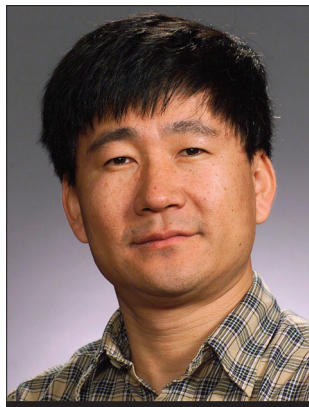


SEAMLESS CONTENT DELIVERY IN THE FUTURE MOBILE INTERNET

Dear Readers,
Welcome back from your summer vacation! I hope you had a productive and enjoyable summer!

Are you an obsessed Internet user? If so, you would not be happy without Internet access and expect ubiquitous access to a variety of Internet services no matter where you are. Since the invention of wireless networks, we have been searching for killer applications. As we all know, no matter how good or powerful a wireless network is, without attractive applications, we will not get enough customers to sustain the operations of the network. Therefore, the future Internet, particularly the future mobile Internet, has to find attractive killer applications to succeed. Content delivery service has been one of the killer applications over the current and future Internet. Obviously, customers or users will



YUGUANG MICHAEL FANG

demand the same quality of content delivery service when they are on the move so that customers will not be aware of where and how the content is delivered. In order to achieve this goal, content delivery service should be made seamless in the future mobile Internet. This is a challenging and daunting task because of the limited resources, unpredictable user mobility, traffic dispersion, distributed nature of resource provisioning, and security concerns in wireless mobile environments.

This issue is dedicated to seamless content delivery service over the future mobile Internet and future Internet in general, guest edited by Theodore B. Zahariadis, Giovanni Pau, Luca Celetto, and Petros Daras. It contains seven articles covering various design issues in content delivery service, selected after a careful review process. I thank our capable guest editors for doing such a great job

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putting this special issue together. Brief summaries of these articles are given as follows:

- “European Research on Future Internet Design,” by Peter Stuckmann and Rainer Zimmermann, gives an overview of the research activities on Future Internet in Europe.
- “A Middleware Architecture Supporting Seamless and Secure Multimedia Services across an Intertechnology Radio Access Network,” by Jonathan Rodriguez, Michail Tsagaropoulos, Ilias Politis, Tasos Dagiuklas, and Stavros Kotsopoulos, presents a middleware architecture capable of supporting multimedia services across inter-technology radio access networks in a secure and seamless manner.
- “Seamless Service Provision for Multi Heterogeneous Access,” by Lambros Sarakis, George Kormentzas and Francisco Moya Guirao, reviews the emerging protocols and architectures in support of intersystem handovers between next-generation wireless systems, and discusses a handover framework for the functionality of the IEEE 802.21 standard.
- “Search and Retrieval of Multimedia Objects over a Distributed P2P Network for Mobile Devices,” by Dimitris Giakoumis, Michalis Lazaridis, Jernej Trnkoczy, Apostolos Axenopoulos, Gianluca Paravati, Andrea Sanna, Fabrizio Lamberti, Dimitrios Tzovaras, and George Hassapis, proposes a framework enabling mobile users to search and retrieve multimedia objects over distributed peer-to-peer (P2P)-based networks.
- “Protected Seamless Content Delivery in P2P Wireless and Wired Networks,” by Lara García, Laura Arnaiz, Federico Álvarez, José Manuel Menéndez, and Karsten Grüneberg, describes the multilayered/multiview content coding techniques in support of seamless content delivery services over P2P networks.
- “An Interoperable Delivery Framework for Scalable Media Resources,” by Michael Eberhard, Christian Timmerer, Emanuele Quacchio, and Hermann Hellwagner, develops an interoperable framework for the delivery and adaptation for the streaming content service based on the ISO MPEG-21 Digital Item Adaptation (DIA).
- “Scalable Video Coding (SVC) over RTP and MPEG 2 Transport Stream in Broadcast and IPTV channels,” by Thomas Schierl, Karsten Grüneberg, and Thomas Wiegand, tackles the recently finalized Scalable Video Coding (SVC) standards on transport layer over IP/RTP and MPEG-2 transport streaming service, targeting IPTV over wireless environments.

I hope you will get a rough picture on content delivery services. Happy reading!

BIOGRAPHY

YUGUANG MICHAEL FANG [F'08] (fang@ece.ufl.edu) received a Ph.D. degree in systems engineering from Case Western Reserve University in January 1994 and a Ph.D. degree in electrical engineering from Boston University in May 1997. He was an assistant professor in the Department of Electrical and Computer Engineering at New Jersey Institute of Technology from July 1998 to May 2000. He then joined the Department of Electrical and Computer Engineering at the University of Florida in May 2000 as an assistant professor, got an early promotion to associate professor with tenure in August 2003, and became a full professor in August 2005. He holds a University of Florida Research Foundation (UFRF) Professorship from 2006 to 2009 and a Changjiang Scholar Chair Professorship from 2008 to 2011 with Xidian University, Xi'an, China. He has published over 250 papers in refereed professional journals and conferences, and won Best Paper Awards at the 2006 International Conference on Network Protocols and IEEE GLOBECOM 2002. He received the National Science Foundation Faculty Early Career Award in 2001 and the Office of Naval Research Young Investigator Award in 2002. He is currently serving as Editor-in-Chief of *IEEE Wireless Communications* and has served on several editorial boards of technical journals, including *IEEE Transactions on Communications*, *IEEE Transactions on Wireless Communications*, *IEEE Transactions on Mobile Computing*, *IEEE Wireless Communications*, and *ACM Wireless Networks*. He has also actively participated in professional conference organizations, such as serving as Technical Program Vice-Chair for IEEE INFOCOM 2005, Technical Program Symposium Co-Chair for IEEE GLOBECOM 2004, and a member of the Technical Program Committee for IEEE INFOCOM (1998, 2000, 2003–2007) and ACM Mobihoc (2008–2009).