Abstract

Health services comprise a broad range of healthcare services delivered by using information and communication technology. In order to support existing as well as emerging e-Health services over converged next generation network (NGN) architectures, there is a need for network quality of service (QoS) control mechanisms that meet the often stringent requirements of such services. In this paper, we evaluate the QoS support for e-Health services in the context of the Evolved Packet System (EPS), specified by the Third Generation Partnership Project (3GPP) as a multi-access all-IP NGN. We classify heterogeneous e-Health services based on context and network QoS requirements and propose a mapping to existing 3GPP QoS Class Identifiers (QCIs) that serve as a basis for the class-based QoS concept of the EPS. The proposed mapping aims to provide network operators with guidelines for meeting
heterogeneous e-Health service requirements. As an example, we present the QoS requirements for a prototype e-Health service supporting tele-consultation between a patient and a doctor and illustrate the use of the proposed mapping to QCIs in standardized QoS control procedures.

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Index Terms

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