

Data Communication, Data Acquisition and Computational Facilities

Our duty is to manage and develop the Physics Department (UAF/Tandar) computer network (hardware, general facilities like mail, print, file and web servers and common applications) and its links with the other networks within CNEA and the Internet. We also assist the Department's users in hardware and software matters.

There are 190 active machines on our Ethernet local area network (Oct. '02), including multi-user systems (SUN, Linux and MicroVAX), three networked laser printers and personal workstations (PCs MS-Windows and/or Linux). There are also three *Linux clusters* (with 20 PCs) for parallel computation, owned by the Condensed Matter Group.

During 2002, as consequence of the serious Argentinean economic crisis, we were urged to apply a sensible effort to minimize expenses while still providing service and keeping the equipment in working order. We met these goals and also did work to improve the network and extend its coverage to new laboratories in the TANDAR building. Some details are given below.

Network Services and Applications ('Tandar' server and multi-user hosts)

- Our 'Tandar' server (e-mail, webmail, web server, antivirus, etc.) and the general-purpose multi-user computers operated normally all year around.
- Besides the centralized e-mail antivirus service, antivirus support (real virus and hoaxes) and disinfecting services were provided to PC owners.
- Permanent network monitoring helped us to optimize the usage of our limited bandwidth Internet connection and check the health of our local network.
- *Physics Dept. Progress Report* < <http://www.tandar.cnea.gov.ar/actividades/> >.

We maintain the Physics Dept. Web page and the Progress Report on-line version.

Physical infrastructure

- Ethernet cabling (UAF Local Area Network)
Work under way includes full migration to 100BASE-TX (UTP) cabling, to replace 10BASE2 coaxial cables still in use in part of the building and UTP cabling to the new Solar Energy Group laboratories (C-sector in Tandar building).
- New hubs and office ports were installed according to additional user requirements.

The legacy MicroVAX 3100 and 3300 and the XSYS/CAMAC multiparameter data acquisition system are kept in operational conditions and used by the physicists. The contribution of E. Achterberg on this item is recognized here.

- Power utility faults

There was a sensible increase in the number of blackouts in the electrical power supply by EDENOR. Critical equipment (server, routers...), already adequately protected and UPS backed-up, survived but a number of user PCs failed. We plan to add power line protection for the user offices in the near future.

Miscellaneous

- Printing supplies

The economic crisis triggered the exchange rate for 1 US Dollar from 1 Peso to 3 Pesos with the resulting cost increase in printing supplies (paper and toner). Along several months we tried recycled cartridges with very poor performance, so we returned to use original supplies and did extra efforts to decrease the number of print jobs.

- Everyday work

Backups, activity reports (printers, web server, etc.), network users and equipment databases maintenance, software updates (versions and patches for Solaris and Linux/RedHat), viruses fight, hardware maintenance and service, user support (network, applications, PCs, MS-Windows, Linux, equipment startup, etc.).

We gratefully acknowledge the help of the Electronics and Electromechanical Maintenance groups.

NOTE: This summary does not include work in computing and data acquisition done by other groups in the Physics Department as part of their projects.