



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



Linear Exact-Repair Construction of Hybrid MSR Codes in Distributed Storage System

by

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**Venue: Room 833 , Ho Sin Hang Engineering Building
The Chinese University of Hong Kong**

Abstract

Classical erasure correcting codes are widely used in distributed storage systems (DSS). While the messages are encoded by such codes, DSS could keep high reliability even if some servers are crashed or depart. Erasure code could significantly lower the amount of storage needed in data centers. However one problem arises that the network needs endure large amount of information while repairing the failed servers. To lower the network cost, one erasure code named regenerating storage (RS) codes are proposed by Dimakis. MSR (Minimum Storage Regenerating) code is one class RS code which could achieve the optimum storage while attaining the minimum repair bandwidth. In this talk, we focus on reducing repair bandwidth and disk I/O cost, propose one MSR code under hybrid storage strategy, and give the construction of $[6,3,4]$ and $[4,2,3]$ MSR code, which could achieve the minimum disk I/O cost.

Biography

Haibin Kan received Ph. D in basic Mathematics from Fudan University in 1999, then he became a lecturer of Department of Computer Science and Engineering of the same university, and was promoted to an associate professor in 2001. From July 2002 to February 2006, he was an assistant professor of Japan Advanced Institute of Science and Technology (JAIST), he returned to the School of Computer Science of Fudan University in the end of February 2006, and then was promoted a full professor in 2006. He is presently the head of Theoretical Computer Science and the director of the Lab of Coding Theory and Cryptography. His research topics include Coding Theory, Cryptography and Computation Complexity.

****ALL ARE WELCOME ****

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