

JOURNAL OF TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

Preface

Telecommunication technology is evolving at an accelerating rate. This results in the rapid growth of speed of transmission not only in backbone networks but also in access networks and gives the possibilities of creating new telecommunications services and make them available to customers. Competition between service providers and the offering of services as soon as possible often means that service quality is not good enough. Monitoring the quality of service is of great importance not only for users, but also for the operators. It allows them to find the causes of insufficient quality and thanks to this gain competitive advantage. Unfortunately, the quality of research methods, especially those that relate to the signals associated with hearing and sight are still imperfect.

On September 30th of last year in Warsaw at the Faculty of Electronics and Information Technology of Warsaw University of Technology the Second International Conference on Quality of Telecommunication Services took place. The motto of the conference was "Quality Monetization in Telecoms". The conference was devoted to aspects: practical, standardization and research related to quality of service. The conference was jointly organized by Systemics PAB, Institute of Telecommunications of Warsaw University of Technology, and IEEE Communications Society – Chapter Warsaw.

The first five articles in this issue were delivered at the scientific session of the conference. All of them are dedicated to quality of service associated with the voice and video signals.

For many of us it may be surprising that we are still investigating the quality of voice services. Why is that? Telephone lines from year to year are becoming increasingly complex. The combination of mobile telephony, internet fixed-line, and the introduction of packet transmission in place of the connection circuit causes a gradual degradation of voice quality. What's worse, in many cases, looking for the causes of poor quality requires an individual approach. Such problems occur not only in the case of VoIP, or VoLTE, as well as in older solutions, such as mobile telephony 2G and 3G.

When the speech signal is transmitted into packets one of the causes of poor quality may be packet loss. The first article of this issue deals with the burst ratio parameter used in so called E-model, which describes the burstiness of a packet loss observed in digital networks, and extending the burst ratio definition to tandem concatenation of transmission channels being described by their individual burst ratios.

The next four articles are devoted to the quality of services associated with video signals.

The transmission of video signals was until recently reserved exclusively for broadcast TV or cable TV. Progress in the coding techniques and a significant increase of bitrate also in wireless networks enabled services such as IPTV or VToIP.

Now cable networks and broadcast television commonly offers HD video, and probably soon so will the 3D video. These new solutions require the development of other tools and methods for quality testing. Some proposals for such methods have been presented in three articles.

Although the theme of this feature topic in this issue of *Journal of Telecommunications and Information Technology* is the widely understood quality in telecommunications, some of the articles are primarily related to other subjects. All except one are associated with radio networks. Although they do not address directly the quality of service, a few of them discusses the issues that affect indirectly the quality of service. I am grateful to all the contributors of this issue. I thank the authors for their time and efforts in the presentation of their recent research results. I also would like to express my sincere thanks to the reviewers, who have helped us to ensure the quality of this publication.

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