

CALL FOR PAPERS
IEEE Network

Convergence of Internet and Broadcasting Systems

Present and future generation networks are offered as a combination of highly diversified technologies in the access, backhaul and core (e.g., wireless, mobile, fixed lines) enabling provision of heterogeneous services. To achieve interworking, IP arises as a key element for the realisation of a unified/fusion environment which enables the convergence/synergy between traditional and emerging technologies offering ubiquitous services to a variety of end users. Along those lines, a notion of convergence is lately achieved between the intrinsic technologically different Telecommunications and Broadcasting sectors. This convergence, witnessed both at technological and service levels, is mainly empowered by the evolution of broadcasting standards (DxB, ISDB, ATSC), the recent advances in fixed and mobile telecommunication technologies (xDSL, FTH, GSM/GPRS/UMTS, WLAN, WPAN), and by the progress in the field of 'Interactive Broadcasting'. A broadcasting platform is not only seen as a medium to broadcast 'bouquets' of TV programs to a large number of viewers distributed over large geographical areas; its intrinsic characteristic to combine TV programs and IP services into the same transport stream, along with the large coverage area and the high bit rate capabilities, allow broadcasting platforms to constitute networking infrastructures, able to act both as an access network and a backhaul interconnecting distribution nodes, which provide connectivity to end-users via various types of access networks (e.g., GSM/GPRS/UMTS, WLAN, WPAN, xDSL). In particular, although Digital Video Broadcasting (DVB) technologies are widely used over broadcast media, such as satellite (DVB-S), cable (DVB-C and Open Cable) and terrestrial (DVB-T), they are nowadays also considered an important bearer for flexible broadband Internet access. Service providers, equipment and platform manufacturers and vendors as well as researchers worldwide are directing their effort to accommodate this trend. Examples of such technologies and standards are IP broadcasting to handheld devices (DVB-H), cooperative services using DVB and mobile telecoms networks (DVB-IPDC) the implementation of the multimedia home platform (MHP), and the emergence of IP-orientated standards (such as the Ultra-Light Encapsulation (ULE) specified by the IETF ipdvb WG). Associated with this, there is on-going research into methods for the provision of secure and quality aware services.

In this special issue tutorials, survey and original research articles written in a tutorial manner readable by non-specialists related to the topics discussed above will be published. Contributions are solicited on (but not restricted to) the following subject categories:

- ✓ DxB, ISDB, ATSC broadcast networks
- ✓ Convergence of 3G/WLAN/WPAN and broadcast networks
- ✓ Architectural, design and management aspects
- ✓ Cross system optimization
- ✓ Cross layer interoperability
- ✓ Interactive broadcasting
- ✓ Mobility, security and Quality of Service provisioning
- ✓ Applications for converged broadcast/IP services (e.g., IPTV, VoIP, MoD)
- ✓ Business aspects and standardisation activities

Only original and unpublished work will be considered. With regard to both the content and formatting style of the submissions, prospective contributors should follow the IEEE Network guidelines for authors that can be found at <http://www.comsoc.org/pubs/net/ntwrk/authors.html> There will be one round of reviews and acceptance will be limited to papers needing only moderate revisions. Prospective authors should submit a separate cover letter that includes the complete information of the paper (title, authors, affiliations, corresponding author, contact detail, and summary) and a pdf version of their complete manuscript without authors' names and affiliation to skianis@iit.demokritos.gr according to the following timetable:

Manuscript Submission:	July 15, 2006
Author Notification:	November 15, 2006
Final Manuscript Due:	December 20, 2006
Publication:	March 2007

Charalabos Skianis

Institute of Informatics & Telecommunications,
National Centre for Scientific Research 'Demokritos',
15310 Aghia Paraskevi Attikis,
POB 60228, Athens
Greece
email: skianis@iit.demokritos.gr

Godred Fairhurst

Department of Engineering,
University of Aberdeen,
Fraser Noble Building, King's College,
Old Aberdeen,
Aberdeen, AB24 3UE
UK
email: gorry@erg.abdn.ac.uk

Roberto Donadio

Applications and Standardization Principal Engineer,
European Space Agency ESA/ ESTEC,
Noordwijk, 2200 AG
Netherlands
email: Roberto.Donadio@esa.int

Abbas Jamalipour

School of Electrical and Information Engineering,
University of Sydney,
Sydney N.S.W. 2006,
Australia
email: a.jamalipour@ieee.org

Marie-Jose Monpetit

Connected Home Solutions,
Acadia Integration Center,
45 Hayden Avenue, 4th floor
Lexington, MA 02421
USA
email: mmontpetit@motorola.com