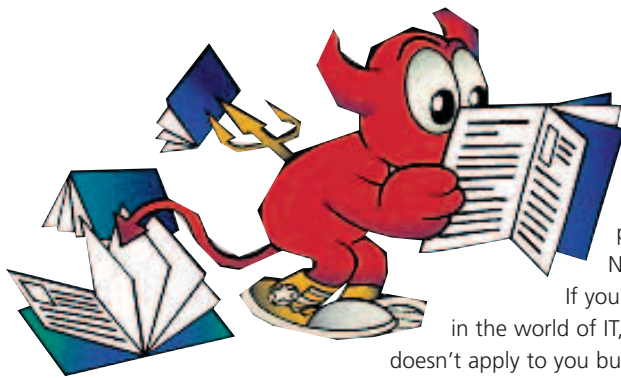


# Want to know more about FreeBSD?

# FREE WORLD



If you speak to experienced BSD users, they'll probably advise you to start with FreeBSD before progressing to NetBSD or OpenBSD.

If you're well experienced in the world of IT, then this probably doesn't apply to you but it's worth bearing in mind before starting a project.

**In this issue of Free World Richard Ibbotson take a closer look at installing and configuring FreeBSD and what you might be able to do with this version of BSD**

Another point of interest is that this version of BSD has a copyright that means you may not be able to do certain things with it if you want to alter the software before redistributing it. Many FreeBSD users will contest that this isn't so and go on to prove it to you, but if you are a programmer you should check out the copyright before proceeding. FreeBSD is also covered by the GNU public license.

If you take a look at the FreeBSD Web site you'll find many multi-lingual clones of the site so you don't have to rely purely on the English language version. The FreeBSD documentation project also makes the Linux documentation project look a bit tame. As such it's well worth taking a look at the Web site.

## Getting started

If you're considering installing your first BSD system, there is a Complete FreeBSD boxed set available from the FreeBSD Mall, which includes an excellent easy to use manual. If you're just experimenting with BSD you can also get hold of your CDs from the Linux Emporium. They also offer the manual, which you can buy later if you want to find out more.

At the time that this article was written FreeBSD 4.4 was the latest version available on CD – the next version is presently being tested prior to release. The hardware used for FreeBSD is nearly always based around the i386 architecture such as the Pentium or AMD cpus and associated motherboards. This article was written with the assumption that the interested Free BSD user would be using that kind of hardware.



Figure 1: The Kernel Configuration screen

## Installing FreeBSD

In order to simplify things we'll assume that you are booting from the first CD to install your BSD system. If you've not done this before, simply start your machine and press and hold the delete key while it boots. You should see a blue BIOS screen. Change the settings from IDEO to boot from CD-ROM then restart your computer.

As you'll find with a lot of Debian/GNU/Linux software the installation process can be confusing. The good news for potential FreeBSD users is that help is at hand in the shape of some extremely useful information on the FreeBSD site. If you go to [http://www.freebsd.org/doc/en\\_US.ISO8859-1/books/handbook/install.html](http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/install.html) you'll find absolutely everything you might need in the way of support.

After your computer boots from the CD you will see something like this on the screen:

```
Verifying DMI Pool Data .....
Boot from ATAPI CD-ROM :
1. FD 2.88MB System Type-(00)
```

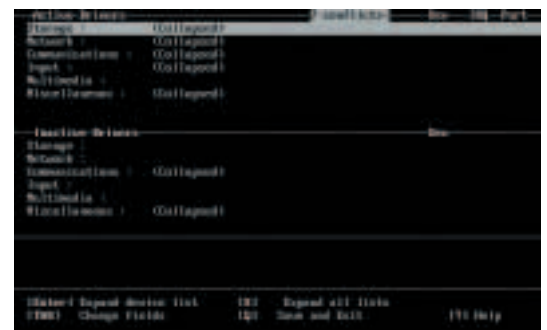
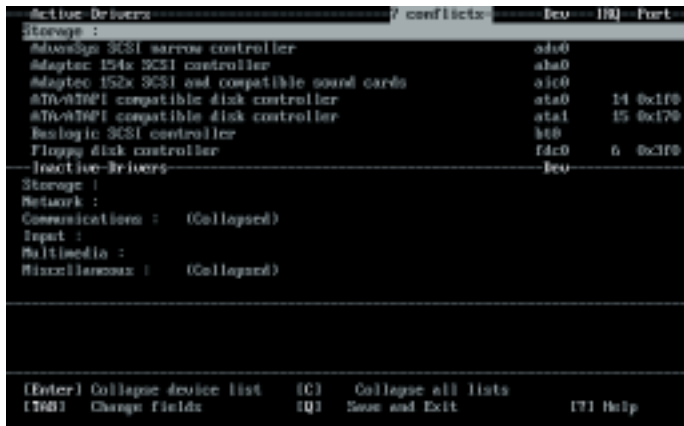
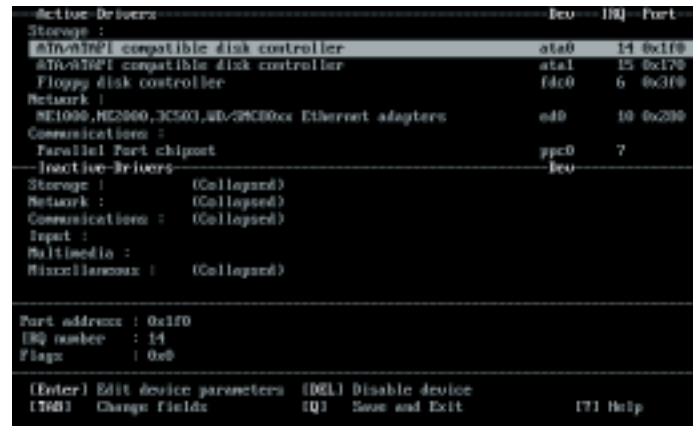


Figure 2: Identifying conflicts



Configuring your hardware in the setup



Starting to probe for drives

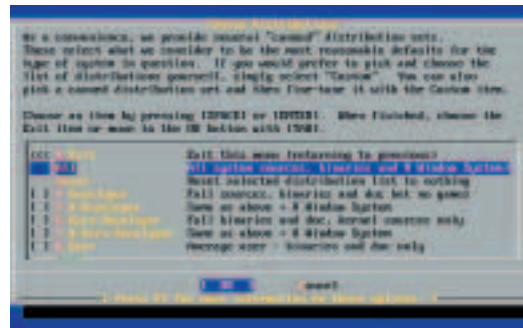
```
/boot.config: -P
Keyboard: yes
BTX loader 1.00 BTX version is 1.01
Console: internal video/keyboard
BIOS drive A: is disk0
BIOS drive B: is disk1
BIOS drive C: is disk2
BIOS drive C: is disk3
BIOS 639kB/64512kB available memory
FreeBSD/i386 bootstrap loader, Revision 0.8
(jkh@bento.FreeBSD.org, Mon Nov 20 11:41:23 GMT 2000)
Hit [Enter] to boot immediately, or any other key for command prompt.
Booting [kernel] in 9 seconds...
```

Once the kernel has booted the Kernel Configuration screen (Figure 1) will launch. Press the return key on one of these options. The next screen (Figure 2) may display some conflicts. According to the folks at FreeBSD the best way to resolve these is by pressing X, which will reveal an expanded driver list. Disable the drivers that you don't want to use then progress on to the sysinstall menu (Figure 3).

If you don't have the FreeBSD manual then it's best to refer to the information on the previously mentioned Web page at this point. After allocating drive space to your FreeBSD installation, you'll be asked to install "sets", which refers to any software that you may wish to install. For example, you'll probably want either KDE or GNOME unless you're



Figure 3: The FreeBSD sysinstall menu



Choosing what you applications you want



Starting XF86Setup to configure your graphics

planning a minimal installation for a firewall or secure server.

You'll now need to choose your installation media – the best option is to select a CD-ROM install. Even if you work on a standalone machine, it's worth looking at the internal network interface configuration as this also configures network options such as FTP. Issues like security options and time zone selection are then presented. The installer will also ask you whether you want to run Linux software on your newly installed FreeBSD computer. Mouse configuration is followed by the choice of X-windows or no X-windows.

The next screen (Figure 4) asks you which desktop you would like, if you've made up your mind that the command line console isn't for you. Linux users may be impressed to see that you can even use the Sawfish desktop with FreeBSD.

The next step is to set up a user, which should be familiar from most Linux installations. Once this is

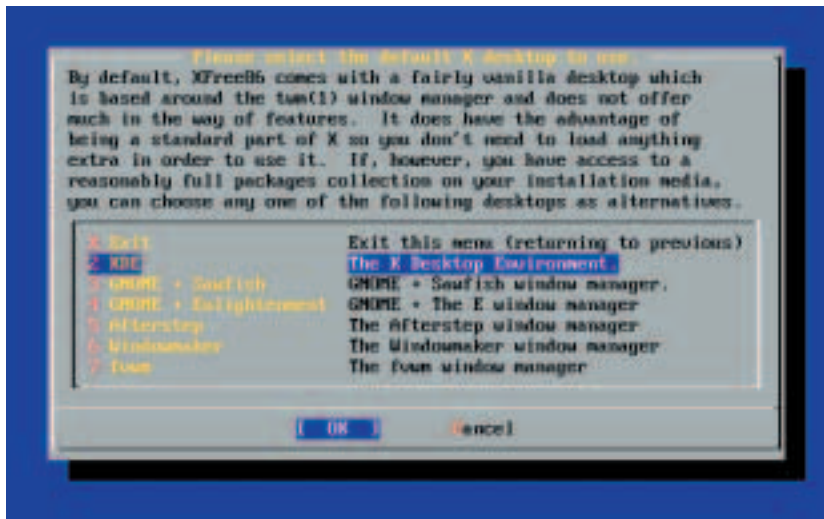


Figure 4: Selecting a desktop

complete you can now exit the install screens and choose a root password. If nothing went wrong, and assuming you set up X-windows correctly, you should be able to type in startx and your chosen desktop will load. It should do all of the things that your Red Hat, SuSE or Debian system can do and probably a few things that Linux can't.

If you do encounter any problems during installation it's useful to know that the online documentation mentioned above includes a helpful troubleshooting section.

One issue that you should be aware of is that you may have to produce your own configuration files for /etc/inetd.conf, /etc/hosts.allow or /etc/hosts.deny. Other niggles to do with configuration may also crop up that don't occur on a newly installed Linux system.

## Networking

These days most people will either want to connect their computer to an internal network, or more usually to the Internet, with all the security issues this entails. Most Internet connections centre upon a 56K modem, ISDN terminal adapter, cable modem or in

the case of broadband, an Alcatel ADSL modem. I mention the latter because in recent times the drivers for BSD and broadband have improved greatly and are rock solid – something that can't be said of Windows ADSL or ISDN drivers. If you do want to use ADSL with BSD then take a look at [http://mailbox.univie.ac.at/~le/freebsd+adsl-howto\\_e.html](http://mailbox.univie.ac.at/~le/freebsd+adsl-howto_e.html) and <http://www.xsproject.org/speedtouch/>.

When it comes to ISDN, things are a lot easier. The i4b package has been around for some time and many on the ISDN cards that aren't supported elsewhere work just fine under BSD. One of the best ISDN pages on the Internet is Dan Kegel's page at Caltech (<http://www.alumni.caltech.edu/~dank/isdn>).

With a 56K modem things tend to be slick and problem free – for example, I've been able to get some modems working with BSD that simply refuse to work with Linux.

After fitting your external or internal modem, the boot messages will show you that your new hardware has been recognised by FreeBSD. You can then proceed to the final configuration, which will most likely include an internal network card and the address of the machine on your network. Before you can connect to the Internet you will also need some basic information from your Internet Service Provider, namely your login password and user name. You'll also need the first and second DNS IP addresses, also known as nameserver addresses.

## Security

Computer security is a little like driving, in that you have to be aware of what is behind you (in the past few weeks or years) as well as what may appear in front of you in the not-too-distant future. To deal with previous security issues, check with the BSD site and other sites on the Internet for any updates and security issues that may be relevant to you. To deal with the ongoing security of your system, you should be using things like security tools and firewalls. Useful tools might be portsentry and libsafe and you may also want to look at snort. There are many other useful tools available and you can find these by searching on the Internet.

## Next month

Next month we take a look at NetBSD, which has become more popular in recent times. It can be used on most types of hardware and it's thought to be more secure than Linux by its proponents.

## The author

Richard is the Chairman and Organiser for Sheffield Linux User Groups. To view their site have a look at <http://www.sheflug.co.uk>.

## Info

FreeBSD site	<a href="http://www.freebsd.org">http://www.freebsd.org</a>
Resources and online documentation	<a href="http://www.freebsd.org/support.html#mailing-list">http://www.freebsd.org/support.html#mailing-list</a> <a href="http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/eresources.html">http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/eresources.html</a>
For newbies	<a href="http://www.freebsd.org/projects/newbies.html">http://www.freebsd.org/projects/newbies.html</a>
Unix Gurus	<a href="http://www.ugu.com">http://www.ugu.com</a>
Daemon News	<a href="http://www.daemonnews.org">http://www.daemonnews.org</a>
Linux Emporium – for CDs	<a href="http://www.linuxemporium.co.uk">http://www.linuxemporium.co.uk</a>
FreeBSD Mall	<a href="http://www.freebsdmail.com">http://www.freebsdmail.com</a>
The complete FreeBSD	<a href="http://www.bsdcntral.com/catalog/index.php?product=1002">http://www.bsdcntral.com/catalog/index.php?product=1002</a>
Security issues	<a href="http://www.securityfocus.com/unix">http://www.securityfocus.com/unix</a>
Firewalls	<a href="http://www.obfuscation.org/lp/lp-howto.txt">http://www.obfuscation.org/lp/lp-howto.txt</a>