

Computer Networks Midterm Project

2018. 10

Due: 12/04/2018

Please write a network application, LFTP, to support large file transfer between two computers in the Internet.

1. A student can finish the project by himself or herself. Two students may form a group to work on the project too. If two students work together, the tasks to be finished should be assigned to each one by almost 50%;

2. The technical requirements are:

(1) Please choose one of following programming languages: C, C++, Java, Python;

(2) LFTP should use a client-server service model;

(3) LFTP must include a client side program and a server side program; Client side program can not only **send** a large file to the server but also **download** a file from the server.

Sending file should use the following format:

LFTP lsend myserver mylargefile

Getting file should use the following format

LFTP lget myserver mylargefile

The parameter myserver can be a **url address or an IP address**.

(4) LFTP should use UDP as the transport layer protocol.

(5) LFTP must realize 100% reliability as TCP;

(6) LFTP must implement flow control function similar as TCP;

(7) LFTP must implement congestion control function similar as TCP;

(8) LFTP server side must be able to support multiple clients at the same time;

(9) LFTP should provide meaningful debug information when programs are executed.

When you finish your projects you must turn in the following:

1. Project design and testing documents;

2. Source code of the project. (You may use github for your development);

3. Program execution screen shots.