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Author

Lawrence Berkeley National Laboratory

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DECEMBER
1990

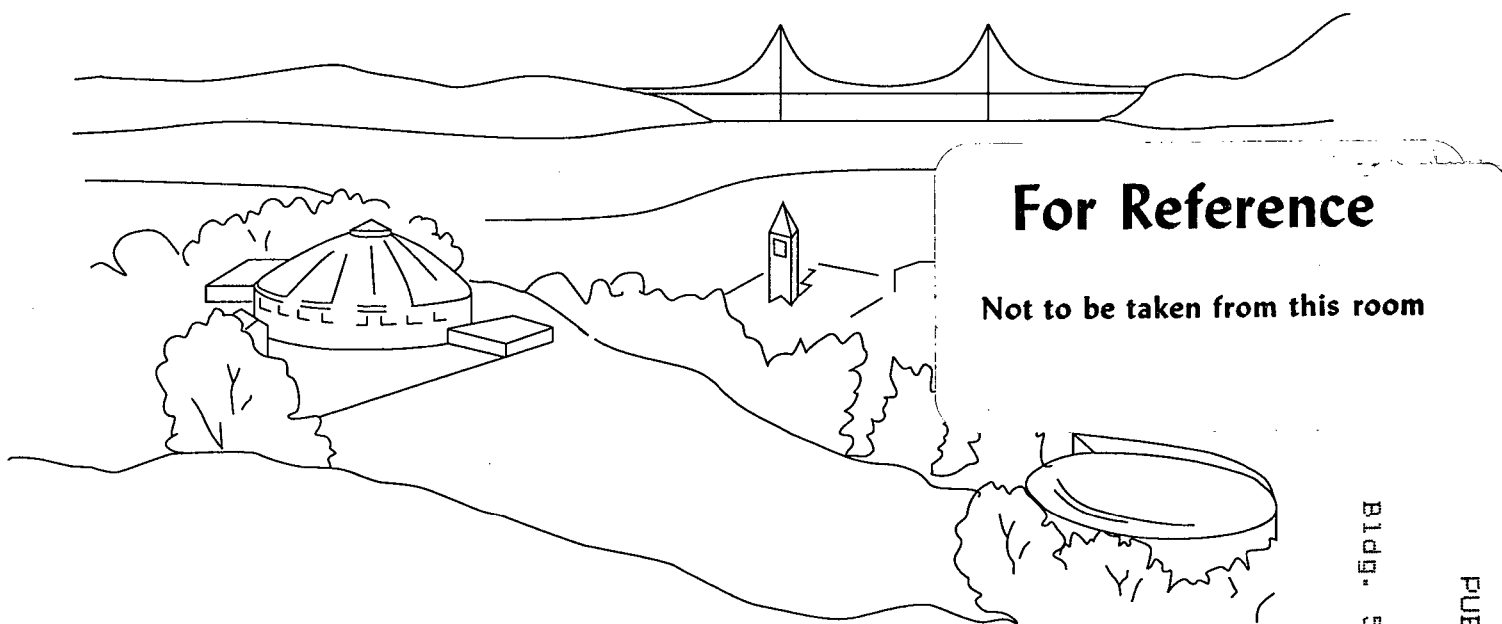
LB COMPUTING NEWSLETTER

X WINDOW DISPLAY SERVERS ON MAC

TN3270 - CONNECTING UNIX & IBM

YEAR-END WKSG CLEARANCE SALE

POWERPOINT CLASS



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Newsletter Closing Date is Friday, December 14, 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

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ICSD TRAINING SCHEDULE

November 1990- February 1991

COMPUTING SERVICES CLASSES

Bldg. 50B, Rm. 1237

The following course is offered by Computing Services. There is no charge for this class. To enroll, obtain your supervisor's approval and then contact Rita McLean, 5872.

Electronic Mail: Survey	Jan 31
	10 - 12 Noon

If there is sufficient interest (we need to hear from at least 10 people), we'll schedule an **Introduction to Unix** class in February. Please contact Rita McLean at x5872 to sign up.

* Prefer current UNIX or VMS/CSA account.

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

Microsoft Word for the IBM/PC Jan. 22, 24, 29, 31
3 - 4:30 PM

Feb. 19, 21, 26, 28
3 - 4:30 PM

NEW

Introduction to *Windows* for the IBM/PC Dec. 4, 5
9 - 10:30 AM

Jan. 8, 9
1 - 2:30 PM

Introduction to PC-DOS Jan. 22, 23, 24
1 - 2:30 PM

NEW

Microsoft Word for Windows Jan 8, 10, 15, 17
3 - 4:30 PM

Macintosh: Bldg. 50B, Rm. 1229

Basic Macintosh Dec. 5
12 - 1 PM
no sign-up req.

Intro. to *MacDraw* * Dec. 4, 5, 6
10:30 - Noon

Jan. 7, 8, 9
10:30 - Noon

Basic Intro. to *FileMaker* * Jan. 23, 25
1 - 3 PM

Feb. 20, 22
1 - 3 PM

Beginning *Microsoft Word* * Dec. 11, 12, 13
10-12 Noon

Jan. 15, 16, 17
8 - 10 AM

Beg. *Excel* Spreadsheet Jan. 14, 16, 18
9 - 11 AM

NEW

Introduction to *PowerPoint* Jan. 29, 31
1-2:30 PM

The Workstation Group also offers **noon time classes** (no sign-up required) in the following subject:

Basic Macintosh Class 12/5 50B/1229

See Workstation Scene Newsletter Articles for more details on these workshops.

THE HELP DESK

X WINDOW DISPLAY SERVERS ON MACINTOSH

Bill Benson

Two X Window servers are available for the Macintosh:

eXodus Version 2.0 from White Pine Software,
MacX from Apple.

Both servers support 8-bit color, real and virtual multiple screens, and a Client menu which can be set up to login and run applications on remote hosts. Both come with a large collection of fonts, use MacTCP, and run as just another Mac application under Multifinder. Both are robust, except under low memory conditions. Both run on practically all Mac models with >2 MBytes, but the Mac II class, a hard disk, and larger screen are strongly recommended.

First impressions indicate that MacX is somewhat more responsive than eXodus, though this is very subjective. The built-in MacX window manager is naturally snappy.

LBL has obtained a site license for MacX. The distribution, which consists of six disks and considerable documentation, can be obtained from the WorkStation group for the cost of reproduction. The software itself can also be obtained from WKSG Server 1 in the lbl zone, in the Graphics folder. The single copy list price for eXodus is \$499.

FEATURE COMPARISON

X11 version.

- eXodus fully supports X11R4.
- MacX supports X11R3, and includes most of R4.

Memory requirements.

- eXodus should be run with at least 2048K of application memory.
- MacX, as distributed, uses 1500K.

Since both servers can freeze up if they run low on memory, it's a good idea to monitor memory usage and set the allocation so you're sure you won't approach the limit.

Mouse button simulation.

- eXodus lets you use whatever combination of keys you like to simulate three buttons;
- MacX standardizes on the arrow keys.

Access control - security.

- Any host can connect to your internet number and put up windows on your screen.

Both provide an option, which when checked, allows you to accept or decline attempted connections. Neither eXodus nor MacX use the UNIX xhost mechanism.

Color matching..

- eXodus has three color matching tolerance options - exact, normal, and highly tolerant.
- MacX apparently only has "normal".

Remote client connections.

With both servers, a menu can be set up to login and run applications on remote hosts. The internet number of your Macintosh can be sent to the host, so that there is no need to open a separate telnet connection. MacX optionally lets you save encrypted host passwords in MacX configuration files.

- eXodus does not provide connection status, nor any built-in way to kill clients.
- MacX provides a menu list of all remote clients run from the current session. MacX provides several ways to kill active clients.

Protocol transaction logging.

- eXodus will optionally keep a log of all protocol transactions. An auxiliary program can be run against the log to sort the entries by client. This feature should be very useful for debugging X clients.

Cut & paste.

- Both try to integrate cut & paste via Macintosh clipboard with X-style cut buffer operations.

Number & type of screens.

In X parlance, a screen is typically the entire display area on an individual monitor. Since the Macintosh already has a built-in window system, an ordinary Macintosh window can be used to represent a (virtual, root) screen.

- Up to six such virtual screens can be defined for eXodus, each of which can be either monochrome or color. These screens can be defined to be larger than your real screen. The X root screens are ordinary Mac windows, which can be moved, resized, or scrolled through.
- MacX defines four screens. One monochrome and one color screen are implemented as regular Macintosh windows. These are called rooted screens, as opposed to the rootless screens described below.

Rootless screens.

As a unique feature, MacX also defines what are termed rootless screens - one monochrome and one color - without the traditional root weave background. Instead, client windows appear together on the Macintosh desktop with all the windows from any other applications that are running under MultiFinder. You can use any of the standard Macintosh window styles to decorate client windows - e.g., with or without title bar and grow box. Rootless screens

are managed exclusively by the native MacX window manager. As a practical matter, you manipulate client windows in exactly the same way as you do with any other Macintosh window. The monochrome rootless screen is the default (screen 0). Most clients run very well on the rootless screens. Some—such as window managers themselves—can only be run on rooted screens.

Performance.

Both programs respond without noticeable delay - for basic operations like navigating menus and dragging icons with the mouse - when running on a Mac IIci with an Ethernet card. A simple test is to run `twm`, show the icon box, iconify it, and then drag it around the screen. The lag when connected to LBLnet through a Kinetics FastPath instead of the Ethernet card is definitely noticeable, but not dramatic.

Another simple test that gives a feel for server performance is to run `/usr/local/xengine` (available on UX1, UX3, & UX5). This is a demonstration program which animates a simple reciprocating engine and shows how many rpm's you're getting. Many factors can affect performance, such as screen depth, running the server in the background, and load on the host.

Remote client connection.

The remote client connection uses the `rexec` protocol. This works on UX1, UX3, UX5, `csr`, `demo6000`, `CSA1`, `CSA2`, `CSA3`. The IP address and screen number of your Mac is represented by the eight character string "`<option-r>display`". For example, a typical entry in the New Remote Command dialog for UNIX hosts might be

```
setenv DISPLAY "<option-r>display"; xterm
```

The situation is more complicated for VMS hosts. Since VMS will accept only a single command, you may want to use a DCL command file and pass `<option-r>display` as an argument. You will also need to supply logic to parse the `<IP address>:0.<screen number>` string and issue the corresponding `set/display` command.

Forward comments and questions to me at x5703 or

UNIX or

Software Tools Mail: WHBenson@lbl.gov

VMS Mail: `lbl::WHBenson`

TN3270 INSTALLED ON UX5, CSR, AND CSR CLIENTS

Martin Gelbaum

TN3270, a program for making a full-screen, full-duplex connection from a UNIX machine to an IBM (or compatible) machine, (such as UCB's IBM 3090, cmsa.berkeley.edu), has been installed on UX5, `csr`, and `csr`'s clients. The program had already been installed on UX1. It was written by Greg Minshall of UC Berkeley.

- The standard TELNET command on the UNIX machines will NOT connect to cmsa.berkeley.edu or other similar IBM sites; the connection is closed immediately.
- The CSA TELNET program WILL connect to cmsa.berkeley.edu in the same way as **TN3270**; you just have to use `SET TERM/DEVICE=VT100` on the CSA side. If `SHOW TERM` indicates the TERM is "unknown", TELNET to cmsa.berkeley.edu from CSA will NOT work.
- The standard Telnet program on the Macintosh, NCSA Telnet, also does NOT work with IBM hosts like cmsa.berkeley.edu.

TN3270, however, gives the appearance of being logged in to the remote machine from an IBM 3270 terminal. Of course, you must have an account on the machine to which you connect in order to log in.

Further, there is a **TN3270** program for the Macintosh, available on the WorkStation Group's Server (it's nested inside the "Telnet" folder in the Communications folder). This too can make a Telnet connection to cmsa.berkeley.edu.

TN3270 looks to the user in many respects like the Yale ASCII Terminal Communication System II. **TN3270** is actually a modification of the Arpanet TELNET user interface (see "man telnet" on UNIX or "HELP TELNET" on CSA), and it will, in certain circumstances, interpret and generate raw 3270 control streams.

See "man tn3270" on UNIX for details.

Forward comments and questions to me at x4749 or

Unix or

Software Tools Mail: martyg@lbl.gov

VMS Mail: `lbl::martyg`

IBM'S RISC SYSTEM 6000: A CLOSER LOOK

Rusty Wright

In [an earlier issue of] the Bulletin, we reported that [our] Workstation Software Support Group (WSSG) would be evaluating IBM's RISC System 6000 workstations. Since that time we have taken a closer look at the RS/6000 running AIX (IBM's version of UNIX), and we have discussed findings with other . . . beta users.

The main focus of our evaluation of the RS/6000 was software reliability and compatibility with Berkeley (BSD) UNIX, though, given the advertising strategy for the product, the processing speed of the RS/6000 inevitably came up. So, we will address this issue briefly.

All beta users we talked with were very impressed with the computational speed of the RS/6000. Alex Liu, a programmer/analyst for the Department of Statistics, a graduate student in math, and an expert on floating-point computation, has been able to reproduce IBM's published benchmarks and in some cases has obtained even better results. Liu regularly benchmarks new machines, and this was the first time he was able to reproduce a vendor's results by simply turning on a compiler's optimizer. Although this is encouraging for potential users, it is important for users to evaluate their own planned usage and to be sure that benchmarks, published or otherwise, are relevant to their intended usage. For example, the speed of floating-point calculations may not be important if your intended use is text processing. Of course this caveat applies not only to the RS/6000, but to the evaluation and selection of any workstation.

Liu and Eric Allman, who works in Electrical Engineering and Computer Sciences and is an expert on and a contributor to Berkeley UNIX, recently went to Austin, Texas, at IBM's invitation, to meet with IBM's AIX developers to discuss AIX/Berkeley UNIX compatibility issues. Liu and Allman gave a presentation to WSSG about what they learned in Austin and what they have learned from working with the machine.

Previous UNIX implementations from IBM (AIX for the RT and PS/2) have left BSD UNIX users with an unfavorable impression. Our impression of the current release of AIX for the RS/6000 is that IBM has made a more successful attempt to provide a BSD-compatible UNIX, at least for the user interface. Liu and Allman concur. There are still some differences at the user level; for example, binaries are in non-standard places, so users may have to modify their usual search paths. Also, users should expect to see IBM-style error messages (numbered codes, verbose descriptions) unless they modify their local configuration.

Allman commented on a number of incompatibilities at the system administration level. The system administration functions of AIX are different from both Berkeley UNIX and UNIX System V. Many of the differences are intentional and were implemented to attain a more secure UNIX and to incorporate some UNIX System V features. For a person unfamiliar with BSD UNIX who will not need to integrate the RS/6000 into an already existing group of BSD UNIX systems (for example, Sun or DEC workstations) the system administration of the RS/6000 should not pose problems and may in fact be easier to learn. But users planning to integrate the RS/6000 into an existing base of Berkeley UNIX systems should take the time to evaluate the implications of system administration for the mixed environment.

Additionally, managers of existing clusters should be aware that duplicating user accounts by simply copying the password file is not possible on the RS/6000. This restriction is intended to provide a more secure environment, but can increase system administration time for the manager of a workstation cluster. Similarly, most of the other usual system files (/etc/hosts, /etc/group, /etc/inetd.conf, etc.) cannot just be copied.

On the issue of software reliability, it is perhaps too early to make an evaluation. There were problems with the beta release software, which caused some frustration for users. However, this is always the case and should be expected with beta releases. We noticed a steady improvement in the software as the official release date approached. Now that an official release is available, we will need more time to work with it. We will continue to report on this topic as more information becomes available.

. . . Reprinted, with permission, from the October 1990 issue of UCB's Berkeley Computing Bulletin

GOOD CITIZENSHIP AND THE COLOR PRINTERS

Maggie Morley

We'd like to remind users to exercise care and common sense when using our color printers. A color print from the QMS or the TP is relatively expensive: materials are not recoverable. Mistakes/misuse should be avoided if at all possible. Here's what you, as a responsible color-printer user, can do to maximize best use of these resources:

- Don't use the color printers as debug devices.
- Check your command string before you send your file. Make very, very sure you're sending your file to the appropriate destination.
- Don't send a text file or a TeX dvi file to the color printer. Printing of black text still requires three-color ribbon — and unused portions of the ribbon cannot be recovered. The appropriate high-quality printer for any text file is the VT600 ("VT1").
- Don't send a text file containing non-job-related material to the color printer. These printers are to be used for official Laboratory work only.

We'd also like to suggest that you give a color print job plenty of time. At present, some of those files can take a good while to process. Check your output or print queue before you decide to re-send your job.

TeX NOTES

DVISELECT INSTALLED ON CSA

Martin Gelbaum

DVISELECT, a TeX DVI page selection program, has been installed and successfully tested on the CSA cluster. This is a VMS port of the same program announced last month for the Computer Center UNIX machines. **DVISELECT**, by Chris Torek of the University of Maryland, is in the public domain.

This is a nice program that selects a range of pages from a DVI file, either for previewing or for printing. You need to make a DCL symbol to use it on the CSA cluster, as follows:

```
$ dselect := $TEX_DISK:[tex.local.dselect]dselect
```

Of course, you can put that line in your login.com.

You can make a subset of your DVI file ("myfile.dvi") by typing, for example,

```
dselect 2:4 myfile.dvi pages2_4.dvi
```

This puts pages 2 through 4 of the DVI file into pages2_4.dvi.

See the HELP article DVISELECT for details.

CORRECTION PLEASE

Martin Gelbaum

There were two typos in the article "MAKEINDEX: Indexing Utility for LaTeX" in the November, 1990, LBL Computing Newsletter, P. 16.

Here are the correct statements:

... You need to define a DCL symbol to run it on CSA as follows:

```
makeindex := $TEX_DISK:[tex.local.makeindex]makeindex
```

You can of course put this in your CSA login.com as follows:

```
$ makeindex := $TEX_DISK:[tex.local.makeindex]makeindex
```

The VMS HELP article MAKEINDEX - including the correction - is on the CSA cluster.

Forward comments and questions to me at x4749 or

Unix or

Software Tools Mail: martyg@lbl.gov

VMS Mail: lbl::martyg

NOTES FROM TROUBLE MAIL

Maggie Morley

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

MESSAGE

I have been trying to print some POSTSCRIPT files from UX5 to ap25. Only part of them get printed. This happens especially during the day. Just part gets printed and no cover page. Last night I got the same length files printed with no problem. The file in question is in UX5. Any suggestions?

RESPONSE

Called user; confirmed that she had seen an error message like this "... copy file is too large", which is what I saw when trying to lpr that 6+ megabyte file to ap25 from UX5. Confirmed with system folks that it was OK to raise the maximum size limit on that printer from the old limit - 5 megabytes - to 500 megabytes (seriously!). Did so; lpr'ed her file again. It printed just fine (all 22+ pages of plots).

So far as I can tell, nothing about the problem had anything to do with the hour of the day; further, it is most improbable that files of that size (6+ MBytes) did somehow print on ap25 when the size limit was still 5 megabytes.

MESSAGE

Can you please tell me if there is any way to print out the entire MAIL file without first extracting each individual message? Any hint will be appreciated.

RESPONSE

I'd try selecting all your messages using

```
SELECT/BEFORE=Oct-24-1990
```

(or other appropriate date) and then

```
print/all/flag=one/burst=one/trailer=one/
queue=csa2$lic0
```

(/all - print all the selected messages)

(/flag=one - separate the output from other users' jobs)

(/burst=one - separate the output from other users' jobs)

(/trailer=one - separate the output from other users' jobs)

(/queue=csa2\$lic0 - get a header page with your user-name on it)

```
print/now
```

Send the job to the printer; exiting MAIL will do this also.

MESSAGE

I have been trying to connect to a computer in the soviet union. I was given the following address, which does not seem to work. Could you comment if possible:

```
psi%025021705::cmain::sovname (dubna)
```

At Dallas, I was informed that I should add vxcern:: in front of the above. I'm a little lost, so please be patient with me. Thank you.

RESPONSE

Try the address

```
vxcern::psi%025021705::cmain::sovname
```

This is a VMS Mail (MAIL>) address. VMS Mail addresses are read from left to right, so this mail will go to VXCERN which presumably knows how to call PSI and then to CMAIN to SOVNAME.

MESSAGE

Dear Sir, I cannot invoke the VAX_TPU editor on my VT240 terminal. Do I have to assign something in my login.com in order to do so?

RESPONSE

Here's an extract from the HELP article EDIT/TPU:

"EDIT/TPU invokes the VAX Text Processing Utility (VAXTPU). By default, this runs an editor called EVE (for Extensible VAX Editor). The syntax of the command is:

```
EDIT/TPU[/qualifier...] [input-filespec]
```

..."

Many people define a DCL symbol to run EVE as follows

```
$ eve ::= edit/tpu
```

MESSAGE

On my poirot account "cern" I can't get to any man pages. What might be the problem? Is there some disk that is not mounted for me, or is there a path that I need to add?

RESPONSE

Please modify your .login file so that when on poirot, the MANPATH environment variable points ONLY to /usr/man. I've logged in as you (root access **does** have its advantages), recreated your problem, then fixed it by interactively setting the MANPATH variable to /usr/man.

MESSAGE

We don't seem to have "f77" on our "path" anymore. My path includes:

```
(. /home/lola/math/myname/Bin /usr/localhost . .
 /usr/local/x11r4 /usr/ucb /bin /usr/bin /usr/hosts)
```

RESPONSE

f77 (the Sun FORTRAN compiler) on the new systems is /usr/lang/f77, (NOT /bin/f77); therefore, you need to insert /usr/lang at the beginning of your search path. (UX5 is set up the same way.)

You also need to add this line to your .login file so that you get the correct man page

```
setenv MANPATH /usr/lang/man:/usr/man
```

In fact, without that setting for MANPATH, "man f77" yields nothing on csr!

MESSAGE

What does "stale NFS file handle" mean?

RESPONSE

A UNIX user might sometimes see that message. Here's an extract from "man nfs":

"A server can grant access to a specific filesystem to certain clients by adding an entry for that filesystem to the server's /etc/exports file.

"A client gains access to that filesystem with the mount(2) system call, which requests a file handle for the filesystem itself. Once the filesystem is mounted by the client, the server issues a FILE HANDLE [emphasis added] to the client for each file (or directory) the client accesses. If the file is somehow removed on the server side, the file handle becomes STALE [emphasis added] (dissociated with a known file)."

MESSAGE

What's the easiest way to determine the size of the physical memory on the Sun? Thanks for any help...

RESPONSE

Type the command:

```
grep "mem =" /var/adm/messages*
```

Both the total memory and available memory sizes will be shown; the available memory is that which is available after the system gobbles up what it needs.

MESSAGE

The following simple troff page with simple embedded equations doesn't seem to work on csr or UX5. I've tried it as

```
eqn file | itroff -Pip1 -me
and
eqn file > psroff -Pcsr -me
```

Any ideas?

RESPONSE

I'm quoting here from "man itroff" (and "help itroff" on CSA): "... Preprocessing through soelim(1), tbl(1), and eqn(1) is automatic and in that order." Thus, you should omit the call to eqn in your command line and use commands like the following to format and print your file:

```
itroff -Pip1 -me file
OR
itroff -Pcsr -me file
```

Your file prints just fine using such a command.

```
psroff -t -me file > file.ps
```

puts the PostScript code produced by "ditroff -me" into the file "file.ps", which you could then print via "lpr" on an Apple LaserWriter or other PostScript printer. We do not usually print ditroff or troff source files by this two-step method.

Once again: use the itroff commands shown above or similar commands where you replace the word itroff by iroff.

Note also that psroff is not available on CSA and that itroff uses the old troff program while iroff (and psroff) use ditroff, which is a newer and more powerful version of troff.

We therefore recommend that users use iroff over itroff. There ARE differences between the output produced by iroff and itroff; in general, the iroff output is at least as good as that of itroff.

MESSAGE

Is there a way to make tip give a warning message before clobbering a file? I didn't see any indication of such in the man-page.

RESPONSE

You appear to be right; tip does not prevent the user from overwriting an existing file; therefore, we need to be extremely careful when using tip to transfer files.

MESSAGE

- 1) How do you set your terminal on VMS (set term ?) when logging in from a SparcStation running Sunview?
- 2) Can you configure your .rhosts file on CSA so that rcp or rsh from a UNIX host with a different user name doesn't require a password?

RESPONSE

- 1) The following is a DCL command procedure that sets up the terminal window on CSA for Vi, etc., when logging in from a SPARCstation running SunView. The window size on the Sun was 34 rows, 80 columns:

```
$ write sys$output "Setting terminal type to sun"
$ write sys$output ""
$ define/job/nolog term "sun"
$ set term/page=34/wid=80/tab/hostsync
$ if f$extract(0,3,f$getsyi("nodename")) .eqs. "CSA"
  then $ run usrucb:tset.
```

There are termcap entries for other window sizes, e.g., "sun-44" for 44 lines and 80 columns; you would need to change the "set term/page..." command accordingly.

- 2) Let's say your CSA login is "mycsaname". Put a line like this in the .rhosts file in your CSA home directory:

```
UX5.lbl.gov myUXname
```

where "myUXname" is the login on the UX5.lbl.gov from which you want to rlogin to CSA. Then, use this command on UX5.lbl.gov

```
rlogin csa2 -l mycsaname
```

to connect to CSA2 via the account "mycsaname".

MESSAGE

I use mh (xmh to be correct) and want to incorporate new mail into my mailbox as it arrives. Discussion on comp.mail.mh shows that similar provisions work on other installations with:

.forward file:

```
zorn@cutter.lbl.gov
```

```
"| /usr/local/lib/mh/slocal -user zorn"
```

and .maildelivery file:

```
# field pattern action result string
```

```
#
```

```
default - ^ ? "/usr/local/lib/mh/rcvstore +inbox"
```

Is there a principle flaw in my interpretation and adaptation or does this not work for us (we have slocal: 6.5, others use 6.7). Thanks for your help.

RESPONSE

Fixed the bug in "slocal" that caused this problem; the program tried to get the length of a character pointer pointing at zero, (via an "mh" library routine, `getcpy`), which causes a memory error. (`man string` explains why this is wrong.)

Called the user; asked him to try this setup again with the new program. He did and it worked. Installed the new program on UX5 and UX1; will install it on csr as soon as possible.

*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.

NEWS OF PHYSICS LIBRARIES

Werner Koellner

● GENERAL NEWS

New lists LGEANT and LPAW have been set up in the CERNVM LISTSERV facility to improve communication and sharing of information concerning the CERN programs GEANT and PAW. This facility is akin to the DEC NOTES facility: to participate in this interchange, you register by sending an electronic mail message with the first line of the message being

SUBSCRIBE <list> <your full name>

where **list** is LGEANT or LPAW.

For help, or some more information, you may send me mail.

ON UX5 and STARDENT

● CERN LIBRARY

Selected CERN Libraries are available on UX5 and may be copied to Sun SPARCstations. Work is in progress to port some additional libraries to UX5, and to port supported libraries to the STARDENT workstation. Note that porting libraries to Silicon Graphics, IBM RISC-6000, and Convex machines is also supported at Cern.

For information about the status of these efforts, as well as instructions on using these libraries, see the following man entries:

man cernlib
man paw
man geant
man isajet
man jetset73 and
man minuit

Except for Isajet, libraries on STARDENT are still largely untested, and PAW or GEANT may not be operational yet.

The path to the CERN library area on UX5 and STARDENT begins with

/home/ux5/ux5c/phyd/cern

All files that are common to both UX5 and STARDENT are downstream from subdirectory "sun" while those unique for STARDENT are downstream for subdirectory

"stardent". I suggest that you set the environment variable CERN_ROOT:

setenv CERN_ROOT /home/ux5/ux5c/phyd/cern

Then you'll find UX5 files in

\$CERN_ROOT/sun/*

and those unique to STARDENT in

\$CERN_ROOT/stardent/*

All Sun libraries have been rebuilt as shareable libraries.

In linking with any library, just specify

-l<library>

where <library> is one of the strings listed under "LIBRARY" below.

On SUN machines, ATC-GKS is the supported graphics interface for CERN programs. For details, see the man entry

man gks.

The following libraries are available
(Versions as on CSA):

LIBRARY	PACKAGES
geantlib	geane, geang, geanh, geant, geanx
genlib	gen
graflib	hplot5, higz_atc, gkspack
isajet	p-p, pbar-p Monte Carlo
jetset73	LUND Monte Carlo (Jetset73 + Pythia54)
kernlib	kerngen, kernnum
minuit	minuit
packlib	cspack, epio, ffreed, hbook4, iopack, kapack, kuip, minuit, zbook, zebra, zcedex
pawlib	paw_atc, comis, sigma

● PAW

As on CSA, PAW is supported with ATC-GKS graphics. The standard program may be executed on UX5 by merely typing **paw_atc**. For further details consult the man entry

man paw

● GEANT

Only the latest GEANT Version (3.14 with ATC-GKS graphics) is supported on UX5. For details about linking your executable image, consult the man entry **man geant**

Some examples may be found in

\$ (CERN_ROOT)/sun/demo.

ON CSA

● PHYSICS UTILITIES

On the CSA Cluster, and on LAN workstations, if the required disks are mounted, 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.

● HELP

When you type

Help @Physics_Uilities

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.

● 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. To read (and keep track of) just the news capsules that you haven't read yet, type

@Aps_Whats_New:Whats_New (or just WHATS)
<cr>

For further information, type

Help Mis_Phys Aps_Whats_New

● 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**. In particular, type **HELP CERN LIB** to see a small description of the library packages and current versions that are available. In some cases a previous version of an object library is saved as **xxxxx.OLD**.

The recommended method to access the latest standard object libraries is to use logical names **CERN\$*_LIB**. For these names and other details, please see the help text in **HELP CERN**.

The following object libraries and programs have been updated recently.

This executable is in CERN\$CERNEXE
CMZ Version 1.35

Packages in Library CERN\$GEANTATC_LIB
GEANG Version 3.14/16 (includes cg option)
GEANH Version 3.14/16
GEANT Version 3.14/16
GEANX Version 3.14/16

Packages in Library CERN\$GRAFATC_LIB
GKSPACK Version 2.01
HIGZ Version 1.11
HPL0T5 Version 5.10

Packages in Library CERN\$KERN_LIB
Kernfor Version 4.25
Kernnum Version 3.06
Kernvax Version 2.35

Packages in Library CERN\$PAWATC_LIB
Comis Version 1.10/05
Sigma Version 1.05
Paw Version 1.10/00

Packages in Library CERN\$PACK_LIB
Cspack Version 1.00 (see below)
Epio Version 1.65
Ffread Version 3.09
Hbook4 Version 4.10/05
Kapack Version 2.14
Kuip Version 1.65
Zbook Version 2.22
Zebra Version 3.65

Other CERN Libraries

Cojets Version 5.15
 Genlib Version 1.34
 Herwig Version 4.06
 Poisson Version 3.04

● CERN_NEWS

Cern News is a facility which allows remote access to News Items (for instance, the latest LEP News), that are posted by a number of research groups at CERN on either the VAX or IBM machines at CERN.

To see the list of available News Groups, type

Cern_News/INQ

To scan news of the LEP group, type

Cern_News LEP

and follow the instructions. Once in CERN_NEWS, you may send the current news item to the default printer, or fetch the file into your default directory.

For additional information, type

Help Cern_News

● COMPUTER PHYSICS COMMUNICATIONS

Computer Physics Communications of Belfast, Northern Ireland, maintains the CPC Program Library, which contains over 1100 refereed programs in Physics and Physical Chemistry submitted by scientists from all over the world. Descriptions are published in the North-Holland journal Computer Physics Communications. Indexes of newly-added programs can be found in

Cern\$Inform:CPC_LIB_mmyy.INDEX.

Electronic access to the library is now available from CSA3 via the BSEND command. For more information see

Cern\$Inform:CPC.INTRO.

● CSPACK

This is a new "Distributed Computing Package" from CERN. The application-callable routines are part of CERN\$PACK_LIB. The package consists of

- ✓ ZFTP (file transfer program),
- ✓ SYSREQ (communication package),
- ✓ TELNETG (modified TELNET program),
- ✓ a ZEBRA Server, and
- ✓ Utility Routines.

Actual release of this package on LBL machines is pending.

● DISPLAY5

This program is a version of the locally written program DISPLAY, with the added capability of reading and writing newer Hbook4/Hplot5 direct-access histogram files. Much of the conversion work has been done by Kim Ng, of FNAL. For further details type

HELP DISPLAY DISPLAY5

● FOR_STRUCT

FOR_STRUCT is a new product which has been made available through the Electronics Engineering Division of LBL as part of their reverse engineering and CASE studies. It is licensed on the CSA cluster.

FOR_STRUCT is a comprehensive structuring utility to transform spaghetti FORTRAN-IV and FORTRAN-77 into fully-structured code. It completely converts IF-GOTO, GOTO and DO..CONTINUE statements into equivalent structured forms. Various options may be specified.

To use this new, non-interactive utility, type

FSTRUCT <filename> <cr> or just FST <cr>

For minimal HELP text, type

HELP MIS_PHYS FSTRUCT.

● GKS

As explained in the August Newsletter, Version 3.2 of ATC-GKS, which became the default, no longer supports the VAXstation (VWS/UIS) driver 4300. Please note that the old version remains available in **Sy_Graphics:[OLD_ATCGKS]**. To link and run with the old version, redefine GKS logicals

@Sy_Graphics:[OLD_ATCGKS]OLDGKS

● GEANT

GEANT, a system of detector description and physics simulation tools, is available as part of the CERN Libraries. A sample Program, using ATC_GKS or DI3000 to demonstrate graphics and other capabilities, is available. The current default, accessed via the logical name **Cern\$GeantATC_Lib**, is the latest Version 3.14. Note: the actual filename of the object library was changed to **Cern\$Library:GEANT_ATC.OLB**. Similarly, the characters "314" have been omitted from the PAM filenames.

The release notes of the latest version are in

Cern\$Inform:Geant314.History

The recommended link procedure

Cern\$Library:Geant.Lnk

uses one of the linker options files

GEANTI_ATC.OPT,
GEANTB_ATC.OPT for ATC-GKS graphics, or
GEANTI.OPT or **GEANTB.OPT** for simple MGKS
 graphics.

The difference between **I**(nteractive) or **B**(atch) is just the inclusion of the main program **GXINT** in the interactive case.

Besides ATC-GKS, 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, for CGM metafiles, or to write output simultaneously to a file for a specific device, e.g., a LaserWriter, is available. For additional information please type

Help Geant

● HERWIG

New documentation is available in
Cern\$Inform:Herwig.Doc.

● PAW

At LBL, the program PAW is being maintained primarily 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 available to the user for graphics output. Standard executable programs of **PAW_ATC**, **METAPAW**, **PAW_DI3000**, as well as **PAW**, are available in **PAW\$LIBRARY**.

To use the PAW with the old ATC-GKS, please see the section "GKS" above, and

Run Paw\$Library:Paw_Oldatc.exe

If desired, users may link their own versions by using or modifying the procedures

PAW\$LIBRARY:PAW_ATC.LNK or
PAW\$LIBRARY:PAW_OLDATC.LNK or
PAW_DI3000.LNK or
PAW.LNK

These procedures use corresponding linker options files, e.g. **PAW_ATC.OPT**. With **PAW_ATC**, all graphics output may be written to a Metafile, either for subsequent processing via the program **METAPAW**, or in device-dependent format for direct disposal to a printer. Displayed graphics may also be written selectively to a PostScript file.

Most recent **PAW_ATC** improvements are documented in files **Cern\$Inform:Paw.News***. The latest of these is **PAW.NEWS1010**. Manuals for PAW, including a fancy new User's Manual, are available from the Computer Center Librarian (Bldg. 50B, Rm. 1232B - x7008). Type

Help Paw

for more information.

Forward comments and questions to me at x4398, or

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

LBLNET NEWS

Bob Fink & Sig Rogers

IP Number Shortage Averted

The IP Number shortage on the bridged portion of LBLnet (discussed in last month's newsletter) has been temporarily averted by movement of several Shiva FastPath gateways to available 128.3 subnet numbers. Thus these FastPaths only occupy one IP number on the bridged LBLnet subnet, while the other ten occupy space on a private 128.3 subnet.

This is wasteful of the few 128.3 subnet numbers remaining, but will suffice as a solution until the LanMARK service for FastPaths is operational. The new software for ICS, allowing multiple virtual LanMARK Ethernet services, has been received and will soon be tested for service.

As stated in last month's newsletter, the IP number shortage problem is of the highest priority to the LBLnet staff, and it is also being actively pursued at the NAG (Network Advisory Group). Future Newsletter articles will keep users informed of decisions and plans. Meanwhile, if you have any questions please contact Bob Fink, x5692, or rlfink@lbl.gov.

A BARRNET Router At LBL

In November, a BARRNET router was moved to LBL to allow cost savings on the BARRNET backbone T1 (1.544 Mbps) circuit between UC Berkeley and LLNL. The new router will allow an LBL-LLNL microwave T1 circuit to be used, thus releasing a costly leased T1 service.

This will help keep LBL's cost of participating in BARRNET low, and provide another off-site path for LBLnet's external network access.

LBL will now be a "core" BARRNET site as it houses a backbone router, but will still access UCB through BARRNET; this is mainly an operational change that users should not be able to detect.

FDDI Bridged Backbone Back In Operation

The FDDI bridged backbone for LBLnet was out of operation during much of October and part of November due to machine room reconfiguration. This work was done to provide a central network operations space in 50A-1156. During this period the bridged LBLnet ran over the older Ethernet backbone.

The FDDI bridged backbone is now back in operation. There were no problems during this period caused by these substitutions. FDDI continues to work very successfully and reliably.

Traffic Data

50LAN Statistics

Statistics for a 3 day interval, 15 - 18 November 1990:

Packet rates averaged over interval:

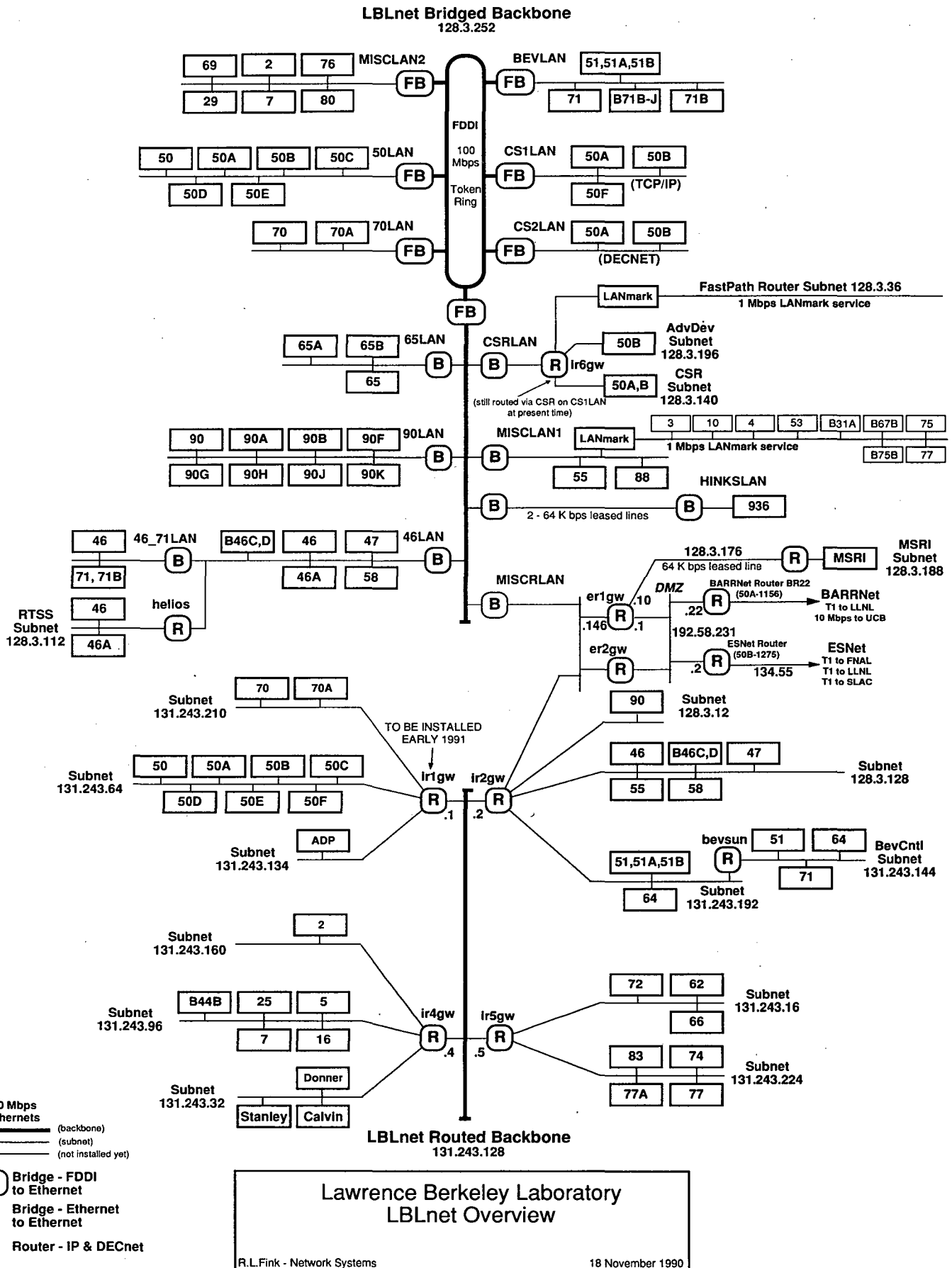
Packets/Sec548 pps
Collision rate3.6 %
Broadcasts/Sec.1.2 pps
MultiCasts/Sec32.2 pps

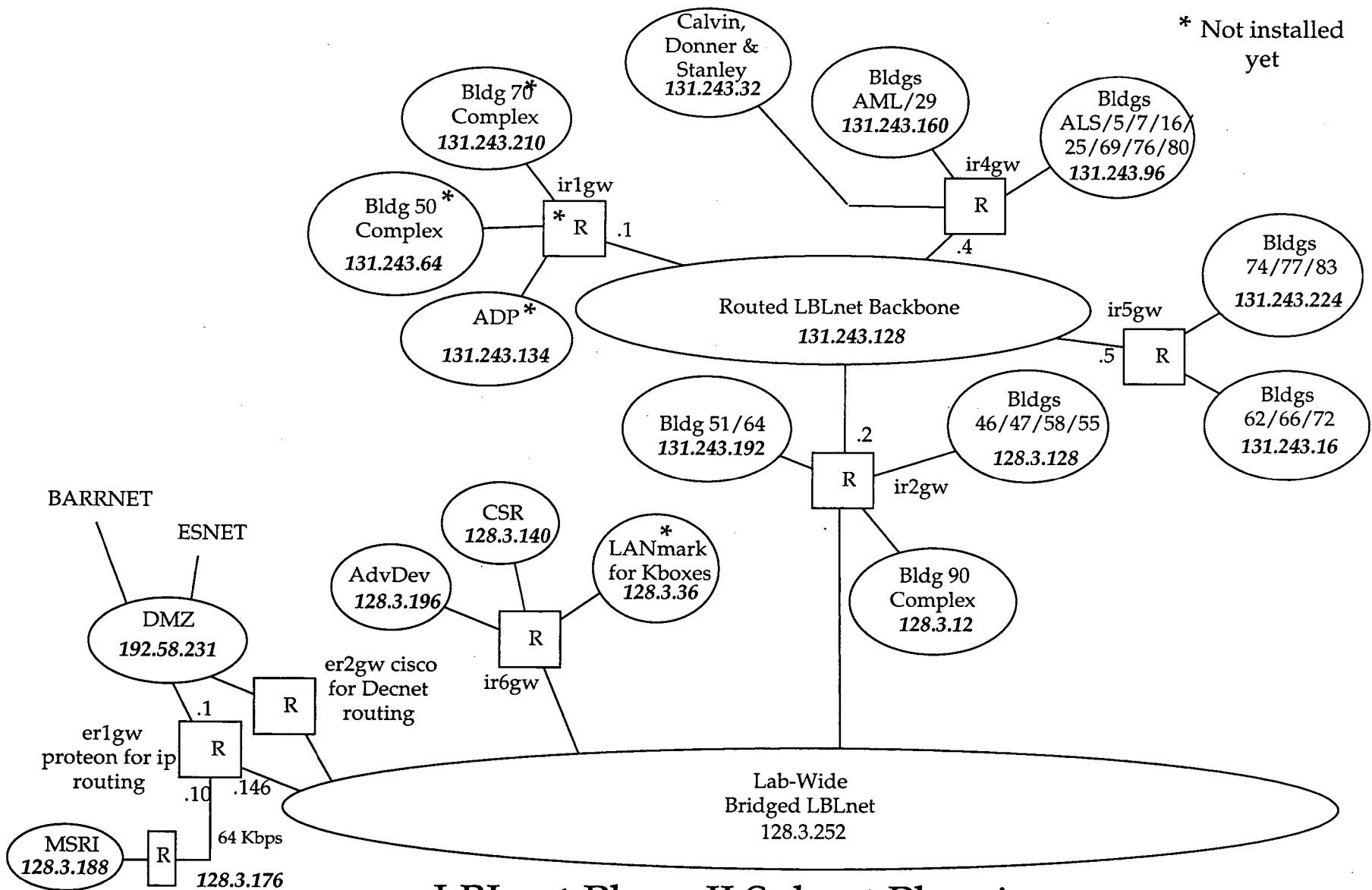
Packet size as percentage of total packets:

64-127 byte packets50.9 %
128-255 byte packets13.4 %
256-511 byte packets6 %
512-1023 byte packets8.2 %
1024-1518 byte packets26.9 %

Packet Type as percentage of total packets:

LAVC50.0 %
IP43.4 %
DNA3.6 %
LAT2.1 %
ARP1 %
Bridge Mtrg2 %
XNS1 %
ISO0 %
Other5 %





LBLnet Phase II Subnet Planning

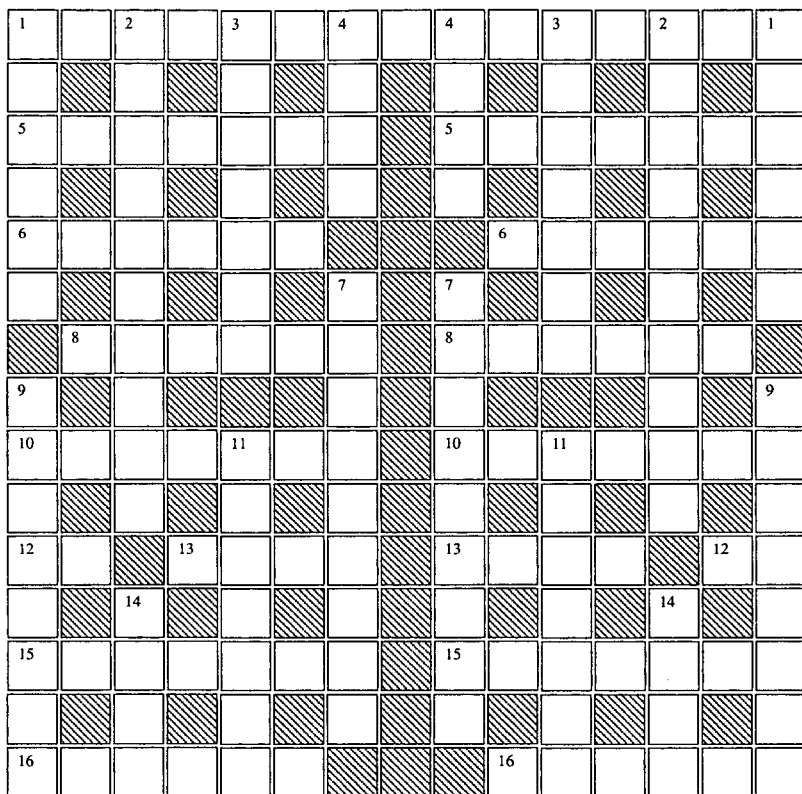
R = IP Router

Circles Represent Routed Ethernets Subnets

Bob Fink/Craig Leres/Ted Sopher

19 November 1990

CRYPTIC CROSSWORD



Cryptic Crossword 9007: Left & Right

D. F. Stevens
(after Ximenes)

Except for #1 across, which is normal, each clue leads to two answers, which are to be placed in the diagram in the two spaces with the corresponding number. The solver must determine which solution belongs in which space. The indications for either of the two answers may occur first, and they never overlap.

Across

1. There's rust in troubled intelligence agency. (15)
5. 50 scouts lost in the trees give pain an unfavorable review for flamboyance. (7,7)
6. A dozen and two elves, so lost, cut back the barbarian military governor. (6,6)
8. Lecturer's party with penny nozzle sends the old into true confusion. (6,6)
10. Siblings, for example, alerted odd student with carols spinning round his head. (7,7)
12. Lilaceous tree makes pitch pipe; doubly pruned in disorder. (2,2)
13. Where food is prepared without understanding, irritation follows one in a name for plaster. (4,4)
15. I'm found with ten men, confused, in lofty peasant's stumbling foot. (7,7)
16. I surround myself, eccentric, in small deserts, about to watch. (6,6)

Down

1. Previous affirmation: Dry up; blame devil Indian. (6,6)
2. It's a figure of speech: Since he has a hundred fish up in lusty rain, I abandoned isolation. (10,10)
3. Hermit with sore back and side ends passage of radical child in distant surroundings. (7,7)
4. Invalid nun's only half there, fifty-fifty, submissive, left in the Yankee Mission. (4,4)
7. Designate a quality taping arm to be reassembled for Bird. (9)
9. Dependent's mad edict led leaderless line to join equally hot spots in Paris. Other municipalities... (8,8)
11. ...give milk to make lace. Inside, it is Chaucerian? Not in least. Aye, and having the least fat. (7,7)
14. Harden a hair left in relative furnace. (4,4)

Notes to Solution

- Across:
1. [rust in](*anag*) + mentality
 5. pan + ache; [L scouts](*anag*)
 6. cut(*rev*) + hun; [two elves - so]
 8. do + cent; true(*anag*) + ye
 10. carols(*anag*) + h[is]; alerted(*anag*)
 12. two meanings; pi[pe]
 13. d[a]ub; k[itch]en
 15. [I + ten men](*anag*); peasant(*anag*)
 16. m[I + nut]e; re + ward
- Down:
1. yes + ret(*rev*), imp + Ute
 2. syne + C + cod(*rev*) + he; [lusty rain I](*anag*)
 3. ulcer(*rev*) + s[id]e; a[r + ch]way
 4. nu[ns] + L-L; Yan[kee M]ission(*rev*)
 7. two meanings; [taping arm](*anag*)
 9. Par[is. Other m]unicipalities; [m]ad + [e]dict + [l]ed
 11. lea[ne]st; lac[tat]e
 14. set + a; ki[l]n

THE WORKSTATION SCENE



[27.11.1]

HOLIDAY STOCKING STUFFER

*Put a Mac Screen Saver
Under Your Mac*

... Happy Holidays from your Workstation Group

You've probably seen all the great screen savers: AutoIdle, Stars, Mesmer, Moiré, Pyro, Protector Shark, and the latest, Flowfazer¹. Now there's *After Dark 2*, one of the very best. WKSG folks are currently negotiating with Berkeley System Design, makers of *After Dark 2*, for a 50-copy Site License at \$10 per copy per user. The purchaser would be responsible for software registration, and future upgrades. **An important reminder:** some screen savers are free and some are shareware, and most must be paid for! Keep software costs low; support developers by actually purchasing the software that you use.



[27.11.2]

SOLBOURNE DEMO

Representatives from Solbourne Computer Inc. will be at LBL to present a demonstration of their new S/4000 SPARC-compatible system.

Time 10 AM
Wednesday, December 5, 1990

Place: Bldg. 70A, Rm. 3377
(The Conference Room)

The S/4000 is a 64-bit SPARC desktop with a 104 MB memory capacity and a performance rating of 25 MIPS. It provides accelerated color graphics (the Sbus Graphics Accelerator — SGA — speeds up 2D & 3D graphics) as well as PEX (the PHIGS extension to the X window system).

Also at the demo: an *X Terminal* from NCD and *Frame-Maker*, the leading UNIX-based electronic publishing software.

For more information, contact Richard LaPierre (x4692) or Solbourne Rep Dan Nenni (408-982-0226).

¹ Some older screen savers may not be compatible with the newest Apple System software, and some may not be completely compatible with all application software. For example, only Moiré 3.0 is compatible with Microsoft Excel.



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 ICSD's UNIX machines or the VMS cluster by sending mail to:

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

We're here to help; please call us at x6858.



[27.11.3]

TRADING POST

YEAR-END CLEARANCE SALE

Items advertised in the Trading Post are for Lawrence Berkeley Laboratory use only and must be purchased with a valid account number.

This month we feature a special one-time LBL Workstation "clean-out-the-shop-project." To purchase, or ask for additional information on the following items, please call Bruce Burkhart, x6858.

For the January '91 Trading Post, we will continue the normal format; if you have items you wish to advertise (for sale or trade), call Bruce Burkhart, x6858.

Hardware:

- IBM XT PC, 10 MByte HD/CGA Color, \$595.
- IBM XT PC, 10 MByte HD/Mono, \$549.

Tape Backup Hardware:

- Mac: M2640/B Apple Tape Backup 40SC: \$198 (80% off new)



- Mac: Everex EMac 60T Tape unit: \$299
- Mac: Everex EMac Impact 150 Tape Backup unit: \$499

We strongly recommend that you sign up for the **MacDumps** automated backup service for Mac hard disks (see LBL Newsletter, Vol. 27, No. 3). If you don't have network access, or choose not to use **MacDumps**, a tape backup unit is the next best device to protect your data.

Keyboards:

- Mac: DataDesk Mac101 ADB (SE or II model): \$49
- PC: KeyTronic, (PC models only): \$5
- Mac: MacPlus (non-numeric keypad model & no cable): \$1

Monitors (Macintosh):

- 2 Apple Hi-Res 12-inch Mono: \$49 ea
- Apple Two-Page Mono w/card: \$965 (30% off new)
- Sigma, 2-page Mono w/card: \$699

Printers (dot-matrix):

- PC: Epson MX-100III, 120-col: \$79
- PC: Epson FX-80, 80-column: \$49
- Mac: Apple ImageWriter LQ, 27-pin: \$232 (75% off new)

Software (Upgrades):

NOTE: Users must present original disks

- Mac: 4 PowerPoint 2.01: free
- PC: 3 MS FORTRAN 5.0 upgrades: \$10 ea (80% off)
- PC: 2 TOPS v2.1, will upgrade to 3.0 free: \$25 ea (80% off)

This AppleTalk software will need a PC TOPS FlashCard (\$184 new) installed in an expansion slot.

Software (Macintosh):

Software may possibly be an older version; buyer is responsible for registration and possible upgrade, or future upgrades.

- Ashton-Tate Full Impact v1.0: free
- Aldus Persuasion v1.0: free
- Suitcase II, Fifth Generation: \$49
- CADD Level 1, by Generic: \$10
- Publish or Perish, Park Row: \$10

AppleTalk "speedup" hardware:

Software & Hardware to improve (speed up) Mac network performance.

- 2 TOPS FlashBox, DIN-8 Mac version.: \$20 ea
- 3 DaynaTALK network boxes: \$20 ea

Miscellaneous:

- PC: Central Point Software, Copy II PC Option card: \$10 (To make archival backups of virtually all IBM PC software).
- Mac: ImageWriter AppleTalk Option Card: \$42.50 (half off) This card lets you install your ImageWriter on an AppleTalk network.



[27.11.4]

CLASS CHANGES IN 1990

... More Meat on the Bones

By popular demand we will be giving more class time to the following courses:

- Introduction to PC-DOS
- Introduction to Windows on the IBM-PC
- PowerPoint Classes for the Macintosh

Thanks to our class enrollees for the many helpful comments on their evaluation sheets. We appreciate your input!

Also coming in 1990:

- a color monitor in the Macintosh Training Room to enhance classes such as PowerPoint
- color monitors (yes, plural) in the IBM-PC Training Room. Many students in the Introduction to Windows classes thought this would be helpful.

Thanks again for your helpful suggestions!



[27.11.5]

MACINTOSH PROMOTIONAL BUNDLES ON SALE OCT 15 - DEC 14, 1990

LBL PROCUREMENT

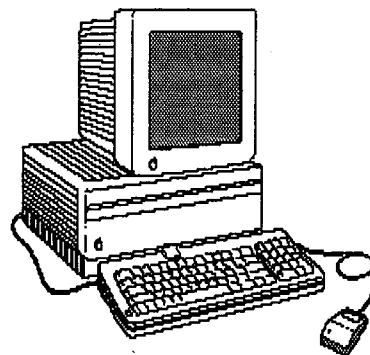
There are only a few days left to take advantage of Apple Computer's special sale on nine Macintosh systems. Three of the bundles are worth mentioning in some detail. A product number, description and price follow.

- **B0394LL/A Macintosh
IIsi 2/40
Fall Promo Bundle
\$2535**

Includes Macintosh IIsi

2 MByte RAM
40 MByte Hard Disk
CPU

AppleColor High-Resolution RGB Monitor
(Savings: Monitor is half-priced, \$250).



- **B0395LL/A Macintosh IIsi 5/80**

Fall Promo Bundle \$2999

Includes Macintosh IIsi

5 MByte RAM

80 MByte Hard Disk,

CPU

AppleColor High-Resolution RGB Monitor

(Savings: Monitor is half-priced, \$250).

- **B0397LL/A Macintosh IIfx 4/80**

Fall Promo Bundle \$4162

Includes Macintosh IIfx

4 MByte RAM

80 MByte Hard Disk

CPU

AppleColor High-Resolution RGB Monitor

(Savings: \$250).

All of the promotional bundles require the separate purchase of an Apple keyboard.

Most of the remaining Macintosh-based packages have price tags in excess of \$5000. If you would like further information on these bundled systems, stop by the Workstation Lab (Bldg. 50B, Rm. 2231) or call x6858.

PERSONAL PURCHASE

The Scholar's Workstation on UCB Campus has a similar special (at slightly higher prices) for qualified LBL staff. For further information, call them at 642-8424 (between 10 AM and 2 PM Monday through Thursday). Or pick up a *Personal Computer Ordering Packet For Individual Sales* handout at the LBL Workstation Lab.



[27.11.6]

MULTICLIP
A Mac Clipboard/Scrapbook replacement

... a review by WKSJ Member Bruce Burkhart

Why am I focussing on this rather obscure utility for the Macintosh? Consider this...

I add figures, graphics and other special text to my documents daily; it's now a routine operation. **My Problem:** The editing process was getting to be a pain in the neck; I had to hunt down all the bits and pieces I needed—for insertion in a master document—when they were scattered throughout my hard disk. Inconvenient. Vexing.

One solution: enter *MultiClip 2.0*. This desk accessory by Olduvai Corporation (LBL, \$45) isn't a cure-all, but it does expand the capabilities of the limited, static clipboard and scrapboard that comes with my Mac system software.



MultiClip™

MultiClip (MC), as the name implies, creates multiple ClipFrames.

How does this possibly help me when I'm creating a document? Here's what I do: as the document takes shape, I copy and paste bits of text, figures and graphs into MC (for later possible inclusion). In MC, I put a title or name on each clip—making modifications to the clip if I want—or reorder the list of clips; there are lots of options. As you will see, **named** clip titles permit easy identification and insertion later on.

The procedure is simplicity itself. I favor the Names Pop-Up option in MC. This feature displays a pop-up menu of all the ClipFrames names. To enable this option, I hold down the mouse button anywhere on the screen while holding down the selected modifier keys (e.g. Command-Shift-Click).

To use this feature in Microsoft Word (or many other applications), I position the Insertion Point where I want to place an icon graphic (for example). Now, I hold down the modifier keys and hold down the mouse button anywhere on the screen. A pop-up menu, with the names of all available ClipFrames, will appear. I select (highlight) the name of the icon graphic and release the mouse button; the icon graphic is instantly pasted in the document.

MultiClip, like an ever-increasing number of Macintosh software applications, is Network Protected. Meaning you can't use two copies of the same master disk in the same network. See me in the WKSJ Lab (Bldg. 50B, Rm. 2231) for a quickie demo.

Another alternative to *MultiClip* might be *SmartScrap* and *The Clipper*, which do similar things. I'll review this other desk accessory next month.



[27.11.7]

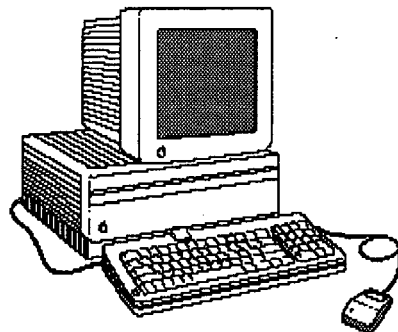
THE MACINTOSH LC

An affordable entry-level Macintosh Color system

... a winner?

Well, yes and no. It lacks the Mac IIfx performance and expandability, but it does have color and is priced very attractively. Apple designed the LC primarily for the home and school environment.

However, the business sector may find this platform very useful. How will the LC fit into the LBL computing environment?



Depending on your computing needs (as is always the case), this platform may fill the gap left by the departing Mac SE² nicely.

... the basics

- 16 MHz 68020 microprocessor that enables the Macintosh LC to run applications up to three times faster than the Macintosh SE
- 2 MBytes of RAM (expandable to 4 or 10 MBytes)
- Apple SuperDrive floppy disk drive
- internal 40 MByte hard drive
- support for three Apple monitors, color or monochrome—without adding a video card
- sound input capability built in—comes with a microphone
- seven built-in ports

The very thin 3-inch high chassis Mac LC has a rather old 68020 processor running at 16 MHz. Operations will be somewhat slower than on the Mac II platforms. While the LC does have some of the advanced features found in the Mac II computers (built-in 8-bit graphics-display hardware and 512 KByte ROM chips with 32-bit QuickDraw) there are some factors working against it.

Besides a slow processor, expandability is limited; there's only a single slot for adding networking, video, or high-resolution-display boards. More seriously, the cards that will use the Mac LC slot are not compatible with any currently shipping add-in boards. There is also some concern that future add-in boards will not be accommodated by the current power supply. Finally, the Mac LC lacks a space for a math co-processor, meaning possible application software incompatibility. Despite these negatives, the LC has good overall performance and other positive features, and it's nicely priced.

... the purchase

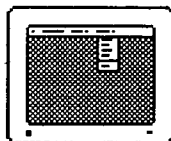
LBL shoppers will have a choice of one (count 'em, one) Mac LC model with an internal hard disk configuration (the other models have only floppy drives).

Model M0442LL/A is configured with 2 MBytes of memory, a 40 MByte internal hard disk, and a 1.44 MByte floppy drive; this package includes a keyboard. LBL cost: \$1441.

... Monitor options

The Macintosh LC supports three different Apple monitors

1. M0297LL/A (LBL \$359) - The new 12" RGB color display (512 x 384 pixels).



Note: this is a "low-resolution" display, meaning text will be blown up from the 72 dpi screen standard to the 12-inch color monitor's actual resolution of 64 dpi. Some users may find the text easier to read, however graphics will have noticeable "stepping" compared to Model M0401.

2. M0401 (LBL \$599) - The standard 13" RGB color High-Resolution display (640 x 480 pixels).
3. M0400 (LBL \$179) - A new 12" Monochrome display (640 x 80 pixels).



[27.11.8]

MAC WORLD EXPO '91

... biggest Mac event in the world!

This four-day event (January 10-13 Thursday-Sunday), will be held at the Moscone Center and Brooks Hall/Civic Auditorium in San Francisco. "Expo Express" buses (free) will connect you with both locations. More than 50,000 MacHeads are expected to visit over 500 vendor exhibits, and attend 70 conference sessions. **John Sculley**, chairman of Apple Computer, will give the keynote presentation on Friday; the Saturday keynote session (The Apple AlumniFest) will be led by **Guy Kawasaki**.

Pre-registration deadline is December 10th (a week away!). Prices, if you make the deadline:

- Package One—\$65, includes all conference sessions and exhibits.
- Package Two—\$15, admission to exhibits only.

If you're late and have to pay at the door (cash only!), Package One will cost you \$80 and Package Two is \$25. The MAC WORLD Expo/San Francisco Hotline is 617-361-3941.

If you would like a pre-registration form, or more details on the conference sessions, drop by the Workstation Lab (Bldg. 50B, Rm. 2231) or call x6858.



[27.11.9]

FILEMAKER PRO IS HERE

We are teaching our Basic FileMaker Class using the new version, *FileMaker Pro*. We will also provide some one hour workshops on the new features of *FileMaker Pro*. Please check future Newsletters for class schedules.

² On November 15, Apple announced the removal of the Mac SE from its list of products.



[27.11.11]

LBL PHONEBOOK FILEMAKER VERSION.

The November LBL Phonebook is now available on the WKSG Server. There is a *FileMaker Pro* and a *FileMaker II* version. These databases can be found on the WKSG server in the LBL Phone Book Folder. The file names are "LBL Phone B (Nov. 1990)" for the *FileMaker II* version, and "LBL Phone B Nov. 1990 (FM Pro)" for the *FileMaker Pro*.



[27.11.11]

HYPERCARD CORNER

... From HyperFan Bruce Burkhart

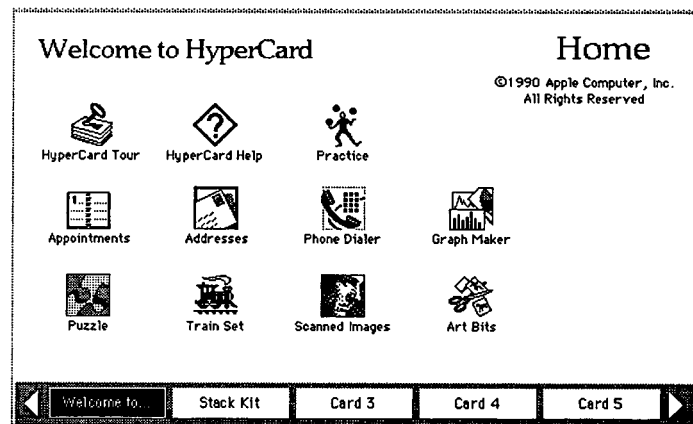
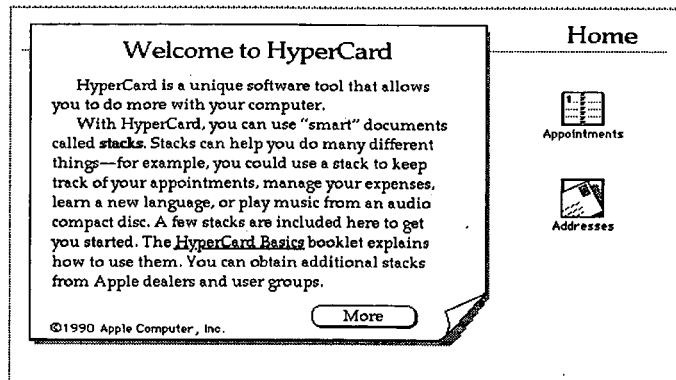
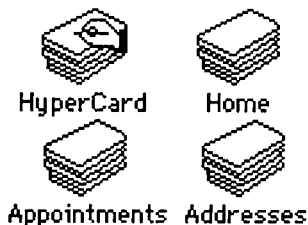
HyperCard 2.0 ... The Apple version!

As expected, a small HyperCard package (one high-density floppy and a slim HyperCard Basics Manual) is included with the new Apple Mac Classic and Mac IIsi computers. The floppy contains:

- HyperCard 2.0,
- the Home stack,
- an Addresses stack,
- an Appointments stack.

The 30 page manual lets the user learn how to

- look through HyperCard stacks,
- create places to hold new information,



You need to be using System 6.0.5 or greater to use HyperCard 2.0

- edit text on *cards* (HyperCard's basic unit of information),
- search for information.

This is strictly a guided introduction, just right for new users.

Let's play charades

When you open the version of HyperCard 2.0 that comes with your new Mac computer, a very simple Home Card appears. You may think you're not getting the *complete* program. But you are. The basics version is really the complete version. For the new and uninformed user, Apple has hidden the full, rich new scripting environment from view. The bottom line is there's only one version of HyperCard 2.0! The trick of opening the basic version of HyperCard 2.0 to the top scripting level (or *complete version*) is an easy one.

A Matter of Documentation

Once you've opened up the scripting level in HyperCard 2.0 you had better have all the documentation you can lay your hands on. It's not exactly Pandora's Box, but you will be intimidated with the new look and additional features—they're not very intuitive. There are some 63 new variables, properties, functions, commands, messages, and visual effects. Now—how do we get documentation?

Enter stage left—Claris!

Exactly why Claris is in the HyperCard business is another story. In any event, they are now the official distributor of the 5-disk/2-manual upgrade package everyone is waiting for. The *Claris HyperCard 2.0 upgrade package* will be available in the *Workstation Lab* (\$40 LBL) when it ships around Decem-

ber 1. You will need this package to get the complete Home Card and all the extra stacks, the Help stack and the Tour, plus documentation. Not to be outdone, third-party authors are flooding the market with books on the new version, so *be selective*.

Let's talk about features—briefly

More than a few fundamental improvements will greet both beginners and advanced programmers. In addition to a *much faster* HyperCard 2.0, there are

- **Variable Card Sizes**

You can create card sizes from less than 1-inch square to eighteen inches square. *One size per stack is permitted.*

- **Multiple Windows**

Allows you to view several stacks concurrently on one screen. Very easy to cut & paste between them. However, you cannot have two or more windows showing cards from the same stack.

- **Text Styles**

Finally, the freedom to change the font, size, and style of text that appears in HyperCard's text fields.

- **Hot Text**

Ever want to tie a button to a word in a scrolling text field? With a new set of Hypertalk functions it's an easy and straightforward task. This will lead to some elegant ways to navigate a stack.

- **Improved Printing**

A badly needed Report Layout Editor will let you control the appearance of all elements in a report, including font, size, and style of text.

- **A More Powerful HyperTalk**

The new version now has an automatic, run-time compiler. For the advanced stack developer there is user-definable menus and message inheritance, extended XCMD interface, a modeless script editor, and other advanced debugging tools.

- **HyperCard 2.0 has color?**

Almost. A full color HyperCard 2.0 would have been unacceptably slow. It will display a PICT or MacPaint file in color or full gray-scale with a built-in XCMD called Picture. There is also the possibility of creating a XCMD/external window that makes full use of the Mac's color capabilities.

Converting HyperCard 1.x.x stacks to HyperCard 2.0

The new version of HyperCard has a different stack format than that of previous versions. Existing Hyper-

Card 1.x.x stacks will run, as read-only, on HyperCard 2.0. To use and change such a stack with HyperCard 2.0, you must execute the Convert Stack menu item, which converts the file itself to the new format. If you want to run the stack from HyperCard 1.x.x, save a copy of it before you convert it to HyperCard 2.0.

BMUG Membership Special

The Berkeley Macintosh User's Group is currently running a special membership drive. For a \$55, one-year individual membership you will receive

- Two *Newsletters* per year
- Two *BMUG Memo* per year
- One BBS account
- Unlimited access to the Help Line for 1-year

Plus...

- A specially-designed BMUG T-shirt
- The BMUG Canvas bag

Call the BMUG business line (415/549-2684) for mail-order and membership questions. At LBL, drop by the Workstation Lab (Bldg. 50B, Rm. 2231, x6858) for a membership form or more information.

BMUG is an educational non-profit corporation dedicated to collecting, evaluating, and disseminating information about graphic interface computers. Meetings are free and open to the public, and the disk library is available to anyone. However, technical assistance and electronic information services are provided for members only.

Need more memory? HyperCard 2.0 needs 2 MBytes of RAM. Call RTSS (Real Time Systems) at x7554.

YES, I would like to receive the LBL Computing Newsletter

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Distributed Printing (RERendler)5629 50F 129
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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
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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 & Kinetics FastPath Support5354 50B - 2215

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Internet administrationip-request@lbl
LBL Postmaster for Lab-wide mailpostmaster@lbl.gov
Network Advisory Group (NAG)nag@csam.lbl.gov

ICS

ICS 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-4/490 (UNIX 5)UX5
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

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	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	

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