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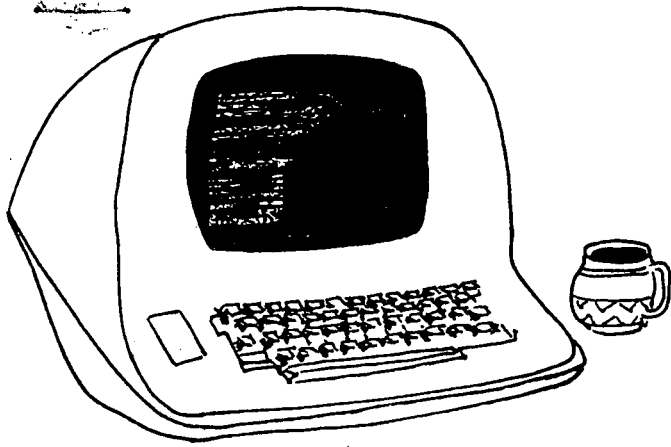
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LBL COMPUTING NEWSLETTER

Lawrence Berkeley Laboratory
University of California, Berkeley

Volume 18, Number 10

October, 1981

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Next Newsletter deadline: October 15, 1981. Please send all
Newsletter correspondence to Lisa Braver, Editor, Bldg. 50a, Rm.
1140c, (415) 486-6251.

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Names and Numbers

From on-site, dial the 4-digit extension given.
 From an FTS line, dial 451-<4-digit extension>.
 From off-site, dial 486-<4-digit extension>.

Computer Center

Paul Rhodes, Department Head - 50b/2232e, x5224

Howard White, Deputy Department Head - 50b/2232a, x5775
 and Performance Management

Joan Franz, Software Support and Development - 50b/2232c, x6204

Eric Beals, User Relations - 50b/2232d, x5351

F. Marvin Atchley, Computer Operations - 50b/2262a, x5455

Robert L. Fink, Hardware Support - 50b/2248, x5692

Computer Center Services

Consultants' Office - 50b/1245, x5981

Computer Center Library - Maggie Morley - 50b/1245a, x5529

BKY Operations - x6211; Coke/Cope Operator - x5311

Tape Services - Ed Boyum - 50b/2249, x6218

Expediter Services - Irene Bernal - 50b/2249b, x6205

Keypunch Service - Verneice Arnett - 50b/2215a, x6256

GSS Tape Repair Service - Dortha Hines - 50a/1148, x6094
 and Sticky Label Service

Building 90 Remote Job Entry (RJE) Station - Connie Sheldon - 90/3136, x6494

To open or change an account, contact Fran Permar, 50b/2258, x6310.

To obtain guest cards, locker space, and parking permits, contact Marlene Collins, 50b/2232, x5654.

To connect a remote terminal (RJE or interactive), contact Sig Rogers, 50b/2262c, x6713.

For repair of terminals or ports, contact Electronics Maintenance, 50b/2259, x5354.

To sign up for seminars on the BKY operations, contact Joyce Rybandt, 50a/1143, x6229.

To sign up for VAX classes, contact Lisa Long, 50a/1140, x5947.

To obtain WRITEUPS and HANDBOOK documentation on microfiche, contact Maggie Morley, 50b/1245a, x5529.

LBL Computing Newsletter - Lisa Braver - 50a/1140c, x6251

To get on the mailing list for this Newsletter, contact Dortha Hines, 50a/1148, x6094.

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Floppy Disk Service Now Available on VAX

The Program Development Machine (PDM) is now equipped to read and write 8-inch floppy disks, both single and double density, in RT-11 and Files-11 formats. From the Vax, of course, you have network access to most other Computer Center machines, data storage systems, and output facilities.

If you are interested, you should have an account on the PDM; contact Fran Permar at x6310 to open an account. You may then submit your floppies at the I/O counter, and an operator will copy all of the files into a directory, or preferably a sub-directory, that you specify. Optionally, the files from the (sub)directory could be copied to the floppy disk.

In the initial implementation, all files from the input source will be copied, whether they are floppy disk files or Vax (sub)directory files. If the floppy is in RT-11 format, all files will be copied in the same mode - either ASCII or binary image (in ASCII mode, translation is performed between the Vax Files-11 and the RT-11 formats). If you find these properties too restrictive, we will allow execution of a user-specified command file in lieu of the blanket copy. Anyone interested in this approach should contact me.

When writing data to a floppy, it is your responsibility to ensure that all files from the specified (sub)directory will fit on the diskette. Also, RT-11 floppies must be properly formatted and initialized before you submit them.

John Dilworth, x6088

Sticky Label Service Available On CDC Machines

The CDC machines may now be used to make sticky labels for mailing purposes. The program that does this is very versatile; it provides a search capability and many other useful features. If you would like assistance in using it, contact Dortha Hines at x6094. Documentation is available on UNIX3 by executing the command `lpr -n /mnt/hines/labeldoc`. You may also get a copy from -

Dortha Hines, x6094

BKYNEWS Going ASCII

Within the next month, BKYNEWS and its abstract NEWNEWS will become available in ASCII format - i.e., they will contain both upper and lower case letters, as well as special characters. We are making this change partly in the spirit of our own advice to avoid using the 6000's for text processing purposes. Another reason is to accommodate the syntax of the UNIX and VAX systems. The pathnames and other information on those systems often include special characters or lower case letters, which cannot be conveyed on display code (upper case only) printers.

The ASCII versions of BKYNEWS and NEWNEWS will be kept on a new PSS library called ASCIDOC. If you are an on-site user (using the printers at BKY), you will get a copy of BKYNEWS from this library and dispose it to the printer, specifying "M=AS" to indicate that it is an ASCII file.

As an on-site user, you will also be able to examine the ASCII version while logged onto the 6000's by doing a LIBCOPY of BKYNEWS and using LST or NETED on the local file. You will have to remember to specify that it is an ASCII file, as follows:

LST,OUT,AS,SS. or NETED,OUT,CH=AS.

If you are an off-site user, i.e., if you access the CDC machines via a remote job entry (RJE) station, you will probably not be able to obtain the ASCII version of BKYNEWS or NEWNEWS, since most RJE printers are unable to handle lower case and special characters. For this reason, BKYNEWS and NEWNEWS will still be available to you on the WRITEUPS library in a form similar to that of the current versions. Those characters that your printer cannot handle will be translated into different characters and explained in footnotes and on the front cover of the document. You will get a copy of BKYNEWS as you have always done, using LIBCOPY and DISPOSE.

As an off-site user, if you wish to examine BKYNEWS or NEWNEWS while logged onto the 6000's, you will use LIBCOPY to obtain a copy from the WRITEUPS library and then use LST (or NETED) on the local file.

Watch the BILLBOARD (and BKYNEWS itself) to find out when the ASCII format of BKYNEWS and NEWNEWS will become available. Meanwhile, if you have questions or suggestions, please contact me.

Lisa Braver, x6251

Computer Center Family Day Tour

LBL Family Day will be held this Sunday, October 4, 1981, celebrating the Laboratory's 50th anniversary. As we have mentioned in recent issues of the Newsletter and BKYNEWS, we will be offering a self-guided tour of the Computer Center on this occasion. All LBL employees and their families are invited to attend; the Computer Center will be open between noon and 5 p.m. (we will not close at 4 p.m. as previously announced). LBL shuttle buses will run during those hours.

Our tour will include graphics displays, demonstrations of terminals, keypunches and card readers, and a look inside the 7600 and the ATL (Automated Tape Library). A printed flyer will be available at the starting point, Bldg. 50a, outside Rm. 1148.

We hope you will visit the Computer Center. If you have questions about the tour, contact Lisa Braver, x6251.

Computer Science Colloquium

A computer science colloquium giving an overview of integrated statistical data systems will be held on Wednesday, October 7, 1981 at 10:30 a.m. in Bldg. 70a, Rm. 3377. The speaker will be Deane Merrill of the Computer Science and Applied Mathematics (CSAM) Department at LBL.

During the last decade, a number of major integrated data systems have emerged in the public and private sector that share the following features:

- Large quantities of public statistical data
- Integration of data from diverse sources
- Complete on-line documentation
- Data manipulation and display capabilities
- Frequent use in major applications

Despite their similarities, however, the systems differ widely in their capabilities, user base, and data coverage. The systems that will be compared in this colloquium include the following:

DIDS	Executive Office of the President
EPA	Data Resources, Inc.
GEOECOLOGY	Oak Ridge National Laboratory
MAX	National Planning Data Corporation
ONSITE	Urban Decision Systems, Inc.
SEEDIS	Lawrence Berkeley Laboratory
UPGRADE	Sigma Data Corporation
(unnamed)	General Software Corporation

For further information on this colloquium, contact Peter Kreps, x5830.

ACM Speakers' Program

The speakers' program for the Golden Gate Chapter of the ACM (Association for Computing Machinery) for the remainder of 1981 is as follows -

Oct. 15 - "Practical Applications of Software Science" - Chuck Smith, IBM Santa Teresa Laboratory

Nov. 19 - "Programmer Productivity in the Next 3 Years - A Pragmatic Approach" - John Hiles, Amdahl Corp.

Dec. 17 - "Programming In Calculus" - Frank Pfeiffer, Memorex Corp.

For further information on any of these events, and for reservations, please contact Joanne Stewart at (415) 428-5257. The ACM also solicits your suggestions for topics and/or speakers for 1982.

VAX Classes In November

Consultant Uzi Arkadir will give another series of VAX classes on Mondays and Wednesdays, November 16, 18, 23, and 25, from 10 a.m. to noon in the Computer Center Training Room (Bldg. 50a, Rm. 1116). To register for these classes, contact Lisa Long, x5947.

Graphics News

The computer hardware for the Interactive Graphics Machine (IGM) was recently delivered to the Computer Center. The IGM is a VAX 11/780 machine that will run the VMS operating system. It is now being installed and tested by the VAX project members; we expect that it will be available to interactive graphics users in late October.

The IGM will allow 16 simultaneous users to do high-quality interactive graphics. There are four megabytes of real memory, and a large virtual address space is possible, permitting such applications as image processing. Fifteen hundred megabytes of disk space are available, plus a DEC RPO6 as the system disk. An assortment of graphics hardware and software will be available in order to facilitate modern computer graphics applications.

The IGM will be connected to the network to allow the transfer of data files, graphics files, and printer output to other machines (e.g., the CDC machines). Also, additional equipment will be coming in and will be installed over the next few months, thus increasing the performance of the IGM.

New Graphics Equipment

In addition to the two Tektronix 4014 terminals currently available, some new graphics equipment will be installed over the next six months. With the exception of item (3) below, the new equipment will not be hardwired to the IGM. The new equipment will be located in the Graphics Terminal room, Bldg. 50b, Room 2267, and will include the following:

- (1) An **AED 512**, a high quality color raster terminal that can display 256 colors at a time (out of over 16 million possible combinations). The AED contains a memory resolution of 512 pixels by 512 lines, with a viewable resolution of 512 x 483 lines. Included with the terminal will be a joystick and an 11 x 11 inch XY tablet for graphics input. Hardware pan and zoom will be provided in hardware.
- (2) An **IMLAC Series II** display list processor terminal. This terminal has 2048 x 2048 addressable points with 8 levels of intensity, 8 line textures, and hardware blink. Included with the Series II is a light pen and tablet for graphics input. The Series II is a vector refresh terminal, and refreshes from a segmented display list. This means that with the appropriate software, you can selectively move, change, or erase a segment (a part of the picture) without having to erase and redraw the whole image. This type of terminal is useful for many applications, e.g., computer aided design.
- (3) A **Grinnel GMR 274** color frame buffer with a 512 x 512 visible resolution on a 19 inch color monitor. An 8x24 bit color lookup table, hardware pan and zoom, an 8 bit video image digitizer, and a joystick for graphics input are included. The Grinnel will be on a DMA (Direct Memory Access) interface to the IGM (i.e., it will be dedicated to the IGM) in order to allow fast display of raster images.

Other graphics devices that will be available include two high quality digitizers: (1) a 36 x 48 inch point digitizer, which allows you to input information described by points and/or lines; and (2) a video digitizer, which allows you to input information that is composed of varying intensity levels (e.g., a photograph and an x-ray).

Graphics Software

An assortment of graphics software will become available on the IGM over the next few months. This software includes:

- (1) **GRAFPAC**, a device-independent graphics software package that can plot points, lines, raster information, etc., in black-and-white or color. GRAFPAC is locally written and has been around for a long time. Programs using GRAFPAC can plot to approximately 15 different devices. (However, GRAFPAC does not currently have drivers for the AED and Grinnel devices described above. We are planning to write them.) GRAFPAC can be used interactively.
- (2) **IDDS**, a locally developed graphics package that provides higher level graphics routines than does GRAFPAC. With IDDS, you can draw contour plots, 3D surfaces, 3D lines and points with a perspective or orthographic projection, 2D plots with a variety of scalings (normal, log, and polar), etc. IDDS also allows you to draw a complete picture with labels, titles, a line or points with one call. IDDS will initially be available on the IGM (and other Computer Center VAXes) in a limited 2D version (i.e., without vector characters) in late October.

- (3) **MOVIE.BYU**, another graphics package which will be available in late October. This package was developed at Brigham Young University (hence BYU). Its original purpose was to provide shaded pictures for engineering applications; it has evolved into a general 3D geometric data package. MOVIE.BYU is for the display and manipulation of data representing mathematical, architectural and topological models whose geometry may be described in terms of panels (n-sided polygons) and solid elements, or contour lines. MOVIE.BYU can display the 3D description of objects as a line drawing or in continuous tone (color). You can use it to clip and cap the image of the object to expose internal surfaces; have its geometry modified; make additions to the image; convert complex contour line definitions into polygonal element mosaics; and update the format of the geometry file. We are interfacing MOVIE.BYU to GRAFPAC; it will initially only display images as line drawings.
- (4) **DI-3000**, a software package developed by Precision Visuals, Inc. DI-3000 is based on the 1979 ACM/SIGGRAPH graphics proposal. This proposal, commonly called the CORE, was intended to encourage ANSI to start working toward a national graphics standard. One of the many aims of a standard is to improve program portability. Since 1979 there have been many implementations of the CORE; DI-3000 is one of them.

DI-3000 has the following capabilities: 2D and 3D primitives (a primitive does one thing, e.g., move the pen or draw a line or point); graphic art quality text; general 3D projections (such as perspective, orthographic, and oblique viewing); and polygon fill and patterning. Also, DI-3000 allows segment structuring of an image. This allows you to divide your picture into logical pieces and manipulate them independently. DI-3000 is very useful for doing interactive graphics.

Setting Up Accounts

To set up an account on the Interactive Graphics Machine, you need to fill out an application form. They are available outside the Consultants' office (50b/1237), or from Fran Permar, 50b/2258, x6310.

If you have any questions or suggestions regarding the IGM, please contact me.

Nancy Johnston, x5986

Dicomed Color Film Turnaround Time

As we prepare to go into production with our Dicomed D-48 machine, several users have been asking questions about turnaround time for the various types of film that you can use on this machine. The following table lists the estimated time for each type of film.

FILM	D-48 TIME	PROCESSING TIME	READY FOR USER
Polaroid B&W	overnight	-	overnight
Polaroid Color	overnight	-	overnight
16mm B&W	overnight	-	overnight
35mm B&W	overnight	-	overnight
4x5 Color	overnight	5-6 Days	6-7 Days
16mm Color	overnight	8-10 Days	9-11 Days
35mm Color	overnight	1-3 Days	2-4 Days

Color films cannot be processed at LBL. The 16mm and 4x5 films must be sent to different processors in San Francisco; they must then of course be returned to us. We expect that after October 1, microfiche will be run daily during "prime time" (7 a.m. to 8 p.m.), and that its turnaround time will initially be 3-4 hours.

Dan Van Zile, x5589 or x5665

ARPANET Users: A Reminder

Because the ARPANET is not a BKY-supported product, our connection to it is not entirely in our control. It is possible that future policy decisions by the agency that manages the ARPANET could prevent us from providing you with this connection. Since such an event could be preceded by as little as a month's notice, we remind you that you are using the ARPANET at your own risk.

See the July 1980 Newsletter, page 5, and the October 1980 Newsletter, page 3, for some background information on the limitations of the ARPANET connection.

Joan Franz, x6204

CalComp Plotters Retiring

As we have announced in recent issues of the Newsletter and BKYNEWS, we are retiring two of the CalComp plotters from service on October 1, 1981. If you have not already done so, you should convert your CalComp files so that they can run on the Varian plotter, an excellent replacement for the CalComps.

The September Newsletter contained an article explaining how to convert your files. The following is a partial reprint of that article. The section on generating DD files on the 6000's to be printed on the 7600 has been changed.

The conversion to the Varian is an easy one if you are using the up-to-date version of GRAFPAC with FTN4 or MNF4. On the 7600, you simply change a few control cards in order to use the Varian rather than the CalComp driver. For example, change the control card

FETCHPS,GPACBN7,GPAC,CCBN.

to FETCHPS,GPACBN7,GPAC,VABN.

and change the card DISPOSE,FILM=PL.

to GRAPHIC,FILM,FT=VA.

On the 6000's, there is no Varian driver, but you can generate DD files and process them on the 7600. For example, change the control card

FETCHPS,GPACBN6,GPAC,CCBN.

to FETCHPS,GPACBN6,GPAC,DDBN.

and change the card DISPOSE,FILM=PL.

to LIBCOPY,PLOTTER,VA67,VA67.
CALL,VA67,FILM.

The CALL procedure creates and disposes the 7600 job, which in turn creates and disposes a plot file to the Varian.

If you have been using routines from the CalComp Manufacturers' package (routines such as PLOT, SYMBOL, etc.), you can use a GRAFPAC interface that converts calls to those routines into calls to GRAFPAC routines. See the GRAFPAC writeup for further details.

If you have been using the BKY CalComp routines, you must convert to GRAFPAC or another supported graphics package.

Non-FTN4 or MNF4 users on both the 6000's and the 7600 will have to convert their programs to run with FTN4.

Please contact the consultants at x5981 if you need advice in making the conversion to the Varian plotter.

Joan Franz, x6204

Campus Connection And SPIRES* Update

Recently the Computer Center acquired the interactive timesharing version of the SPIRES (Stanford Public Information REtrieval System) database management system (DBMS). SPIRES runs on the U.C. campus IBM-4341, under the VM/CMS operating system. It is available to LBL users through the Develcon terminal switch and dedicated 9600 BAUD ports.

SPIRES can meet a wide variety of database needs; it can be used for bibliographic, medical, administrative, text, and scientific purposes. Its rich command language provides searching, updating, and elaborate reporting capabilities, and can be used both interactively and in batch mode. SPIRES contains a file definition and creation language which allows you to develop and administer your own database applications without the constraints found in systems requiring centralized administration.

SPIRES is widely used in the field of information science, and we believe that it will serve the information management needs of many LBL users. In addition, the Campus Connection and local printing and tape handling facilities will provide a more convenient vehicle for those already using SPIRES at Stanford and SLAC.

SPIRES Applications Already In Progress

The LBL Telephone Services Department now uses terminals to access the "LBLSTAFF" database on SPIRES. This database contains information on permanent and temporary LBL employees, foreign visitors, and guests, and allows Telephone Services to provide quick responses to employee information calls. The LBL mailroom is also using this database to help speed mail processing. Mailroom employees can quickly find the name and address of the receiver, thus eliminating costly rehandling and delaying of mail.

Information in LBLSTAFF is updated as needed to keep both the Telephone Services Department and the Mailroom aware of personnel changes.

Future Users Of The Campus SPIRES System

The Geothermal Resource Areas Database (GRAD) is a computerized database system designed and implemented at LBL. GRAD provides a way for DOE to monitor the progress of geothermal development in the U.S. It also serves as a utility by which DOE can evaluate the impact of economic incentives, regulating, and research and development programs on geothermal development. The GRAD system consists of about a dozen smaller SPIRES databases on the Stanford computer. It is expected to move to the U.C. campus 4341 by January, 1982.

Other Features Of The Campus Connection

Even if you have no need for a database management system, the IBM 4341 may still be of use to you. Supported software includes the IBM Fortran products, SAS (Statistical Analysis System), SPSS (Statistical Package for the Social Sciences), PL/1, APL and BMDP (Los Angeles Bio-Medical programs). Additional software will be available in the near future. If you are interested, see the Sept./Oct. issue of the U.C. Berkeley Computing Services Newsletter for the status of available software.

Terminal Access To The 4341

The Computer Center has obtained 8 dedicated 9600 BAUD ports to the 4341; we expect that 8 more ports will be available shortly. You use the Develcon terminal switch to access these ports. Currently supported are the ADM3a and a number of other CRT terminals. Dial-up access is also available through 300 BAUD lines using a modem or acoustic coupler.

Local Capabilities

The campus 4341 is connected to our local network (the Hyperchannel) through a piece of software called the Remote Spooling Communications Subsystem (RSCS). You can thus access all BKY 6000's facilities, including PSS, GSS, the ATL, and the printers, from the 4341. Tape files can be transferred between the 4341 and the 6000's. In addition, you can use a SPIRES database to generate sticky labels for mailing.

How To Get Started Using The Campus Connection

To open an account on the 4341, contact Fran Permar, Bldg. 50b, Rm. 2258, Ext. 6310. The Computer Center Librarian (Maggie Morley, Bldg. 50b, Rm. 1245a, Ext. 5529) maintains a list of appropriate manuals for prospective users. Two sets of IBM manuals are available as loaners so that you can browse through to decide which manuals you would like to order. SPIRES manuals, written at Stanford University, are also available from the Computer Center Library.

A summary of interactive instructions for using SPIRES on the U.C. campus 4341 may be obtained by executing these control cards:

```
LIBCOPY,SPIRES,LFN/RR,CCDB.
DISPOSE,LFN=PR,PA=1F,M=AS.
```

For further information about SPIRES or the Campus Connection, contact -

Jerry Borges, x5568
or Joyce Johnston, x5630

* SPIRES is a registered trademark of Stanford University.

RT-11 News

The following are current news items for RT-11 users. For more information on any of these items, contact Randy Michelson at x6411 unless otherwise noted. To get on the mailing list for RT-11 information, please send your name, LBL address, and phone number to Randy at Bldg. 46a, Rm. 1123.

- (1) RT-11 consulting hours are Monday through Friday from 13:00 to 17:00 in Bldg. 46a, Rm. 1150, x6411.
- (2) Attention Tektronix 4025 users: LLL is arranging a single volume purchase of a special replacement card which upgrades the 4025 to operate at 9600 BAUD instead of at a maximum of 4800 BAUD. The price is about \$500. Contact Mel Welch at LLL 181-2-0511 immediately to get in on this special deal! This card fixes all known bugs in 4025, but is not available generally as a separate part.
- (3) RT-11 users can now transfer data via single or double density floppy disks to the Computer Center's VAX PDM; from there, a VAX guru can get your data to another VAX, UNIX, or the 6000/7600 system. For information, see the article "Floppy Disk Service Now Available on VAX" in this Newsletter.
- (4) Floppy-disk-based RT-11 users take heart! By prior arrangement you can have access to the RT-11 support LSI 11/23 for development work requiring larger disk space. The system includes a dual double-density floppy (DSD 440), RL02 (20000 blocks), H19 terminal, 300 LPM line printer (TTY40), and 128 KWD memory.
- (5) An engineering change is available for INTEL IN5004 LSI-11 memories to make them (partially) compatible (see below) with LSI-11/23's.
- (6) WARNING: Users converting LSI 11/2's to LSI 11/23's should be aware that INTEL IN5004, MOSTEK, and Monolithic Systems Corporation MSC 4604 memories previously supplied by LLL stores stock #5995-64865 will not function as the lowest 32 KWD of memory, or the highest 32 KWD of memory, because they do not decode bus signal BBS7 (bus bank select 7). They will work for the middle two 32 KWD banks of memory.
- (7) RT-11 V4.0, FORTRAN V2.5, and BASIC V2.0 patched through July 1981 Software Dispatch (Autopatch C) are being readied for distribution. Please sign up for your place in the queue.
- (8) Reminder: RT-11 is a licensed software product. Licensing costs and legal issues should be discussed with Ken Wiley, LBL software manager, Office of Computing Resources; he can be reached at x6411. LBL policy explicitly forbids illegal copying of software. See Policy & Procedure Memos Vol. VI #49 and Vol. VII #26.
- (9) The RT-11 user committee is still seeking volunteers from each division. Contact Frank Robben, Chairperson, Trailer 29C, x4420.
- (10) RK05 and RL01/02 users: keep your cartridges clean! The Real Time Systems Group (RTSG) can clean and inspect cartridges for a nominal charge. We prefer that you bring your cartridges to Bldg. 46, Rm. 125, but will come to your site if requested. We suggest you do all your cartridges simultaneously for lowest unit costs, and have cartridges cleaned periodically (AT LEAST once per year; every 3 months if your environment is dusty). Call the duty technician, x6411, to schedule an appointment.
- (11) LSI-11 users with DSD 110, DSD 210, or "thinker toy" single-density floppies can upgrade their systems to double density for \$775 by buying a DSD 4140 controller board. You can escape from the "device full" errors, make your machine a more practical development tool, and double your disk's data capacity by upgrading your system. Help stamp out single-density floppies at LBL! (Warning: NOT compatible with UNIBUS PDP11's & GT40's)
- (12) LLL is adding two ADAC analog I/O cards to stores stock: (a) an ADAC 1023 16 character 12-bit A/D; and (b) an ADAC 1412 4 character 12-bit D/A (about \$500-\$600 each).
- (13) A SPELL program which includes a 40 KWD dictionary and which runs under RT-11 is now available from Pam Wiedenbeck, x6331. It takes 20 minutes to process 75 blocks of text.
- (14) A package of FORTRAN-callable graphics subroutines and documentation for 4010/4012 terminals is available from Pam Wiedenbeck, x6331. The package can do pseudo-3D plots and requires much less memory than does PLOT10 TCS.
- (15) RT-11 users interested in periodic informal lunch gatherings to discuss each other's systems, and to exchange advice and solutions to problems, should contact Mike Green, x4607.
- (16) DSD floppy disk drive users: a new option is available as a retrofit for DSD 440, 210, 110 etc. which shuts off the spindle motors if drives have not been accessed for 10 minutes. It operates completely transparently to all system software (except perhaps error logging), and will SUBSTANTIALLY increase system reliability and motor life. LBL cost is \$119 for the kit.

Randy Michelson, x6411

Computer Center Statistics

SYSTEM PERFORMANCE IN AUGUST	7600	6600	6400	UNIX1	UNIX3	VMS1	VMS2	PHYS
System Availability	94.60%	97.78%	97.74%	99.88%	95.88%	98.28%	89.27%	100.00%
Median Service Interval (hrs)	14.47	49.42	49.28	245.83	22.08	122.95	34.67	744.00
Jobs Processed:	54,141 on 7600; 28,352 on 6000's; 82,493 total							

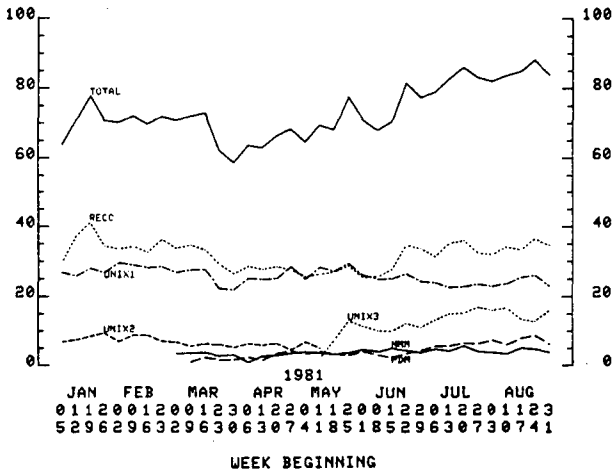
7600 TURNAROUND TIME	20 min	2 hrs	4 hrs
% of RUSH jobs returned	76.44	94.42	97.42
% of ALL jobs returned	67.06	81.00	84.97
% returned, CU limit = 100	72.52	86.04	89.19
% returned, CU limit = 500	18.31	30.99	47.89
% returned, CU limit ≥ 1000	14.96	34.25	41.06

INTERACTIVE STATISTICS

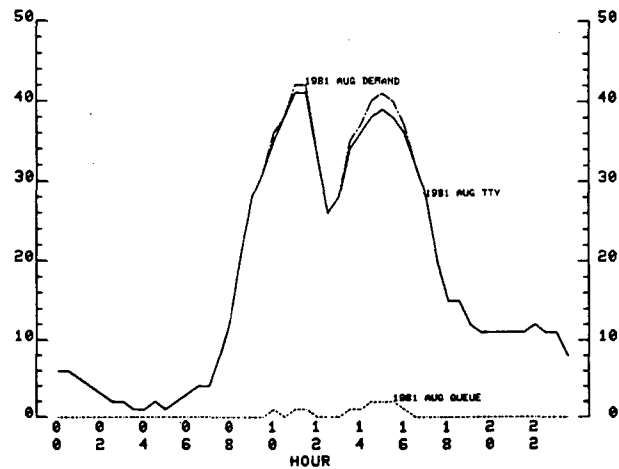
LBL COMPUTER CENTER PERFORMANCE MEASURES

INTERACTIVE TERMINAL ACTIVITY

AVERAGE NUMBER OF TERMINALS CONNECTED
SAMPLED AT HOURLY INTERVALS, PRIME USE PERIODS, WORKDAYS



LBL COMPUTER CENTER PERFORMANCE MEASURES
INTERACTIVE CONNECTIONS AND UNSATISFIED DEMAND
6600 AND 6400 COMPUTERS
AUGUST 1981 WORKDAYS



Newsletter Renewal

Our mailing list for this Newsletter may contain invalid names and addresses. If you wish to receive, or continue to receive, this Newsletter, or if your address has changed, please fill out this form and send it back. If you do not send the form back, you will be dropped from the mailing list.

Yes, I would like to receive this Newsletter.

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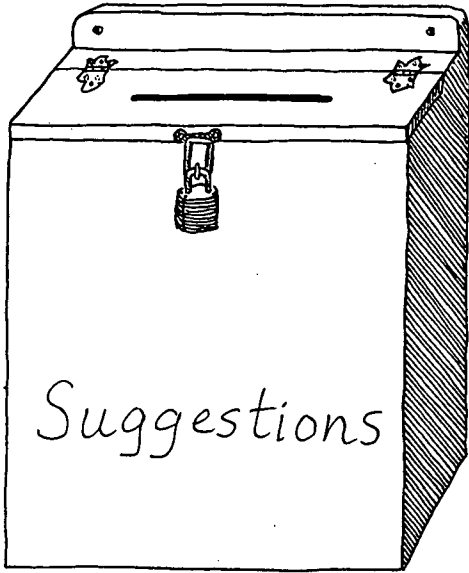
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Newsletter Renewal
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VOX

POPULI

The suggestion box is located on the west wall of the Ready Room (Bldg. 50b, Rm. 1232), to the right of the Key punch Room doorway. You may also send VOX POP entries to login name "lbb" on UNX1 or UNX3, or to Lisa Braver, Bldg. 50a, Rm. 1140c, Lawrence Berkeley Laboratory, Berkeley, CA 94720.

Question/Suggestion: The loss several months ago of three PSS disks (and their libraries) makes obvious the need for the following two improvements to the PSS/GSS programs, in order to aid automatic restoration of destroyed libraries.

- (1) An I= file option to ROLTAPE, that will read a list of library and subset names (along with owner, group, and group number), and restore those subsets from the GSS tape to PSS.
- (2) A program (or option to PSSLIST) to produce such a listing.

The listing would have to include owner name, and group name and numbers, so that the writes to the libraries could occur. This couldn't be left to the ROLTAPE card as DSTLIST does multiple owners, and OWNLIST does multiple groups.

Then the sequence to save a group:
 DSTLIST,PW=password,GN=999,G=groupname,L=DSTFILE,F=PSSIN.
 REWIND,PSSIN.
 PSSLIST,PSSIN,PSSOUT,ROLTAPE=YES.
 (The 'ROLTAPE=YES' changes the format of the output listing)
 REWIND,DSTFILE.
 PSSTAPE,DUMMY,99999,I=DSTFILE.
 STOTAPE,PSSOUT=LIBLIST,99999.

could be inverted when a crash occurs, as follows:

GETTAPE,LIBLIST,99999.
 ROLTAPE,DUMMY,99999,I=LIBLIST.

The current status of the library (the LIBLIST file) is needed because PSSTAPE (in the default situation) only saves changed subsets, whereas ROLTAPE (in the default situation) restores all subsets, including those that may have been removed (via LIBKILL) from PSS.

Response: We will put this on our list of Things To Do. However, since it requires significant changes to both PSS and GSS programs, we make no promises as to when it will be done. (David Gok and Bob Rendler)

Question/Suggestion: better maintenance of card punches. Of the 13 card punches in room 1232A, 6 of them are down!

Response: Maintenance technicians are summoned daily to repair broken card equipment. These electro-mechanical devices are susceptible to misuse - they don't take kindly to rubber bands or paper clips in their input bins; neither do they respond well to kicks or karate chops. Specific information on the nature of each failure will help in the repair - please inform the person at the I/O desk. (Marv Atchley)

Question/Suggestion: I am using the Q carriage control with microfiche. The COM writeup (page 9, about half-way down the page) says that Q adds lines 1 and 2 at the beginning of the frame, and lines 65 and 66 at the end of the frame; instead, I find lines 65 and 66 printed at the BEGINNING of the NEXT frame, in front of line 1. Why is this? Can/will/when will it be fixed?

Response: The COM writeup description of the Q carriage control on page 8 is correct; the discussion on page 9 is somewhat ambiguous. Lines 1 and 2 are added to following frames, not to the current frame. The Q carriage control is only a switch that tells the COM (or a printer) not to do a page eject to line 3 of the following frame (or page) upon printing line 64 on the current frame (or page). It cannot back up the current frame's line counter. In effect, if you invoke Q while printing on the current frame, it will not eject to the next frame when you print line 64. It will instead print through line 66 and then space to line 1 of the following frame.

Note also (as the COM writeup states) that if you invoke a frame advance (via a 1, 6, or \$FR), you will be positioned at line 3 of the next frame, rather than at line 1. The only way to get to line 1 of the next frame is to print continuously through line 66. (Dan Van Zile)

* * * * *

Question/Suggestion: Three of the eight pages of the July Newsletter are taken up with performance statistics that look to me like a waste of time and paper. I get the idea that there's no development going on in the CDC complex, so if service is good or service is lousy - so what? Nothing's going to change it. If you're going to squander your resources on this kind of activity, why not measure the VAX and UNIX systems, where the action is?

Response: These were begun in response to users' requests, and will be discontinued if they are felt to serve no continuing need. Unless substantial response is heard from our users within the next month, publication of BKY statistics will cease with the November Newsletter. (Howard White, x5775)

* * * * *

Question/Suggestion: I am rapidly discovering that nroff isn't nearly robust enough as I would like. Too often I run into "Out of temp file space" and "Too many string/macro names." (I have tried all the usual fixes, even to the point of .rm'ing macros I don't use--they just delay the problem, rather than fix it.) I end up having to break up large chapters into pieces, and can see that I will have to do certain things by 'hand' that nroff ought to be able to do for me automatically (such as accumulate a long list of delayed references). I have been told that some of the problems are due to the internal design of nroff--a fixed table for macro/string/request names, and fixed (not dynamically allocated!) space for macros and diversions.

I would like to know if a more robust nroff-like program is available, or even a more robust version of nroff (one that used disk files if necessary for the storage of large diversions). Perhaps you can find out through the USENIX group. Perhaps Version 7 nroff is more robust; perhaps the VAX version of UNIX contains a more robust nroff. Whatever the alternatives, I would like to know if relief is (a) possible and (b) likely.

Response: I wouldn't hold out much hope for further nroff development except to install new terminal types and upgrade current ones. It is probably possible to increase various table sizes in nroff, but that won't happen until version 7. Apparently they have done this on the Unix system on the CSAM Vax. (Bob Hoffmann)

* * * * *

Question/Suggestion: I have heard rumors that the priority of outside users may be increased due to previous policy changes regarding DOE users. Is there any truth to this? Turnaround time has greatly increased recently; working interactively on the B machine is very slow, ... (from an outside user)

Response: At the time of this printing, there has been no decision on the policy to which you are referring. We hope that the Computer Policy Board hearings of September 24 and 25, which were announced in the BillBoard and BKYNEWS, will provide a resolution. (Paul Rhodes)

* * * * *

Question/Suggestion: I suggest that you change the policy which allows practically free use of the computer to Lab groups. At 9 a.m. Wednesday August 12, there were 378 jobs in the 7600 input queue. Turnaround time has dramatically increased, even for instant jobs. I am an outside user and do not get the benefits of the new policy. Since I am paid a salary for the time I spend, a one-day turn-around on medium sized jobs is unacceptable. So, I must either run my jobs at rush priority or break them up into instant jobs. Both procedures increase the computer costs to my company. Thus my company is paying more for considerably degraded service. We are a small company and cannot afford this.

Response: The answer to the previous entry holds for this as well; the policy to which you are referring may change as of October 1, 1981. There will be no decision until after the Computer Policy Board hearings. (Paul Rhodes)

Question/Suggestion: To Computer Operations: Our group has found the Dicomed display to be a great asset to our research. Keep it going!

Response: Thank you for your positive feedback. The Dicomed has many capabilities in graphics - recording vector or raster plots in black-and-white or color on fiche, 16 mm or 35 mm film, or on Polaroid 4x5 prints. The Dicomed will assume the black-and-white COM load from our aging Stromberg 4460. The color graphics load on the Dicomed has thus far been rather light. (Marv Atchley)

* * * * *

Question/Suggestion: It would be useful if the VMS command BKYSTATUS could be taught to handle arguments separated by commas, e.g.,

BKYST JOBQPOO,PR

BKYST KILL,JOBQPOO,\$xxxxxx.

Response: You should be able to do this sort of thing very soon. We hope to make BKYCLAIM automatic, while we're at it. Stay tuned. (John Dilworth)

* * * * *

Question/Suggestion: When using the B machine editors (NETED or POE) it becomes necessary to output large numbers of lines. Could these editors be taught to output some sort of message indicating that they have finished printing and are waiting for a new command?

Response: Type an asterisk (*) as a POE or NETED command, alone on a line. This character will then appear every time the editor is ready to receive a new command or line of input. To stop the editor from prompting you, type an asterisk again, and POE or NETED will return to the default (no prompt). See the WRITEUPS subset EDITING for more neat tricks with the 6000's editors. (Lisa Braver)

* * * * *

Question/Suggestion: Thoughts while monitoring an AJ printout:

- (1) If you really want "no trash" in the cartridge disposal bin, you'll put a trash basket/card recycle basket next to it.
- (2) The design of the AJ table/support equipment doesn't match its location. The back is difficult to get to when the paper needs changing. Also, the paper should ideally feed from below the (not very functional) stacking tray. This requires that the tray be attached, which it isn't. Also, there is a slot in the table to allow for the paper to be fed from below the "tongue" inside, yet the design of the forms tractor prevents this.

Response: Thanks for the thoughts - we'll modify the furniture to better suit the equipment. (Marv Atchley)

* * * * *

Question/Suggestion: It is now 10:48 p.m. on 9/12/81. I have been trying to send a plot job to the plotter for well over an hour. The gizmo says:

```
IN OUTPUT QUEUES - PL - <jobname>
and RANKED 1 OUT OF 1 IN PL QUEUE - <jobname>
etc.
```

This is the second job that ended up this way. There is no-one at the I/O desk and nobody here to do something about my jobs.

- (1) Why?
- (2) Why doesn't someone respond to my repeated buzzes on the after hours button?

Response: On duty that night were two operators plus a part-time student. The operator in charge then became ill and departed, leaving two hardy souls to run the Center.

Back in May when we announced a 20% cut in operations manpower, the BKY workload was quite light. July and August saw record highs in 7600 use, and the input queues are still enormous. We will not be increasing manpower, so in times of light staffing, delays in the operation of less costly resources (such as plotters) will be inevitable. Someone should have responded to your use of the after hours buzzer, however, and the staff has been reminded to do so.

Thanks for the specific information in your complaint. See the May 1981 Newsletter, page 3, for more information about the reduction in operations staff. (Marv Atchley)

This Month's Cryptogram

ME MY EDI BAYELUPON SPEI LS CIT EOAEDY EL

JIHMC PY DIOIYMIY PCG EL ICG PY YAXIOYEMEMLCY.

(E. D. DARWIN, "EDI BLUMCH LS PHI LS

EDI LOMHMC LS YXIBMIY")

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