Project 2 Report

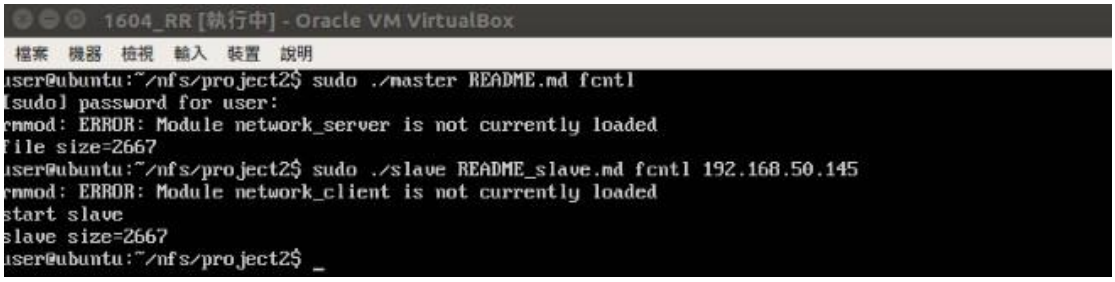
1. Programming design

This time we didn't completely coding with the given sample code, but its structure is almost the same. We construct a network with server and client module to communicate between master and slave, and then transmit the data. With "if" condition checking the third parameter in command line, we can choose the required approach of "mmap" or "fcntl".

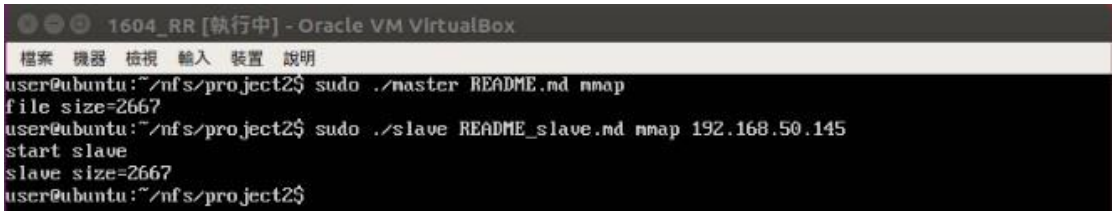
2. The Result

Ubuntu terminal:

(1) fcntl



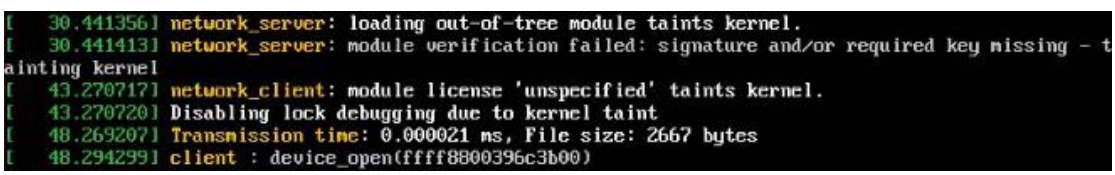
(2) mmap



dmesg:

(1) fcntl:

(2) mmap:



3. Performance Comparison

The approach ‘mmap’ is about three times faster than ‘fcntl’. ‘mmap’ is faster because it reduces the number of copies needed when transferring large amount of data, thus can the number of kernel entries needed for reading cached data. On the other hand, ‘fcntl’ involves an extra memory-to-memory copy, which can be inefficient when transferring large amount of data.

4. Team

巫尚謙 coding, report
王憲儀 code review, report
陳翰生 code review, report
林子翔 code review, report