Editor’s Column
(Susan Small)

Welcome to Issue Number 4 which is being compiled on a wet and windy Bank Holiday weekend.

Having just returned from three weeks in Spain I can only marvel at the technology which allowed me to get pesetas out of holes in the wall in the smallest and remotest of villages (even Santillana del Mar, which hasn’t been altered since the 18th century, had two multibanco machines installed into the ancient walls of the village). My only gripe is the very ambiguous messages which programmers use - "Transaction not authorized, consult your bank" - if what they really mean is that I’ve got no money left. It was supposed to be a UNIX-free trip, but there in the Parador at the top of a mountain in the Picos de Europa was the fire extinguisher clearly labelled, UNIX.

A few weeks before my holiday I, along with the members of your Council, was delighted to be a guest at the wedding of the outgoing Chairman, Sunil Das to Hazel. It was a splendid day, and I couldn’t resist the opportunity of photographing the Council members in their best bibs-and-tuckers. So if you want to see a photograph of the entire Council wearing ties, turn to the back page!

I am delighted that Colston Sanger has agreed to contribute to the newsletter and I hope that we may hear fairly regularly from him in the future.

Richard Murphy has kindly submitted a report of the Sun UK User Group meeting which we attended last July. Seeing Bill Barrett at the registration desk reminded me of how hectic his life at Owles Hall must be running our Secretariat, EurOpen’s and Sun’s! He’s found the time, however, to write a piece about his work for us - he makes it sound like one-big party, typically not mentioning all the hard work.

Don’t forget that you can send me contributions by e-mail, snail-mail, telephone or fax. Contact addresses for people or organisations mentioned can be found on the back page.

Advertisements consisting of 2-3 column inches will be accepted from members at no cost. However, if you wish to insert an A4 flier for dispatch with the Newsletter this will cost £100. Full details of this service can be obtained from the UKUUG Secretariat.
This event, held on 3 July, was extremely popular with over 150 people crowding into the large lecture theatre and an overflow theatre situated behind the main one. Luckily we were already producing a video of the proceedings (see below) so a link was established enabling those in the overflow theatre to follow the proceedings (and later, to be able to ask questions).

Neil Todd, the programme organiser, chaired the workshop and introduced the following speakers (and topics):

Paul Anderson (Edinburgh University) on "Constructing a Global Filesystem with AMD", Ian Batten (Fulcrum Communications) on "News in the Nineties", Alec Muffett (Independent UNIX Programmer) on "UNIX Security Incidents, or Almost everything you ever wanted to know about UNIX security but were afraid to ask", Andrew Macpherson (BNR Ltd) on "Firebreaks, or I hear knocking but you can't come in", Andrew Findlay (Brunel University) on "Building large filestores", Pietro Brooks (Cambridge University) on "Practical PP part one", Steve Kille-Hardcastle (ISODE Consortium) on "Practical PP part two - Future directions and the ISODE consortium", Philip Hazel (Cambridge University) on "Mail routing in the new composite JANET/IP world", and Peter Houlder (UKnet) on "Some examples of how Worldwide Data Communications actually work".

The talks were followed by a lively panel session where the relative merits/feasibilities/futures/etc of JANET and the Internet were discussed.

The proceedings of this workshop (apart from Peter Houlder's talk, which had to be dropped because of time constraints :-) are now available on a three-hour video from the UKUUG at a cost of £50, including post & packing. Send your orders to our Secretariat.

My apologies for the shortness of this report. Having edited the proceedings down into three hours, it was my intention to watch the result and write the report. Unfortunately our video player was stolen before I could get round to doing it!

**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.
CAMBRIDGE

No-one has come forward yet to take over the running of the Cambridge LUG. Isn’t there anyone out there who could do it?

LONDON (Andrew Findlay)

The next meeting is on the last Thursday in September at the usual venue in University College London. The speaker has not yet been finalised, but details will be available from Andrew. 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. Please contact James direct if you are interested, or ukuug-lug-oxford@uknet.ac.uk.

SIGs

There has been some interest shown in setting up various SIGs and this time I can report a willing contact for the Personal Computer SIG.

PC SIG (Charles Atkinson)

I have volunteered to be PC SIG co-ordinator because the job needs doing and no-one else has come forward, rather than because of ideal qualifications for the role!

Let me introduce myself in support of that statement: I am a private (not academic or commercial) member of UKUUG and first met UNIX 18 months ago on building a ‘generic’ PC and loading Interactive Systems Corporation’s Workstation Developer. This is used for speculative development of system level software and for printing. Much of this printing supports my work as a freelancer (giz a job, mate - I can do that!) mostly in VM Systems Programming and Technical Support.

Somewhat blandly, the current proposed aims of the PC SIG are to serve its members’ interests. If potential members would like to send suggestions I will collate these into a more interesting statement of aims. It will be sensible to confine ourselves to specifically PC issues to avoid duplication. There are Usenet news groups which cover PC issues - it would be helpful if potential members could indicate if they make use of them.

One specifically PC problem affecting UNIX users is the huge range of hardware that systems can be built of. The SIG could usefully act as a clearing house for compatibility information based on members’ experience. Do let me have your suggestions.

The Return of Doc Strange
(Colston Sanger)

Software Quality: There’s Not a Lot of it About

Well there isn’t is there? Consider this little gem:

```
Return Stat stopKid()

/* Return Stat is typedef’d elsewhere */
```
Return Stat rc = OK_KID;
int pid;
if (kid.pid != NO_KID)
{
    /* prevent race
       condition with the
       SIGCHLD signal */
    pid = kid.pid;
    kid.pid = NO_KID;
    /* workaround for
     execv(2) bug. */
    /* We have to kill both
     the sh and the comms
     process */
    /* Where there's a
     'bug', there's likely
     to be more than one
     bug */
    kill(pid, SIGTERM);
    kill(pid + 1, SIGTERM);
} /* Reset restart count */

return(rc);

I mean, even if you had written it, would you admit it?

The Logic of (Horrible) Programming

Now, since you didn’t write it, and I certainly didn’t write it, we can afford to intellectualise a little: there’s no great rush to search for the guilty party, punish the innocent -- or praise and honour the non-participants.

But...how could ANYONE write such a horrible (as in ‘Horrible, horrible!’) piece of code? Two possibilities come to mind:

- the programmer was asleep
- he or she simply didn’t know any better.

But that’s too easy. The first thing to say is that nobody makes mistakes on purpose:

there’s always some bizarre logic behind what they do -- or, in this case, the way they write programs. The problem here (the ‘pid + 1’ problem) seems to be that the programmer has an incomplete, perhaps even fundamentally mistaken conceptual model of the UNIX multi-tasking environment.

I can imagine how it might come about. Everyone knows that most programmers are just glorified typists who spend most of their day sitting bleary-eyed in front of vi or emacs or whatever. A quick compile and round trip to the office coffee machine, a chat with colleagues, a project progress meeting is a memorable event. Truly, it’s a dog’s life. Our programmer, however, has discovered the ps command. So many options! Oh what joy! He or she has observed an interesting thing: that when you start up a shell script or a command that in turn invokes another command, the process-id of the invoked command is indeed often (but not necessarily always!) one greater than that of the invoking command. In other words, observing only surface characteristics, our programmer has inferred a conceptual model of how processes are created and scheduled in the UNIX environment that is blazingly, obviously incorrect to those of us who know better.

No, I don’t really buy that. I don’t believe that stupidity or silliness come into it.

OK, let’s try again. We know that this is being developed on a Sun workstation, so presumably under some sort of windowing system, say X.11 and Open Look or Motif. Now, assume that our programmer is more used to programming in C under Microsoft Windows. Further, let’s assume that he or she has a PC running Windows at home. Since Windows and MS-DOS in
general, has no notion of a process, and since Motif with its three-dimensional boxes could conceivably be mistaken for Microsoft Windows -- is it possible that there was a sort of carry-over effect, what Donald Norman calls a 'description error'?\footnote{1}

No, I don’t really believe that either.

So what else is there? Are we, heaven forbid, in the presence of an unethical programmer, a 'recession-hit software writer' -- one who, according to a recent Sunday newspaper ‘deliberately [adds] errors to clients’ programs in an attempt to ensure that they obtain followup work’?\footnote{2}

No, certainly not that.

So what else is there? Maybe only that the kill(pid + 1, SIGTERM) really is an honest attempt to solve what seemed to be an insoluble problem: a kludge, but the only way out.

So what’s the moral of this sorry little tale? I guess it could be phrased as:

- **It's OK not to know the right way to do something straight off. That sometimes days of contemplation (= 'not doing anything') are needed before a real understanding of a problem is reached.**

- **And that if you do find yourself shovelling layer upon layer of code, riddled with special cases and mutually cancelling areas of complexity, there is almost certainly a better way to do things.**

**Murder Most Foul**

Looking at this horrible thing, this shard of code, it's clear that the real problem lies higher up, in a function called startKid:

```c
Return_Stat startKid()
{
    Return_Stat rc;
    rc = OK_KID;
    if (kid.pid != NO_KID)
        rc = KID_ALREADY;
    else
    {
        if ((kid.pid = vfork()) == -1)
        {
            Errlog(LOG_ERR, "failed to fork\n                 process");
            rc = KID_ERROR;
        }
        else if (kid.pid == 0)
        {
            /* This is the kid */
            /* And now, the strange case of the 'bug' that never was... */
            /* Fix for Sun bug. */
            /* Fork shell and have that run the shell script */
            execlp("sh", "sh", "-c", kid.filename, (char *)0);
            Errlog(LOG_ERR, "failed to execv\n                  %s", kid.filename);
            _exit(-1);
        }
        /* This is the parent */
    }
    return(rc);
}
```

Leaving to one side the obvious security hole of searching PATH for a program called sh, God only knows what this 'Sun bug' is. Is the programmer saying, perhaps, that you cannot exec a shell script with the #!/bin/sh mechanism? That's simply not true. As far as I know, it works in all BSD releases and derivatives, and certainly works in SunOS 4.1.2.
Moreover, if it were true, it’s like saying that the fork-exec process creation mechanism doesn’t work, which would nullify the existence and procreation of all the UNIX systems in the known universe...

So, given that #!/bin/sh does work, the exec line above becomes:

```c
execp(kid.filename, kid.filename, (char *)0);
```

The shell script that is exec’d is prefaced by:

```c
#!/bin/sh
#
# Ensure default behaviour of
# SIGTERM
trap 15
...
```

End of story, end of ‘bug’, and the end of pid + 1.3


3. My thanks to my fellow GID-ers, Alan Carter, Andy Greener, David Purdue and Neil Todd, for discussions of earlier drafts of this little harangue.

**Forthcoming Events**

**LEARN OOPS & 4.4BSD INTERNALS IN VIENNA!**

The University of California, Berkeley, is offering two short courses from Monday 7 September through Friday 11 September in Vienna, Austria.

- **Object-Oriented Programming in C++**. This course introduces object-oriented methodology in C++, and presents specific techniques using C++ that illustrate essential concepts in object-oriented programming. The course is given by Ira Pohl, an internationally prominent computer scientist, who has written eight books on C and C++.

- **A Preview of 4.4BSD UNIX Kernel Internals**. This course provides a broad overview of how the BSD UNIX Kernel provides its basic services. Individuals involved in technical and sales support can learn the capabilities and limitations of the system, application developers can learn how to effectively and efficiently interface to the system, and system programmers can learn how to maintain and interface to such systems. The course is given by Kirk McKusick and Mike Karels, two of the most distinguished developers of BSD UNIX.

All lectures and written course materials are in English. The courses are both held at the Penta Hotel, close to the centre of Vienna. Further information from the addresses given at the end of this newsletter.

**OPEN SYSTEMS AND INTEROPERABILITY: INFORMATION SYSTEMS FOR ENTERPRISE-WIDE COMPUTING**

8-9 December 1992
US Embassy, London

Unicom were asked to organise this international conference by the Foreign and Commercial Services of the US Embassy and the UKUUG is one of the sponsors of the event. The main purpose of the event
is to show the interaction of US and European technology in the field of Open Systems and Interoperability.

For further information contact Unicom Seminars on the numbers listed at the end of the Newsletter.

EurOpen News

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.

SPRING 1993 CONFERENCE AND EXHIBITION

3 - 7 May 1993
Seville, Spain

The UUES (Spanish UNIX User Group) will host the 24th EurOpen Conference and Exhibition in Seville, Spain. It will be preceded by two days of Tutorials on Monday 3 and Tuesday 4 May.

The theme of the Seville Conference is:
The Programme Committee would be delighted to receive paper submissions addressing any of the above issues, from a market or technical perspective.

The tutorials will provide attendees with information on specific topics. Their purpose will be to present the state of the art in important areas of open systems. The tutorials will be led by experts of national and international fame.

Persons who would be interested in presenting a tutorial are invited to contact the Program Committee as soon as possible at the contact point below.

**Dates to Note**

25th October 1992
Deadline for receipt of full papers, or extended abstracts, by the Convention Secretariat.

29th November 1992
Notification to authors of the Programme Committee’s decision

29th January 1993
Deadline for receipt of the final camera ready texts by the Convention Secretariat.

**Submission of Papers**

Paper submissions should identify the author(s) and the organisation(s) to which s/he(they) belong. A submission should include a draft of the complete paper (5 to 10 pages), or at least an extended abstract (at least 2 pages). Each will be examined on the basis of its originality, clarity, technical quality, and adherence to the general theme of the conference.

The Programme Committee wishes to include both technical papers, and syntheses of different approaches. The quality of the conference depends to a large extent on the quality of the presentations and papers: authors are thus strongly encouraged to supply a complete version of their text as soon as possible.

The official language of the Conference is English.

Submissions should be sent to the EurOpen Secretariat.

**Recommendations to Authors**

For the final version of your paper, if it is accepted, we will need, in good time:

- a camera ready copy of your paper
- the source text, which will be processed during the preparation of the proceedings.

Please also note that if your paper includes diagrams, then it is essential that we receive a printed version of these. The source of your submission, for consideration by the Programme Committee, should reach us via one of the following means:

- electronic mail addressed to Helen Gibbons (helen@euroopen@EU.net);
- QIC-24 (150Mbyte cartridge);
- 3.5 or 5.25 floppy disk (MSDOS format);
- Macintosh floppy disk

The format of your source may be any of the following:

- nroff or troff, using any of the
macros mm, ms, tbl or eqn;

- LaTeX or TeX - if you use non-standard macros or .sty files, please include them in your source;

- ASCII;

- MS-Word (please state which version)

Diagrams should be supplied in PostScript or pic format, whenever possible.

The final form of the paper should be in either troff, using mm macros, or LaTeX, for inclusion in the Conference Proceedings.

Sun UK User Group News

I was able to persuade my employers that attending the Sun UK User Group (SUKUG) one day technical meeting was a worthwhile expense. (I had to promise to buy an Intercity SuperSaver return at £33 to travel on the 16.30 or 18.30 train - not the £80 standard return on the 17.00 or 18.55!)

SUKUG technical meetings are normally held in Sun offices around the country, this one being held at the Sale office in Cheshire. The topics for the day were "Beginning e-mail" and "ISDN".

I was glad to see some friendly faces such as Bill Barrett (who despite setting off at some unearthly hour was doing his usual fine works) and was equally pleased to see the plentiful supplies of coffee.

The technical meetings now start with the obligatory administrative details such as, only eating a lunch if you've paid for it, followed by a question session (no answers) to indicate some of the issues that attendees expected to be covered during the day.

The first talk was by Dr Ian Christensen, a Psychology lecturer from Manchester University, in which he discussed research findings which show that using e-mail has not only economic and efficiency advantages (no games of telephone tag but can enable better and fairer discussion. He also discussed, partly as a result of the diminished emotional context of the message, the development of ways of indicating feelings and the "netiquette". The "smiley" on its side :-) as a closing parenthesis to indicate a less than serious comment, and its cousins: the sad smiley :-( , the winking smiley ;-) , and the suprised smiley :-o , were described.

Phil Harman of Sun Microsystems then discussed the mail usage in Sun Microsystems. Sun have more workstations (about 20,000) than employees (about 16,000) and each employee has access to e-mail. Mail addresses are of the form Phil.Harman@sun.com which are normally aliases for both ease of use and security (no real usernames divulged unnecessarily). Sun use e-mail for internal communication, mailing lists, bulletin boards, junk mail, and to communicate with resellers. The global nature of the network means that they have to support different channels (transport mechanisms) such as UUCP and SMTP. I was interested to note that Phil Harman's slides were held on a workstation connected to a back
projection screen and displayed using the Postscript previewing tool under Openwindows.

Coffee and biscuits were again in plentiful supply during the break. After the break Phil gave a quick demonstration of the mailtool (Openwindows 3 version). Particularly attractive was the attachments concept which means that the user can "drag and drop" icons (from the file manager tool) representing binaries, images, or sound files onto the mail composition window. These files are then "attached" to the mail message and then can be dragged off by the recipient.

Andrew Macpherson from BNR then took us on a tour through the sendmail jungle to our lunch. First he outlined the role of sendmail in the larger scheme of things, that is it is strictly a mail transport agent (MTA) and a queue manager. Sendmail relies on other programs to handle talking to the user (mailtool, ucb/mail, bin/mail, mh, elm, etc). Sendmail monitors a spool area, carries out address translation and conversion, then calls the appropriate mail channel program to transmit the message. Sendmail has the SMTP (Simple Mail Transport Protocol - for IP networks) functionality built in so it can talk directly to other SMTP handlers. Andrew then dealt with the purpose and firing of the rulesets in the sendmail configuration file (/etc/sendmail.cf). The rulesets are the translation rules for converting addresses between formats. His suggestion is to keep things as simple as possible by using only two rulesets (0 and 3) if you can. Andrew finished by discussing system amendments required (including sendmail) if the Domain Name Serving (DNS) software is running.

I took my lunch a little late and felt disappointed that my £9.50 only seemed to stretch to a couple of sandwiches, a piece of quiche, and a pink fairy cake, but there was again plenty of coffee.

Elwyn Davies (the SunUKUG chairman) started the afternoon session with a brief talk on getting connected to the network. He first outlined the networks that users might wish to have access to: UKnet, JANET, Internet, EUnet, USENET, UUCP, BITNET, and EARN. Elwyn then raced us through the nitty-gritty of the administrative aspects of obtaining connection to UKnet, on buying a suitable modem, registering your site name, configuring sendmail, and obtaining an Internet IP address. He also provided useful book references and details of UK IP providers.

Next, Alex King from Sun Microsystems imparted full technical details of connecting a modem to a serial port on Sun systems. He discussed the supported speeds on various workstations, which signals are required on a V.24 (RS232) 25-pin interface (basically straight through pin to pin - don’t use a null modem cable!), making the appropriate devices, altering /etc/ttytab, and even how to turn off software emulation of the popular Distant Carrier Detect signal with ttysoftcar -n!

There was some discussion of how compatible Hayes compatible modems are which concluded with the remark that even Hayes compatible modems aren’t always 100% compatible.

Last up was Brian O’Mahoney from Teraflex who talked first about the things to consider when buying a modem. His technical knowledge was well researched
and he described the basic composition of a modem and how it works with the telephone system. He advised buying a modem that was designed for the British telephone system as there really are differences in the electronic behaviour between telephone networks. Brian also gave a brief outline of the various standards that apply to modems (CCITT and otherwise). Brian then switched topics to give a comprehensive outline of what Integrated Service Digital Network (ISDN) is and how it might be used.

Basically having an ISDN line brings the digital public telephone network (most exchanges in the UK are now digital) to your telephone socket. So any equipment with the appropriate interface (including the latest Sun SPARCstation) can plug in and start communicating at 64 Kbits per second. The major drawback is that British Telecom will charge a line conversion fee and a higher quarterly standing charge but you do get two 64Kbit data channels and one 16Kbit supervisor channels for the outlay.

Because the circuit is digital you will also need to obtain a new telephone with an integral analogue to digital convertor. Another area of difficulty is that there is currently little in the way of standard software which runs on top of the X.25 networking software which ISDN will use - a Sun workstation may not be able to talk to a Hewlett-Packard system.

The day finished in a general discussion trying to resolve any of the questions asked at the beginning that had not been answered so far.

I would like to thank Steve and Leslie Holden for their kind hospitality in putting me up overnight, thereby allowing me to use the InterCity SuperSaver ticket.

**Bill’s Bit**
(Bill Barrett)

**UKUUG - THE INSIDE STORY**

Your persistent Editor has urged (UKUUGspeak = ordered) me to set down some of my experiences since I first became acquainted with UKUUG.

Setting aside my natural Wow, where do I start and what do I say, or what do I leave out? reaction, this is a good time to write such a piece as the sell-out success of the LISA Workshop is still fresh in our minds and this serves to remind us of the potential strength of this large national group. Indeed, it may not be generally known that it was from the UK group of UNIX users that EUUG, now EurOpen, grew and spawned a whole host of other national groups which is now Europe-wide and indeed even wider than that.

May I break in at this point to tell you that I have just received a fax sent by a super-duper state-of-the-art electronic mail machine. It was beautifully laid out and typeset etc etc - the only snag was that the message was missing. Funny old world.

Sitting in at meetings of Council and the Advisory Committee since I started with UKUUG some years back has been an instructive and indeed exciting time. Plans have been laid for a whole series of successful technical meetings and workshops, plus the groundwork for the unforgettable EUUG Conference in London...
in the Spring of 1988 and the planning and execution of the equally unforgettable UKUUG Conference which was also held in London in the Summer of 1990.

One thing that sticks out in the memory of that event was a terrific piece of behind the scenes organisation. The hotel venue was, we discovered suddenly, popular for Jewish weddings and on further enquiry we found the horrible truth, which we had already sensed, that we wouldn’t be able to get into the Conference area until the early hours of the morning. You wouldn’t dream, at least I don’t think you would, how much behind the scenes work goes into getting ready for a conference so that everything is in apple pie order when the delegates arrive. It just can’t be left to afterwards! Well, nothing daunted we collected a whole host of willing helpers and got everything ready in an upstairs room. Then we went theoretically to bed and waited for zero hour. The incredible thing was that the operation swung into action with such efficiency that Jane and I (the "Dynamic Duo") were overtaken in our preparations and we had to shift into overdrive to keep up our end of the organisation, something quite unheard of.

The Conference, as those who were there can verify, lived up to the atmosphere created by that dramatic piece of back-room stuff.

Underlying these serious matters though has been a very real sense of comradeship and of friendliness. Working for UKUUG has been truly rewarding.

Your Editor epitomised this aspect of UKUUG when we met once in Nice. Jane and I, wearing our then EUUG hats, had just arrived for their Conference and had gone for a stroll through the rush hour traffic. Dodging between the cars, taxis and lorries was quite an experience and we were concentrating on staying alive when we heard a voice calling out above the din "Bill, Bill". The voice carried such a sense of urgency that our reaction was one of fear, that there was some new and yet more terrifying traffic hazard of which we were as yet unaware. Darting startled glances around we suddenly saw that the cries were emanating from your Editor on the far side of the square - there was no cause for alarm, she was merely greeting us having just arrived from England. It was what you might call a Nice piece of serendipity.

Another such chance meeting occurred during the run-up to the 1990 Conference. My wife was riding her horse across Yorkshire and I was accompanying her on foot. We were climbing a very steep hill, a real humdinger, up to Bolton Castle and I was letting the horse take the strain and was holding onto his tail as I climbed. (OK, animal lovers, he’s more than able to cope with my weight.) As we neared the castle I saw a guy sitting by a bike and staring at me. My first thought was that he must be thinking "Who’s that plonker?" when it struck me that he looked remarkably like Peter Petersen from the Danish Group. As Peter is seven feet tall he’s pretty distinctive and to our amazement it was him, cycling down to London from Edinburgh for the Conference. Just one facet of the close knit and fascinating UKUUG scene.

That’s how UKUUG has been for me. Switch to Vienna, when a strong UKUUG contingent was present at the EUUG Conference there. One evening I hung up my EUUG hat, put on my UKUUG one and went out on the town with the UKUUG lads and lassies. The starting
point was the big wheel (the fairground attraction and not Sunil) at the Prater funfair. The object was a pilgrimage to the famous Harry Lime scene from The Third Man and it was exciting to relive that film which has passed into history as a classic. Once we had left there we made for the fantastic roller coaster and while I was wondering whether I was up to it Peter Collinson - another pillar of the UKUUG establishment - was already committing us by buying the tickets. What a ride. I knew that at some stage we would loop the loop and I stole a glance at Sunil by my side to seek a little confidence. If he was scared he didn’t show it and then, wheee, we were up and over. Marvellous. Next I found myself seated next to Sue Small in a little boat which was being launched into space and into a lake. Ahead of us on the launch pad was an Irish friend Donal Daly and I remember noticing how his expression was very much that of a kamikaze pilot. True to the tradition of Irish kamikaze pilots, he flew several more successful missions while we landed safely.

I have the feeling, rather like the speaker who senses that he has spoken for too long, that my space has run out. So I will close these jottings about the background to working for UKUUG.

Next time, if there is a next time, I think a word about Sunil and the champion polar bear topper will be appropriate. Bye for now.

Puzzle Corner

Solution to Puzzle 1

As you analyse the problem, it soon becomes clear that the program source must be available in two different representations, one for interpretation and one for printing. This leads to our first solution realised by quoting symbols (Bourne shell):

\[
A=''' B='''
C='''echo "A=$B$A$B B=$A$B$A";\n echo "$C$B$C$B";\n echo $C'
\]

Note that I have artificially split the lines to fit the format of the newsletter. However, it is possible to use a more functional style using the eval command and positional parameters (Bourne shell):

\[
set \' 'echo set \"$1\" $1$2$1; eval \$2; eval $2
\]

I’m still waiting for a solution written in the C shell! By the way, I’m thankful to Paul Bratley and Jean Millo for their original work\(^1\) and to Theo de Ridder for his solutions published in a back issue of the EUUG Newsletter.\(^2\)

Puzzle Number 2

Staying with the Bourne shell, here’s an easy one for those familiar with shell programming. Write a Bourne shell script that echos its parameters in reverse order. Remember that the script can be called with more than nine arguments.


Reviews

Interconnections Bridges and Routers

Jon Crowcroft

This is about the only book I have found on Routing (whether level 2 or level 3). To have the book written by the author of Spanning Tree and IS-IS is ideal.

The material is presented in 12 chapters, each ending with a series of questions suitable to be set for the student or for the professional testing their own understanding. The style of writing is quite informal, and extremely readable even though some of the material is highly technical. The author is clearly not a zealot for anything more than technically suitable solutions. Advice on bridges versus routers, for instance, is honestly subjective where necessary.

Chapter one introduces networking concepts as rapidly as possible. I have to say that if you are not reasonably au fait with the details of at least one network architecture (be it Appletalk or SNA, DECNET/OSI or TCP/IP) then this book is not for you, yet.

Chapter two covers level two situations, setting the scene for chapters three and four on transparent and source routing bridges.

Chapters five, six, seven and eight similarly set the stage for nine, 10 and 11 which discuss the plethora of routing ideas, algorithms, mechanisms and actual protocols. This is where you will find descriptions of the differences between Distance Vector, versus Link State, Interior versus Exterior (Intra versus Inter Domain), multi-metric routing, Wide Area Multicast, and finally, RIP, ISIS, OSPF, EGP, BGP IDRP. Chapter 11 contains material rooted in Perlman’s thesis on Byzantine Robustness, which is of special interest to people with mission critical networks. Chapter 12 rounds up with a discussion of the perennial "To bridge or route?".

The book is full of useful tips and design hints, although specific reference to implementations and possible discussion of sample router vendor configurations for given setups might have added something. There is also a smattering of very humorous and apt quotations throughout the text. There is a reasonable glossary, followed by a useful (to academic readers) list of areas for future research.

One main missing item was that there are only occasional suggestions for other reading matter, and absolutely no references section.

Summary: This book is absolutely essential for anyone setting up scalable networks - I hope we shall see future editions as the Internet in all its multi-protocol glory (gory?) grows up to (and passes) the size of the phone system.

[brilliant quote from W Allen: "More than any time in history mankind faces a crossroads. One path leads to despair and utter hopelessness, and the other to total extinction. Let us pray that we have the wisdom to choose correctly".]
From the Net

NeXT IS NOW ON-LINE!

We’ve learnt that the NeXT User Group (UK) has begun operating an on-line, NeXT-specific, information service known as NeXTel. Their modems support V.21, V.22, V.22bis, V.32, V.42bis as well as MNP Level 5. The telephone number is +44 844 28660 and the protocol is 8 data bits, 1 stop bit, no parity. Enquiries by e-mail to: uk-next-users@ohm.york.ac.uk.

Small Ads

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FRAMEMAKER V2.1 for X Window System

Two new, boxed document sets are available for £30 each (including delivery in the London area). The sets contain nine Manuals covering installation of FrameMaker, learning and using it, MML reference, MIF reference, shortcuts and creating tables.

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The best captions could win a UKUUG T-shirt!