Lawrence Berkeley National Laboratory

LBL Publications

Title

LBL Computing Newsletter Vol 30 No 8

Permalink

https://escholarship.org/uc/item/3cc895v9

Author

Lawrence Berkeley National Laboratory

Publication Date

1993-12-01

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

eScholarship.org Powered by the California Digital Library
University of California

DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.

COMPUTING NEWSLETTER

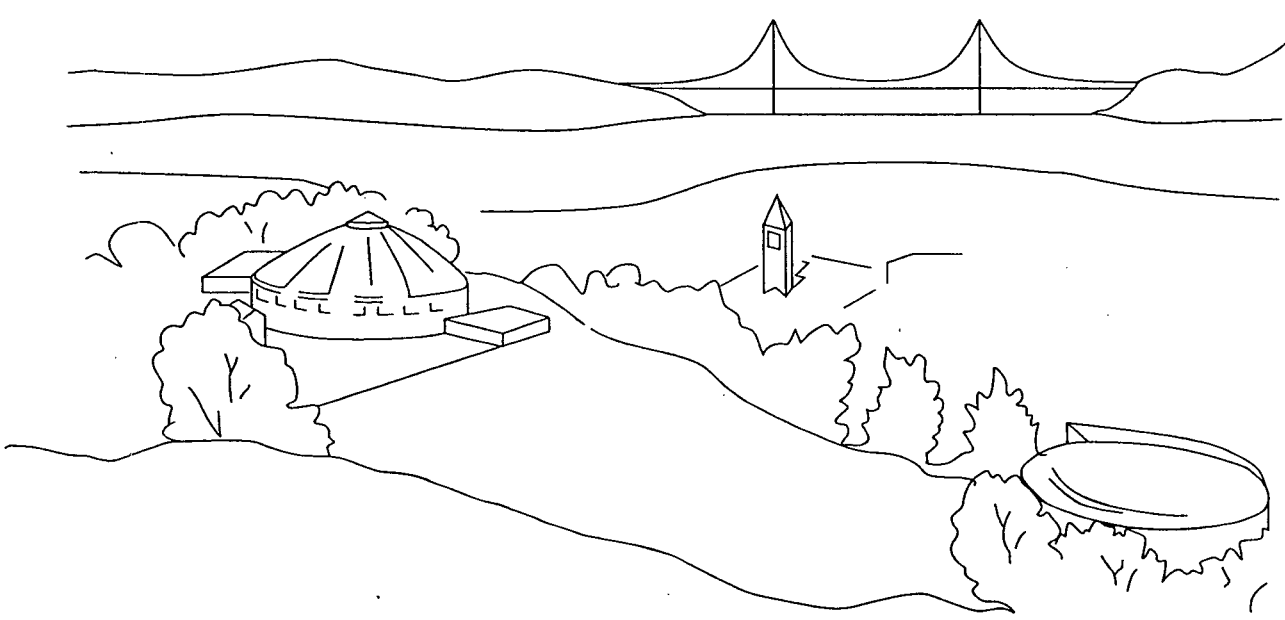
NOVEMBER
DECEMBER
1993

CONSOLIDATION Pg. 5

THE QUALITY CIRCLE Pg. 6

UX8 - SPARCSERVER 1000 Pg. 9

ELECTRONIC TIME REPORTING Pg. 23



REFERENCE COPY
Does Not
Circulate

Copy 1

Bldg. 50 Library.

PUB-429

LAWRENCE BERKELEY LABORATORY
BERKELEY, CALIFORNIA . . . 94720

This document was prepared as an account of work sponsored by the United States Government. Neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial products process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or The Regents of the University of California and shall not be used for advertising or product endorsement purposes.

Newsletter Closing Date is Friday, December 3, 1993

Address all communications for the Newsletter to login newsletter@lbl.gov or put in Maggie Morley's Drop Box in the Workstation Group File Server

Editor: Maggie Morley

Prepared for the U.S. Department of Energy under Contract DE-AC03-76SF00098

Lawrence Berkeley Laboratory is an Equal Opportunity Employer

PUB 429 11/93 1280

recycled paper

TABLE OF CONTENTS

CRD Training Schedule 4
DIVISIONAL AFFAIRS
Consolidation of Computing Support Activities 5
THE QUALITY CIRCLE
Be Part of the Solution 6
DEPARTMENTAL MATTERS
The Internet Security Scanner: A Possible Threat 7
UNIX NEWS
Vulnerability Using the "Xhost" Command: Correction and More Information 8
New Modules Options 9
UX8: The New Sun SPARCServer 1000 9
Sun SOLARIS 2—CRD Transition Plan 10
Sun SOLARIS 2—Migration Tools and Strategies 11
MSS NEWS
MSS Update 13
NOTES FROM TROUBLE MAIL 14
THE CONSULT SERVICE 19
NEWS FROM ISS
Electronic Time Reporting (ETR) 23
What Happened at International Oracle Users' Week 25
LBLnet NEWS
LBLnet Subnet Overview - October 1993 27
LBLnet Overview - October 1993 28
LBLnet FY94 Topology Planning Overview 29
NEWS OF PHYSICS LIBRARIES 30
Letter to the Editor 35
NAMES & NUMBERS TO KNOW 39

CI D CLASS SCHEDULE

December 1993 - January 1994

CLASS DATES	TIME	LOCATION	HOURS	FEE	
				Subscriber	Non-Subscriber
PC					
Introduction to PC DOS Dec 7 & 8 (Tues/Thur)	9:30 - 11 AM	50B/1215A	3	$30	$60
Introduction to PC DOS Jan 11 & 13 (Tues/Thur)	9:30 - 11 AM	50B/1215A	3	$30	$60
Introduction to Windows Dec 14 & 16 (Tues/Thur)	9:30 - 11 AM	50B/1215A	3	$30	$60
Introduction to Windows Jan 18 & 20 (Tues/Thur)	9:30 - 11 AM	50B/1215A	3	$30	$60
Macintosh					
Beginning Word 5.1 Dec 13, 15, 17 (Mon/Wed/Fri)	10 AM - 12 Noon	50B/1229	6	$60	$120
Beginning Word 5.1 Jan 24, 26, 28 (Mon/Wed/Fri)	10 AM - 12 Noon	50B/1229	6	$60	$120
Beginning FileMaker Pro Dec 7, 8, 9 (Tues/Wed/Thur)	10 AM - 12 Noon	50B/1229	6	$60	$120
Beginning FileMaker Pro Jan 11, 12, 13 (Tues/Wed/Thur)	10 AM - 12 Noon	50B/1229	6	$60	$120
Beginning Excel 4.0 - Mac Dec 1, 2, 3 (Tues/Wed/Thur)	9 AM - 12 Noon	50B/1229	9	$90	$180
Beginning Excel 4.0 - Mac Jan 18, 19, 20 (Tues/Wed/Thur)	9 AM - 12 Noon	50B/1229	9	$90	$180
Beginning Excel 4.0 - Mac Feb 1, 2, 3 (Tues/Wed/Thur)	9 AM - 12 Noon	50B/1229	9	$90	$180
Other					
Electronic Mail Dec 7 (Tues)	1 - 3 PM	50B/1229	2	$20	$20

To enroll in the IBM PC or Macintosh Training Classes, contact Gayle Milligan, x4511.
To enroll in the Electronic Mail Survey class, please contact Linda Mattson, x5872.

DIVISIONAL AFFAIRS

Our operational, administrative, and technical resources
will integrate seamlessly
with the research and engineering programs
to make an LBL that works.

. . . from the LBL Vision 2000

CONSOLIDATION OF COMPUTING SUPPORT ACTIVITIES

In an effort to realize the goal of providing high-quality, responsive computing support at the Laboratory—as enunciated in the LBL Vision 2000 Statement—a single organization has been formed from existing groups in the Engineering Division and the Information and Computing Sciences Division.

Effective November 15, the Networking Research Group, headed by Van Jacobson, and the System Support Group, now headed by Gary Jung, were transferred into ICSD. Furthermore, the Hardware Support Group, headed by Tom Viola, is now matrixed into ICSD (while remaining in the Engineering Division). These moves were made to ensure that system software and hardware support will be coordinated for LBL customers.

The System Support Group and the Hardware Support Group will work closely with the networking and computing groups already within ICSD to improve the quality of your service. (We welcome suggestions as to how the quality of these services can be improved: please contact Sandy Merola, axmerola@lbl.gov/x7440 or see p. 6 of this Newsletter.)

The Network Research Group will become part of the Computer Science Research Department.

The organizational structure for the integrated activities will be developed over the next few months.

THE QUALITY CIRCLE

BE PART OF THE SOLUTION

Nora Ostrofe

You are responsible for the quality of the work within ICSD.

Now, anyone who notices an area of ICSD operations where quality can be improved is invited to send E-mail to:

ICSDQuality@lbl.gov

The COQA (Conduct of Operations and Quality Assurance) committee, which meets twice monthly to address quality issues within ICSD and LBL, will discuss your contribution and seek a resolution.

> "Why do we grouse and grumble,
> complain and moan,
> Instead of doing what must be done?"
> . . . *Anonymous*

When sending E-mail to ICSDQuality, please explain the situation thoroughly (when and where or how and why it occurs) so that the Committee has enough information to resolve it effectively. If you can suggest a resolution as well, so much the better. The committee will forward an answer with a description of the action it has taken.

The Committee also welcomes direct contact: you can forward your comments to the names, extensions, mailstops, and E-mail addresses given below. We will accept anonymous contributions in sensitive situations, but would prefer signed suggestions so that we can respond to them directly.

COQA MEMBER	EXTENSION	OFFICE	MAILSTOP	E-MAIL ADDRESS
Cynthia Coolahan	7447	50B-2232C	50B-2239	coolahan@csa.lbl.gov
Mark Durst	4136	50B-3238	50B-2231B	mjdurst@lbl.gov
Sam Gibson	4234	50B-2267	50B-2258D	fsgibson@lbl.gov
Harvard Holmes	5742	50F	50F-115	hhholmes@lbl.gov
Gary Jung	4894	46A-1123	46-0210	gmjung@lbl.gov
Sandy Merola	7440	50B-2232B	50B-2239	axmerola@lbl.gov
Nora Ostrofe	7776	50B-2267	50B-2265G	ncostrofe@lbl.gov
D. F. Stevens	7344	50B-2232D	50B-2239	dfstevens@lbl.gov
Tom Viola	7544	46A-1123	46-0125	t_viola@lbl.gov

DEPARTMENTAL MATTERS

THE INTERNET SECURITY SCANNER: A POSSIBLE THREAT

D. F. Stevens

New software that might threaten the security of networked machines is now on the Internet.

CIAC (The Computer Security Technology Center) has learned that software, known as ISS or Internet Security Scanner, allowing automated scanning of networked computers for security vulnerabilities, was recently made available on the Internet. ISS interrogates all computers within a specified IP address range to determine the security posture of each with respect to several common system vulnerabilities.

Although the software was designed as a security tool for system and network administrators, CIAC feels that given its wide distribution and ability to scan remote networks, it is likely ISS will also be used to locate vulnerable hosts for malicious reasons.

While none of the vulnerabilities ISS checks for are new, their aggregation into a widely available automated tool represents a higher level of threat to networked machines. CIAC has analyzed the operation of the program and strongly recommends that network administrators re-examine systems for vulnerabilities, utilize available tools to prevent/detect malicious use of ISS, and keep in touch with their computer security officers or CIAC for assistance in assessing damage and taking corrective action.

I have a list of the vulnerabilities that ISS looks for and the actions recommended by CIAC to reduce the threat. If you would like a copy, send me a note (50B/2239) referencing CIAC D-25.

For assistance or to report a vulnerability, call CIAC at (510) 422-8193 or send E-mail to ciac@llnl.gov. FAX messages to (510) 422-8193.

Dave Stevens
DFStevens@lbl.gov
x7344

UNIX NEWS

VULNERABILITY USING THE "XHOST" COMMAND: CORRECTION AND MORE INFORMATION

Darrell Davis

In the last issue, we discussed a long-known problem with using the command "xhost +" to enable access to your X server (please see last month's article for details).

There were (at least) two errors in the article. . .

(1) We stated "If you are using different user id's on each machine, you must use [the 'xhost +remote_host' command]." It is not true that the user id's must be the same. The truth is that you need only exchange the "Magic Cookie" using the "'xauth extract ..." command.

(2) The command:

xauth extract - $DISPLAY | rsh remhost xauth merge -

is incorrect. The correct sequence of commands to use to display an X client from a remote host **not sharing your home directory,** to your local workstation is:

```
local_ws% rlogin remote_ws
Last Login: Fri Oct 8 17:30:00 from somewhere.lbl.gov
SunOS Release 4.1.2 (GENERIC) #1: Thu Mar 5 08:15:40 PST 1992
remote_ws% xterm -display local_ws:0
Xlib: connection to "local_ws:0.0" refused by server
Xlib: Client is not authorized to connect to Server
Error: Can't open display: local_ws:0
remote_ws% rsh local_ws xauth extract - local_ws:0 | xauth merge -
remote_ws% xterm -display local_ws:0 &
```

NOTE: This assumes that you have the appropriate entry in the ".rhosts" file on "local_ws" allowing "remote_ws" access (yet another security problem). For example, in your home directory on "local_ws", the ".rhosts" file might look like:

remote_ws.lbl.gov myusername

The ".rhosts" entry is only necessary to perform the "rsh" command. You could probably extract the "Magic Cookie" to a file, and then transfer it to the remote workstation in a more "secure" manner.

We are also considering disabling the ability to enter "xhost +" at all. There is no reason to use xhost in this way. At the very least, you should supply specific hostnames, as in "xhost +some_host".

This all may seem to be a great hassle, but the truth is that a program to check for "xhost +" vulnerability is on the Internet and we can expect it to be used **against** LBL hosts. Proper security is not easy, but is becoming more and more necessary.

As a sidenote, we are working to implement the Kerberos authentication protocol on the UNIX machines managed by the CRD UNIX group. This will not happen for a short while: look here for more information. Those unfamiliar with Kerberos might be happy to know that it offers a very secure authentication method which can be used by different machines, servers, programs, etc., to verify that you are really who you say you are. The impact to the end user is that performing "rsh", "rlogin", etc., commands is much more secure.

Darrell Davis
DSDavis@lbl
x5740

A program to check for "xhost +" vulnerability is on the Internet and we can expect it to be used AGAINST LBL hosts.

NEW MODULES OPTIONS

David Wagner
Darrell Davis

The Modules package is used on Computing Resources UNIX machines to simplify running software from different paths. Use the command "man modules" for more information on this package.

Recently, we have added two new convenience options—**apropos** and **qload**—to Modules.

module apropos

Similar to the "man -k" or "apropos" commands, the "module apropos" (or "-k") command accepts as its argument a keyword, and then lists modules that pertain to that keyword. Use the apropos feature in one of two ways:

module apropos keyword

OR

module -k keyword

where you replace "keyword" with your search keyword (e.g., "gcc"). In addition you can list multiple keywords separated by the word "and" or "or". The keyword list will be processed left to right, applying the appropriate logic evaluation. For example:

module -k gcc or f77 - Lists those modules pertaining to gcc or f77

module -k xv and xarchie - Lists those modules pertaining only to **both** xv and xarchie

module qload

The module "qload" (quiet load) feature performs just like module "load," except that it does not report error messages when it is unable to load modules. This may become useful when you log into a machine that has a different architecture than does the machine on which you usually run. Some modules that you load in your .cshrc file may not be available on different architectures. Although it is possible to set up a .cshrc file for architecture-specific commands, qload provides a quick fix to hide those discomforting error messages. To use module qload, do:

module qload module1 [module2 ...]

For example,

module qload local X11

Note: Using the qload option may trick you into thinking your modules all loaded successfully when, in fact, they did not. Use this feature with caution.

Submit any comments, questions, or suggestions for new keywords to "trouble@lbl.gov", or contact one of us at:

DKWagner@lbl.gov x7201 **or** DSDavis@lbl x5740

UX8: THE NEW SUN SPARCSERVER 1000

Darrell Davis

We have recently installed the SPARCserver 1000, one of Sun Microsystem's latest server offerings. We call this new server "ux8.lbl.gov". We encourage you to use UX8 to explore Solaris 2, to begin porting efforts, and to perform any other application where you normally use UX5. UX8 will also serve as a diskless client boot server, so you may request to have your workstation booted from UX8 and run Solaris 2 on your local workstation.

The 1000 can be configured with one to eight SuperSPARC 50 MHz CPU modules, and an assortment of memory, disk, and network options. Here's how UX8 looks as of this writing:

- It has eight SuperSPARC 50 MHz CPUs (Sun rates these at 135 MIPS each, so this means around 1000 MIPS total; your mileage may vary.)
- Each CPU has 36 Kilobytes of on-chip cache and 1 Megabyte of "super cache"
- It has 256 Megabytes of memory
- 4 Megabytes NVRAM/SIMM - contains file buffer cache. If the system crashes, files will not be lost.
- It has FDDI network connection — UX8 is connected to the LBL FDDI backbone via a bridge.

Sun quotes the following performance statistics:

Benchmark	2 CPU	4 CPU	8 CPU
TPS estimates	125	200	400
SPECrate_int92	2730	5318	10113
SPECrate_fp92	3681	7076	12710
LADDIS	n/a	n/a	1400

The SPARCserver 1000 system is equipped with the sophisticated XDBus™, which allows expansion in multiple dimensions—CPU, I/O, memory—each time a new system board is added. The server, currently containing 50 MHz SuperSPARC2™ modules, can accommodate higher-speed SPARC processors, higher-performance memory and I/O modules as they become available.

Darrell Davis
DSDavis@lbl.gov
x5740

SUN SOLARIS 2 — CRD TRANSITION PLAN

Darrell Davis

Many users have been inquiring about our plans to upgrade to Solaris 2. Some ask out of fear or apprehension; others out of anticipation. Before I reveal our "plan," I would like to say that our first concern is to keep our users in production mode. We do not want Solaris 2 to impede anyone's research, document processing, or whatever. However, we **do** recommend that users upgrade to Solaris 2 as soon as it is convenient for them to do so.

The Plan

The Computing Resources Division plans to implement Solaris 2 in three phases:

Phase One: CRD testing and verifying
Phase Two: Installation of a Solaris 2 "reference machine"
Phase Three: Upgrade of existing servers and clients

The first phase is already in progress. We have been running Solaris 2 for almost a year. We feel that Solaris Version 2.2 is ready for production. Version 2.3 may already be out by the time you read this. Solaris 2.3 has many enhancements (including performance enhancements) and bug fixes. We will upgrade our machines running Solaris as soon as we get 2.3 (actually, I am running a beta version of Solaris 2.3 right now and I am quite pleased with it, but since it is beta, it is not prudent to unleash it just yet...).

> We will upgrade individual client machines at any time, starting immediately.

The second phase is also in progress. We have installed a SPARCserver 1000 with eight SuperSPARC processors. This machine runs Solaris 2.2 (maybe 2.3 by the time you see this; see above). We encourage users to begin compiling their code and become familiar with Solaris 2 on this machine. You can access this machine using the Internet address "ux8.lbl.gov ". For more information, see the article, also in this issue, announcing UX8.

Starting in December 1993 (roughly), we will begin upgrading our servers to Solaris 2. The first server to be upgraded will probably be UX6. Others (UX5, CSR, etc.) will follow, each one upgraded in 30 to 60 day increments. It is conceivable that older hardware that is not supported by Solaris 2 will be retired. A firm schedule with plenty of advance notice will be forthcoming. By mid-1994, we expect the majority of users to be using Solaris 2.

Notes

- ✔ Solaris 2 supports booting of 4.1.x clients, so if your server is upgraded, your workstation may not have to be upgraded at the same time (although support for Version 4.1.x may eventually be phased out).
- ✔ We will upgrade individual client machines (diskless, standalone, or server) at **any** time, starting immediately.
- ✔ The upgrades will be scheduled according to demand. (We don't want to put anyone out of production.)
- ✔ Newer Sun products may require Solaris 2.x.

We encourage you to upgrade to Solaris 2 as soon as it is convenient for you to do so.

SunOS 4.x Software

We will continue to provide public domain and third party software for SunOS 4.x. Most of it will be "frozen" at its current revision. Most new software versions will be built and installed for Solaris 2 ONLY (there will undoubtedly be exceptions).

Current Solaris 2 Software

Here is a short list of software we provide for Solaris 2. This list is sure to be longer by the time you read this. See the file /vol/pub/software-list for the current Solaris 2 software list.

1. X11R5 pl25
2. GNU GCC, gdb
3. perl
4. Sun C, f77, C++, Pascal
5. Sun SPARCworks
6. tcsh
7. Modules
8. Distributed Printing (lpr, enscript, etc.)
9. Sun PHIGS
10. Sun XGL
11. Sun OpenWindows
12. Sun AnswerBook
13. xv
14. TeX
15. CVS
16. EDT
17. ELM
18. RCS
19. TCL/TK

Additionally, most software adhering to compatibility rules will run without modification (for example, I was able to get "xv" to run under Solaris 2 without recompiling).

Forward comments or questions to

Darrell Davis
DSDavis@lbl.gov
x5740

SUN SOLARIS 2 — MIGRATION TOOLS & STRATEGIES

Darrell Davis

In this part of my continuing series on Solaris 2, I discuss Sun-supplied Solaris 2 migration tools, migration strategies, and assorted porting tips and tricks.

I am assuming that you have read the Solaris 2 articles in the last issue of the LBL Computing Newsletter.

Sun Migration Tools

Sun provides some (unsupported) tools to assist code migration from SunOS 4.1.x (BSD) to Solaris 2.x (SVR4). These tools can be found rooted at the directory "/vol/pub/Solaris-Migration". To get the tools into your path, use:

module load sol-migration

There are two tools, one is X11 based and the other is not. First, the non-X11 based tool is called "svmt" and its usage is:

svmt somefile.c

For svmt options, enter

svmt

The X11 based tool is called "pipeline," and is started with:

pipeline

You then load in a C file and press the "Begin Migration" button. The tool displays your code in one window and, in another window, messages that point out portions of the code needing modification. It is very verbose and usually recommends solutions to any incompatibilities it finds.

Since these tools are officially unsupported, the only "help" can be found in the file "/vol/pub/Solaris-Migration/bin/README".

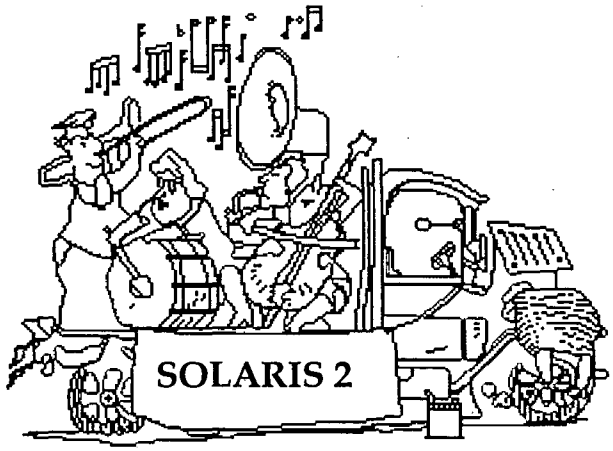
Starting Your Port on SunOS 4.1.x

You can achieve 90% SVR4-compatible code on SunOS 4.1.x by compiling with the cc compiler in "/usr/5bin," using include files from "/usr/5include," and linking with the libraries in "/usr/5lib."

Here is Sun's check list for starting your port from SunOS 4.1.x:

1. Use SunOS 4.1.x as starting point: SunOS 4.1.x is mostly SVID (System V Interface Definition) compliant. Code written for SunOS 4.0.x and previous versions will not port as easily.
2. Dynamically link to SunOS 4.1.x System V libraries: Use and link to the libraries in /usr/5lib on SunOS 4.1.x and include the header files from /usr/5include. Note that many System V system calls have different parameter order, return different values, etc. The SunOS 4.1.x man pages describe the System V semantics of applicable system calls (for a good example, see the 'malloc' system routine).
3. Migrate to ANSI C: Use the commands below to get the ANSI C compiler on the CRD UNIX machines (running SunOS 4.1.x):

   module load lang
   acc your_file.c



Solaris 2 Development Tools

The C compiler is no longer bundled with the operating system. You **must** purchase the compiler separately. Sun says that since the kernel uses dynamic modules, there is no need for the bundled compiler and that there will generally be higher quality in the unbundled compilers. LBL currently has a site license for Sun's development tools and they are installed on all of our Solaris 2 UNIX machines.

Other development tools like, "make, ""ccs," "profilers," etc., are included in the directory /usr/ccs/bin (note that this directory must be loaded specifically during the system installation). The format for makefiles and SCCS has not changed with Solaris 2.

To automatically set your path correctly to locate the compilers and other development tools discussed above enter:

module load lang

[NOTE: Enter "man modules" for more information on Modules. This assumes you are running the commands on a machine running Solaris 2 which was installed or is managed by the CRD UNIX group.]

Compiling with Compatibility Flags

The Sun ANSI C compiler supports four compatibility flags. The flags provide varying degrees of tolerance for non-ANSI C constructs. For more information, see the man pages. On SunOS 4.1.x, use:

```
module load lang
man acc
```

And on Solaris 2, use:

```
module load lang
man cc
```

Compatibility Package Update

The SunOS Binary Compatibility Package was discussed in detail in the last issue of the Newsletter. One development since that article went to press is that Solaris 2.3 will ship with **static** compatibility libraries. This means that "well behaved" SunOS 4.1.x applications, which are **statically** linked, may work under Solaris 2.3 without recompilation.

Object File Format

System V Release 4 uses the Executable and Linking Format (ELF) in place of the a.out file format of previous SunOS versions. So there.

Device Drivers

Since Solaris 2 supports loadable modules **and** symmetric multi-processing, device drivers written under SunOS 4.1.x must be rewritten. For details, consult the manual "Writing Device Drivers — SunOS 5.2".

Final Note

If this abbreviated discussion whets your appetite for more, I have a few handouts regarding Solaris migration (paper form only) which I would be happy to share with interested users.

Darrell Davis
DSDavis@lbl.gov
x5740

MSS NEWS

MSS UPDATE

Wayne Hurlbert

Software upgrade

The UniTree MSS software was recently upgraded to Version 1.7.1. This upgrade provides improved robustness along with the hooks necessary for upcoming enhancements.

Of primary importance among these enhancements will be a tape repacking tool. This will allow us to reclaim tape space from deleted files and from partially used tapes.

Hardware upgrade

At about the time you read this, we will be undergoing the first of our currently planned hardware upgrades.

This first phase involves upgrading the server from a SPARC 2 (SunOS 4.1.1) to a SPARC 10 model 42 (SunOS 4.1.3), along with an expanded disk cache.

The disk cache provides the entry/exit point to the MSS: all files moving to and from the MSS land on the cache and reside there for some period of time. If you request a file that resides only on tape (i.e., has been purged from the cache), you must wait for the file to be "cached" from tape to the disk cache. A larger disk cache means files will remain on the cache longer and hence be more quickly accessible.

Hardware upgrades planned for the near future include an FDDI (twisted pair) connection to the UNIX servers (followed by wider fiber connectivity) and a second EXB-120 tape robot. We also plan a further server upgrade.

VMS access

We are continuing to develop VMS access to the MSS. Service will be available in the near future; watch for an announcement.

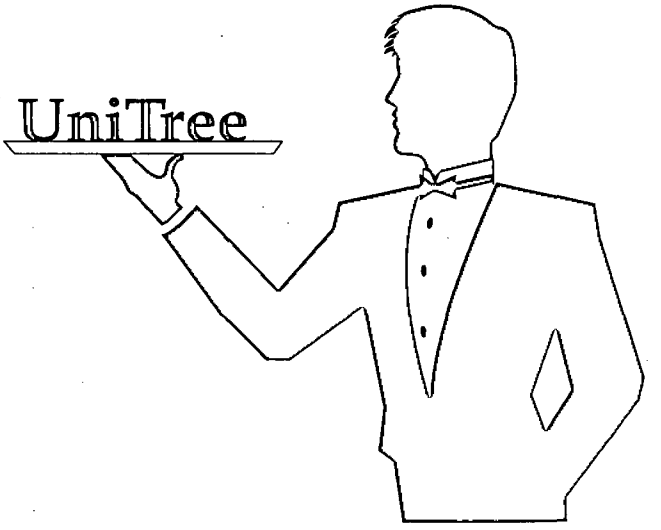
MSS charges

Current charges for MSS tape storage are $0.01 (one cent) per megabyte of data on tape per month. Note that each file's size is rounded up to the next tape block (15 KB) boundary to reflect actual tape use. Also, one block is added to the size of each file for directory and tape tracking information.

There are no (disk) access charges at this time.

For more information type "man mss" on the UNIX servers, or contact

Wayne Hurlbert
wehurlbert@lbl.gov
x6448.



NOTES FROM TROUBLE MAIL

Martin Gelbaum

Following are further examples of typical exchanges from our on-line UNIX and VMS TROUBLE mail facilities.

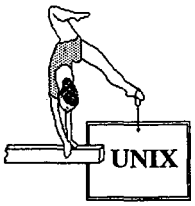
TYMNET

NOTA BENE: LBL discontinued its Tymnet connection on October 1, 1993. There are alternate access paths to LBL - for instance, Inside Access, at about one third the cost. Please contact Sig Rogers at x6713 or preferably SGRogers@lbl.gov or LBL::SGRogers to find out how to use alternate routes.

UNIX: Passwords and security

MESSAGE

There is another flaw at the Sun UNIX cluster: It is running yellow pages and so "yppasswd" has to be used to change passwords. Usually the system manager changes the command passwd either (1) to produce an error message telling the user to use yppasswd to change the password or (2) to simply remove it. When I first logged into myws3 my password was expired, so I changed it. However it later turned out that the password was not changed. So even during entering the expired password the yellow pages database was not updated!



RESPONSE

This is not actually a flaw. We have installed a new password program. You may have noticed the text upon running "passwd":

"Changing password entry for someuser on local host myws3. Getting the user entry for someuser.
Note that you also have an entry in the yp database.
To change your YP password, use
yppasswd
Old password: . . . "

Note the second from the last line. The reason we allow local password changing is there are instances where a user has both a local and a YP password entry.
If this is not what you saw, you may have caught us during the installation of the new program.

Mail forwarding from UNIX

MESSAGE

There seem to be some problems with UX1.
My .forward file for mail was not behaving correctly.

RESPONSE

Your .forward file was not readable by root. I made it so. Your mail should be forwarded now.
[UNIX .forward files need to be world-readable.]

ld.so: warning:

MESSAGE:

What does this mean?:
ld.so: warning: /usr/lib/libc.so.1.7.1 has older revision than expected 8

RESPONSE

It means that the program is running on a system with an older shareable C library than the system on which it was built. This is usually nothing to worry about.

X11 utilities

MESSAGE:

When I typed "xlock," I got an error,
xlock: Command not found.

RESPONSE

Since you aren't using modules, you need to add
/vol/packages/X11R5-contrib/bin
to your path. Otherwise, just load the X11 module.

xlock (from a remote workstation)

MESSAGE:

I am using an Xterminal on myws2.lbl.gov. While I want to use xlock to lock my display, it gives me the following:
myname@myws2[36] xlock -display myws1.lbl.gov:0.0
xlock: can't lock myws1.lbl.gov's display.
Can you tell me why?

RESPONSE

I suggest that you add the famous "-remote" qualifier to the xlock command, so that you can lock your screen from the remote workstation. This is necessary in your case because your workstation (myws1.lbl.gov) is just an X-terminal.

(User tried it and called me back to let me know it did the trick. P.S. Here's what "man xlock" says [...]
"[The] remote option tells xlock to not stop you from locking remote X11 servers. This option should be used with care and is intended mainly to lock X11 terminals which cannot run xlock locally. If you lock someone else's workstation, they will have to know your password to unlock it."

Printing ("temp file write error")

MESSAGE:

I have been having problems sending a 6+MB PostScript file to sd1 from UX5. I get the message "temp file write error.". When I log in to UX5 and do this:

cd /var/spool
df .

I get this information:

/dev/md0f 67202 56372 4110 93% /var

Does this in fact mean that there are only 4MB available on the spool disk on UX5? Could this explain why my file can't go through?

RESPONSE

Yes. That probably explains it. Try using the "-s" option with "lpr" so that the actual file, not a copy in **/var**, is used.

Xterm window in Tektronix mode

MESSAGE:

I'm trying to use a Tektronix window, and I'm running into problems. I have a digital monitor, which is running from a VAXstation 3100 M38. Normally the terminal is set up to run xterms, but I would like to use a Tektronix window for one application. When I press Ctrl+Middle-Mouse-Button, a VT options window shows up. I select
Show Tektronix Window and
Switch to Tektronix Window
to get into the Tektronix window. The problem is that the cursor does not scroll down after it reaches the bottom of the page: it starts again at the top in the middle of the window. This writes over the graphics which my application creates. Is there any way to get the Tektronix window to scroll like an xterm?

RESPONSE

So far as we can tell, the Tektronix window inside xterm is behaving as expected. There are a PAGE item and a RESET item for the Tektronix window accessed after pressing Ctrl+Middle-Mouse-Button with the cursor in the Tektronix window. These should help you clear the screen in a more reasonable way.

Toolkit Command files

MESSAGE:

Following is a Makefile I am trying to invoke on myws with "make." It gives me the appended output. I don't know how to provide a wish.tcl file. Can someone help and explain this to me.
TK_LIBRARY = /home/UX5/UX5x/abc/def/usr/local/CVS/lib
"source $tk_library/wish.tcl"

RESPONSE

GIC wants to install its tcl scripts into the standard Tk library. Since you are installing it into a local library directory, you have to copy the files from
/vol/installed/user-interfaces/Tk/3.2/lib/tk
to your $TK_LIBRARY.

FOCUS

MESSAGE:

Is FOCUS functional on UX5? I attempted to run it with the following results:
Script started on Fri Oct 1 10:16:16 1993
warning: could not update utmp entry
UX5% **focus**
/usr/local/focus: xset: not found
/usr/local/focus: xset: not found
(FOCUS started. focterm pid 1872.)
UX5% Error: FOCUS font "focfontlogo" not found.
Exiting...

UX5% **exit**
UX5%
script done on Fri Oct 1 10:16:43 1993

Note also that invoking the "script" command caused the error report that the system could not update the utmp entry.

RESPONSE

I called user and, with his permission, fixed some stuff in his .cshrc and .login files to coordinate his settings with the method of connection, etc. He didn't have the module X11 loaded, hence xset was missing. Turns out that his X server (hisws.lbl.gov) doesn't mount the FOCUS-specific directory in which FOCUS gets its fonts — /home/UX5/UX5d/focus-6.5/X11
hence the error message
UX5% Error: FOCUS font "focfontlogo" not found.
However, I have fixed his setup so that he can access FOCUS on UX5 in a vt100 window and he's happy. Thus, FOCUS is alive and well on UX5.

Macintosh MacDraw

MESSAGE:

I have a user with a strange problem using MacDraw. (This is MacDraw II, Revision 1.0v2 (1988) in conjunction with System 7.0). I recently replaced his LaserView monitor with an Apple 2-page monochrome. Drawings created on the LaserView display oddly now, i.e. some of the graphics do not appear until the screen is refreshed, either with a scale change or resizing the window. In addition, selecting an item appears to select something else nearby. Is this a current MacDraw? Are there known problems w/MacDraw and System 7? Are there known problems w/MacDraw and 2-page monitors? Is there anything else that night be causing grief?

RESPONSE

The latest MacDraw I know is MacDraw Pro 1.0v1. This would probably be your best bet with System 7. Otherwise, I don't know of any specific conflicts with your setup.

SilverLining software

MESSAGE:

I would like to know if I might get into trouble using SilverLining 5.33 on a Quadra 800.

RESPONSE

The newest version of SilverLining is 5.5, so you may want to contact La Cie for an upgrade. I think it's about $10. Give them a call at (503) 520-9000. I seem to remember their saying something about Version 5.5 fixing problems with '040 Macs (Quadra, Centris, etc.).

MESSAGE:

I was told that to use Apple Talk between System 7 and an old MacPlus (which doesn't have the memory for System 7) I should use System 6.0.8. All I have is 6.0.5. I looked on the workstation server, and couldn't find anything. I was told that the University has a site license. Any suggestions?

RESPONSE

We have a copy of 6.0.8 on low-density disks at the WorkStation Group. Bldg. 50B, Rm. 1237. Please call x6858 to arrange to copy them.

Monitor startup jitters

MESSAGE:

The image on the monitor screen jiggles around for a minute or so during warmup of my new Quadra 800 (and monitor). Is that a sign of something more serious that may develop, or should I treat it as a minor annoyance and just live with it?

RESPONSE

I spoke with Tom Viola of Systems Engineering about your question. He said if you have a "multi-sync" monitor, then such a jittering motion would be normal while the monitor was determining the sync rate. On the other hand, if your monitor is from Apple, then the monitor probably should not be jiggling as you report it does. Please contact Tom Viola at x7544, (e-mail T_Viola@lbl,gov), to resolve with him what sort of monitor you have and whether it is working properly.

MESSAGE:

The icons of a few folders on my Mac are invisible! If I do a "find file" command, they suddenly become visible (popping out of the hard disk icon), but disappear after I do work on any other application. Is this some kind of virus?

RESPONSE

This is the notorious bug in early versions of System 7. You need to run the newest version of Disk First Aid (to fix the problem) and then run the System 7 Tune-up (Version 1.1.1) to ensure that the problem doesn't return. Both these files are on our server. (The user felt savvy enough to do the grunt work himself. Huzzah for do-it-yourselfers!!)

LaserWriter 8.0 driver (and the UC Seal font)

MESSAGE:

Using the LaserWriter 8.0 driver, the single character in the UC Seal font prints as a black circle. Also, it won't download to the hard disk connected to my LaserWriter IIf. I get an error message saying that it is an improper font file. Is there any way around this? (It printed fine out of LaserWriter 7 drivers.)

RESPONSE

Well, the short answer is: don't use the LaserWriter 8.0 driver. It is rather new and has many incompatibilities. It could be that it doesn't grok some of the old PostScript code. I'm not sure why you can't download the font to the LaserWriter's hard disk. Have you tried doing that with the Version 7 driver?

Print Spooler.

MESSAGE:

I'm not sure I am addressing the questions below to the right entity, but here are my concerns. ... We are using AppleShare Print Server, Version 2.0 software on a Mac II. The Mac is running System 6.1.7 in a System 7.0 environment. We have about 30 users accessing either our LaserWriter IIg or Compaq PageMarq20 printers through the Spooler.

(1) Need the Spooler Mac II be upgraded to System 7.0 for optimum performance? Or, are there inherent problems with a 6.x Spooler on a 7.x network?

(2) What is the latest level Spooler software?

(3) Do you recommend any other Spooler product over Apple's?

RESPONSE

Spoke to the user, he'll upgrade the System (to 7.x) and the print server software (to 4.0).

PC: PostScript drivers for Windows 3.1

MESSAGE:

Is there a way to upgrade the PostScript driver from Windows 3.1 or get a better driver?

RESPONSE

The WorkStation group informs me that you should ask the vendor [of the product that uses a PostScript driver under Windows] to tell you the best PostScript driver for their product with Windows 3.1. There are in fact other drivers available and the vendor ought to provide you with [at least] the name of the most appropriate one for their product.

Modem access to computers at LBL

MESSAGE:

I am connected at 2400 baud, but I just got a 14400 baud modem. Is there a number I can call to connect to a faster modem, e.g., 9600?? Thanks.

RESPONSE

There is a dial-in number for 9600 baud. It is 486-7996. At the connect prompt, type two carriage returns and you should get an IPC prompt. There will be support in the not too distant future for 14400/19.2 service. At this time, the only 19.2 KBaud service is for AppleTalk Remote Access.

Information Retrieval
Lynx — graceful exit

MESSAGE:

I just tried lynx from myws.lbl.gov and got a core dump. Can this be corrected? . . . When I tried it from UX5 it worked fine, except that I could not figure out how to exit (having selected the NCSA Homepage). I finally used **ctrl-z**. Is there a better way?

RESPONSE

I tried lynx from myws, display on ws2, using twm window manager with X11(R5); it worked fine and quit from NCSA Homepage without trouble. . . . It works fine from UX5, also. You quit lynx by typing "q" or "control-d"; you are then prompted to confirm your desire to quit. If you type a "?" to lynx, it will list the keystrokes that drive it; "man lynx"" explains them, too.

MasPar
Batch jobs and background processing

MESSAGE:

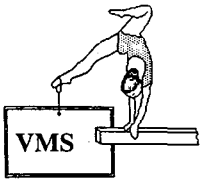
I need to get the proper protocol for submitting longer jobs OVERNIGHT. Use of "batch" gave me funny replies. Use of "nice" and "backgrounding &" didn't show any running processes.

RESPONSE

Could you be more specific about what kind of messages you were getting from batch? Regarding "nice" and "backgrounding &" — what did the output of the "mpq" command show? ("mpq" shows the processes running on the backend).

VMS
Printing from MAIL

MESSAGE:



When I give the print command in VMS Mail and then exit it says
Job MAIL (queue SYS$PRINT, entry 957)
started on CSA3_PRINTER.
Is there a way to get it to go to the queue net_printer so it will come out on my [local] laser printer?

RESPONSE

This is not possible. You will have to EXTRACT the message to a file and print it.

Appending files

MESSAGE:

I am having difficulty copying or appending two files to a new file in my VAX. The second file sometimes has records with more than 256 bytes (<512 bytes). I get the message "invalid record size . . . not completely copied." Apparently the file with long records is interfering. Both COPY and APPEND give the same error.

RESPONSE

Take the file with the biggest record size and do the following: (to find out the record size, do DIR/FULL on each file.)

$ ANALYZE/RMS/FDL "file_name"

This will create an FDL file called "file_name".FDL. Then create the output file:

$ create/fdl=file_name new_file

Then merge the files into the output file:

$ append file1, file2 new_file

CPU time calculation in a program

MESSAGE:

I wrote a small FORTRAN program for the purpose of comparing the calculational speed of double-precision complex expressions vs. double-precision real expressions. In order to measure CPU time I used a construct of the form:

```
t1=secnds(0.)
  [...]
  (calculation here)
  [...]
  del1=secnds(t1)
  write(6,*) " CPU seconds=",del1
```

The program in question is BNCHMARK.FOR. The expressions computed in the second part are mathemati-

cally identical to those in the third part of the program, and I verified in many cases that indeed, the VAX does produce the same numerical results.

My question is the following: when I run the program repeatedly, doing exactly the same thing, the CPU times I get can vary by as much as factors of 3 or 4. Why? How can I get an honest benchmark?

RESPONSE

The SECNDS function returns the system time in seconds. It's used to compute ELAPSED (wall-clock) time. The results of identical operations can vary depending on the load of the machine. If you want to measure how much CPU time your operations took, I suggest calling $GETJPI with the item code JPI$_CPUTIM.

(VAX) FORTRAN code fragment using LIB$GETJPI:

```
INCLUDE "($JPIDEF)"
INCLUDE "($SSDEF)"
integer*4     istat, cpu_time, cpu_limit, priority
C
istat = lib$getjpi(JPI$_CPUTIM, , ,cpu_time, , )
if (istat .NE. SS$_NORMAL) call lib$signal(%val(istat))
print *, " CPU TIME USED (in seconds) = ",
(float(cpu_time)/100.)
```

UUENCODE and UUDECODE

MESSAGE:

On VMS, when I type "local_tools filetools" I get a symbol for uuencode but not for uudecode. Is this intentional?

RESPONSE

uudecode is a DCL verb in your process command table after you invoke "local_tools".

UIS and DECWindows

$ define sys$workstation decw$display
This logical name lets UIS—an old DEC window system—interface happily with DECWindows.

INTERNET
Connection to slacvm.slac.stanford.edu

Told a user about **TELNET/TN3270 slacvm.slac.stanford.edu,** (she was getting poor response via telnet to switch.slac.stanford.edu to SLACVM). She was logged into CSA6 in both cases. She likes the connection via TELNET/TN3270 just fine; according to her, it solves her problem. (The folks at SLAC's Computer Center are going to contact her, if they have not done so already, to see why the connection via the switch is so bad. The guy over there said he had not changed the switch in several months and that no one had reported such problems of late.)

INTERNET
Copying entire directory trees via the Internet

MESSAGE:

How can I copy many files and all subdirectories at once with **ftp**?

RESPONSE

I believe the standard answer is that **ftp** does NOT do recursive copies. As you know, that is one reason why many people make software packages available via **ftp** in packages—tar files, usually compressed with **compress** or, more recently, **gzip**. . . . Of course, **rcp** does allow recursive copies; as its man page says, the crucial flag is "-r". Copy each subtree rooted at filename; in this case the destination must be a directory as in
rcp -r remote_host:~/stuff ./more_stuff
where "stuff" is a directory. Of course, this transaction assumes that you have .rhosts access to the remote machine. See man rcp on UNIX, HELP RCP on VMS, for details.

Compression tools

MESSAGE:

How do I use gunzip (the GNU unzip/uncompress program):

RESPONSE

UNIX: first do **module load gnu**

VMS: first run **$local_tools filetools**
(or $local_tools gnu)

If you want wider distribution of your comments or questions, we encourage you to send them to trouble since it is seen by a wide range of people, including Divisional management. To use Trouble, enter the VMS, Software Tools, or UNIX mail system and send mail to the address

trouble <return>

We won't, of course, include any user's name in the exchanges.

We encourage new users to include their names and phone numbers in the exchanges; this way we can help them resolve those "startup problems" right away.

THE CONSULT SERVICE

Martin Gelbaum

Following are examples of typical on-line exchanges from our CONSULT forum.

UNIX: Purify software

MESSAGE

Please let me know if Purify runs on any machine other than UX5.

RESPONSE

Purify is installed on [a UNIX filesystem] and can run wherever you like, providing the filesystem is mounted. Did you want to use Purify via george? Let me know which host and I will take care of mounting the filesystem.

ALPHA AXP with OSF/1

MESSAGE

Is there an ALPHA AXP machine available that is running the OSF system? If so, might I be able to log on to do preliminary software testing work?

RESPONSE

Yes. The name of the machine is ALPHA1. I believe you can log in using your UX5 password. Note that accounting is enabled there. If you feel that you're setting up the environment for other users and shouldn't be charged, please contact the UNIX project, and they might grant you a local account number on ALPHA1 that is not charged against your group.

Macintosh: Color display on MacX (Macintosh X11 server)

MESSAGE

I am running MacX 1.1.7 on a Centris 650 over the Ethernet. I have allocated 2.5MB for MacX. I run XV (/home/nfs/graphics_export/ or /usr/local/bin/xv) successfully from the Mac. Recently, however, I have been unable to run XV in color mode. Only black and white shows up. I have made no significant changes in MacX (I did install a new communications file but I have retried the old one without any success). Do you have any idea what the problem is and how I can run xv in color.

RESPONSE

I have MacX 1.1.7 on a Mac IIci; preferred size 2500K. On UX6, I used the command
setenv DISPLAY IP-number:0.2 where "IP-number" is the IP number obtained from the "Send IP number" under the Network menu of NCSA Telnet, by which I connected to UX6. I did not use xterm from MacX. The :0.2 says to use one of the color windows of the Macintosh — the rooted color one, I do believe. Then,
xv ~myname/GIF/everest.gif
made a lovely color picture on the Macintosh.
P.S. You access xv on the Computer Center SPARC machines after loading the module graphics/preview (see "man modules" for details).

USENET news readers

MESSAGE

The communications folder on the 300MB server is somewhat confusing in that the folders "Network Programs" and "Information Retrieval" overlap. One has TurboGopher by itself, the other has it in a folder. One has NewsWatcher, the other has Nuntius. Also, how about InterNews? Which news reader do you recommend?

RESPONSE

The server is pretty much stocked on an individual basis. I set up the Information Retrieval folder, but only included NewsWatcher because that's my recommendation. I prefer NewsWatcher because the user interface lets you (or me, at least) scan and read more quickly - but it's pretty much a personal choice. There are at least three other good ones—Nuntius, TheNews, and now InterNews. It's easy to get these via the Internet, so when stocking the server, I think it makes more sense to be selective (and up-to-date) rather than encyclopedic. But that's just my opinion.

System 7.1 Utilities

MESSAGE

In the August 16 issue of MacWeek, p. 3, mention was made of new, free System 7.1 utilities. Are these available on an LBL server, and if so, where?

RESPONSE

The new versions of HD SC Setup and Disk First Aid (both 7.2), and the MacCheck utility are available on the WKSG Server2 in the Utilities folder. The Hardware System Update is a bit trickier. Since it needs to be installed from a disk (like System software) I have a file in my Public folder that will build the disk for you. It's in a folder called DART, which is the disk-building program—just like DiskCopy only the files are smaller. You'll need to copy the Hardware System Update file AND the DART application to your machine and then build the disk there. All instructions are enclosed in the DART folder.

MacPPP (Point to Point Protocol)

MESSAGE

I have a program for my Mac, MacPPP, that supports PPP (Point to Point Protocol) which allows me to use TCP/IP over an asynchronous serial line. The software is from the University of Michigan and Merit Network Inc. It sits (a system extension and a control panel) between MacTCP and the physical network and packages TCP/IP packets, sends them over a serial line to a terminal server capable of supporting PPP, which puts the packets on the net. According to the documentation, the protocol is described in RFCs 1331, 1332, and 1334.
Does LBL have a PPP server that I can use? How do I get to it?

RESPONSE

Ted Sopher, TGSopher@lbl.gov, can give you details about the SLIP/PPP server he manages.

Information Retrieval

MESSAGE

For TurboGopher on my Mac, what should my home gopher server be? Right now it is set to tc.umn.edu.

RESPONSE

We have a home gopher server called gopher.lbl.gov. TurboGopher has two name slots, and tries one or the other randomly. So it's best to make both entries the same.
Please note: gopher on UNIX, available after

module load IR/all

and on CSA, available after

local_tools ir

connects by default to gopher.lbl.gov

VMS: Text filters (1) Make_fortran

MESSAGE

There used to be a procedure called MAKE_FORTRAN on sys_utilities on the CSA system. Does anyone know where it has gone, or some way of achieving the same result? It redefined a file as a FORTRAN output file. I use it when I ftp a file to CSA for printing on the Talaris printer. Without it, the FORTRAN carriage control flags in column 1 don't work.

RESPONSE

On CSA, please use the command

$ LOCAL_TOOLS filters

to define the symbol **make_fortran,** which is described (briefly) in HELP LOCAL_TOOLS, subtopic FILTERS, as follows: "The filters group defines symbols for filtering files (doublets, tail, head, strings, wc, ...)

$ local_tools_defs filters

Defines a group of symbols for "filtering" files: [...]
(8) **make_fortran** - makes a non-FORTRAN carriage control file into a FORTRAN carriage control file.

VMS: Text filters (2) Stripping trailing blanks

MESSAGE

Is there a utility on CSA to remove trailing blanks from a file?

RESPONSE

Spoke to user; mentioned the "tr" program from Software Tools suite that may well offer a way, although the exact command string was not immediately obvious. Anyway, he wasn't interested in such methods.
Told him about little C program I wrote in
sys_utilities:[source.misc]del_trailing_blanks
This does work. He'll try it and either use it or write his own in FORTRAN. If you make a symbol for it, e.g.,
deltr :== $sy_utilities:[source.misc]del_trailing_blanks
deltr -help
explains what to do (which isn't much!)

X11: Security

MESSAGE

As a prudent user I decided to restrict my xhost authorization as suggested in the September/October, 1993, LBL Computing newsletter, pp. 7-8.

So in my .login I say.:

xhost +myname@host1.somewhere.gov
xhost +myname@host2.somewhere.gov
[...]

These are hosts where I do a lot of work. This form of the xhosts commands works for my ws (myws) and the other local LBL machines I use, e.g. ws1, ws2, etc.

However, when I am remotely logged into host1 (or any of the host2.somewhere.gov machines), and I try to run an X client there connecting to my X display here, I get this message on the remote host:

Xlib: connection to "myws.lbl.gov:0.0" refused by server Xlib:
Client is not authorized to connect to server

and I get the following message in my console window:

X11/NeWS Network security violation

Rejected connection from: host1.somewhere.gov (130.199.24.2) For more information, see the xhost(1) and xauth(1) man pages

What's wrong? I've noticed that I can "fix" this my using the following xhost command:

xhost +host1.somewhere.gov

but that is the least desirable solution.

RESPONSE

"xhost +user@host" requires secure RPC, which we are not using. If you are using OpenWindows, you should just have to make sure that your home directory is readable from the remote machine, and you can display on your local machine without using the xhost mechanism (using "Xauthority" instead). Using X11/R5, you must set up the ".xserverrc" file as suggested in the newsletter.

P.S. One more thing: using
"xhost +hostname"' is not bad unless you cannot trust all the users on that machine.

Sample X11 source code

MESSAGE

Do we have the source code for the sample programs listed in Vol. 1 of O'Reilly and Associates? . . . These are the examples of X applications available on a floppy disk from the publisher. Thanks in advance . . .

RESPONSE

You probably can FTP this from "ftp.uu.net" in the "/published/..." directories.

DECWindows shared libraries

MESSAGE

Linking on MYVAX gave the same result as on THATVAX or CSA6. However, adding the lines
SYS$SHARE:DECW$XTRAPLIBSHR/SHAREABLE
SYS$SHARE:DECW$XMLIBSHR/SHAREABLE
SYS$SHARE:DECW$XTSHR/SHAREABLE
SYS$SHARE:DECW$XLIBSHR/SHAREABLE
[to my LINKER options file], as the consultant suggested, solved the problem.

Out of curiosity: why didn't I need these before? Whatever the reason ... Thanks for helping me get this fixed so quickly.

RESPONSE

There were major changes to the DECwindows shareable images in DECwindows Motif V1.1. You have to specifically include **SYS$SHARE:DECW$XLIBSHR**, the Xlib shareable image, and a host of other shareable images in the linking procedure.

MESSAGE

Any good ideas about image processing software for the PC?

RESPONSE

Source code for Khoros is available: of course, Khoros needs UNIX, X11 and a C compiler. I've never been able to compile successfully, but then I've only tried SCO-UNIX and Novell-netware. People have successfully ported to PC boxes running **LINUX** with GCC, and BSD UNIX (presumably also running GCC).
There's additional information in the Khoros newsgroup, **comp.soft-sys.khoros**: To get on the Khoros mailing list, do
khoros-request@chama.eece.unm.edu (to subscribe),
khoros@chama.eece.unm.edu (to correspond)
[By the way,, the mailing list and newsgroups are shadows of one another]. . . . Khoros has a good reputation for image processing and it's FREE.

PostScript: Documentation

MESSAGE

I'm looking to purchase a good manual (or two) on PostScript. Initially I will be doing only simple things like changing font sizes, superposing files, and deleting portions of files, but I will probably advance into more difficult things as time progresses. Any suggestions as to some good introductory-intermediate level books on the subject? Thanks.

RESPONSE #1

Even though the Island Graphics software isn't the slickest one to use, I'd recommend you use it instead of handling PostScript files manually. Should you insist, here are the ones I'd recommend:

- ✔ Adobe Systems Inc., PostScript Language Tutorial and Cookbook; Addison-Wesley. (This one is concise and has lots of examples; a good tutorial.)
- ✔ Adobe Systems Inc., PostScript Language Reference Manual; Addison-Wesley. (It's a thick, a comprehensive reference; probably not for leisure reading).

RESPONSE #2

[I recommend those same books and] "Understanding PostScript Programming," by David A. Holzgang; Sybex.

RESPONSE #3

Please look at the UNIX module "psutils", described in the September/October, 1993, LBL Computing Newsletter, p. 9.

Hardware: Highest safe ambient temperature

MESSAGE

We are facing an interruption in the Air Conditioning for the room in which our Sun 4/280 is kept. What is the maximum temperature is that we should allow in the room? 70F? 80F? 90F? (or rather 21C, 27C, 32C).

RESPONSE

Best estimate found so far: keep the maximum temperature under 21C (70F) . . . Of course, you may get other recommendations.

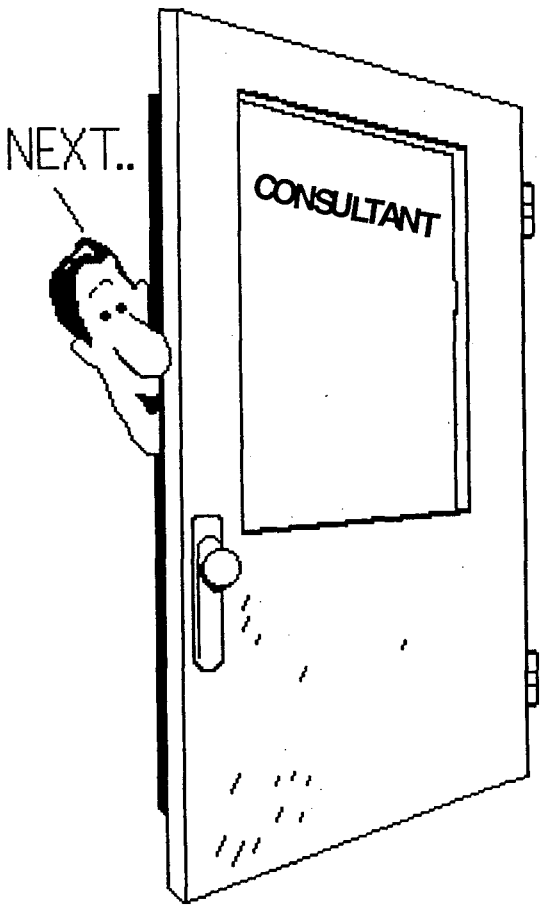
Charges

MESSAGE

The standby charges on CSA are $1/hour for committed time. How do I find out what they are on the UNIX machines?

RESPONSE

The "non-prime at" processes on UX1,5,6 are charged at $5/hour for committed accounts.



MESSAGE

What are the charges for printing on the new duplex printer hp4d?

RESPONSE

7¢ per side, 14¢ per sheet.

If you seek information on subjects that are not time-critical (e.g., DOE/LBL/Divisional computing policy matters, projected services, training issues), you should consider the CONSULT service an appropriate forum for your computing questions. Forward messages to

consult@lbl.gov

If you're on a Computing Services machine, just send mail to

consult

NEWS FROM ISS

ELECTRONIC TIME REPORTING (ETR)

Rose Bolton

Many of you have already heard about the Electronic Time Reporting (ETR) system, which is destined to replace the paper timecards through online entry of time data. The system is currently being written by a team of ISS developers.

The ETR system will provide on-line validation of time-entry information such as account numbers. This will help to eliminate invalid entries at their source (there are currently about 1,500 invalid time-card entries each month which must now be manually sorted out and corrected by the Payroll Department).

ETR will also provide the structure for meeting the time reporting approval process required by the DOE under Contract 98.

In an organization the size of LBL it is not a simple matter to code, verify, and maintain allowable approval structures, but it must be done. And, with ETR, programming is just one of the many challenges facing the developers. Listed below is a sampling of other major issues and challenges facing the developers, the ETR Committee, ISS, and the Laboratory.

Resident Structures

ETR will be the largest implementation of an administrative computer system at the Laboratory to date. It will potentially affect all Lab employees. One of the questions faced from the beginning was whether LBL had adequate structures in place to process and support the volume of usage (~2600 users) that is predicted.

Track Record

Every technological component of this system is in its infancy at LBL:

- the Oracle RDBMS is the data repository;
- Oracle CASE is being used for the first time for logical and physical designs;
- Oracle programming tools and languages are being utilized; and
- the system will run on a Sun Sparc 1000 under the Solaris operating system.

None of the above have a track record at LBL for a similar application; the learning curve is steep for all involved.

Security Issues

The system will be the first usage of electronic signature as a legal signature, making security issues of utmost importance.

Greater Volume

The volume of simultaneous usage of this system is predicted to be approximately 20 times greater than any other administrative application at the Laboratory. There is no track record at the Laboratory for a UNIX Oracle application that handles hundreds of login sessions at peak times. System availability and response time have been evaluated, but are "to be determined".

Connectivity Issues

ETR will allow access from a PC, Mac, Sun workstation or VT100 terminal. While this occurs already on the VAX, there are issues to be solved in ETR regarding connectivity to the ISS UNIX server and keyboard definitions using the Oracle software.

Login/Password Administration

No LBL administrative system has the predicted volume of 2,600 users. There will be login and password administration necessary at both the UNIX operating system and Oracle database level.

Cooperation

User support will have to be a cooperative effort among those responsible for the data, the application software, the UNIX hardware, and the LBL networks. It will have to be determined who an employee calls when "something is wrong with the ETR system." This will have to be addressed before ETR goes live.

Education and Training

There will need to be a significant education and training effort. The ETR Committee plans to use several methods to get information out to employees as ETR continues to be developed. Then, actual training sessions will be held for the various screens and roles that comprise the system. User manuals and quick reference material will also be necessary.

User Acceptance

User acceptance is a crucial factor with ETR. The entire system will result in change that will affect every Laboratory employee. The ETR Committee is committed to the success of this system and will make communication and acceptance its highest priority.

We Need Your Cooperation

ETR will affect employees in several different ways, from the computerization of time reporting to the introduction of new roles required to administer some of the data stored in ETR. To make this system work, people across the institution may be asked to contribute some of their time, ideas and expertise during implementation. Creating an institutional atmosphere of cooperation is necessary for making this institutional initiative a success.

We Need Your Help

As you can see, this system is breaking new ground. It has been designed by a cross-functional team, representing several Divisions. Now we are moving into a new phase of the project - preparing for its implementation. The issues and challenges are both technical and people-related. We want this system to be a success for the Laboratory, and we need people's help.

You will be hearing more about ETR in future issues of Computing News. Next up: Features of ETR. In the meantime, feel free to talk to any ETR Committee member about questions or ideas. We are interested in your interest!

> "The ETR is destined to replace paper timecards through online entry of time data."

ETR Committee Members:

Rose Bolton (ISS)	x5030	RMBolton@lbl.gov
Mary Clary (Engineering)	x4940	MMClary@lbl.gov
Claudia Madison (Operations - ICSD)	x7692	CIMadison@lbl.gov
Carol Moll (Operations - Facilities)	x6603	CMoll@lbl.gov
Joyce Putnam (ISS)	x4013	JAPutnam@lbl.gov
Jan Turrini (Payroll)	x5747	JMTurrini@lbl.gov
Susan Waters (MCSD)	x5690	SLWaters@lbl.gov

WHAT HAPPENED AT INTERNATIONAL ORACLE USERS' WEEK

Nancy Fleischauer recently attended the International Oracle Users' Week conference in Orlando, Florida. Here are some highlights.

1. The "Personnel" product is now available. Employee Assignment (organization, position, etc), Benefits and Compensation, Salary Administration, Organization Structures, Position Control, Recruitment and Applicant Tracking, and basic Employee information and Skills are among the capabilities bundled into the Personnel product.
(There was a hands-on demonstration of some of the Applicant tracking, hiring, benefits, employee information and skills features). Data is date-sensitive, and history of changes is kept.

The Payroll product (European version) is in production in Europe; the American version, which is being developed in Redwood Shores, is in beta test at Bechtel in San Francisco and is scheduled for release in Spring of '94 .

2. There was discussion at a DOE Special Interest Group about representatives from DOE installations banding together to see about getting price breaks, sharing systems between DOE installations, etc. (Let Nancy know if you wish to be put on this mailing list).

3. Brochures and vendor information are available for reference in the ISS library: some of the products were demonstrated. Following are some of the topics:
   a. Oracle Data Browser—brochures and a demonstration disk
   b. Oracle Financials—a glossy brochure from Oracle
   c. End User reporting and data access tools—IQ software (Intelligent Query and IQ Access), SQL Assist, UDMS Report Writer
   d. Oracle Office Questions and Answers, and two demo disks
   e. Artemis Prestige Project Management Software
   f. A Customer's Guide to Oracle Human Resources. See below for a discussion of their HR product
   g. Oracle Glue information
   h. MSC-II Maintenance Management Software (for maintaining equipment, buildings, aircraft, etc.)
   i. EcoSystems Products' Client/Server Management software—glossy brochure
   j. Oracle Business Alliance Partners - listing of business partners and their products
   k. CASE technical overview and various CASE articles
   l. MarkView —document imaging for ORACLE7 environments.

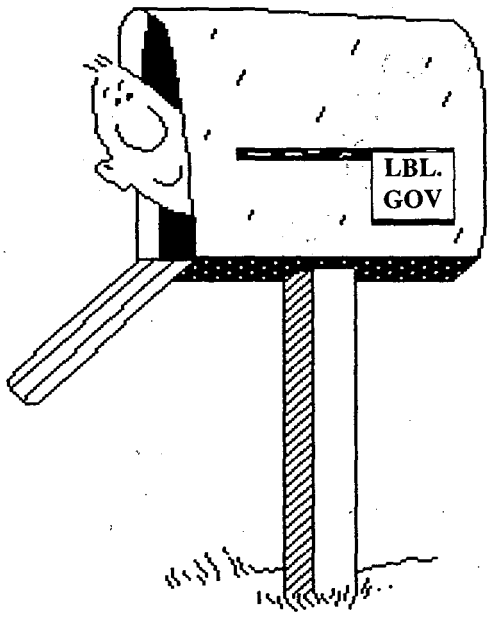
4. The IOUG '93 Utility Library Disk, a disk of Utilities provided by other User group members is available from Nancy, in Suite 285, Promenade Building, 1936 University Ave. Contact her for a list of the utilities.

5. The conference proceedings are also available in the ISS library in the Promenade building, 1936 University Ave., for reference.

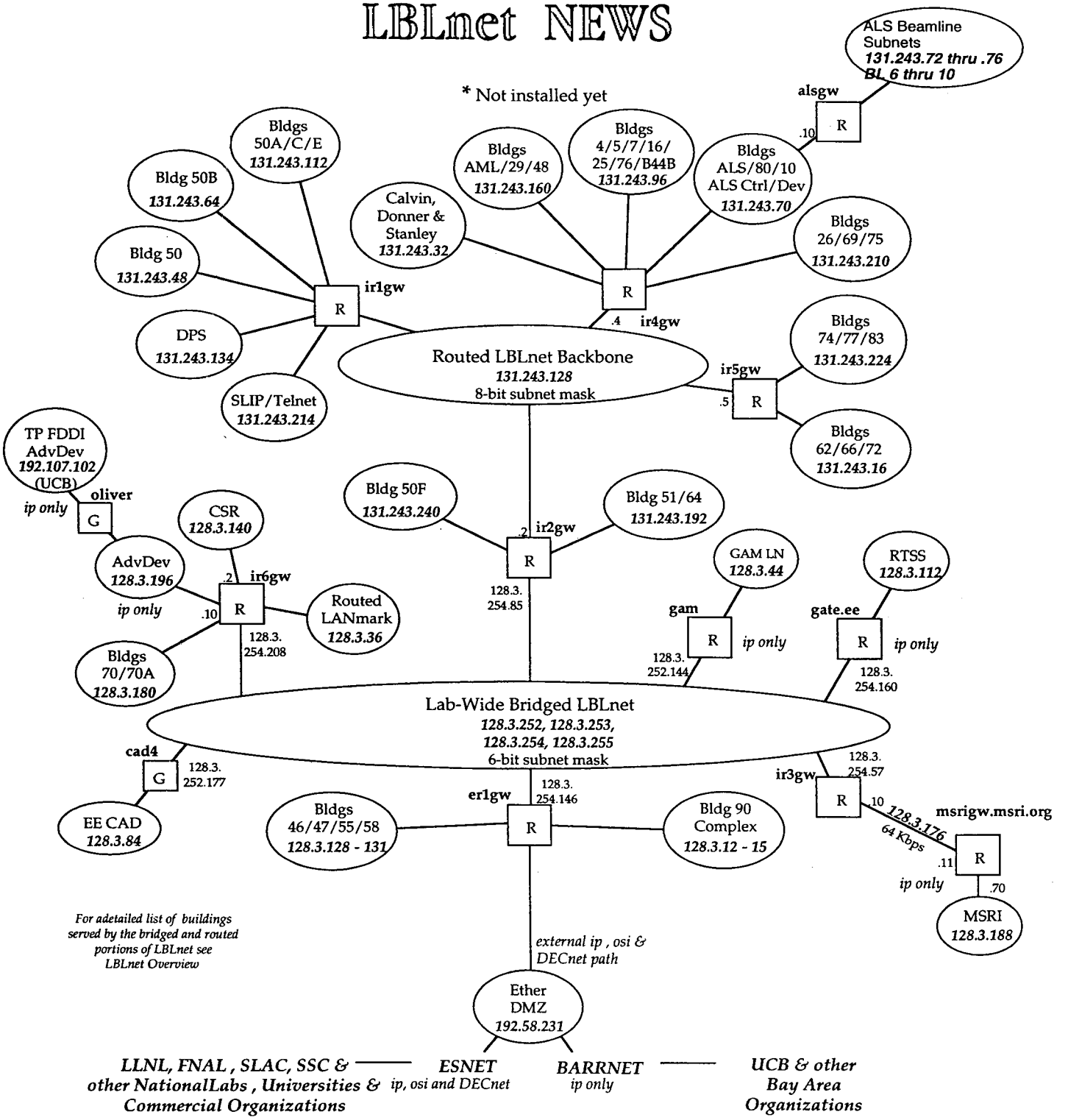
Upcoming User Group meetings:

1. Northern California Oracle Users Group (NoCOUG) February 17. Call Nancy for more information.
2. Oracle CASE SIG conference April 24-26, 1994. Keystone, Colorado Call the conference manager at (404) 551-2882 for more information.
3. International Oracle UNIX SIG Conference. May 20-22, San Jose for information: iousig_conf@tudorcon.com
4. International Oracle User Week Sept. 25-30, Moscone Center, San Francisco Papers for presentation are being accepted now (deadline for submission is March 1, 1994). I have a Conference Participation Proposal form available.

Nancy Fleischauer
NKFleischauer@lbl.gov
x5102.


LBL.
GOV

LBLnet NEWS



LBLnet Subnet Overview

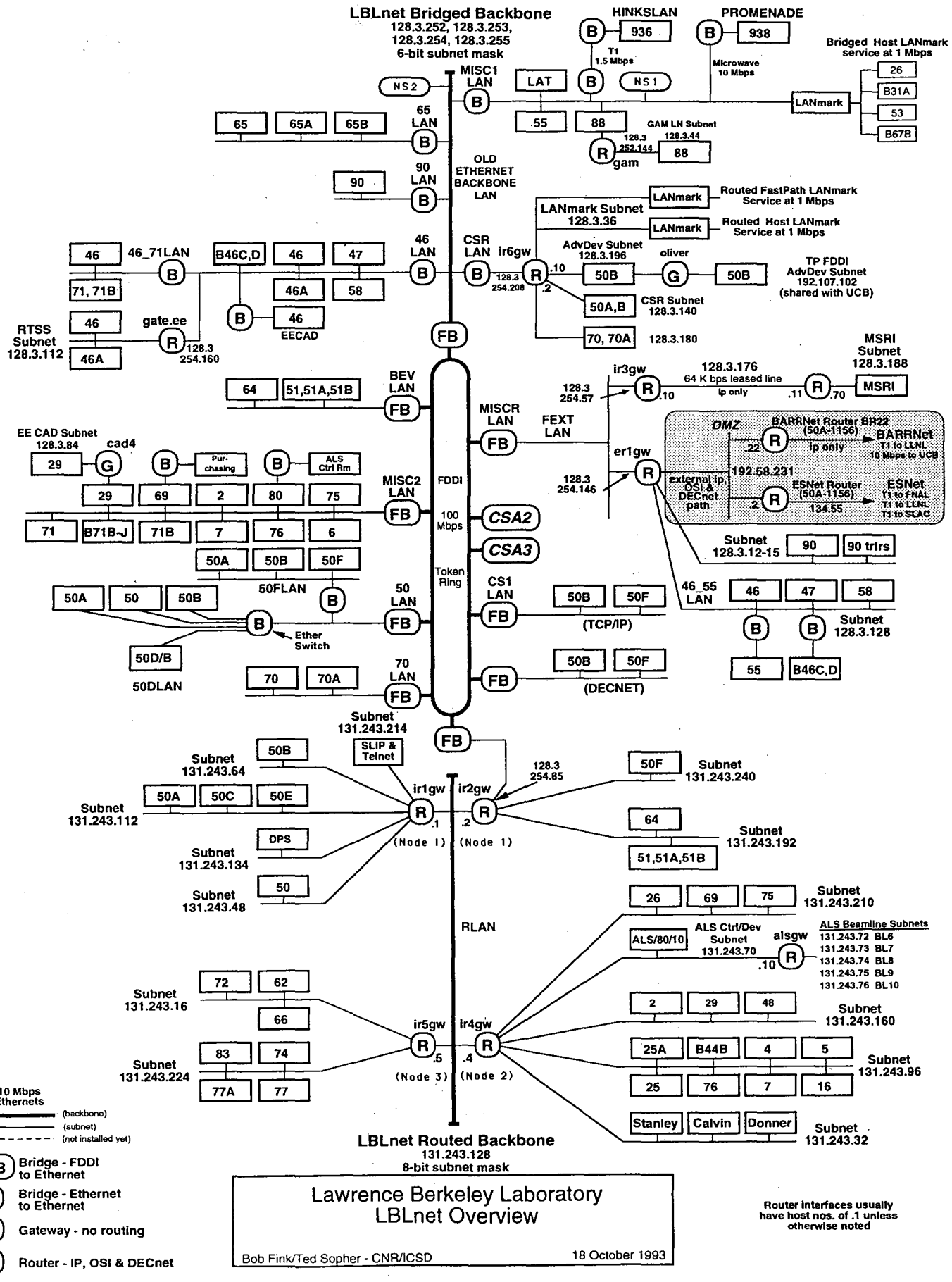
R = IP Router, G = Gateway w/no routing
Circles Represent Routed Ethernets Subnets

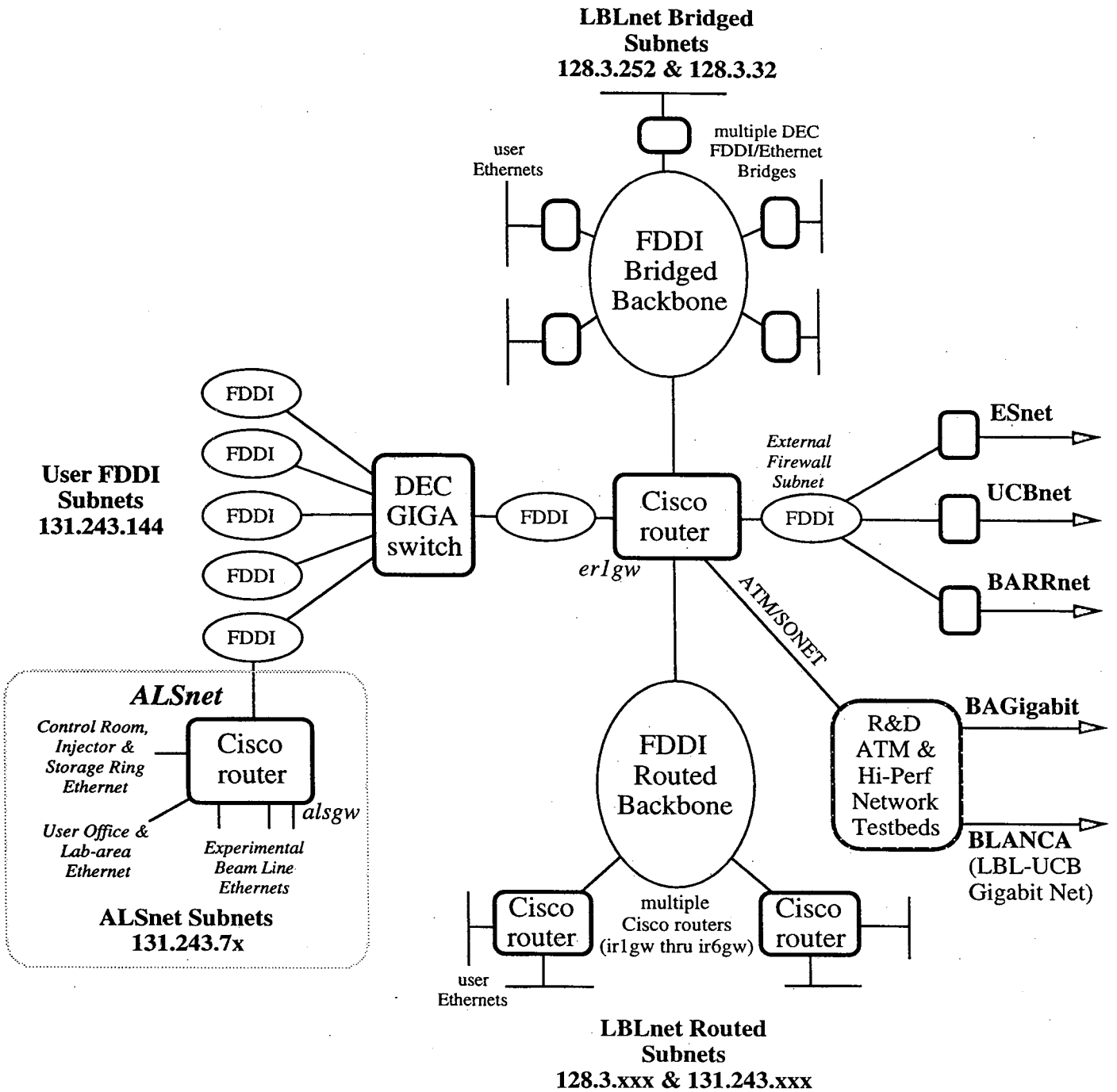
Bob Fink/Craig Leres/Ted Sopher - CNR/ICSD 18 October 1993

R Router - IP, OSI & DECnet

G Gateway - no routing

Router interfaces usually have host nos. of .1 unless otherwise noted


LBLnet Bridged Backbone
128.3.252, 128.3.253,
128.3.254, 128.3.255
6-bit subnet mask
HINKSLAN
936
PROMENADE
938
T1
1.5 Mbps
Microwave
10 Mbps
Bridged Host LANmark
service at 1 Mbps
LANmark
26
B31A
53
B67B
MISC1
LAN
NS2
NS1
LAT
55
88
GAM LN Subnet
128.3.44
128.3
252.144
gam
65
65A
65B
65
LAN
90
90
LAN
OLD
ETHERNET
BACKBONE
LAN
LANmark Subnet
128.3.36
Routed FastPath LANmark
Service at 1 Mbps
Routed Host LANmark
Service at 1 Mbps
46
46_71LAN
71, 71B
B46C,D
46
47
46A
58
46
LAN
CSR
LAN
ir6gw
AdvDev Subnet
128.3.196
oliver
50B
50A,B
CSR Subnet
128.3.140
70, 70A
128.3.180
TP FDDI
AdvDev Subnet
192.107.102
(shared with UCB)
RTSS
Subnet
128.3.112
46
46A
gate.ee
128.3
254.160
EECAD
FB
MSRI
Subnet
128.3.188
MSRI
ir3gw
128.3.176
64 K bps leased line
ip only
128.3
254.57
64
51,51A,51B
BEV
LAN
MISCR
LAN
FEXT
LAN
DMZ
BARRNet Router BR22
(50A-1156)
BARRNet
T1 to LLNL
10 Mbps to UCB
ip only
er1gw
192.58.231
external ip,
OSI &
DECnet
path
ESNet Router
(50A-1156)
134.55
ESNet
T1 to FNAL
T1 to LLNL
T1 to SLAC
128.3
254.146
EE CAD Subnet
128.3.84
cad4
29
Pur-
chasing
ALS
Ctrl Rm
MISC2
LAN
FDDI
100
Mbps
CSA2
CSA3
Token
Ring
29
69
2
80
75
71
B71B-J
71B
7
76
6
50A
50B
50F
50FLAN
Subnet
128.3.12-15
90
90 trlrs
50A
50
50B
50
LAN
CS1
LAN
50B
50F
(TCP/IP)
46_55
LAN
46
47
58
Ether
Switch
Subnet
128.3.128
55
B46C,D
50D/B
50DLAN
70
70A
70
LAN
50B
50F
(DECNET)
Subnet
131.243.214
SLIP &
Telnet
Subnet
131.243.64
50B
Subnet
131.243.112
50A
50C
50E
ir1gw
ir2gw
128.3
254.85
50F
Subnet
131.243.240
64
Subnet
131.243.192
51,51A,51B
(Node 1)
(Node 1)
Subnet
131.243.134
DPS
Subnet
131.243.48
50
RLAN
26
69
75
Subnet
131.243.210
ALS/80/10
ALS Ctrl/Dev
Subnet
131.243.70
alsgw
ALS Beamline Subnets
131.243.72 BL6
131.243.73 BL7
131.243.74 BL8
131.243.75 BL9
131.243.76 BL10
Subnet
131.243.16
72
62
66
2
29
48
Subnet
131.243.160
ir5gw
ir4gw
Subnet
131.243.224
83
74
77A
77
25A
B44B
4
5
Subnet
131.243.96
25
76
7
16
(Node 3)
(Node 2)
Stanley
Calvin
Donner
Subnet
131.243.32
LBLnet Routed Backbone
131.243.128
8-bit subnet mask
10 Mbps
Ethernets
(backbone)
(subnet)
(not installed yet)
FB Bridge - FDDI to Ethernet
B Bridge - Ethernet to Ethernet
G Gateway - no routing
R Router - IP, OSI & DECnet
Lawrence Berkeley Laboratory
LBLnet Overview
Bob Fink/Ted Sopher - CNR/ICSD
18 October 1993
Router interfaces usually
have host nos. of .1 unless
otherwise noted



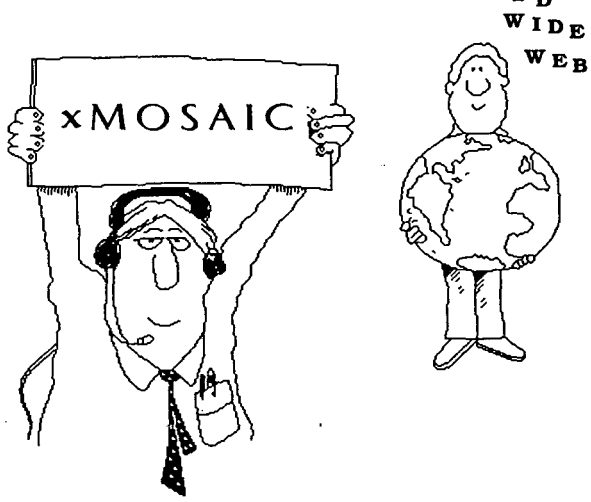
This diagram provides an overview of LBLnet FY 94 topology plans. As such, it will be in various states of implementation during the fiscal year as approvals and equipment deliveries permit.

LBLnet FY 94 Topology Planning Overview

R.L.Fink/T.G.Sopher 18 October 1993

NEWS OF PHYSICS LIBRARIES

Werner Koellner



GENERAL INFORMATION

We maintain a large collection of advanced software in support of current work in HEP and related research on the CSA VAX (VMS) cluster and on the Sun (UNIX) platforms. In all cases, object libraries and executable (image) files are built on the local systems from local or imported source codes. Software developed and maintained at CERN represents the major part of this collection. In general the newest releases or pre-releases are offered as default versions for general use with updates and rebuilds occurring at unpredictable times. In most cases HELP library entries or man pages are provided to assist users in selecting or using some particular software package. Please let me know if some package that may be of considerable interest is not available.

• WHAT'S AVAILABLE

CERN LIBRARIES:

ARIADNE	QCD-Cascade Monte Carlo
CMZ	Code Maintenance
COJETS	pbar-p Monte Carlo
DZEDIT	Zebra Bank Doc./Display System
GARFIELD	Drift Chamber Simulation
GEANT	Detector Design
EURODEC	pbar-p Monte Carlo
FATMEN	Distr. File & Tape Management System
GENLIB	General Library
GRAFLIB	Graphics Interface Package
HBOOK	Histogram Package (in PACKLIB)
HEPDB	HEP Database Management System
HERWIG	hadron Monte Carlo
HPLOT	Plotting Package (in GRAFLIB)
ISAJET	pbar-p Monte Carlo
JETSET	Lund Monte Carlo
KERNLIB	General Library
LUCIFER	Lund Monte Carlo
MINUIT	Fitting (PACKLIB)
PACKLIB	General Library
PATCHY	Code Maintenance
PAWLIB	Physics Analysis
PDFLIB	Parton Density Functions
TWISTER	Lund Monte Carlo
ZEBRA	I/O & Memory Mgt. (in PACKLIB)

FILE CONVERSION (to be phased out):

HIGZCONV	Higz File Format Converter
RTOA	RZ to Zebra Alpha Export Fmt
RFRA	Zebra Alpha Export to RZ
RTOX	RZ to Zebra binary Export Fmt
RFRX	Zebra binary Export to RZ

FILE MERGING (to be phased out):

MERGERZ	Merging of ZEBRA Histogram Files

FILE TRANSFER (to be phased out):

ZFTP	Transfer between SUN,VAX, IBM
TELNETG	Higz Graphics on remote hosts

MISCELLANEOUS SOFTWARE:

CALCULATOR	Fancy HP Calculator
DISPLAY(5)	HBOOK/HPLOT Histogr. Manipulation
FOR_STRUCT	Source Code Structuring
EGS	e+e- Monte Carlo
JETNET	Pattern Recognition (Neural Networks)
JY411	CAMAC Drivers
MORTRAN	Fortran Preprocessing
PROBE	Examine Object Libraries
SWING	Directory Management
TOPDRAWER	Plot Processing
UGS	Unified Graphics Package

NEWS

CSA

CERN software Release 93d is now the default (PRO_C*ern).
Type **NEW_C*ern** to access pre-release files.
Type **WHICH_C*ern** to see which version is in use.

With this release GEANT Vers. 3.16 becomes the default. You may choose to use ATC-GKS or X11 graphics, including an interactive MOTIF interface (see below).

PAW is also available for use with ATC0-GKS or X11 graphics, as well as using an interactive MOTIF interface (see below).

SUN

CERN software Release 93d (pro_cern) is now the default .
Type **new_cern** to access pre-release files.
Type **which_cern** to see which version is in use.

With this release, GEANT 3.16 becomes the default. You may choose ATC-GKS or X11 graphics, including an interactive MOTIF interface (see below).

PAW is also available for use with ATC-GKS or X11 graphics, as well as using an interactive MOTIF interface (see below).

LAST MONTH

CSA

Pre-released software of CERN Release 93d, including GEANT 3.16, is beginning to accumulate and is available to you when you do **NEW_C*ern.**

PAW++, the Motif Version of PAW 2.03, should now be available on CSA (see below).

See hourly updated National Weather Maps or Satellite Images on window displays (see below).

The latest version of SWING (Cswing) has been installed (courtesy of Robert Welsh).

CMZ has been updated to V1.44

SUN

Pre-released software of CERN Release 93d, incuding GEANT 3.16, is beginning to accumulate and is available to you when you do **new_cern.**

See hourly update National Weather Maps or Satellite Images on window-displays (more below).

CMZ has been updated to V1.44.

GENERAL INFORMATION

CSA

Imported and generally-used software is in the **HEP_UTILITIES** directory tree. Project-specific and other local software is in the **PHYS$LIB** directory area.

We recommend using logical names **CERN$*_LIB** to access the latest CERN object libraries. Use **NEW_C**, (or **PRO_C**) to choose the desired Release Version. Type **WHICH_C** to see which version is in use.

When linking please see various linker options files in **CERN$LIBRARY** and **PAW$LIBRARY** as well as in other areas.

The supported graphics packages are ATC-GKS, X11, and DI3000 (on CSA2).

SUN

CERN library files and sources are in directories beginning with **$CERN_ROOT/sun.** Other environment variables are **CERN_LIB, CERN_BIN, CERN_EXE,** and **CERN_SRC.**

When linking with any library just specify -"l<**library**> " (choose **new_cern** if desired) where <library> is one of the following (Consult an appropriate MAN page also):

geantlib	Detector description/design and simulation tools
genlib	gen
garflib	garfield (Wire Ch. Simul.)
graflib(_x11)	hplot5, higz, gkspack
herwig	webber LUND Monte Carlo
hepdblib	HEP database
isajet	p-p, pbar-p Monte Carlo
jetset	LUND Monte Carlo (Jetset73+Pythia55)
kernlib	kerngen, kernnum
packlib	cspack, epio, fatmen, ffread, zebra kapack, kuip, minuit, zcedex hbook4, zbook, iopack.
pawlib	paw, comis, sigma
pdflib	Parton Density Funct.

(Remember, you can always consult a MAN page.)

COMPUTING ENVIRONMENT

To create the appropriate computing environment for smooth access to the maintained software, as well as the definition of standard symbols and logical names, execute the following:

CSA

It is best to put this line into your login.com

@PHYSICS$MANAGER:SETUP_PHYS

The default CERN Software Environment is the so-called PRO environment (equivalent to typing **PRO_C*ern <cr>**). Type

NEW_C*ern <cr>

to choose the newest (pre-)releases. The command

WHICH_C*ern

tells you which is in use.

To establish a particular research project environment, execute or add to your login.com

@PHYSICS$MANAGER:SETUP_xxx

where **xxx** may be CDF, TPC, or a number of other current project names.

SUN

The following lines must be in .cshrc

if (-e /usr/local/Modules/init/csh) then
source /usr/local/Modules/init/csh
... and then one or more of the following:

module load physics/cvs	(CVS)
module load physics/cern	(CERN)
or for SDC Simulation work, **module load physics/sdcshell**	(SDC/CERN)
module load physics/phys	(Misc. Phys.)
module load physics/topdraw	(TOPDRAWER)

endif

Note: To switch from PRO Cern to NEW Cern environment and back, do

new_cern <cr> / pro_cern <cr>.

Do

which_cern

to see which is in effect.

To switch from CERN to SDC/CERN environment, do:

module switch physics/cern physics/sdcshell

HELP

CSA

Begin with

HELP @PHYSICS_UTILITIES

Specific HELP entries may be displayed directly as well.

SUN

Begin with

man physics

for a general overview of specific man pages.

DOCUMENTATION

(updated frequently)

CSA

CERN Postscript documents and User Manuals are in **CERN$CERNDOC**. See **INDEX.TXT**.

So-called Short Writeups are in directory **CERN$CERNSHORT**. See **00README.TXT**.

A much larger set of CERN documentation is available via xMosaic. Just type **CERNFIND <cr>** and browse. Use the "FILE" menu to save or print a file.

Other information files are in

CERN$INFORM and CERN$CERNHLP

*.HISTORY ..... Release and bug-fix histories

*.DOC, *.MAN ..... Additional Users Manuals

*.NOTE ..... CERN discussions, Bulletins

*.LOGyymmdd ..... Archived CERN discussion lists

CERN_CNL#.* ..... CERN Comp. Newsletter preprints

CPC_LIB_mmyy. ..... * Quarterly CPC Library indices

SUN

CERN PostScript documents and User Manuals are in **$CERN_ROOT/import/doc**. See **INDEX**.

Short Writeups are in **$CERN_ROOT/import/doc/short** See **00README**.

A much larger set of CERN documentation is available via xMosaic. Just type **cernfind <cr>** and browse. Use the "FILE" menu to save or print a file.

Other documentation may be mentioned in specific man pages.

o THE CERN CONNECTION

We encourage users to report problems or questions regarding CERN libraries by writing to one of the following discussion lists, or to me (WOKoellner@lbl.gov):

LGEANT@CERNVM.CERN.CH (about GEANT)

HEPLIB@CERNVM.CERN.CH

(about any other Cern Library codes)

You may also subscribe to any of these discussion lists by sending an electronic mail message containing the single line

SUBSCRIBE <list> <your full name>

(<list> being one of the above)

to **LISTSERV@cernvm@cern.ch.**

o CERN LIBRARY USER LISTS

Users who wish to be alerted whenever I rebuild the default GEANT or PAW Libraries or update other CERN Libraries may register by sending me a request.

o CERN PROGRAM WRITEUPS

As mentioned under DOCUMENTATION, a selection of so-called Long and Short writeups of CERN User routines and programs are available online as PostScript files on both the CSA Cluster as well as the Sun. On CSA the long writeups can be found in **CERN$CERNDOC**, while the short writeups are in **CSERN$CERNSHORT**. On the SUN the long writeups are in **CERN_ROOT/import/doc**, while the short writeups are in **CERN_ROOT/import/doc/short.** Recently the long writeups for **COMIS, HBOOK, HIGZ**, and **VAXTAP** have been updated.

o AIP-FYI and WHAT's NEW

In addition to Robert L. Park's weekly newsletter from the American Physical Society, a newsletter from the American Institute of Physics is now available online on CSA and by subscription. Whereas "What's New" is more opinionated and reports on happenings that might more directly relate to Physics Research, the AIP-FYI Newsletter reports more on actions by Government Bodies or representatives of the Clinton administration. AIP-FYI is published two to five times per week.

To subscribe to **WHAT'S NEW** please send a message to Jim Dodge (WJDODGE@lbl.gov). All issues are stored in **APS_WHATS_NEW**. To read only those that you have not read yet, type

WHATS*_new <cr>.

A few of the latest issues of AIP-FYI are in **CERN$INFORM:AIP_FYI_##.TXT**. If you wish to subscribe please send your request to **FYI@AIP.ORG**.

o xMOSAIC, THE WORLD-WIDE WEB, LYNX, and related BROWSERS

As mentioned in previous issues, the supported browsers are LYNX (line mode) and MOSAIC (HyperText). Access to the World Wide Web as well as to a plethora of other information resources and servers is available via these browsers.

As mentioned under "Documentation," for example, all available CERN writeups plus an abundance of other documents are directly accessible over the network from the CERN server. "cernfind," a local symbol, will make the connection for you. Similarly, you become connected to the HEP Preprint database at SLAC by typing the symbol "qspires."

The exploration and usefulness of information browsers and available worldwide servers is just barely beginning. Eventually, anything that can be transmitted in some digital form (books, audio recordings, visual images, etc.,) will become accessible.

o WEATHER MAPS

A national weather map, containing all important meteorological data, isobar lines, locations of "highs" and "lows" as well as fronts, can be viewed in color on X-window (DECwindow) terminals or Macintoshes. This map, as well as satellite views of the US (in black and white) get updated once each hour (when things go well). There are two satellite maps, one offering a visual view; the other an infrared view. In the morning the western portion of the US is largely in the dark and thus nothing can be seen. The infrared image makes things "visible" then.

The date and Greenwich Mean Time (which is 7 hours ahead of Pacific Daylight Savings time) in the display allow you to check whether you are viewing an up-to-date map. Due to technical problems, however, that may not always be the case.

Those who have access to the LBL Gopher Server, e.g. via xMosaic on the CSA Cluster or on Suns, or via TurboGopher on Macintoshes, may just click on "Images," then on "LBL Weather Machine," and then on the Map or other image of their choice. For more details please consult **HELP WEATHER** (on CSA) or **man weather** (on a SUN). The maps are directly available for display with XV on CSA, in **Disk$Physics60:[pubinfo]*.gif**.

o GEANT

Geant Version 3.16 includes many bug-fixes, improvements, and new options. This version will be used by default (**pro_cern** is in effect). One of the new options is

to link an interactive version with a MOTIF user interface.

On the CSA Cluster the linker options files **Cern$Library:GEANT*_MX.OPT** are used to link an executable that may be used for X11 graphics or for choosing the MOTIF interface. The latter may be chosen by replying with "motif" or just "m" when answering the question about the workstation type. To use ATC-GKS graphics, use the default GEANT*.OPT. In all cases, the * is either "I" or "B" and just means "include or don't include" the basic MAIN program contained in the library rather than your own MAIN program and associated subroutines.

• PAW AND PAW++

Cern Release 93d makes available a MOTIF-interfaced version of PAW (named PAWPP on VAX/VMS, and PAW++ on UNIX platforms). In all cases you will be using Version 2.03 (or higher) of PAW. Release notes for this version may be found in

Cern$Inform:PAW203_RELEASE.NOTE (on the VAX)
and in
$CERN_ROOT/paw/paw203_release.note (on the SUN).

On the CSA Cluster you can run the MOTIF version by typing

Run Paw$Library:PawPP <cr>

while on the SUN you need just type

paw++ <cr>

Feedback, Please . . .

The authors at CERN would like to receive feedback from users of this Motif version. Please send your comments to **RDM@HPSALO.CERN.CH**. on one or more of the following topics:
- Why do you like to use paw++?
- What do you like about it?
- Why don't you use it?
- What don't you like about it?
- Does the "long" startup time prevent you from using it?
- Would you like to use it but but aren't able to because your workstation can't handle it?
- Do you think it is a gadget that adds nothing new to PAW?
- etc.

• ERRATUM

The article on Weather Maps on p. 37 of the Sept/Oct LBL Computing Newsletter contained an error in section (2). In configuring TurboGopher, BOTH server names should be

gopher.lbl.gov

(and not gopher@lbl.gov).

• HERWIG

Version 5.6 of this Monte Carlo Event Generator for Hadron Emission Reactions with Interfering Gluons has been released. Link with this library via **CERN$HERWIG_LI** (on CSA) or **-lherwig** (on the SUN). See also the followin files:

Cern$Inform:Herwig56.Doc	User Manual
Cern$Inform:Herwig56.Tex	LaTeX list of available processes
Cern$Library:Herwig56.SUD	Default Sudakov Form Factors
Cern$Library:Herwig56.Inc	Fortran Include Sequences

• CVS/RCVS (On the SUN UX5 File System)

CVS (Concurrent Version System) and RCVS (Remote CV is a public- domain program package which allows versio and release control of typical large-scale HEP software developments on UNIX platforms. It permits and control concurrent development in the multi-developer, multi-directory, and multi-group environment found in large research collaborations, with hierarchical storage and retrieval of software versions. Recently networking capabilities have been implemented and are being tested. This gives remote sites transparent access to source code stored at a master site. Thus software developers at remote sites are able to create, extract, modify, and eventually merge source code in nearly concurrent fashion.

CVS is a front end to RCS (Revision Control System) extending it in a number of ways, primarily in the notion concurrent development and the extension of a product from a collection of files in a single directory to a hierarchical collection of directories each containing RCS managed files. There is also support for merging updated third par releases with local modifications and many other capabilities. Although CVS is relatively robust and presumably enjoys fairly active development, that cannot yet be said about RCVS. The latter is still in its infancy and development efforts seem marginal. In spite of CVS's robustness, there exist a number of problems which in many cases ca be fixed by available patches. Everyone is looking forwa to an upgrade release soon. If you wish to follow the CV discussions you may subscribe to the mailing list by sending a request to

info-cvs-request@prep.mit.edu

To access CVS/RCVS you need to execute "module lo physics/cvs". Please see "man cvs_intro", "man cvs_faq or "man cvs" for further information.

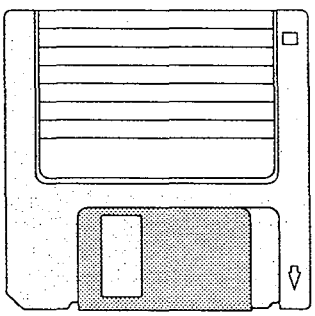
Forward comments and questions to me at x4398 or

UNIX or
Software Tools Mail: **WOKoellner@lbl.gov**
VMS Mail: **lbl::WOKoellner**

Letters to the Editor

A Constant reader sent this item regarding 3.5 inch diskettes that he felt to be of "of passing interest" to our readers.

"Recently I found one of my diskettes in the bottom of my washing machine—left in a shirt pocket, no doubt. Since I use diskettes for storing most of my work (it avoids cluttering up the hard drive, keeps multiple versions from spreading among several machines, etc.), this was not the best way to start the day. After determining that the disk surface did indeed have water on it, I pried open the plastic case to discover that the disk itself is sandwiched between two "pads" of a loosely-woven soft fiber material attached to the plastic case. These pads were soaked, but the disk itself slid out from between them. Being careful not to put my fingers on the disk surface, I pried open another "sacrificial" diskette and replaced the disk with the washed one, after it had air-dried. I used a small piece of tape to hold the plastic diskette case together and put it in my Mac. Double clicking on the disk icon brought up the disk directory in its entirety. In transferring the diskette contents to my Mac hard drive, only two (of 20) files did not transfer. Since I already had those two on my hard drive (whew!), I did not attempt to use any disk recovery software.



The moral of the story is . . . don't despair —at least not right away—if you accidentally wet-launder your disk. It's likely that some/most/all of the material can be retrieved even if it has been through the not-so-gentle cycle with your blue jeans. If, on the other hand, you find it in the bottom of your dryer, then all bets are off!"

YES, I would like to receive the LBL Computing Newsletter

NAME .....

ADDRESS .....

.....

CITY

STATE .....

ZIP

PHONE .....

Return to ..... LBL Computing Newsletter
Linda Mattson - MS 50F
Lawrence Berkeley Laboratory
Berkeley, CA 94720

Attention: **NL MAILING LIST**

COMMENTS, QUESTIONS, SUGGESTIONS FOR FUTURE ARTICLES:

You can also send an e-mail message to newsletter@lbl.gov

Lawrence Berkeley Laboratory
Linda Mattson - MS 50F
One Cyclotron Road
Berkeley, CA 94720
ATTN: Newsletter Mailing List

NAMES AND NUMBERS TO KNOW

From on-site, dial <xxxx> From off-site, dial (510) 486-<xxxx>

INFORMATION AND COMPUTING SCIENCES DIVISION

Director: Stewart Loken (SCLoken)	7474	50B	2232E
Deputy Director: Sandy Merola (AXMerola)	7440	50B	2232C

INFORMATION TECHNOLOGY RESOURCES PLANNING

Head: Dave Stevens (DFStevens)	7344	50B	2232D

INFORMATION AND COMPUTING RESOURCES

Head: Sandy Merola (AXMerola)	7440	50B	2232C

ADVANCED DEVELOPMENT PROJECTS

Head: Dennis Hall (DEHall)	6053	50B	2239D

COMMUNICATIONS & NETWORKING RESOURCES

Head: Bob Fink (RLFink)	5692	50B	2258B
Network Systems			
Bob Fink (RLFink)	5692	50B	2258B
LBLnet Manager			
Ted Sopher (TGSopher)	4144	50B	2258G
COMMUNICATIONS & NETWORKING FACILITIES			
Sig Rogers (SGRogers)	6713	50B	2258F
DATA COMMUNICATIONS SUPPORT GROUP			
Paul Murray (PGMurray)	5354	50B	2215
Terminal Installation and Repair			
INTEGRATED COMMUNICATIONS SYSTEM OFFICE			
Head: Sam Gibson (FSGibson)	4234	50B	2258D
TELEPHONE SERVICES			
Linda Smith (LKSmith)	4440	50B	2267J
ICS SERVICE CENTER			
Richard Gregory (R_Gregory)	7947	50B	2267K
ICS OPERATIONS ENGINEER			
Cindy Wood (CLWood)	4777	50B	2258E

COMPUTING RESOURCES DEPT.

Head: Marv Atchley (FMAtchley)	5455	50F	117
Deputy: Harvard Holmes (HHHolmes)	5742	50F	115
Central Office	5871,2	50F	146

GRAPHICS

Nancy Johnston (NEJohnston)	5093	50F	145

VMS SYSTEM

Eric Beals (ERBeals)	5351	50F	143

UNIX SYSTEM AND DISTRIBUTED PRINTING

Craig Eades (CAEades)	6569	50F	144
UNIX (DSDavis)	5740	50F	110
Distributed Printing (CJHertzer)	5638	50F	120
System Manager: Roger Cochran (RJCochran)	5565	50F	127

WORKSTATION GROUP

Nancy Johnston (NEJohnston)	5093	50F	145
MAC Support	6900		
PC Support	6800		

USER RESOURCES

Accounting	4786	50F	112
Math Libraries	4749	50F	114
Document Management	5534	50B	1275F
Opening a New Account	6211	50B	1275A
UNIX and Cluster:			
Software Acquisition & Management	5534	50B	1275F

NERSC Consulting Number is 510-422-1544

COMPUTING FACILITIES

Operations Area	6211	50B	1215B
Duncan Connor (DJConnor)	6211	50B	1275A

IMAGING TECHNOLOGY GROUP

Head: William E. Johnston (WEJohnston)	5014	50B	2276

CENTRAL ELECTRONIC MAIL FACILITY

First Initial-Middle Initial-Last Name is the standard recipient format in lab-wide mailing address

Examples: VMS.....lbl::JASmith
UNIX.....JASmith@lbl.gov
Software Tools.....JASmith@lbl.gov

NETWORK CONTACT INFORMATION

LBLnet New Installations & Trouble Calls (LBLnet operations)

After hours emergency support	7300		
(*Manager*) Ted Sopher (TGSopher)	4559, 7300	50B	-2258G
Matt Idzkowski (MLIdzkowski)	4559, 7300	50B	-2258H
Al Early (AEEarly)	4559, 7300	50B	-2258H
Mike Bennett (MJBennett)	4559, 7300	50B	-2215D
Mohammed Khan (MKhan)	4559, 7300	50B	-2215D
IBM PC & Mac Network Administration			
William Jaquith (WDJaquith)	4388	50F	- 128
Nancy Travis (NJTravis)	7690	50B	-1232D
Mark Rosenberg (MLRosenberg)	6708	50B	-1232C
Distributed Printing/Shiva FastPath administration and requests			
Bob Rendler (RERendler)	5629	50F	- 129
AppleTalk/Shiva **FastPath Support**	5354, 7300	50F	- 2215

DECnet Administration	decnet-request@lbl.gov
LBLnet troubles	trouble@lbl.gov
LBLnet installation requests	net-install@lbl.gov
LBLnet comments or non-critical trouble reports	lblnet@lbl.gov
LBLnet IP number administration	ip-request@lbl.gov
LBLnet SLIP and High Speed Telnet	slip-request@lbl.gov
LBL Postmaster for Lab-wide mail	postmaster@lbl.gov
Network Advisory Group (NAG)	nag@csam.lbl.gov

IP Numbers: for CSA Cluster	CSA1	128.3.254.196
	CSA2	128.3.254.197
	CSA3	128.3.254.198

ICS

ICS Access Names

[VAX 66xx's (Generic) ..... CSA]

VAX 6610 (VMS)	CSA1
VAX 6610 (VMS)	CSA2
VAX 6610 (VMS)	CSA3
SUN-3/280 (UNIX 1)	UX1
SUN-690 (UNIX 5)	UX5
SUN-690 (UNIX 6)	UX6
SUN-SS1000	UX8
SUN-3/180 (ISD)	ISD

Dial-up Access Numbers for ICS

Incoming Baud Rate	Connect Baud Rate	Number
3/12/2400 BPS	3/12/2400 BPS	486-7930
3/12/2400 BPS	9600 BPS	486-7900
9600 BPS	9600 BPS	486-7996

Local TYMNET Access Numbers for ICS

Removed from Service as of October 1, 1993

Lawrence Berkeley Laboratory
Attn: Linda Mattson — MS 50F
One Cyclotron Road
Berkeley, CA 94720