Remote access to the Windows-lab PCs

Several of our labs use GPUs, and our IT group only supports GPU usage in the PC lab (Halligan 122). Our Linux machines do not support GPU programming – our Red-Hat service contract only supports open-source drivers, and the Nvidia drivers are not open source.

In past years this has not been a problem; the PCs work quite well, and Microsoft Visual Studio is a very reasonable debug platform. However, until March 2020 the PCs were not accessible unless you were physically in Halligan 122. This has not been fixed, and the access instructions are below.

The big picture:
• first log into one of the few Halligan computers that are externally visible on the internet. These are all Linux boxes.
• Use freerdp to launch a remote-desktop session into one of the PCs.

Caveats:
• Visual Studio, like most development environments, is highly graphical. Running it remotely over a low-bandwidth or high-latency internet connection may be painful.
• Each PC can only support one person logging into it at a time. During busy periods, you may need a bit of trial and error to find an open machine. (Moral: don’t wait until right before the labs are due to start coding!)

Details:
• Install your favorite means of remote login onto your laptop. Most people use Moba xterm.
• Log into linux.eecs.tufts.edu. Run “xeyes,” a program that should pop up a pair of moving eyes on your screen. If it doesn’t, then you do not have “X” connectivity working; Moba should do this automatically, but other tools may not.
• Run “xfreerdp /d:HLGN /v:PC-name”. Replace PC-name with the actual name of the PC you are logging into; e.g., lab122a, lab122b, up to lab122y. A few notes:
  - If somebody is already logged into that PC, your command will fail and you must pick another machine. There’s no way of knowing in advance which machines are already in use.
  - You will get a dozen or so short informational messages. Also, the first time you log into any particular machine, you will get a message like “The above X.509 certificate could not be verified. Do you trust the above certificate? (Y/T/N)”. Type “Y” to proceed.
  - It will ask for your password and then pop up the windows desktop.
  - If you originally logged into a server other than linux.eecs.tufts.edu (e.g., dell24), that server may not have xfreerdp installed.
• By default, the new remote desktop will have size 800x600 pixels. You cannot resize the window by simply grabbing the end of it and stretching. To increase the window size, you can call xfreerdp with parameters such as “xfreerdp /d:HLGN /v:PC-name /h:650 /w:1400”. Feel free to pick a size that is larger than your laptop’s actual screen size – you can scroll around it with right-click/move on the window’s top bar, then using the arrow keys to move it around.