Lawrence Berkeley National Laboratory

LBL Publications

Title

LBL Computing Newsletter Vol 27 No 2

Permalink

https://escholarship.org/uc/item/0z47d13v

Author

Lawrence Berkeley National Laboratory

Publication Date

1990-02-01

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.

FEBRUARY
1990

LB COMPUTING NEWSLETTER

~~Root~~ Pub-file

ICSD Training Schedule 3

GENERAL NEWS

Cray User Group Meeting 4

4208 Looking for a Home 4

News About the Cluster 5

Displaying Graphs and Trees with LaTeX 6

NOTES FROM TROUBLE MAIL 7

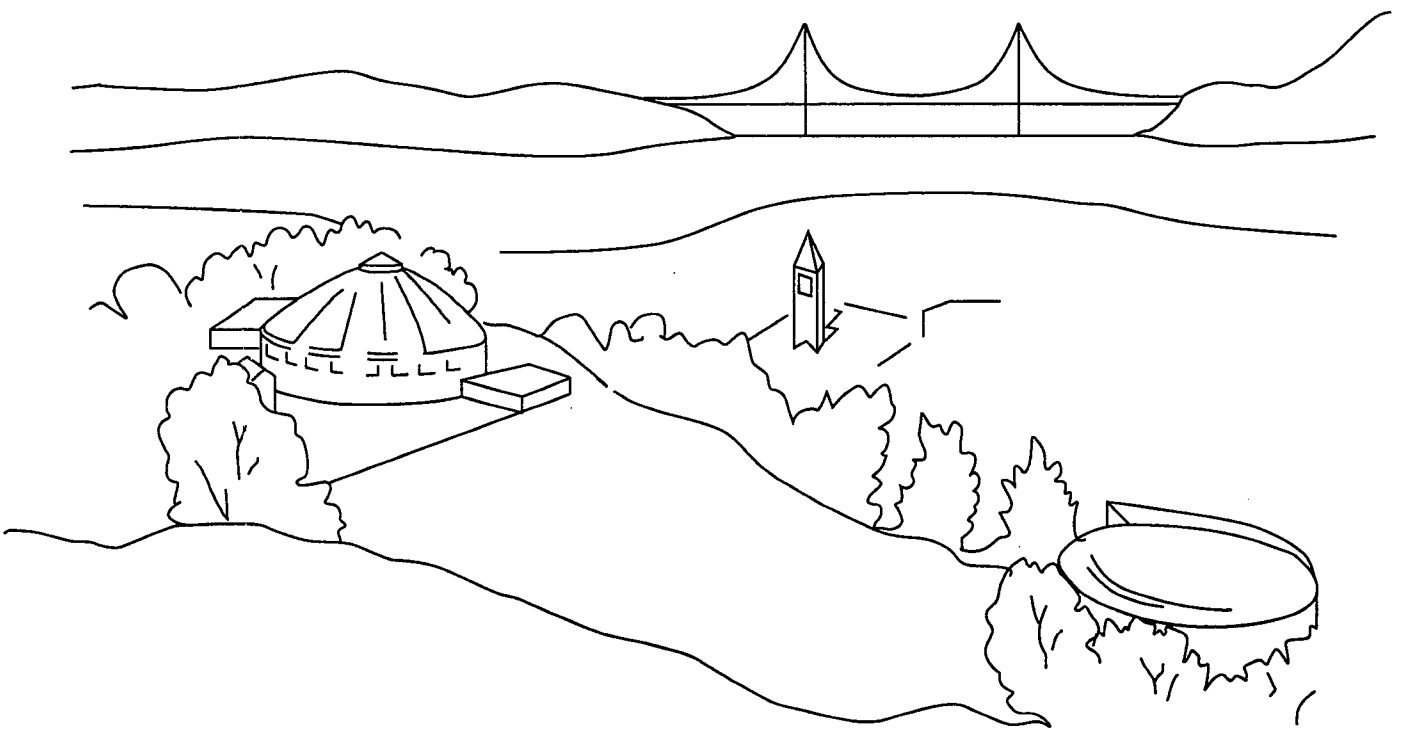
NEWS OF PHYSICS LIBRARIES 10

LBLNET NEWS 12

LBLnet Activity Map - January 1990 13

THE WORKSTATION SCENE 14

NAMES & NUMBERS TO KNOW 27



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 Thursday, February 15, 1990

Address all communications for the Newsletter to login nooz@ux1.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 2/90 2100

ICSD TRAINING SCHEDULE

February - April 1990

COMPUTING SERVICES CLASSES

Bldg. 50B, Rm. 1237

The following courses are offered by Computing Services. To enroll, obtain you supervisor's approval and then contact Carole Casaretto x6858.

Intro to VMS	Feb. 26, 28, Mar. 2, 5 2 - 4 PM	VI Editor	March 6 9 AM - Noon
Electronic Mail: Survey	Feb. 28 10 AM - Noon	Intro. to Text Formatting	March 8 9 AM - 10:30 AM
Introduction to UNIX	March 5, 7 9 AM - Noon	Intro. to C Programming	March 14, 16, 21, 23 10 AM - Noon

WORKSTATION CLASSES

The following courses are offered by the Workstation Group. There is no charge for these classes. To enroll, obtain your supervisor's approval and then contact Carole Casaretto, x6858.
(Those classes with asterisks (*) prepended are already full.)

IBM-PC: Bldg. 50B, Rm. 1237

Introduction to PC-DOS	*	Feb. 13, 15 10 - 11:30 AM
		March 13, 15 1 - 2:30 PM
		April 24, 26 1 - 2:30 PM
Microsoft Word for the PC	*	Feb. 6, 8, 13, 15 3 - 4:30 PM
	*	Feb. 20, 22, 27, 3/1 3 - 4:30 PM
		March 6, 8, 13, 15 3 - 4:30 PM
		April 17, 19, 24, 26 3 - 4:30 PM

Macintosh: Bldg. 50B, Rm. 1229

Basic Macintosh		Feb. 7 12-1 PM no sign-up required
Basic Intro. to *FileMaker*	*	Feb. 7, 9 1 - 3 PM
		March 7, 9 1 - 3 PM
Beginning *MS Word 4.0*		Feb. 12, 14, 16 10 - Noon
Intro. to *MacDraw II*	*	Feb. 20, 21, 22 10:30 - Noon
		March 20, 21, 22 10:30 - Noon
Beg. *Excel* Spreadsheet		Feb. 26, 28, Mar. 2 10 - Noon
		March 26, 28, 30 10 - Noon

The Workstation Group also offers **noon time classes** (no sign-up required) in the following subjects: **Basic Macintosh Class,** Feb. 7. **Macintosh Forum:** February 21 and 28 *(see article on Macintosh Forum in Workstation Scene of this newsletter).* **Microsoft Word Workshops for the Mac,** every Tuesday during the months of February and March. *(See article about Word Workshops for the Macintosh in the Workstation Scene of this newsletter.)*

Contact Carole Casaretto of the WKSG, x6858, for additional information.

GENERAL NEWS

4208 LOOKING FOR A HOME

Maggie Morley

The Tektronix 4208 color terminal (together with its attached Tektronix 4696 color inkjet printer), is available for dedicated use elsewhere. It can be moved from its present location to a laboratory office of choice.

Capabilities of the 4208:

- 16 displayable graphics colors and 8 displayable alphanumeric colors out of a palette of 64
- 640 x 480 lines of pixel resolution
- 4096 x 4096 addressability, with host-independent true zoom and pan
- 60 Hz, non-interlaced for flicker-free images
- 4 x 3 aspect ratio on a 13" CRT
- DEC VT100 terminal emulation
- Software compatible with Tektronix 4010 and 4100 series
- Two-speed joystick
- Screen copy to Tektronix 4696 Ink Jet Printer.

Capabilities of the 4696:

- Tektronix 4208 screen copy
- 120 dpi, vertical and horizontal
- 8 colors (magenta, yellow, cyan, red, blue, green, white, true black)
- Portrait (8" x 6") or Landscape (10.6" x 8") prints
- Roll paper or transparencies.

Charges can be negotiated. If you are interested in having exclusive rights to the use of these devices, call Nancy Johnston, x5093, or send e-mail to

Unix or
Software Tools Mail: **NEJohnston@lbl.gov**

VMS Mail: **lbl::NEJohnston**

CRAY USER GROUP MEETING

A campus Cray user group meeting will be held Thursday, February 15, from 4 to 5 PM in Sibley Auditorium in Bechtel Engineering Center on the UC Berkeley campus. Anyone with research interests involving supercomputing is invited to attend.

The guest speaker will be Dr. David Shirley of Cray Research, who will give a short talk titled "Parallel Programming in FORTRAN on Cray Supercomputers: A Physical Scientist's Perspective." He will describe how he and other researchers are using "autotasking" software developed by Cray that allows programs written in standard FORTRAN to be adapted easily to parallel processing.

Dr. Shirley received a Ph.D. in geochemistry from UCLA in 1986 and as a post-doctoral researcher at Berkeley made extensive use of the Berkeley Cray XMP/14. His research topics while at Cray have included developing a parallel version of a program that simulates both the chemical and physical aspects of magma production and transport.

The meeting will conclude with an open discussion on topics of interest to Berkeley Cray users. Representatives from UCB's Central Computing Services and from Cray Research will be on hand to answer questions.

A tour of UC Berkeley's supercomputer facilities will be given at the conclusion of the meeting.

For more information, call Jerry Berkman at 642-4804, or send electronic mail to **jerry** at **violet**.

NEWS ABOUT THE CLUSTER

Maggie Morley

The new cluster machines, two DEC 6420s (named CSA1 and CSA2) and a 6410 (named CSA3) - five processors in all, are now up and running.

The 6420 is a dual processor VAX; each processor has a performance rating of 7 VUPS[1] . The DEC 6410 is a single-processor machine; its processor also has a performance rating of 7 VUPS. CSA1 and CSA2 each have 96 MBytes of memory; CSA3 has 64 MBytes. These machines will be running VMS 5.3.

After dealing with a couple of unanticipated difficulties — a delay in the delivery of the 6410 and problems with the serial lines on CSA1 and CSA2 — the changeover was successfully completed in mid-January.

There are currently 32 serial ports on each machine, distributed between ICS and Develcon. We will be adding additional ports using DEC Server 200s.

NEW SOFTWARE LOCATIONS

We shifted some hardware/software around. Here are some highlights:

- **Bitnet is now on CSA3**
  Bitnet has been moved to CSA3 (from CSA2) See the table below. Users must log on to CSA3 to use **bsend** and **breceive**. All other procedures are the same.
- **FLINT is available on CSA3**
  FLINT is available ONLY on CSA3 (NOT on CSA2).
- **MFE access is now via ESnet**
  Users now access the MFE Cray machines from CSA cluster via ESnet. (The old MFE NAP connection has been disconnected.) The changeover is transparent. All commands are the same.

Here's the list of software that's licensed for specific machines.

CSA1 (6420)	CSA2 (6420)	CSA3 (6410)
FOCUS	DI3000[2]	Jnet
BASIC	SCA, PCA	DISSPLA
TELL-A-GRAF[3]	NOTES	TELL-A-GRAF[3]
RBMS		FLINT
DECserver 200		DECNET/SNA

All other software is on all of five processors in the new cluster.

WHAT ABOUT YOUR OWN SOFTWARE?

If you use a licensed software product on the cluster that Computing Services has not installed or does not maintain, you should talk to the vendor about upgrade costs.

Forward comments and questions to Marv Atchley at x5455 or

VMS Mail: **lbl::FMAtchley**

Unix or Software Tools Mail: **FMAtchley@lbl.gov**

[1] By contrast, a VAX 8650 has a performance rating of 5 VUPS.

[2] Also Grafmaker, Contouring, Metafile, PicSure, DiTextpro (all PVI products)

[3] Also Cuechart, Data Connection, PinPoint (all Computer Associates products)

DISPLAYING GRAPHS AND TREES WITH LaTeX

The following figures were drawn using LaTeX; the example was sent by Dalit Naor of Computer Science Research.

To copy the LaTeX source file from CSA, type

TEX_INPUTS:graph_latex.tex

To copy it from UX1, UX3, or UX5, type

/usr/local/lib/tex/macros/graph_latex.tex

Forward comments and questions to Marty Gelbaum at x4749 or

Unix or
Software Tools Mail: **martyg@lbl.gov**
VMS Mail: **lbl::martyg**

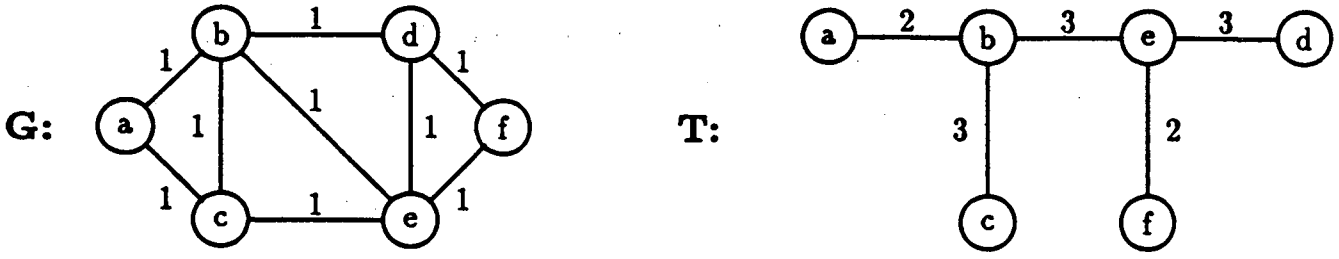


Figure 1: A graph G , a tree T

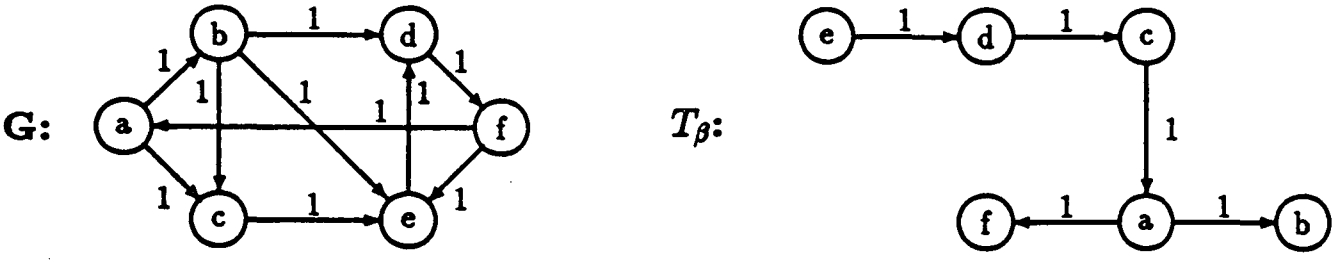


Figure 2: A graph G , its tree T

NOTES FROM TROUBLE MAIL

Maggie Morley

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

MESSAGE

Hi guys. I know you are busy, but I thought I might mention that it would be criminal if you forgot to reconnect the dial out facilities (i.e. txj1: and txj2:) after you have finished with your mods.

RESPONSE

The dialout modems are now located on CSA1 (TXC1 and TXC2).

MESSAGE

Is there a way to get connected to the Melvyl system of Book search in [the UCB] campus library, when connected to the Vax from a remote PC terminal via modem ?

RESPONSE

Once you are on CSA1, CSA2, or CSA3 you can use "telnet" to communicate with MELVYL. Type

telnet melvyl.berkeley.edu

If your PC has a connection to ICS or Develcon, you should also be able to use the directory called MELVYL. You will need to set for 7 even parity and 1200 baud. Sig Rogers (x6713) may have additional comments about using the new ICS.

MESSAGE

One of my members wants to send mail to this address:

mfn102%phys6.anu@munnari.oz

which I understand is in Austria. The message bounces with the message

550 <mfn102%phys6.anu@munnari.oz>
... Host unknown

Any suggestions? Thanks a bunch,

RESPONSE

Try

mfn102%phys6.anu@munnari.oz.au

AU is Australia, not Austria. You may have to append the "lbl.gov" to route the message to LBL. LBL will know how to get to AU (Australia). (I.e.,

mfn102%phys6.anu%munnari.oz.au@lbl.gov).

MESSAGE

It currently appears that there is tremendous demand for standby queues. As of tonight, (1/25/90, at 9:50 PM) there are 50 jobs waiting in the queue, and, of course, 6 jobs running. Some of the jobs were submitted at least 2 days ago. Is there anything that can be done? Can the number of standby jobs allowed to run be increased?

RESPONSE

The standby jobs already use all of the available CSA resources during off-hours. Increasing the number of jobs would not help - it would make frustration worse by increasing the number of jobs that were partially completed, and would decrease slightly the total throughput because of system overhead.

MESSAGE

Can a time limit be placed on one of the queues (or a new queue made) for short (6 hours or less) batch jobs? Can a new queue be made that is standby in nature (i.e. it runs only at night) but costs $5 an hour instead of $1 an hour?

RESPONSE

The existing batch queue and charging system is already complex - and our systems people are spread too thin. You are asking, in effect, for better service at standby rates. We believe that our batch queue structure and rates is a reasonable model. If you require faster turn-around, that is easily accomplished by using a higher priority batch queue.

MESSAGE

Another thing that is discouraging, the new system seems much slower than the old one. Why is that? I thought one of the reasons for the upgrade wasto obtain improved performance?

RESPONSE

Our data shows that the "average" interactive user is receiving quicker response from the 6400s than from the 8650s. Part of this is due to larger system buffers made

possible by increased available memory. Some lesser-used floating point operations on the 6400 are actually slower because they are not implemented in hardware as they were on the 8650. We did not believe that this would be a problem. If you have timing comparisons of real codes, we are very interested in analyzing them.

MESSAGE

Dear Trouble: Please send me the latest info on worm-dewanking, and include me on your early warning notification list. Thanks

RESPONSE

I've already added your e-mail address to the "net-notify" mailing list for such notifications, am sending you the document from Phil Demar of FERMI about the worm, and suggest that you get the document about DECnet security from the Help Desk.

MESSAGE

This morning I sent a message to:

st%"FIS0006.UPVM2@f4.n494.z5.fidonet.org"

The message was accepted. Now I would like to send a longer message to this address. The message is stored in a file. I tried to use "bsend/file" but this does not want to accept the address. What is wrong?

RESPONSE

There are several ways to do this. With VMS mail, you can use a command at the CSA prompt like

mail *filename*/subject="*yoursubject*"
st%"""FIS0006.UPVM2@f4.n494.z5.fidonet.org"""

where *filename*is your file name and *yoursubject*is some text in double quotes. Be sure to use the pair of triple double-quote marks in the address. "bsend" is to send files to bitnet sites only.

MESSAGE

I have had the occasion to use the QMS colorscript 100 printer, and find it much better than the Tektronix 4693D color printer which is in the Computer Center. There is really no comparison; the colorscript is far superior. It is faster, allows resizing on printing, has a page setup completely compatible with B&W laser printers, and automatically produces beautiful colors EXACTLY like they appear on the screen. I have wasted untold hours fiddling with the setup options on the Tektronix to try to get reasonable colors in the output, but always several colors came out muddy.

I think the colorscript could cause a fantastic surge in the use of color at the Lab. I recommend that Computing Services buy two of these printers and junk the Tektronix. I suggest getting the model with separate paper trays for paper and for plastic. We are entering a colorful decade and we need the equipment.

RESPONSE

We had been investigating the purchase of a color QMS postscript printer and ordered one. It will support 8.5" x11" and 11" x 17" paper and transparencies.

Thanks for your input.

MESSAGE

As you know, we're a small domain (27 workstations). I do not keep a lengthy /etc/hosts file, but instead route nameservice to ns1.lbl.gov and ns2.lbl.gov.

Up until now, electronic mail addresses such as fred@computer.ca have not worked. My users have had to say

fred%computer.ca@lbl.gov

I have learned that I can put an MX record in my /etc/named.data file, which would read something like this:

***.c IN MX ns1.lbl.gov**

which would tell my mailer that any addresses ending in ".ca" (Canada) would automatically be routed to ns1.lbl.gov for mailing.

My question is: what is the best LBL machine to route mail to? Is ns1 (or ns2) appropriate?

RESPONSE

The best machine, according to our experts, is "lbl.gov." ns1 and ns2 are not configured as mailers.

MESSAGE

Logging in as CACHE, I can create and delete files on disk lbl151 (disk cache_files_never_quota) but I cannot delete empty directories (for example [cache.0*...]*.dir). When I try to reset the protections

set prot=o:rwed [cache.0*...]*.dir

I get an error message. What is wrong?

RESPONSE

These directories are controlled by ACLs and you must use EDIT/ACL or SET ACL to add the DELETE capability.

MESSAGE

I am using PAW at JHUP with DECGKS and would like to be able to use the metafile option. The version of PAW we have is 1.08/01 from CERN using DECGKS. The only type of metafiles that we can use with DECGKS are Postscript files and GKS files. I know that a GKS driver has been written at LBL (PAW$LIBRARY:METAPAW). I was wondering if I could get the source code so that I could implement it here using DECGKS, so that we can display metafiles on workstations, tek terminals and output to a DEC laser-printer. We have no Postscript printer here.

RESPONSE

Hi. Here we use Grafpak-GKS from Advanced Technology and our PAW_ATC installation writes CGM formatted metafiles when we ask that a metafile be produced. I am not very familiar with the standards regarding Metafiles. The program METAPAW is a very simple-minded program that just calls standard GKS routines to interpret and output (via a chosen driver) the lines in the CGM file that was made by PAW. I am looking forward to a comprehensive metafile manipulation package which has been announced by ATC. In any case, you may have the source(s) for Metapaw. I don't know whether that will help you in your PAW+DECGKS implementation.

MESSAGE

How do I login into the WKSG AppleTalk Server? I'd like to get the LBL fonts for my Mac.

RESPONSE

There is a GUEST account available for public domain software on the WKSG Apple File Server. (The LBL fonts are in the folder **Utilities** in the folder **LBL Fonts v.3**).

MESSAGE

Can you tell us the TELNET ID number for computers on the CSA cluster, i.e. OREGON is 128.223.20.2 etc???.

RESPONSE

You can find out the internet numbers of a node by using the program NSLOOKUP on CSA. Just type the node name to the prompt, and the program returns the internet address.

CSA1.LBL.GOV	128.3.254.196
CSA2.LBL.GOV	128.3.254.197
CSA3.LBL.GOV	128.3.254.198

are the Internet numbers for the CSA1, CSA2, and CSA3 computers. The CSA symbol, milnetlist csa, is a string search which will return all nodes in the database with the string CSA in the name. Note that this does NOT include all available Internet/Milnet nodes (computers).

MESSAGE

While batch jobs on the two 6420's execute faster, the total number of batch job slots has decreased. Formerly, there were 2 process execution slots per node for a total of 10; now there are 2 per node for a total of 6. The result of this is that relatively short jobs get "caught" behind perpetual behemoths. Sure, the jobs run faster, but it takes longer to get up to bat.

Could we please get a couple more process slots on the two 6420's?

RESPONSE

The CSA1_ECONOMY and CSA2_ECONOMY have been increased to 3 slots. While this does not result in the 10 slots there were before, I do not want to add more until the problem associated with the serial lines gets resolved and I am better able to tune CSA1 and CSA2 for the larger load that they are experiencing .

(The problem is now fixed. Ed.)

MESSAGE

I just discovered this lovely [lblphone] service and also that I am incorrectly listed. ... How can this be corrected? I submitted the appropriate PATH to Personnel about a month ago.

RESPONSE

The LBL phonebook database is maintained by Telephone Services; please contact Rosemary Conley of that group at x6234, e-mail address TWX, to correct your entry. Please note that "lblphone" searches a DERIVATIVE of the database maintained by Telephone Services and that this DERIVATIVE is updated once a month. Therefore, in general, changes made in the database will NOT be immediately reflected in the derivative file used by "lblphone".

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 <cr>

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

NEWS OF PHYSICS LIBRARIES

Werner Koellner

● **PHYSICS UTILITIES**

You can access the Physics Utilities, including the CERN Library, the PAW (Physics Analysis Workstation) Library, and the various Physics Utilities HELP Libraries by executing the DCL command

@Physics$Manager:Setup_Phys

We recommend that you include this line in your Login.Com file.

NOTE: The descriptions of programs and utilities in this section have been, and still are restricted to implementations on the VMS Cluster CSA. In the near future some programs, in particular GEANT and PAW, may become available on local SUN (Unix) machines, SparC Stations, and SILICON GRAPHICS machines. Watch for future announcements. A similar development, helped by efforts in Madrid, Spain, allows the installation of Packlib and Kernlib on CONVEX C22 machines. Work to install PAW is underway.

● **HELP**

When you type

Help @Physics_Utilities

you'll see a list of utilities for which help text is available under "Additional information available." You may also type

Help *'subtopic'*

where *'subtopic'* is one of the utilities listed, to get help directly on a particular utility. You'll find information about some miscellaneous programs by typing

Help Mis_Phys

● **APS_LaTeX**

Submit articles to the PHYSICAL REVIEW in machine readable LaTeX compuscripts by using the APS "compuscript toolbox." Type

Help Mis_Phys Aps_Latex

for more information.

● **APS_WHATS_NEW**

Weekly news capsules, issued by Robert Park, of the American Physical Society, are available in APS_WHATS_NEW. Please type

Help Mis_Phys Aps_Whats_New

for further information.

● **CERN LIBRARY**

Object libraries are updated at unpredictable times. Changes are documented in the "Program Library News" section of the CERN Computer Newsletter. Past, current, and sometimes future issues can be found in **Cern$Inform:PROGLIB.CNLxxx**. Of particular interest are news items regarding the status of obsolete routines. Additional information can be found in various files in **Cern$Inform**, in **Cern$CernHlp**, and via online HELP for selected products. In some cases a previous version of an object library is available as **xxxxx.OLD**.

The following object libraries and programs have been updated recently.

GENLIB	Version 1.31
GKSPACK	Version 1.04
GKSPACK_ATC	Version 1.04 LBL Vers. 1.9
GRAFLIB5	Hplot5,Higz, Gkspack
GRAFLIB5_ATC	Hplot5,Higz_Atc, Gkspack_Atc
GRAFLIB5_DI3000	Hplot5,Higz_Di3000, Gkspack_Atc
HBOOK4	Version 4.08/01
HIGZ	Version 1.09
HIGZ_ATC	Version 1.09 LBL Vers. 1.9
HIGZ_DI3000	Version 1.09 LBL Vers. 1.9
HPLOT5	Version 5.08
KERNLIB	Kernfor Vers. 4.23 Kernvax Vers. 2.33
KUIP	Version 1.63
MINUIT	Version 2.02
PACKLIB	Epio Vers. 1.63, Ffread Vers. 3.07, Hbook Vers. 3.46, Minuit, Kapack, Zebra, Zbook, Zcedex
PACKLIB4	as PACKLIB, except Hbook4, Kuip
PAW	Version 1.08
PAW_ATC	Version 1.08 LBL Vers. 1.9
PAW_DI3000	Version 1.08 LBL Vers. 1.9
SIGMA	Version 1.03
ZEBRA	Version 3.63

● COJETS
Documentation may be found in
Cern$Inform:Cojets.Doc.

● GARFIELD
Garfield is a drift-chamber simulation program that calculates and plots the electrostatic field, the drift-lines of electrons and ions, and the currents on the sense wires resulting from the passage of a charged particle through the chamber. Additional information is available from Werner Koellner. A copy of the User's Manual may be available from the Computer Center Librarian, Bldg. 50B., Rm. 1232C, x4242. Relevant files are **Cern$Library:Garfield.EXE**, as well as **Garfield.OLB**. Anyone interested in this kind of program may also want to discuss his or her needs with Gulshan Rai, of the Nuclear Science Division, at x7125, who may have superior software available.

● GEANT
GEANT, a system of detector description and physics simulation tools, is available as part of the CERN Libraries. A new Sample Program, using ATC_GKS to demonstrate graphics and other capabilities, is now available.

Version 3.13/05 is the default version, with recent update modifications made in the Object library. The logical name **Cern$Geant_Lib** points to the appropriate object library file. The recommended link procedure is **Cern$Library:Geant.Lnk** using linker options files **GEANTxy.OPT**, where x is either I or B, and y is either <null> or _ATC, depending on the answers to the questions **Geant.Lnk** asks. The graphics interface for Geant is now GKS, but Geant is also available with the DI3000 graphics interface. To link that version, on CSA2 only, use **@Cern$Library:Geant_Di3000.Lnk.** METAFILE graphics output is available. Please type

Help Geant

for additional information.

● JETSET72
See **Cern$Inform:Jetset72.Doc** for information about the current versions of Jetset and Pythia.
A test program, which also shows the appropriate linker command, can be run by typing

@Cern$Library:Jetset72

● PAW
At LBL, the program PAW is primarily being maintained in the full GKS version, named PAW_ATC, although the mini-GKS version, as well as a DI3000 version, are available. PAW_ATC uses the ATC-GKS interface, whereas PAW_DI3000 uses the Precision-Visuals DI3000 interface, which can be used only on CSA2. Both versions make a large number of output devices, for graphics output, available to the user. Standard executable programs of PAW_ATC, METAPAW, PAW_DI3000, as well as PAW, are available in **PAW$LIBRARY**. If desired, users may link their own versions by using or modifying the procedures

PAW$LIBRARY:PAW_ATC.LNK or
PAW_DI3000.LNK or
PAW.LNK).

These procedures use corresponding linker options files, e.g. PAW_ATC.OPT. With PAW_ATC, graphics output may be directed simultaneously to the screen or to a Metafile for subsequent processing via the program METAPAW, and also simultaneously, and selectively, to a POSTSCRIPT file.

Most recent PAW_ATC improvements are documented in files **Cern$Inform:Paw.News***. The latest of these is PAW.NEWS1081. Manuals for PAW, including a fancy new User's Manual, are available from the Computer Center Librarian (Bldg. 50B, Rm. 1232C - x4242). Type

Help Paw

for more information.

● TOPDRAWER
A preliminary user manual is available in **Topdrawer$Library:Topdrawer.Doc**, and may be printed on any hardcopy device. Since local modifications are still in progress, you must type

Help Topdrawer

to receive the latest detailed information.

Forward comments and questions to me at x4398, or

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

LBLnet NEWS

Bob Fink & Sig Rogers

Buildings Added to LBLnet

- Buildings 5 and 16 were connected to the Routed LBLnet via the *ir4gw* router, and are located, along with Building 7, in subnet 131.243.96.

- Building 62 was connected to the Routed LBLnet via the *ir5gw* router, and is located in subnet 131.243.16 which it will eventually share with Buildings 66 & 72.

- Building 69 was connected to the Bridged LBLnet through MISCLAN2 along with Buildings 2, 7, 29, 76 & 80.

ESNET Connectivity Continues to Grow

Last month it was reported that some HEPNET Decnet services began to be provided over ESNET. This has been successful and ESNET is slowly expanding to replace older slower network paths to various DOE sites. Eventually all Decnet ESNET sites will be accessible and the older slower links will be terminated.

Internet access via ESNET has been possible for several months but has not been implemented. In mid January LBLnet routes to the NMFECC network were moved to ESNET from BARRNET. Over time, specific additional sites will be made accessible via ESNET; our goal is to choose the "best" route for performance and reliability.

Network Traffic Data for December 1989

Ethernet	Load	to Bridged Backbone	from Bridged Backbone
46LAN	35.8 pps	4.4 pps	31.6 pps
46_71LAN*	29.2 pps	0.1 pps	28.8 pps
50LAN	253.7 pps	92.4 pps	95.1 pps
65LAN	30.1 pps	.5 pps	28.9 pps
70LAN	78.9 pps	26.5 pps	48.8 pps
90LAN	46.6 pps	6.2 pps	36.5 pps
BEVLAN	128.9 pps	42.3 pps	57.9 pps
CS1LAN	104.3 pps	26.2 pps	57.9 pps
CS2LAN	166.0 pps	50.3 pps	76.3 pps
CSRLAN	44.9 pps	10.0 pps	35.5 pps
MISCLAN1	75.7 pps	12.7 pps	36.7 pps
MISCLAN2	32.3 pps	1.3 pps	29.1 pps
MISCRLAN	48.8 pps	10.4 pps	38.8 pps

Bridged Backbone Load ~284 pps

* 46_71 LAN traffic is to 46LAN, not the Backbone

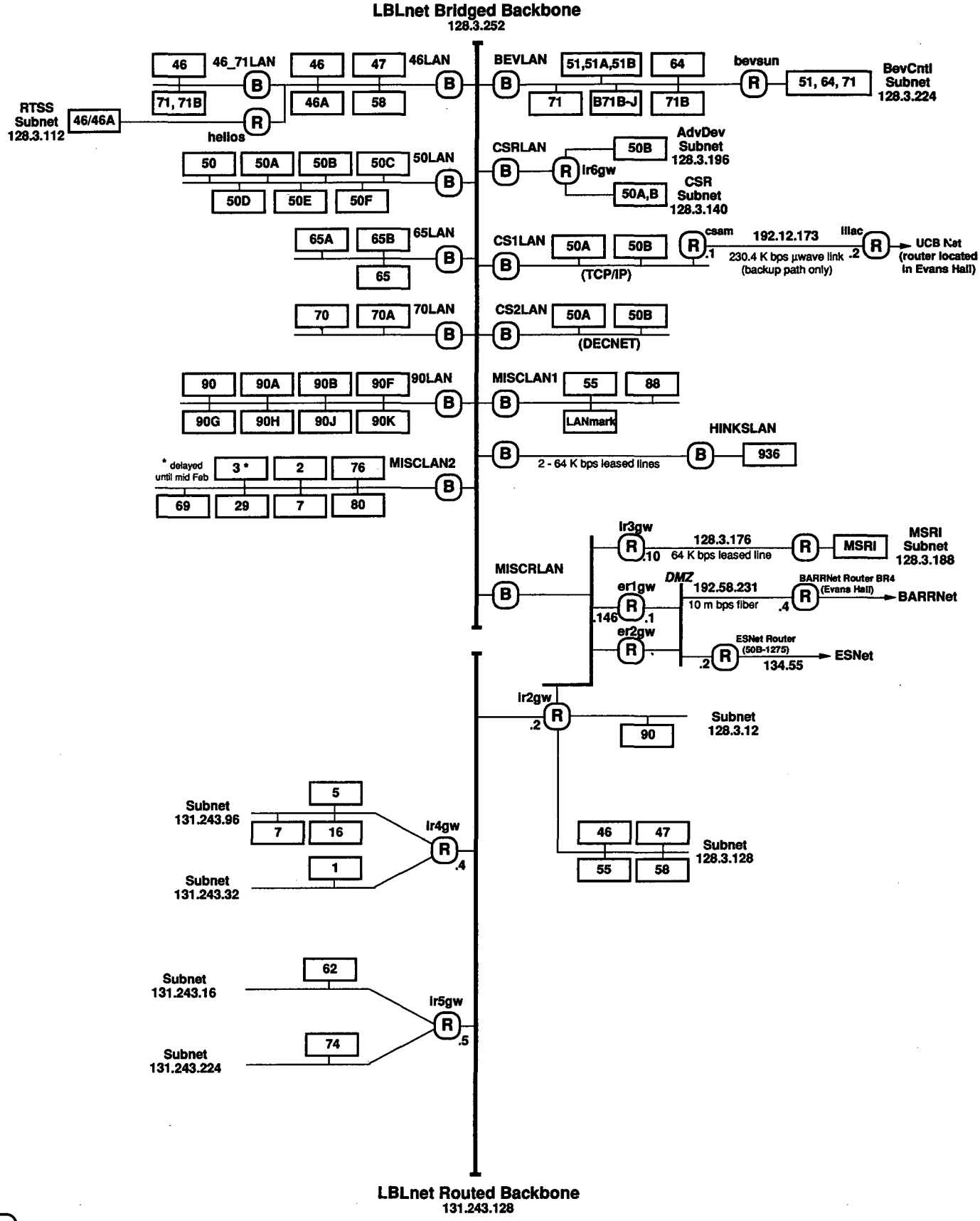
LBLnet Phase II Building Schedule Update

The LBLnet Phase II building attachment schedule is shown below.

If you have further questions about this schedule, please call Bob Fink (x5692), Sig Rogers (x6713), or Ted Sopher (x4559).

Bldg. 1 (Donner)	**operational**	Routed LBLnet
Bldg. 2 (AML)	**operational**	Routed LBLnet
Bldg. 3 (Calvin)	**operational**	Bridged LBLnet
Bldg. 5	**operational**	Routed LBLnet
Bldg. 7	**operational**	Bridged LBLnet
Bldg. 7	**operational**	Routed LBLnet
Bldg. 16	**operational**	Routed LBLnet
Bldg. 25	late Mar 90	Routed LBLnet
Bldg. 29	**operational**	Bridged LBLnet
Bldg. 62	**operational**	Routed LBLnet
Bldg. 66 (SSCL)	early Feb 90	Routed LBLnet
Bldg. 69	**operational**	Bridged LBLnet
Bldg. 72 (NCEM)	late Apr 90	Routed LBLnet
Bldg. 74	**operational**	Routed LBLnet
Bldg. 76	**operational**	Bridged LBLnet
Bldg. 77	late Feb 90	Routed LBLnet
Bldg. 80	**operational**	Bridged LBLnet
Bldg. 83	early Feb 90	Routed LBLnet
BARRNet (UCB)	**operational**	UCB, BARRNet & NSFNet access
ESNET	**operational**	MFE & several DOE Decnet sites

Routed LBLnet means Decnet and Internet (tcp/ip) service. XNS, LAVc and other protocols are only supported on the Bridged LBLnet unless their use is entirely local to a subnet of the Routed LBLnet.


LBLnet Bridged Backbone
128.3.252
46
46_71LAN
46
47
46LAN
71, 71B
46A
58
RTSS Subnet 128.3.112
46/46A
helios
BEVLAN
51,51A,51B
64
bevsun
71
B71B-J
71B
51, 64, 71
BevCntl Subnet 128.3.224
CSRLAN
50B
AdvDev Subnet 128.3.196
lr6gw
50A,B
CSR Subnet 128.3.140
50
50A
50B
50C
50LAN
50D
50E
50F
65A
65B
65LAN
65
CS1LAN
50A
50B
csam
.1
192.12.173
230.4 K bps µwave link
(backup path only)
.2
lilac
UCB Net (router located in Evans Hall)
(TCP/IP)
70
70A
70LAN
CS2LAN
50A
50B
(DECNET)
90
90A
90B
90F
90LAN
90G
90H
90J
90K
MISCLAN1
55
88
LANmark
HINKSLAN
2 - 64 K bps leased lines
936
* delayed until mid Feb
3 *
2
76
MISCLAN2
69
29
7
80
lr3gw
.10
128.3.176
64 K bps leased line
MSRI
MSRI Subnet 128.3.188
MISCRLAN
DMZ
er1gw
.146
.1
192.58.231
10 m bps fiber
.4
BARRNet Router BR4 (Evans Hall)
BARRNet
er2gw
.2
ESNet Router (50B-1275)
134.55
ESNet
lr2gw
.2
90
Subnet 128.3.12
5
Subnet 131.243.96
7
16
lr4gw
.4
1
Subnet 131.243.32
46
47
Subnet 128.3.128
55
58
62
Subnet 131.243.16
lr5gw
.5
74
Subnet 131.243.224
LBLnet Routed Backbone
131.243.128
B Bridge
R Router
Lawrence Berkeley Laboratory
R.L.Fink - Network Systems LBLnet Overview 17 January 1990

THE WORKSTATION SCENE

[27.2.1]

DATA GENERAL DEMO

Representatives from Data General will be at LBL Wednesday, February 21 to demonstrate Data General's new workstation running the Unix operating system. (Check the *LBL Currents* for more details.)

Formal presentation will begin at 10 AM in Bldg. 70A, Rm. 3377 (the Conference Room). For additional information, contact Richard LaPierre, x4692.

[27.2.2]

TRADING POST

Items advertised here are for Laboratory use only and must be purchased with a valid account number. If you have items you wish to advertise in the Trading Post, contact Bruce Burkhart, x6858.

1. For Sale: DaynaTALK network Interface box for LocalTalk, 3 ea, brand new. Half Price! $70 ea. Contact: Workstation Lab, Bruce Burkhart, x6858.

2. For Sale: 2400 Baud internal Modem for a DataView Spark Laptop, IBM-PC compatible computer, $239/b.o.; Contact Harvard Holmes, x5742.

3. For Sale: Radius One-Page, Mono Monitor, w/ MacSE card, $695. Contact: Richard LaPierre, x4692.

REMINDER: LBL Staff, Groups, & Divisions are invited to put computer related items in the monthly Trading Post.

[27.2.3]

GRAPHICS SEMINAR IN MARCH

John Flambard of the Information Resources Department and Workstation Group will be giving a one-hour seminar, "Upgrading Your Graphics" in March. This seminar will be directed at authors and originators of presentation graphics. See the March issue of the LBL Computing Newsletter for date and time.

[27.2.4]

MICROSOFT *WORD* 4.0 WORKSHOPS ON THE MACINTOSH

Here is the schedule of the Microsoft *Word* Workshops coming up in early 1990.

These workshops cover the more advanced features of Microsoft *Word*. They are given from 12 to 1 PM on Tuesdays (NOT Wednesdays) in the Mac Training Room (Bldg. 50B, Rm. 1229).

There is no need to sign up.

Date	Subject
02/06/90	Graphics/Position
02/13/90	Long documents - Table of Contents, Index, and Chaining
02/20/90	Commands/Customizing/ Templates
02/27/90	Equations in Math Type/Formulator/TeX
03/06/90	Styles
03/13/90	Glossaries
03/20/90	Tables
03/27/90	Word Equations

Note: There will be no Microsoft *Word* Workshops in April.

The Workstation Group Laboratory, home of several Workstation members as well as the *Workstation Evaluation Library* is located in Bldg. 50B, Rm. 2231. The hours are:

Mon	8 AM - 1 PM
	3 PM - 5 PM
Tues - Fri	8 AM - 5 PM

You can also reach us from the ICSD's Unix machines or the VMS cluster by sending mail to:

Unix or Software Tools	WKSG@lbl.gov
VMS Mail.	lbl::WKSG

[27.2.5]

NEW MAC FORUMS/CLASSES

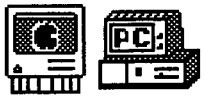
Starting in February, the Workstation Group will be offering new drop-in lunch hour classes on Wednesdays. The new classes will deal with intermediate-to-advanced Macintosh topics such as MultiFinder, the Font/DA Mover, the Installer and AppleShare. We'll deal with a specific topic for the first half-hour or so, then move into an open forum, answering questions, swapping Mac tips, tricks and generally enlightening pearls of wisdom.

The Basic Mac class will run once a month on the Wednesday before the start of a *Word* class.

Topics for February will be:

Font/DA Mover	Feb. 21
MultiFinder	Feb 28

For further information contact WKSG member Carole Casaretto at x6858.



[27.2.6]

"INTERFACING" - A REVIEW

. . . *From WKSG Member Richard LaPierre*

I normally don't do book reviews, but this is a rather special case. I know the author and when I discovered he did the whole project on a Macintosh SE, I just had to take a look at the book. Also, given the amount of publicity (former LBL scientist) Cliff Stoll has received for "The Cuckoo's Egg," it is fitting that I plug an excellent book by another LBL staff member.

The book "INTERFACING: A Laboratory Approach Using the Microcomputer for Instrumentation, Data Analysis, and Control," by Steve Derenzo of the Research Medicine & Radiation Biophysics Division, is published by Prentice Hall (© 1990) and is available locally (ASUC Store & Cody's in Berkeley - $32.95). The material in the book was developed for 2 one-semester laboratory courses in the Electrical Engineering and Computer Science Department at UC Berkeley, EECS 145L: "Electronic Transducer Laboratory," and EECS 145M: "Microcomputer Interfacing Laboratory." More about that later.

Made on a Mac

Mac users, when you are in a book store, be sure to browse through Steve's book — even if you are not interested in the technical content. Steve produced the manuscript by himself on a Mac SE with a standard nine-inch monitor. He used *Word* 4, *MathType* 2.05, and *MacDraw* II to produce the text, equations, and figures. For the final camera-ready copy, he used a local service bureau's Linotronic 100 phototypsetter. Steve admits that he had to do several things manually — like aligning the text at top and bottom of the page — to meet the publishers' requirements, but it is nonetheless surprising to see what high-quality work can be accomplished using some basic application programs.

As for technical content, INTERFACING is an excellent book for engineers and scientists using microcomputers for (as the lengthy title states) data acquisition, analysis, and control.

Each chapter includes problem sets,[1] an additional reading list, and lab exercises; "... range of topics includes

- sensors for temperature, force, position, and light
- signal amplification and analog processing
  - biomedical signals and processing
  - analog-digital and interface circuits
  - data acquisition, analysis, and control using the C programming language
  - easy-to-use formulas for statistical analysis and least squares fitting
  - computer algorithms for Fast Fourier Transforms, numerical integration, and nonlinear fitting
  - common problems such as noise, interference, and inadequate sampling rates."

As a UC Berkeley EECS graduate from some years ago I can only say we didn't have laboratory textbooks like this when I was a student. Steve's appendices include lengthy sections with actual C code on: C programming hints, numerical methods and C Functions, and summary programs for data acquisition and control boards used with the IBM/PC. The problem sets at the end of each chapter are challenging (e.g., ". . . design a thermocouple-based system for measuring the Space Shuttle main engine exhaust temperature.") The Forty-Niners/Rams football game forced an interrupt on my browsing of "INTERFACE," but I plan to get back to it soon.

[27.2.7]

PRELIMINARY WORDS ON MICROSOFT *WINDOWS WORD* FOR THE PC

. . . *From WKSG Member Claudia Madison*

NOTE WELL: *WINDOWS WORD* VERSION 1.0 REQUIRES AT MINIMUM:

- a 286 processor or better
- 640 K RAM or better
  (you will not be happy with this little)
- EGA graphics or better
- a mouse.

I tested it on a slow 386 clone with 640K RAM (and I was not happy with the performance), EGA, Microsoft Mouse, Apple LaserWriter (on Local Talk using TOPS NetPrint) and an HP-IIP.

I used Windows-286 v. 2.11; *Windows Word* comes with a runtime of Windows.

AVAILABILITY: Microsoft Word users can upgrade now for $150 (plus shipping); registered users have received a coupon. Word Academic version users (most of us) can upgrade later (mid- to late February) for 94.50 through a Workstation Group bulk purchase plan.

WHAT IS IT? Consider Word 5 on the PC and Word 4 on the Mac stepping stones to *Windows Word*. It has added to the long document and file-handling features of the PC version the table and equation processing

[1] Answers NOT included.

power of the Mac version—all in a graphical (Windows) environment that has more than enough support for keyboard command users. The only loss in all this is speed, that is if you do not have a fast 386 machine with mega megas of memory.

My trial run was about eight hours of work, most of it doing imports, formulas, long tables, and other insane things (I tried, and succeeded at doing, all the things mentioned below). I received low memory warnings constantly when using tables and one "Fatal Exit Code" message. In addition, the graphics of the equation processor failed on two commands. Given that it is considerably less than perfect in this first version, *Windows Word* is the best word processor I've ever dealt with.

FEATURES OF INTEREST TO LBL USERS:

FILE IMPORT/EXPORT is built in. PC Word is nearly flawless (I had trouble only with Positioned text); Mac Word requires RTF conversion first (tables come across; equations need a little work). Available also are WordPerfect 5.0; DCA/RFT; WordStar and others. Standard Windows cut and paste and DDE allows exchange with and link to other Windows applications documents.

TEMPLATE DOCUMENTS are fully and richly supported (no more "roll your own"). Template documents contain document formatting and style sheets, as we would expect. Then they take off. Menus, macros, and glossaries can also be assigned to particular templates, giving each document type a completely uniform—and enforceably uniform—look.

FIELDS: I cannot sing Microsoft's praises enough for the way they have used the concept of fields to create a user-programmable system. Basically, fields are places where variables are called (page reference, equation number, or what have you), or where processing is actually done. Equation processing commands go into fields, for example. Merge print commands go into fields. PostScript code can go into fields. A field can contain a Basic program; it can contain a button to run a macro; can contain functions and calculations to turn a text table into a simple spreadsheet. It is a powerful idea!

Table generation is a snap; specify a number of rows and columns; graphically manipulate column widths; multi-line entries in cells; easy borders; cell merging; formatting. Do calculations, by formula, within the table.

Equation typing, in this first version, is a bit of a disappointment. The formula processing markup language is the same as that on the Mac. (Type \f(1,2) to get the fraction $\frac{1}{2}$). To be taken up with Microsoft (stay tuned): Why do the bracket and integral commands not work? Otherwise, all is well, and I believe most of us could even work around the current bugs.

Cross-referencing, equation numbering (list numbering of all sorts) is done easily.

When **numbering pages,** automatically insert something like "Page 1 of 25" in a header or footer; *Windows Word* retrieves total number of pages for insertion into the document.

Search and replace formatted words; replace formats; replace styles globally.

Ribbon and Ruler allows full character and paragraph formatting by button; no commands required.

Specify which column to **sort** without doing a column select.

Date/Time entries are completely formattable (the same method as is used in Excel).

Customizable menus and keyboard commands.

Remembers last four files opened and puts them in the file menu.

Toggle case between upper, lower, and initial cap—regardless of how a word was originally typed.

Document statistics include how many times a file has been revised and how much time has been spent editing it.

Document retrieval scans whole disk for documents; retrieves by key word, date, etc., but also does full text retrieval based on boolean expressions.

Document comparison is built in.

Vertical alignment allows centering of text on a page.

Vertical rules (lines) between newspaper columns.

[27.2.8]

DECNET-DOS ON PC/AT : PERSONAL EXPERIENCES

. . . from Everett Harvey

DECNET-DOS seems to be a fully-developed and well-documented application. Installation was easy. Programming interfaces are available for special purpose applications.

I want to use it as a multiple terminal window into various computers using DECNET. Preliminary tests on a colleague's system showed that one could have up to four concurrent sessions open (session = logged on to a VAX or PDP-11). Each session occupied the full screen, and a hot-key allowed switching sessions, very much like telnet. VTxxx emulation is included, as is support

for various keyboards — with excellent key functionality. I have not tried REGIS graphics, but I think they are supported. I do not remember seeing Tektronix mentioned in documentation.

Having the documentation is a real boost. I made the aforementioned tests with older versions of the documentation.

Early attempts to get DECNET to work under MS-Windows (286) showed that SETHOST would always take a full screen and behaved as though Windows did not exist. When I exit SETHOST, all sessions are closed and I then go back to Windows. Some applications, such as NFT and FAL, work in a "window." One important difference: hot-key to a DOS session won't work under Windows due to insufficient memory (this hot-key to DOS would not close active sessions). So it's more appropriate for me **not** to use Windows. The problem is, one has but a single screen. Note that DECNET-DOS is not supported under Windows-386.

Performance: I am using a 6 Mhz PC AT with a 3-Com ethernet card. Performance when connected to local LBL machines is very good: performance when connected to SLAC is still not very good. Currently there may be LBL-router problems or other bottlenecks. It is still better than going through RTSGVX via SET HOST.

Moving files is very easy. Running FAL turns the PC into a file-server in a way; from another node I can pull off files or push files. NFT on the PC allows me to go the other way. This is handy for printing text files on a VAX.

I have not tried advanced features like virtual disks/printers (using a printer or disk on a VAX host) or PC MAIL interface. I am just interested in a "terminal" for now.

So far I am happy. I don't have to log on/off various machines many times throughout the day.

Cost of a right-to-use license is $375. Considering what I'm getting (the terminal emulation, file transfer, etc), this is a pretty good deal.

= =

The following is reprinted, with permission, from the (UC) Berkeley Computing Quarterly (Winter, 1989)

[27.2.9]

MEDICAL ARTICLES VIA THE MELVYL CATALOG

Laine Farley, Division of Library Automation

Users who dial in to the MELVYL Online Catalog (the UC nine-campus library catalog) through the port selector, or TELNET MELVYL on the network, may have noticed that a new choice appeared on the "welcome" screen late last year. A subset of the National Library of Medicine's MEDLINE data base is now available on the MELVYL Online Catalog. The MELVYL MEDLINE database contains citations and abstracts from about 4,000 medical and health sciences journals for the current calendar year and two previous years. In 1990, the database will expand to include the current year plus four previous years.

MELVYL MEDLINE's capabilities include searching by author, title, and subject. It is also possible to search for new or difficult-to-locate topics by keywords taken from titles, subject headings, and abstracts. With the SAVE command, users can create a personal list of citations to down load or print. Abstracts accompany many articles and can be displayed by adding ABS to any DISPLAY command.

Another powerful feature is the ability to view the contents of recent journal issues. Users can BROWSE the journal title to see issues available, and then SELECT the specific issue of interest to retrieve all article citations.

Frequent or experienced users will want to take advantage of other features such as the EXPLODE command, which retrieves all terms in a subject hierarchy. The MAJOR SUBJECT search focuses on articles in which the specified term is the major topic.

Searches also can be expanded or limited by using AND, OR, and NOT. Users can restrict searches by language, date of publication, age group, and type of study.

We plan to link MELVYL MEDLINE citations to records for periodicals owned by contributors to the California Academic Libraries List of Serials (UC libraries, Stanford, University of Southern California, California State Universities, and others). Users then will be able to issue the AT command to limit retrievals to a particular campus and see call numbers and locations. Watch for this development next year.

MELVYL MEDLINE emphasizes the expected medical topics, but many other topics will be of interest to the social scientist or the humanist. For example, users looking for the medical angle on controversial topics such as the insanity defense or the right to die will find ample material. (For a detailed discussion, see "MELVYL MEDLINE and the Social Sciences and Humanities," DLA Bulletin, 8:3, Fall 1988.)

Learning to use all of the features of MELVYL MEDLINE is easier than it might appear. Those who are familiar with the MELVYL catalog can immediately do basic searches in MELVYL MEDLINE, since many of the same commands are available. Menu-assisted searching is available in ASSIST mode, and a short overview of commands is provided in a series of linked help screens, available by typing E MED at the MELVYL MED LINE welcome screen. The Public Health and BioSciences

libraries also offer training classes periodically throughout the term as well as individual assistance upon request.

MELVYL MEDLINE is available to all UC library patrons without charge. Under UC's lease agreement with the National Library of Medicine, access to MELVYL MEDLINE out side the libraries is restricted to UC faculty, staff, and currently enrolled students. The Public Health, BioSciences, and Optometry libraries can issue a special password to users presenting a current university ID, to permit dial-up or network access.

The MELVYL MEDLINE database is the result of a three year project of the five UC health sciences libraries and UC's Division of Library Automation (DLA). Partial support for the project was provided by a Medical Library Resource Project Grant from the National Library of Medicine. UC libraries provide funds for leasing the MEDLINE subset.

For more information on training, passwords, using the database, or access to back files, contact the Public Health Library, 642-2511, or the BioSciences Library, 642-4493. For information on the database in general or the MELVYL MEDLINE project, call the DLA Helpline, 987-0555.

[27.2.10]

ASK DR. MICRO

Reprinted, with permission, from the December 1989 issue of the (UC) Berkeley Computing Bulletin.

Dear Dr. Micro: How can I connect to the library catalogs, MELVYL or GLADIS, with my MS-DOS PC (IBM or compatible) and modem? I use MS- Kermit as the communications software, and I have a Hayes-compatible 2400 (also 1200) baud modem.

Dear Book Lover: Here is a checklist of steps to follow for connecting your PC via modem.

When you start Kermit by typing "mskermit," make sure you have the correct settings (communication parameters) for communicating with GLADIS and MELVYL. The most important parameters are the communications port number on your PC, the baud rate, and the parity setting. You can determine the current status of each of these parameters by typing the Kermit status command before you try to dial the phone with your modem.

The communications port will either be number one or number two. For example, if you have a printer connected to COM1:, you should use COM2: for your modem. Type either "set port 1" or "set port 2, "depending on your situation. The port should be set before setting other parameters.

Make sure the communication (baud) rate of Kermit agrees with your modem. Type "set baud 1200" for communication at 1200 bits per second or type "set baud 2400" for communication at 2400 bits per second.

Parity is one of the parameters that determines how the communicating computers talk to each other. GLADIS and MELVYL both expect even parity. Type "set parity even". This command also sets the number of data bits to seven and the stop bits to one. (Note: Users of other communications software packages such as Procomm, Crosstalk, Mirror, and Bitcom, among others, should be sure to set seven data bits explicitly as well as even parity, since these are not the default with these packages.)

The next thing you need to do is type the Kermit command "connect". This command allows you to communicate with your modem.

Now you should be able to dial the telephone number for the campus Port Selector. For 2400 baud communication use "642-6092" and for 1200 baud use "642-7400". Since you have a Hayes-compatible modem, type ATDT6427400 or ATDT6426092 and press the "Enter" key to dial the telephone. (Use the appropriate phone number for your modem's speed.) "AT" is the modem command "ATTENTION", and "DT' stands for "Dial Touch-Tone." If your telephone is a pulse dial phone, substitute "DP" for "DT" in the above command. (If your modem were not Hayes-compatible, you would need to refer to your modem manual for dialing instructions.)

When the Port Selector answers, it will issue a "Request:" prompt. You should type "network" and press the "Enter "key on your keyboard to connect to the Network Terminal Server. When you see the "Connecting" prompt, press the "Enter" key again. You will then be asked to enter a hostname (or type help). You can now type "melvyl" (or "gladis") and press the "Enter" key.

You can automate these tasks in several ways, one of which is described below.

The file MSKERMIT.INI is an initialization file that is executed each time you type "mskermit". You can place Kermit commands inside this file. Using an editor such as EDLIN, place the appropriate lines at the end of your MSKERMIT.INI file; for instance,

```
set port 2
set baud 1200
set parity even
connect
```

The next time you type "mskermit", your port, baud rate, and parity will be set properly, and the connect command will be issued. All you need to do is to dial the phone. You can even automate dialing by remapping a key-combination (in this case the Alt-d key). Edit your MSKERMIT.INI file, placing the following two

lines near the end of the file (but before the connect command):

```
set key scan 2080 ; Alt-d Autodial
ATDT6427400 \015
```

The Kermit command "set key scan" creates a definition for key 2080 (Alt-d). What follows the semicolon is a comment. The second line is the modem command to dial the phone. (Be sure to use the appropriate telephone number.) The "\015" is the ASCII code for "Carriage Return". The next time you invoke MS-Kermit, you can then press Alt-d to dial the Port Selector automatically.

The Kermit program (on floppy disk) and documentation are available at Kinko's Copies stores. For information about searching the MELVYL or GLADIS catalogs call 643-9999. — Workstation Consultants.

(Editor's Note: Telnet users can get to Melvyl and Gladis too. Type "telnet melvyl.berkeley.edu" for Melvyl; "telnet gladis.berkeley.edu" for Gladis).

[27.2.11]

. . . Checking up, checking out

THE WORKSTATION EVALUATION LIBRARY IS ON LINE

Are you interested in evaluating software but don't have time to browse through the selections in the Workstation Lab? Are you everlastingly trying to reserve a popular application that seems to be eternally checked out? You may be able to save some time by accessing our Evaluation Library Database on the Appleshare network[2] from your own workstation.

This database will allow you to browse the listings, see what's in — or, if it's out, when it's due back and if there is a waiting list. Many listings also include the version number and Laboratory purchase price so you can verify that you have the current version and/or order a copy for yourself. If you're not sure which software you need, try searching by category (e.g. Presentation & Graphics, Word Processing, Equation Generators) and get a listing of our inventory.

To open the database, you must have a current copy of Filemaker II (Version 1.1). Select **File.Open** and then click on the **Network** button. Choose the **LBL** zone and you should see the **Evaluation Library** database when it is online (usually Monday through Friday, 8 AM to 5 PM).

[2] If you can see zone listings from Chooser, your Appletalk network is connected to the Labwide network and you can access peripherals and network applications from other connected Appletalk networks — as well as from your own.

[27.2.12]

ON-LINE ACCESS TO NEWSLETTER ARTICLES

We'd like to remind readers that they can download on-line copies of the LBL Computing Newsletter (including the Workstation Scene) from the Apple Server.

To access the WKSG file server, you need Appleshare (you can pick up a copy at the WKSG Lab, Bldg. 50B, Rm. 2231) and your Appletalk network must be connected to LBLnet via a Kinetics FastPath box. If you aren't sure if you network is connected or not, the easiest way to tell is to open the Chooser and select "LaserWriter". If your Appletalk network is connected, you will see other zones and other LaserWriters as well as your own.

Once Appleshare is installed, you will be able to see and choose a file server, just as you would choose a LaserWriter.

- open the Chooser
- click on the Appleshare icon
- select the lbl zone
- double-click on WKSG-Server1
- click on the Guest button
- click OK
- select the WKSG-Server1 hard disk
- click OK

The WKSG Server1 icon will appear on your desktop as another hard disk.

[27.2.13]

HERE'S PUBLIC FOLDER

. . . File Transfer...cheap!

Public Folder is a network file transfer and file sharing system developed by Claris Corp. It's free. It lets anyone make files and folders of files available to other users who are attached to an AppleTalk network. It is a very easy way to send files back and forth between users, particularly if your local AppleTalk network is connected to a Kinetics Box. This is a great shortcut for co-workers who share files frequently every day.

Getting started is easy. Just put a copy of *Public Folder* software in your System file, create a folder on your disk called "Public", then restart your Mac. Anyone on your network will have access to any files in your public folder and, similarly, you will have access to any files in other public folders. There is no password protection with this utility.

The *Public Folder* software is very solid. The only known incompatibility is with Apple's CD-ROM drive.

The software and release Notes for *Public Folder* can be downloaded from the server or picked up (bring along a formatted, blank diskette) at the WKSG Lab (Bldg. 50B, Rm. 2231).

. . . *Bruce Burkhart*

[27.2.14]

NEW VIRUSES - REVISITED

. . . *Comments from WKSG members Bruce Burkhart and Tom Pope*

WDEF, strain A & B

We gave you a brief introduction to WDEF in last month's Newsletter.[3] This new virus is showing up in growing numbers within LBL's Mac community. It infects the invisible desktop file on both Mac floppy disks and hard disks. WDEF is spreading so quickly because it was written with some anti-viral guard work-arounds, making *Vaccine, RWatcher* and older virus protectors ineffective.

How do you know if your Mac hard disk or floppies are infected with WDEF A or B? It is not easy to spot; however WDEF normally shows up as an "unexplained" networking or printing problem. Here's how to get rid of it, and to keep it from infecting your Mac in the future.

Getting rid of it. . .

The only known free cure of an already infected Mac hard disk at present is Version 1.5 of *Disinfectant* . When you scan your hard disk with this relatively new version, WDEF is quickly eliminated. Warning: an application can be infected with both strains (A & B), so to be dead sure, run *Disinfectant* **twice**. Also, *Disinfectant* may not always work properly under Multifinder, so scan your disks under Finder. The proprietary program, Symantec Utilities II Version 1.4 , will also fix WDEF.

Keeping it out . . .

Originally, Version 1.0. of *GateKeeper Aid* (an INIT) was the only way to keep infected floppy disks from getting to your desktop and to prevent infection in the duplication process. But, like Darth Vader, the original version of *GateKeeper Aid* has a larger dark side, meaning it's buggy; replace it with *GateKeeper Aid* Version 1.0.1[4] or *Eradicat'Em* [5] (also an INIT), which are bug free. Once you insert one of these new virus protectors into the floppy drive, it will immediately determine if the diskette is infected, and — if so — will remove the infection from the diskette. You can download all three programs from the WKSG Server or bring a blank disk to the WKSG Lab (Bldg. 50B, Rm. 2231).

SOUND READING : Release notes for Eradicat'Em can be downloaded from the server or picked up at the WKSG lab, Bldg. 50B, Rm. 2231.

[27.2.15]

MAC IICI /MACWRITE PROBLEM

. . . *Thanks to Mark Dedlow for the following alert*

Claris technical support warns of a *MacWrite* compatibility problem when using the Mac IIci.

> When you use the SpellChecker, it deletes the entire document

(See the next article for other compatibility issues. Ed.)

[27.2.16]

MAC IICI & PORTABLE COMPATIBILITY

The Jan-Feb'90 Macintosh Technical Bulletin contains several reports which list third-party software applications that Apple has tested on the Mac IIci and the Mac Portable.

Each application was run through a series of "Quick Looks," and rated "A" or "B". "A" indicates that the product is compatible, and "B" indicates that the product is compatible, but there are minor bugs. Overall, the Mac IIci rates better than the Portable.

If you have either Mac, and you're experiencing some strange behavior with your favorite software, check this compatibility list. (Note: *MacWrite* is not included). The articles and compatibility lists for both Macs are available on the WKSG Server, in the **MacCompatibility** Folder.

[27.2.17]

READNEWS FOR MACINTOSH COMPUTERS

. . . *From WKSG member William Jaquith*

Mac users: you may now read the Unix "readnews" feeds by running a public domain Hypercard stack. (Thanks to Harry Chesley, who provided the stack.)

Most Unix users are already familiar with "readnews" and know it contains hundreds of topics, available under broad categories like "comp.lang.," "comp.sys.," "sci.," and "lbl.." They could find the Unix "rn" (readnews) reader intimidating, but we think Mac users will find the Hypercard stack much easier to use because this public domain "netnews reader" conforms to the Macintosh paradigm of dragging and clicking on objects.

[3] New Viruses-New Cures [27.1.20] January, 1990.

[4] December 21, 1989

[5] Complete Release Notes are available in the WKSG Lab.

To access ReadNews from a Macintosh, you must have
- a connection to the LBL AppleTalk network
- MacTCP (an LBL site license has been purchased by the Workstation group)
- netnews reader (available on the WKSG Server in the Communications folder in the MacTCP w/prefs & rn Stack folder)

You can copy MacTCP and netnews reader from the WKSG Server. In the "MacTCP w/prefs & rn stack" folder in the "Communications" folder, use the guest account and files **MacTCP** and **netnews reader.** (Check the ReadMe file for additional instructions). Install those two files in your System folder. There is a reasonable default setup for both MacTCP and the netnews reader. However, you'll need to reboot your Macintosh so that MacTCP can take effect.

After reboot, double click on the netnews reader to start the process. You'll find lots of information and help in the Hypercard stack. The default configuration should be enough to get you started. Look for the **Connect to Server** button in the upper right-hand corner. Click to start the network connection process. You will see a "bridge" being built to the remote server; then it will tell you that the server newsgroup is different and ask, "Do you want to reconcile the two lists?" If you say "yes," you should be aware that the differences can number in the hundreds and may take 10-20 minutes to reconcile. In general, we suggest you click on the "Not Today" button.

When you are successfully connected to the news server, you'll see the list of the default groups. Here are some.

- comp.sys.mac
- comp.sys.ibm.pc
- comp.lang.c
- comp.lang.fortran
- comp.protocols.appletalk
- sci.physics
- sci.math
- sci.chem
- sci.physics.fusion
- alt.fusion
- lbl.nagnotes

There are hundreds of groups. We've included this abbreviated list just to show you the variety of news groups that are available. When you are ready to add more news groups, click on the "Commands" button on the top right corner of the card. You will find "Add Groups" and "Delete Groups" to help you maintain your list of news groups.

The active news group will be highlighted. Use the **eye/look** button in the upper right-hand corner of the card to read or view the news group. The news items here are arranged by message subject (use the **Commands** button if you want to arrange them by message number). The buttons in the upper right-hand corner let you "eye/view" the highlighted message, move you back to the previous card, or up or down the message list .

You may have to click several times on the Hypercard "return" button to return to the top level and then to end the network connection.

It is possible to post mail to these readnews groups. Before you do that you must configure your netnews reader with your electronic mail address. Click on the **Configuration** button for some help. Then use the **Commands** button to reach the **Edit Configuration** button. A common network mail address to use would be your LBL Electronic mail address (FMLastname@lbl.gov).

[27.2.18]

TROUBLE SHOOTING THE MACINTOSH

From Nancy Travis

We have a new HELP stack on the Workstation Server for the technically sophisticated Macintosh user. This stack, which comes from Apple Corp., includes step-by-step instructions/explanations for solving the most common problems. It also has a concise introduction to each of the following topics.

Hard Disk
- Problems/solutions
- Parameter RAM
- Helpful Hints
- How To..

Virus
- Recognize Symptoms
- Known Viruses
- Virus Detection
- Prevention

Error Codes
- System Errors
- Result Codes
- Sad Mac Codes

Printing
- Problems/Solutions

While most users who encounter serious operating problems will still want to call for help, the stack offers prevention tips and a good overview of the types of problems that can occur. To access the stack, look in the "Trouble" folder on **WKSG Server 1** in the **LBL** zone.

[27.2.19]

ASK DR. MICRO

Reprinted, with permission, from the December 1989 issue of the Berkeley Computing Bulletin.

Dear Dr. Micro: What is HyperCard?

Dear Hyper: HyperCard is an information organizing tool for Macintosh computers. It is included at no extra charge with the purchase of any new Macintosh.

Information in HyperCard is kept on "cards," which are organized into "stacks," a little like a stack of index cards you might keep on a certain topic. Some common stacks are provided with HyperCard, such as a Rolodex file, calendars, "to do" lists, and "help." These are ready for you to fill in with your own cards of information.

To help you customize these stacks and create your own, HyperCard provides simple tools and techniques that do not involve writing computer programs. For more sophisticated applications, HyperCard contains a built-in programming language, HyperTalk, which is relatively easy to learn.

Although there are many full-featured database management systems available for the Macintosh, HyperCard is not one of them. It is suitable for simpler applications for which HyperCard's rudimentary searching, retrieving, sorting, and reporting capabilities will suffice.

Many useful HyperCard stacks can be purchased from third-party developers. In addition, there are hundreds of useful stacks in the public domain. These can be obtained from most of the electronic bulletin board systems, from user groups, and from public domain software houses. The diversity of stacks ranges from Greek flash cards to genealogy stacks to digitized sound stacks to poison control information.

There are several books on the market about HyperCard and HyperTalk. "Using HyperCard: From Home to HyperTalk," by Tay Vaughan (Que Corp., 1988), covers topics from the simple basics of HyperCard to advanced scripting. It also has a good reference section. A good hands-on introduction to HyperTalk is available in "HyperTalk Programming "(revised edition), by Dan Shafer (Hayden Books, 1988). "HyperCard Script Language Guide: The HyperTalk Language," by Apple Computer (Addison-Wesley, 1988), is a complete definition of the HyperTalk language.

"Ask Dr. Micro," a new, occasional feature of the [Berkeley Computing] Bulletin, will provide answers to workstation software questions of general interest. Questions answered here are chosen from those asked of the Workstation Consulting staff. We invite readers to submit additional questions by electronic mail to **drmicro at garnet**, by calling us at 642-8899, or by visiting the Workstation Consulting and Demonstration Facility, 262 Evans Hall, from 10 a.m. to 12 noon and from 2 to 4 p.m., Monday through Friday.

[27.2.20]

HYPERCARD INTERFACE TO UNIX

. . . *From User-friendly Bill Benson*

I've installed a HyperCard interface to Unix on UX1 for anyone who wants to try it out. This interface consists of a folder-full of stacks that run on the Mac, and a few shell scripts on Unix. This is all from UC Santa Cruz, and some parts — such as melvyl, webster, and locate — work only if you're at UCSC. It may make Unix mail a little friendlier, but doesn't do much for running shell commands except slow you down. You can get a general idea of how it works by running the Home stack in the HyperUnix folder. For the full experience, here's what you need:

1) Have /usr/lib in your path (to use sendmail)
2) Set up a Unix subdirectory as an AppleShare AUFS volume, where the volume is specified with a full pathname (i.e., no tilde). E.g.,

```
cd
mkdir macdisk
mkdir macdisk/.resource
mkdir macdisk/.finderinfo
echo "pwd"/macdisk:MacVolumeName >afpvols
```

3) Get the Hypercard stacks, e.g. from the Graphics Folder on the AppleShare volume WKSG Server1 in the lbl zone (the whole HyperUnix folder ~500K).
4) Mount your AUFS volume from UX1 (Chooser - AppleShare - twilight - UX1).
5) Wait at least 10-15 minutes for the daemons to start up.
5) HyperUnix has its own Home stack, and that's what you should double click to start it up. There's on-line help, but no printed documentation.

It sometimes says "daemon not running" even if your AUFS volume is mounted. Waiting a few minutes and trying again seems to fix things.

[27.2.21]

HYPERCARD/MULTIMEDIA CORNER

. . . by HyperFan Bruce Burkhart

AppleFest'89 was scheduled late in January, too late for a review this month. Watch for the February Newsletter. Lot's of other news.

BMUG Feb'90 Calendar

Feb 1: ---*Photonics* by Photolink, and a demo of the HP Deskwriter by Hewlett Packard.
Feb 8: ---A demo of Computer Ergonomics by the Gifted Technology Group, and a mystery guest with a "new" Mac program.
Feb 15: ---Demos of *Paradigm* by Acuity, and CD-ROM hardware by Meridian Data.
Feb 22: ---A demo of *MicroPhone II v3.0* by Software Ventures, and a "new product" by On Technology.
Mar 1: ---A talk on Computer Security by author Cliff Stoll, and a demo "to be announced."

For location, times and other information about the Berkeley Macintosh Users Group (BMUG) meetings, contact the WKSG lab (Bldg. 50B, Rm. 2231).

A Review:

HYPERTALK BEGINNER'S GUIDE:
An Introduction to Scripting

It's been a long time a-coming: Apple now includes a new manual, "The HyperTalk Beginners Guide,"with HyperCard 1.2.5. Long overdue, this introduction to basic scripting is now being shipped with all new Macintosh computers using System 6.0.4. It is a very nice 150-page booklet from Apple; a lot of time and expertise went into its content. This guide will replace our HyperTalk Scripting Class introduced last Fall. Each chapter in the Guide has exercises, and you can easily progress through it at your own speed.

- In Chapter 1, "Getting Started," you create a practice stack, which you'll use for scripting throughout the book. You'll make buttons for the stack and complete their scripts.
- In Chapter 2, "Special Effects," you'll learn about visual and sound effects in HyperTalk and add them to your stack.
- In Chapter 3, "More About Messages," you'll explore how buttons and other objects receive and send messages.
- In Chapter 4, "Fields, 'It,' and Other Containers," you'll get an introduction to how HyperCard stores information and performs calculations.
- In Chapter 5, "Animation," you'll learn two ways to create "moving pictures" with commands.
- In Chapter 6, "Stacks You Can Build," you'll look at two examples of useful stacks that you could create and script yourself, starting with materials available in the Idea Stacks that comes with HyperCard.
- The Appendix, "HyperTalk Summary," contains a list of all HyperTalk commands, functions, and other elements.

The Guide is intended to help you get started and to get a feel for scripting on your own. It's not long, or full of technical explanations of HyperTalk, but you'll be able to see clearly how specific scripts work.

Vol. 27, No. 2 - February 1990

YES, I would like to receive the LBL Computing Newsletter

NAME .....

ADDRESS .....

.....

CITY

STATE .....

ZIP

PHONE .....

Return to ..... LBL Computing Newsletter
Computer Center Library - MS 50F
One Cyclotron Road
Berkeley, CA 94720

Attention: NL MAILING LIST

COMMENTS, QUESTIONS, SUGGESTIONS FOR FUTURE ARTICLES:

Lawrence Berkeley Laboratory
Computer Center Library - 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 (415)-<486-xxxx> From FTS, dial 451-<xxxx>

INFORMATION AND COMPUTING SCIENCES DIVISION

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

OFFICE OF COMPUTING RESOURCES

Head: Dave Stevens (DFStevens)	7344	50B	2258F

ADVANCED DEVELOPMENT PROJECTS

Head: Dennis Hall (DEHall)	6053	50B	3238

COMMUNICATIONS & NETWORKING RESOURCES

Head: Ken Wiley (KGWiley)	7083	50B	2258E

NETWORK SYSTEMS

Bob Fink (RLFink)	5692	50B	2258B

COMMUNICATIONS & NETWORKING FACILITIES

Sig Rogers (SGRogers)	6713	50B	2258G

TELEPHONE SERVICES

Sam Gibson (FSGibson)	4234	80A	103

COMPUTING SERVICES

Head: Marv Atchley (FMAtchley)	5455	50F	117
Deputy: Harvard Holmes (HHHolmes)	5742	50F	115
Central Office	5871,2	50F	125

VMS SYSTEM

Eric Beals (ERBeals)	5351	50F	143
System Manager: Gil Johnson (GPJohnson)	6211	50B	1225

UNIX SYSTEM AND DISTRIBUTED PRINTING

Craig Eades (CAEades)	6569	50F	142
UNIX (DHCleveland)	5336	50F	110
Distributed Printing (RERendler)	5629	50F	129
System Manager: Roger Cochran (RJCochran)	5565	50F	127

USER RESOURCES

Jerry Borges (JTBorges)	5568	50F	144
Accounting	7008	50B	1232A
HELP DESK	5981	50B	1215
Math Libraries	4749	50F	114
Library/Document Sales	7008	50B	1232A
Opening a New Account (PSBean)	7008	50B	1232A
UNIX and Cluster:			
Software Evaluation and Acquisition	5568	50F	144

GRAPHICS

Nancy Johnston (NEJohnston)	5093	50F	145

COMPUTING FACILITIES

Connecting a Remote Terminal	5354	50B	2259
Develcon Problems & Terminal Repair			
Paul G Murray (PGMurray)	5354	50B	2259
Operations Area	6211	50B	1215

COMPUTING APPLICATIONS

Applications Group			
Head: Jerry Borges (JTBorges)	5568	50F	144

WORKSTATION GROUP

Group Leader: Richard LaPierre (RLLaPierre)	4692	50B	2245
Software Evaluation and Acquisition	6858	50B	2231

MFE Consulting Number is 422-1544

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			
Ted Sopher (TGSopher)	4559, 5354	50B	2266
DECnet Administration			
William Jaquith (WDJaquith)	6966	50F	146
IBM PC & Mac Network Administration			
William Jaquith (WDJaquith)	4388	50B	2231C
Nancy Travis (NJTravis)	7690	50B	2231B
Distributed Printing/Kinetics FastPath administration and requests			
Bob Rendler (RERendler)	5629	50F	129
AppleTalk Support	5354	50F	2259

LBLnet troubles	*trouble@lbl.gov*
LBLnet comments or non-critical trouble reports	*lblnet@lbl.gov*
Internet administration	*ip-request@lbl*
LBL Postmaster for Lab-wide mail	*postmaster@lbl.gov*
Network Advisory Group (NAG)	*nag@csam.lbl.gov*

DEVELCON

DEVELCON Access Names

[VAX 64xx's (Generic) .....CSA]

VAX 6420 (VMS)	CSA1
VAX 6420 (VMS)	CSA2
VAX 6410 (VMS	CSA3
SUN-3/280 (UNIX 1)	UX1
SUN-3/180 (UNIX 3)	UX3
SUN-4/390 (UNIX 5)	UX5
SUN-3/180 (ISD)	ISD

Dial-up Access Numbers for DEVELCON

All Machines - 300 BPS	486-4959
All Machines - 1200 BPS	486-4979
All Machines - 2400 BPS	486-4969

Local TYMNET Access Numbers for DEVELCON

	1200 BPS	2400 BPS
Oakland	430-2900	633-1896
Walnut Creek/Concord	935-0370	935-1507
San Francisco	974-1300	543-0691
Santa Clara	408-432-3430	432-8618
Palo Alto	415-366-1092	361-8701
San Jose	408-432-3430	432-8618
Fremont	490-7366	490-7366
Davis	916-758-3551	
Burlingame	415-588-3043	
Vallejo	707-644-1192	
Antioch	754-8222	
Pleasanton	462-2101	

Lawrence Berkeley Laboratory
Computer Center Library - MS 50F
One Cyclotron Road
Berkeley, CA 94720

Jose Olivares
MS: 50B-4206
LBL

88