

## 4.4 Shutting down the System

In the event of an impending lightning storm or other urgent event that would lead to powering down the instrument here are the steps to shut down.

### 4.4.1 Shutting down on the Nasmyth Platform

- Rack 2: Turn off the Ion Pump (Vacation Controller) if it is on.
- Rack 2: Turn off the LN2 Process Controller.
- Rack 2: Turn off the Windows PC's by holding the power button for 2 seconds. This will cause a proper shut down.
- Rack 1: Turn off the Windows PC's by holding the power button for 2 seconds.
- Rack 1: Turn off both of the power supplies to the Jade Cards.
- Rack 1: Turn off the Motor Controller.
- Check that the Nasmyth Mac on the FourStar cart is unplugged. Note: a green light is visible when there is power to the Mac, this does not mean the Mac is running, it is safe to unplug. If the light on the power button is on then the Mac is running. It can be powered off quickly by holding the power button until it powers off, then unplug it.
- Check that the Fiber to Ethernet Converter is unplugged. It is located in the Junction Box mounted on the Nasmyth rail.

**DECISION POINT:** At this point most of the power consumption has been mitigated and FourStar is still quickly recoverable. Only proceed if there is danger of damage or if there is no need for a quick recovery. **WARNING:** Proceeding with the next step will result in the heaters being disabled and the detector and optics temperatures will drift low. It will take twice as much time to recover as time that was lost in the outage, i.e. if the optics heater is off for 2 hours, it will take about 4 hours to re-equilibrate.

- Turn off power to Racks 1 & 2 by opening the red toggle switch cover and toggling the switch toward the cover. These switches are on the rear of the racks.
- Unplug the main power cord from the main power bus to minimize EMF.

**With power off to the Autofill system the shroud dewar will have to be filled manually.**

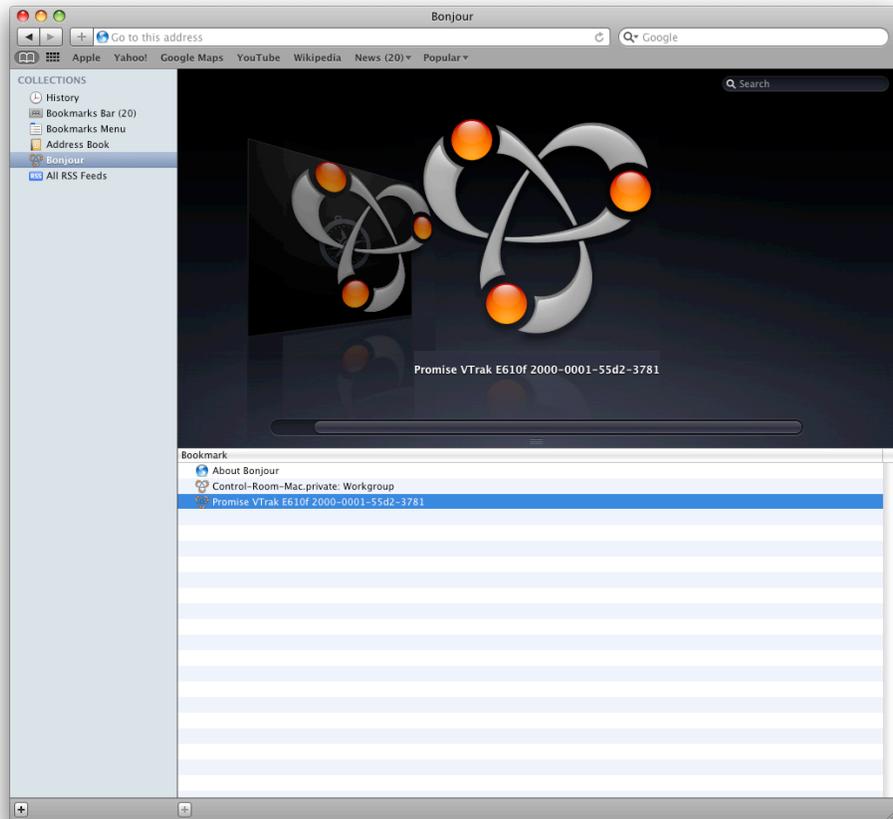
### 4.4.2 Shutting down the FourStar Computer System

This should be done from the Equipment room.

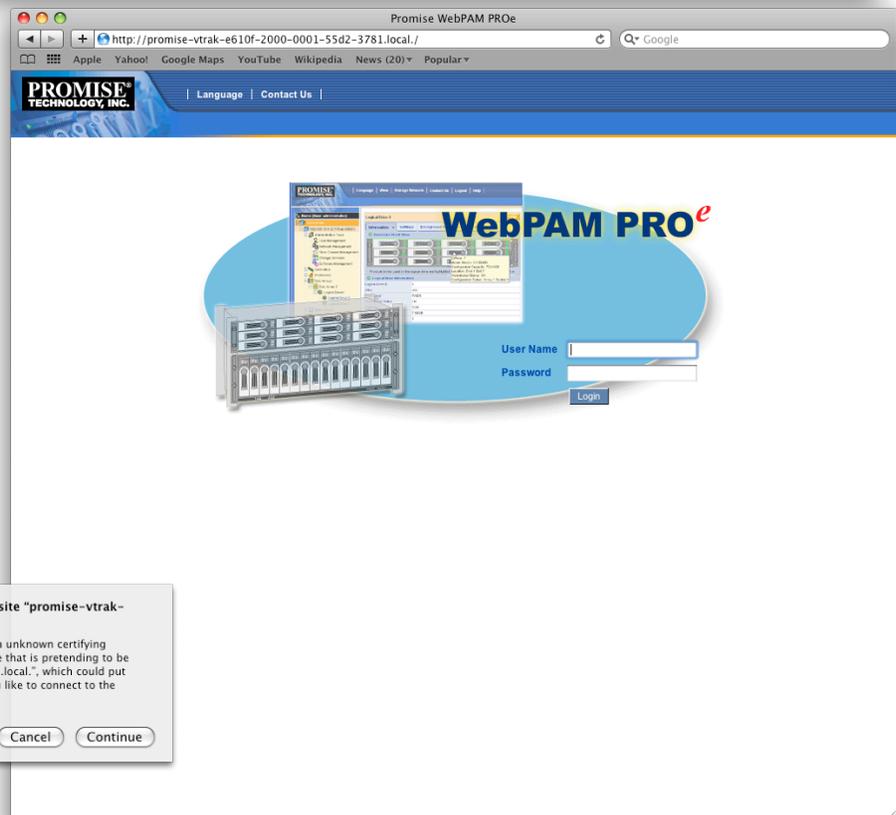
- Turn the rack monitor on by sweeping your finger across the power button (lower right corner).
- Access the Control-Room-Mac by pressing '1' on the KVM switch.
- Close the FourStar software and any other applications that are running.
- Power off the Control-Room-Mac from the  pull down menu.
- Access the Data-Red-1 Mac by pressing '2' on the KVM switch.
- Turn off the RAID chassis by accessing the RAID webpage; see next page. It will take approximately 2 minutes to shut down. Then turn off the power to the RAID by toggling the two switches on the rear of the chassis. Do not turn the power off until the shut-off command has been issued from the Webpage.

- Turn off the Brocade Fibre Channel Switch on the rear of the chassis (2 toggle switches).
- Power off the three Data-Red Macs from the  pull down menu. Access them from the KVM switch.
- Power off the KVM switch and CISCO Firewall. The switch is on the rear of each chassis.
- Unplug the Electronics Rack. The three Netgear switches will power off at this point.

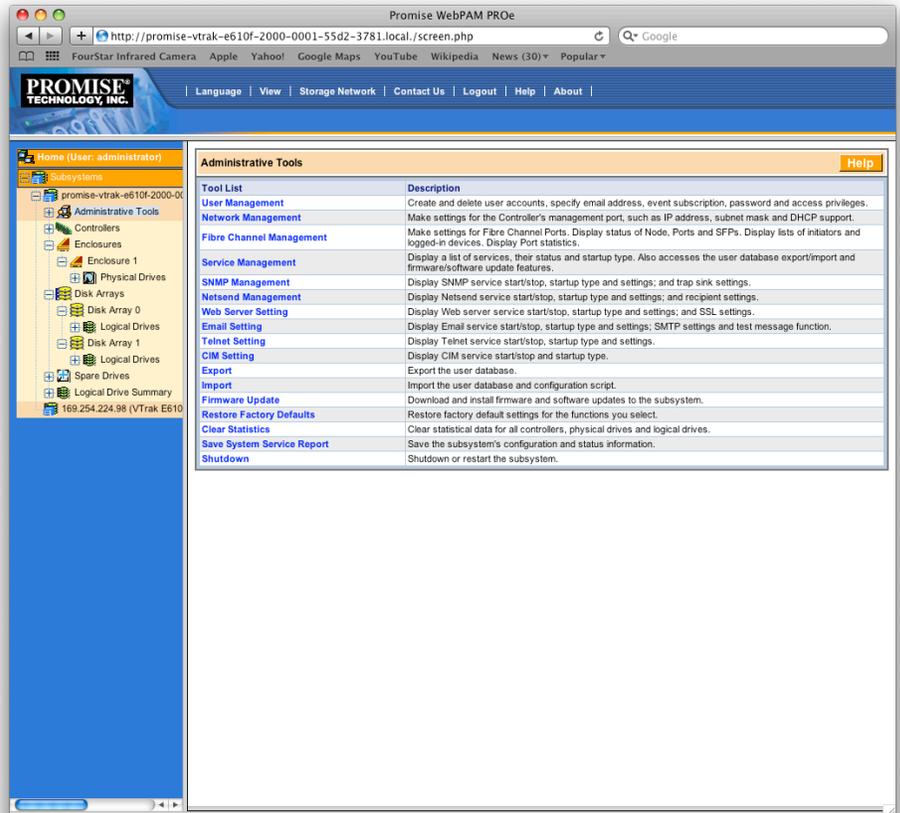
To access the RAID drives open the Safari web browser and in the bookmarks menu select: Bonjour. The Promise VTrak Raid Chassis should appear on the bottom of the list as shown to the right. Double click it to open the login screen.



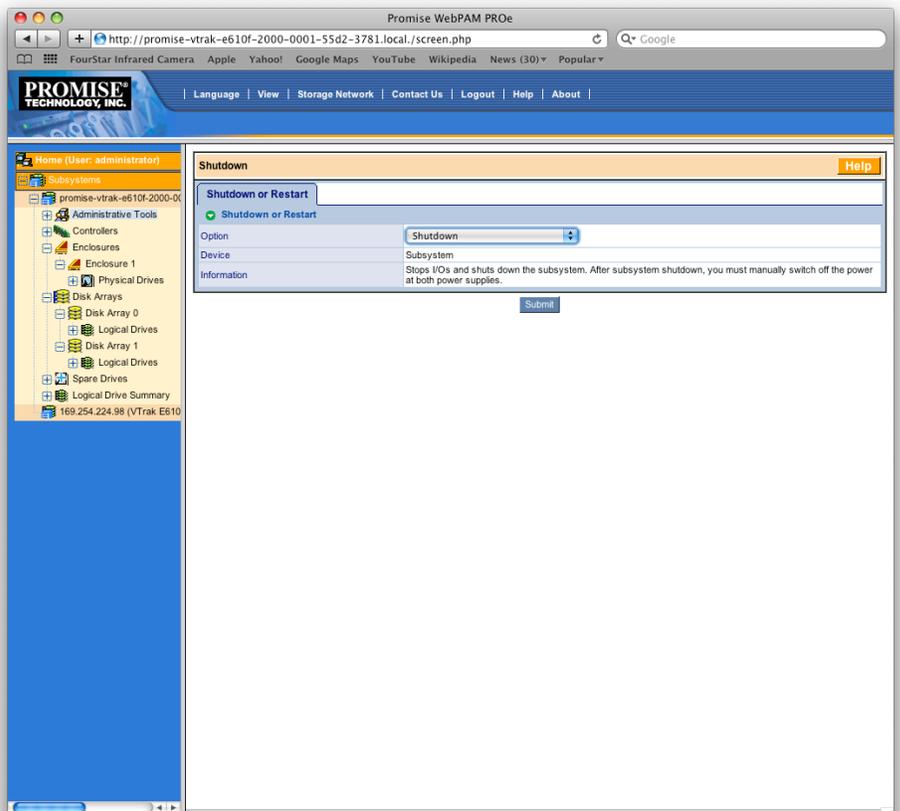
The RAID login screen appears as to the right. Enter the posted User Name and password. A pop-up window will appear warning about verifying the identity of the webpage; click Continue



The RAID webpage will be displayed. Click on the Administrative Tools located on the left side menu. A list of Administrative Tools should appear as shown to the right. Select Shutdown at the bottom of the list.



The Shutdown webpage will appear as to the right. Select Shutdown from the Option list and click Submit. Another Pop-Up will ask you to confirm the shutdown.



There is no confirmation that the RAID has properly shutdown. Wait ~2 minutes before physically powering down the RAID by toggling the two power supplied on the rear of the chassis.

## 4.5 FourStar Shutdown Checklist

### SHUTDOWN: ON THE PLATFORM

- Rack 2: Turn off Ion Pump (Vacion pump).
- Rack 2: Turn off LN2 Process Controller.
- Rack 2: Turn off 2 Windows PC's (hold down square gray button for 2 seconds).
- Rack 1: Turn off Motor Controller.
- Rack 1: Turn off 2 Windows PC's (hold down square gray button for 2 seconds).
- Rack 1: Turn off 2 JADE power supplies (2 toggle switches in DIN slot above the PC's).
- Turn off the Nasmyth Mac located on the FourStar Cart (it should normally be off).
- Unplug the Fiber to Ethernet Converter in the Junction Box (it should normally be unplugged).

### OPTIONAL: ON THE PLATFORM, ONLY IN THE EVENT OF A SERIOUS THREAT

- Rack 1: Turn off Rack 1. The power switch is located on the side under a red switch guard.
- Rack 2: Turn off Rack 2. The power switch is located on the side under a red switch guard.

### SHUTDOWN: IN THE EQUIPMENT ROOM

- Access the Control-Room-Mac by pressing "1" on the KVM switch.
- Close the FourStar software and shut down the Computer.
- Access Data-Red-1 by pressing "2" on the KVM switch.
- Power down the RAID chassis as described in the previous pages.
- Shut Down the three Data-Red computers by accessing them via 2-3-4 on the KVM switch.
- Power down the Brocade Fibre Channel Switch (under the keyboard).
- Power down the KVM switch and CISCO firewall.
- Unplug the Rack.

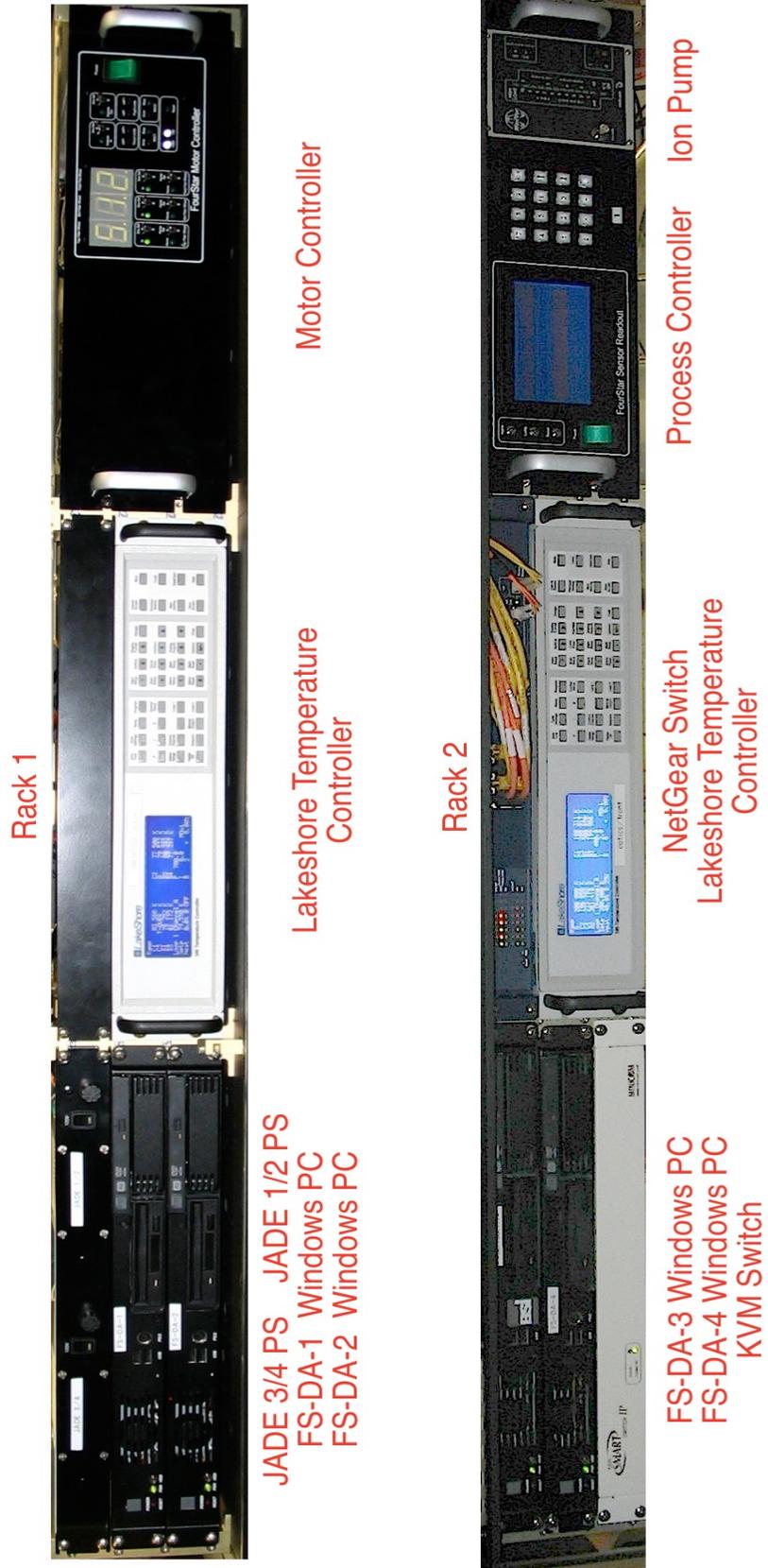


Figure 4.1 The FourStar Electronics Racks.