

Physics Department Computer Network

It is our duty 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.

Summary

There are 205 active machines on our Ethernet local area network (30-Nov-2003, up from 190 in Oct. 2002). This number includes multi-user systems (SUN, Linux and MicroVAX), three networked laser printers and personal workstations (PCs MS-Windows and/or Linux). In addition, there are also three Linux clusters with 32 PCs (20 in 2002) for parallel computation, owned by the Condensed Matter Group.

During 2003 the network and its services were kept in good working order, the wiring was extended to new laboratories, we replaced with new UTP/100BASE-TX cabling the old coaxials (10BASE2/10MHz) and put into operation new switches servicing about 50% of the available ports at 100MHz.

Additional details :

* 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, including the January 2003 mandatory vacations period.

Virus (real ones and hoaxes): We had no problems in spite of some very active virus deployed in the Internet during the year. Besides the centralized e-mail antivirus service, PC owners received also local support on virus issues.

Permanent network monitoring helped us to optimize the usage of our limited bandwidth Internet connection and check the health of our local network.

A DHCP server was installed, to facilitate machines configuration and for temporary connections.

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

< <http://www.tandar.cnea.gov.ar/> >.

< <http://www.tandar.cnea.gov.ar/actividades/> >.

* Local Area Network - Ethernet cabling

The full migration to 100BASE-TX (UTP) cabling was substantially completed, replacing the 10BASE2 coaxial cables still in use.

The network is now 'star-shaped' and mostly switched.

Cabling was extended 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 PCs were reconfigured accordingly, installing new Network Interface Cards were needed.

The network cabling and configuration data is properly documented.

There are currently 300+ UTP ports distributed through the UAF premises, about half of them served at 100MHz.

* MicroVAXes

The legacy MicroVAX 3100 and 3300 and the XSYS/CAMAC multiparameter data acquisition system are kept in operational conditions and used by the physicists.

A major repair was done at the beginning of the year on the microVAX 3300 ('HERA'), support for the data acquisition system. The system disk failed and we need to replace it and reinstall both system and application software.

The contributions of E. Achterberg on this item is recognized here.

* Power utility faults

Again this year we had frequent blackouts in the electrical power supply by 'EDENOR'.

Critical equipment (server, routers...) was already adequately protected and UPS backed-up.

We added power line protections for user offices and service areas.

* Miscellaneous

- Printers

There were 220.000 pages printed in 2003, up 17% from 188.000 in 2002.

- PCs

The users' PCs (old and new, MS-Windows and Linux) demanded considerable time in a variety of tasks like startups, reinstallations, reconfigurations, diagnostics, virus control and miscellaneous operation problems.

- CAC backbone

We participate in consultation meetings called by the UTI group, the responsible for the general network and computer services at CAC, to discuss improvements to the network distribution 'backbone in CAC.

* 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 Dept. as part of their projects.