1 Introduction

You are to modify the network file system in assignment 4 to operate using a single server implemented with omegaRPC as your only mechanism.

Your server should be a daemon and should log any errors.

Moreover, as a primitive form of protection, your first message should contain a 64-bit constant (which you have previously randomly generated), to ensure that you are not communicating with someone else’s client and/or server.

You should use a command line options to specify actual address, port number, and IP protocol on the server.

- `-p pNumber`: where `pNumber` specifies the port number.
- `-h`: the name or dotted ip number of the host

(The information for the clients is can be done through the namespace and the the settings for attach).

The methods you are to implement are:

- open
- close
- read
- write
- `Status *aread(int fd, int size)`; – an asynchronous non-blocking read which returns a status object
- `Status *awrite(int fs, Vec<char> string)` – an asynchronous non-blocking write which returns a target
- `int wait_aread(Status*, Vec<char> &)` – gets the results of an aread
- `int wait_awrite(Status*)` – gets the result of an awrite
- fsync
- sync

The APIs from assignment 4 (open, close, read, write, fsync, and sync) are the same as the Unix APIs.

The methods for both implementations should be included in `libnfs.a`. 
2 Instructions for handing in your program

Obviously, your program listing and program turnin must be complete by 1:00 on the due date. \textbf{No late programs will be accepted.} Note that this program is considerably larger than the first one, so start on it right away.

Please take particular care to show in your documentation:

- What implementation decisions you made which effect semantics?
- What were the variation in semantics between implementation and POSIX and how did you implement it.
- What you tested.
- What you did not test.
- What works.
- What does not work.

3 Grading Criteria

- Code quality (10 pts)
- Documentation (20 pts)
- Testing (30 pts)
- Correctness (40 pts)