Name: _____ USC ID: _____

INF 551 – Fall 2017 (Afternoon section)

Quiz 4: Network File Systems (10 points), **15 minutes**

1. [2 points] Name one **advantage and one disadvantage** of a client/server-based architecture for a distributed file system.

Advantage: Easy sharing, centralized administration, security

Disadvantage: Network overhead, more components to fail.

2. [2 points] What are the three parts in a **file handle**?

Volume identifier, inode number, generation number

3. [6 points] Consider executing the following code for a client in a Sun's NFS. Assume the size of the file "/foo/bar" is 1KB.

```
#define MAX 2048

char buffer[MAX];

int fd = open("/foo/bar", O_RDONLY);

int ret1 = read(fd, buffer, MAX);
```

a) [5 points] What RPC requests will be sent to the server for executing each call? For each request, specify its arguments and response from the server.

RPC requests	Server response
LOOKUP (root dir FH, "foo")	foo's FH + attributes
LOOKUP (foo dir FH, "bar")	bar's FH + attributes
Read (FH, offset=0, count=MAX)	Data + attributes

b) [1 point] What will be the value of ret1?

(Read system call returns the number of bytes actually read.)

1K