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Target scenarios specification: vision at project stage 2

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Abstract:

This deliverable provides an updated version of the selected target scenarios in AROMA. The updates are made in order to consider the latest evolutions of the standardisation bodies such as 3GPP as well as any other outstanding technical information coming from the AROMA partners or from the standardisation.

The scenario descriptions consists of updated parameters on networks, services, users and environments, with focus on those parameters that are relevant for the common Radio Resource management and end to end QoS in all-IP heterogeneous networks. The heterogeneous network comprises evolved 2G and 3G cellular systems as well as wireless local area networks (WLANs).

Keyword list: Scenarios, Mobility and Propagation models, Layouts, Traffic Characterization, Traffic mix, QoS parameters

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EXECUTIVE SUMMARY

The scope of this document is to update the target scenarios to be addressed during the second stage of the AROMA project focusing on those parameters that are relevant for the common Radio Resource management in cellular heterogeneous networks. The heterogeneous network comprises evolved 2G and 3G cellular systems as well as wireless local area networks (WLANs).

Six target scenarios from stage one and the GERAN-UTRAN co-site theoretical scenario are given in this deliverable based on the requirements of the four operators in the project. They are described by means of four main items, Network Type, Users and Terminals, Services and Location and Environment, which are considered most relevant for RRM strategies. The selected six target scenarios and the corresponding evaluation procedures are compliant with 3GPP specifications in order to facilitate the impact of the project result in 3GPP. The scenario vision encompasses a heterogeneous network supporting end-to-end QoS for users with multimode mobile terminals in the time frame of 2009-2010.

The document gives a short introduction in section 2 and overview of the scenarios that will be used within AROMA stage two. Section 3 summarizes the progress in the standardization bodies 3GPP and IEEE 802.11 related to the evaluation of the reference QoS architecture. Certainly, AROMA aims to capture the major trends in network evolution coming from 3GPP SAE/LTE as well as other innovative proposals such as HSPA Evolution. The update of the characterization of the Radio Access Technologies (RAT) is done in Section 4 whereas Section 5 addresses to the service characterization, including some figures about the offered traffic predictions and traffic loads measurements. In section 6 the main characteristics of the environments to be assumed in AROMA, are described including user mobility and user density models as well as radio wave propagation. General information on transport network as well as core network technology and topologies was given in deliverable D05. This information is still valid also for the second phase of the project. In addition to this details regarding aggregated traffic flows are also included in section 7. This can be used for transport network dimensioning analyses in AROMA. The description of the final selected scenarios, considering both theoretical and realistic, is done in section 8. Finally section 9 contains a brief conclusion about the document.

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