

# ECE6610: Wireless Networks

## Theory Assignment 3

This Assignment is due April 3, 2009. Please submit your solutions as a doc file to the TA at ksandeept+ece6610gmail.com.

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1. What are the relative advantages and disadvantages of the E2E approach for mobile handoffs when compared to mobile IP.
2. What are the potential problems of ARP in a mobile IP scenario?
3. In a wireless environment explain how a reliable link layer can affect TCP performance. How does the snoop module solve these issues?
4. In a multi-homed mobile user, clearly explain all the reasons why application layer striping might cause stalling of the traffic due to discrepancies in one pipe. How does pTCP avoid this?
5. How does the rate control mechanism work in WTCP. When will the underlying CSMA/CA MAC affect the rate control mechanism? why?
6. Assume an ftp session running between a wired host and a mobile host. Assume TCP-reno is used as the transport protocol. Assume a single wireless burst loss that occurs when there is no congestion i.e. the buffers are not currently full and the connection is not in slow start. Show how the congestion window behaves when the loss occurs. Show in the same graph how WTCP will behave. You don't have to give a detailed graph. Just show the different trends in TCP-reno and WTCP.