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Abstract:

This deliverable provides a definition and a complete evaluation of the RRM/CRRM algorithms selected in D11 and D15, and evolved and refined on an iterative process. The evaluation will be carried out by means of simulations using the simulators provided at D07, and D14

Keyword list: UTRAN, GERAN, WLAN, heterogeneous networks, RRM, CRRM

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EXECUTIVE SUMMARY

The scope of this document is to present a wide range of studies in the field of RRM/CRRM strategies that have been developed in the framework of the IST-project EVEREST. RRM/CRRM solutions envisage an optimised utilisation of scarcely available radio resources for the support of mixed services within heterogeneous networks.

Initially, RRM aspects for different RATs are covered, since these are the pillars for the efficient development of common strategies. In particular, UTRAN, GERAN and WLAN have been covered, UTRAN being more extensively treated because of the larger number of dimensions involved (i.e. frequency, time, code and also power) in the radio resource management problem. Finally, CRRM mechanisms have been targeted and strengthened in order to provide consolidated views and solutions.

As a final report of EVEREST's activities on RRM and CRRM for the whole duration of WP3, this document intends to capture the different developments achieved from March 2004 to October 2005. For those aspects already included in previous deliverables (D11 "First report on the evaluation of RRM/CRRM algorithms", issued October 2004, and D15 "Report on the evaluation of RRM/CRRM algorithms", issued March 2005) only some relevant concepts and a few representative results are captured here, so as to maintain the self-contened nature in the present final report. Strategies and algorithms developed since March 2005 are described with a higher level of detail, so that these activities are suitably reported in an official deliverable. Thus, the extension devoted to every single topic covered in the following subsections is not necessarily indicative of its relevance for the whole EVEREST project.

The document is structured as follows. After an introduction in Section 1, Section 2 is devoted to RRM mechanisms and considerations for UMTS. Section 3 covers RRM for GERAN, while Section 4 is devoted to WLAN. Then, Section 5 is devoted to CRRM presentation and evaluation of the different proposed alternatives. Finally, Section 6 summarises the conclusions reached.

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