

# CS/ECE 757 – Computer Networks Fall 2004

## Assignment 2: Paper Discussion

**Due Date:** September 30, at the beginning of class.

### Problem Description:

- Read the position paper “Is IP going to take over the world (of communications)?” by Pablo Molinero Fernandez, Nick McKeown, and Hui Zhang, published in the HotNets-I 2002 conference.
  - Read the slides of the keynote speech “Back to the Future Part 4: The Internet” by Simon Lam from the ACM Sigcomm 2004 conference.
  - The paper and the slides are available from the web page of the class.
  - On the due date, submit a typed document (max. 2 pages) where you address the questions given below.
1. The paper by Fernandez et. Al. argues that the following statements about IP (and datagram packet switching in general) are not correct: (1) IP already dominates global communications, (2) IP is efficient, (3) IP is robust, (4) IP is simple, (5) IP can support telephony and other real-time applications. Take the position of a strong advocate of IP, and argue that the above statements are not folklore, but facts. To make convincing arguments, as much as possible, back your position up with data (supply the data).
  2. At the end of the paper, the authors suggest an integration of packet and circuit switching. What do they mean by “integration”? Describe a design for a “hybrid switch” that is suggested by the authors. How will this hybrid switch be different from a pure packet switch or a pure circuit switch?
  3. Describe the future network design envisioned by the authors of the Fernandez paper. Describe what the authors see as the advantages of their design.
  4. Describe the future network design envisioned by Simon Lam. Discuss the differences of Lam’s vision from that given in the Fernandez paper.