

Trends in Consumer Communications – Networked Homes

Consumer Communications and Networking Series Editorial

June 2014

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A major theme in the consumer communications area has been Networked Homes. In the past this has often focused on networking consumer devices within a single home to offer added value or better control. Initially, these solutions were often closed and only worked with devices of a single manufacturer. Subsequently, this interworking has been extended to include equipment from different sources. With the increasing number of solutions available and the increasing demand for sharing audio and video, the demands on the home network have grown substantially. Another focus of increased activity is extending the sharing of devices and services within a single home to across many homes. It is these two themes which are covered by the two papers in this current issue of the Consumer Communications and Networking Series.

More specifically, the first article titled “Plastic Optical Fiber based In-home Optical Networks” by Y. Shi et al. argues that with the deployment of Fiber-to-the-Home (FTTH) technology and the corresponding increase in available bandwidth outside the home, the home itself should not constitute a communications bottleneck. They argue that Plastic optical fiber has been recognized as a viable candidate for future in-home networks. In their paper they present an overview of Plastic Optical Fiber technologies and recent developments in research and industry contexts.

The second article “Consumer Managed Federated Homes” by R. Brennan, Z. Etizoni, K. Feeney and D. O’Sullivan looks beyond networking a single home and focuses on how users can securely share and manage services and resources of their home network. Their paper offers a novel architecture for federated homes and discusses prototype implementations which allow for sharing of devices and services without centralized authority but in peer-wise trusted relationships between consumers.

If the articles in this series are of interest to you, then we strongly urge you to consider participating in the IEEE Consumer Communications and Networking Conference (CCNC) 2015 that will be held next January in Las Vegas in conjunction with the Consumer Electronics Show (CES) – the largest CE show in the world. See <http://www.ieee-ccnc.org> for details.

Biographies:

Ali C. Begen [SM] (abegen@cisco.com) is with the Video and Content Platforms Research and Advanced Development Group at Cisco. His interests include networked entertainment, Internet multimedia, transport protocols and content distribution. Ali is currently working on architectures for next-generation video transport and distribution over IP networks, and he is an active contributor in the IETF in these areas.

Ali holds a Ph.D. degree in electrical and computer engineering from Georgia Tech. He received the Best Student-paper Award at IEEE ICIP 2003, and the Most-cited Paper Award from Elsevier Signal Processing: Image Communication in 2008. Recently, he was a general co-chair for the ACM Multimedia Systems Conference 2011. Currently, he is organizing a special session on IPTV and related technologies in Packet Video Workshop 2012. Further information on Ali’s projects, publications and presentations can be found at <http://ali.begen.net>.

Mario Kolberg [SM] is a senior lecturer within the Institute of Computing Science and Mathematics at the University of Stirling. His research interests include Peer-to-Peer overlay networks, Home Automation, and IP Telephony. Mario is on the editorial Board of the Springer Journal 'Peer-to-Peer Networking and Applications' and has a long standing involvement with the IEEE CCNC conference series. He served as its TPC Chair for the Jan 2011 running. Currently, he chairs the track on Human Centric Computing at IEEE Globecom 2014. Mario has published more than 50 papers in leading journals and conferences. He is a member of a number of international conferences program committees on networking and communications. He holds a PhD from the University of Strathclyde, UK.

MADJID MERABTI [M] (M.Merabti@ljmu.ac.uk) is a professor of networked systems and director of the School of Computing and Mathematical Sciences at Liverpool John Moores University, United Kingdom. He holds a Ph.D. from Lancaster University, United Kingdom. He has over 20 years' experience in conducting research and teaching in the areas of computer networks (fixed and wireless), mobile computing, and computer network security. He is widely published, with over 150 publications in these areas, and leads the Distributed Multimedia Systems and Security Research Group. He is principal investigator in a number of current projects: Mobile Networks Security and Privacy Architectures and Protocols, Secure Component Composition in Ubiquitous Personal Networks, Networked Appliances, Mobile and Ad Hoc Computing Environments, Sensor Networks, and computer games technology. He was Guest Editor for the Special issue on Research Developments in Consumer Communications and Networking of Multimedia Tools and Applications: An International Journal (Kluwer, September 2005). He is a member of the Steering Committee for IEEE CCNC. He has acted as TPC chair for a number of international conferences, including the 5th IEEE Workshop on Networked Appliances, Liverpool, October 2002. He is a member of a number of international conferences program committees on networking, security, and computer entertainment.