THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

Real-Time Switched Network Infrastructures - with Discussions on Their Implications to Building Software Defined Networks
by
Professor Qixin Wang
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Date : **5 August, 2016 (Friday)**
Time : **11:00am – 12:00noon**
Venue : **Room 833 Ho Sin Hang Engineering Building**
The Chinese University of Hong Kong

Abstract

Industry is now calling for multi-hop real-time switched network infrastructures for industrial fieldbuses and software defined networks. The key element for such infrastructures is the real-time switch. However, mainstream Internet switches are designed for best-effort instead of guaranteed service. Fortunately, we discover that by simplifying instead of extending a mainstream Internet switch architecture, real-time support becomes feasible. Based on the proposed real-time switch architecture, we furthermore explore how to support multicast and flow aggregation, meanwhile guaranteeing end-to-end delay bound. These designs lay the infrastructure for not only real-time switched networks, but also software defined networks, as they provide ideal isolation between virtual networks, and guaranteed quality of service for upper layers.

The talk takes 45 minutes and an additional 15 minutes for Q&A.

Biography

Dr. Qixin Wang is an associate professor in the Department of Computing, The Hong Kong Polytechnic University since 2009. He received the BE and ME degrees from the Department of Computer Science and Technology, Tsinghua University, Beijing, China, in 1999 and 2001, respectively, and the PhD degree from the Department of Computer Science, University of Illinois at Urbana-Champaign in 2008.

Dr. Wang's research interests include Cyber-Physical Systems, Real-Time Systems, and Wireless Sensor Networks. He has published 12 first/lead author refereed papers in top journals and conferences, and over 40 papers/articles in various venues, such as TPDS, TMC, TII, RTSS, INFOCOM, DSN, ICCPS etc. He has won an IEEE Transactions on Industrial Informatics Best Paper Award in 2008, and has one paper chosen as the featured article by IEEE Transactions on Mobile Computing 2008 May issue. He has served several top conference organization committees, such as INFOCOM, RTCSA, as well as many top conference TPCs, such as RTSS, INFOCOM, ICCPS, etc. He is currently serving the editorial board of Taylor & Francis's journal of Cyber-Physical Systems. He is a member of the IEEE and the ACM.

** ALL ARE WELCOME **

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