## Cyclotron computing

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This past year we completed the migration of all lab computational servers and all but three administrative servers to SL 4.4 (Scientific Linux[1] v 4.4). SL has shown to be very a stable and capable operating system which uniquely fits the needs and mission of our lab.

We also finished our evaluation[2] of SATA drives as a cheap alternative to SCSI drives which we use to add storage to the file-server and found them acceptable. Since then we increased the file-server's available disk capacity by replacing a four port SATA card that we used for the evaluation with an eight port SATA card and two 4-disk enclosures. This gives us eight SATA disk bays, four which are populated with 500GB drives and four free for future expansion. The file-server is now also being utilized as a centralized print server for the lab's general computational servers, offering single point computational print que maintenances.

Three new servers were brought on-line this year with SL 4.4. The aging data acquisition server, ACQ, was replaced with a Dell PowerEdge 2950 with two Xeon 3.7GHz dual core processors and 4GB RAM. A new computational server (Dell PowerEdge 1950 with two Xeon 3.0GHz processors and 4GB RAM) was added to the lab's general computing facility. We also replaced the aging backup sever, a Dell PowerEdge 850 with a Pentium 4 2.8GHz and 1GB RAM. This server also supports USB2 which enables us to utilize external USB2 disks which we are currently using to make snapshots of HOME and critical directories with RSnapShot, internal and two external USB2 disks. The external disks are rotated off-site monthly.

The lab's firewall was migrated to SL 4.4, first on old hardware then on newer hardware. This leaves us with a backup firewall should the production firewall develop problems. In addition we added intrusion detection and network monitoring software to the firewall to aid in detecting lab wide security issues.

The aging DNS server was migrated to newer hardware this past year, and we are adding DHCP to the server. We also rewrote the NetReg WebApp (network registration web application) in Ruby on Rails and added it to the DNS/DHCP server. The new NetReg WebApp automates some of the network registration process making it less man power intensive while being more flexible. Also the web server was migrated to SL 4.4. This enable the installation of Cern's Indigo[3], a WebApp for meeting agenda, which is available for general lab use.

[1] https://www.scientificlinux.org/

[2] R. Burch, K. Hagel, Progress in Research, Cyclotron Institute, Texas A&M University (2005-2006), p.V-12

[3] http://indico.cern.ch/