

# WinaXe: Linux Hand in Hand with Windows

Use WinaXe to have some fun playing with two operating systems on a single monitor screen.

**Y**ou may be using both Linux and Windows on your desktop using any one of three ways—dual-booting, emulation or interpretation. The first is, of course, the art of installing Linux and Windows on a machine and then booting between the two. This looks good, but you can only use one OS at a time. Even if you want to use a single application of Windows you have to reboot the machine.

Emulation can be very handy in these situations. VMWare and Win4Lin are two very powerful and popular commercial products that allow you to run Windows on top of Linux in its full glory, but these products do have limitations. VMWare is relatively slow compared to running Windows independently and although Win4Lin is fast, it's limited to Windows versions up to and including Windows 98SE. These products can't guarantee full application compatibility, and all features of Windows are not supported.

Interpretation is another option. Wine allows you to run Windows programs without actually running Windows on your system. Simple applications work better than complex ones. Using Windows ME or Win2000 components with Wine is more problematic than using none at all or the ones from older Windows

versions. A large percentage of the API has been implemented, but it is far from being complete.

## THE FOURTH OPTION

This is a more simple and glitch-free solution. If you have an extra machine, the most efficient solution is to run one operating system on each machine, but display both through a single machine—two operating systems (OSs) with two desktops running simultaneously on a single machine.

You can do this by using X. The Linux machine can send its display to another machine. Once Linux is installed, you only need a power cord and a network cable to connect you to the Linux machine. Nothing else is required—there is no need for a monitor, keyboard or mouse. You can do anything with your Linux machine remotely over a network. It's an easy way to try Linux without touching your main system, and puts old hardware to good use.

All that you need is a simple network and a spare machine. Even an aging Pentium with at least 32 MB of RAM will work (note, you still need enough memory to run a GUI, even if it is going to display remotely). However, the PC on which you will be running Windows must be a good one in terms of its configuration.

Till now, the reverse—streaming a Windows desktop to a Linux machine—has not been possible. However, Windows does support this kind of function between Windows 2000 or XP-based machines, via its Terminal Server software (the client has been renamed Remote Desktop in XP). Actually, the Windows interface wasn't designed to operate over a network.

However, add-on components such as Terminal Server and Norton's PC Anywhere go a long way in making this possible. These work, but are slow and have limited functionality as compared to what X provides. Besides, Microsoft hasn't written a Terminal Services client for Linux. And as no source code is available, it's unlikely that one will be



## What is X?

X is a portable, network-transparent Window System. X Window System servers run on computers with bitmap displays. The server distributes user input to and accepts output requests from various client programs through a variety of different inter-process communication channels. The most common case is that of the client programs that run on the same machine as the server. Clients can be run transparently from other machines (including machines with different architectures and operating systems) as well.

written in the near future.

## A WINDOWS-BASED X SERVER

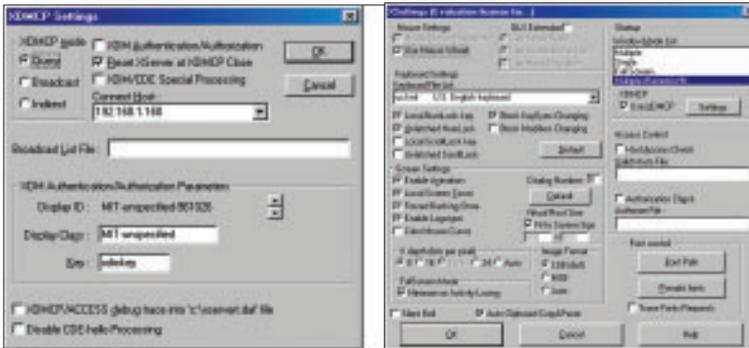
There are two or three major Windows-based X Window servers, each of which provides almost all the functionality of X11 that you find under Linux. But like most Windows software, these are not free. WinaXe is one of the Windows based X Window server. You can download it from the website ([www.labf.com/winaxe](http://www.labf.com/winaxe)), and now we are exploring it here.

So install your choice of Linux distribution on a second machine (be sure to install a variety of window managers to experiment with, and make sure the Telnet server is enabled), hook it up to the network, and you're ready to begin.

## LET'S GIVE IT A TRY

Install WinaXe on your Windows box and run Xsettings.

Set Window Mode List to Multiple. To increase performance, click Enable Animation and Forced Backing Store. Set or choose some other options depending upon your requirement or choice. You should see 'Xsession' on your task bar, but no visible program on screen. This is as it should be.



Xsetting DialogBox

XDMCPsetting DialogBox

Now Telnet into your Linux box and export the DISPLAY variable:

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export DISPLAY=[machine IP or hostname]
```

Then run a program—xterm, kedit, or mozilla—whichever you like. You will see that these are looking and working as if they are running on the Linux machine.

Now to get a full-screen desktop running, right-click on X-Session in the task bar and navigate to XServer Settings. Switch from Multiple to Full Screen and then enable XDMCP.

Now the magic starts for remote desktops and the X. XDMCP, or the X Display Manager Control Protocol, is a secure protocol for XDM, the X Display Manager. XDM is a graphical login for X11 systems. The login screen you would have used in the past is an XDM clone such as KDM (KDE Display Manager) or GDM (Gnome Display Manager), which

performs the same tasks as XDM—it restricts access to known users and automatically loads the chosen desktop environment upon login.

XDMCP access is disabled by default on Linux systems. Otherwise your Linux machine would happily hand out a graphical login screen to any machine connecting to ports 6000 to 6063. So first you must tell KDM or GDM or XDM to accept connections and make sure they are running as daemon on the server.

**For KDM:** edit /usr/share/config/kdm/kdmrc, scroll down to [Xdmcp], and change Enabled to True.

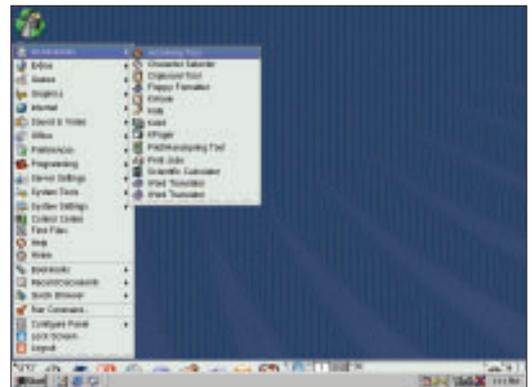
**For GDM:** edit /etc/X11/gdm/gdm.conf, scroll down to [xdmcp] and change Enable to True.

**For XDM:** edit /etc/X11/xdm/xdm-config and comment the line containing the text "DisplayManager.requestPort: 0"

Under Xsettings for WinaXe, click on the Settings button next to 'Enable XDMCP'. You'll see a few configuration options, but all the defaults are fine. You just need to enter the IP address of your Linux machine under 'Connect Host:', then click OK. Now, restart the X server.

If all goes well, WinaXe should present a full-screen Linux desktop with KDM or GDM or XDM waiting for you to login. If your network is not slow or congested, you should be able to use your Linux desktop as fast as you normally would. Use Ctrl-Tab or Ctrl-Esc to switch between two desktops.

Now that you have two machines connected via the network, you can use Samba for file sharing on Linux. Alternatively, WinaXe comes



The Linux Desktop over Windows Desktop

with a Windows-based NFS server as well, so you can use that. And, of course, either machine can be configured as a gateway to the Internet through your cable or dial-up connection (enable masquerading under Linux or Internet Connection Sharing under Windows). WinaXe also allows you to copy and paste between your two desktops. With some tweaking and the features of X11, you can access or use your Linux machine from anywhere! **LFY**