COMP6461 Assignment 1

Current Version: 0.1
Date: Feb. 11, 2012

Author:
Yuan Tao (ID: 5977363)
Xiaodong Zhang (ID: 6263879)

Course Instructor: Amin Ranj Bar
Lab Instructor: Steve Morse
Lab number: Friday

Concordia University

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1. Protocol between clients and server

1.1. Data structure

1.1.1. Message header

```
// msg header
typedef struct {
    char type;
    unsigned long len;      // Total length of the data which is following this header
} MSGHEADER, PMSGHEADER;
```

Every packet should contain this header, no matter it is a request from client or a response from server. Here is the definition of the type:

```
//Message type
// request
#define MSGTYPE_STRGET      "get"
#define MSGTYPE_STRPUT      "put"
#define MSGTYPE_REQ_GET             1
#define MSGTYPE_REQ_PUT             2

// response
#define MSGTYPE_RESP_FAILTOGETHEADER    1
#define MSGTYPE_RESP_WRONGHEADER        2
#define MSGTYPE_RESP_UNKNOWNTYPE        3
#define MSGTYPE_RESP_FAILTOGETINFO      4
#define MSGTYPE_RESP_FAILTORECVFILE     5
#define MSGTYPE_RESP_NOFILE             6

#define MSGTYPE_RESP_OK_BASE            100
#define MSGTYPE_RESP_OK                 MSGTYPE_RESP_OK_BASE + 1
```

1.1.2. Data of request

```
// data of request
```

```
typedef struct {
    char hostname[HOSTNAME_LENGTH];
    char filename[FILENAME_LENGTH];
} MSGREQUEST, *PMSGREQUEST;
```

It defines the structure of the information that is contained in the request packets.

1.2. Put a file

1.2.1. Request

The client attaches the file stream to the end of the packet and sends it to the server. The packet looks like:

Figure 1-1 Request of put a file

Note that the length means the total length of hostname, filename and file.

After sending the packet, the client waits for the response from the server to check if the file is transmitted successfully.

1.2.2. Response

Figure 1-2 Response of put a file

Here the length is 0, because there is no data after the packet.

1.3. Get a file

1.3.1. Request

Figure 1-3 Request of get a file

Then Length is the length of 'Hostname and filename'.

1.3.2. Response

When the server sends the response to GET command, it attaches the file stream to the end of the response packet.

Figure 1-4 Response of get a file

The Length is the length of the 'File' to be transmitted.

2. Program files list

- client
  source code of client side
- client_files_root
  test files for the client side
- common
  source code for both client and server sides
- server
  source code of server side
- server_files_root
  test files for the server side
- logs
  log files for both client and server
- Readme.pdf
  This file.

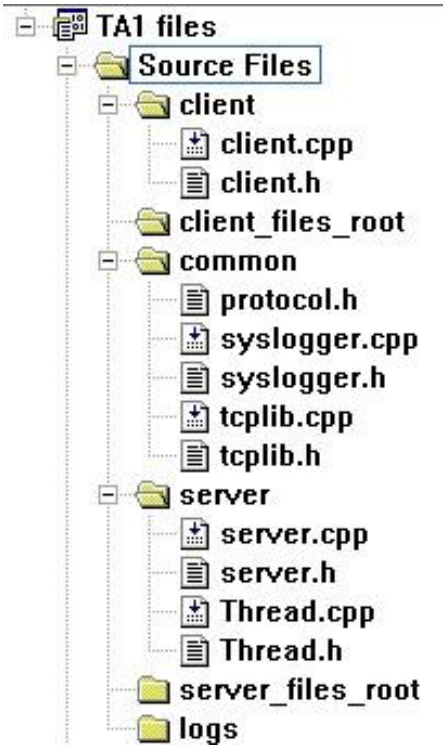

Figure 2-1 Project File List

Appendix A: Revision History

Version	Date	Author	Remark
V0.1	Feb. 11, 2012	Yuan Tao, Xiaodong Zhang	Draft