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

INC

Analysis of Movie Replication and Benefits of Coding in P2P VoD

by

Dr. Yipeng ZHOU
Postdoctoral Fellow, Institute of Network Coding
The Chinese University of Hong Kong

Date	**:**	**29 August 2012 (Wednesday)**
Time	**:**	**2:30 - 3:30 pm**
Venue	**:**	**Room 833 , Ho Sin Hang Engineering Building**
		The Chinese University of Hong Kong

Abstract

Video streaming is a popular application in today's Internet. Due to the large video population and user population, a single server is never adequate. A large number of peers are typically involved to provide the streaming-based VoD service by replicating several movies. Peers' service cannot guarantee streaming performance, thus in most P2P VoD system server works as final backup to provide insufficient bandwidth. How to cache right content on each peer is the key to determine server load. This work is composed by two parts. First, we will analyze how to determine the movie content replicated by each peer with different request scheduling strategies to minimize server load. In the second part, we propose a model to analytically characterize the benefit of coding for video streaming in P2P VoD system. In this model, the video content is divided into segments, and the same positioned chunks of consecutive segments form a substream. Coding can be done by mixing different chunks of a segment with different block size. We conclude that the streaming performance always improves with block size. The replication cost increases with block size when replication is done in a P2P fashion; so there is a trade-off between streaming and replication.

Biography

Yipeng Zhou received his B.S. from Computer Science department of University of Science and Technology of China in 2006, M. Phil. degree from the Chinese University of Hong Kong in 2008 and PhD degree IE department of CUHK in 2012. His research interest is modeling of P2P network, content distribution and performance evaluation. Now, he is a Postdoc in Institute of Network Coding, The Chinese University of Hong Kong.

ALL ARE WELCOME

Host: Professor Raymond W.H.Yeung (Tel: 3943-8375, Email: whyeung@ie.cuhk.edu.hk)
Enquiries: Department of Information Engineering, CUHK (Tel.: 3943-8388)