

Data Communication, Data Acquisition and Computational facilities

Our duty is to manage and develop the Physics Department (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 provide assistance in hardware and software matters to our users.

There are 180 active machines on our Ethernet local area network (Dec. '01), including multiuser systems (SUN, Linux and microVAX), three networked laser printers and personal workstations (PCs MS-Windows and/or Linux). There are also three *clusters* (with 20 PCs) for parallel computation, owned by the Condensed Matter Group.

During 2001, within a frame of budget restrictions, we made improvements in the network, added new equipment and kept the available equipment in working conditions. Some details are given below.

Network Services and Applications ('Tandar' server and multiuser hosts)

Webmail, to access our e-mail service freely from any place at the Internet through a standard browser.

Replacement of *Smail* by *Exim* as mail transport agent (MTA), to improve service and better support for a server located e-mail virus shield.

E-mail virus shield in the server, to analyze messages going through the server and stop infected files.

Updated automatically through the Internet. It proved to be very effective to reduce risks for virus infection and dissemination via e-mail.

Password change procedure for e-mail accounts, browser accessible.

OpenSSH (Secure SHell) implementation for remote access. Compatible with SSH Protocol versions 1 and 2 in a single tool, it is increasingly used by the Internet community for secure communications through public communication facilities.

Physics Dept. Progress Report < <http://www.tandar.cnea.gov.ar/actividades/> >.

Procedures for 'continuous update' of the on-line version and for the general management of the Department's web page.

Hardware facilities

Connectivity improvements in Tandar building (A and B sectors and Maintenance Shops), with additional UTP cabling and hubs for new workstations and substitution by UTP for old 10BASE5 and 10BASE2 cabling.

Hi-Lo voltage protectors and two UPS (uninterruptible power supplies) installed for the server and main network equipment, with automatic shutdown and recovery.

Temporary emergency server configuration on a second machine, due to the failure of the server's internal system disk, and machines 'back-to-normal' reconfiguration after repairs.

Internet link and local network .

- Link monitoring, to check and improve its use.

- *ntop* program installation, to monitor and analyze network activity.

- Improvements on several monitoring procedures on the local network.

- Cooperation with Retina (ISP) to detect and solve connectivity problems in the Internet link. A particularly severe failure took place during January 2001.

Network documentation and labeling. Mostly done, including cables, devices, power panels, etc.

Room conditioning, decommissioning old equipment (mostly DEC PDP and VAX). Part of the freed space was used to relocate the PC clusters, restarting operation by the end of October 2001.

The legacy microVAXes 3100 and 3300 and the XSYS/CAMAC multiparameter data acquisition system were kept in daily service (with the help of E. Achterberg).

Miscellaneous

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 report does not include additional work in computing and data acquisition done by other groups in the Physics Dept. as part of their projects.