Editor's Column

Welcome to Issue Number 2 - thank you to those of you who sent messages of support following the first issue. Lined up for you in the next few pages is a report from the Chairman on what he got up to on your behalf (suitably censored by me :-) at the USENIX Winter 1992 Technical Conference.

In response to all of you who are always asking how to access the Archive at Imperial College to find a face, there is a detailed report from Steve Lacey which I hope will answer your questions - if not, write to me with your queries.

I don't know how many of you use JANET, but I thought you might be interested in the short article sent to me by Steve Platt, Chairman of the South East Regional User Group.

The next regular item is information on the activities of the LUGs - but they need your support if there is to be anything to report.

Jane Hills got very little response to her piece in the last Newsletter, although there does seem to be some movement at Oxford.

As well as items of news from EurOpen, I am delighted that we also have a contribution from Bill Barrett, who works in our Secretariat at Owles Hall, and is responsible, among other things, for the distribution of this newsletter.

My thanks to Paul Fischer and Ed Cooley for the Xtree review. Paul and Ed do monthly product reviews and articles for the Washington Area UNIX Users Group (WAUUG).

You can send contributions to me for future publication by e-mail, post, telephone or fax. Contact addresses for any person or organisation mentioned can be found on the back page.

Publication Dates
July 1992
September 1992
November 1992
January 1993

Copy Deadlines
19 June 1992 for July
19 August 1992 for September
19 October 1992 for November
19 December 1992 for January

ISSN 0965-9412
Chaiman’s Report

Sunil K Das

Usenix Winter 1992 Technical Conference Report

Sunday - Arrive at the San Francisco Hilton which is the event venue as well as the conference hotel. Meet up with Kirk McKusick (President of the Usenix Association) and Jun Murai (Principle architect of Junet - the Japanese UNIX network) and have a chat. Learn that Kirk is standing down (this disease is catching) and that Steve Johnson is taking over. Registration is possible between 1600 and 2100 with a welcome reception between 1800 and 2000. The organisation is superb. Lettered booths ensure that the line for A-D is empty. There are tickets in one’s pack for the proceedings, and tutorial notes which get collected from separate booths, so no bottle necks and no congestion. The pack also contains helpful leaflets, and a big-lettered, legible name badge (4" x 3") which doesn’t require a magnifying glass to read while you are having a chat with someone. The Usenix Board of Directors Meeting takes place on Sunday afternoon (the equivalent of the EurOpen Governing Board). I am interested that the meeting is ‘open’ in that any member of the Association can attend. Thank goodness the entire Association doesn’t turn up! After the meeting, a dinner meeting with some Board members (Kirk McKusick, Ellie Young - the Executive Director, etc). Peter Collinson is there as well. I learn he is paid by Usenix to represent them on Standards. Stephen Walli, EurOpen’s paid representative, lives in Canada. I muse about Standards representatives living in different continents from their ‘employer organisation’ and travel expenses!

Monday - Attend OSF/1 tutorial which is well presented in a professional manner. Dinner meeting with Peter Salus (Sun User Group Executive Director). We discuss my role as a technical reviewer for the Berkeley journal ‘Computing Systems’ for which he is Editor.

Tuesday - Attend UNIX Programming Tools tutorial. Reported to Neil Todd (EurOpen’s Tutorials Officer) that the instructor is good. He is presenting a tutorial in Jersey. Attend the afternoon meeting of the ‘World Forum of Users’. Catch phrase of the meeting was ‘Synergy - it’s a state of mind’, but don’t ask me what it means! The evening entertainment began well by visiting ‘Hostility Suites’ drinking free booze and collecting ‘toys’ for the boys back at the office (yo-yos galore). However, I had agreed to dine with Pierre Scheuer to (quoting him) discuss UKUUG’s strategy and attitude towards Uniforum UK. Late return means that I missed Peter’s Standards BoF and GNUs BoF.

Wednesday - Mitchell Kapor, founder of Lotus and the Electronic Frontier Foundation, gave the Keynote ‘The Internet as a Testbed for the National Public Network’. He expressed his love of the internet and that he is ‘incurably optimistic’ about it. Interested parties were invited to write to eff@eff.org for more information. For the newsletter, either send e-mail to eff-news-request@eff.org or read the news group comp.org.eff.news. Took off afterwards with David Rosenthal (Sun Microsystems) to have a look at the
On the way over, I learned that Dave was coming to the UK for an Alumni reunion so I fixed him up for a LUUG talk. The show was a complete jamboree with piles of freebies and junk toys (the money marketing people spend/waste is astonishing). The conference contest was 'Name that FileSystem'. The original UNIX file system had 512 bytes per block. Then came 1K blocks, so the 1KFS was born. Then came the FFS (Fast File System) and the 1KFS went, so the name of the game is name a new one. In the evening, I chose to attend the BSDI BoF (there are so many BoFs), and the hustings for the new Board of Directors which was fun.

Thursday - Pierre 'summoned' me to a power breakfast with Peter Gotlieb and Roger Frampton (Chairman and Executive Director of Uniforum UK, respectively). It was agreed that greater cooperation was required and so we said we would exchange membership literature and invite each others members to meetings at membership rates. Usenix has parallel tracks so it's sometimes difficult to choose between them. The WiPs are always good for 'hot' short talks. A new idea for me was the invited talks. Someone starts on a subject with numerous interruptions (debating points) from the floor. Andrew Hume (Bell Labs) ran the session and he kept it on a tight reign and very enjoyable. The technical session on 'Hacking and Cracking' was very good. I had lunch with Ken Thompson, Dennis Ritchie and Phil Winterbottom of Bell Labs and was given a demonstration of a Plan 9 laptop. It fits into 160K and the source code is now available under academic licence by writing to Rob Pike. At the conference dinner held inside the SF Exploratorium, I caught up with various people.

Friday - Martin Kirk of X/Open gave one of the invited talks. I had lunch with Peter Collinson and suggested a UKUUG one-day workshop on Standards. He said he would speak with Steve Walli and get back to me. My idea is that the techies of yesterday are the system administrators and software developers of today. Their work now is what industry wants to standardise tomorrow. Winners of the competition were MJFS - the Michael Jackson File System - something about facelifts or always changing (American humour I didn't understand), YYFS - the Yo Yo File System - always going up and down or something, and numerous others. The idea was good. Went out for the après-conference meal with Jan-Simon Pendry and Marc Donner (IBM Thomas Watson Research), and Jaap Akkerhuis (Bell Labs). Learned Rick Rashid of Mach fame has moved from CMU to Microsoft as Technical Director. There is a new operating system in the pipeline called NT (I think), maybe New Technology. However, I wasn't able to find anything out about it.

Saturday - Went shopping. Party time in the evening. Richard Gilmore, a very rich man from the 17 million dollars he received when he sold his founder shares in Sun, hired a night club (called Bimbos no less) and an all female band named Pele Juju. Drinks, nibbles, everything was free. Gilmore put an invitation in every delegate's pack and advertised it on the net!

Sunday - Met with Dick Tsina of Berkeley and mapped out a collaborative venture for April 1993 like the Berkeley/Oxford Programme held in 1990 and 1991. I suggested that Imperial College might be a useful/good venue. I requested Dick to make up some minutes.
What is the archive?

The archive is a massive collection of freely available computer sources and documents; currently this adds up to over four gigabytes — even though everything is compressed! The archive is one of the largest in the world, and while mainly dealing in UNIX software, we are now beginning to mirror the main PC, Windows, and Macintosh archives. In order to keep the archive as up to date as possible, remote archives (such as prep.ai.mit.edu and wsmr-simtel20.army.mil) are now automatically mirrored. This keeps packages such as the entire X11R5 and GNU distributions completely up to date. Other interesting areas on the archive include BSD4.3, ISODE, and the complete set of RFCs and CERT advisories.

Various newsgroups from USENET news are automatically archived, including both comp.sources.unix and comp.sources.minix. As well as software, the archive also contains several items not directly related to computing — well known books like the Bible and Alice In Wonderland, and the UKUUG FaceSaver archive (which currently holds about 4000 mugshots.)

In summary, if you have heard about a package or program that is freely available (e.g. via USENET news) then the probability that you will find it on the archive is extremely high.

Who do we thank for this wonderful service?

- Lee McLoughlin of Imperial College for spending a vast proportion of his time looking after the archive.

- The UKUUG (of course!) for providing the initial two disks and handling all the paperwork.

- Productivity Computer Solutions Ltd (Monarch House, George Street, Wakefield, West Yorkshire, England) for their generous donation of a one gigabyte disk drive. This was arranged by Pete Brooks (Computing Laboratory, Cambridge University) on behalf of the Sun UK User Group.

- The Department of Computing, Imperial College for providing free access to a Sun 4/380 (puffin) upon which the archive is held.

- Loads of maintainers around the country (you know who you are) who look after specialist areas on the archive.

- Stuart McRobert of Imperial College for arranging the archive in the first place and general maintenance.

- Steve Lacey of Imperial College for writing this article and for general archive maintenance.
I'm hooked — please tell me how I can use it!

There are various methods of accessing the archive:

**Anonymous FTP** — If you're on the Internet (lucky you!) then you can use the `ftp` command to access the archive. The machine's name is src.doc.ic.ac.uk (146.169.3.7). Login as user **anonymous** and type your e-mail address as the password. The `ftp` daemon on the archive can do some really cute tricks for you — like automatically running commands such as `tar` and `uncompress` on both files and directories. Check out the `README` files on the archive for more information and follow the instructions given to you.

**Anonymous FTAM** — Access is available via the ISO FTAM mechanism and can be reached:

- **JANET** on the address 000005102000.
- **Internet** on the address 146.169.3.7.
- **IXI** on the address 204334504108. Use the username **anon** and set the remote filestore to be of type **unix**.

**Guest NIFTP** — The archive is available via JANET (and PSS) using NIFTP (which on your system may be called `fcp`, `cpf` or maybe `hftp`). The basic method of access is:

   **Host:** uk.ac.ic.doc.src  
   **Name:** guest  
   **Pass:** your email address  
   **(which must contain an @)**

All filenames are prefixed by `<PUB>`. We suggest that you pull back the `ls-1R.Z` file that sits in the top-level directory in order to find out what is on the archive. Note that the file is compressed (ends with a `.Z`) and therefore needs to be uncompressed before viewing.

**The Info-server** — The archive provides an e-mail based server. For information on how to use it, please send mail to info-server@doc.ic.ac.uk with a subject line of **help**. Please note that the info-server will not mail to anywhere that it thinks might cause it to incur charges.

**Tape Distribution** — Tapes are available of various areas of the archive (such as X11R5 and GNU). The tapes cost £50 + VAT for UKUG or EurOpen members. The tapes, and more information, may be obtained from Owles Hall.

**JANET National User Groups**

JANET is the acronym of the Joint Academic Network, which connects together universities and polytechnics throughout the UK. The role of the JANET User Groups is to represent the views and needs of all users of JANET, both to the bodies that fund JANET and to the providers of the network. The JANET User groups are of two types, those representing geographical regions and those representing particular interest groups. There are currently six active regional user groups and two special interest user groups (Libraries and Particle Physics). A third special interest group for Administration is currently being proposed. Each institution connected to JANET is entitled to send two people to their regional user group, one being a user and the other being a
member of their computing service, usually the person responsible for network user support. The special interest groups are nationwide. For example the JANET user group for libraries represents all libraries at institutions connected to JANET. Each institution nominates a library member, and from these members a committee is elected. The officers are then nominated by the committee. Each regional and special interest user group can send two representatives to the National User Group. The chairman of the JANET National User Group is a member of the Advisory Committee on Networking, which is the committee of the Information Systems Committee which regulates the funding for JANET. This provides a powerful channel through which the needs of the users can be represented to the funders of the networking programme. The user groups have been very active in providing feedback from users of JANET to the Joint Network Team, and this has led to a number of new initiatives and to changes and enhancements to the services supported and provided by the JNT.

User Group Meetings

User group meetings are held three times a year. The Joint Network Team always send a representative to the meetings so this is a good way of finding out about the latest changes and developments, as well as obtaining current documentation and information. The meetings also provide a forum for informal technical help and discussion with people doing similar jobs.

There are Regional User Groups for Scotland, Yorkshire and Northumbria, North West (not currently active; institutions have been invited to attend other regional user groups meetings that are convenient for them), Midlands, South West, South East, London; and Special Interest Groups for Libraries, Particle Physics and Administration.

JANET National User Group
Chairman: Michael Breaks
Secretary: Shirley Wood

LUGs

The following is a round-up of information from those involved in organising local groups. If you feel that your neighbourhood is in need of a local group please let the Editor have details for inclusion in the Newsletter.

LONDON (Andrew Findlay)

The next two meetings are on Thursday 28 May and Thursday 25 June at the usual venue in University College London. The speakers have not yet been finalised, but details will be available nearer the time. As tradition dictates, post-meeting discussions take place in the Fitzroy Tavern (Charlotte Street) at 8pm.

OXFORD (James Aldridge)

The Oxford Local Unix Users Group is gradually getting organised. An informal meeting was held by half a dozen or so representatives from local organisations and they are planning to run monthly meetings. No meetings have yet been organised, but they hope to have something arranged by the middle of May. If anyone in the Oxfordshire area is interested they should contact James Aldridge. When a
meeting has been arranged, details will be sent to anyone who has expressed an interest, to the appropriate newsgroups and publicised in as many other ways that they can think of.

**FaceSaver Update**

Richard Murphy

The FaceSaver system’s most recent outing was to the Spring Euronet Conference at St Helier, Jersey. The Conference provided a suitable testing ground for the new hard disk in the Acorn R140. About 100 new and revised (older, but wiser!) faces were captured. The eagle-eyed reader will be able to identify Jersey faces in this Newsletter by the flowery background provided by the Hotel de France wallpaper! The FaceSaver provided for the first time both Conference badges and a delegate list, as well as the usual sticky address labels and A4 "posters". The faces captured in Jersey will be put into the UKUUG Archive as soon as possible (see the article on the UKUUG Archive for information about access).

**Forthcoming Events**

**UKUUG SUMMER WORKSHOP**

*(Neil Todd)*

This year’s UKUUG LISA Workshop is going to concentrate on issues associated with being connected to a network, whether via UUCP, IP or high bandwidth wet string.

The meeting will be held on Friday 3rd July 1992 at Imperial College, London.

The aim of the meeting is to allow attendees to understand the significant issues and problems that may be encountered when network connectivity is obtained.

The programme is now in the final stages of completion, and the preliminary list of speakers, with working titles, follows:

Neil Todd, neil@pio.gid.co.uk
Programme Chair

Andrew Macpherson, a.macpherson@bnr.co.uk
BNR (Euronet) Ltd
Firewalls in an IP environment

Ian Batten, i.g.batten@fulcrum.bt.co.uk
Fulcrum Communications Ltd
NNTP and C news

Jan-Simon Pendry, jsp@doc.ic.ac.uk
Prop - a multicast networked update system

Alec Muffet, aem@aber.ac.uk
University of Wales, Aberystwyth
Almost Everything You Ever Wanted To Know About Security*

*(but were afraid to ask!)*

Philip Hazel (reserve speaker), ph10@cus.cam.ac.uk
Cambridge University, Computing Service Routing Mail in the new JANET/Internet world
For descriptive brochures: send e-mail, with your postal address, to Richard Tsina

**C++ GURU IN LONDON**

Bjarne Stroustrup, the inventor and original implementor of the C++ language, will deliver the keynote address at the *C Plus C++ In Action In Europe* conference and exposition sponsored by Boston University at the London Gatwick Airport Hilton on 8-12 June 1992.

Bjarne will discuss those features of C++ which ease the transition from conventional programming. The event is geared toward software engineers, programmers, developers, and researchers as well as technical and project managers.

Further information from Boston University Conference Office on 071-259 2032.

**EurOpen News**


Full payment with order please - Cheque made payable to EurOpen or VISA and ACCESS accepted.

**OPENFORUM 92 CONFERENCE AND EXHIBITION**

23 - 27 November 1992
Royal Dutch Fairgrounds, Utrecht, The Netherlands

EurOpen and UniForum are co-sponsoring the first pan-European Open Systems Exhibition and Conference. It combines:

- A strategy and business conference
- A high-level technical conference
- A set of tutorials and seminars
- An Open Systems products trade show

These themes will make OpenForum 92 the most outstanding European Open Systems event to date. See special offer below!

SPRING 1993 CONFERENCE
3 - 7 May 1993
Seville, Spain

Further details available shortly from the EurOpen Secretariat.

OPENFORUM SPECIAL OFFER

At the recent EurOpen meeting in Jersey, a proposal was made by Pierre Scheuer, EurOpen's Business Manager, to enable UKUUG members to join the Exhibition at OpenForum 92.

This is being held in Utrecht from 23-27 November 1992 and will include the major European Open Systems actors and, in particular, European software houses. EurOpen has decided to offer a special package deal to UKUUG software houses to give them the opportunity to participate in OpenForum.

The procedures are as follows:

1. The aim is to target companies which will give maximum value to Open Systems. These companies will have developed products that are of interest to users beyond their national market. Their market should be European but they will not yet have the resources to fulfil their goals.

2. EurOpen offers the UKUUG the chance to invite two (maximum three) of their members to exhibit in one single booth. This means that companies can rent 12 or 6 square metres at OpenForum so they can participate at a reasonable price. Each company will be listed in the catalogue as an independent company as if it was exhibiting on its own. This offer is strictly reserved for EurOpen members.

3. As a practical example, consider a booth of 24 square metres and a price of 275 ecs per square metre. If this booth is shared by three companies, each company will pay $24*275/3 = 2,200ecs. (1.43ecs = £1) The intention is to get 24 areas (one per national group) with two/three European software houses on each. This will give 72 European software houses a unique chance to participate in a key European event. To stress this advantage, the 24 stands will be equipped with special facia showing the company names, country flag and other information. For further details, please contact Mrs Marjolein Jacobs, Pierre Scheuer at EurOpen or Mick Farmer in the UK.

Bill's Bit

Your Council have agreed that, initially, we will go on producing the newsletter on the hardware and software that was on loan for issue one. Bill Barrett, at our Secretariat, was therefore contacted to sort out paying the bill and checking the equipment's warranty. His e-mail back to the Editor was so delightful that she couldn't resist including it here:
"I've just been checking out your Minstrel (lovely name, highly evocative) Work Station re warranty etc. An American girl told me that it is on a three year (return to depot, with a long e) warranty and then signed off with a new one on me 'Enjoy your machine'. I couldn't cap that."

Reviews

Xtree for UNIX Systems
by Paul Fischer and Edward Cooley

If you work close to PC platforms, such as those of us using SCO, then maybe you have been looking forward to the time when DOS developers would actively start porting their applications to UNIX. Relatively speaking, the UNIX market has yet to hit the desktop in masses, so many developers continue to hold back waiting for the market to evolve. Others like Lotus, WordPerfect, and Ashton-Tate are braving the waters and are helping to drive this effort. One other such developer who is making inroads into UNIX workplaces is XTree Company. Their popular DOS applications, Xtree and XtreeGold, are widely-accepted file managers for DOS users. Now XTREE Company has introduced Xtree for UNIX Systems. Generally speaking, Xtree is a file and directory manager that can be used under UNIX to quickly and efficiently scan directories and find files. Xtree gives you a graphical representation of your directory structure and allows you to traverse it with the touch of a key.

Target Users

As indicated by Xtree's reputation on DOS platforms, and by their documentation, the product seems to be targeted for novices. We would like to stress, however, that it also proves very useful for intermediate- and expert-level users. Xtree simply allows users of all levels to have an easier time using UNIX and keeping track of their files and subdirectories. The graphical representation of directory trees and files gives an attractive way of managing extensive directory trees and projects.

What you get

Xtree for UNIX comes on one diskette - actually a welcome change. Both 5.25" and 3.5" media are provided for ease of installation and ordering. All versions of Xtree for UNIX are licensed for unlimited users. As with most UNIX software, users get release notes that cover installation and known difficulties, including problems that have been fixed since previous versions. You also get a very key piece of documentation - the Xtree for UNIX Systems Users’s Guide. The User’s Guide is well thought-out and designed for people who want to learn Xtree. The documentation is typical of many popular DOS applications in the sense that it is well organized, provides a tutorial, and assumes no previous knowledge of computing. The guide is not a simple reference document like most classic UNIX manuals. Topics covered include basics such as the differences between DOS and UNIX, a discussion on user accounts and groups, and an intro to file and directory permissions. These topics are often frustration points for first time users. A complete section entitled "Learning to use Xtree" will help to get novices started,
while providing an intro to Xtree basics and commands. The user's manual is a well organized guide to self-paced training. Keeping in mind who their typical user might be, Xtree assumes the user has no knowledge of UNIX systems and starts them out appropriately. Although rudimentary to advanced users, the learning exercises are straight forward and helpful. As users progress through the self-paced training course, new exercises re-enforce the knowledge built in previous lessons.

The Product

The release of Xtree for UNIX Systems that we tested was compatible with SCO UNIX System V/386 Release 3.2, SCO Open Desktop, SCO XENIXSystem V/386 Release 2.3.2, and Interactive Systems UNIX System V/386 Release 3.2. Xtree will also work from any terminal that is supported by termcap, and has at least an 80 column by 24 row display with basic cursor addressability and screen functions. Xtree can be configured to take advantage of extended features such as color, line draw, and international character sets. X terminals are supported as well. Xtree itself requires no more memory than is required for minimal operating system configurations, and takes only 680KB of disk space. The evaluation was performed on a Compaq Deskpro 486s/16M running SCO Open Desktop. As with most SCO products, Xtree is installed through the custom program, and no kernel re-linking is required. The program itself is invoked through the xt command. If Xtree is started from inside an X-window, then a new window containing Xtree is generated, freeing up the shell window you started it from. The first thing Xtree does is "Log your node." Logging a node consists of Xtree recursively scanning for files and subdirectories from your current directory.

When this is done (it takes almost no time) you are given a graphical representation of your node. Xtree uses ansi graphics to display a directory tree. On terminals not supporting these graphics characters, standard characters (- i + = ) are used to give the representation. Xtree starts you off in the directory box in the display. This box allows you to move around your directory tree with your arrow keys. As you move from subdirectory to subdirectory, the file box below is updated with a list of current files. All directory operations (prune, move, copy) are done from the directory box. By hitting "enter" you are moved into the file box under the directory box. There are two file boxes that can be displayed in Xtree - the small and the large file box. A file box is used to control files and operations such as create, delete, move, copy, and execute. The small file box is located under the directory box and is only able to display a limited number of files. By hitting "enter" in the small file box the screen gets redrawn with a large file box and no directory box. The "enter" key is used to step through all the control positions (i.e. directory box -> small file box -> large file box -> directory box -> and so on). We are happy to say that Xtree retained their DOS "look and feel", as well as keyboard mapping - including the Alt keys. Those of you familiar with SCO know this problem well because the console uses Alt+Fkey to switch between virtual terminals. Xtree has remapped the SCO keys to Shift+Alt+Fkey in an admirable compromise between remapping keys, and changing their familiar DOS user interface.

Support

XTree Company technical support proved to be a bit cumbersome at first, but
effective nonetheless. We had some initial problems using Xtree under X-windows, so we initiated a call, whereby we were put into a queue for support, and automatically transferred to voice mail where we left a message. About two hours later we received a call from Xtree’s UNIX technical support. They proved very helpful and informed us that we were a revision shy of what we needed. The latest revision was shipped to us free of charge in exchange for our serial number and registration information - that’s a pleasing sound to any end-user. We received the new version a few days later, removed the old version, and installed the new revision. As promised, the X-windows problem was fixed.

In Our Opinion

Xtree has many advanced features which we were not able to fully exercise before submitting this review, but we can say that the ease-of-use and friendly documentation make this product a real winner. It was pleasant to see that Xtree has kept their DOS interface and keyboard mappings. Also, we applaud Xtree for their no muss, no fuss policy concerning licensing, pricing, and media. A note of interest to our readers that have packrat tendencies. Paul recently used Xtree to figure out where all his disk space had gone. He found several files and directories that had not been accessed in more than a year. Being a packrat himself (he found that he still had the CPU scheduler from his college days) he was able to find many things he didn’t even realize were still there. When all was through, he was able to recover a full 10% of his disk space. This alone could practically pay for the software. Xtree for UNIX Systems lists for $295 and is available from any number of resellers. For more information please contact XTree Company.

Paul Fischer and Ed Cooley are senior technical representatives from Open Age, Inc. (OAI), an SCO-only service and support provider based in Gaithersburg, Maryland USA. OAI provides installation and integration of SCO-based workstations, multi-user systems, and networked servers. In addition, their company offers a wide range of on-site and telephone support programs to resellers and end-users of SCO products. For more information please contact OpenAge.

From the Net

USENIX CONFERENCE CONTEST

Sunil mentioned this contest in his report of his trip to San Francisco, but as Eric Allman published the full (and correct :-) results on the network, your Editor thought a summary of them seemed too good to miss.

"Name That File System", was a great success, with several hundred (yes, you read that right) entries. The rules read as follows: In the beginning, there was the file system, and it was good enough for the disk technology of the time. Then disks got bigger, and the block size was expanded from 512 bytes to 1K, and the 1KFS was born. But this was not Good Enough, and so the Fast File System (FFS) had to be. And it came, and 1KFS went. Then the Sun rose in the west, and there were networks, and NFS (Network File System) came to pass. But the east wanted to get in on the deal, and so there was RFS
(Remote File System) too. But there also had to be a local file system, and so the file system switch was born of virgin parents. And that was the end of self-control. Now we have LFS (Log Structured File System), TFS (Translucent File System), MFS (Memory-based File System - the file system that has files and is a system, but isn't a file system), and being introduced at this conference, the 3DFS (Three-Dimensional File System). What's next? Surely we can think of something! Like: SFS - Stochastic File System. When you open a file, it opens a file at random. Opens go very quickly, and it is useful for selecting random input to programs. Note I couldn't use the name RFS (Random File System) here, because the initials were taken. MMFS - Mickey Mouse File System. Runs in your watch. LIFS - Language Independent File System. You have to do a *set_locale*() call before you open the file; all text files are translated into the appropriate language on reads and writes. SSFS - Slow SLIP File System. Carefully tuned to give performance commensurate with Serial Line IP over a 1200 baud modem.

We had to reject some otherwise excellent entries on technical grounds. For example, the following entry had already been implemented: ZFS - Zork File System (also known as the Adventure File System, but AFS has been taken): provides a Zork-like interface. It's best illustrated by example:

```
$ cd src
You are in a large, dark directory. Something smells very bad here.
$ ls
There are lots of small files here, too many to list.
$ cat x.c
You can't; your screen is full. Throw some characters away and try again.
$ cd bar
You can't go in that direction. (The judges thought this should read "You are in a maze of twisty symbolic links, all alike.")
$ cd ..
Your way is blocked by a large, hungry lisp interpreter. It takes all your pages. Oh my, you are dead! Shall I try to reincarnate you?
```

Several deeply philosophical submissions were received: ZENFS - What is the sound of one disk head crashing? ZFS - Zen File System: Extremely storage-efficient, file contents are encapsulated in koans. Users often achieve enlightenment, and no longer need to type `ps` to figure out what's going on. EXFS - Existential File System: Analyzes the cosmic significance of all data. Reads return random data, for there is no difference, cosmically speaking, between one collection of bits and any other. Writes may unexpectedly fail with the error number EDESPAIR, if the write code failed to believe that the data passed would make any change, cosmically speaking.

SISYFS (pronounced "Sisyphus") - just when you think you've mounted a partition, it unmounts itself.

There were several versions of PCFS (Politically Correct File System), half a dozen BOFS (Birds of a File System), and several SFFSs (San Francisco File System), usually referring to the diverse culture available in San Francisco. We had to reject all of these on the grounds that they must have been too obvious (??).

There were a number of special awards. The Tongue Twister award went to the pair of entries: FSFFS - Free Software Foundation File System: puts a copyleft
on every file; FSFFFS - FSF Free File System: no copyleft here. The "Are We Still Friends?" award went to PERLFS - Pathologically and Exceedingly Repulsive Lwall-ian File System: emulates all other known and imagined file systems using super-overloaded system calls that take line noise for arguments. Contains extra system calls just for reading news, and automatically applies patches to itself upon encountering them in any newsgroup. Current patch level is 2,367. The "Aren't we taking this a bit too seriously?" award went to FFFS - Fast Fourier File System: time (program execution) domain file requests are transformed into the frequency domain, such that repetitive accesses are performed only every 2ⁿth time. Performance improves exponentially with load. An Honorable Mention went to MFS - Marketing File System: provides the service of being able to stat files that may or may not exist at some point in the future. The date fields are always set to the end of the current fiscal quarter. The Children's Award went to SMURFS - a small pudgy file system that only works on Saturday morning. Only your three year old child can use it. The Sports Award went to SFFS - Soccer Fan File System: rent one of those really huge soccer stadiums in South America, fill it with a million fans carrying flash cards with 1 and 0 on them. If they do "the wave", you lose your data. The Grand Moose Award went to BFS - Bullwinkle File System. The Certain Award went to HUFS - Heisenberg Uncertain File System: you can know where your file is or what's in it, but not both. The Yo-Yo Award went to (what else?) YYFS - the Yo-Yo File System: it goes up and down and up and down, and doesn't get any work done.

Third Prize went to MJFS - Michael Jackson File System: this file system spends 90% of its time updating itself.

Second Prize went to SFS - Sashimi File System: only works on the raw device. We had another entry for a Sushi File System, but concluded that it was implemented as a symbolic link to the Sashimi File System.

Finally, First Prize went to GBFS - George Bush File System: as seen on the best Japanese laptops.

LETTER BOX

Dear Editor

I was very pleased to see the first issue of the UKUUG Newsletter asking for comments. Overall I thought the publication was excellent, but feel there is room for improvement by the inclusion of a small puzzle corner, like the one I used to organise for a similar publication before it was axed by the faceless European Bureaucrats.

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