



# All together now

Chris Bidmead claims things are changing for Unix users. Then again, he said the same in 1993... Still, he remains optimistic: 1997 could finally see some Unix togetherness.



One of the things this column asked Santa Claus for last Christmas was for the Unix community to get its act together. Something along these lines — dare I hope — is actually happening. In February, we saw the coming together of X/Open and the OSF to form The Open Group, followed in September by a declaration of intent from Uniform to join the amalgamation.

My dentist tells me that amalgam is a metallic mixture that sticks in your teeth and goes hard and almost inert except for trickling out a few, probably poisonous, Hg ions that may actually help keep decay at bay. A not-too-unfair description of the massed forces behind Unix in the past, you might think (I couldn't possibly comment...). But things are changing.

One sign of this change is the way The Open Group is welcoming the Open Unix effort to its bosom. Open Unix is a development of Lasermoon's Linux-FT, now under the aegis of Caldera (more about this at [www.caldera.com](http://www.caldera.com)). And I see that CDE, The Open Group's Common Desktop Environment, has now arrived on Linux. CDE was part of the initial Unix COSE initiative that was proposed in March of 1993, but the fact that it's taken three years is hardly the fault of Linux.

I mentioned the COSE initiative in the first of these columns, written in September of that year, and was somewhat sceptical about it at the time (see panel). Indeed, it wasn't long before COSE began to look like just a knee-jerk reaction against Microsoft's

NT, with little muscle behind it. It would be ironic if Caldera's Open Unix became the focus for The Open Group's so-called Single Unix. Perhaps this threat of rivalry is one reason that SCO has decided to make its own Open Server flavour of Unix freely available to anyone not using it for commercial purposes.

So, I promised to get hold of a copy of the SCO freebie and report back to you. It took rather longer than I anticipated, and the CD and its accompanying pair of boot diskettes arrived too late for evaluation this

## COSE in 1993

In September 1993 I wrote: "COSE... sounds terrific. You'll be able to sit down at any Unix workstation from any manufacturer and instantly be at home, in the same way that Windows users are today. Better still, applications will run 'right out of the box' on Unices on the same processor, and to move a COSE app across to a different processor will only need recompilation — no tweaking and twiddling with the source code..."

And porcine domesticated livestock will become airborne. Alas, the Unix world has promised various forms of togetherness in the past but has still managed to remain a mass of twisty passages, all different. Fingers crossed.

month. Next month, if all goes well...

### PPP to the internet

A debate among journalists on one of the electronic forums recently discussed the relationship between information that goes out in columns like this, and information that is available on the internet. I could, I suppose, stuff this column with rejigged wisdom culled from the internet; certainly, internet FAQs and newsgroups are a very important source for me. The Truth is Out There (if you can filter it out from the junk

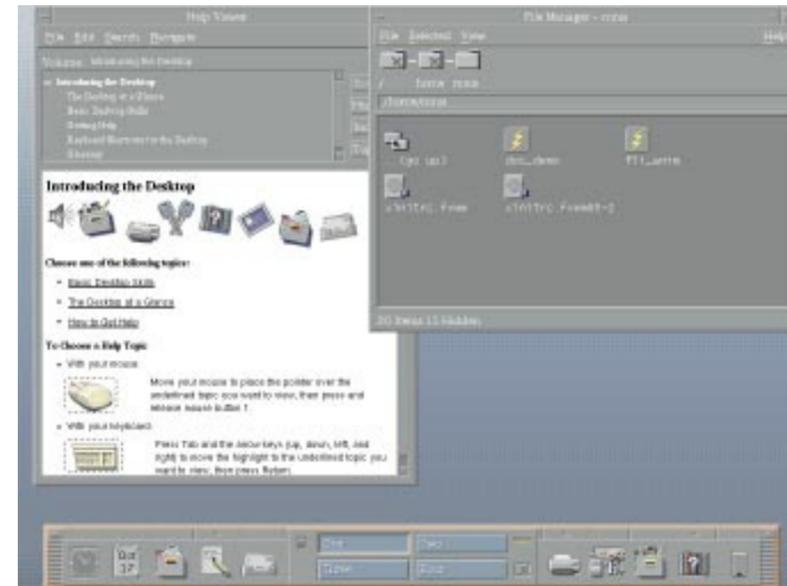
But I'm starting to assume that if I can get to it, most of you can get to it too. So my role isn't to relay woggles of publicly accessible material. What you get in this column is my own personal adventure/quest/struggle to get a few particular things done, and generally to make sense of what I call "grown-up computing". I do give pointers to what I think is good and useful information on the net, and occasionally I may summarise. But mostly I take it for granted that cyberspace is something we share.

I realise this may not be true for everybody. But if you're adventurous enough to be running a flavour of Unix, or to contemplate doing so, you're probably adventurous enough at least to be thinking about connecting to the internet. My minimim recommendation: get yourself an email address.

Unless you're one of the lucky few with a fibre cable coming in off the street, you're likely to connect through a serialised network connection called PPP (Point to Point Protocol). In October, I passed on some tips for tracking what's

happening with PPP once you're making connections through it. The month before, I explained in general what PPP is, apropos some problems I'd been having with my own internet connection. Last month, I included some screenshots of GateKeeper, the graphical front-end that drives PPP on my NeXT machine.

If I'd realised I was going to turn the PPP saga into a serial, I'd have been more methodical about it. Notably missing so far is a discussion of how to set about making



**Left** The Common Desktop Environment. This is what you see when you first log in to Linux Pro Desktop, available from WGS ([www.linuxmall.com](http://www.linuxmall.com)). It's uncannily like the AIX desktop — which of course is the point of CDE. The Front Panel (long strip at the bottom) is also a relation of OS/2's Launchpad

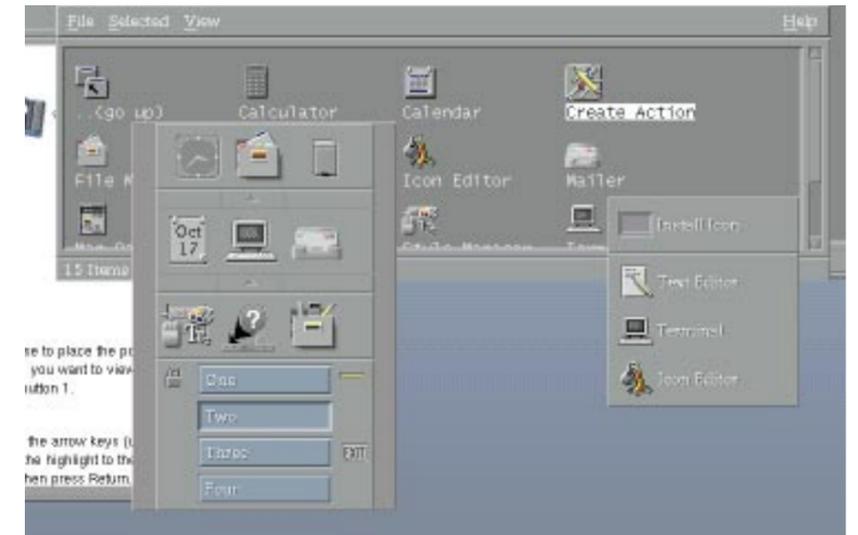
**Below** A closer view, with the Front Panel transformed to a more vertical shape. The panel to the right is a tear-off from the main Front Panel. As with OS/2 the icons are objects, which can be allocated behaviours with simple scripting. For full details, see the WGS home page

the connections through PPP to your internet service provider in the first place.

The arrival on my desk of a shiny new Surfer modem from Psion-Dacom has prompted me to work on PPP afresh. The Surfer comes bundled with software and trial accounts for Pipex, CompuServe and AOL and, as such, represents a real bargain for mainstream computer users. But for those of us who see the so-called mainstream as just a shallow but loud babbling brook, this isn't a lot of use.

Because all the software is for just one operating system, or maybe two — Windows and the Mac — does this mean that Unixen should just give up? Sometimes the answer, alas, is yes. I mentioned PinkSlip a couple of months ago. That's a proprietary protocol that Pipeline uses, which only works with their own (Windows) software. AOL does something similar, which again locks you into AOL's own software, and therefore into Windows. Yes, it's completely crazy, and I gather these companies have seen the error of their ways, but it's going to take a while for them to fix it. So until then, Pipeline and AOL aren't in our frame.

Generally, you'll find ISPs offering a PPP connection, but one of the biggest, the IBM Global Network, still only does the older SLIP (non-)standard. You can cope with SLIP from Unices like Linux, but I decided to put that aside for the moment and concentrate on PPP, which is fast becoming the all-embracing standard for TCP/IP down a serial line, and it will also cope with other transport



protocols like IPX.

I find the best way to tackle vendors offering PPP is just to plunge straight in with a modem and a simple utility like tip or cu that lets you talk to your modem. You could try ringing their help desk, although I hope you fare better than I did (see page 282).

Before you can get onto the remote system, you obviously have to make a physical connection by dialling up. Once you're connected, the ISP needs to know a) who you are (username), and b) whether you really are that person (password). There are some more complicated schemes that do further checks (on your hostname, for example) but I haven't come across them. So basically you need to get the name and

the password across somehow.

The "standard way" is an ASCII exchange before you bring up PPP. If this is what the ISP needs (Netcom UK works this way), you can do this manually from any terminal-type program that talks down a serial line to your modem. In what follows, I'm using tip on my NeXT machine. (I notice that the manual for dip on my version of Linux carries this succinct comment at the end: "BUGS: This program does not work very well.")

First, type ATZ and hit carriage return. You should get "OK", which means the connection to the modem is working. Then you dial:

```
<modem initialisation stuff> ATDT
<phonenumber>
```

Assuming you've got the baud rate

right, this should bring up a prompt string that says something like "Login:". Baud rate and initialisation strings used to be a major hurdle in the good old days, but modems at each end of the line seem to have become a lot more intelligent about getting this right automatically. If in doubt, keep it simple.

Then you do the authentication exchange. Typically, this goes:

```
Login: <yourname>
```

```
Password: <yourpassword>
```

where the stuff to the left of the space on each line is the incoming string (from your point of view) and the stuff to the right is your response. Netcom UK requires you respond to Login with:

```
uk, ppp, <yourname>
```

Demon adds a third prompt where it asks you for the protocol "Protocol:" and you respond PPP. One reason for doing this manually is so that you can see exactly what the prompts are.

If this dialogue is accepted, the next thing you'll see (maybe after a cheerful "HELLO", which might require you to pause for a few seconds) is a stream of garbage characters. This is the remote PPP throwing binary at you. At this point, you bring up PPP at your end and the exchange continues in binary. You're connected. Now you can go away and write a script that does this automatically.

Here's a tip: have pppd ready to run in a second shell window. This way you can bring it up quickly — sometimes the ppp at the remote end will sulk if it doesn't connect to you right away. And don't forget (as I did when I first tried exploring this) that the utility is called "pppd" with a "d" on the end (because it's a daemon).

A faster and more secure way of carrying out the connection is with PAP (Password Authentication Protocol). If the ISP is set up to do PAP, you start up PPP the moment the modem tells you you're connected, and leave it to PPP to carry out the authentication. You can still get as far as bringing up PPP manually, but from then on, you depend on PPP to do the rest.

How does PPP know what to do? The PPPs on most of the Unix boxes I've come across derive from the free version originally written by a team lead by Drew Perkins (you should see the name come up when you run pppd). These accept a command line parameter "+ua <filename>", where

<filename> points to a file that contains just two lines, <yourname> on the first line and <password> on the second line. When the ppp daemon sees the +ua parameter, it knows to carry out PAP using the stuff you've put in the filename.

Those are the basics, and at this level, if you treat PPP itself as a sort of black box, they really are that simple. The documentation supplied with your system should be enough to take you to the next stage of automating the whole process with the chat scripting utility. If, for some reason, things don't work, or you are a glutton for PPPunishment, O'Reilly's *Linux: Network Administrator's Guide* includes a whole chapter on the subject.

The main pppd command will also tell you a lot about ppp. Be careful with all that stuff you can put in the command line or in

system. Some of it is nostalgic, but much of it reminds me that Pick is still a force to be reckoned with, even if it does get a pretty low profile in the mainstream computing press today.

Mark Chapman (mark@wwsLtd.demon.co.uk) runs an outfit in Tunbridge Wells that specialises in software for Homecare and Nursing Agencies. He's a Pick user — he describes it as his "favourite database". Pick Systems, he tells me, claims to have become more businesslike since the demise of its founder, "which seemed to mean shedding staff by the cartload." Mark, too, remembers a night out he had with Dick Pick. "I thought he was an incredible bloke. He was well into middle age and yet a serious thrill seeker. I had thought all his jet skiing etc was just really naff marketing, but the guy was genuinely wacky."

Chris de Vaney (chris@wsel.lu) is another computer professional who responded enthusiastically to the Pick namecheck. "Oh boy, do I remember the Pick system. I evaluated it twice for large UK installations in the early eighties, and I just didn't believe how powerful it was. The natural language query interface still hasn't got anything to match it 13 years later!" Chris's story about an estimated two-year engineering application backlog for a broadcasting organisation being covered in just over eight working days using Pick, is typical of the mail I've been getting. Thanks, everybody. Over the three years I've been doing this, the column has already spun off standalone

## ISP helpline howler

Here's what happened when I rang the support line of a well-known ISP.

Me: Do you do PAP or require a pre-PPP ASCII dialogue?

Help Desk: What operating system are you using?

Me: Does that matter?

HD: We need to know so we can tell you how to set up your software.

Me: I'm not asking how to set up my software. I'm asking what your software requires so I can supply it. I'm doing it manually to start with. When I understand what's happening, I'll be able to set it up for any operating system and/or application that I want to use.

HD: (After a long pause) Did you say "manually"...?

It seems that any wisdom they have about making the connection seems to be encapsulated into particular applications and operating systems. The help desk staff I've talked to certainly aren't daft, it's just that they seem not to have thought of it in terms of what's going on underneath.

an options file. The modems (or more likely, "virtual modems" like Ascend boxes) that ISPs are using these days are very smart and seem to be used to treating you as very dumb. The simpler you can keep it at your end, the more likely you are to connect. For example, you'll discover that PAP is a two-way street, allowing you to say back to the remote system: "OK, that's who I am. Now let's check who you say you are, and who you really are?" My recommendation is not to bother with any of this, unless you have a lot of time on your hands...

### Pick up on Pick

My diversion in the October issue about Dick Pick seems to have triggered off a stream of email from fans of the operating

columns about OS/2 and Windows NT. Maybe Pick will be next? Or maybe I'll legitimately be able to write more about Pick here (a few readers write in to complain if I wander away from purest Unix for a moment). Because rather like NeXT, the main thrust now for Pick, Mark Chapman tells me, is to host it as an environment on other operating systems. And the entry-level version of Pick is to be hosted on, guess what? Linux.

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