

## Run VNMR remotely with X-windows on Mac OS 10.3 or later

This procedure describes how to run VNMR on the Sun workstations, nmr1 and nmr2

The way this works is that you are remotely logged onto the Sun workstation, but you are typing on your desktop computer, and VNMR will be displayed on your desktop computer. However, the VNMR program is physically running on the Sun workstation (there is no version of VNMR for PCs or Macs).

### How to run VNMR remotely on Sun workstation:

#### Step 1:

You have to have an account on the workstation (nmr1/nmr2). Usage of the workstation is free; I will give an account on nmr1 to anyone with an account on any instrument, but you have to ask so that we can setup a password.

#### Step 2:

You have to transfer data to the workstation from the nmr computers.

#### Login to nmr1.

If you are typing on nmr1 follow these instructions, to do this remotely, you will need to do the same thing except you will be typing in Xwindow (described how to get to below). Open up a UNIX terminal window by holding down the right mouse button, under Tools menu, select Terminal window.

#### Type:

xdir

Then, under Connect menu, select Connect to Remote.

If the nmr computer that you are trying to transfer data is listed, select it, if not, type the computer name,

nmr4.stanford.edu	(600)
ui500.stanford.edu	(500)
merc400.stanford.edu	(old 400)
nmr400.stanford.edu	(new 400)
ui300.stanford.edu	(300)

It asks for a password, this is the password on the nmr instrument that you are logging into.

Find the files that you want to transfer, and drag them to the other window (the local window). If you do not see the files that you are looking for, you are in the wrong directory, so under the Goto menu, select Directory, and then type:

```
/export/home/user_name/vnmrsys/data
```

If you still do not see your files, try:

/data/user\_name

If you still do not see your files, you probably need to ask me.

Step 3. You need to have an Xwindows type program on your PC/Mac.

Mac OS X:

OS X is a UNIX operating system. Xwindows applications are standard applications for UNIX.

There is a program called X11 for OS X available for download from Apple website for OS 10.3 or earlier, it is available as an Optional Application in the OS 10.4 or later. It should be located in the Utilities directory under Applications.

For OS 10.6, X11 should already be installed.

### 10.3, 10.4, 10.6 Instructions:

1) Open Unix terminal (or X11) then type:

```
defaults write org.x.X11 wm_click_through -bool true
```

```
defaults write com.apple.x11 wm_click_through -bool true
```

2) Open X11, you may have to go to the Applications/Utilities directory to do so (if you opened X11 in step #5, then you will need to quit X11 then re-open it)

3) An xterm terminal window should open.

```
ssh to nmr1 (or nmr2)
```

```
ssh -Y username@nmr1
```

[Note that it is simply ssh if your login name on the Mac matches your nmr1 login name.

Also, you should be able to use just nmr1 rather than nmr1.stanford.edu if your DNS is configured right. Thus, in this case,

```
ssh -Y nmr1
```

```
]
```

4) You should then be logged into nmr1, then the window asks what type of terminal, type:

```
s
```

If you need to transfer data, now you can type:

```
xdir
```

and follow directions for xdir as above

If you do not need to transfer data, then just start VNMR by typing:

vnmr

Run as normal.

Exit out of vmnr by typing:

exit

Logoff off of nmr1 workstation by typing:

exit

in xterm window.

Be sure prompt goes back to your Mac computer name.

### 10.5.5 Instructions:

10.5.5 or newer 10.5 operating systems there is a color mapping problem with VNMR, so you must install from the 10.5.1 install disk then do not upgrade X11 to the newest version. If X11 is already installed, you will need to uninstall it and start from the 10.5.1 install disk. Note that this problem is fixed in 10.6. Also, instead of downgrading the X11 to 10.5.1, you could use XVNC, see below.

Fix X11 due to 10.5.5 color mapping problem

1) Remove all traces of installed X11

```
sudo rm -rf /usr/X11 /System/Library/Launch*/org.x.* /Applications/Utilities/X11.app
```

you will need to enter in System Admin. Password

NOTE be very careful with rm command, there is potential to delete many more files than intended if the command is not entered correctly.

2) Find Leopard Install disk #1, under Optional Installs, there should be one for Applications, then X11.

2) Install that, hopefully it will ask whether to replace files or not, if so say yes (if you have already removed files from step 1 then there are no files to replace)

3) Go to

<http://xquartz.macosforge.org/trac/wiki/X112.1.1>

Download X11-2.1.1.pkg

Install pkg

4) Probably computer will need to be restarted

5) Open Unix terminal (or X11) then type:  
defaults write org.x.X11 wm\_click\_through -bool true  
defaults write com.apple.x11 wm\_click\_through -bool true

6) Open X11, you may have to go to the Applications/Utilities directory to do so (if you opened X11 in step #5, then you will need to quit X11 then re-open it)

7) An xterm terminal window should open.

ssh to nmr1 (or nmr2)

ssh -Y username@nmr1

[Note that it is simply ssh if your login name on the Mac matches your nmr1 login name. Also, you should be able to use just nmr1 rather than nmr1.stanford.edu if your DNS is configured right. Thus, in this case,

ssh -Y nmr1

]

8) You should then be logged into nmr1, then the window asks what type of terminal, type:

s

If you need to transfer data, now you can type:

xdir

and follow directions for xdir as above

If you do not need to transfer data, then just start VNMR by typing:

vnmr

Run as normal.

Exit out of vmnr by typing:

exit

Logoff off of nmr1 workstation by typing:

exit

in xterm window.

Be sure prompt goes back to your Mac computer name.

## Use of XVNC instead of X11:

Xvnc for Mac

You will need to download the VNC viewer program for Mac. There are several versions, the one that I am currently using is:

VNC Viewer Enterprise Edition for Mac OS X, from:

<http://www.realvnc.com/products/enterprise/macosx.html>

Another option for VNC for Mac is Chicken of the VNC, which you can download from:

<http://sourceforge.net/projects/cotvnc/>

I have used both successfully.

Follow installation instructions for program.

This VNC program is a viewer program, you must start a server program on the workstation for you to be able to view anything from your Mac.

Thus, you must login to the workstation and start the server. Presumably, you want to login remotely from your mac to the workstation. Thus, you need to use the terminal program which should be in Utilities. For a laptop, you will need to either plug the Ethernet cable in rather than wireless or use VPN from Stanford.

With Terminal, you can directly login to nmr1 or nmr2.

Type:

```
ssh nmr1
```

(or ssh nmr2)

Username: your\_nmr1\_login\_name

Password: nmr1 password

It will ask this question:

Choose s)un x)window t)ek d)umb g)raphon [s/x/t/d/g(default)]:

Type:

```
x
```

then <return>

You should now have a UNIX terminal logged into nmr1.

In UNIX terminal type:

```
vncserver
```

The first time you do this it will ask for you to create a password, so create and then verify the password. After the first time, it will simply start the vncserver program. It should then say:

```
New 'X' desktop is nmr1:some_number
```

Starting applications...  
Log file ...

Now the server has started, so you need to open the viewer on your Mac.  
Start vncviewer by clicking on VNC icon on desktop or through Applications directory.

The vncviewer asks for a vncserver name and number. The name should be:  
nmr1.stanford.edu  
(or nmr2.stanford.edu)

The number is the number from above after you typed vncserver in UNIX terminal  
(where it says 'X' dekstop)

so the server name should be:  
nmr1.stanford.edu: number\_from\_vncserver

The vncviewer asks for a password, the password is vncpassword that you previously  
established.

The vncviewer program should then open into your account on the nmr1 workstation.

The UNIX terminal window asks for a type of terminal, type:

s  
<return>

for Sun terminal.

Start VNMR by typing:  
vnmr

VNMR should start and look like it normally does.

You can load data files by clicking of File menu button, then find your filename and  
highlight it by clicking on it, then click on Load button

You can then process data as normal, e.g.:  
wft f aph

Once you are finished with VNMR, exit out of VNMR by typing:  
exit

Then, close vncviewer program. (Do not exit out of the VNC Viewer terminal, just close  
the program)

Then, logout of UNIX terminal, so type:

exit

And quit Secure CRT program, by selecting Exit button under File menu button.

Next time you use VNC Viewer, you can use the same number as before, you do not need to create a new VNC server each time you use this program, you can continue to use the same vncserver as long as it continues to work and as long as you do not exit the vnc viewer terminal window.