



Call for Papers

IEEE Transactions on Multimedia Special Issue on Quality-Driven Cross-Layer Design for Multimedia Communications

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With the rapid growing of emerging multimedia communications applications, such as online gaming, video conferencing, video streaming, and mobile TV, along with the prevalent HD contents and the ever-increasing hardware capability with lower cost, consumers nowadays are seeking for higher quality of multimedia services in terms of desirable audio and visual quality, friendly user interactivity, powerful system adaptability and capability, and other user-preferred performance metrics. However, various applications and media formats may have different quality evaluation criteria and control parameters. For example, scalability and interactivity are very crucial performance metrics for 3D graphics scene model representation and delivery, while they may not be that important for some other multimedia applications. Thus, there is a strong impetus to develop new quality evaluation methodologies for various media formats under different multimedia application scenarios. Recently, cross-layer design has become a popular design methodology for enhancing Quality-of-Service (QoS) over various multimedia communications systems. However, most existing cross-layer designs for QoS provisioning in multimedia communications are mainly focused on improving network-oriented QoS such as throughput, delay, and jitter, while the multimedia application-oriented QoS have not been fully considered in the existing cross-layer design optimization. Therefore, quality-driven multimedia communications need to be extensively investigated under various

communications scenarios involving audio, video, VoIP, image, and/or graphics. Under such a background, it is very important to highlight the importance of quality-driven cross-layer design as one of the enabling technologies for the next-generation quality-aware service-oriented multimedia networks.

The aim of this special issue is to bring together the state-of-the-art research contributions that address the various aspects of quality-driven cross-layer designs for multimedia communications. Original completed and unpublished works not currently under review by any other journal/magazine/conference are solicited. Topics of interest include, but are not limited to:

User perceptual quality enhancement methodology
Media quality measurements for communications applications
Optimized 3D graphics scene representation and transmissions
Optimized image/video representation and transmissions
Optimized audio/speech coding and transmissions
Content-aware cross-layer design and optimization
Scalability and mobility issues in cross-layer design
Quality-driven cross-layer design architecture
Quality-driven resource management, scheduling, and admission control
Quality-driven cross-layer MAC and routing protocols
Cross-layer protocol stacks for quality support
Performance evaluation of quality-driven cross-layer system design
Standardization issues related to quality-driven cross-layer design
Cross-layer design for P2P streaming
Cross-layer design for multimedia sensor networks

Submission Procedure:

Authors should prepare manuscripts according to the Information for Authors as published at www.ieee.org/organizations/society/sp/tmm/infotmm.html. Note that mandatory over-length page charges and color charges will apply. Manuscripts should be submitted electronically through the online IEEE manuscript submission system at <http://tmmieee.manuscriptcentral.com/>. When selecting a manuscript type, authors must click on Special Issue on Quality-Driven Cross-Layer Design for Multimedia Communications. Authors should follow the instructions for the IEEE Transactions on Multimedia and indicate in the Comments to the Editor-in-Chief that the manuscript is submitted for publication in the Special Issue on Quality-Driven Cross-Layer Design for Multimedia Communications. A completed copyright form is required to be signed and faxed to 1-732-562-8905 at the time of submission. Please indicate the manuscript number on the top of the page. More specifically, please note that the following five items must be ready before you submit your paper:

- A single-column, double-spaced (1-column) version of 30 pages or less for regular papers, 12 pages or less for correspondence papers

- A double-column, single-spaced (2-column) version of 8 pages or less for regular papers, 6 pages or less for correspondence papers
- Complete contact information for ALL authors on the cover page (name, address, e-mail, phone, fax)
- A fully executed and signed IEEE Copyright Form (kindly write the paper number on top of the form for identification) either by to fax: +1.732.235.1627, or you may e-mail a scanned version to d.tomaro@ieee.org
- References (not yet published). You will need to e-mail (to sci@engr.unl.edu) a .pdf file for each of the references listed in your paper that have NOT YET been published or are otherwise hard to access for reviewers.

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