Wojciech Burakowski and Halina Tarasiuk
Warsaw University of Technology

# Towards the QoS Internet

Abstract

Further developing of today's Internet is limited by some barriers. About them the most important are not sufficient solutions for assuring security, reliability and quality of service (QoS). In this paper the main focus will be put on QoS aspects. To meet user satisfaction of using such applications as VoIP, VTC, sending urgent data etc., we need to guarantee transfer of packets with low and controlled values of such parameters as packet delay and packet losses. For this purpose new network architectures were developed (i.e. Inserv, DiffServ) as well as new traffic control mechanisms as schedulers, packet markers etc. Furthermore, providing QoS requires a consistent approach to cope with multi-domain issues as well as with heterogeneity of the Internet that consists of different networks built on different technologies.

In the paper we present the lessons learnt from implementations of different, so called, classes of services as defined recently by IETF. In particular, we concern on the results received from two European projects 5FR AQUILA and 6FR EuQoS, both related to building prototypes of QoS oriented architectures. While AQUILA was a solution for DiffServ single domain network, the EuQoS was designed to cope with multi-domains and network technology heterogeneity.

However, the developed and tested architectures needed to introduce into the Internet new network mechanisms and algorithms. This causes that QoS architectures are becoming complex systems and scalability of solution can be a barrier.

Finally, the requirements for implementing QoS-capable architectures for future Internet will be outlined and discussed.