# COMP 431: HW 5 Interoperability Testing Report

## Test One:

The first interoperability test I performed was between a Windows FTP client hosted on my machine and my FTP server which was hosted on classroom.cs.unc.edu. At first I was unable to connect to my server, but once I enabled the VPN to connect to the UNC servers it started to work. I was able to successfully login by typing in a user name and password when prompted by the Windows FTP client. I was then able to successfully retrieve the 5 files which were hosted in the directory of my server. The “binary” and “quit” command of the Windows FTP client worked as expected with my server.

An unexpected situation occurred when I was hosting both the Windows FTP client and my FTP server on my local machine. When trying to perform a get command, the client passed a “EPRT |2|::1|56260|” command to my server, which my server responded to with a 502 response and the following RETR command failed because it wasn’t preceded by a PORT command. This problem seemed to disappear when I started hosting my server on classroom instead of localhost, and I started getting regular PORT commands as expected; I’m still unsure why I originally received the EPRT command.

Other than that, the Windows FTP interoperability test was a success. I checked the 5 files which were transferred by opening them and performing diff commands and they looked correct.

## Test Two:

The second interoperability test was performed with an off-the-shelf FTP server hosted on comp156.cs.unc.edu and my FTP client which I hosted on both the CS classroom and login servers. I was able to retrieve the 5 files successfully from the server when I hosted my client on classroom. I checked the files using diff command and they were correct. However when trying to use a get command while hosting my client on login, I received a 150 response followed by a 550 response, which had the accompanying text: “No error” which seemed quite strange. I don’t know why this occurred, everything worked as expected when my client was hosted on classroom.

## Test Three:

For the third interoperability test, I tested my client with the servers of two other students, Eric Barbee and Matthew Wassel, and they tested their clients with my server. I tested my client by connecting to their servers, which were hosted on a different CS server (either classroom or login). Once connected we passed the 5 test files back and forth. The files I retrieved from both of their servers using my client were all correct, the diff command resulted in no difference and the files were able to be opened by their respective software. I had some trouble connecting to their servers at times, as I was unable to allocate my ftp-data port occasionally, but I think this was just because the port was busy since it eventually worked. We were able to find a couple bugs in my client, for example my client would wait for multiple responses after sending a RETR command, but sometimes the server only responds with one command, so it would wait indefinitely. I resolved this issue.

My server experienced a similar problem as it occasionally sent back a 425 “Can not open data connection” response when it received a RETR command. However it eventually worked so I think this due to the same busy port issue. My server was able to send the 5 files to both Matt and Eric. Eric checked his files and said they appeared corrupted, but we think this is because of his client because he had the same problem when using the off-the-shelf server. Matt checked his files and they appeared correct.