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Department of Electrical Engineering
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Center for Urban Transportation Research (CUTR) Room 202

Power Saving Using Class of Service Differentiation Mechanism in Extended Reach Fi-Wi Networks

Abstract

Access networks are one of the main sources of power resource consumption in telecom networks. This has led to increased interest in the development of power saving protocols and network architectures. Now amongst all access networking technologies, Fi-Wi networking is a very promising solution that combines the best features of optical and wireless networks. Hence in this research, we study the impact of introducing a class of service differentiation mechanism for extended-reach Fi-Wi networks. For reducing power, we also propose an energy-efficient scheme based upon network traffic categorization and develop appropriate thresholds for delay-sensitive and delay-tolerant traffic at the optical network units. Through simulations we show that our proposed scheme reduces overall energy consumption in the network by up to 25% as compared to current state-of-art schemes.



Biography

Dr. Syed Muhammad Hassan Zaidi, Dean NUST IT Wing (NUST-SEECs) is a renowned researcher and practitioner in IT education, with credentials as a scholar of vision and commitment. He acquired his Ph.D. degree from the University of South Florida (USF), Tampa, USA. During his distinguished academic research career spanning over three decades, he has published over 100 research papers in prestigious international journals and conferences. He is also the founding Chief Academic Officer of the NUST School of Electrical Engineering and Computer Science (SEECs) and the recipient of several coveted honors and awards, which notably include the NCR National IT Excellence Award for Research & Development, the Gold Medal for the year 2000 – 2001, and the NCR National Excellence Award for IT Education in the year 2003. In September 2006 the Charlotte

Research Institute (CRI), USA, also conferred on him the status of “Duke Energy Distinguished Research Visiting Scholar”. Dr Zaidi has the distinction of pioneering and co-chairing the US-Pakistan International Symposium on High Capacity Optical Networks and Enabling Technologies (HONET), a regular annual event since December 2004. He has also won two President Gold medals for being proclaimed the Best Researcher of the Year and the Best Teacher in Information Technology. Currently Dr Zaidi is leading a national subcommittee on high value ICT HR development which is a cardinal part of Pakistan Vision 2025. He is also a winner of President’s Pride of Performance Award for his meritorious services in the field of Information Technology at the national and international level.