

DESKTOP ENVIRONMENT GNOME 1.4

GNOME 1.4 is a key release which paves the way for a truly integrated environment

Pros: Free, flexible, stable, easy to use
Cons: Less intuitive than it could be, features can be hard to find
Price: Free download, also available on CD-ROM from various vendors



GNOME started as a project to create a fully GPL'd desktop environment, bridging an obvious barrier to entry for newcomers to Unix-like OSes. The project aims are now adapting to build upon previous successes and to involve numerous external parties in the ongoing development effort.

GNOME has brought us a very flexible, customisable desktop and much behind the scenes work has also been done, particularly of late. Various abstraction technologies allow components to be easily re-used or embedded within one another. Any 'bonobo' component can call upon any other (using the Object Activation Framework) to perform a function on its behalf. Creating multiple Gnumeric spreadsheets within the Abiword wordprocessor, Mozilla web viewers within file managers, or Dia flowcharts within the various PIM (Personal Information Manager) utilities is now more easy than ever and such components can define complex relationships between one another too.

The OAF is a significant development for GNOME and will entirely replace the current CORBA interface for version 2.0 as it allows applications to interact in more complex and yet easily definable ways. The GNOME Midnight Commander file manager is also getting the chop and, although this still ships with GNOME 1.4, one can effortlessly install Eazel's Nautilus file manager instead.

The user is offered a wide assortment of applications to choose from. These include editors, word processors, games, graphics utilities, sound and audiovisual facilities, networking and configuration tools, and PIM facilities amongst the numerous packages available as standard. Installation of new components is also



The latest GNOME offers excellent flexibility and stacks of new features. Bonobo technology means that applications integrate well with one another and the desktop environment itself

simplified. Those using Ximian's variant of GNOME can even have automatic updates on systems not already using advanced package managers such as apt.

As you will quickly discover, personal information management is an integral part of the GNOME interface. The top panel on my desktop contains a clock which links to my calendar, an email notification and easy access to all of the applications that I regularly use. The control centre allows me quickly and drastically to change the look and feel of my environment with just a click of the mouse. Panel 'applets' providing messaging features allow me to quickly communicate ideas with others.

The environment is more stable than ever and copes well with unexpected errors, failing gracefully or restarting components where needed. I used to have stability issues with my panels, but now the closest I come to problems are applets occasionally dying and helpful dialogues asking if I would like to restart the affected tool. Furthermore, the integration of bug reporting right into the interface allows even the complete novice to file a bug report quickly and with ease.

The GNOME Foundation is another very interesting development. With the involvement of Sun Microsystems I would not be surprised if future StarOffice releases operate as bonobo components, integrating with the desktop environment. GNOME-related companies have begun to spring up recently, the most notable being Ximian (formerly HelixCode) and Eazel. Ximian

is rapidly partnering with companies such as Compaq to bring its version of GNOME to other Unix platforms while Eazel is concerned with offering ASP (application service provider) services to end users. Online filespace and additional value added services are the order of the day. Another key development has been the licence shift for the 'rival' KDE desktop environment. The two projects can no longer squabble about conditions of

licences and so can, one hopes, work on their separate projects while heading towards a common goal.

The GNOME project has come a long, long way over the last few months and is now rapidly becoming an extremely popular choice amongst users. Indeed, a certain forthcoming film features GNOME rather than the usual Apple or Microsoft interface.
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3D MODELLING SOFTWARE

Blender 2.03

3D modelling, animating and rendering package. Also useful for creating real-time interactive simulations

Pros: Extremely powerful, plenty of features
Cons: Complex interface, steep learning curve
Price: Free download, GPL licence



Many computer-generated films are made using software which creates a virtual scene. This scene is rendered by calculating how light would behave as it hits the various surfaces in the shot. Such a process is called 'ray tracing' and forms the basis of all popular computer animation packages. It is quite common for larger animation studios to produce their own software

such as Industrial Light and Magic's Renderman software. This is exactly what Dutch company Not A Number did in 1998 when it released Blender - except that it released it for free.

The first reaction you are likely to have when running Blender is one of horror at the complexity of the user interface, but after some practice it does become much easier to use and is fairly well thought out. Unless you have prior experience with 3D computer animation you will face a very steep learning curve whatever software package you choose. The Blender website has a number of tutorials, plus there are forums and an IRC channel where you can ask for help, so you should learn the basics quickly.

Once you are comfortable with the Blender's user interaction system, you will find that it is generally superior to those found in other animation packages. It is designed so that you permanently keep one hand on the mouse and one on the keyboard. User interfaces and interaction are all very well, but this is software for artists, so can you really be creative and produce beautiful results with it? I would say that you can. The screenshot (taken from a Blender tutorial CD) shows a rendering of a very well produced model built with Inverse Kinematics (a way of embedding a skeleton into a 3D model so it moves realistically). You'll have to take my word for it, but the animation this produces is of a very high quality. Nearly all the more advanced features you'd expect from animation software can be found in Blender. These include Inverse Kinematics, particles, and even subdivision meshes.

While Blender is clearly a very capable piece of software, it isn't suitable for everyone, mainly because computer animation is a very complex

field that requires hours of practice and experimentation. If you are a budding animator, however, Blender would be well worth looking at, especially given the price tag!

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REMOTE MANAGEMENT SYSTEM

Caldera Volution

LDAP-based complete management solution for a wide range of machines

Pros: All the management you'll ever need in one place, simple to use

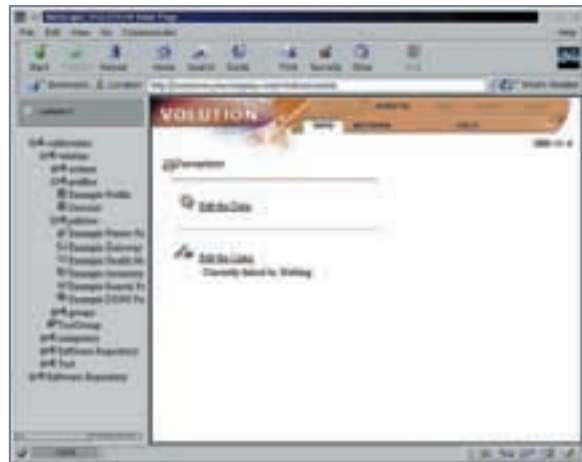
Cons: Expensive, some issues with installation

Price: US\$2995 per server, including 10-node client licence



You may not know much about LDAP, but it's supposed to make the sysadmin's life easier by keeping all directory information in one place. Caldera's Volution is a Linux management system based around and using LDAP. Volution runs as both client and server and is administered via a web interface. However, Volution's server needs JServ to run, and this must be downloaded separately, complicating an otherwise simple install.

Volution will take care of and housekeep several of the average system administrators' bane-of-existence jobs. These include remote software installation, hardware and



It's a revolution in systems management. Sysadmins can now choose to devote themselves to more exciting tasks, as Volution takes care of mundane administration chores

software inventory, health monitoring, printer configuration, and perhaps most importantly, configuration synchronisation.

The first feature we tried was software and hardware auditing, one of those jobs which is always put off indefinitely. The client was installed on a few machines running a combination of Red Hat, Caldera's own OpenLinux and Mandrake. Using the Web console, Volution was configured to conduct a hardware and software audit on these machines. It came back very quickly with a list of all hardware (including CPU, memory, partition tables, network, and video card) and every installed RPM, along with version and revision information. Volution can keep this list up to date on its own and, together with the remote installation feature, could be set up to keep systems current with no user intervention.

Volution's most potentially useful feature is configuration synchronisation, so again we tried it with the printer configuration on the same variety of machines. Again, setup was simplicity itself, and we designated the server to hold the 'master' printcap file, with all the other machines syncing to this master copy. Changes can be propagated at whatever interval you see fit to set.

The last, but certainly not least, main feature of Volution is on the health-monitoring side. This has been done well many times before, and Volution's implementation sits well alongside the competition such as NetSaint, providing alerting and in-depth system monitoring via SNMP and SMTP.

Volution is simple to set up and readily takes most of the tedium out of everyday housekeeping tasks, and ties everything together in an easy-to-navigate Web-based administration interface. Obviously it costs a lot more than the open-source alternatives, but it provides a stable, dependable base. Consider it seriously.

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Throw your ideas in the Blender if you need to create complex 3D models, interactive simulations or whole virtual movies. 3D work is never a piece of cake, but Blender's GUI does make life a whole lot easier



OPERATING SYSTEM


FreeBSD 4.3 early beta

Very functional advanced BSD Unix operating system which shares many features with Linux

Pros: Fabulous to install and use for the more experienced

Cons: Lacks a graphical installer for the newbie

Price: Free download, BSD licence, also available on CD-ROM from various suppliers



FreeBSD, with its emphasis on security and stability, is an obvious choice for Unix functionality in internet/intranet scenarios. However, with so many GNU/Linux command-line and X-based applications now available under FreeBSD, it's rapidly becoming an option for the workstation or desktop.

FreeBSD can be installed either from a bootable CD-ROM, or boot floppies and the setup routines are console-based. Those familiar with a text-based Linux install will be quite at home here, and at each stage of the install there is sufficient help and documentation available. The install and configuration menus are well ordered and you can choose at most stages from default or automatic configurations and more customised setups. It's a very intelligent system which is both simple and pleasant to use, providing a good introduction to the philosophy of FreeBSD.

Some knowledge of the Unix way of doing things is however demanded, but those used to Linux will be more than able to set up a fully functional system. The core differences between a Linux distro and FreeBSD become apparent during install and post-install basic configuration. Hardware is treated differently, with setting of hardware parameters in the kernel right from the word go. Device names are also quite different for much hardware. Of course, there are plenty of other differences behind the scenes, and the more experienced user will become aware of many changes in init scripts and configuration files. On the whole though, FreeBSD offers identical Unix-like functionality with plenty of pleasant features.

Security settings are easy to configure by returning to the very useful sysinstall utility which can be used at any stage to re-configure nearly all system settings. There is a good selection of off-the-peg security configurations available.



The review copy was a beta release, and thus did not contain any third-party application binaries, but there is plenty of good software out there including the full array of window managers. FreeBSD offers excellent functionality including binary compatibility with Linux apps, SMP support under Intel and a range of X servers. Perhaps its relative youth in terms of the desktop market means that it does not suffer from the bloat of many Linux distros. There's a simplicity to the configuration and layout of the system which makes installation and day-to-day running quite wonderful.

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Playing devil's advocate, LinuxUser gives FreeBSD top marks for a beautifully simple and totally functional secure system. It's well worth checking out as both a server or workstation OS


OCR SOFTWARE

Vividata OCR Shop

Pros: Very quick, good accuracy, simple to use once installed

Cons: No real competition, no CLI interface in personal edition

Price: US\$95.00 (personal edition), US\$1894 (commercial edition, with CLI interface)



OCR (Optical Character Recognition) is one of those applications that is currently a glaring omission in the Linux user's application toolkit. We now have office suites, easy-to-use desktops, graphics packages, and even a few games. Support for scanners is also good, thanks to the excellent SANE package. However, as anyone with a scanner will know, the multitude of bundled software supplied with it is almost certainly Windows-only.

Vividata's OCR Shop claims to provide a level of OCR comparable to that of

This character recognition package is a welcome addition to the Linux desktop arsenal. It supports a huge range of scanning, feeding and form functions backed up by a powerful OCR engine

the most commonly-used Windows or Mac-based OCR applications, so I was hopeful it could help me out with my document retrieval system.

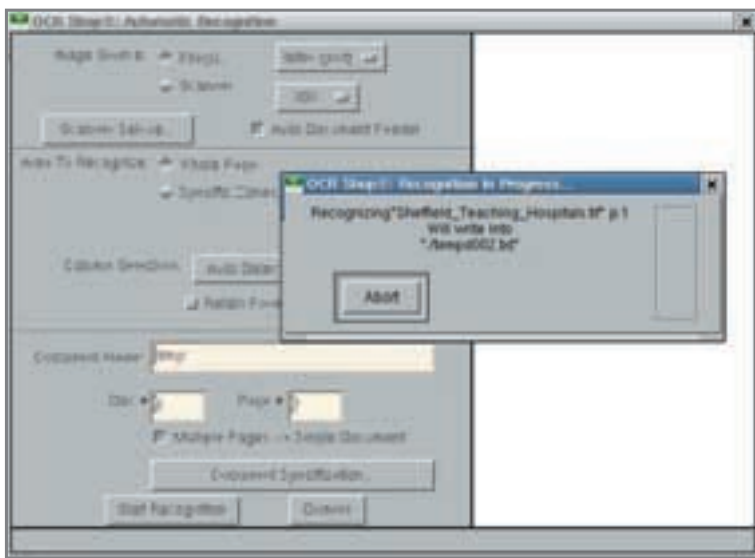
Installation is simple. One 14Mb download and 30-day evaluation key later, I had a very intuitive GUI in front of me. However, OCR Shop comes with its own scanner drivers, and cannot use the ones supplied by SANE. The supplied set of drivers is also limited.

I opted to use straightforward greyscale scanning direct from a HP ScanJet II, clicking on 'Automatic' and 'Default' at every stage of the scan process. A few seconds later, a preview of my document appeared, with a very familiar blue bar moving down it as a progress indicator. The scanning done, a multitude of options were offered for saving the file – all in less than five minutes from completing the download.

OCRshop supports batch scanning, page feeding, multiple dictionaries, automatic column detection, form scanning, and 3D OCR which improves accuracy of blurred images, for example faxes. However, as OCR Shop contains the familiar OmniPage OCR engine, this was really to be expected.

However, OCR Shop's most useful feature by far is the command-line scanning mode, which can be used from external scripts to control the scanner and OCR software for automatic scanning. An extensive array of reprocessing and detection features are supported, including many not available using the GUI. Sadly, this CLI mode is not available in the personal edition, and is far too expensive to be within reach of the average home or small business user.

There are several promising open source OCR projects progressing well (GOOCR, for example), but if you want professional-quality OCR with a simple GUI now, then OCR Shop is for you. Russell Tweed, russell@daftconsulting.co.uk
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UPS HARDWARE

Liebert PowerSure Personal UPS

Keenly priced UPS with Linux-supported network shutdown software

Pros: Low price
Cons: Proprietary shutdown software
Price: 500VA version £85
(£99.99 inc VAT)



Liebert has been making power equipment for over 30 years, but has only recently developed products for the workstation or small server market. The offline PowerSure Personal unit tested is available in 300VA and 500VA versions, allowing ample time for supply to be resumed, or safe shutdown in the event of a prolonged power failure.

Design and construction is conventional, with a lead acid battery, power failure alarm and bespoke serial port interface. Fortunately, the non-standard serial cable is supplied in the box, contrary to the information on the Liebert website. The unit is small, neat and thankfully very quiet in operation, machine rooms being noisy enough already. Turning off the power supply at the wall, the UPS takes over competently enough, with only the beep of the alarm to inform you of this.

The proprietary shutdown software has to be downloaded from the website, but at only 8.5Mb it doesn't take too long. It is supplied as a binary, which unpacks to a JRE (Java Runtime Environment) and the various UPS utilities which make use of it. The configuration ran straight away on the Mandrake 7.2 machine I tested it on, although if you have getty running on the serial port it will need to be disabled first, probably in /etc/inittab. The software comes with a licence key for single machine use, but with the purchase of additional client licences, it can also shut down other machines on

the network. If support for the Liebert UPS became available under the GPL, I'm sure it would become a welcome addition to most Linux distributions, since the apcupsd daemon currently only works with UPS models from APC.

The only quibble I had with this particular UPS was that the supplied male-to-female mains leads were far too short to be of use, unless the UPS was immediately adjacent to the computer. This isn't always possible, and standard two-metre mains leads wouldn't add significantly to the cost. Overall, it's well worth the retail price, if only to avoid panic when the lights go out.

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NETWORK MONITORING SOFTWARE

NetSaint

Fully featured, highly configurable network monitoring system

Pros: Many features, good range of network services monitored, highly configurable

Cons: None. It is hard to fault something this complete

Price: Free, GPL licence



Knowing the status of your network at all times is fundamentally important and NetSaint is one of a crop of products designed to help you monitor your

With superb, reliable monitoring capabilities and a good range of features, this software will turn any sysadmin into a veritable saint of the network



network for problems.

The program has relatively few requirements. Obviously a web server is necessary for the graphical, web-based front end, and to allow NetSaint to draw network maps the GD library should also be installed. The test machine was running Slackware 7.1 so installing from source was deemed the most sensible option. With the requirements met, compilation went smoothly. Two quite defined stages to installation were required. Firstly installing NetSaint, then installing the plugins, which allows monitoring to actually take place.

Once both these stages were complete it was necessary to configure NetSaint's host, service and contact information. Initially this looked daunting, but by copying example lines it soon became clear how to add services and contacts. Within a few minutes a working configuration was running. There are copious amounts of documentation detailing how to tune the configuration file and, with practice, it becomes almost second nature. In short, NetSaint might not be user friendly, but it is user co-operative.

A couple of small changes also had to be made to Apache's httpd.conf file but again these were explained in detail in the manual, and worked first time.

One of the other surprising features supported straight from the install is WAP access, which was tested using a Nokia 7110. In some places the interface lacked a back button but in general terms it was useful and very cool.

NetSaint monitors several machines, and breaks each machine down into services. It separately monitors each service, and alerts by email which can be redirected to a mobile through an SMS gateway. If a service fails to respond, it retries twice by default before alerting anyone. This is sensible, especially if nodes being monitored are on different networks...or continents.

For any network administrator who is not currently monitoring server status, this product comes very highly recommended. NetSaint is still in active service, faultlessly monitoring the network it was tested on one month on, and it will continue to do so for some time to come.

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