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Intermediate report on AROMA algorithms and simulation results

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This deliverable provides an intermediate report of the progress achieved in the proposal and evaluation of algorithms and simulations carried out within WP3.

Keyword list: Quality of Service (QoS), End-to-end QoS; Radio Resource Management (RRM), Common RRM (CRRM), QoS architecture, All-IP, Heterogeneity.

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EXECUTIVE SUMMARY

The scope of this document is to describe and present the evaluation of the different algorithms and procedures developed within WP3, continuing the work that was presented in D09. The evaluations have been carried out by means of simulations using the first version of the developed simulators, whose capabilities are reported in D06. Also, analytical models have been derived in order to gain insight into some of the targeted problems.

The document starts with the description of the E2E QoS vision of the project according to the medium-term and long-term system architectures, aligned respectively with the R6 and LTE visions of 3GPP. For each of the two architectures, the key drivers to ensure E2E QoS guarantees are identified. From the identification of these drivers, a novel functional model is proposed, relying on the coordination of (Common) Radio Resource Management functions with the Transport Resource Management functions under the so-called Coordinated Access Resource Management (CARM) functions. After the description of this functional architecture, the deliverable addresses some of the different identified research aspects, starting from the E2E functions under the CARM perspective, and then going into the more radio specific aspects, which are presented both from the perspective of the availability of several RATs, in terms of CRRM functions, and from the consideration of intrinsic RRM strategies dealing with one specific access technology. Finally the implementation aspects of the different functions are discussed.