



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

**Application Performance in Cellular Networks:
A cross-layer approach**
by
Dr. Subhabrata (Shubho) Sen
AT&T Labs, Research

Date : 20 March, 2013 (Wed.)
Time : 11:00am - 12:00noon
Venue : Room 833, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Smartphone applications are near-ubiquitous today. However their performance and energy bottlenecks are little understood due to a lack of visibility into the resource-constrained mobile execution environment and its potentially complex interaction with the application behavior. In this talk, I will present ARO, the mobile Application Resource Optimizer, the first tool that efficiently and accurately exposes the cross-layer interactions to enable the discovery of inefficient resource usage for smartphone applications. ARO is now used by many popular app developers to improve the efficiency of their apps. I will use case studies to illustrate some extremely prevalent resource and energy inefficiencies in application design today, and describe best practice approaches that developers can adopt to design more efficient apps. Finally, time permitting, I will describe our research into an extremely common type of inefficiency in the mobile ecosystem - redundant data transfers.

Biography

Dr. Subhabrata (Shubho) Sen is a principal member of technical staff at AT&T Labs-Research. He received a PhD in Computer Science from the University of Massachusetts, Amherst. His research interests include IP network management, application and network performance, cross-layer interactions in cellular networks, configuration management, network measurements, and traffic analysis. He has published over 80 peer-reviewed research articles, and holds over 25 issued patents. He is a recipient of the AT&T CTO Innovation Award, the AT&T Labs President Excellence award, and the AT&T Science and Technology Medal. He is a co-inventor of the AT&T ARO tool, which earned top honors at the 2013 Mobile World Congress, winning the Smartphone Application Challenge at GSMA's 18th annual Global Mobile Awards. He is a member of the IEEE and the ACM.

**** ALL ARE WELCOME ****