

TreLOS Win4Lin Version 1.0

DON'T TURN AROUND

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After VMware, a second PC emulator gets off the blocks. But unlike VMware, Win4Lin from TreLOS doesn't attempt to simulate a universal computer. The emulation is tailored specifically for Windows 95/98. The result is a noticeably leaner and faster Windows emulator, but one that can only handle the corresponding versions of Windows.

Special kernel

Win4Lin requires a specially adapted kernel. Therefore installation requires fundamental changes to the system. The first task was to set to work with the patches provided on the TreLOS FTP server. However, we were unable to obtain a working kernel with Win4Lin support for versions 2.2.16 and 2.2.15. In the case of the 2.2.16 kernel we used the patch intended for Red Hat systems but this didn't execute completely. Repairs turned out to be extensive and our efforts

Fig. 1:
Internet Explorer worked perfectly,
thanks to network emulation



ended with an error in memory management. The patch from version 2.2.15 ran promisingly, and the adapted source code then allowed itself be compiled into a new kernel. It was only after a restart that the installation program started to complain that there was no Win4Lin support included.

All the more useful, then, that TreLOS bundles both complete kernels on CD for every conceivable distribution and makes available even more up-to-date versions on its FTP server. These are the standard installation kernels for the individual distributions which have been expanded, to include Win4Lin support. However, if you can't use the standard kernels from your distribution you'll probably be unable to use Win4Lin, or at least not until TreLOS sorts out its kernel patches.

We downloaded a kernel 2.2.14 for SuSE Linux 6.4 as an RPM package. It was quickly installed using `rpm -i kernel-Win4Lin1-SuSE6.4_2.2.14-02.i386.rpm`. After restarting, we took the chance of installing the RPM package `Win4Lin1.0.rpm` containing the actual emulator software. A restart is necessary because the emulator package installs only on a Win4Lin-compatible system, preferably one running a graphical interface.

Windows 98 SE

To complete the emulator installation we were asked for the Windows CD. This was most inconvenient because since we were installing the RPM package from the CD we were obviously

unable to unmount it. The only thing we could do then was to interrupt the installation. At this point, we could have done with a bit more user-friendliness. The best thing to do, in fact, is to load in the Windows CD later by hand using the configuration program *winsetup*. Using *Load Windows CD* (under *Systemwide Win4Lin Administration*) read in the entire Windows CD including a boot diskette. After that, you can confidently put away both disks as the Windows setup is done entirely from the hard disk.

The Windows installation which follows is something which, for security reasons, you should *not* perform as administrator *root*. You must log in as a normal user. After the change-over you should call up *winsetup* under the graphical interface and select *User-defined Configuration*. The emulator is called up via *Install Windows* and Windows Setup then starts. After accepting the Microsoft licence agreement and entering the product ID code, to our surprise, the rest of the installation ran completely automatically: All confirmations and inputs are performed by the Win4Lin installation program itself.

In Windows 98 Second Edition this was as far as it went. Windows completed the first part of the installation but Win4Lin was unable to apply its patches to the *kernel32.dll* and stopped. There was no way round this problem, nor was there anything anywhere in the TreLOS support database about it. After two days we had to admit defeat.

Windows 98

We then tried Win4Lin with Windows 98 in the original version. This time, installation finally worked as planned and we were able to get the system up and running. The network was available without any further configuration and Internet Explorer started (configured with LAN access) without delay. Via a special driver, Win4Lin offers direct access to the Linux network, modems and ISDN cards. Thus, you need only be connected to the Internet under Linux. Unfortunately we couldn't listen to any RealAudio files with Internet Explorer as no pseudo-driver was installed for the sound card. And installing a Windows driver for the built-in card brought no improvement.

Microsoft Office

Since Windows by itself is not much use, the next thing to do was to install Microsoft Office 2000. This was the first problem. Windows was missing the driver for the pseudo CD ROM: as a result, Windows was unable to read the CD.

A solution was found via a symbolic link in the home directory. When installing Windows the *win* directory is set up, and this appears as the C: drive under Windows. So we created a link from */cdrom* to *~/win/cdrom* and mounted the CD by hand on */cdrom*.

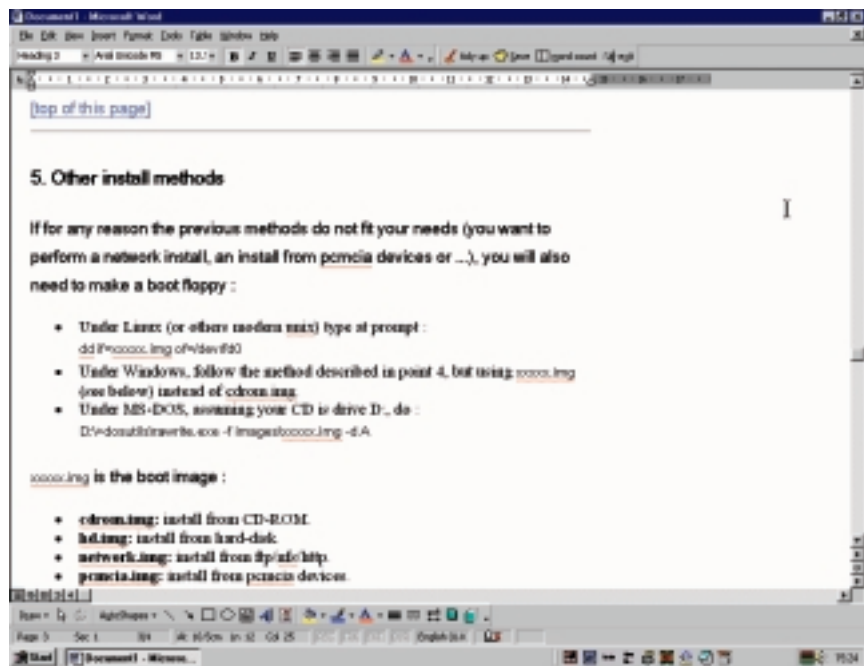


Fig. 2:
Word ran without any problems and amazingly quickly, even with large documents

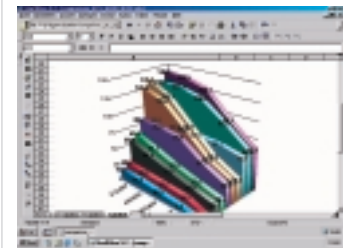


Fig. 3:
StarOffice ran absolutely perfectly.

Another tip on this – if you've started a program via *Start/Execute* the CD-ROM drive remains blocked even after the program has terminated. You cannot unmount it and insert a new CD. Obviously, Windows is still keeping files or directories open on the CD. If you start a program via *Start/Execute* from another directory, the CD-ROM is shut down and you can unmount. However, merely selecting another program is not sufficient: it must be started.

Once the CD was accessible to Windows, the problems continued. The Office 2000 installer was unable to detect the available memory space on the hard disk (Windows Explorer reported the entire hard disk as "free") and stopped with a whole range of error messages. All in all, the detection of the available hard disk space failed. The installation procedure for Microsoft Office 97 did not run any better. It insisted on having at least 5 Mb of free memory, even though at that point there was around 1 Gb available.

All in all, Microsoft Office would not install, so we had to be satisfied with calling up the individual programs from the Office 97 CD directly. Surprisingly, Word was extremely stable, even with a book containing over 500 pages. Using Excel we had only small spreadsheets to hand, but these were no problem either.

Sun StarOffice

In order to be able to try out at least one common Office application we installed Sun's StarOffice 5.2 for Windows. Unlike the Microsoft counterpart, installation was exemplary. There were neither error messages nor any peculiarities during operation. The only snag was that importing the 500-page document took its time and showed the usual import problems with respect to embedded objects and scripts.

Info

TreLOS

<http://www.trelos.com>

FTP server

<ftp://ftp.TreLOS.com>



[left] Fig. 4:
Grouse was perfectly
playable, but key
scrolling was a bit jerky.

[right] Fig. 5:
Tricky stuff.
Microsoft flips for
Win4Lin.

[above] Fig. 6:
Unplayable.
Graphics are in the right
place, but reversed!



Grouse hunt

Besides office compatibility, another reason for keeping Windows is the large range of games available. We tried the universally popular Grouse Hunt. Like many games, Grouse Hunt requires DirectX. Certainly the grouse set no new speed records on our Pentium II with 400 MHz, but it played surprisingly well. Scrolling with the cursor keys was jerky, since the key repetition didn't work too smoothly.

The installation of DirectX 7 for the new version of Grouse failed. Obviously, Win4Lin had a hand in this. Last but not least we looked at Apple's QuickTime and ran a 320x240-pixel small video. The speed corresponded roughly to that of a Pentium 233 system under Windows 98.

Microsoft flips

One stumbling block with Win4Lin is the habit of horizontally reversing graphics under certain conditions. We promptly fell flat on our faces at the first installation. All graphics were reversed horizontally!

After looking into the support database at TreLOS we decided to empty the symbol cache and install update number 4 as a definitive bug fix. To our astonishment, the installation of the update did not change anything. As can be seen from Figure 6, graphics programs such as AstrorIX remained unusable.

At this point, our luck began to change. First, we made the screenshot of AstrorIX with *xv*, but got only bars instead of an image. We found out that *xv* couldn't cope with the 24-bit colour depth of the XF86_SVGA server being used and changed to 16-bit colour depth. Now *xv* worked perfectly, but so did Win4Lin.

The X server plays a crucial role in this fault. At 24-bits colour depth all graphics were reversed. At 16-bits the phenomenon disappeared (without the update). We then made the screenshots again in 24-bit-mode with *import* from the ImageMagick package.

Conclusion

Win4Lin *does* represent an alternative. How useful this alternative is however, is a matter of personal choice. Overall, Windows worked. When Office installation problems are overcome, there won't be any obstacle to using the programs you have grown to love under Windows with Linux. Another interesting option offered by Win4Lin is that of making different versions of Windows available to different users. This means the kids can rearrange the desktop to their heart's content without you having to live with the end result.

All the same, we did sometimes find the emulator crashing. We even had to reboot the system on one occasion. Obviously, the kernel had also come out in sympathy. And not all the games – which we took from <http://www.download.com> – would run. *Invaders 1.0*, for example, kept crashing with a protection fault.

Before you spend 35 dollars on Win4Lin we recommend that you try out the 45 MB demonstration version. This will allow you sessions of up to 60 minutes and can be found on the TreLOS home page. We liked Win4Lin because of its fast running speed compared to other emulators. We are looking forward to seeing the upcoming version 2.0 and its improvements. ■