U-NEWS

PROGRAMMING CONFERENCE

Uni-Ops will host its first Conference on Programming in Very-High-Level Languages, April 22nd and 23rd 1985 in San Francisco. The dates chosen are just before the opening of Unix Systems Expo '85, also in San Francisco.

Conference sessions are aimed at showing how to make full use of power languages like Prolog, Smalltalk, etcetera. There will also be place for hands-on tryouts of various language implementations, and a bookstore. The full story will be sent to everyone on the Uni-Ops mailing list in January 1985.

UNIX MAGAZINE REGALVANIZED

World Unix & C is about to get a new lease on life. You may remember it as a quarterly magazine filled with newspaper-type articles on Unix/C products, lacking a discernable focus. After four issues, the original publisher, Southwater Corp., has sold all its magazines to the New York office of Springer-Verlag, a European-based publisher with a very high reputation in the computer science field.

A typical Springer-Verlag publication is clear but terse, systematic in approach, and heavy on useful technical content. If Springer-Verlag chooses to follow this course with World Unix & C, the first-class Unix/C technical journal that so many of us have been waiting for may finally be here. Springer-Verlag NY Inc.; 175 Fifth Avenue; New York, NY 10010.

C INTERPRETERS

Companies in the northeastern coast states have been independently developing C interpreters as software development tools. The idea is to let programmers check the actual execution of their code as they write it. The first of these systems, Instant C, was designed for fast execution, at the cost of leaving a few C features out of the first release. It has its own editor, which can be used without context switching at any point in the cycle, and which automatically runs your edited code through its own equivalent of lint and points out errors down to the specific character in the actual code line, hen waits while you edit the error out. The various editing/debugging aids Instant C offers are available in the same context as the interpreter, and all are held in memory to eliminate loading waits. Rational Systems, Inc.; Post Office Box 480; Natick, MA 01760; phone 617-653-6194.

The Safe C interpreter also lets you test and modify at any point in the course of running a program. All the run-time checking functions of the Safe C compiler are also included in the interpreter version. This one has not been released yet. Catalytix Corporation; 55 Wheeler Street; Cambridge, MA 02138; phone 617-497-2160; TWX 7103201382 ABT CAM.

The other not-shipping-yet C interpreter comes with its own editor utility, which checks your code as you enter it and catches syntax errors on the spot, it seems; in fact, I'm told that this editor will not let you enter a syntactically incorrect line of code into your program. There's also a parser to bring existing C programs up to the high standards of this editor. The interpreter itself, which is needed only to root out semantic errors, has a window feature that lets you watch the source code scroll through one window as it is interpreted, while another window displays the changing values of the variables involved. This one is from the people who put out that beautiful C syntax poster. AGS Computers, Inc.; 1139 Spruce Drive; Mountainside, NJ 07092; 201-654-4321.

TECHNICAL C NEWSLETTER

A brand new publication, /c, has turned out to be both thoroughly technical and understandable to C programmers who are at the intermediate or even advanced beginner levels. The material in the first issue, numbered Volume 4, Number 1 for no stated reason, is largely how-to-program-well stuff, with a substantial minority of info on the state and progress of the language; 16 pages in all. It's from the company that publishes Jack Purdum's books, and /c seems to be as practical and as accurate as that would lead you to expect. A subscription for 12 monthly issues costs $60 in the U.S.A.; $80 anywhere else. Que Corporation; 7999 Knue Road; Indianapolis, IN 46250; phone 800-428-5331 to subscribe by phone.

C PROGRAMMING CONFERENCE

Lifeboat Associates, Microsoft and PC World magazine are joining forces to create a conference for C programmers on every microcomputer operating system. At present the conference is planned for the 13th through 15th of May 1985 in San Francisco. Discussions are being held with user groups, including the C Users Group in Kansas and Uni-Ops, about cosponsoring this event - cosponsorship by either of these will probably depend on whether C85, as its to be called, can be made affordable for microcomputer C users. The agenda is by no means final, and proposals for sessions are solicited. John Reaves; C85 Planning Committee; 250 West 104th Street, #43; New York, NY 10025.

MOVING OVER TO UNIX

A company that moved its own text-formatting software to run on Unix is offering to use its "portable automated translation tools" to move your software written in any high-level language over to any version of Unix, delivering up a "warranted, mainatainable version" to you. Scott Wilson; Translation Technology Group; Unilogic, Ltd.; 160 North Craig Street; Pittsburgh, PA 15213; phone 412-621-2277.

Did you know there are more than fifty purveyors of face-to-face Unix training, including two divisions of AT&T with completely independent course offerings?

4.2 finally has a true quick-reference manual, Unix Command Summary for Berkeley 4.2 BSD. Despite the redundancy in the title, it's a fairly useful work overall. It's coat-pocket or purse size ($3\frac{1}{2}$" x $8\frac{1}{2}$"), and runs to 50 pages because it attempts to cover every user command on the system. The heart of this work is an alphabetical glossary by command name. Each command is first described in a single phrase, most of which are quite descriptive; a notable exception is diction, called here "Check for Wordy Sentences". Then follows the syntax of the command, including a brief explanation of each option. This booklet usually limits itself to explaining the command-invocation line; the sub-commands of an interactive utility are not mentioned except for a few core commands like csh, sh and ed. (Yes, ed but not vi!) The information is generally accurate, and understandable to someone who has worked with these commands before and simply needs to be reminded. For even quicker reference, the front and back covers have one or two common usage examples each of 35 widely used commands. A single copy costs $6.00 from Specialized Systems Consultants; P.O. Box 7, Northgate Station; Seattle, WA 98125; phone 206-367-8649.

SUPER SPOOLER

Unix print spoolers have taken a big step forward with Spooler-Plus, a new member of the Rabbit Middleware family. A print spooler is what keeps you from having to grab control of the printer every time you want to print out a document. Your basic Unix spooler receives and stores documents for printing, prints them out in order, and adds a few niceties like headers and trailers.

Spooler-Plus does all this plus. It has multiple queues for different printing needs such as paper size or type. It can spool for several printers, assigning jobs to printers either as printers become free or in accordance with special printer character-istics like type font, character set, lines/columns per inch, or what paper stock is loaded. It can handle job priorities and can accept jobs for printing after (or before) a given date. System managers set up profiles of the printers available and general specifications as to how Spooler-Plus is to handle jobs; users control individual jobs by command lines or by menus. Rabbit Software Corporation; 1 Great Valley Parkway East; Malvern, PA 19355; phone 215-647-0440.

4.2 BSD SUPPORT

The company that's been supporting 4.1 BSD under the name More/bsd is now doing the same for 4.2. Berkeley 4.2 is a near-total reworking of the 4 BSD series with a faster paged file system, more & better utilities, virtual memory and generic network support. Like anything new, it had teething troubles, and like anything from a university it came totally unsupported. But now, as More/bsd (not Still/More/bsd) it's available from a consortium of ex-Berkeley-campus wizards with many bug fixes & speedups, extra utilities and device drivers, ongoing support and binary redistribution rights. It's offered to direct customers only as source, and it's offerors seem to see 4.2 as primarily for engineering/scientific and software development work. Mt Xinu; 739 Allston Way; Berkeley, CA 94710; phone 415-644-0146; Usenet ucbvax!mtxinu!mtxinu.

A FEW GOOD BOOKS

<u>Unix for People</u> by Peter Birns, Patrick Brown & John C.C. Muster (Prentice-Hall)

The three authors of this book, all definitely into middle age, have spent most of their lives in school. To save you wondering whether they're dry academic mumblers or professional students who can barely tie their own shoes, let me tell you from experience that neither image is correct. They're among those rare birds whose lives on campus and off have piled knowledge and experience on personalities that still have the ingenuity and effervescence of undergrads. Their field is educational psychology, with emphasis on the learning process in adults, and the campus they've where they've been pursuing doctorates for some years now is Berkeley, and early on they graduated from using Unix to teaching it to potential users on campus. The natural result is this book.

Uni-Ops has presented their live course several times, and I can't imagine a jollier way to learn to use Unix by the experiential method. This book has as much of that experience as can be put in print. But if you look beneath the dog & pony show aspect, you'll be surprised at how much information is there. In about 500 pages it goes from holding the hand of the novice who's never been seated at a terminal before, through a surprisingly complete coverage of Unix for the general user and on to the finest points of document production on Unix (up through <u>refer, tbl</u> and macro writing). The order of topics seems eclectic to me, but I'm not even an undergraduate educational psychologist, and it does seem that everything that matters is covered somewhere. There are a few quick-ref charts, but quite good bibliographies at the end of each module (which seem to correspond to chapters in other books). For a non-programmer who wants to learn Unix to do document production work and is willing to leave methodology in the hands of the authors, this book will be very hard to beat.

<u>Unix on the IBM PC</u> by William B. Twitty (Prentice-Hall)

Another intro-to-Unix book from the same publisher? Yes, but this one is radically different in both purpose and style. This one seems to be intended for the more casual user. It's about 40% of the size of <u>Unix for People</u>, and aimed at the needs of a PC owner sitting at his keyboard wondering what he could or should do next. It doesn't go into things in depth, but does cover some obscure topics that a user on his own will need to know - for example, how to add a new account to the system, by hand if need be. This book does not restrict itself to the PC IX version of Unix; Xenix and Venix get equal coverage throughout. The author is generally technically solid while explaining what goes on at the terminal, and his writing style is clear but unemotional; reminiscent of project articles in <u>Mechanix Illustrated</u>.

<u>Understanding Unix; A Conceptual Guide</u> by James R. Groff & Paul N. Weinberg (Que)

This is not a how-to-use-Unix book. Paragraph one of the preface tells us "this book seeks to answer the question: 'What is Unix, and why is it suddenly attracting so much attention?'" The authors offer "both technical [and] marketing insights into the Unix system", and their credentials in both fields are impressive. Nonetheless, trying to cover both aspects is probably the weak poin of the book. The book's style is that of "executive briefing" seminars, which is somewhat repugnant to a technical reader. But the technical content of the book is specific and deep enough to drive away executive or marketing readers. Still, a reader who walks both sides of the line will find technical descriptions of all the important features of the major Unix versions that are accurate, succinct and penetrating; along with market analysis and predictions that seem as plausible as anyone's.

The Unix Guide   by Bill Freiboth   (Pacific Micro Tech, 5819 Poinsett Ave., El Cerrito, California 94530)

Here's a book in the same vein as Understanding Unix, but entirely on the technical side, and specialization helps make it a winner.   It covers the important commands more or less as Understanding Unix does, but also compares System III, System V, 4 BSD and UniPlus+ from Unisoft command by command; goes into detailed depth on system calls and library functions; has all this well indexed; and even tabulates the available documentation from both AT&T and Berkeley.   The only flaw I can find here is a brief section outlining a handful of outside software packages chosen without any apparent plan.

The Unix Computer Operating System anonymous   (Longman Crown)

Did you know that Unix command names "all . . . begin with a period.   For example, .ed and .vi are the two text editors."?   That on Unix "Foreground tasks are executed immediately, regardless of the status of other competing tasks."?   Or that a high-level language is "a language made up of commands that resemble English words and using a syntax that also resembles English."?   This is just a small sample of nonsense from this book; other low points range from a hopeless confusion between the shell and shell scripts to a sample C program that won't even compile, much less run.   This booklet is supposedly an "executive briefing", but it's actually such a fiasco that it never should have gone to press.   At $19.95 for 36 pages of text, not counting the 5 pages devoted to selling more "executive briefings", it's definitely a joke in very poor taste.

MORE LOCAL GROUPS

North of Boston, the Northern New England Unix Users' Group gets together in the latter days of each month.   They're a mix of educational and commercial users from Vermont, New Hampshire, Maine and northern Massachesetts; a large territory for a local group.   There are two contacts, both in west-central New Hampshire: David Marston at Daniel Webster College, phone 603-883-3556; Emily Bryant at Dartmouth College, phone 603-646-2643.

Down in Atlanta, a new local group has originated at Emory University.   Here, too, the intent is to mix academic and commercial Unix users, and monthly meetings are on the agenda; this group also plans a newsletter.   Phone Marc Merlin at 404-875-8181 or Mark Landry at 404-874-6037, or write to Atlanta Unix Users Group; P.O. Box 12241; Atlanta, Georgia 30355-2241.

N-WAY COMPILER SYSTEM

The next item is reprinted verbatim because I couldn't possibly do it justice. The only comment I will make is that Vrije University is a long-established Unix site, highly regarded in Europe and one of the leading lights of the European Unix Systems User Group.   Incidentally, trimming the release down to one page cut off the address of UniPress Software, Inc.   Write to them at 2025 Lincoln Highway, Suite 312; Edison, New Jersey 08817

AMSTERDAM COMPILER KIT

UniPress Software, Inc. is pleased to announce the availability of the Amsterdam Compiler Kit for the Unix operating system. Developed over years at the Vrije University of Amsterdam, the Kit is a comprehensive package of C and Pascal compilers (and assemblers) for a wide variety of host and target machines. The Kit, as provided, compiles C and Pascal programs on Unix 68000, 8086, VAX and PDP-11 and can produce code for any of those machines.

The Amsterdam Compiler Kit, is also a collection of programs designed to simplify the task of producing portable compilers and interpreters needed for micro and mini computers. The kit contains the complete sources of all programs,* plus comprehensive internals documentation describing how to make the modifications needed to add a new program language or a new target machine.

The Kit supports Pascal and C, for 68000, 8086, VAX, and PDP-11. Cross assemblers are also provided for 8080, Z80, Z8000, 8086, 6800, 6809, 68000, 6502, and PDP-11. Cross Interpreters, for testing, are also included.

The Amsterdam Compiler Kit consists of 8 components:

+   The preprocessor - creates macro expansion, conditional compilation, etc.

+   The front end - translates from source code to a family of intermediate code called EM(encoding machine), which produces the portable compiler.

+   The peephole optimizer - does local optimization on EM code.

+   The global optimizer - does data flow analysis and global optimization on EM code.

+   The back end - translates from EM to target machine assembly code.

+   The target machine optimizer - does machine dependent peephole optimization.

+   The universal assembler - links target program to binary with libraries.

+   The utility package - tests programs, libraries, documentation, etc.

The Amsterdam Compiler Kit includes all sources and documentation and is available on a wide range of machines including VAX/Unix 4.1/4.2, PDP-11/V7 and MC68000 implementations.

The full system in source is priced at $9950, $995 for educational institutions. Selected binaries are priced at $4500.

UniPress Software, Inc. can be reached at 201-985-8000. UniPress is a major publisher of Unix software.

* Source C compiler or Unix license required from AT&T.

EUROPEAN UNIX CONVENTIONS

The semiannual meetings held by the EUUG (the general-purpose Unix group for western Europe) are becoming increasingly popular with North American users. The lower-pressure atmosphere helps - a typical turnout is a few hundred users and a few dozen vendor exhibits - and so does the franker attitude most European users have. And these conferences are almost entirely in English; how else would Finns, Hollanders, Scots and French be able to talk to each other? In 1985 the sites will also be an attraction. The spring conference, April 1st through 3rd, will be in Paris; the fall session, September 11th through 13th, will be in Copenhagen. For the details on attending or exhibiting at very modest cost (especially if you're paying in U.S. dollars) write Mrs. Helen Gibbons, Secretary; European Unix Systems User Group; Owles Hall; Buntingford, Hertfordshire SG9 9TL; England; phone 0763-73039. For cheap airfares across the Atlantic, contact Virgin or People Express airlines, who will take you to London, from whence you should rely on Europe's excellent railways. People Express also offers heavy discounts to its Newark departure point from about three dozen major U.S. cities.

NETWORK DATABASING

"Relational" has long been the chief buzzword in database management. And yet, even new applications programs often use another model, "network". The hierarchical Unix file system is a simple form of network-model database. Choosing between these two models requires at least a little understanding of how each works.

Take the classic (in databsing) example of a college that needs to keep records of which students are taking which courses from which faculty members. First, imagine a very large blackboard divided into small squares, with the name of each student at the top of a column and the name of each instructor alongside one of the rows. A check where one of the columns crosses one of the rows means that student is taking a course from that instructor. Now imagine that there are many such blackboards, each also with the name of a course written on it, and that the row-column intersection is checked only on the blackboard that names the course that student is taking from that instructor. That gives you a theoretical picture of the idea behind a relational database (although implementation is quite different). A network-model database is more like a single very large blackboard with the names of all the students, instructors and courses written on it in no particular order, and arrows leading from one name to another. One result of this fundamental difference is that a relational model is much more flexible in the ways data can be combined, and in making changes in those combinations after the database is built. Another is that a network database generally can be accessed much faster and occupies much less storage. There are lots of applications where the data relationships are fixed by the nature of the work being done and not overly complex. Accounting is a good example of this. These applications are ideal for network database models.

Thus we come to db_Vista, a network database management package created for C programmers. The basic package has a data definition language for setting up the model of a database, and a library of C functions for entering, modifying and retrieving data items (a collection of more exotic tools is in preparation). The database form is fixed at the time the application is written, and the whole database structure is compiled with the same C compiler as the rest of the program. This means the users do not need the db_Vista software itself to run the application, and the developer pays only a one-time and reasonable license fee to sell as many compiled copies of one program as he can. At present db_Vista is aimed at small computers - it works with the Computer Innovations, Aztec, Lattice and DeSmet C compilers, and runs on MS DOS with Unix and

CTOS versions in the works. No reason it has to stay that way, though . . . db_Vista can face up to 255 files of 64k records each, and each record can occupy up to 1018 bytes, of which up to 200 bytes may be key fields. A 200 byte record may be entirely key fields, even if it has 200 fields of a single byte each, and like any good network dbms, db_Vista is not fazed by two different records that are identical in every key field. Raima Corporation; 11717 Rainier Avenue South; Seattle, WA 98178; phone 206-772-1515.

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THE LAST DAYS OF U-NEWS

The next two issues of U-NEWS will be in the mail in about 10 days. These will be the last issues published; the remaining four months of your subscription will be fulfilled with four months of a new publication, Business Unix.

Business Unix is a hybrid of newsletter and journal. As its name suggests, it's aimed at Unix users in commercial areas. Physically it's formatted as a newsletter, and it will run about 24 typeset pages per bimonthly issue. The publisher, Paul Copeland, is in the next town over from me, and we occasionally have lunch together to discuss the direction of Business Unix; other than that I am not connected with Paul's publication. Paul has agreed to send Business Unix to Uni-Ops members primarily to promote it to us, and he intends to offer a discount to Uni-Ops members who decide to continue with Business Unix after their Uni-Ops subscriptions expire. Paul's first issue will go in the mail in mid-January 1985.

I've chosen to get behind Business Unix because I think it will be what a lot of us have been waiting for; useful information for the end user on what's available in commercial Unix products and how to make best use of it all. Paul is a small-computer veteran who's taking to journalism quickly, and I believe he has what it takes to make his publication worthwhile. But I must respect the rights of any Uni-Ops member who joined on the strength of my promise that I personally would be doing the newsletter. Anyone who does not wish to try Business Unix may have a refund on the last 4 months of his U-NEWS subscription by written request to Uni-Ops.

The obvious remaining question is "Why is Walter dropping a newsletter he began just about a year ago?" First reason is loneliness - throughout the past year I haven't heard from more than a handful of members unless they wanted something from me. Uni-Ops is supposed to be a mutual association, and unpaid staffers don't have to suffer ostracism forever. Secondly, the computer trade journals offer a taller soapbox. I can place all the Unix stories I can write with computer magazines that have circulations a hundred times that of U-NEWS or any other Unix newsletter, and they handle all the production and circulation work. They even pay me well for what they publish.

I hope to see you all at future Uni-Ops events. The one mentioned on the first page of this issue is not the only one we have in the works, by any means. But if you want to read my Unix reporting in 1985, you'll have to subscribe to Hardcopy or Architectural & Engineering Systems, or hunt up my freelance articles as they appear. Best wishes for the new year from myself and Eveline Rhodes!