

VNC Tutorial

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VNC (Virtual Network Computing) is a program that allows one to display an X-Windows session (such as a SUN application) on another computer. (The usefulness is actually much broader than that. One can display any computer on any other computer.) The discussion here will be limited to displaying a SUN session on a system running one of the versions of Microsoft Windows.

The **VNC** session requires the existence of two programs, a **server** running on the SUN workstation and a **viewer** running on the Windows computer. The server receives X-Windows display commands from the application on the SUN, converts them to **VNC** protocol and sends them to the viewer on the Windows computer. The viewer then displays the information on the local screen. The keyboard and mouse of the local machine are also connected to the remote workstation. The application works well if sufficient bandwidth is available between the two systems. It is marginally useful over a typical modem link. The viewer can be either an application that runs directly on the display system or a **JAVA** application that runs within a browser such as Netscape or Windows Explorer.

To use the **VNC** connection, the user must first start a server on the remote system, then start a viewer on the local system, and then run the desired application. After finishing the session, the user should terminate the server running on the remote machine. It is **VERY** important that you terminate the server when you are finished with it!

In the sections below, the SUN system prompt is indicated by **%** and commands that you are to type are indicated in **bold courier new**. System responses are given in **bold courier new**.

Procedure for starting the server on the remote system

The **VNC** server will run on any of the **CEGT20X** systems except **CEGT201**. Since that is the file server for the EE **SUN** workstations, usage of **VNC** on that system has been restricted. Log into the desired remote system using a terminal application such as **Telnet**. To start the server, type:

```
% vncserver
```

The first time that you run **vncserver**, you will be asked for a password. This password is remembered by the system and must be typed by the user to attach to any server started by that user. This prevents some other user from attaching to your X-server. The password can be changed at a later date by running the program **vncpasswd**. You then have to run **vncserver** a second time to actually start the server. From then on, it only needs to be run once to start a server.

When you run **vncserver**, you should get a response similar to the one below:

```
New 'X' desktop is cegt204.bradley.edu:1
```

```
Starting applications specified in /home/staff/don/.vnc/xstartup  
Log file is /home/staff/don/.vnc/cegt204.bradley.edu:1.log
```

The pathnames when you run the command will reflect your own home directory. Note the digit at the end of the first line; it will be used to refer to your X-server from the viewer. This starts an X-server with a resolution of **1024x768**.

If your local screen has a different resolution, you can start the server to have that resolution rather than the default. To do this for a screen resolution of **1280x1024**, type:

```
% vncserver -geometry 1280x1024
```

After starting the server, you can check that it is actually running with the command:

```
% ls -l /tmp/.X11-unix
```

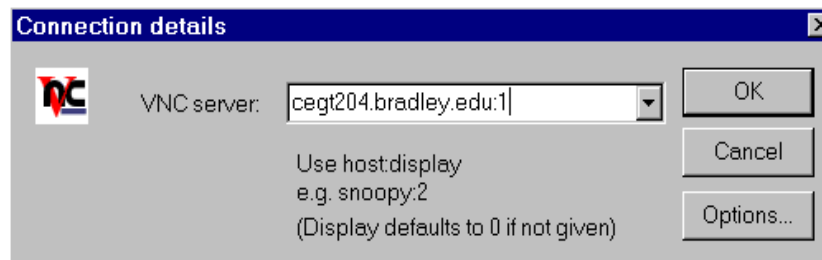
The response should be similar to that shown below:

```
srwxrwxrwx  1 root      root          0 Mar  7 10:59 X0  
srwxrwxrwx  1 don       staff         0 Mar  8 09:49 X1
```

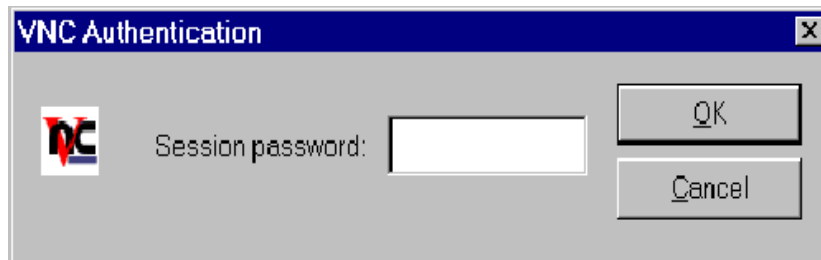
X0 is the console display on the remote machine. If there are other X-servers running, they will also appear. The one having the numeric ID listed above (**X1** here) should belong to you so that you can access it. If a server entry with the numeric ID listed above and belonging to you does not appear in the list, the server has not been started and you will not be able to connect from the remote system. If this happens, ask for help.

Procedure for Starting the Windows viewer

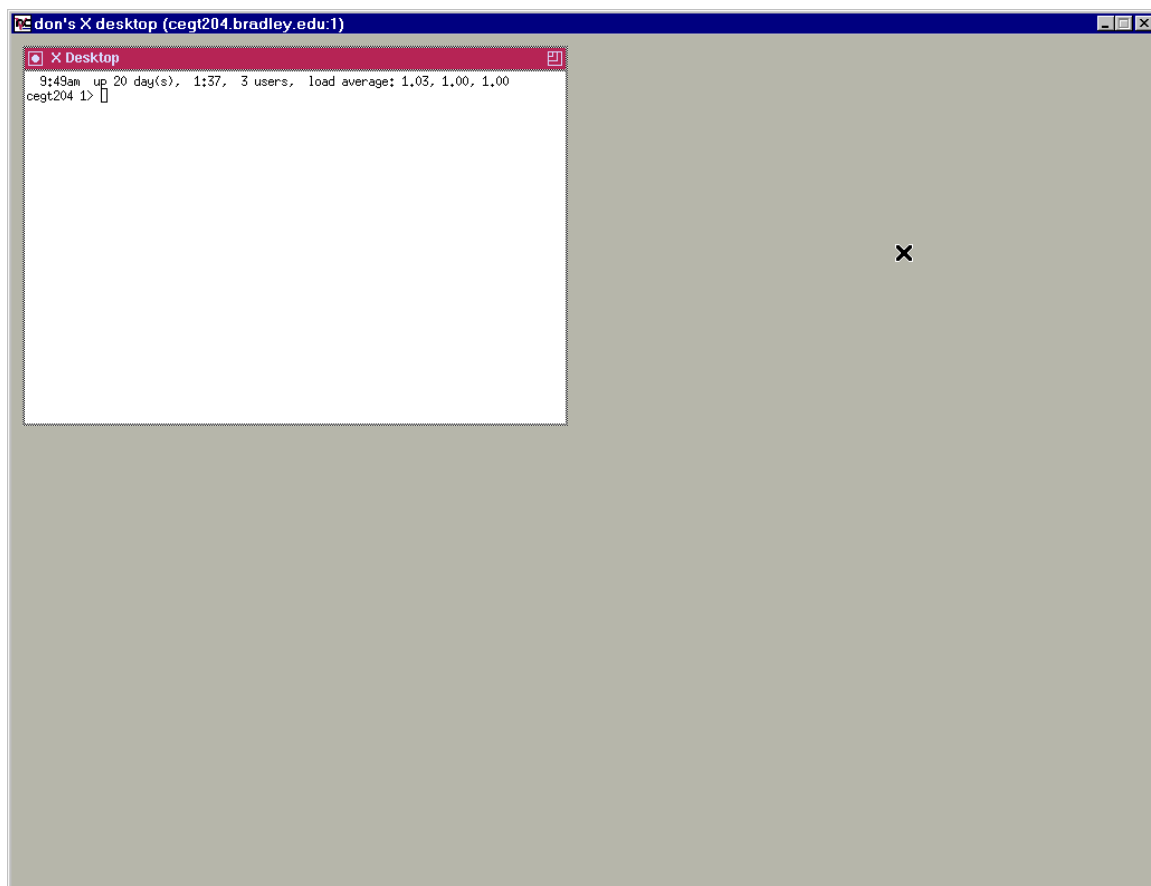
The windows viewer for VNC is **vncviewer.exe**. It can be run by clicking on the icon on your system. The application will show the window below:



Make sure that the workstation address and server number correspond to the one that you have started above. The syntax is **server: number**. Click OK and the authentication screen shown below will appear. Enter your password (the one that you specified when you first started a server) and click OK.



A desktop screen should then appear containing one **X-Term** window. The entire desktop is shown below.



At this point you can run the workstation application and proceed as if you were at the console of the workstation. When you are finished, close the viewer window by clicking on the X in the upper right corner.

Procedure for using the JAVA viewer

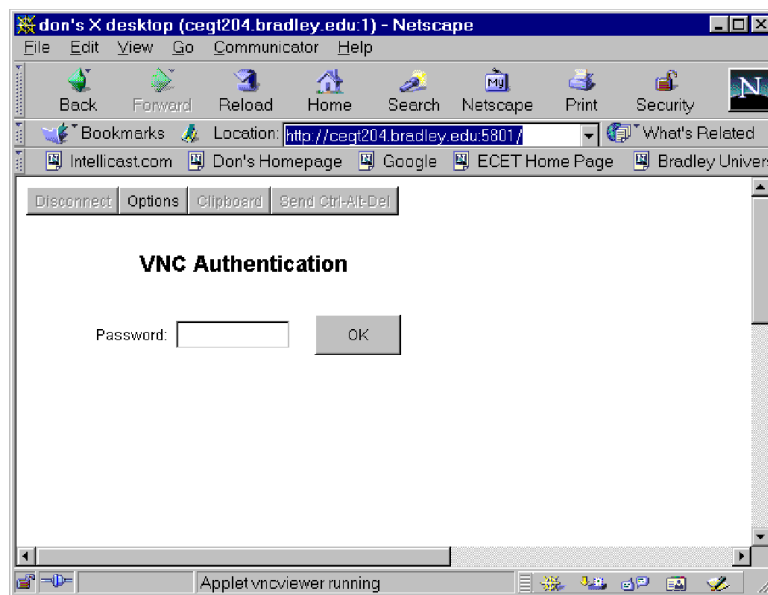
The JAVA viewer is run through Netscape or Internet Explorer. When the browser attaches to the workstation on which the server is running, the JAVA viewer is loaded and then the desktop is displayed. The browser is connected to the viewer by specifying the machine name and a port number. The port number for the server is 5800 plus the server number. Thus, server number 1 appears at port number 5801. The entire address is of the form:

http://machine name:port number/

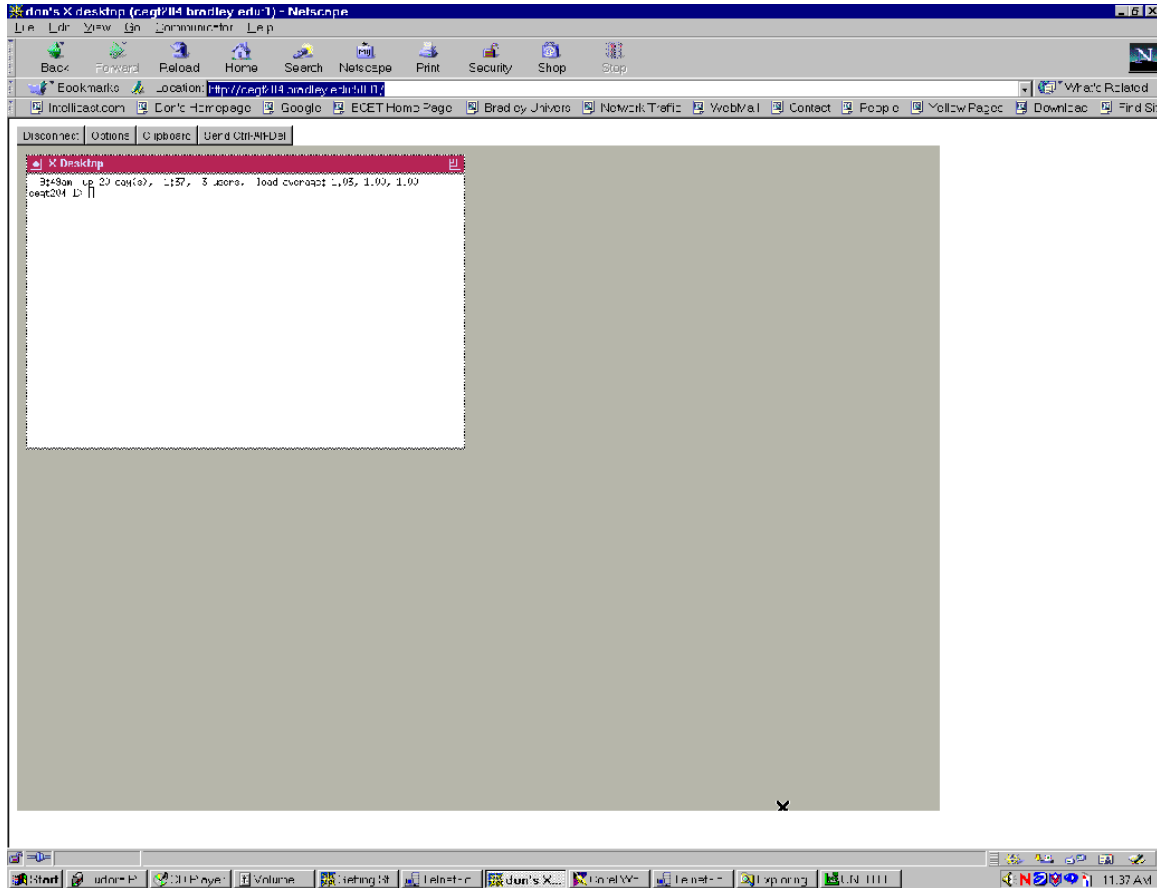
For example:

<http://cegt204.bradley.edu:5801/>

The initial display shown is below:



Enter your password and click OK. This should result in the screen on the next page.



At this point, you can type commands into the X-Term window and proceed as if you were at the console of the workstation. The grey area above is the desktop on the remote machine. In this case, the desktop is the default size and the screen on the machine where the display is generated is higher resolution so the desktop does not fill the Netscape window. When you are finished with your application, close Netscape.

Procedure for Terminating a Server

To terminate a server when you are finished with it, open a terminal window on the remote machine and kill the server with:

```
% vncserver -kill :1
```

You can check that the server has been killed with:

```
% ls -l /tmp/.X11-unix
```