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UNIQUE™

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Your Independent UNIX* and C Advisor

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From the Editor

All these computers we've been getting for review have crowded our office. So we're moving to larger quarters -- actually a much bigger P.O. Box -- and we're telling you right on the front page so you won't miss it. The new address will be InfoPro Systems, P.O. Box 849, Denville, NJ 07834, effective immediately. If you just sent us mail to the old address, don't worry: we'll keep that one valid for another year or more.

Since we've never been much for hit-you-over-the-head marketing, we would like to clear up a misunderstanding that's somehow plagued many readers (and us) since we first went monthly. We have not been coming out late every month! In fact, after going over our mailing records, I found we've usually come out every 3 to 4 weeks. The problem arose with our first monthly issue (we were formerly quarterly, as many of you know). It was dated December 1982, but mailed on Dec. 30. This put us permanently in a "catch-up" mode, so that we always mailed the issue after the cover date, even though the

contents were up-to-the-minute.

We dislike feeling that we have to apologize even though we feel we have little to apologize for, so we've decided to mark this issue October-December 1983. It still counts as only a single issue, so you won't lose any issues due you. We'll just tack on two months to the end of your subscription, which costs us money but makes us feel better (and we hope, the same for you).

Actually, this works to your advantage, since we (intentionally) delayed this issue long enough to bring you some important Comdex coverage. This is one of the nice things you can do when you publish a newsletter. We're also happy to announce that this is our biggest issue ever, and thank some of our new contributors for helping make this possible. Look for more of their work in the future.

*Happy Holidays -
David & Susan*

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/dev/rumor

Remember that Coherent-based Commodore machine we told you about last issue? The price has reputedly been set at \$1200 with two floppy disks or \$3000 with a Winchester...Syntactics reportedly ported their CrystalWriter software from System 3 to System 5 right at Comdex, inside Cyb's booth...Look for Quadratron's new software at UniForum: it will have multi-windowing, mouse support, and a higher level of integration...A new development tool for C programmers will be announced at UniForum by a new company started by one of the top UNIX training firms. It's a special compiler that does run-time checking of C programs, including detection of stray pointers, wild indexing, and parameter mismatch. If the size and speed penalties are as low as they predict, nobody may ever use lint again! They'll also have an English-to-C translator, but we'll let you wait until UniForum to see what that does...One of our sources feels that last issue's rumor about Texas Instruments about to go with a plug-in UNIX board for their PC was slightly off-base. He says that Tecmar is preparing to announce an MC68000 board for the TI Professional that will be running a customized version of Coherent, and that the only direct connection TI has with the 68000 is their new Lisp machine...The latest AT&T hardware rumors have the 3B2 series designated the Model 100, 200, 300, and 400, of which the 300 will be released first. They are all supposed to run UNIX System V, and the end-user price is supposed to be from \$8,000 to \$20,000. While this price range certainly leaves room for the hardware necessary to run UNIX (i.e. lots of RAM and a hard disk), it skips the consumer-important question. What about all the inexpensive personal computers we've been talking about? We're

still expecting a lower-priced machine -- probably with a version of MS-DOS or something that allows IBM PC compatibility -- and almost surely based on the WE32000 processor (what used to be called the Bellmac before divestiture). But this will probably be a feature of one of the 3B2s as listed, since AT&T has now definitely decided not to compete in the personal computer market.

Here's some specs on the 3B5 to keep you going until they're announced, though: WE32000 CPU with memory management, 4 MB maximum RAM with optional 8 KB cache; sorry, no disk info or price yet. Each serial board runs 8 serial ports or 6 ports and 2 ACUs (automatic calling units for new uucp users). Diagnostics are major part of the machine (remember, it costs \$\$ to send people out to a site, something AT&T knows only too well). Each board in the system has diagnostics firmware with the ubiquitous LED teltales and system-readable status, and remote diagnostics are supported by an extra port on the main CPU board. Nobody's accusing anyone of being a square, but the 3B5 is practically a cube -- about 31 inches on each side.

Sermonette

We predicted a few issues back that Western Electric would be marketing those computers, and we were glad to see that Western was the name on the brochure we acquired. But now Western Electric, too, is being broken up, to be replaced by yet another company called AT&T Technologies which will also incorporate Bell Labs. What's worse: the migration of Bell Labs people to both AT&T Technologies and the Central Services Organization, and the need for AT&T to compete, will combine to sap Bell Labs of its standing as probably the best multi-disciplinary pure research laboratory in existence. The Labs could lose its special

creative atmosphere forever, to be replaced by a corporate-run research center whose main function would be to crank out new products for consumption. This is already happening -- we have received reports of Bell Labs people being given product assignments, and our worries increased when we heard that Ian Ross, Bell Labs' president, would not be a corporate officer of AT&T Technologies.

The thought of the once-magnificent Bell Labs being reduced to something akin to a Coleco New Products Center makes us furious. Don't listen to any three-piece suit types who'll tell you it's better for the bottom line that way, either. Just a few Bell Labs discoveries have totally transformed our world for the better -- the transistor and laser come instantly to mind -- and we feel it's vital that the Labs be kept intact. Maybe we should all send "SAVE BELL LABS" postcards to AT&T headquarters?

*** END SERMONETTE ***

One last side note: a Connecticut market research firm must have heard that there's lots of money in this segment of the industry, because it just decided it knows all about UNIX. They recently announced to the world their "amazing news": they expect that AT&T "may" announce a 32-bit microcomputer running UNIX sometime in 1984. They'll also sell you a "report" for around a thousand bucks or so. If anybody buys it, please let us know if any more non-news or even pure BS is in it -- after all, we only first talked about the then-Bellmac-32 based line of microcomputers in the December 1982 issue. But besides us, just about every UNIX-related publication in existence covered the story months ago -- sure proof that careful investigation of market research firms is necessary before you put big money down, no

matter how many times you have heard about them in the past.

-- DF

AT&T Action

The details of the supposedly top-secret meeting that AT&T had with its OEMs at Comdex will now be presented to you. While this is of interest to everyone, it's of special interest to those potential UNIX OEMs who weren't invited to the meeting, and who presumably would have to wait quite a few months to find some of this out. Just another service for our readers.

1. UNIX System V will shortly be replaced by System V Release 2. You guessed it: they're into incremental upgrades. Apparently stung by several accusations that System V offered little of interest over System III, AT&T is attempting to improve their product without putting OEMs through the pain of another major release (and accompanying kernel change). You will also remember that AT&T promised that the kernel would be frozen forever. Apparently, wiser heads realized that even AT&T UNIX was not perfect the way it was, and opened the way for future modifications. A good idea, in our opinion: even silicon is not cast in stone.

2. Some features of the new release are as follows:

- more and better communications and networking support.
- minor bug fixes and updates.
- more performance tuning.
- an improved uucp (Yay!).
- No file or record locking (Boo!).

3. A new product, to be concurrently announced, is the UNIX Documentation Workbench. This will probably be a more integrated combination of SCCS and the UNIX Writer's Workbench. Maybe they'll

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finally have a program that automatically writes documentation from source code.

4. The hints and rumors of more unbundling have been confirmed. It will be possible to license UNIX "a la carte". This will make it easier for UNIX look-alike developers such as Mark Williams, CRDS, and Whitesmiths to get complete or partial sets of UNIX utilities directly from AT&T. At the same time, it opens the possibility for even smaller software houses to get the source code for certain utilities and modify them for particular market niches. Look for more custom spoolers, communications packages, and the like if this happens.

5. Current source licensees will be able to get the new release in January 1984, while new OEMs will have to wait until March. This will give their older customers two to three months' lead time to port the changes over, which will probably prove more than sufficient since no "heavy" kernel modifications are expected.

6. As expected, bigger and bigger computers are needed for the "real thing". The "standard" machine supporting the new release is the VAX-11/780. How this fits in with the microprocessor versions has not been completely explained to our satisfaction.

7. The weightiest news is saved for last: hold on for major pricing changes! Full binary code licenses will be available to OEMs for about \$30 to \$80 each (depending on the number of users per system). Discounts will be based on royalties expected per year, and the discount level will be reviewed annually to see if the OEM has met its commitment. Discounting will be a flat 2% per \$100,000 royalty, up to a maximum of 60% at the \$3,000,000 royalty level. That's right: the biggest

manufacturers will be able to offer UNIX on single-user systems for only \$12.00 or so, while smaller ones will get little if any discount off list price. But whatta list price! AT&T is certainly hoping to make UNIX the standard for price reasons alone -- it will be cheaper to add UNIX to your system than an extra 16 KB of memory. In case you didn't read this paragraph too carefully, though, let us reiterate one detail: this is for binary, not source licenses, which remain at the \$43,000 price.

-- DF

We Have Mail.

November 23, 1983

Dear Mr. Fiedler,

Your August article on the Zilog System 8000 has recently come to my attention. It includes several inaccurate statements that I believe deserve correction.

The article begins by saying that since its introduction two years ago, the System 8000 has "dropped back to the half-forgotten middle of the pack." In fact, many knowledgeable users and industry observers consider the System 8000 to be one of the leading superminis in terms of functionality, reliability and price performance. To date we have shipped approximately two thousand throughout the world and are currently shipping between 150 and 200 each month.

We are by no means reticent to talk about the fewer than 50 systems installed at EXXON. In fact, it is our fondest hope to increase this number substantially, although to do so we will have to compete for the business just as any other vendor would.

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Of the several hundred systems which have been shipped to EXXON Office Systems, the majority have subsequently been shipped to their customers. In any case, our sales to EXXON and its affiliates certainly do not constitute the majority of our business or anything close to it.

I am completely unable to comprehend the comment that our sales to McDonald's and the IRS "neither generate nor require any notice from the average UNIX user." It appears to be the anguished complaint of a traditional "hacker" that UNIX is now being used in commercial applications by people who are not computer professionals. Frankly, we are in business to be successful, not to preserve elitist notions of technical "purity".

Finally, we are very happy with our agreement to port System V to the Z8000 and have been very vocal about it. The statement that it "was not mentioned above a whisper" is therefore puzzling. We are, for example, participating in the UNIX Microports session at UniForum in January.

I hope this letter will help to correct some of the misconceptions contained in your recent article. Please let me know if I can be of further assistance.

Very truly yours,
Robert V. Dickinson
V.P. and General Manager
Systems Division
Zilog
1315 Dell Avenue
Campbell, CA 95008

Dear Mr. Dickinson,

I appreciate your feedback and clarification of some of the points made in Walter's article. I'd like to point out that signed articles in

UNIQUE (or any other publication for that matter) are generally considered the opinion of the author. Even though the article you mention was clearly signed by Walter Zintz, I went to the trouble of pointing out that it was an opinion piece in the front page editorial.

One opinion expressed in Walter's article was "dollar for dollar the [Zilog] System 8000 is one of my favorite microsystems". In my signed article, published in the following issue of UNIQUE, I called the Z8000 "under-rated", quoted an article which concluded that the Z8000 was the fastest of the three major microprocessors, and generally said other good things. The point is that, while Walter and I - both generally considered to be knowledgeable industry observers -- obviously agree with Zilog that they have a good product technically, the essence of the article was Walter's opinion that the marketing of said product has not been up to snuff. This is borne out by your own statement that you have shipped 2000 systems -- not chicken feed, but clearly low-to-middle if you consider the 5,000 to 10,000 range of Altos, Fortune, and Radio Shack (yes, we know your systems are more expensive, but think of the gross and net revenues involved). Again, the point is that the popular impression of Zilog is of a firm that's not doing as well as it could -- which truly is a job for your Marketing Department.

I am glad the upper management of Zilog is reading UNIQUE so avidly. Thanks again for helping clear matters up.
David Fiedler

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Comdex Corkers

The latest and greatest of the product introductions at Comdex. SURE everybody had something new, but we have to tell you about some of the hottest things first. Because of the time pressure, we didn't have a chance to do a full investigative report on all of the new companies, so we can't swear everything is as rosy as it might sound. As usual, don't put your money down in front. Some of these firms are due for visits, to see what's really going on. More next month.

-- DF

Silicon Valley Micro
4010 Moorpark Ave. #213
San Jose, CA 95117
(408) 246-1101

How about a portable 32-bit computer that runs UNIX for \$15,000? Would you believe \$5,000 and it also runs MS-DOS? We saw it (running demo programs, anyway) in prototype form, with a off-the-shelf amber CRT monitor and floppies crammed into an instrument case with a handle. The president and prime force behind Silicon Valley Micro (whose logo contains the admonition "Go For It!") is Gene Finkler, who frequently speaks at microcomputer industry gatherings. He was previously employed at Citibank, Sandoz, and as a consultant for ICL in Europe. Instead of a garage in Silicon Valley, Finkler founded his firm in his chalet in the Swiss Alps, he says.

There are four models in the series of machines, which share a few common features: an NS32032 CPU (real 32-bit) as well as an 8088, one each serial and "RS-232C parallel" ports, and a quad-density floppy disk drive. The operating system on the two lower-end machines is actually uNETix (which Finkler insists is real V7 UNIX even though we tried to explain what

"fully-compatible" means). The Model 5 (models are named by their price in thousands of dollars) has an extra floppy disk, 9" CRT and a total of 512 KB of RAM. Model 10 has 1 MB of RAM, a 75 MB hard disk, 20 MB streaming tape, and a 12" 750 x 750 pixel CRT. Moving up to the Model 15 adds a floating point chip for each CPU (an 8087 for the 8088), another 1/2 MB of RAM, and runs Berkeley 4.1 UNIX rather than uNETix. There's a 175 MB disk and 40 MB streamer in this one. The biggest and best is the Model 20, surely the ultimate in single user workstations (remember, it's still portable): a total of 2.5 MB of RAM, 280 MB of disk, 60 MB of streaming tape, 1 floppy, a 12" COLOR 1024 x 1024 pixel display, and UNIX System 5. These last two machines will run 8 users each.

How can they do this at all? Finkler told us that his people have the same spirit as "The A-Team" (does that mean we might be due for a few rifle rounds through our door if we say anything negative?), which is appropriate since they, too, only have four people. Selectron, a large Valley contracting firm, will be actually building the machines, while Lantech will be providing the software. Finkler hedged on who his in-house UNIX expertise consisted of and how much backing he had, mentioning vaguely the magic words "venture capital".

SVM doesn't expect you to put your money in front, though; you can guarantee yourself a slot in their production queue by sending a letter of intent to purchase a machine. In any case, adding up the current OEM prices of the components in these computers reveals little, if any, profit. Presumably Finkler is betting that the prices will come down by the time he is ready to ship. He has already made heavy volume commitments to component and peripheral manufacturerers. Finkler also told us

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that, being a happy Porsche owner, he intends to have Porsche design the final case. If they aren't already well on their way, however, we don't see the final product coming out by third quarter of 1984 as promised; and we doubt that a fancy outside will allow the total price to remain where it is.

-- DF

Amaury Piedra
VP, Field Operations
Micro Standard Technologies
PO Box 319
New Lebanon, OH 45345
(513) 687-1395

Another entry in the portable department is a bit further along in production. Micro Standard Technologies showed us their "convertible" (as long as we're into automotive metaphors) portable M3000 system which comes standard with a Z80 running CP/M Plus. Add one of the tiny (STD bus) upgrade cards, however, and you have either an auxiliary 8088 running MS-DOS or a 68000 running -- you guessed it -- UNIX.

How much? Just about \$5,000: including a 10 MB hard disk, 512 KB of RAM, 376 KB floppy, and serial and parallel ports (one of each). Instead of one of the ubiquitous UniPlus+ versions, however, Micro Standard Technologies has decided not even to wait for AT&T's "blessed" port of System V to the 68000. They're doing it themselves from the original VAX tape, and the word is that they've just finished the kernel porting successfully. The word is also that they only have one person doing the port right now: good from the elitist notion of technical purity, maybe, but it might make the investors nervous. Presumably more staff will be added quickly: they expect 200 employees by the end of next year.

Micro Standard has so many options we can't cover them all, but we would like to mention that the M3000 has a built-in clock/calendar, 9" 600 x 200 pixel screen, 6-month warranty, RGB video port, and a choice of STD, VME, or S100 bus cages. A slightly larger (the M3000 takes up an entire cubic foot, now) M6000 machine gives more room for boards and peripherals at another \$1400 or so; we saw a Winchester, floppy, and streaming tape in one. The firm has been concentrating previously on the industrial-strength and mil-spec market, and so has paid attention in these products to details like dust and water resistance as well as serviceability.

Their new CEO, Edward Day, was VP and General Manager of Zilog's Components Division. They just opened two new offices (Sunnyvale and Dallas) and are moving into a 64 KF (64,000 square foot) factory in Fort Wayne, Indiana, obviously expecting somewhat rapid growth. While we were unable to get hard data on their capital backing, they've had \$1 million in sales for fiscal 1983, they say, and have received incentives and loan guarantees for moving to Fort Wayne.

-- DF

Fortune Furor Fixed by Fiedler

At a Bay Area trade show shortly after the Osborne collapse, rumors began flying thick and fast about Fortune going Chapter 11. To those of us who are aware of Fortune's extremely good cash position, this seemed laughable. Then we started hearing other things, like:

- their engineering department was composed mostly of "whiz kids" from Berkeley: imaginative but with no experience getting products out.
- said engineering staff was going

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through a "thorough housecleaning" -- including dropping notables such as Lou Katz (of Usenix).

- few Fortunes were being sold. One newsletter sneered that Fortune was selling "over fifty 32:16s a month", with the distinct implication that this was an upper limit. Other sources mentioned similar figures.

- conversely, their systems are selling very well in Europe, but their largest customer in that market, Thomson-CSF, will begin making Fortunes under license next year, possibly reducing income to Fortune itself.

- while they have \$60 million in working capital, this figure was over \$90 million just six weeks ago.

- at Comdex, without exception, people were speaking of Fortune in the past tense.

You might say that all this piqued our interest. We were promised an exclusive interview at Comdex, and in an unusually frank discussion for a top executive, Dave Caplan (then acting president of Fortune Systems), answered every question we had. And his answers revealed that people really have been reading UNIQUE carefully all this time.

"We had a fundamental problem until October", Caplan said. "We were selling a multiuser system, [but] the software we had did not have sufficient performance to support multiple users." He then explained that their new operating system, FOR:PRO V1.7, was "at least 50% faster" than the older version, and could be as much as 300% faster in certain cases (floating point calculations). Also, their new XP series brings faster disk drives and more expansion capabilities for even higher throughput. According to Caplan, since the release of V1.7, they

are "production-limited" -- that is, they're selling everything they make. Caplan revealed that V1.7 was being given free to all current Fortune owners, to restore their credibility and "give the guy who bought it the performance he should have been getting in the first place".

Predictions for the near future? Caplan said that the fourth quarter would be "significantly better" than the third -- they won't show a profit but will have less of a loss. He also noted that they were hiring more people in manufacturing.

He also squelched a few rumors. While he agreed with the characterization of many of his engineers as "bright kids with no experience with shipping products", he asserted that no one has been let go in software or hardware development, and that he had brought in "new, good senior people" to guide things along properly. The 50 systems/month figure was "categorically denied", with a statement that in their worst month ever Fortune shipped about 300 systems, and that average shipments are at the 500/month level.

Most of you have already heard that Caplan has moved back to his old job as VP of Technical Operations (not a pass-over move; that's the way he wanted it). The new president, CEO, and chairman is James S. Campbell, formerly president of Shugart. Hopefully his entry will help bring some needed stability, especially amid rumors that VP of Planning Homer Dunn and VP of Marketing Dave Van Den Berg might be leaving soon.

Other sources at Fortune, who preferred to remain unnamed, had observations too. One said, "You have to know just two things about Fortune. Look at their current management and how they are planning, and figure out how viable

UNIX really is as a commercial system. The major issue is whether they can use the money in the near term" (i.e. will they be able to sell the machines). He had "no impression whatsoever" of Campbell yet, but hoped "he was off thinking hard somewhere", and that Fortune has the money to afford writing off the last fiscal quarter, so why not get it over with? After all, they've gotten rid of the old management (former president Gary Friedman) and its mistakes. We were also told that there was no evidence that Dunn and Van Den Berg were leaving.

And according to Dunn, Friedman's exit was precipitated by the Board of Directors' desire for just one person as CEO with experience running a computer company of Fortune's size or larger. Apparently, Friedman saw any incoming CEO as his own right-hand man. Dunn also reminded our readers that Fortune has the largest installed user base of any UNIX computer, with 10,000 systems in the field.

So what does all this mean? Fortune's introduction of a UNIX-based computer with a menu system and decent word processing at an unheard-of low price was important to this market segment, but overshadowed by the IBM PC's takeover of the market that Fortune has been targeting. This was made worse by the fact that Fortune has seen its products as high-end microcomputers, while others have seen them as low-end UNIX boxes. The net result is that the Fortune computer was a bit too early for its market -- announced before the still-growing clamor for UNIX systems had gotten off the ground, before enough applications software was ready, and before the product itself was mature enough for the promise-conscious business market.

Their continued existence will be based on 1) whether they can overcome

their past stigma of having a low-performance machine, 2) whether their capital base will last them through the coming inevitable period of losses, and 3) whether they can prove to the office systems marketplace that multiuser UNIX-based computers really are better than loosely-coupled PCs. Don't laugh at that last one. **Everyone** in this market is betting on it.

-- DF



Taking a closer look at Software

Applications Software

Karan Kauppila
Handle Corporation
140 Mackinaw Road
P.O. Box 7018
Tahoe City, CA 95730
(916) 583-7283

According to a company representative, graphics capabilities is one of Handle's specialities and they are proud of their work in this area. They have combined their graphics work with a series of integrated products written in C. These products, originally designed on an IBM 370 and then ported to a VAX, are currently available to run under UNIX and XENIX on the 8086, (and therefore the IBM PC), 68000 and HP1000 machines. Ports to other machines (for such companies as Computer Automation, Siemens, and Motorola/Four Phase) are in the works, and rumor has it that you will see Handleware on the 3B series of computers from AT&T in the near future.

Which versions of UNIX will they run under? Company representatives said "all" because the software is written in C. And their products are optimized to run under UNIX (as opposed to other

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operating systems), although Handle Writer will run under RTE on the HP1000. So while their office automation system sounds quite useful, many of you will have to wait until sometime next year to put Handle software on your system.

Their programs have several features in common. Commands are function key driven, and a maximum of eight function key labels can be displayed on the bottom of your screen at any one time. These help keys are changed automatically as you move through the program. All their programs have a standardized user interface, and the ability to pull data out of other system files and then act upon that data.

The primary product is the Handle Writer (tm) with a list price of \$595. It can also be bundled with Handle's other products. Handle Writer is a word processor combined with a proprietary database system. The word processor has variable rulers, proportional spacing, headers, footers, will allow for multiple formats within a document and can do text searches. The usual cut, paste, delete and scroll commands are present. A "proof mode" enables you to see what the finished document will look like before you print it. The database portion enables you to archive and retrieve your documents on or off line, bring archived documents back into your main working catalog, and maintain document profiles, catalogs of your archived documents, and mail boxes. Security passwords similar to permissions on UNIX file systems are provided.

Handle Graphics (tm) which lists for \$295, is fully interactive with Handle Writer and Handle Calc, so that you can include graphics within the body of your text using information from Handle Calc or other sources of raw data. Moving graphs around in your

documents is made easy by a "float" feature. They appear as "pseudo-drawings" while you are editing, and can be "drawn" exactly as they will appear when printed using the Writers proof mode. This package can dynamically change plots as data or time changes, allows up to eight colors, and offers line, bar, or pie charts (stacked or grouped), scattergrams, pies that explode into bar or line charts, and statistical analysis charts.

They also have a CAD/CAM capability which is primarily for drafting purposes and offers phototypesetting and typesetting presentations. This system allows you to hook up a graphics CRT, plotter and digitizer (alone or as part of a tablet and pen set). Their target markets for this include building designers, land use planners, and topographic mappers.

In all cases, if you have a high-resolution terminal, the graphics software will show you your work exactly as the printer or plotter will produce it. Without a high resolution terminal you will see a pseudo-drawing.

Handle Calc (tm) is a virtual memory spreadsheet for \$395. It can produce "what if" scenarios, has split screen windows, and enables you to perform calculations within a document. Handle Spell (tm) has a list price of \$125, an 80,000 word dictionary and can automatically check both your spelling and punctuation. It also has a special "phrase recall" option. Handle List (tm) priced at \$240, is designed for use as a personal filing system. You can use templates to create forms that are easy to fill out, and then enter the data into the database of your choice. Information can be sorted and/or merged.

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Two new products are planned for release next year. One is a program that would enable you to access main-frame databases. The other is a communications product that will allow users to set up mail boxes with group passwords, and will accept input formats such as those from Telex networks and other UNIX mail facilities. In mid-summer 1984 they are planning to release Version 2 of their graphics software which will have 3-D capabilities.

Joseph Novak
New Age Software, Ltd.
122 St. Patrick Street
Toronto, Ontario
CANADA M5T 2X8
(416) 977-5585

They have created a new language for use on UNIX systems called **NABasic**. OASIS fans take heart: this language is compatible with OASIS Basic so you can now execute applications software written in OASIS Basic under UNIX. NABasic was written in C and has already been transported to Altos, Masscomp and Zilog machines. Future ports include the AT&T 3B2 series, and the 16032. This language was developed specifically to help software houses develop applications software and thus has a variety of important features.

New Age says that this is the only UNIX-based Basic which can execute programs larger than 64K (however, it is not clear whether overlay handling of some sort is required by the user). But past this memory breakthrough, NABasic also supports matrix I/O statements, chained programs, structured programming (through constructs such as CASE and WHILE-WEND statements, and analysis of statement syntax at program entry time. UNIX users will especially appreciate niceties such as a built-in ISAM facility, CRT independence, file

and record locking, CRT-independent built-in functions, redirectable I/O, and total reentrancy of the interpreter. NABasic programs may also execute UNIX commands through the provided shell interface.

New Age also offers a variety of applications programs written in NABasic:

Integrated Accounting System: This package is available on an "a la carte" basis for \$1000/module. Essentially, it's an accounts receivable package with the ability to integrate client accounting (with separate profit center reports), time accounting, word processing, and electronic mail. Passwords provide multi-level file security, while year-end and other audit reports can be generated. Source code is available.

The General Ledger System: This interacts with the other accounting modules (A/R, A/P, etc.), if desired, to automatically post data from those modules into the General Ledger files. There are 9 types of reports, which can be produced for whatever time period you specify, a variety of transaction and update options, automatic balancing as data is entered, and tracking of each person's work for later audits. The system can be customized to an extent without modifying any source code.

The WITS/ECONOMIST: A menu-driven business modeling tool originally designed for OASIS machines can now be run under UNIX. This package is the same as the one available from Ashton-Tate for the CP/M operating system called **Bottom Line Strategist**. The program uses graphs, tables, multiple windows, and such to help the business owner concentrate on the bottom line, without requiring spreadsheets, programming, or writing equations,

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according to the vendor. This is all accomplished by built-in modeling equations, and handy if you agree with their assumptions. If you are a dealer you can evaluate their demonstration package for 30 days (after paying \$100 and signing a non-disclosure agreement).

George W. MacIntyre
Lantech Systems, Inc.
9635 Wendell Road
Dallas, TX 75243
(214) 340-4932

The history behind Lantech is rather interesting. The company's predecessor was Advanced Digital Products, which offered a variety of C compilers and cross-compilers (see Volume 1 Number 2). During the pre-Ethernet era (remember that time?) Dr. Derrell Foster (one of the principals of both firms) worked with some others on development of a LAN for a PDP-11 with a "transparent" file handler. Two of the other features were the creation of an audit trail for file transfer activities and automatic archiving of those files not in recent use.

Jim Hopkins, Lantech's president, comes from Percom. It seems he was so impressed by Dr. Foster's accomplishments that he scooped Foster up and started a new company! Percom and a venture capital firm, Investments Orange Nassau, put up a total of about \$1 million to help get Lantech started. Foster's past performance also lured Michael McChesney away from Investments Orange Nassau to become VP of Finance/Administration.

Their main product is now a UNIX-like operating system called uNETix. Since many publications are raving about this new product lately, we once again remind our faithful readers that we covered uNETix way back in June 1982

(Volume 2 No. 3, p.3) when it, too, was a product of Advanced Digital. The version of uNETix being delivered today is known as DFS, for Distributed File System. At the present time uNETix runs on the IBM PC and 8086/8088 machines. The system takes about 128 KB of RAM, so you really need about 256 KB as a realistic minimum.

Since Dr. Foster is a networking expert of some repute, and the IBM PC itself is not a super performer under this type of operating system, it was natural to build networking into uNETix from the beginning. This allows file sharing among multiple PCs running single-user uNETix instead of trying to share users on one PC. The DFS system allows transparent file access over a network in much the same way as the Hewlett-Packard system we wrote about in Volume 2, Number 11. Both Ethernet and Omninet are supported, and arrangements have been made to keep uNETix' network scheme compatible with those of several other firms, notably Percom and Plexus.

But networking is not the only "high-tech" feature of uNETix. Everyone from Microsoft on down is making a big fuss about "doing windows" -- allowing more than one process to run in its own screen area -- but this has been an integral part of uNETix for some time. Up to 10 windows may be used simultaneously (naturally each process causes some degradation in response while it is running), and window calls may be embedded in user programs. Also, programs do not have to be changed to run under the windows -- they're completely transparent. Of perhaps greater interest is the fact that data or text may be freely moved from one window to another without the need for a disc access. Our observations of this process at Comdex showed that it does take some time (lines of text move sequentially) but is not too

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slow to be a problem for reasonable amounts of text.

Naturally, all this nice system software is almost useless without applications to go with it. Lantech has avoided the "buy it just because it exists" syndrome by supporting current software in two ways. An MS-DOS emulator provides system calls, not just file transfer, enabling you to run all current software for the IBM PC without change (we saw it running WordStar quite decently). It will even support software that makes direct calls to the CRT, if you expand the window so it takes up the entire screen area. In fact, they claim the emulator can be faster than native MS-DOS for certain applications, due to a 50 KB floppy disk cache buffer. uNETix is also fully UNIX Version 7 compatible, according to Lantech, which provides another path for acquiring applications software.

We'll be able to check this all out when we get our copy (we always like to check when products sound this good) but our preliminary look was quite favorable. It certainly looks like it's worth \$130: in fact, we think smart applications developers will buy uNETix in quantity and bundle it into their software. Who wants to write multiuser and window code?

A version of uNETix (called uNETix-VFS for virtual file systems) which was designed for use in very large networking systems will be available shortly. uNETix is currently being ported to the 68000 and 16032 and should be ready next year. Full detailed prices were not available at press time, but the basic uNETix package will retail for about \$130 as we indicated, and around \$395 with a C compiler.

Lantech Software Development Tools include the C cross-compilers for 8086/8808 and 6502 microprocessors, which are available to run under either uNETix or MS-DOS. This is an advanced version of the product originally offered by Advanced Digital Products, and it produces symbolic assembler code. These tools run under V7 on PDP-11, BSD 4.1 on the VAX, and System III on the Plexus and are intended for use in software development work.

Lantech also offers The SafeSwitch, a communications product with security features. It simplifies data communications by solving that age-old problem of resetting baud rates, so your machines can talk to each other without the aid of rewiring or the use of special cables and modems. SafeSwitch, which is transparent to the user, has menus and a help file. Passwords are necessary to enter the system and they are verified before access is attained. Naturally, the system manager has ultimate control over the accessing ports. SafeSwitch is based on an 8086 processor, and one switch will allow you to connect up to 128 serial devices. You can interface as many of them together as you might want. Lantech will develop software around this product to meet the needs of OEMs. Current pricing information was not available at press time.

Fred Pack
 UniPress Software, Inc.
 1164 Raritan Avenue
 Highland Park, NJ 08904
 (201) 985-8000 or (800) 222-0550

Since they've gotten a good deal of coverage in the year or so they've been in business, we thought we'd just tell you that UniPress Software was started by Fred Pack and Mark Kreiger after their not-very-publicized split from Bill Plauger of Whitesmiths (see

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Volume 2, Number 4). UniPress now sells and supports a variety of third party software as well as products developed by their own people. All of these products are available now. Their fastest-selling product is the legendary EMACS full-screen text editor.

EMACS will run on the Apollo Domain, Lisa, Masscomp, Sun, TRS-80 (XENIX), and VAX (UNIX or VMS), under V7, System III, and Berkeley 4.1 - 4.2. A port to the PERQ is in the works. The price varies from \$395 to \$2500 for binary or \$995 to \$7000 for source on depending on your machine. This EMACS is based on the Gosling version and is written in C. Its features include user-definable multiple windows, vi compatibility, spelling check, search and replace commands, and the MLISP programming language. Programmers are aided by the automatic formatting capability as well as a mechanism for displaying error messages in your C source file after compilation. You can run system commands, the shell, and your programs while in EMACS. EMACS will also maintain a mail system. Under XENIX, the editor can execute a command in one window and send the output to another. UniPress publishes a semi-annual newsletter for users of this product.

LEX68 is a variation of LEX, (see Volume 2 Number 7 under Softest) priced at \$750, that runs under XENIX on the TRS-80 and UniPlus+ on the Lisa. It is a word processor that uses rulers for formatting text, has cut, paste, and document merge commands, a 100,000 word spelling dictionary, and a calculator. LEX68 can also function as a mass-mailing database.

The Menu System (see Volume 2 Number 7 under Softest) was created as an interactive menu generating editor to aid programmers in creating menu systems for end-users. Menu designers

will find help facilities, and menus for both the collection of data and execution of programs are already provided. Through a user's .profile you can customize his or her individual menu system. This program can also communicate with your C programs. A binary single user license costs \$495, for up to eight users it's \$995, and for over eight users the price is \$1495.

Phact, an ISAM file system written in C, (see Volume 2 Number 8 under PHACT Associates) runs on the 8086, Z80, Z8000, 68000, IBM-PC, LSI-11, PDP-11 and VAX computers. Its binary price varies from \$250 to \$950 depending on your machine. Source code is priced at \$5000. PHACT includes a query language, screen and report generators, and a variety of tools including Move (which will move common data fields between databases), and Rebuild (which will fix damaged indexes). Other interesting features are double precision floating point, (the software is fully portable except for this feature), file locking, full or partial key access, optimization for access speed, up to 9 search keys, and variable length (1-9999 bytes) records. Lastly, you can optimize your database for either speed or size.

/rdb is a relational database management system created by Rod Manis that runs on some 68000 machines (including the Lisa), and VAXen with binary licenses selling for \$250. A source license is available. All commands operate at the shell level, and can be piped together. /rdb's specialty, for which over 40 programs exist, is the creation and manipulation of tables. You can also use UNIX utilities to work with your tables and files. In addition, /rdb has facilities which enable you to create form letters, tax tables, mailing lists and labels. A special General Ledger

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package (priced at \$250) has also been created to run with /rdb. We have just received demo copies of /rdb and a new beta-test version (with five access methods) and will be reviewing it shortly.

UniPress also sells UniPlus+ for the Lisa for single or multi-user systems along with Berkeley enhancements. The single-user system is priced at \$495 and includes most utilities, an assembler and linker, vi, termcap, and csh. To upgrade to multi-user also costs \$495 and it includes cu and uucp. Program development tools (consisting of the C compiler, adb, yacc, lint, and lex) cost another \$495, and text processing tools (nroff, troff, eqn, tbl, and spell) cost another (you guessed it) \$495. The whole shmeat is packaged for \$1495. SCCS, RM/COBOL, SVS PASCAL and FORTRAN-77, SMC's BASIC and BASIC PLUS are all available at additional cost. As we've editorialized in the past, breaking up the UNIX system seems both sacrilegious and misleading to potential customers; but at least UniPress specifically tells you what you're getting.

In addition, UniPress offers MIMIX, the CP/M emulator that allows you to run CP/M 2.2 programs under UNIX for PDP-11, VAX and Altos machines. As a software emulator, Mimix costs \$495. A parallel processor Z80B board for enhancement of performance is also available and recommended for best results. For the Multibus, the board costs \$495, and for the Unibus it's \$695.

Trish Roberts
Computer Corporation of America
Four Cambridge Center
Cambridge, MA 02142
(617) 492-8860

This company offers the CCA EMACS text editor which runs on VAXen under Berkeley UNIX or VMS and is based on the ITS EMACS developed at MIT. This text editor features about 400 commands, and over 60 user-definable variables with which you can customize CCA EMACS to suit your needs. This product has a variety of very useful features designed for people who work a lot with editors and sometimes wish for a few shortcuts to make life a little easier. For those of us who constantly edit their work, CCA EMACS allows you to access your last 16 regions of deleted text as well as the last 16 marked text positions. To save repetitive typing of a series of commands that is often used, an abbreviation can be defined to do the job. If you want to do some automatic program compilations, there is a command for just that purpose.

You can create as many windows as you can tolerate looking at on your screen, and they can be configured horizontally or vertically. The text editing functions include spelling checking and correction, incremental search and query, and automatic upper/lower case adjustment. You can also transpose almost anything from characters to paragraphs to designated arbitrary regions in your text. Of course, you can run a shell inside a CCA EMACS buffer. If you need help learning to use all of this, there is an on-line tutorial.

A problem recently arose when Bell Labs claimed some code in this EMACS was proprietary, but we hear the code in question has been removed and the product is legal once more. In the future, CCA plans to add a special extension language which will enable users to create customized commands. Ports to other machines are also in the works. The price ranges from \$350-\$850, with special rates for educational institutions.

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Larry Nichols
Sunstone Software, Inc.
P.O. Box 19479
Seattle, WA 98119
(206) 623-9664

The WISH (tm) System is an interpretive applications generator developed by SunStone Software. The system was originally written in WANG BASIC and is available for the WANG OIS and ALLIANCE systems. It has been rewritten in C to run under UNIX on the Fortune 32:16 and possibly other 68000-based micros.

SunStone claims that the full WISH system enables a user to design and implement large scale applications with minimal experience in programming. The recommended method for generating applications is in a hierarchical fashion. By selecting options from menus and then responding to prompts, the designer can define the application, set aside storage for it, describe its data items, define how files will be processed, how printed reports will be generated, and how data will be input, to mention a few of the menu options. The designer never needs to write any code or compile any programs.

After the high level design has been completed, the designer selects WISH command data codes to produce command data statements for the submenus of the application. These statements provide additional prompting instructions for the end user. By selecting command data codes from an extensive list, the designer may produce data statements to define the attributes of data that will be entered, provide process control between submenus using logical data comparisons or responses to yes/no prompts. This also provides the ability to read and write records to files by specifying expected record formats, produce comment and error

message display, allow arithmetic operations within processes, etc.

WISH is self-documenting; report tables are automatically generated for menus created by the designer. In addition, the same menu selection and prompting mechanism that provides for the generation of applications also allows for modification and enhancement, so that little effort is needed to maintain these systems.

Customers may license either a full system or just the runtime module. The full system provides the user with application generation capabilities. Users cannot generate applications with the runtime module, but it is required for customers who license applications packages developed at SunStone. These packages include General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, Order Entry, Purchasing, Payroll, and Billing and Invoicing program.

The C/UNIX implementation of the WISH system for the Fortune is currently in beta test and should be ready for release about December 1, 1983. Although licensing fees were not yet finalized by this writing, an approximate figure for a full system might be about \$1000, with the runtime module and individual applications probably costing a bit less.

-- Susan Schor

Doran R. Foeller
Rhodnius, Inc.
Suite 320
10 St. Mary Street
Toronto, Ontario
CANADA M4Y 1P9
(416) 922-1743

MISTRESS/32 (tm), a 32-bit version of their relational database system, made its debut at COMDEX. If you order

MISTRESS (tm), MISTRESS PLUS (tm) or MISTRESS/32 on or before January 31, 1984 you can take a 5% discount off the list price of the first two, and a 10% reduction off their new product. MISTRESS (see Volume 1 Number 2) currently runs on ONYX, PDP-11, Perkin-Elmer, VAX 750 and 780 and Zilog machines. Current pricing information was not available at press time. In the past, Rhodnius priced MISTRESS at \$2500 to \$5000 (Canadian) and offered substantial discounts to educational institutions.

All of these products are written in C and have a variety of features in common. The user is provided with a number of interfaces: one to the Shell, three to C, and several optional ones to other high level languages. Records are retrieved through the dynamically updated B+ tree indices. MISTRESS also uses dynamic storage allocation. The Structured Query Language (SQL is a trademark of IBM) has a variety of commands that enable the user to create tables and indices, manipulate (including sort and select) the data within the tables, and display your databases or tables. Data types supported include float, character, dollar, integer, and "variable-length character" (text to non-IBM people).

Their full screen interface, M-VISION (tm), utilizes a graphic menu system and has a number of one-key commands for common operations such as Display, Help, Print, Insert, and Select. Data validation and range checking are present. M-VISION also maintains automatic numbering and dating fields. For people who actually want to retrieve their data, it can be done through pattern-matching, specification of certain conditions, or our least favorite, sequential walk-through.

For report writing they provide M-WRITER (tm) which has user defined formatting so you can, among other things, control pagination, adjust the margins, column placement, column width, and skip pages or lines at will. A number of features which allow the manipulation of table data are included. Arithmetic operations can be performed in your reports. Data can be sorted in descending or ascending order. M-WRITER also enables the user to use multi-level nesting to group data, from any number of fields and with whatever breaks are defined by the user.

To create MISTRESS/32 they added a number of enhancements into the basic MISTRESS package. Security features included are record level locking and logical security for using and accessing tables. Transactional logging and user audit trails have been added. Range checking is done via the data dictionary which has itself been reorganized to redefine tables. The database now has rollback/recovery capabilities. Subqueries can be nested within a single statement. In addition, decimal data types have been added, and complex arithmetic expressions can now be used in queries.

Jim Sullivan
SGS Semiconductor Corporation
1000 East Bell Road
Phoenix, AZ 85022
(602) 867-6100

SGS has created a UNIX-based 16-bit business oriented computer, using SUNIX (tm), and a variety of software packages that includes their new TELEX PLUS software. This software is meant to replace Telex machines since it enables the simultaneous sending, editing, and receiving of Telex messages by many users at once. They are currently seeking systems and software houses to

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try their equipment and software. Towards this end they are offering a "free" TELEX PLUS package with each computer system purchased until the end of 1983 (this might be extended, since we just got the information ourselves).

Other software modules include W.O.R.D. (a word processor), a DBMS, an IBM 3780 emulator, Supercomp-Twenty, M.E.N.U. (Menu Enhanced UNIX), RM/COBOL, CBASIC, and a C compiler. For more information see the article by Walter Zintz in Volume 2 Number 12.

User Groups

Dennis Thompson
UNIX/C GIG
c/o Epicom, Inc.
3647 Fairmount Avenue
San Diego, CA 92105
(619) 283-6211

This is a new user group formed under the auspices of the San Diego Computer Society. It meets on the third Wednesday of each month at the above address. Their current meeting calendar has a special machine or software demonstration scheduled for each month. (i.e. in December it's Wicat, for January it will be the Altos 586, Zilog 8000, and Informix, the relational database system.) The machines are usually brought in by company representatives.

Currently there is no membership fee, and meetings are open to everyone, with activities geared towards both end users and programmers. As with most user groups, their activities include group discussions, information and resource sharing, a type of bookstore service, and instruction. Naturally they wish to form connections with other user groups having similar interests.

Unigroup of New York, Inc.
GPO Box 1931
New York, NY 10116

Unigroup of New York, a not-for-profit organization, has quietly grown to almost 50 members. The first meeting was held in June 1983 and was an instant success: members heard Mike Lesk of Bell Labs give the same talk he would later deliver as the keynote speech at Unicom in Toronto.

There are already three SIGs (Special Interest Groups) within the main organization, a sign of involvement that indicates Unigroup will be a viable organization for some time to come. One recent meeting featured four speakers on the topic of communications on the UNIX system, with special emphasis on the often-frustrating uucp program.

While the emphasis of the organization is on UNIX activities in the New York metropolitan area, "membership is open to anyone with an interest in UNIX". The \$35 membership fee (\$25 until the end of 1983) includes a quarterly newsletter, admission to the bimonthly meetings, and voting rights. Non-members may attend the monthly meetings for an entry fee of \$10.00 which can be applied towards membership. For information on meetings call Keith Eisenstark at (212) 741-7737. They are planning a special NY area trade show and two directories covering local uucp users and vendors of UNIX products. At the present time the membership is geared towards commercial users of UNIX.

--DF

Los Angeles UNIX Group
c/o TRW
One Space Park
Redondo Beach, CA 90278

The LAUG typically meets on the second Thursday of each month from 9:30 to 11:45 in the morning (see what these California people get away with? --DF). The LAUG is sponsored by TRW Corporation, which generously provides meeting facilities at their Space Park Complex in Redondo Beach. A limited number of uucp accounts are also available for electronic mail capabilities.

While the Los Angeles UNIX Group is still just gaining momentum, an impressive array of topics and demonstrations have been booked. Recent speakers have included representatives from Lawrence Berkeley Labs, Hewlett-Packard, and Able Computers. Pyramid Technology is tentatively scheduled for December 19th. Current attendance averages about thirty to sixty people, with most people coming from such high-powered institutions as Caltech, Jet Propulsion Labs (JPL), Bunker Ramo, Hughes, and Rand Corporation. Additional information about the LAUG may be obtained from TRW's Dale Hensley (213-535-2804) or Litton Data Systems's Martin Erickson (213-902-4457).
-- M. Ries

Rosemary Kitchin
UNIX Systems Association
9140 Ward Parkway
Kansas City, MO 64114
(816) 444-3500

The UNIX Systems Association is another sort of group entirely. Billing themselves as a "trade association", they recently issued a carefully-worded press release which implied that they were planning to be a not-for-profit corporation without actually committing themselves to this status. Careful reading of this release revealed that the association's executive director, executive vice president, president, and one of the other founders all work for one or two

closely-related companies. One of these firms professionally manages associations.

While one of the founders was quoted as saying, "We don't see ourselves in competition with any other UNIX groups", further perusal of their Statement of Purpose reveals that they are chartering themselves to perform all the usual functions of user groups. They also apparently intend to hold some sort of meeting in direct competition with Usenix in January 1984. Their stated aim is to help businesses who sell UNIX-related hardware, but they will also be selling things to their members: insurance, training seminars, and presumably other services.

Why do we sound so cautious about the U.S.A., as they call themselves? It's the combination of the above information, combined with the fact that almost one-quarter of the attendees of their first meeting were elected to the board of directors. An informant who has had some dealings with the organization revealed that nothing of any substance has been heard from them for many weeks, despite constant contact with the board.

In their group photo, only three of the seven people on the board were looking directly at the camera. We wonder if that signifies anything in particular.

--DF

Conference Update

If you haven't made your hotel reservations yet for the UNIFORM UNIX Conference in Washington D.C. at the Washington Hilton or neighboring hotels do so soon! Over 2000 people are expected and over 100 vendors are already signed up in the exhibit area. That's twice as many vendors as last year! The local Hilton reservation

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number is (202) 483-3000 (they have an unlisted 800 number). Special airfares have been arranged from most major cities on American Airlines; call (800) 323-9128 or (312) 449-7077 for information. Vendor exhibits are from Tuesday, January 17 through Thursday, January 19, while Tutorials (which cost \$100, or \$50 for students) are scheduled for Tuesday the 17th. The regular panels and lectures (scheduled for the 18th through the 20th) have been arranged as two separate tracks by Usenix and /usr/group with some joint sessions. Hopefully this will provide the solution to some of the previous problems between the two groups.

For pre-registration packets contact: UniForum, Suite 205, 2400 East Devon Avenue, Des Plaines IL 60018 or call (800) 323-5155 or (312) 299-3131. Exhibitors should also use this address. Advance registration to attend both the vendor area and the regular sessions is \$100 for members of either Usenix or /usr/group, \$125 for non-members, and \$50 for students. Registration at the door will be \$50 more in all categories. If you wish to attend only the exhibitor area it's \$5 now or \$10 at the show. The program chairman is Reidar Bornholdt, Room 9-451, Columbia University P&S, 630 West 168 Street, New York NY 10032.

Other Useful Things

The Independent UNIX Bookstore
520 Waller St.
San Francisco, CA 94117
(415) 621-6415

A series of recently-released color posters may help you remember some fine points of UNIX as well as decorate your office or computer room. Designed by Jim Monroe of Typographics (6524 Dana St., Oakland, CA 94609, phone (415) 653-9920), the first two posters in the series cover the

Berkeley screen editor, vi and the C shell.

The vi poster shows the different modes of that editor, along with many of the most often-used commands -- all laid out neatly within a V and I almost two feet high! While it doesn't replace the famous reference card for completeness, it will prove invaluable to beginners. It passed the ultimate test, anyway: an inveterate EMACS user, I taught myself most of vi using the poster alone. The shell poster covers only the most basic of shell commands, but it's nice to look at. Commands are grouped in logical sections, and slowly wind themselves around inside of a chambered Nautilus. Even if you remember how to use cat, this one will help you out with the job control syntax of the C shell. The shell poster will soon be reprinted in two colors to add to its impact. Also coming up are posters for the xed editor and the ingres DBMS; a WordStar poster is already available. Highly recommended, and available for \$5.00 each (plus \$2.50 shipping for any reasonable number).

--DF

Coming Next Issue

- A review of Idris on the Sage.
- More Benchmark results!
- Some impressions of the Cadmus.
- What really happened with Microsoft?
- The truth about the S1 operating system.

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