requirements - and will come typically from TSG SA that will input these requirements to RAN plenary. The conversion between service requirement into technical requirements for UTRAN will be done either by TSG RAN, or will be allocated by TSG RAN onto one WG. Whether TSG RAN keeps responsibility or whether this will be allocated to a WG depends on the type of subject: if it is clear that one WG has a leading role in one subject - e.g. EMC specification - then he should be handed responsibility for the progress on the work, whereas if the subject is equally spanning multiple WGs, then it should remain under the global responsibility of TSG RAN.
- When TSG RAN assumes global responsibility to one subject, it can allocate second responsibility to another WG where eventual between RAN meeting discussions can take place.
- It is possible that a subject shifts responsibility in time from one WG to another one because the necessary work in one WG has been basically completed, and the work must continue in another WGs.
- The documentation numbering should be independent on the WG in which the work was initiated, so as to allow evolution in terms of merging or deletion of WGs.

Based on these principles, the following changes or details on work organisation between the WGs are proposed to be endorsed:

Handover support
- Firstly, WG4 will have responsibility for study of RF scenarios. This study should identify typical scenarios with the associated relevant figures - e.g. number of cells which can/need be monitored, number of radio paths, speed of variation of the channel, usefulness of link adaptation, etc -. WG4 will also address issues like necessary physical layer measurements accuracy.
- The results from WG4 will be a key input to WG1 and WG2 for the necessary handover procedures and measurement capabilities that meet these various scenarios.
- Based on the WG4 work, WG2 is responsible for defining the handover strategies and the necessary procedures which shall be defined as modular - i.e. tool box principle - . Handover strategies includes "rescue" handovers but also "traffic/capacity" handovers.
- Based on the WG4 work, WG1 is responsible for the necessary measurements in support of the upper layer procedures based on requirements from WG2.

Mandatory/optional features
- What is mandatory and what is optional as a support is written in the corresponding interface specifications - e.g. WG1 documents for physical layer specifications, in RRC protocol specification, in Iub interface specification for the

minimum Node B support. Exact tests to be performed for conformance testing - e.g. PICS - will be specified by regional bodies.

Inter-layer procedures
- Inter-layer procedures are captured in S2.03 under the responsibility of WG2. It may be necessary to split S2.03 in two documents - i.e. one document on states and state transitions, and one document on inter-layer procedures -. This is addressing the procedural level, but does not address the protocol details - e.g. the measurement report parameters are NOT in S2.03, but should be in the RRC protocol specification and physical layer measurement document.

Interactions between WG1 and WG2
- The process between WG1 and WG2 is iterative, WG2 placing requirements to WG1, but also WG1 guiding WG2 on what is reasonable to be expected from the physical layer.

More details on WG4 terms of reference
- WG4 is responsible for all the activities related to the RF aspects. This include pulse shaping that will be moved from WG1 to WG4.
- "Protocol aspects from a system point of view" will be removed from the ToR of WG4 and replaced by "RF system aspects".

More details on WG1 terms of reference
WG1 is handling radio transmission and reception aspects related to the physical layer, excluding RF aspects. As an example, fast power control layer 1 procedure is part of WG1, but the global tool box to use fast power control is part of the RRC protocol (outer loop power control, measurement reports, etc). WG1 should not be responsible for procedures, except those which do not interact with upper layers - e.g. TFI mapping -.

Random Access
- Random Access is a joint responsibility between WG1 and WG2. The size and contents of the RACH message are defined by WG2. WG1 defines the PRACH channel and the receiver performances of PRACH. Admission control of the RACH channel and the backoff mechanism in under control of WG2 (in the MAC protocol), with support from Transport channels supported by WG1.
- RACH pre-amble power-up was defined in WG1 based on the merits in the physical layer performances, but the work could be handed over to WG2 so that the necessary procedures are put in place in conjunction with admission and congestion control procedures. However, the principles of the pre-amble power-up as defined by WG1 should not be changed without consulting WG1.

Simulations
If necessary, system level simulations would be carried under TSG RAN. Link level simulations will be performed under the responsibility of WG1, whereas RF simulations will be under the responsibility of WG4 based on inputs from WG1.