



Fall 2011 Colloquium

Temple University
Computer and Information Sciences

Secure Content Centric Mobile Network (SECON)

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Abstract:

Today's Internet was originally designed for enabling two end points to communicate. However, with the increasing popularity of Internet and the extremely fast generation of large volume of data contents, people often look for contents of interest in the Internet. Thus, such incompatibility between the two models have resulted in emerging issues e.g. fast content access requires application specific solutions like CDNs, P2P networks. In addition, mapping content to specific host locations causes scalability issues when data consumers grow exponentially. Furthermore, current security solutions often mandate multiple encryptions and decryptions as data crosses different domains which are inefficient. Recently, researchers have proposed new content centric networking (CCN) approaches to address these issues. In this talk, I will first describe the motivation behind content-centric networking. Then, I will briefly describe some of the enabling technologies for CCN and some existing proposals for CCN. Next, I will describe SECON, a secure content centric mobile network that we design. In particular I will highlight some of the new features that SECON supports. Last but not least, I will briefly describe data-centric security solution that we develop for SECON. This research is supported by NSF GENI project.

Bio:

Prof Mooi Choo Chuah is currently an associate professor in CSE Dept at Lehigh University. She is also the Computer Engineering Co-Director and the NSF Advance Chair (for 2011) at Lehigh. Before joining Lehigh, she was a Technical Manager and DMTS at Advanced Communications Technology Center, Bell Laboratories, Holmdel, New Jersey. Based on her work at Bell Labs, she has been awarded 59 US patents, and 12 international patents in the area of wireless network architecture and protocol design, network security, MAC & IP protocol design etc. Her current research interests include designing next generation information system including smartgrid, social network data mining, and network security. She was one of the technical co-chairs for IEEE INFOCOM 2010 and an area chair for IEEE INFOCOM 2011.