

Differentiated Rich Media Services in Heterogeneous Wireless Network Environments

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A major issue in rich media communications in heterogeneous wireless network environment is the mapping between the requirements of the services to be provided and the features offered by the network nodes. In this mapping an important contribution has network delivery-related characteristics, which vary greatly depending on the technology employed, load – both in terms of traffic and in terms of number of users and policy.

In such a context, it seems natural to introduce a new framework for supporting this services-node features mapping. The preliminary framework has three layers:

1) Services Layer – includes major service classes (e.g. Control, Interactive, Realtime Transport and Reliable Transport); each class has requirements described in terms of reliability, delay sensitivity, loss sensitivity, capacity of transport, etc.

2) Network Layer – includes available networks described both via their supporting technologies (e.g. WiFi, LTE, WiMAX, etc.), and their QoS characteristics such as: average bandwidth, range, loss, delay, etc.

3) Features Layer – includes the communicating nodes and their associated features described in terms of video acquiring capabilities, audio capturing device features, processing capabilities, communications support, etc.

The goal of this project is two-fold: it will fully formulate the three-layer framework which enables service-node feature mapping and it will propose a solution for supporting efficiently differentiated rich media service delivery in a heterogeneous wireless environment based on this framework.

