

Virtual Network Computing (VNC)

The VNC system allows you to remotely control a computer using a graphical desktop environment. After installing the VNC software for Linux, a user can run the '**vncserver**' program, which listens for new connections and allows remote users to take over the X-Windows session. The VNC software also includes a VNC client (called '**vncviewer**') that allows you to take over other computers using the VNC protocol.

VNC software is available for nearly all flavors of Unix, Linux, Windows and Macintosh computers. VNC was originally developed by AT&T labs for their own private usage, but was released under an open source license.

When AT&T budgets were cut back several years ago, volunteers began making improvements to the code. Several different versions of VNC are now available for download from the Internet. The TightVNC project is probably the most stable and the developers have put a lot of work into increasing the speed, mostly by using advanced encryption techniques. The TightVNC project can be accessed via either the <http://www.tightvnc.com> or <http://tightvnc.sourceforge.net> websites.

Advanced VNC Configuration

While it is possible to use the VNC software to remotely manage a workstation/server from any networked computers, it is awkward to have to remember to first login to the server and run the 'vncserver' program ahead of time. A better method is to have VNC started on demand via the 'inetd' or 'xinetd' super-server utility.

Here are the steps needed to get this working:

Step 1 – Download the VNC software from <http://www.tightvnc.com> and follow the instructions for building and installing the software.

Step 2 – Configure the X-Windows login manager (xdm, kdm or gdm) to support the XDMCP protocol as follows:

- 1) Edit the xdm-config file (/etc/X11/xdm/xdm-config for Slackware) and comment out the following line:

```
DisplayManager.requestPort 0
```

NOTE: Add a ! to the beginning of the line to comment it out.

- 2) If you are using KDM to manage logins (see /etc/rc.d/rc.4), edit your kdmrc file (/opt/kde/share/config/kdm/kdmrc for Slackware) and change the following line:

```
[Xdmcp]
Enable=false
```

to

```
[Xdmcp]
Enable=true
```

- 3) If you are using GNOME to login, instead login as root and run the gdmconfig program and enable XDMCP under the 'Advanced' tab.
- 4) Edit the Xaccess file (/etc/X11/xdm/Xaccess for Slackware) and uncomment the following line:

```
# * #any host can get a login window
```

Step 3 – Add the following lines to the /etc/services file (required for inetd).

```
# VNC Services
vnc-640x480x8 5950/tcp
vnc-800x600x8 5951/tcp
vnc-800x600x16 5952/tcp
vnc-1024x768x8 5953/tcp
vnc-1024x768x16 5954/tcp
```

Step 4 – Add the following lines to the /etc/inetd.conf file (or create xinetd config files).

```
vnc-640x480x8 stream tcp nowait nobody /usr/local/vnc/Xserver/Xvnc /usr/local/vnc/Xserver/Xvnc -inetd -query localhost -once -geometry 640x480 -depth 8
```

```
vnc-800x600x8 stream tcp nowait nobody /usr/local/vnc/Xserver/Xvnc Xvnc -inetd -query localhost -once -geometry 800x600 -depth 8
```

```
vnc-800x600x16 stream tcp nowait nobody /usr/local/vnc/Xserver/Xvnc Xvnc -inetd -query localhost -once -geometry 800x600 -depth 16
```

```
vnc-1024x768x8 stream tcp nowait nobody /usr/local/vnc/Xserver/Xvnc Xvnc -inetd -query localhost -once -geometry 1024x768 -depth 8
```

```
vnc-1024x768x16 stream tcp nowait nobody /usr/local/vnc/Xserver/Xvnc Xvnc -inetd -query localhost -once -geometry 1024x768 -depth 16
```

Step 5 – Signal the 'inetd' daemon to reread its configuration file by issuing this command:

```
killall -HUP inetd
```

Step 6 – Restart (or start) your X-Windows login manager. Usually this is done by either rebooting, or issuing the following commands:

```
telinit 3  
{system reverts to text login mode}  
telinit 4 (5 on some systems)  
{system returns to graphical login mode}
```

Step 7 – Test the setup from a remote computer using the vncviewer program as follows:

```
vncviewer server:50
```

or

```
vncviewer server:51
```

You should get a new window with a login manager that allows you to enter your user name and password. This will also work when using the Windows version of VNC.

Step 8 – You should also be able to login to the server from a Linux/Unix client by issuing the following command:

```
X -broadcast
```

or

```
X -query server
```