THE CHINESE UNIVERSITY OF HONG KONG
Institute of Network Coding
and
Department of Information Engineering
Seminar

INC

Partially Collaborative Regenerating Codes for Distributed Storage Systems

by

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Date : **23 November 2016 (Wednesday)**
Time : **2:30 - 3:30pm**
Venue : **Room 833, Ho Sin Hang Engineering Building**
The Chinese University of Hong Kong

Abstract

Erasure codes have traditionally been studied in the context of communication theory, but have also increasingly been used to ensure the reliability of distributed storage systems, since they provide a good trade-off between storage overhead (or rate) and reliability in case of storage node failures. Over the past years, there has been a vibrant research activity around the problematic of designing good storage erasure codes, amenable to repair. We introduce a family of storage codes that generalizes the framework of collaborative repairs, which subsumes the previously known constructions with either no collaboration (one failure at a time) or full collaboration (several failures at a time, involving all repair nodes in the collaboration). The motivation is twofold: to allow more degrees in freedom in the code design to best suit possible storage system requirements, and to trade gain in repair bandwidth with security impairments that typically appear in the presence of collaboration.

Biography

Shiqiu Liu received the B.S. degree in Mathematics and Applied Mathematics from Jilin University in 2010, Ph.D degree in Applied Mathematics from Nanyang Technological University in 2016. Since June 2016, she has been a Postdoctoral Fellow at the Institute of Network Coding of The Chinese University of Hong Kong. Her research interests are in the area of coding theory and its applications, in particular, on the design of algebraic codes for distributed storage systems.

** ALL ARE WELCOME **

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