Accessing X Windows from the Computer Cluster in MH 4014

IRAF, like many other graphics-intensive applications running under Unix, requires X windows (technically called X11) to display graphics. Our goal here is to display, on a local Windows machine, X windows from applications running on astro1. For this purpose, we need to:

1. Start up Hummingbird Exceed or Xming. These applications are X windows servers — applications that create X windows — running on the local machine. As far as I know, each machine in the cluster has one or the other.

2. Create a secure login connection to astro1

3. Enable the passing through or “tunneling” of the X window displays from astro1 to the local machine

The following instructions take you through these steps in detail. Log on to any computer in the cluster, selecting the machine itself as the login domain.

**Exceed** In the Windows Start menu under All Programs, locate Hummingbird Connectivity and select Exceed in the deepest-level menu. Or, if there is a Hummingbird shortcut on the desktop, double click it. In the window that opens, double click Exceed. Again, in the window that opens, double click Exceed.

Click ‘OK’ in the warning box that says, “Cannot create log file.” (The box may initially be hidden behind the main window.) An Exceed tool window should now open, but leave it alone for now. When you are familiar with this procedure, you can look into using the X startup tools in this window to automate this process. Exceed is now running.

**Xming** In the Start menu, find Xming and select Xlaunch. You will now be led through a series of screens. Select the defaults, which are as follows.

- **Select display settings** Multiple windows
- **Select how to start Xming** Start no client
- **Specify parameter settings** Make sure the Clipboard box is checked and the No Access Control box is not checked. “No Access Control” means that tunneling is permitted.

After you click ‘Finish’, an ‘X’ icon will appear in the right-hand end of the Windows task bar to indicate that Xming is running.

**Either option** From this point on, the instructions are the same whether you are using Exceed or Xming.

Back on the desktop, double click the shortcut to the SSH Secure Shell client. SSH is a method of making an encrypted login connection between two computers.

In the SSH window, click Profiles, then “Edit Profiles.” Click the “Tunneling” tab, and click a check box that says, “Tunnel X11 connections” if it is not already checked.

In the SSH window, click “Quick Connect.” In the dialog box that opens, for “Host Name,” type the IP address of astro1, 131.183.160.1. The “Authentication Method” window
should read, “<Profile Settings>.” Give your astrol user name and (when asked) password.

If you receive an error message that the host cannot be reached, reboot your machine.

When you see the astrol login prompt, type `xgterm -sbr&` and an Exceed or Xming xgterm window will open if tunneling is enabled. If no window opens and a “Cannot open display” error message appears, you neglected to enable tunneling. Log out, disconnect, and restart your X server with tunneling enabled.

In xgterm, start IRAF. Be sure to use xgterm for graphics tasks. You can also start IRAF in the regular login window and use it for text-only tasks.

If your machine has a three-button mouse, the middle mouse button works for cutting and pasting as on a Unix/Linux machine. With a two-button mouse, clicking both mouse buttons together will emulate the middle mouse button.