How to setup NX client for graphical connections to servers

SGI/IZO

March 7, 2011

Abstract

This document is a brief manual to setup a graphical connection from your personal computer to the computing servers of the IZO-SGI service, i.e., a connection that allows to run graphical applications. We will focus on the NX client which is explained in the section 2.**READ CAREFULLY** how to disconnect, it is very important to avoid problems.

Contents

1 Introduction

Usually one connects to the servers of the SGI-IZO using text terminals. This way to work is very fast because the information submitted trough the network is very small. There are a lot of programs that allow this type of connection. On the other hand commands like

```
xclock
```

which displays a clock in the screen or

```
kwrite
```

which opens a simple graphical text editor needs a Linux compatible window system, *i.e.* an X-server, in the local computer to be displayed. Graphical applications transmit a lot of information through the network and they may run very slow outside the local network of the university. NX clients overcome this problem by using image data compression and is the best option to run graphical applications, specially from a computer outside the university or if you run a very heavy graphycal application (like **StarCCM+, Gausview, Maestro, ADFView** ...).

2 NX client

In Guinness, Maiz and Pendulo the FreeNX-server application is installed. **You can connect to Guinness/Maiz/Pendulo** through this application, using the NX client. It has the advantage that compress images and data and, use cache and other technologies to reduce the amount of information that is submitted through the network. As counterpart the image quality is reduced but increase in the speed is huge.

2.1 Installing the NX client

There are several clients like qtnx or nxclient that in the case of Linux can be installed with apt or yum. Nevertheless, we will focus this document in the installation and setup of the Nomachine's nx client.

Go the web page of Nomachine (http://www.nomachine.com) and install the client of your operative (Linux or Windows) system. See snapshot 1 of the web page. The installation is a simple and straightforward process that do not have special issues. You can also intall the text fonts, but probably will not be necessary. If at some point you have problems with the fonts you can install them.

2.2 Configure the connection

We will use the "*NX Connection Wizard*" to configure the parameters for a NX connection to our servers.

1. Open in the programs menu the "*NX Configuration Wizard*" as shown in the figure 2 and the screen of figure 3 will be open.

Figure 1: Snapshot of the Nomachine web page.

Figure 2: NX programs.

2. Push next in figure 3.

Figure 3: NX start process window.

3. We chose a name for the session, it can be related to the server we are going to connect, e.g. "*Maiz*". We add the address of the server we want to connect, currently there are two options: maiz.lgp.ehu.es or pendulo.lgp.ehu.es. We chose the speed of the connection. In fact, this only setups the compression level. In table 1 we see the relation between different parameters with this choice. As an example we chose a slow network connection like "Modem" in table 1.

   We recommend "*Modem*" setting but you can play with this setting to improve your performance. In figure 4 you can see a snapshot of the configuration. Push "*Next*" button.

4. Now we have to setup what application to run when connecting to the server. The server is "*Unix*" (really is Linux) as shown in figure 5. The second list displays "*KDE*" window manager by default and we are going to change this. This setting will export to your computer all the desktop

Figure 4: NX connection configuration snapshot.

Table 1: Dependency of different properties depending on the network type choice.

Network choice	slower
Compression	higher
Computer load	higher
Image quality	lower
Screen response	faster

of the server. That is in general unnecessary because we want to run a specific application. On the other hand to open a complete desktop loads the server reducing its performance (specially if several users connect at the same time) and slows your connection because you are need a lot of information to display all the desktop. Select "*Custom*" instead of "*KDE*".

Push "*Settings*" button in figure 5 and in the emergent window shown in figure 6 check "*Run the following command*" and write "*xterm*". Push "*OK*" button and then "*Next*" in figure 5.

5. Finally we can create a shortcut in the desktop and we "*Finish*" the configuration process with figure 7.

6. We can run again the connection wizard to setup a connection to other server, for example, Pendulo.

2.3   Connect and disconnect

By selecting "*NX Client*" in the program menu of our operative system, figure 2, we will open the connection window figure 8. There we select the session and we can configure it if changes are necessary or directly enter the username and password that will connect us to the computing server.

Alternatively if we click the desktop shortcut for a given session figure 9 will appear to connect to that client. With the shortcut we don't have the possibility
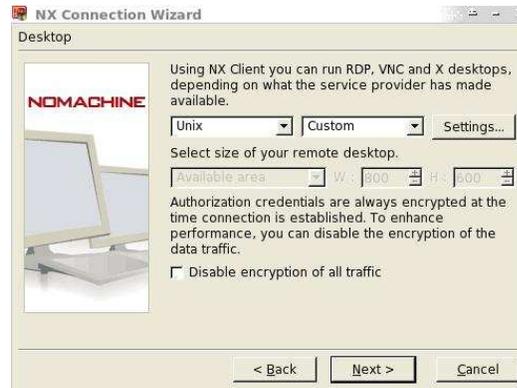
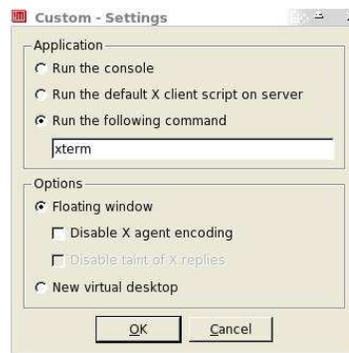**Figure 5:** Select application window, push "*Settings*" before "*Next*".

Figure 6: Emergent window that appears with the "*Settings*" button of figure 5.

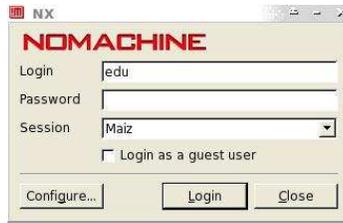**Figure 7:** NX configuration final step.

Figure 8: NX client connection window.

to reconfigure the session.

Figure 9: NX client connection window form desktopshortcut.

When the connection is established the terminal of figure 10 will appear in the screen, we are connected to the server and the terminal is running there. We can execute Linux standard commands there, if it is a command that runs a graphical application it will be displayed in the screen. We recommend to run a graphical program to execute it followed by the "&" symbol, in order to execute it in *in background* and recover the terminal command line, otherwise we could not run another command until close the graphical application. For example run:

```
starccm+ &
```

or for GaussView:

```
gv &
```

or for maestro:

```
maestro &
```

Disconnection

To disconnect write

```
exit
```

in the terminal. If you close the terminal with the close button of the window, see figure 11, you may have problems to connect the next time, **do not use it**. See the first entry of the *Known problems* section.
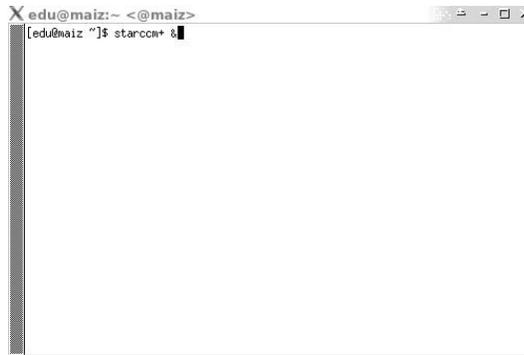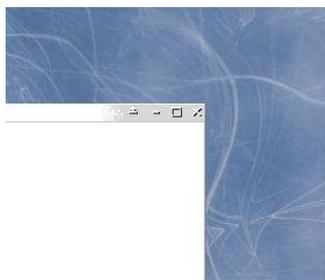
Figure 10: NX client terminal.

Figure 11: Standar close button of a window. **Do not use it**.

3   Known problems

The client start the connection process but terminal does not appear.

Probably last time you disconnect you did it with the window button of figure 11 instead typing `exit` in the terminal. Open the NX client by using the program menu, not the shortcut of the desktop, figure 8 should appear. Select the session that gives problems and push "*Configure*" buttom. Change something and then change again to the original value. Save and try to connect, it should work.

I can not connect from outside the UPV/EHU.

To connect to the machines of the service from outside the UPV/EHU network it is necessary to do it with the VPN protocol. After it is running you can connect to our machines by using ssh, NX client or other ways. More information about VPN in http://www.ehu.es/vnp.

Other problems.

Contact the technicians http://www.ehu.es/sgi/Personal_del_Servicio_tf.html.