

EECS 423
Distributed Systems
2004 Fall Semester

Homework 1

Due at the beginning of class, September 9, 2004
No late papers accepted

1. In the next assignments, you will write “proposed standards” for e-parcel. In preparation for this objective, familiarize yourself with the format of RFC and Internet Drafts.
 - a. Read RFC 2026 (Internet Standard Process)
 - b. Read RFC 821 (SMTP)
 - c. Use SMTP (as defined in RFC 821) and `telnet smtp.cwru.edu 25` to send a message to vincenzo.liberatore@case.edu impersonating a sender bush-kerry@case.edu and announcing that the vice-presidential debate will be moderated by you. Make sure to include your name in the body of the e-mail.
 - d. The moral of the story: you should not necessarily believe unsigned e-mail.
2. Explain the problem(s) in enabling ordinary e-mail to use attachments of arbitrary size.
3. The e-parcel specification state that data transmission passes through a server that relays data from the sender to the receiver.
 - a. Explain what “relaying data” means in terms of individual connections (sockets) and processes or threads at the server side. Your approach to data relay must be scalable.
 - b. What would be the problem of establishing a direct connection between sender and receiver? (Hint: NAT)
4. Go over the goals described in Section 1.2 and explain how the design of e-parcel achieves (or fails to achieve) each of the goals outlined here.