『Tsinghua Information Forum #107』

Title:
1、 Writing for Journal Publication
2、 Relay Handover and Link Adaptation Design for Fixed Relays in IMT-Advanced Using a New Markov Chain Model

Speaker： Ren Ping Liu
CSIRO, Australia

Time： 2013-6-17, 15:00-17:30pm

Venue： 1-415 FIT Building, Tsinghua

Abstract：

I will start with the purpose of publishing, We will then dig into the essential aspects of technical writing. These include how to organise your work into publications, where to start with your writing, the basic structure of an good paper, and what to write in each component of a journal paper. I will also discuss technical writing style, differentiate between good and bad papers, and share some tips on what to do and what to avoid in technical writing. Finally, I will share some practical journal paper submission, revision, and publishing experiences. I will start with a brief introduction of CSIRO and our major projects in the wireless network area. Then I will discuss one of our recent papers published in IEEE Transaction on Vehicular Technology.

Fixed relay networks (FRNs) will be an integrated component of future IMT-Advanced. We propose a new approach to relay handover and link adaptation. Our approach is built on a new Markov chain model (MCM) that comprehensively characterizes different relay protocols and quantifies their quality-of-service (QoS) measures, such as packet drop rate and latency, and spectral efficiency. Our relay handover and link adaptation scheme combats channel fluctuations while satisfying QoS requirements. It also accommodates multiple relay stations, supports multiplexing as well as diversity, and copes with mutually-related and time-dependent transmissions. Analytical results, validated by simulations, show that our scheme is able to reduce packet loss by up to 3 orders of magnitude. It also decreases packet delay by up to 18% and improves throughput by up to 10%.

Biography：

Ren Ping Liu received his B.E. and M.E. degrees from Beijing University of Posts and Telecommunications, China, and the Ph.D. degree from the University of Newcastle, Australia. He is a principal scientist of networking technology in CSIRO, Australia. His research interests are Markov chain modelling, QoS scheduling, and security analysis of communication networks. He has over 70 research publications in major journals and conferences, including IEEE Transactions and flagship conferences.

Dr Liu served as OC co-chair for SenSys2007, ISCIT2012, ICUWB2013; as Proceeding Editor of ISCIT2012; and in TPC for IEEE PIMRC2011,12,13, WCNC2010, ISCIT2010,11,12,13. He is a regular reviewer for IEEE Transactions and other top journals in communication networks. He is supervising a number of PhD students (three graduated) jointly with local and overseas universities.

Dr Liu has also been heavily involved in and led commercial projects ranging from QoS design, TCP/IP inter-networking, security, wireless networking, to next generation network architectures. As a CSIRO consultant, he delivered networking solutions to government and industrial customers, including Optus, AARNet, Nortel, Queensland Health, CityRail, Rio Tinto, and DBCDE.

Organizer：SIST
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