

Physics Department Server: General Information

Configuration:

This machine, Dell Precision Workstation 690, has two processors, each one a Dual Core Intel Xeon Processor 5110 (1.60GHz, 4MB L2,1066); effectively giving us four processors worth of computational power. Also, all these processors are 64 bit, giving an added advantage for floating point calculations. The total memory installed is 4GB and the user space available is about 410 GB for all users total. There are two hard drives of 500GB each in the system with a failsafe software RAID level 1 (Random Array of Independent Disks) setup to protect the operating system and user files from the failure of a hard disk. We also have an external hard drive of 1.5TB; this will be used for daily incremental backup and weekly full backups. The exact backup strategy is not devised yet and work is still going on in setting up the automated backup software.

Software:

The system is currently running Red Hat Enterprise Linux version 4 Update 5; a 64 bit version of it. We have a license, with a membership for a year, that came with the system. This will give us free updates till September 2008. For now, I have chosen to stay with this particular distribution. Later on we will have to either purchase the subscription or install a completely free equivalent of RHEL 4 or a useful variant of it called Scientific Linux or any other distribution, if there is a particular preference. It is important to stay updated for security reasons and I will do everything in my power to ensure security. The machine will not be directly accessible from outside the university. There are GNU compilers installed on the system for C, C++, FORTRAN, MATHEMATICA etc., along with the LAPACK and BLAS libraries. There is also an option of purchasing academic version of the Intel compilers (about \$170 per license per language). So, we will do this strictly on the per need basis with the approval from the Department Chair. The Intel compilers are available for free for linux for non-commercial use but they have strictly excluded academic use from non-commercial use; that is why I have chosen not to install them. There are of course several advantages of purchasing Intel compilers: (i) they are optimized for the Intel architecture (ii) they automatically parallelize the code and (iii) are significantly fast compared to the GNU compilers. This is not to say that the currently installed GNU compilers are worthless; with appropriate choice of compiler options we can get similar performance improvements.

Account:

Please e-mail me your complete name and a preferred username; then I will provide you with the password which you can immediately change after the first login. I will also give you information on how to access the machine from windows machine including the GUI programs available in the system. If you need any help with the linux or unix commands please feel free to ask. I will give you all the information you need to efficiently use the system.

Sincerely,
Kishor T. Kapale
System Administrator,
abacus.wiu.edu