Ways of connecting

There are three ways of connecting to one of the department’s Unix servers from home. Two of the methods use the Unix-based XWindows system, and give you a graphical user interface with mouse, dropdown menus, etc. The third method lets you use only keyboard commands (no mouse or menus). The XWindows methods require a reasonably fast Internet connection, whereas the “plain terminal” method will work over even very slow connections.

The Unix XWindows methods are:

- **Xdmcp**, which provides a complete Unix desktop running in a window on your computer;
- **ssh**, which lets you display the graphical output from individual programs (such as emacs) on your computer.

It is important to remember in all cases, as far as the department’s server is concerned, your computer is just a dumb (graphical) terminal. In particular, you will not be able to access your own files from Unix or your Unix files from your own desktop. There are means of copying files between the two computers, but this requires a separate type of session called “sftp” — Secure File Transfer Program.

Logging in from a Linux or MacOS computer

MacOS and Linux home computers have native support for XWindows (although these may need to be explicitly activated). In MacOS, the XWindows component is sometimes called “Xquartz”.

In both cases, the usual method of connecting is to open a command terminal and type the command

```
$ ssh -Y your-user-name@hostname.it.uu.se
```

You will be prompted to enter your password, and then shown a terminal window running on the department (host) computer. A list of available hosts can be found at [http://www.it.uu.se/datordrift/faq/unixinloggning](http://www.it.uu.se/datordrift/faq/unixinloggning).

In principle, it should be possible to start a full desktop session on the department computer, using the command like

```
geijer> Xnest :1 -geometry 1200x800 -query localhost
```

However, I have not had any success with this.

You can still run individual commands on the Unix host, and their graphical output will be displayed on your PC. For example,
geijer> emacs

will run GNU Emacs.

Logging in from a MS Windows computer

MS Windows requires some additional software to be installed before it can connect to one of the department's Unix machines. There are several free and commercial programs available. MobaXTerm is described here.

You can download MobaXTerm from http://mobaxterm.mobatek.net/. This site includes a screen cast tutorial and other documentation. MobaXTerm has many features, only a few of which are necessary for this course.

After you have installed MobaXTerm, launch the program. You should see a screen like the one in Figure 1.

![Figure 1: The start screen for MobaXTerm. The terminal window (with the black background) is showing files on the local computer (in this case, the machine is called “john.john-PC”).](image)

To connect to one of the IT department computers, click on “New session” and select “Xdmcp” (Figure 2).

You need to specify which of the department servers you would like to use. A list is available at http://www.it.uu.se/datordrift/faq/unixinlognning. You should be able to select any machine from this list. If one does not work or is slow, close your session and select another.

You also need to specify the size of the display you would like the Unix server to use. The screen size will depend on the actual size of the screen you have attached to your home computer. I suggest you select a size slightly smaller than the maximum screen size.

After a brief delay, a login screen should appear, as in Figure 3. Login, and continue as if you were working in the 1515 lab.
Figure 2: A Xdmcp session will give you the same desktop you use in the 1515 lab. An alternative is to use a SSH session, which will give you a plain command window from which you can run individual programs (such as emacs).

Figure 3: If all goes well, you should see the login screen — just as you do in the lab.

3.1 SSH login MobaXTerm

If the Xdmcp session proves too slow, or you don’t feel the need to have a full Unix desktop, you can try logging in using a “ssh” session (Figure 4). This provides a simple command window, and (because “X11-forwarding” was ticked) displays any graphical output on your home computer.

— John Hamer, 18 June 2013
To configure a SSH session, enter the host name and (optionally) your own user name. You will be prompted for a password when you click OK. SSH provides a command window running on the host computer. From there, you can run programs (such as “emacs”), and their output will be displayed on your home computer.