

Double VNC Observing Setup Guide

RSW August 2020

Objective:

“Double VNC” is a remote observing method to control instruments from alternative observing sites beyond established remote observing rooms. This method takes its name from a chain of VNC connections: first from alternative site to computer in an established remote observing room (e.g. Cahill ROF), and then from the ROF computer to the instrument control computer at the observatory (e.g. Keck or Palomar). Double VNC alleviates the need to modify observatory network firewall settings; firewall changes are limited to the ROF computer.

This guide illustrates establishing a remote observing session outside designated remote observing facilities through double VNC, and with observatory approval. Observers should be advised that observing session efficiency will be adversely impacted if this method is used without recommended equipment and network capabilities.

Equipment:

Desktop/Laptop

HD Monitor

Vncviewer client

Internet Connection

Webcam with microphone

Zoom Client

Recommended Equipment:

2 Desktops/Laptops

2 HD Monitors

High Speed Internet Connection

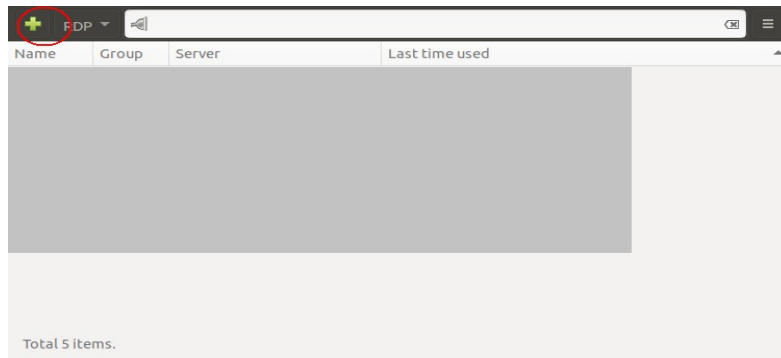
Remmina Vncviewer Client

Webcam with microphone

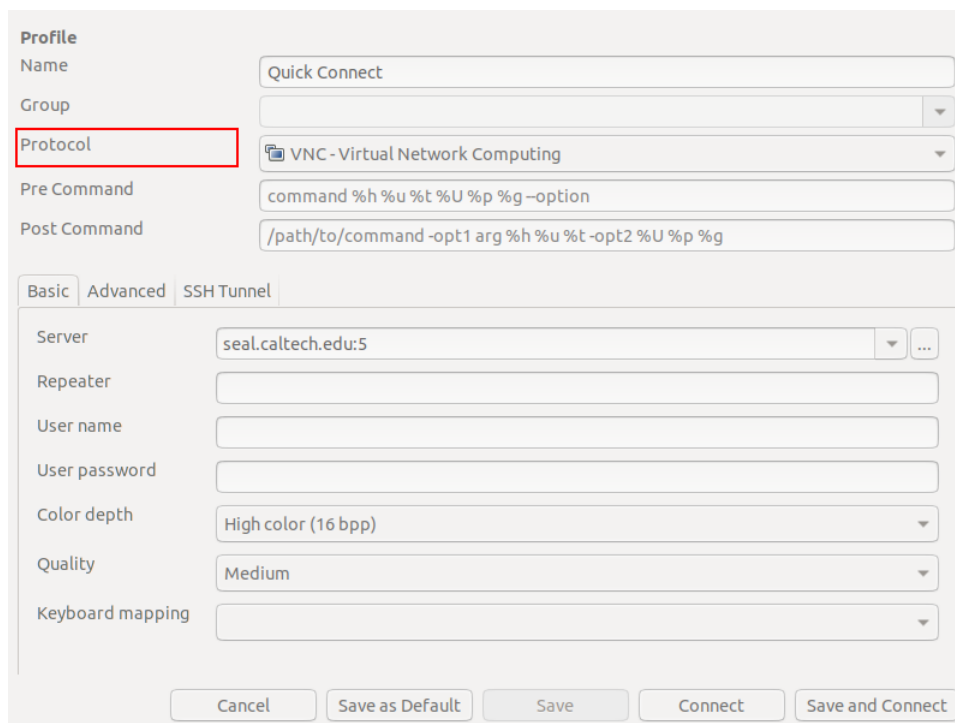
Linux and MacOs VNC Setup:

Download and open the Remmina Vnc Client <https://remmina.org/>.

1. Open the program and add a new connection:



2. Change the protocol to VNC Virtual Network Computing



3. Enter the server address

The screenshot shows a VNC client configuration window. The 'Server' field is highlighted with a red box and contains the text 'seal.caltech.edu:5'. Other fields include Name (Quick Connect), Group, Protocol (VNC - Virtual Network Computing), Pre Command (command %h %u %t %U %p %g -option), Post Command (/path/to/command -opt1 arg %h %u %t -opt2 %U %p %g), Repeater, User name, User password, Color depth (High color (16 bpp)), Quality (Medium), and Keyboard mapping. Buttons at the bottom include Cancel, Save as Default, Save, Connect, and Save and Connect.

When logging into a remote vnc session first check the room assignment for your observing run <http://mrbs.astro.caltech.edu/day.php?year=2020&area=6&room=21> to determine the vnc server.

Room Number	Server Address
118	Sanitized for online use
144	Sanitized for online use

Please enter the server address that matches your room assignment number into the "Server" input box.

- Unless you have a truly high speed internet connect (>100Mbps) it is recommended to use a limited color depth and quality. This will ensure a more responsive connection with less screen refresh.

Profile

Name: Quick Connect

Group: [Empty]

Protocol: VNC - Virtual Network Computing

Pre Command: command %h %u %t %U %p %g -option

Post Command: /path/to/command -opt1 arg %h %u %t -opt2 %U %p %g

Basic | Advanced | SSH Tunnel

Server: seal.caltech.edu:5

Repeater: [Empty]

User name: [Empty]

User password: [Empty]

Color depth: High color (16 bpp)

Quality: Medium

Keyboard mapping: [Empty]

Buttons: Cancel, Save as Default, Save, Connect, Save and Connect

5. Once you are done click “Save and Connect” at which time you will be prompted to enter the following password
 - a. Password = Sanitized for online use

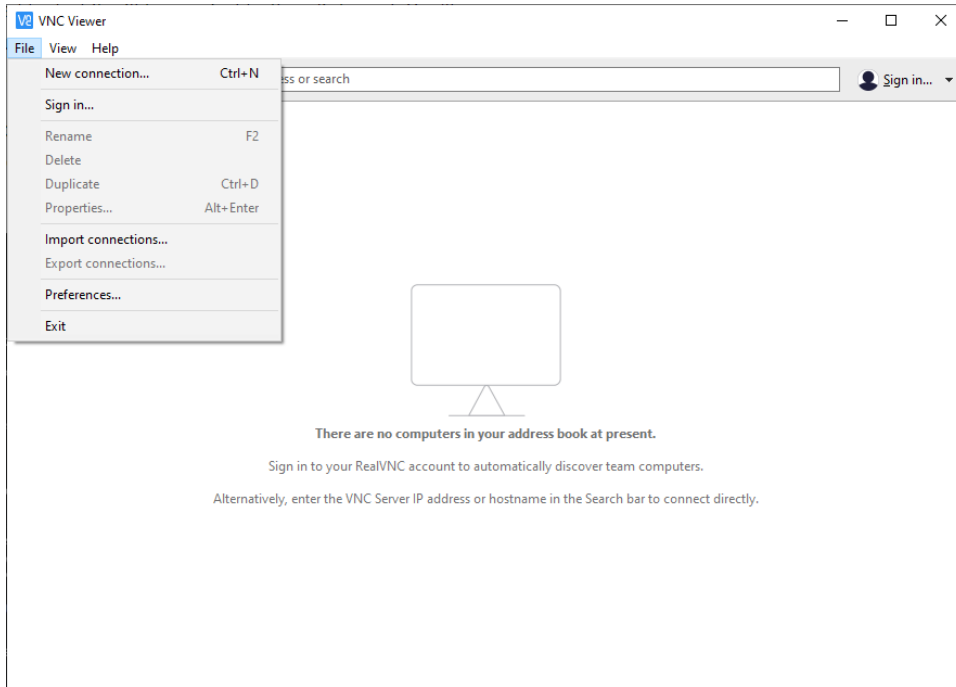
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Windows 10 Setup:

Download the Real VNC connect client

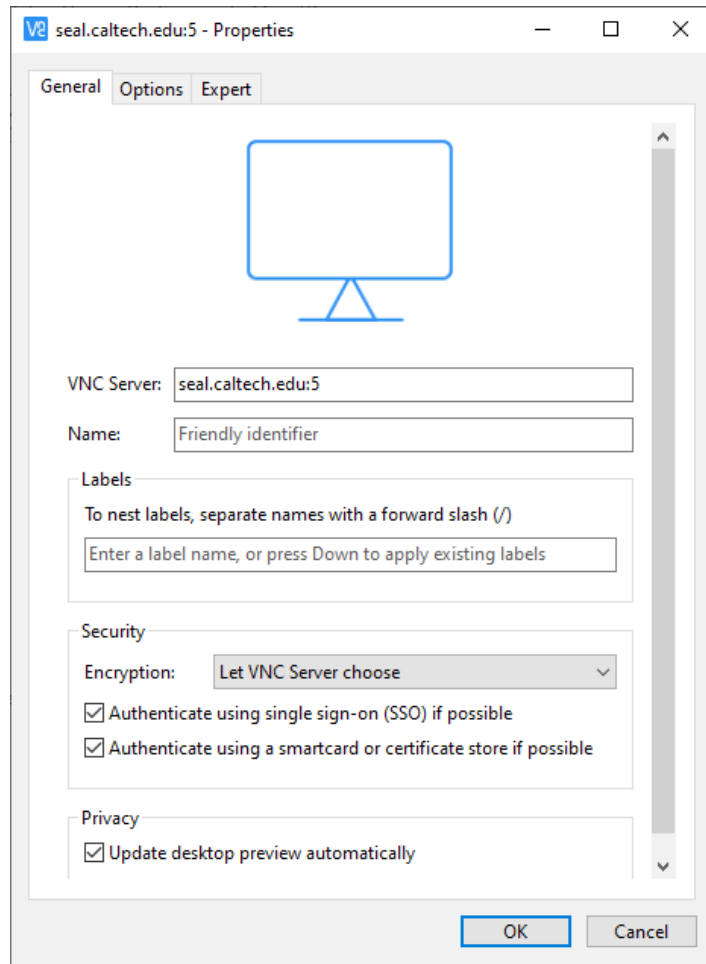
<https://www.realvnc.com/en/connect/download/viewer/windows/>

1. Open Real VNC Viewer and add a new connection.

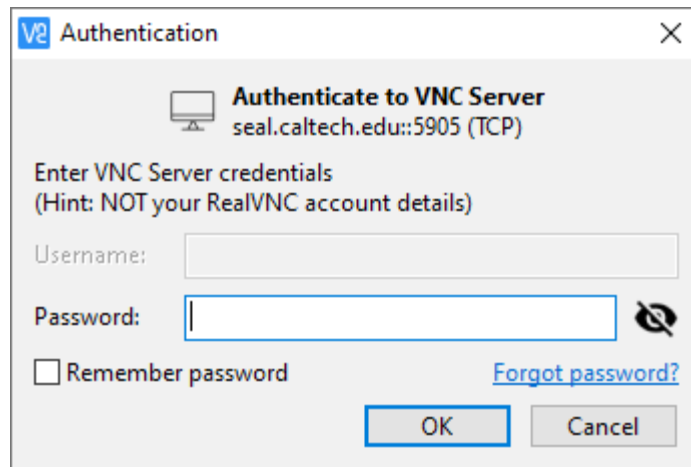
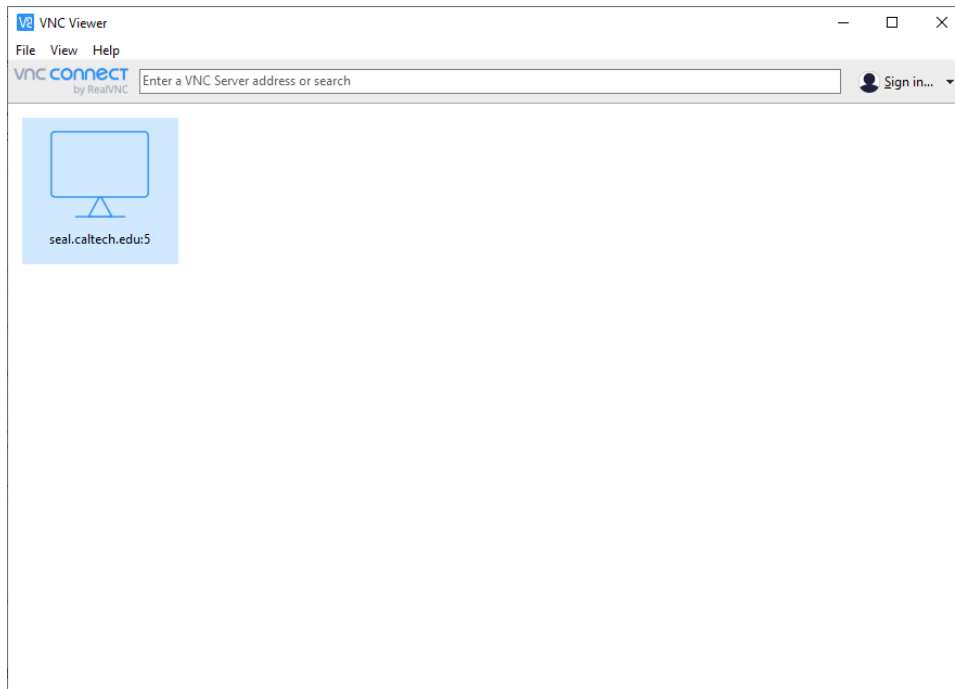


2. When logging into a remote vnc session first check the room assignment for your observing run <http://mrbs.astro.caltech.edu/day.php?year=2020&area=6&room=21> to determine the vnc server.

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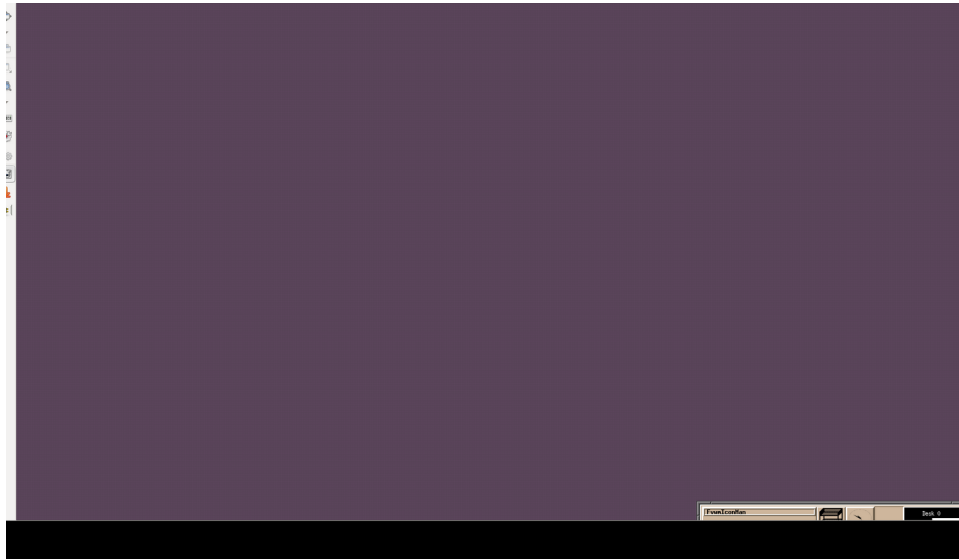


3. Double click the new connection and enter the password when prompted.
 - A. password= Sanitized for online use

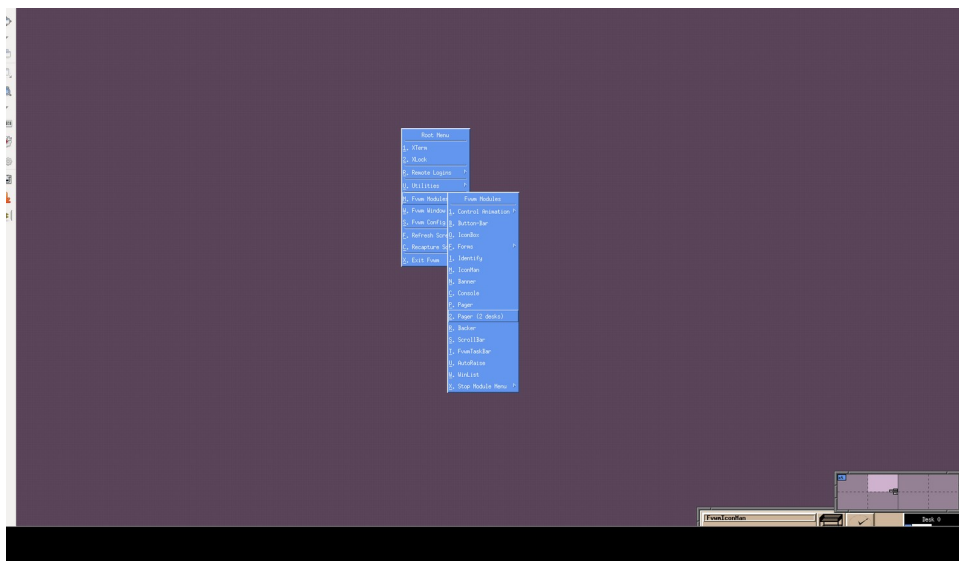


Running a Remote Observing Session from a Single VNC Window (FVWM)

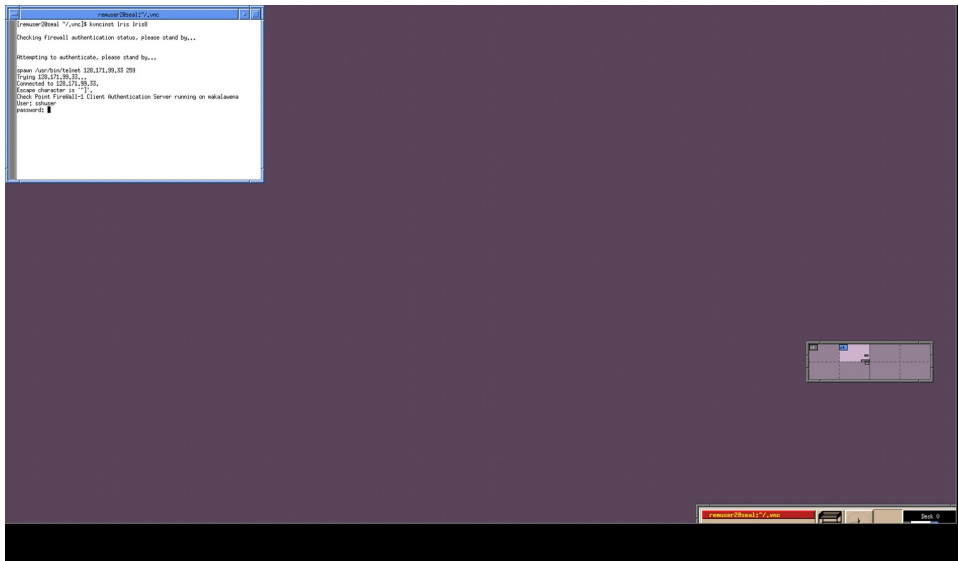
1. After joining the vnc session the screen should show a blank FVWM desktop.



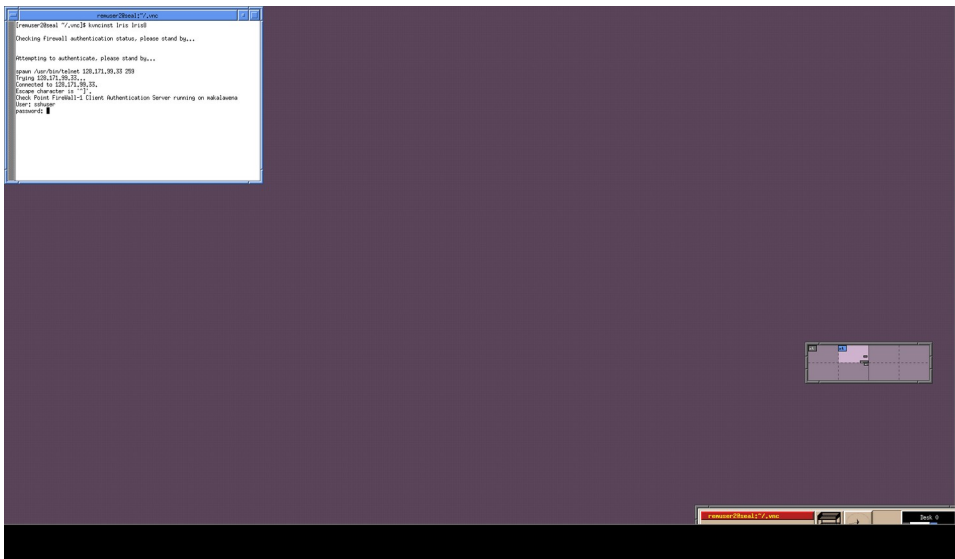
2. Left click on the background to bring up the menu options and select the 2 Pager Desktop option from the Fvwm Modules submenu. The desktop pager will then appear in the bottom right hand of the screen

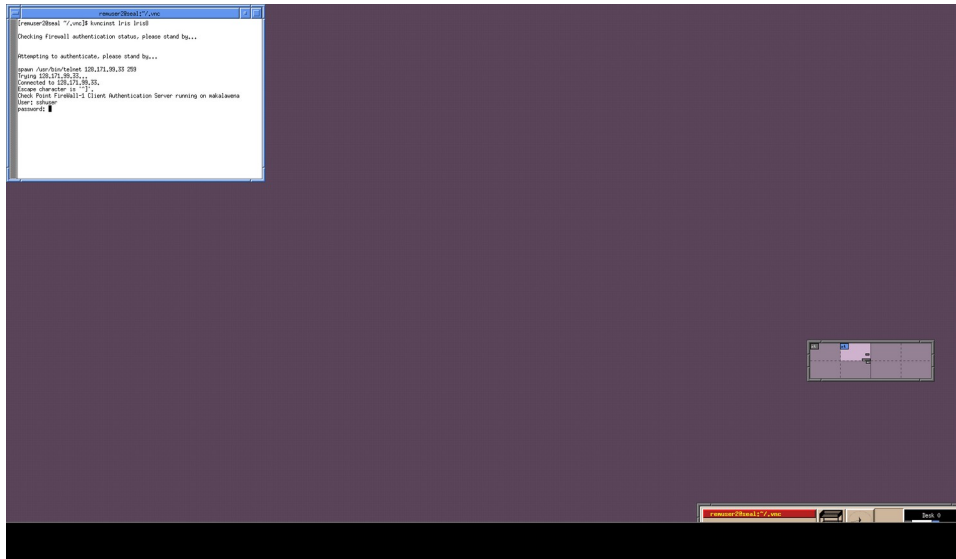


3. Next left click on the background again and select the xterm option.

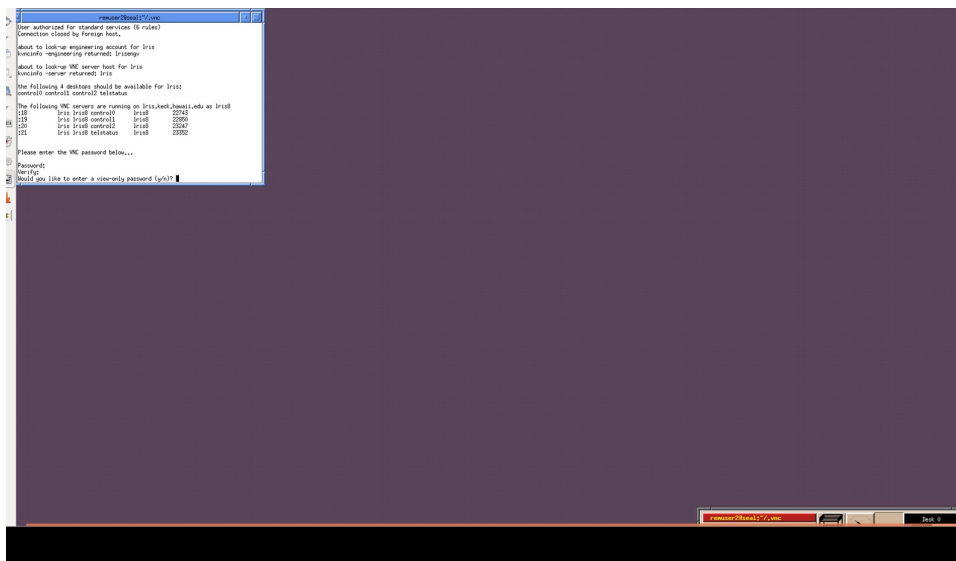


4. In the terminal window run the startup command `start_keck_viewers instrument+account_number`
i.e. `start_keck_viewers Iris8`
5. Enter the first password to cut a hole in the Keck firewall: **Sanitized for online use**

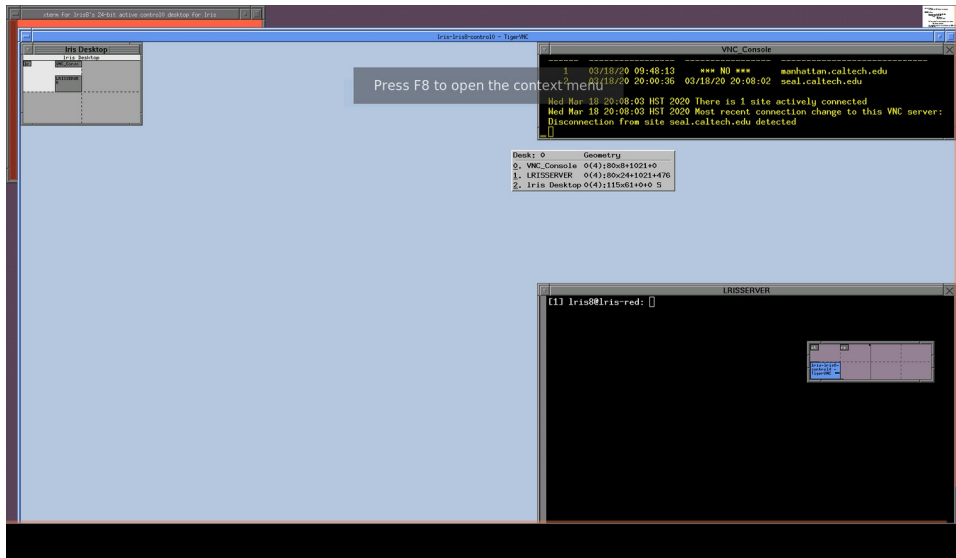
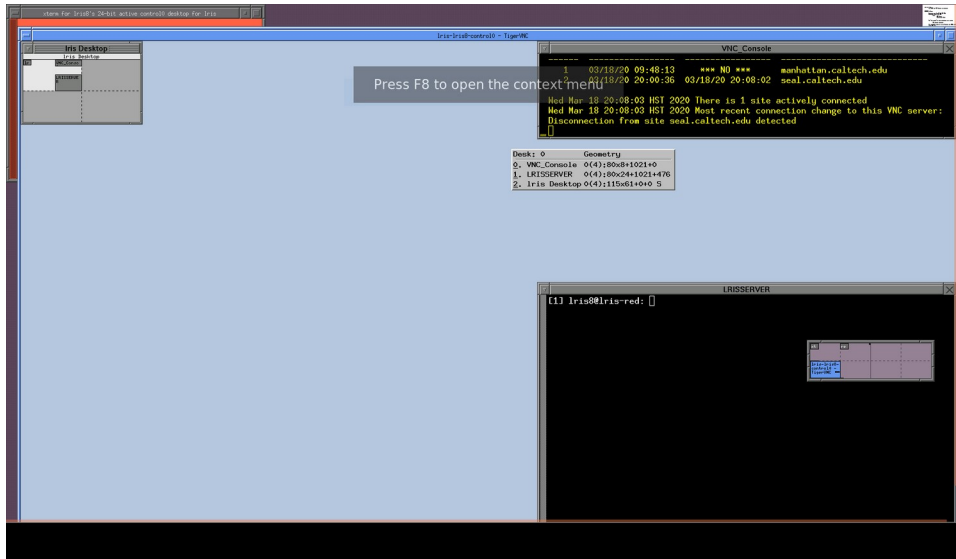


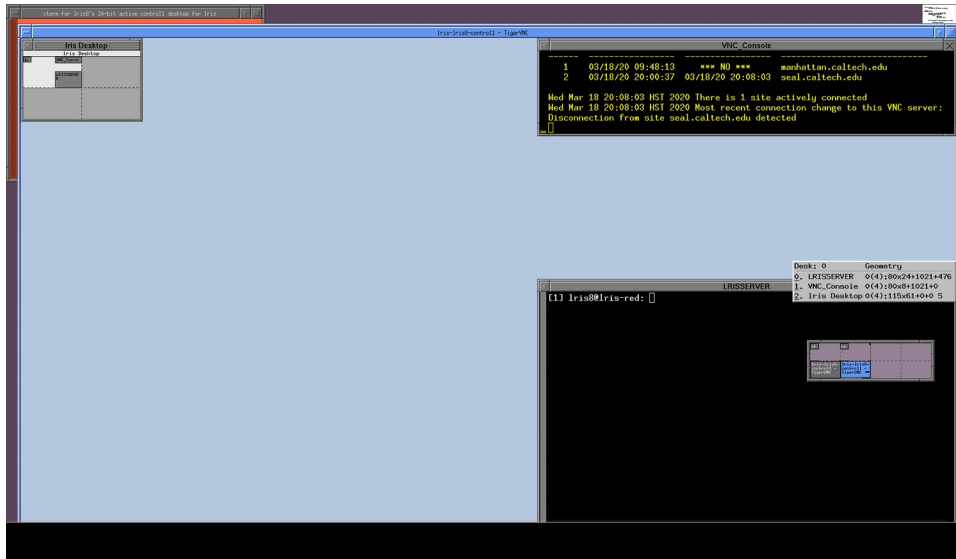


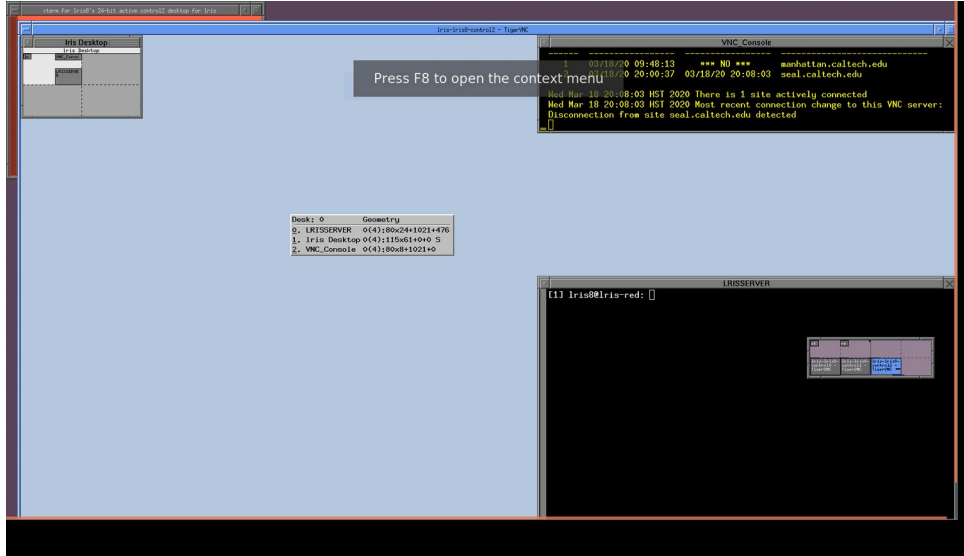
6. Once the system logs in you will be prompted for a second password for the vnc windows. Enter it twice: **Sanitized for online use**



- 7.
8. At this point the system is ready to bring up the vnc windows. In order to help organize the screen it is recommend that you use the desktop pager to click on the bottom left hand square. Once the first vnc window pops open click on the adjacent window and wait for the next window to open. Again after the window has open move to the next desktop.







9. The desktop pager shows the name of each vnc window, click on the window you need to access that vnc.

Connecting to the Zoom client:

1. Download the Zoom Client app https://zoom.us/download#client_4meeting
2. Open the App and click Join. Use the table below to determine which meeting ID to enter

Keck Site	Meeting ID
Keck Remote Obs 1	Sanitized for online use
Keck Remote Obs 2	Sanitized for online use

Restarting the Local VNC Servers:

To start a VNC session ssh into the appropriate machine using the “Sanitized for online use” account. Start the VNC server with a supplied screen resolution.

```
[ ~]$ vncserver -geometry 1900x1200 :5
```

If the session is currently running then a warning will be displayed along the pid of the session. The server can be stopped if needed by using the kill command

```
[ ~]$ vncserver -kill :5
```

Contact Info:

Sanitized for online use