



CERN - IT Division
CH-1211 Geneve 23
SWITZERLAND

COMPUTER NEWSLETTER

JANUARY – MARCH 1996

No. 226

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Editorial Notes

Our Web home page is at <http://consult.cern.ch/cnls/>

Past experience shows that it is a good policy to have four CNL editions per year (one around Easter, one before and one after the summer, and the last one just before Xmas), unless the number of contributions makes it necessary to have a supplementary issue, or to cancel one. Accordingly,

the deadline for contributions to the next issue of the CNL is:

Issue number	Deadline
227	Monday June 2nd 1997.

Contributions to the CNL in HTML will be preferred, although plain text is also acceptable. Articles, news items and letters intended for publication in the next issue should be *sent directly to the editor* (cnl.editor@cern.ch) with no particular subject line required.

The opinions expressed in this newsletter are those of the contributors and are not necessarily those of the CERN Management. The Editors reserve the right to edit or omit articles, or hold-over copy due to lack of space.

This CNL issue is available on WWW at the URL <http://consult.cern.ch/cnl/226>

This document was produced from the HTML master and translated into L^AT_EX with the gf program. It was then somewhat edited by hand and typeset using the `cerncnl` class. A (compressed) PostScript file, containing the complete printable version of this CNL can be obtained by anonymous ftp to `asisftp.cern.ch` as follows (commands to be typed by the user are underlined):

```
ftp asisftp.cern.ch
Name (asisftp:username): anonymous
331 Guest login ok, send your complete e-mail address as password.
Password: yourusername@yournode.domain.country
ftp> cd cnl/226
ftp> binary
ftp> get cnl226.ps.gz (or get cnl226.ps)
ftp> quit
```

Please note that, if you do not have the `gnu gunzip` utility on your system you can get the uncompressed PostScript version by typing the command `get cnl226.ps`, without the `gz` suffix. In order to save Internet bandwidth, you are, however, strongly urged to try and install the `gunzip` utility since gzipped files are about three times smaller than their unzipped equivalents.

If you want to subscribe to the `cern-cnl-announcement` mailing list, in order to receive a mail whenever a new issue of the CERN Computer NewsLetter is available on the Web, you can fill in the form at URL:

<http://consult.cern.ch/cnls/cnl-announcement.html>

or directly send a mail (with your exact e-mail address) to the editor (cnl.editor@cern.ch).

If you want to receive a copy of the paper version of the CNL (at CERN or at your home institute), fill in the form at URL:

<http://consult.cern.ch/cnls/register.html>

or send an e-mail (with your exact postal address) to cnl.registration@cern.ch

N.B. You can cancel your subscription in both cases by filling in the appropriate form accessible from our Web page at URL:

<http://consult.cern.ch/cnls/>

Responsible editor: Nicole Cremel

Technical co-editor: Michel Goossens

Please use generic electronic mail addresses whenever possible. These mailboxes will be read even when the usual specialist is absent. It is helpful to use relevant keywords in the subject field of your message. Contact specialists directly only for very urgent cases or for very general consultations.

IF YOU NEED HELP (Contacts at CERN)

Service	Name	Address	Telephone	E-mail Address
USER CONSULTANCY OFFICE (UCO)		513/R-052	74952	user.support@cern.ch
Opening hours: Monday 10:00-12:30 and 14:00-17:30, Tuesday-Friday 9.00-12:30 and 14:00-17.30				
Team Leader	M.Marquina	513/1-017	74912	user.support@cern.ch
Help Desk	R.Woolnough	513/1-020	74952,79156	user.support@cern.ch
User Registration	M.C.Perler	513/1-017	75004	user.support@cern.ch
Accounting Service	A.Koppanyi	513/1-019	74933	user.support@cern.ch
Computer Book Selling Service	M.Franceschi	513/1-022	72371	user.support@cern.ch
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Work Group Servers	T.Cass	31/1-017	78724	Tony.Cass@cern.ch
<i>Public Login Servers (interactive UNIX servers)</i>				
- HPPLUS (HP/HP-UX)	T.Cass	31/1-017	78724	Tony.Cass@cern.ch
- DXPLUS (DEC-ALPHA/Digital UNIX)	A.Miotto	31/1-021	79576	Alessandro.Miotto@cern.ch
CORE Services				
- CSF (Simulation Cluster)	V.Doré	513/R-031	72397,13+3830	csf.support@cern.ch
- SHIFT (Reconstruction Cluster)	F.Hemmer	31/3-006	76104,160128	Frederic.Hemmer@cern.ch
PaRC Service (Engineering Cluster)	P.Martucci	31/2-012	78611,160277	parcsp@mail.cern.ch
PIAF Service (Interactive Analysis)	F.Collin	513/R-039	79457,160278	Fabien.Collin@cern.ch
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Oracle (Relational Database)	S.Santiago	31/3-011	74134,13+5580	oracle.support@cern.ch
Distributed Printing	J.L.Vosdey	513/R-049	74976	printer.support@cern.ch
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CERNLIB Librarian	I.Mclaren	513/1-003	75010	heplib.support@cern.ch
LHC++ Librarian	J.Shiers	513/1-002	74928	heplib.support@cern.ch
DESKTOP COMPUTING				
UNIX Workstations and X Terminals				
- Front Desk	C.Ball	31/1-015	73349	workstation.frontdesk@cern.ch
- Team Leader	A.Silverman	31/1-030	74955	workstation.support@cern.ch
NICE (Networked PCs)	D.Foster	31/1-009	72663/13+5631	nice.support@cern.ch
Macintoshes	K.Pluntke	513/R-045	75015/160023	Klaus.Pluntke@cern.ch
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Tape Allocation to Experiments	H.Klein	13/3-024	72124,72060	Hansjorg.Klein@cern.ch
Computer Science Library (mornings only)	J.Megies	513/1-024	72379	Jutta.Megies@cern.ch

SERVICE URLs (Some Useful Web Pages)

IT Home Page	http://wwwinfo.cern.ch/
Consultancy Office	http://consult.cern.ch/uco/
User Registration	http://consult.cern.ch/uco/registration.html
CERN SP2 Service Page	http://wwwsp2.cern.ch/
NICE Home Page	http://nicewww.cern.ch/
UNIX Workstation and X Terminals Support	http://wsspinfo.cern.ch/file/
Accounting Service	http://consult.cern.ch/accounting/
Computer Documentation Office	http://consult.cern.ch/uco/cobs/
User Migration Task Force	http://consult.cern.ch/umtf/
TvScreen (Systems Status)	http://wwwcio.cern.ch/Others/TvScreen.html

Other Computing Newsletters

COMPUTING FOR ENGINEERING: See the CERN Computing Support for Engineering Newsletter,
Available from M.Tate-Lavergne 513/2-010 72863 Monique.Tate-Lavergne@cern.ch
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Designation	Usual Location	Organizer	Div.	Telephone	E-mail Address
Computing Colloquia	Auditorium / bldg 500	S.Jarp	IT	74944	Sverre.Jarp@cern.ch
Computing Seminars	IT Auditorium 31/3-005	G.Folger	IT	79778	Gunter.Folger@cern.ch
		J.P.Porte	ECP	73457	Jean-Pierre.Porte@cern.ch
Technical Presentations	IT Auditorium 31/3-005	S.Cannon	IT	75036	Stanley.Cannon@cern.ch

COMPUTER RESOURCES ALLOCATION AND DIVISIONAL CONTACTS

COMPUTER RESOURCES ALLOCATION COMMITTEE (COCOTIME):

Chairman: L.Foa/DG 4/1-048 78126 Lorenzo.Foa@cern.ch
Secretary: A.Ball/ECP 14/6-023 73849 Alan.Ball@cern.ch

DIVISIONAL REPRESENTATIVES FOR COMPUTING

For questions about new registration and resource allocation please ask the contact person for your division.

Div.	Representative	Div.	Representative	Div.	Representative	Div.	Representative
AS	M. Draper	AT	P. Heymans	DSU	M. Draper	ECP	A. Grant
EST	Ch. Delamare	FI	M. Saitta	IT	A. Koppanyi	PE	D. Duret
PPE	H. Klein	PS	J. Riche	SL	A. Hilaire	ST	E. Sanchez-Corral
TH	R. Sommer	TIS	G.R. Stevenson				

NICE DIVISIONAL REPRESENTATIVES

An up-to-date list can be found at the URL: <http://consult.cern.ch/uco/nice-representatives>

DIVISIONAL REPRESENTATIVES FOR NETWORKING

For questions about new installations, testing, local coordination, etc., please ask the contact person for your division (or, if you are an experimental physicist, the networking contact person within your experimental group).

The complete and up-to-date list of contacts is at URL: <http://wwwcs.cern.ch/wwwcs/public/divreps.html>

Letters from/to the Editor

The HEP Network Resource Center at Fermilab maintains a list of physics newsletters published by institutions worldwide. The list is located at: <http://www.hep.net/documents/newsletters/newsletters.html> The CERN Computing Newsletter is included on that list. Would it be possible to include a short sentence or paragraph announcing the existence of this page in an issue of your newsletter? We want not only to promote the newsletters and periodicals that are already on the page, but also to encourage other publishers to include their newsletters on it.

Thank you very much for your consideration.

Sincerely,

Marcia Knauf

HEP Network Resource Center at Fermilab

Dear Marcia Knauf,

I am taking advantage of this "Letter to the Editor" section to put your message, and consequently publicize the link you are mentionning.

Best regards,

Nicole Cremel (CNL editor).

"Computing for Engineers" Newsletter – Future Issues

Ludwig Pregernig, CN/CE

This is your invitation to contribute to "Computing for Engineers", the newsletter for the engineering community from CERN and collaborating institutes.

The deadlines for the next issue is:

10 May 1997 for Issue 23.

The preferred formats for contributions are:

- "Text" (ASCII) for text,
- encapsulated PostScript (eps) for illustrations, and
- Photoshop or Kodak CD-ROM for photographs.

If you use these formats, you help us simplify the production process. Contributions in other formats are welcome as well.

Please e-mail your contribution to: Ludwig.Pregernig@cern.ch.

1. General

1.1 Availability of IT Reports in WWW

Miguel Marquina, IT/DCI

An index to all the Divisional IT Reports (formerly known as CN Reports) produced since 1990 is available in WWW at the URL: <http://consult.cern.ch/doc/ITReports/>. Many of the reports themselves are also available through this WWW page. When this is the case, simply fetch the relevant document(s). If it is not electronically available or you have problems to print it, you may send an email to IT-Reports.Service@cern.ch to receive a paper copy.

In addition, we have established a communication line

through which you may be informed of the publication of new reports as they come out. In order to do that, you have to subscribe to the electronic mailing list it-reports-info@listbox.cern.ch by sending an e-mail message to ListServer@listbox.cern.ch containing the following line in its body (the subject will be ignored):

```
subscribe it-reports-info <your-E-mail-address>
```

1.2 Accounting Information in WWW

Attila Koppanyi, IT/DCI

At the beginning of each week, usually each Monday, the relevant Web pages are updated with the previous week's accounting statistics for the centrally operated services of IT Division. The recommended way of looking at them is via

a browser that supports Java. Printable copies exist for a number of reports. In addition to summaries you may also find detailed weekly reports for all the services. The easy-to-remember URL is <http://consult.cern.ch/accounting>.

1.3 Recovering Files from AFS Backups

Rainer Többicke and Tim Whibley, IT/DCI

This article describes the scheme for backing up and restoring AFS files. It includes several examples on recovering files which have been lost and explains the procedures we have adopted as well as some of the internal details for those interested.

AFS Backups Procedure

Currently backups are provided by the native AFS backup system. Data in AFS is backed up on a volume basis and typically each user's home directory is a single volume.

To find the name of the AFS volume housing your AFS home directory, from your AFS account try the command `fs lsmount $HOME`, from which you would get something like:

```
fs lsmount $HOME
'/afs/cern.ch/user/t/tim' is a mount
point for volume '#user.tim'
```

Every night, an AFS backup clone is created for each user volume. To find out when this clone is created, try the command `"vos exam user.username.backup"`, e.g.:

```
vos exam user.tim.backup
user.tim.backup          536899468 BK      8509 K On-line
afs2.cern.ch /vicepad
RWrite 536899466 ROnly   0 Backup 536899468
MaxQuota      50000 K
Creation      Tue Feb 18 22:32:45 1997
Last Update   Tue Feb 18 22:32:45 1997
551 accesses in the past day (i.e., vnode references)

RWrite: 536899466      Backup: 536899468
number of sites -> 1
server afs2.cern.ch partition /vicepad RW Site
```

This is a snapshot of an AFS volume and it is recreated every night. This snapshot is mounted on `/afs/cern.ch/ubackup/initial/username` e.g., `/afs/cern.ch/ubackup/t/tim`.

Getting Back AFS Files

The two following pairs of "Question & Answer" explain what you can do when you lose some AFS files:

Question

I have just deleted an AFS file today. How can I get this file back?

Answer

For user volumes

Look in `/afs/cern.ch/ubackup/initial/userid`, for instance, `ls /afs/cern.ch/ubackup/t/tim`. Since the files in `/ubackup` are on disk, you can use the command `cp` to copy these files. However, the files in `ubackup` are recreated every night, so see the next question for recovering files not found in `ubackup`. The same access rights for AFS home directories apply to directories in `/afs/cern.ch/ubackup`. The document *CERN AFS User's Guide version 1.2* explains file permissions in detail.

For project volumes

1. Using the directory or file name which has been lost, issue the command `fs examine <dir/file path>` and note the volume name, for instance:

```
fs exam /afs/cern.ch/project/parc/p3_all/alpha_osf32
Volume status for vid = 536916469 named p.parc.patran
Current disk quota is 900000
Current blocks used are 789078
Partition has 4219332 blocks available out of 12533760
```

2. Go to your home directory and mount the backup volume using a temporary non-existing name, i.e., `cd` followed by `fs mkmount temp <volume-name>.backup`, for instance

```
fs mkmount temp p.parc.patran.backup
```

3. look for your files below the temp subdirectory and copy them somewhere safe.
4. remove the unnecessary mount point:

```
cd
fs rmmount temp
```

Question

I lost some AFS files some days (weeks/months) ago. How can I get them back?

Answer

If the file is less than one year old, send email to `Afs.Support@cern.ch` specifying in detail the following:

1. the full pathname of the filename(s) that you need restoring, e.g., `/afs/cern.ch/user/t/tim/file1`;
2. the date from which you need these files restoring.

Then see the next section.

AFS Tape Restores

As explained above tape restores cannot be performed by users themselves. Upon receiving a restore request, the entire volume will be reloaded from tape (unfortunately, this can be a lengthy process) with the volume name:

```
p.project.R      for project volumes
user.username.R  for user volumes
```

A mail will then be sent to you explaining the procedure to mount this volume and copy your files to a safe place. You should not forget to reply to this mail when you have recovered your files in order that we can remove this .R volume.

AFS Backup Details

Please note the following concerning the AFS tape backups:

- they run nightly;
- full backups (level 0) are performed fortnightly;
- they use DLT tape stackers;
- tape restores cannot be performed by users, see above;
- you can restore on a daily basis for files up to a month old;
- you can restore on a monthly basis for files over one month old;
- tapes are recycled after one year;
- some tapes are kept in a separate building so restores can take up to 24 hours.

1.4 Closure of CERN Support for HP-UX 9 Operating Systems

Lionel Cons, IT/DCI

HP introduced version 10 of their operating system two years ago, in the first quarter of 1995. This has been a major change and the first versions suffered from some "*erreurs de jeunesse*". One year later, HP released HP-UX 10.10 which has proven to be stable and reliable. The current version (HP-UX 10.20) is now certified at CERN (see the next article) and will be gradually installed on most of the IT central services (see Section 1.7). Next year, HP is expected to introduce HP-UX 11 with more exciting features. For more information, you can check the URL's:

HP-UX 10: <http://wsspinfo.cern.ch/file/hpux10.html>

HP-UX 11: <http://wsspinfo.cern.ch/file/hpux11.html>

Unfortunately we cannot afford to support old software for ever and we will therefore stop the CERN support of HP-UX 9 at the end of this year. This means that all the centrally provided software (ASIS, CERNLIB, SUE, etc.) will be frozen; no new products or versions will be made available for HP-UX 9. Also, the HP application server (`hpsoft`) will be stopped.

All owners of HP-UX 9 systems are encouraged to upgrade to HP-UX 10, preferably to the newly certified HP-UX 10.20. More information can be found in the document *HP-UX Installation Guide* available from the URL: <http://consult.cern.ch/writeup/hpux>.

1.5 HP-UX 10.20 is now Certified

Lionel Cons, IT/DCI

A new version of the HP-UX operating system has now been certified by the Information Technology (IT) Division. The certification process has been described previously, for instance in the 224, see URL: http://wwwcn.cern.ch/cnls/224/art_cert.html.

The version certified is HP-UX 10.20; all the major programs and libraries (AFS, ASIS, CERNLIB, HEPiX scripts, SUE, UMTF recommended tools...) should work on it. More details can be found in the Web, at URL: <http://wsspinfo.cern.ch/file/certified.html>.

The major advantages of HP-UX 10.20 compared to 10.10 are:

- full support of the PA8000 chip (64-bit);
- support of large files, up to 128GB.

More information can be found in the Web, at URL: <http://wsspinfo.cern.ch/file/hpux10.html#10.20>. All users of HP-UX 10.* systems are encouraged to use this certified version. Note that this version will progressively be installed on most of the IT central services as explained below.

1.6 Operating System Certification - Present List

Alan Silverman, IT/DCI

As stated in CNL 224, we promised to update you on the various versions of UNIX which we certify as working correctly with the CERN-recommended libraries, tools and utilities. As of March 7th these are:

- HP-UX 9.05 - certified (but no more CERN support at the end of this year, as explained above);
- HP-UX 10.20 - certified (see previous article);
- Solaris 2.5.1 - certified;

- Digital UNIX 3.2.d - certified;
- AIX/6000 4.1.4 - certified;

For those interested in the background, it is described in the Web page <http://wsspinfo.cern.ch/file/certified.html>. Latest news on the certification procedure will be published in the newsgroups associated with each UNIX flavour (for example cern.hp) and summarised in the Web page listed above and in each CNL.

1.7 Migration of Central HP Interactive and Batch Services to HP-UX 10.20

Tony Cass and Tim Smith, IT/DCI

Introduction

For some years now central HP services have been running different releases of HP-UX 9, but it is now time for a major upgrade. Apart from just wanting to keep up-to-date, there is also the important point that HP-UX 10.20 is required to exploit fully the PA8000 processors used in batch machines.

We have planned since autumn last year to migrate all central HP services to HP-UX 10.20 in good time for the accelerator startup. Much progress has been made and the migration schedule for the different services is given below. Note that AFS is fully supported for HP-UX 10.20 and after this migration there will be much better integration between HP-based interactive and batch services.

Differences between HP-UX 9.05 and 10.20

The most visible difference between the two operating system versions is the file system layout. Because HP-UX 10.20

systems adhere to the standard System V file structure (in common with other UNIX flavours used at CERN such as AIX and Solaris), the locations of over 500 system files have changed. Running commands from your shell should be unaffected since the PATH variables hide the change. However, scripts with hard-coded locations may have to be updated and Fortran or C code that refers to system libraries will have to be recompiled.

The `afs @sys` variable for machines running HP-UX 10.20 is `hp_ux102`. If you have directory names containing the `@sys` variable, containing code for a specific operating system, then you will need to add new `hp_ux102` directories. This is true for your `~/bin` directory, which is actually a link to `~/@sys/bin`, so on the new machines a new `~/hp_ux102/bin` directory is required (or at least a link to your old `~/hp700_ux90/bin`). This can be created by running the `uco-home` command to reset your home directory links.

The CERN Program Library for HP-UX 10.20

A first compilation of the 97a CERNLIB release under HP-UX 10.20 has been made and initial tests show that key packages work correctly. A second compilation is needed—with better optimisation flags—but we expect a release of CERNLIB for HP-UX 10.20 before Easter.

Migration Schedules

HPPLUS

The migration to HP-UX 10.20 for HPPLUS has been planned for March for quite some time. We did not wish to make this migration too near to the Easter holiday period or during the CHEP conference, so HPPLUS will be upgraded to HP-UX 10.20 starting on **Sunday March 16th**, finishing on Monday March 17th.

Shift Services

Some work is still needed to ensure that the AFS client code works correctly with HP-UX 10.20 on the Kittyhawk machines, but we intend to migrate SHIFT services to HP-UX 10.20 before the end of April. Priority will be given to SHIFT services that are linked to HPPLUS—such as SHIFTDELPHI.

Atlas WGS

Two D250 machines running HP-UX 10.20 are already available but complete migration will be done towards the end of April with the SHIFT machines.

Ion WGS

One D250 machine running HP-UX 10.20 is already available. Another D250 machine running HP-UX will be introduced, and the HP 735 machines running HP-UX 9.05 removed when the SHIFT machines are migrated to HP-UX 10.20 in April.

SL/AP WGS

This cluster will migrate to HP-UX 10.20 in March, before new PA8000 CPUs are delivered.

CSF

For CSF we have to be sure that HP-UX 10.20 and AFS will work in a clustered environment. We will make some initial tests and then, if all goes well, migrate one CSF cluster for extensive tests at Easter. At this point we would encourage all CSF user groups to test their programs and scripts before further migration towards the end of April.

2. Mail Issues

2.1 EMDIR Functionality Absorbed into CCDB

G.Ferran, A.M.Osborne, S.Santiago, IT/ASD and B.Pollermann, IT/DCI

For nearly 10 years, the Electronic Mail Address Directory database (*emdir*) has been used to store electronic mail addresses - both for people at CERN and for other geographical populations.

emdir started as a small demonstration project to show that the combination of two techniques quite new at the time - commercial Relational Databases and Remote Procedure Calls - could provide reliable, efficient and fully functional new services. All through its life *emdir* succeeded in implementing features which only later became of general use. Amongst these were a three-tier architecture (multi-platform client, dedicated application server and a universal back-end database server), shrink-wrapped, downloadable, multi-platform client installation packages, database update permissions based on automatic authentication of the client users, etc. *emdir* survived two radical changes of computing environment: it started on a central VAX/VMS with communications based on DECNET, was extended to run on VM/CMS with both DECNET and TCP/IP and was finally fully rewritten to run over TCP/IP on practically all the UNIX platforms at CERN and had a WWW interface added for read-only operation. At the time that these lines are written, *emdir* still receives a few hundred calls per day.

emdir was originally written by Frederic Hemmer, later modified by Claude Ledez, and fully rewritten by Jorge Dominguez-Sol. The RDBMS was ORACLE.

Due to the advent of the Web, the requirement to provide support to populations outside CERN no longer exists. Since 1987 the Computer Centre Database (CCDB) has been used to register users, their accounts and at the same time make entries into *emdir*. In order to consolidate the maintenance effort, *emdir* will shortly be absorbed into CCDB. The effect of this will be the following:

- To **register** people for e-mail addresses, Group Administrators of the relevant Computer Groups should

continue to use *userreg* - either to register **new** people or to modify the addresses of **existing** people.

- Individual users may **modify** their e-mail addresses by using *xuserinfo* (this requires a graphics terminal, workstation or PC) from one of their accounts on NICE, VXCERN, any PLUS service (HPPLUS, CERNSP, DXPLUS) or any workgroup server (e.g. ATLAS_WGS, CMS_WGS etc). Soon it is hoped to release a character mode version of *userinfo* which will permit users still having 'dumb' terminals to perform the same operations. Note that more stringent validity tests are performed on the e-mail addresses than was the case for *emdir*. We are planning to introduce a Web interface as soon as the problem of authenticating the user is solved - without requiring a special password.

- To **look-up** anyone's e-mail address, users should use (depending on the operating system), either:

- The DIRECTORY (XWHO) service on the Web, or,
- on UNIX systems (PLUS services and Work-Group Servers):
 - * *xwho* (basically a line mode Web version);
 - * phone with the "-M" option;
- or,
- on NICE use the PHONE BOOK icon, or,
- on VXCERN phoneb will be enhanced to provide similar functionality to that on UNIX.

Please note that any change made to e-mail addresses (either the generic address or the preferred e-mail address) are seen via the directory services only the next morning, since, for efficiency reasons, they are based on database snapshots. For the purpose of e-mail routing, however, snapshots are taken twice per day - once in the early morning and once at lunch-time.

2.2 The End of AFSmmail

Alessandro Miotto and Judy Richards, IT/DCI

When the central MAILSERVER became available for general use last spring, we announced that we planned to phase out AFSmmail. The time for doing this is now approaching, with a target date of June 30th. If you are a pine user it is very straightforward to migrate to the MAILSERVER and you will hardly notice any difference.

- First check that you already have a MAILSERVER account (service MAILSERV) using, for example, the command *xwho* or the Web 'Directories' page. If you have a single AFS userid this should be the case. If you have multiple AFS userids you should check not only whether you have an account on MAILSERV but also whether it has your 'preferred' userid. If you

need to create or modify a MAILSERV account, contact your group administrator.

- Once you have a MAILSERV account, execute the command `mailmigrate` in order to have your setup modified to use the mail server. The command performs the following actions:
 - modifies your `.forward` file to ensure that any mail still arriving at your `afsmail` address will be forwarded to the MAILSERV;
 - moves any remaining messages in your AFS INBOX to a pine folder named “AFS-mbox1”;
 - modifies the pine configuration to look for your INBOX on the MAILSERV.

All actions taken are displayed in the output of the command.

- You should now be able to use pine, just as before, provided you are logged into one of the UNIX servers in the Computer Centre (PLUS or WGS machine).
- Once you are happy that your new configuration is working correctly and to ensure that mail sent to your generic address, “`firstname.familyname@cern.ch`”, is delivered directly to your MAILSERV mailbox, you need to update your Preferred EMail address (PEM), which should now become “`userid@mail.cern.ch`”. The easiest way to do this is to use the new `xuserinfo` command on one of the central servers and click on the “Mail Info” button. (If you have only line-mode access, you should use the `emdir` command.)
- If you have a private workstation you should also use the “Hosts” button of the `xuserinfo` command to

register your workstation as a recognized host. Otherwise, when you try to access the MAILSERV you will be requested for your MAILSERV password, which you probably don’t know!

- If you have multiple AFS accounts, remember to set the `.forward` file for all of them to forward your mail to the MAILSERV.

So, for most `afsmail` users there are just two commands to execute:

- `mailmigrate` to update your configuration;
- `xuserinfo` to register your Preferred EMail address.

If you have advertized your email address in the generic form (`firstname.familyname@cern.ch`) this change will be transparent to your correspondents. If people send mail to your `afsmail` address it will automatically be forwarded to the MAILSERV.

Since it is so easy, why don’t you do it **now**? This will save us having to bother you again. In addition, in May and June various configuration defaults will be changed from `afsmail` to `mail`, and if you don’t have a forward set from the MAILSERV to your `afsmail` account, you could end up with mail arriving in your MAILSERV mailbox without your realizing it.

If you are using mail filtering utilities such as `procmail` or `filter`, please consult URL <http://wwwinfo.cern.ch/service/mail/utis/filtering/doc/>

If you are not a pine user and need help, or if you have questions or problems, please contact `Mail.Support@cern.ch`.

2.3 Listbox Service: New Version of the Majordomo Software

J.Casas Serradilla, G.Fernandez, M.Franceschi, M.Marquina and A.Taddei, IT/DCI

This article is aimed at Listbox List Owners, who may find useful this summary of the most significant improvements in this software release.

A new version of the *Majordomo* software (1.94.1), which is the Public Domain server software used by the Listbox Service, has been put into production on March 4th. This new version fixes a certain number of bugs, it improves the general level of the code quality and it offers some new features. Moreover, this new version allows us to integrate the CERN added value in a better way.

New features

- Two new commands, `intro` and `newintro`, are used to retrieve and modify the introduction file that is sent only to new subscribers. This is now different from the “info” file, which (potentially) anyone can see.

- The new command `cancel` is an alias for `unsubscribe`.
- If a list owner doesn’t belong to some private mailing list he administers, he can still manipulate it with an `approve` command:

```
approve <PASSWORD> <LIST> who
```

- Many more checks for illegal addresses have been included. Users are informed (and requests rejected) when they supply only their name or otherwise supply a nonsense address.
- The response to the `who` command includes a subscriber count.

- List owners can define “taboo headers” and “taboo body” expressions, so that any mail sent to their list which matches any of these is bounced for approval. Global taboo headers and body are also defined, mainly to avoid mail loops in the lists.
- Subscription policy can now be set to ask the subscriber for confirmation.
- Unsubscription policy can be set independently.
- who, which, get, index, info, and intro privacy can be separately defined for each list, so that anyone, list members or nobody can use them. Any restrictions can be overridden by the ‘approve’ command.
- *Majordomo* is now able to catch attempts to subscribe a list to itself.
- *Majordomo* is now MIME compliant.

Code improvements

- Requests for confirmation have been made more detailed, and the backslash syntax for splitting long lines is explained in those messages.
- Confirmation messages sent by the subscribe command have been improved. They contain more reasons why a confirmation request may not be received.
- The locking system is much stronger.

Bug fixes

- If a list adds its own Reply-To: header, any Reply-To: header in incoming messages will be merged with it.
- No more lists will be emptied due to faulty unsubscriptions.

2.4 MOWGLI - The Mailing List Web Interface

G.Fernández and M.Marquina, IT/DCI

The interface acronym stands for *Majordomo On Web - General Listbox Interface*, and it is a WWW interface accesible via the *Netscape* browser to the ListBox services at CERN. It provides the possibility of interacting with the ListBox mailing lists without having to connect to any UNIX service. This is specially useful for those who have only PC or Macintosh at their desk.

Main page

When invoked, MOWGLI presents the user a table of servers, sets and mailing lists to select.

Mailing list servers

Even if there is only one central mailing list server at CERN (listbox.cern.ch), several “virtual servers” are defined for the physics experiments (e.g., atlas-lb.cern.ch, delphi-lb.cern.ch, na48-lb.cern.ch) so that the number of displayed lists is not too large.

By default, MOWGLI shows the sets and lists described to listbox.cern.ch, but it can be made to display other virtual servers, e.g. with the URL http://consult.cern.ch/htbin_cern/mowgli?atlas-lb.

List sets

Related mailing lists at listbox are grouped in sets (e.g., as, hep, it-support, th) to ease navigation. By default,

all lists from all sets are displayed.

When a server and/or a group is selected, only the relevant lists are displayed.

List page

When a list is selected, a new Web page is displayed allowing the user to interact with it.

A list page can be reached directly, e.g., with the URL http://consult.cern.ch/htbin_cern/mowgli?uco@listbox.cern.ch.

Selected commands are stored in memory and a button at the top of the page sends all cumulated commands to the ListBox server. User authentication (through the browser mail agent) is skipped for registered users.

The list page is made of several sections:

- **General Commands**, to send general commands, not related to any particular list (help, lists, which).
- **List Information**, to post to the list, or to send commands to get information about the list (info, who). In addition to that, registered users can display the list contents and owner on the browser and print the list.
- **Registration**, to subscribe/unsubscribe users to the list.
- **File and Mail Archiving**, to get the index and the contents of the list archive.

2.5 Problems with Netscape/PC as Mail Agent

M.Marquina and R.Ramos-Pollán, IT/DCI

The current versions of the *Netscape* browser available on NICE (2.01 Gold and 3) show up a problem when used as Mail Agent. Namely, storing the mail folders on volumes based on Novell servers (such as J:) confuses *Netscape* and makes it believe that the MAIL session is established while in reality it is not. The symptom is that all folders appear as empty.

For this reason, and also because POP3 (used by these versions of *Netscape*) is not the recommended mail protocol to establish sessions with the central MAILSERVER, *Netscape/PC* is currently **not** recommended to be used as mail agent.

You have two alternatives for accessing your mail on the MAILSERVER:

- use “PC/Pine for Windows” at “More Applications” – “Communications” from your Start Menu;
- store your mail folders on your local C: disk (the default configuration provided by *Netscape*, in C:\W95\netscape\mail).

However, you must be aware that opting for the second alternative leaves your mail at risk since the local C: disk is **not backed-up**. In this case it is up to you to make periodical copies of your mail folders to the backed-up NICE areas.

We would like to thank the NICE Team for having identified the origin of the problems described above, and worked on finding a solution.

3. Desktop Computing

3.1 Migrating from Macintosh to PC

M. Marquina, IT/DCI

You may be confronting the problem of moving from a Macintosh to a PC environment for whatever reason; this article is intended purely to help you technically in that transition, in order that the change in your habits is made as smooth as possible.

The NICE “Login” concept

One of the first things you will notice is that you require one additional step to make your PC really “yours”. When you start your Mac, the disk, files and customisation are the ones you have set up. And this without further questions. You work straight on your Mac desktop. These are what is called “single-user” machines. A classical PC under Windows/95 would offer you the same, but the PC environment at CERN (NICE, which stands for “Network Integrated Computing Environment”) has been organized such that your environment goes “with you” and not “with your computer”. Somebody who has already computer accounts on other systems (UNIX, VXCERN, etc.) understands this. On all those “multi-user” Services, many people may work simultaneously on the same computer. The only way to achieve that and not having all user files mixed up is by having to enter an identifier (your “login-id” or “account”) and an access key (called “login password”). It is like identifying yourself with your bank card and your pin code at the Cassamat.

So when you boot a PC at CERN set up under the NICE environment, it will first ask you to supply your “Network Login” and “Password”. Afterwards you will be asked to supply a second password for your “Windows session”; this usually coincides with the first (certainly it does the first time you use your account).

Once you have succeeded in connecting, you will start seeing your files and environment. And this regardless of the location of the PC (whether it is the one at your office or somewhere else).

One corollary to the above: since you must connect to get to your files, you should remember to disconnect when not using your own PC, because otherwise you leave your files exposed for the next person who uses the machine. Using the same analogy as before, it would be like introducing the card at the Cassamat, keying your pin code and then leaving the machine unattended.

Moving your Mac files to the PC

You must understand that the Mac and the PC are two different machines and that programs (like graphics tools, text editors, database applications like FileMaker or Excel, etc.) will not work if moved from one to the other. However it is quite frequent that the same application is available for both

platforms and has been prepared to understand documents produced on either side: *Word* letters, *Excel* spreadsheets, *Corel-Draw* drawings, etc.

If you understand this basic rule, you probably can save most of your work (since applications such as the above are also available on PCs under NICE). You simply have to copy the relevant documents. The basic steps follow.

Find out where is your NICE Home

In order to access it from your Mac, you need to know the location of your NICE “textttHomeDirectory”. One way is by finding the data about yourself using “Phone book”, then clicking on “More Info”. The open window will show you “HomeDirectory: \\srv1_home\usr13\home...”.

The second method is by examining the configuration of your PC. Let us assume your NICE “login-id” is “Smith”. You will see on your PC Desktop an icon called “My Computer”; if you double-click on it, you will see two disk icons labelled like:

```
'srv1_home... on '$nds' (G:)'
'Smith on $nds\.srv1_home_usr13.... (J:)'
```

or similar. The two parameters to note down are precisely the server “srv1_home” and the disk “USR13” where your “NICE Home” resides.

Opening your NICE Home from your Mac

The easiest method to copy all your Mac documents to your PC is by dragging them into your NICE “folder”. To do that:

- launch the “Chooser”, and select the Appletalk Zone “NOVELL”;
- select a file server, e.g., “Srv1_Home”;
- connect to it using your NICE “login-id” and password;
- then select the item you want to use, e.g., “USR13, Home Directories”;
- open the disk engaged above, then the “home” folder, then your folder (in the case of the example, “smith”).

At this moment you have full privileges to write on your NICE area all the Mac files you wish, using the familiar Mac interface (you may create new folders, etc.).

A tip: you may find it convenient to set an alias to your NICE folder (by using “Make Alias” in the “File” menu) in order to shorten the above rather cumbersome connection procedure.

Mac versus PC File System

While the Macintosh system allows quite a flexible naming scheme using blanks and long names (>14 characters), and it knows internally how to associate documents to their originating applications, the PC is more strict and requires you to assign special extensions to the PC files in order to activate the right application. Here follows a non-exhaustive list:

Document type Mac file called on your PC

WORD	f	f.doc
EXCEL	f	f.xls
COREL DRAW	f	f.cdr
HTML (WWW)	f	f.htm

When copying your Mac files, please avoid national characters in their names (e.g., by renaming them first). The way in which those characters are treated by the two machines is different, and it may be afterwards practically impossible to manipulate the files with standard PC tools and commands.

Routing your QuickMail messages elsewhere

Now that you have started using your PC, you would like to get all your QuickMail messages delivered to the new system of your choice; this could be your own PC, or perhaps an account on one of the Central Services. In any case, you must start by having the new e-mail address that you will use from now on. Let us assume that you ask for an account at the Central "Mail Server" and that you will use "PC/pine" from

your PC to connect to it. Typically the new e-mail address will be "loginid@mail.cern.ch".

You have to program QuickMail to forward a COPY of your incoming mail (an original will always stay at your Quick-Mail account) as follows:

- launch QuickMail;
- select "MailManager..." at the "Tools" menu;
- select "Server Rules" at the new window, then the "New" button;
- you get a panel where you can assign a "Rule Name:", e.g. "forward to MAIL", then select the "Do actions" button;
- select the "Forward" button at the new panel, and "Find" your new e-mail address using the standard QuickMail search mechanism;
- finally click "OK", and "Done" after you have completed the above.

Now you just need to "activate" this setting, by going to the "Tools" menu and selecting "Start Server MailManager". The forwarding you have just programmed will be active until you stop it by choosing "Stop Server MailManager".

Finally, test what you have done. If you send an e-mail to your QM address (or ask a friend to do it for you), you should find the original at your QM mailbox and a copy sent to your new address "loginid@mail.cern.ch".

3.2 Software Development Tools Service

Eric Poinsignon, ECP/IPT

In the ECP/IPT Group we actively help software projects in CERN experiments to identify, evaluate, purchase and use industrial software development tools. Network floating licences are used as much as possible, so that the tools can be run remotely. We are in the process of making our tools available on AFS. Watch our News page:

<http://www.cern.ch/PTTOOLS/SoftNew.html>

which is updated as things happen.

We can also, if you have an AFS account, give you access to our Solaris server in case the binary for your platform is not available. You can find the complete information on what we have and how to use it at URL:

<http://www.cern.ch/PTTOOLS/>

Here is the list of currently available tools:

Requirement Engineering

PSS-05 Templates URD and SRD templates for
FrameMaker and WebMaker (group
product)

Analysis and Design

ADAMO	ER design and programming system (group product) 3.2 for UNIX, VMS, VM
OMTool	OMT analysis and design with some C++ and SQL code generation. 2.0 for SunOs, Solaris.
OMW	Martin/Odell analysis and design tool with C code generation. 1.3 for SunOs, Solaris, HP-UX.
Rose/C++	OMT/Booch analysis and design tool with C++ code generation. 3.0.5 for SunOs, Solaris, HP-UX, AIX.
StP/OMT/Booch	OMT/Booch analysis and design with C++ code generation. 2.2 for SunOs, Solaris, HP-UX.

Modelling and Simulation

Modsim	Discrete event modelling and simulation tool. 1.9.15 for SunOs, Solaris.
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Programming and Debugging

Eiffel/S	Eiffel 3 compiler and its library of reusable classes. 1.3 for SunOS, Solaris, HP-UX, AIX.
LispWorks	Programming environment for development in Lisp and CLOS. 3.2.1 for SunOS, Solaris, HP-UX, AIX, ULTRIX, OSF1, IRIX.
ObjectCenter	Complete C++ programming environment. 2.1.0a for SunOS, Solaris, HP-UX.
SNiFF+	Integrated development environment for C, C++, Java, Fortran and CORBA IDL. 2.2.1 for SunOS, Solaris, HP-UX, AIX, OSF1, IRIX, Linux.
VisualWorks	Object Oriented environment for development in SmallTalk. 2.5 for SunOS, Solaris, HP-UX.

Documentation

FrameMaker 5	Complete and integrated publishing tool. 5 for SunOS, Solaris, HP-UX, OSF, AIX, IRIX, MacOS and Windows.
Harlequin WebMaker	Generic configurable converter from FrameMaker to HTML. 2.2.3 for SunOS, Solaris, HP-UX, AIX, IRIX, MacOS and Windows.

Graphical User Interface Builder

X-Designer	Interactiv X-platform GUI builder with OSF/Motif toolkit widgets, C and JAVA code generation. 4.6 for SunOS, Solaris, HP-UX, OSF1, AIX, IRIX.
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Quality, Metrics and Testing

Logiscope Tool Kit	Source code analyser and test coverage for C/C++/Fortran. 1.2 for SunOS, Solaris, HP-UX, OSF1.
Look!	C++ dynamic visualization system. 3.002e for SunOS, Solaris, AIX.
PureCoverage	Code coverage for C/C++/Fortran. 1.2 for SunOS, Solaris, HP-UX.
Purify	Memory leaks and access errors detector for C/C++/Fortran programs. 3.2 for SunOS, Solaris, HP-UX, IRIX.
TestCenter	Memory leak, run time error detector, test coverage and and simulation for C/C++. 2.0.2 for SunOS, Solaris, HP-UX, AIX.

Online Courses

CTI	Self teaching UNIX course. 4.0.2 for SunOS, Solaris.
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4. Application Software & Databases

4.1 HP-PIAF Service Shutdown

Dino Ferrero Merlino, IT/ASD

As announced in the last CNL, the HP-based PIAF service has now been replaced by a new instance running on the Meiko CS-2 parallel machine. Users data have already been copied to the CS-2 and PIAF users are strongly urged to move to the new system as soon as possible. The final shutdown of HP-PIAF will take place on March 15th, when all logins to that service will be disabled.

The PIAF accounting policy will change as well so that group administrators, who manage their group's accounts, can bet-

ter understand who is using which service. While in the past all users having a CORE account could work on HP-PIAF as well, from now on PIAF will be managed exactly as any other central service, that is, new users will have to ask for a PIAF account in order to use the CS-2 instance and such an account will be managed according to the standard rules. We have already created PIAF accounts for all CORE users who connected at least once during 1996/97. All computer groups have the necessary authorisation in USERREG to use the PIAF service.

4.2 FORTRAN 77 to Fortran 90 Conversion

Michael Metcalf, IT/ASD

Although it has been decided that C++ is the way forward for future physics processing codes, there are nevertheless large numbers of FORTRAN 77 programs still in use. In the engineering field especially, this might well remain true for a very long time. However, the compilers available on all our platforms are now Fortran 90, and it is, in many respects, a pity not to take advantage of its features simply because the burden or bother of conversion is seen to be too great a hurdle. It is especially a pity for old codes that could do with a good clean-up, and those that could potentially take advantage of Fortran 90's array features.

Do not despair - help is at hand. We have available at CERN two conversion tools:

- **convert**: a simple program that converts the old FORTRAN 77 fixed source form to the new, optional, free source form. This program is available by "anonymous FTP" from `asisftp.cern.ch` in the directory `TTdist` as the file `convert.f90`. It contains its running instructions at the beginning.

- **LOFT90**: a full-blown, commercial product from *NA Software* of Liverpool. It is installed and freely available on the Meiko CS-2. This tool performs a complete syntactical conversion, including the replacement of many DO-loops by their array language equivalents.

LOFT90 has been tested at CERN on a large accelerator code, and the new version is somewhat faster, by about 7%, than the original FORTRAN 77 version. The use of LOFT90 has the incidental advantage that it removes many outmoded features, thus making new code fit to face future hardware/software combinations without being continuously hampered by language extensions that are no longer recognised.

To make life simple, I am prepared to offer help and advice to anyone wishing to use either of these products. Just ring me on 74427 or send an e-mail to `Michael.Metcalf@cern.ch`.

But hurry, this offer expires at the end of 1997!

4.3 HEED 1.01: Detailed Simulation of Initial Ionization in Gases

I.B. Smirnov, PNPI Russia

The program HEED (W5060), written in Fortran 77, simulates the initial ionization produced by fast charged particles in gases. It is designed for the simulation of drift and proportional chambers. It is based on the PAI model and simulates also a series of secondary processes. The program simulates the primary interactions of incident fast charged particle with electrons of the material, and the energy dissipation that re-

sults in the creation of conduction electrons. Energy dissipation can take place through deceleration of delta-electrons, through absorption of fluorescence photons and so on.

However, the program does not simulate the drift of conduction electrons to cathodes. The program can be run as a stand-alone batch program, and it is connected to Garfield, a drift-chamber simulation program (see next article).

4.4 Garfield 6.05 - The forthcoming Release

Rob Veenhof CEA Saclay

The forthcoming release of Garfield (W5050), version 6.05, has a major new feature: an interface with the Heed program (see above), written by Igor Smirnov, PNPI St Petersburg. This program simulates the ionisation of gas molecules when a charged particle traverses the chamber. The addition of this interface has implications for the format of many commands in various sections (only those with changes are mentioned).

CELL section:

Wires were plotted at incorrect positions when polar coordinates were used, this has now been fixed.

OPTIMISATION section:

A mistake has been found in the electrostatic force calculation routines for potential types B2X and B2Y: the mirror charge of the wire on which the force is calculated, was not taken into account (Almut Tadsen). The mistake, which has been corrected, had no effect on field calculations.

The forces acting in chambers with a tube were so far not available. They have now been added.

GAS section:

To take advantage of the Heed interface, you have to initialise the ionisation properties of the gas mixture. This is achieved via a new command called HEED.

An option has been added to the MAGBOLTZ command to request plots of the energy distribution functions F0, F1, F2, F3.

The transverse diffusion as returned by Magboltz is, in some cases, 20 % lower than in previous releases. This is the result of a modification in the interface, recommended by the author of Magboltz.

The Lorentz angle as computed in the absence of Magboltz generated data had a wrong sign for the 'E' times 'B' term. This has been corrected.

DRIFT section:

A routine has been added that performs Monte-Carlo style integration of drift lines, taking diffusion into account on a step-by-step basis.

Various instructions in this section have a modified format with a view to the Heed interface and to Monte Carlo drift line integration. In particular, the behaviour of the DRIFT TRACK command has changed.

In a couple of commands, the conversion of internal to polar coordinates has been cleaned up - although the absence of some conversions was inconvenient, results such as drift times, diffusion, etc., are not believed to have been incorrect.

SIGNAL section:

The drift lines used for signal computation can now optionally be computed with the Monte Carlo integration routine.

The buffer for intermediate results now uses an algorithm to re-use entries that were little used or used long ago. This buffer is not directly accessible to the user; error messages related to buffer overflow appeared. It might be appropriate to recall that, at compile time, two versions of this buffer are offered: one optimised for hardware that has a lot of memory, and one for hardware with a large cache.

The assignment of electron induced signals to the classes "direct" and "cross induced" has been slightly modified in view of the optional Monte Carlo integration.

Graphics:

Better treatment of the case of no terminal graphics output when using the HIGZ interface.

Histograms, Matrices, Formulae and Calls:

A couple of new procedures have been added: PLOT_CELL, PLOT_DRIFT_LINE. Also, the Monte Carlo drift line calculation routines as well as the Heed cluster generation routines can be accessed via calls.

Plotting of histograms with a total weight equal to zero gave a divide by zero, and this has been corrected. Filling of auto-range histograms with weighted entries has been improved.

When iterating and leaving a loop from within a conditional block, the IF context was sometimes incorrectly restored, giving rise to an addressing error, and this has been corrected.

The interpretation of A-B-C (and similar for divisions and exponentiations) has been brought in line with what is usual in Fortran, namely A - (B+C) rather than A - (B-C).

Compilation:

The compilation procedures have been changed as a result of the addition of the Heed interface.

Documentation

Currently, the most accurate description of the program can be found in the on-line help at the URL <http://wwwinfo.cern.ch/writeup/garfield/help/>. A printed manual is not available at the moment. A set of examples can be found at the URL <http://consult.cern.ch/writeup/garfield/examples/examples.html>, and various other details at the URL <http://consult.cern.ch/writeup/garfield>.

5. Questions and Answers from the UCO

A more complete collection of Frequently Asked Questions can be found on our Web page at URL:

<http://consult.cern.ch/uco/direct/#FAQs>.

General (Miguel Marquina and the UCO Team, IT/DCI)

Question

The command `acrontab -e` gives me the following error:

```
cernsp> acrontab -e
/afs/usr/local/etc/arc:
cannot authenticate to server afs5:

No ticket file (tf_util)
Unknown user: 'unknown', no valid Kerberos ticket?
```

but it seems that I have a valid AFS token:

```
cernsp > tokens

Tokens held by the Cache Manager:
User's (AFS ID 14524) tokens for afs@cern.ch
[Expires Feb 12 12:05]
```

What can I do?

Answer

You do not have a valid *Kerberos* ticket. Either you logged in using `rlogin` or `rsh` (which forwards AFS tokens but not *Kerberos* tickets), or you dropped your *Kerberos* ticket (e.g., by removing the ticket file or changing the relevant environment variable), or you renewed the AFS token but let the *Kerberos* ticket expire.

To solve this problem use the command `tokens.krb` to find out about your tickets, and `klog.krb/tt>` to request a fresh set.

Question

I have sent a "uuencode" file to a colleague with "pine", and he says it does not work. I have still my own file, I try to "uudecode" it and it looks good. Do you understand what is wrong?

Answer

uuencode files sometimes have trailing blanks. If you send these files as ordinary mails (inside the mail body), the mail agent will assume those blanks are irrelevant, so any extraction operation will remove them. The only way to ensure that the original file is respected is by using the "Attachment" option of your mail agent.

It is also worth noting that the same is true for PostScript files. Those files can be wider than 80 characters and mail agents like pine wrap long lines. Again, formats must be respected and this is only achievable by "attaching" them.

Question

I would like to run a cgi-script for one of my private Web page, is it possible?

Answer

cgi-scripts are programs running by definition inside the HTTP server. Private cgi-scripts are a dangerous security hole and are therefore not permitted.

In case you need to run cgi-scripts for your work, contact your Divisional or Group Webmaster who will install and (hopefully) test it.

Question

Is it possible to interactively "talk" with another user if we are not working on the same computer node/platform?

Answer

Yes, with "Zephyr" (see URL <http://consult.cern.ch/writeups/zephyr> or type `man zephyr`), which is a message service for UNIX users. It is a notice transport and delivery system that allows UNIX users to send messages to each other, where—unlike with the command `write`—users do not need to be on the same node.

X Window (Miguel Marquina and the UCO team, IT/DCI)

Question

Is it possible to run on a CERN X terminal (or workstation) an application at SLAC (or anywhere else) that throws back an X window?

Answer

CERN has a security protection mechanism to prevent this. However, if you are using a "CERN standard" desktop (X-terminal or workstation) then you can run `mxconns` either on the desktop (if it is a UNIX workstation), or on the session manager (if it is an NCD X terminal).

Note that the `mxconns`, a tool supported by the work-

station support section of IT/DCI, "bypasses" the X security blockage. In case of problems please contact Computer.Security@cern.ch.

Another possibility is to re-number the X terminal (or workstation) to have permanent outside visibility. Please contact Network.Support@cern.ch to get this operation performed. The above only relates to X security issues. Let us remind you that for computer security issues in general the main entry points are:

- the e-mail address Computer.Security@cern.ch;
- the URL: <http://wwwcn.cern.ch/dci/security/>.

Question

Vice-versa is it possible to run an application on CERNSP and get the display output on a DESY (for instance) X terminal (or workstation)?

Answer

There is no problem accessing CERNSP from outside: any machine from anywhere in the world can telnet to CERNSP. For instance, if you have an (NCD) X terminal at DESY then you just need to know its name (say "textttxn-desyl"). If you then telnet from this terminal to CERNSP

and want to run an application based on X Window (e.g., paw, or even a simple xterm) you need to set the DISPLAY environment variable and set the "Access Control" on your local host as explained in the document *Guide for the Usage of X Window at CERN*

Note that on CERNSP you may use the command `host` to find the node you are on. If this does not work (try with `xterm`) it means that things are blocked on the other site (e.g., DESY or SLAC), maybe for the same security reasons as at CERN and you will have to contact the local "User Support" team (e.g., at DESY or SLAC).

NICE 95 (Jason Oh, IT/DCI)

Below is a selection of questions and answers related to NICE95. A more extensive list can be obtained on WWW via URL <http://consult.cern.ch/uco/FAQs#nice95>

Question

I am using the PC X server Exceed; is it possible to view my PC applications whilst Exceed is still running?

Answer

The answer is "Yes". Exceed, a commercial PC X Server product, has been designed for that: it permits simultaneous execution and interaction of X clients, and DOS, Microsoft Windows, Windows NT and Windows 95 applications across the network or over standard telephone lines. Local Windows and host-based X applications run concurrently on the PC screen, with capability to copy and paste from one window to another, transferring data and images among usually incompatible computing environments.

Here is the recipe for switching to your PC environment: from the Exceed console click on the icon containing 3 cubes. This will launch the configuration menu: select "Window Mode" and check the option panning; now moving to the left or right of the desktop will allow access to PC Windows applications. Another solution would be to minimise the Exceed desktop by clicking on the _ on the top right hand corner of the desktop.

Please note that Exceed is newly available on NICE and is currently there only for evaluation purposes due to the instability of NCD X-ware 5. There is, for the moment, only a limited support for this package.

Question

I am using a PC. How can I copy information from my Exceed session to my NICE 95/NT applications.

Answer

This is achieved by selecting the text with the mouse and clicking on the icon X "[ab]"; the selected text can then be pasted into a Windows application. There are also other clipboard icons which allow for copying of entire windows or areas.

Question

I have recently received a new Novell account, but on NICE95 I don't get the usual desktop icons. For example, "phone", "mail", and a shortcut to my home directory. Is there anything wrong?

Answer

No, this behaviour is normal; the icons on the desktop are created only after the account data comes back from Oracle. This may take one or two days after the account is created.

Question

From Windows 95 (NICE95) how can I easily transfer (ftp) files to my afs account?

Answer

The most convenient method is to use *Netscape Gold* and use the URL `ftp://Login_name@cernsp/"afspath"`, e.g., if your login name on CERNSP is "jowett" you should specify: `ftp://jowett@cernsp.cern.ch/afs/cern.ch/user/j/jowett/<...>`

You will be prompted to enter the appropriate afs password. You can then drag and drop a file into *Netscape* window; on confirmation this will be then uploaded into your afs file system. To make file transfer even easier you can save the location in your bookmarks file.

Question

I have a PC laptop on which I wish to install NICE95/NT. Where can I find help?

Answer

If the laptop was bought from the PC shop at CERN, it can be installed by their technicians. Otherwise, it is considered "non standard" and the onus is on the end-user or his Divisional Support Representatives (see the URL <http://consult.cern.ch/uco/nice-representatives>), who may perform the installation.

Text Processing (*Michel Goossens, IT/ASD*)

Question

I want to include a PostScript (PS) file (or PS converted to another format) directly in HTML (i.e., I do not want the PS file to be shown by ghostview). How can I convert the PS file to a convenient format and which "simple-to-use" tools exist to do the conversion?

Answer

You are limited by what the Web browsers include at present inline, and that is GIF (some do PNM also). PostScript is a complex language, so it is non-trivial to embed those images inline in the page (GIF is a bitmapped representation optimized for the 100dpi resolution of the screen). There is a utility called pstogif (which calls gs internally) which can translate a PS file into a GIF image from the command line, but I do not know whether this command crops the PS image to the correct size. Such a utility is used inside latex2html for generating GIF pictures for the math, tables, figures, etc. (and the EPS files) to be used inside an HTML browser.

Question

Up until a few months ago I could write the accents in Spanish very simply like:

Est'an all'i ...

while now I have to write:

Est\'an all\'{\i} ...

which I find particularly annoying for the i's accent. I use the declaration \usepackage[spanish]{babel} and also make the document with the esl_{at}ex command.

If you could tell me how to get the old functionality back, I would appreciate it ... much.

Answer

There are several parts to the answer. First of all, if you are using emacs you can most easily include accents with iso-accents-mode, as explained in CNL 215 (page 16) or at the URL <http://wwwinfo.cern.ch/cnls/215/node44.html>. For instance, you can then input 'i, and get í on the screen (and in the file). Moreover, emacs also has a Spanish spellchecker. Also, the last version of the babel package seems to require that you specify the option activeacute.

Therefore, the following three lines give all the same output:

```
\documentclass{article}
\usepackage[spanish,activeacute]{babel}
\usepackage[T1]{fontenc}
\begin{document}
Est\'an all\'{\i} ... Man\~ana

Est'an all'i ... Ma~nana

%% The following was input in emacs
%% using iso-accents-mode
Están allí ... Mañana

\end{document}
```

Similar shortcuts are also available for German and French.

6. Computer Documentation

6.1 Book News from the UCO

Roger Woolnough, IT/DCI

Since the start of the year we have received several new books as well as updated versions. Linux books have been very popular and unfortunately the CD-ROMs for this quickly went out of stock and I have not been able to get the new version for several weeks. Hopefully, by the time the CNL is published, it will be in stock once more.

Several books have new editions: these include *Javascript*, *Oracle Performance Tuning*, *C++ Programming Language* (Stroustrup), and *How to setup and maintain a WWW site*. Soon to arrive is the new version of *sed & awk*.

New books received since the last CNL are:

- *Webmaster in a Nutshell*;
- *Programming with GNU software*;
- *Pthreads programming*;
- *Introduction to the Personal Software Process* by Humphrey.

We will be pleased to hear from users who have information on new books or suggestions for new titles.

N.B. The complete list of books can be consulted on the Web at URL:

<http://consult.cern.ch/books>

6.2 The UCO Reference Cards—Current List

Jason Oh, IT/DCI

The list is compiled regularly at URL: <http://wwwcn.cern.ch/writeups/S/RefCatList.html>

Computer Registration Documents

- 01 CERN Computer Centre User Registration (GU/SS)
- 02 CERN Computer Centre User Registration (OU)
- 03 CERN Computer Center User Registration (Super Computer)
- 04 Request for Account Modification/Deletion
- 05 Règlement révisé pour l'utilisation des service informatiques au CERN
- 06 Revised rules for use of computing facilities at CERN

Electronic Mail

- 07 Using QuickMail at CERN
- 23 Intro to Pine
- 24 Migrating from MAIL/VM to Pine
- 29 Pine Key Reference for VM mail users
- 50 Cross Reference for Mail Services at CERN

Browsers

- 18 xdvi and ghostview
- 21 NCSA mosaic
- 28 Lynx browser

Text Processing

- 20 Include ps and eps files into L^AT_EX

Text Editors

- 15 vi editor
- 16 pico editor
- 17 Emacs mini reference
- 30 Emacs and vi Commands for VM/XEDIT Users

- 34 GNU Emacs reference card

Programming Languages

- 22 SQL Basic introduction

Unix

- 08 Submitting a batch job on the SP2
- 09 Should I have a dot (".") in my PATH
- 10 Customising your shell – zsh specific
- 11 Customising your shell – tcsh specific
- 12 Customising your shell – zsh options
- 14 Unix Introduction
- 25 AFS Reference
- 33 Unix Commands for VM and VMS Users
- 41 UNIX News Reader Survey

Software Packages

- 26 EDH (French)
- 27 EDH (English)

VAX/VMS

- 31 VAX/VMS Card

Miscellaneous

- 13 UNIX connectivity from Falco terms
- 19 make command
- 35 CMZ refcard
- 36 Zephyr Messaging Service for Unix Users
- 37 Falco infinity/Setup du terminal
- 38 Falco 5220e setup du terminal
- 39 Importing CERN Computer Equipment into France
- 40 Obtaining and Configuring a Modem to Connect to CERN from Home