

EECS 423
Distributed Systems
2005 Fall Semester

Homework 5

Due on November 3, 2005
No late papers accepted

All assignments will be completed by groups of 3-4 students. Please, state the names of all the students in the group.

In this assignment, you will modify the e-Parcel specification on mediated connections to make the protocol suitable for a request-reply mechanism such as Web services. Student proposals will be reconciled and, in the next assignment, you will implement the client side of the combined protocol.

First, discuss problems with the current SYN/FIN when the protocol is transitioned to a request-reply system.

Second, change the protocol to make it suitable for a request-reply system. Most changes should be confined to SYN/FIN, but your proposal is also likely to involve other parts of the protocol. Your proposal should be formulated as an incremental upgrade of the current RFC, and thus you should avoid the explicit use of Web services or other existing request-response methods. However, the proposal should be written in such a way that the transition to the transition to Web services is straightforward. Submit your changes as cut-and-paste patches of the current RFC plus an explanation of the ideas behind your protocol.

Third, explain how your protocol modifications address the problems that you described in the answer to the first question.

Last, discuss possible connection management schemes for your proposed protocol. Remember that connection management is not necessarily part of a protocol, but it may be useful to know how a client or a server would manage connections to make the communication more effective.

Hand in your written answers to the three previous questions. The second question asks a precise answer in the RFC style with clear cut-and-paste indications. All questions require a detailed but informal discussion.