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CITS3002 Project Report:

Protocol and Walkthrough:

Define command id

```
#define REQ_COST 0x01
```

```
#define RES_COST 0x02
```

```
#define REQ_FILE 0x03
```

```
#define RES_FILE 0x04
```

```
#define RES_FINISH_FILE 0x05
```

```
#define REQ_EXFILE 0x06
```

```
#define RES_EXFILE 0x07
```

Client ask for server's cost request packet

cmd	serverseq					
Unsigned int(4 byte)	Unsigned int(4 byte)					

Client ask for server's cost response packet

cmd	serverseq	cost				
Unsigned int(4 byte)	Unsigned int(4 byte)	Unsigned int(4 byte)				

Client request file compile packet

cmd	upName	fileidx	filesize			
Unsigned int(4 byte)	char [24](24 byte)	Unsigned int(4 byte)	Unsigned int(4 byte)			

server response file compile packet

cmd	upName	fileidx	status			
Unsigned int(4 byte)	char [24](24 byte)	Unsigned int(4 byte)	Unsigned int(4 byte)			

server finish receive file response packet

cmd	upName	fileidx	status			
Unsigned int(4 byte)	char [24](24 byte)	Unsigned int(4 byte)	Unsigned int(4 byte)			

Client request link file and get binary file packet

cmd	objfilenames	exefilename	status			
Unsigned int(4 byte)	char [256](256 byte)	char [24] (24 byte)	Unsigned int(4 byte)			

Server response execute status and send binary file to client

cmd	objfilenames	exefilename	status			
Unsigned int(4 byte)	char [256](256 byte)	char [24] (24 byte)	Unsigned int(4 byte)			

If the client sends the file to the server, the server compiles and links successfully, and the total time required to return the binary file to the client is less than the time required for the client to compile and link locally, so remote compilation and linking will be faster.