# Ranger

# Firmware and Software Upgrade Procedure

## About This Upgrade Procedure

This guide provides step-by-step instructions for performing a full System CMP BIOS Installation, Scrape Disc Upgrade Instructions, and Signal WorkShop (SWS) Software Update Procedure.

**NOTICE TO THE USER:**

This is a three-part document. Please note that any of the individual software or firmware update/upgrades can be run as a standalone process. However, for the instance where the user desires to update everything (i.e., BIOS, OS, and the SWS application), this document is intended to convey the most time-efficient method to install all of them and provides the highest probability of success. The user should feel free to only employ that or those portions of the document that apply.

> **CAUTION**
>
> For a complete firmware and software upgrade, and to minimize the amount of time required to perform this Firmware and Software Upgrade Procedure, the user is encouraged to follow the order as it is presented in this guide. This order of procedures provides optimal probability of success.
>
> (However, if any of the individual portions have already been updated, the user should feel free to skip those and move on to the parts that apply to his/her case.)
>
> 1. CMP BIOS Installation
> 2. Scrape Disc Upgrade Instructions
> 3. Signal WorkShop Software Update Procedure

## Contact Information

Contact the Technical Assistance Center (TAC) for technical support or with any questions regarding this or other VIAVI products.

• Phone: 1-844-GO-VIAVI
• Email: Techsupport.Avcomm@viavisolutions.com
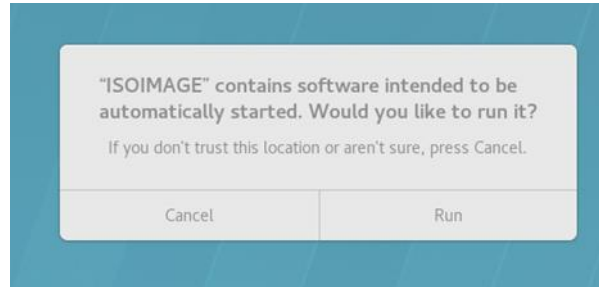
For the latest TAC information, go to:
https://www.viavisolutions.com/en-us/support/technical-product-support/technical-assistance

**Ranger Firmware and Software Upgrade Procedure**
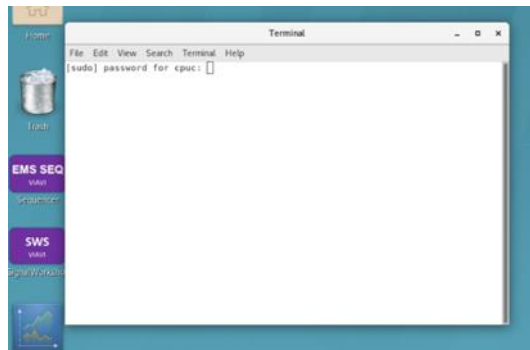
# CMP BIOS Installation

### *Step 1:*

Plug USB CD/DVD drive into a CPUC USB port and insert the BIOS Upgrade CD into the drive. The program will AutoStart, and you will see the following permission request.
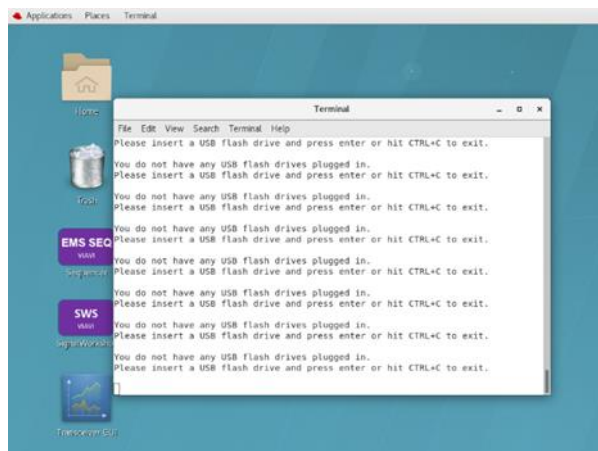


### *Step 2:*

This will open the following terminal window and requires a password. The password is "cpuc".



### *Step 3:*

Once the password is entered, a dialogue window will open requesting that you insert a USB device.
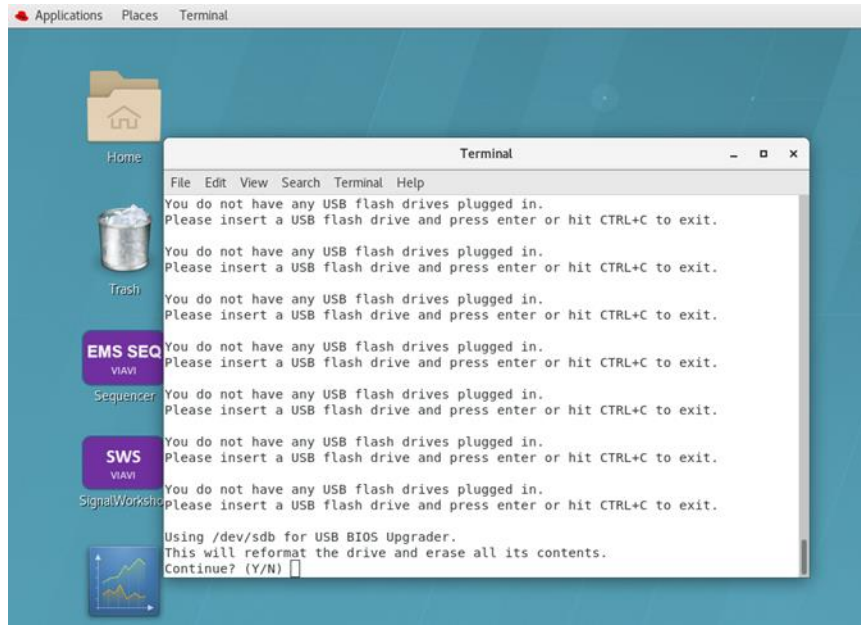
# Ranger Firmware and Software Upgrade Procedure

Once a USB device is inserted, the request for a USB drive will terminate in a WARNING stating the upgrade tool is about to format the USB drive.
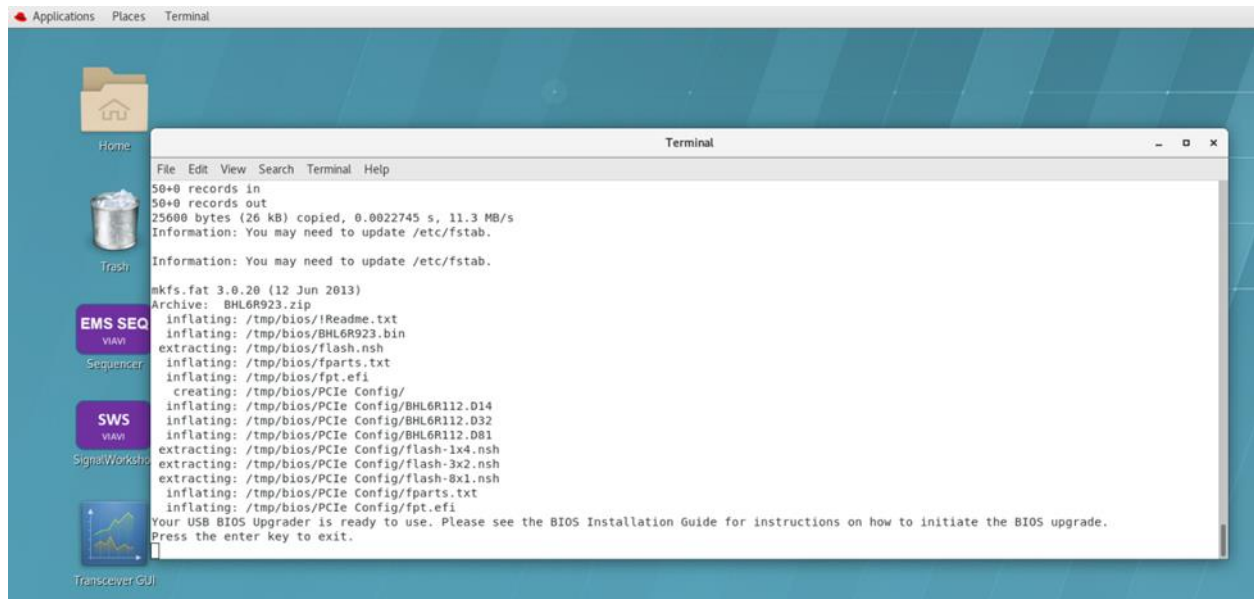
> **NOTICE:**
> TO PREVENT A LOSS OF ALL DATA ON THE USB DRIVE, select answer "n" for no and try again with another suitable USB drive. To move on and complete the USB upgrade, answer "y".
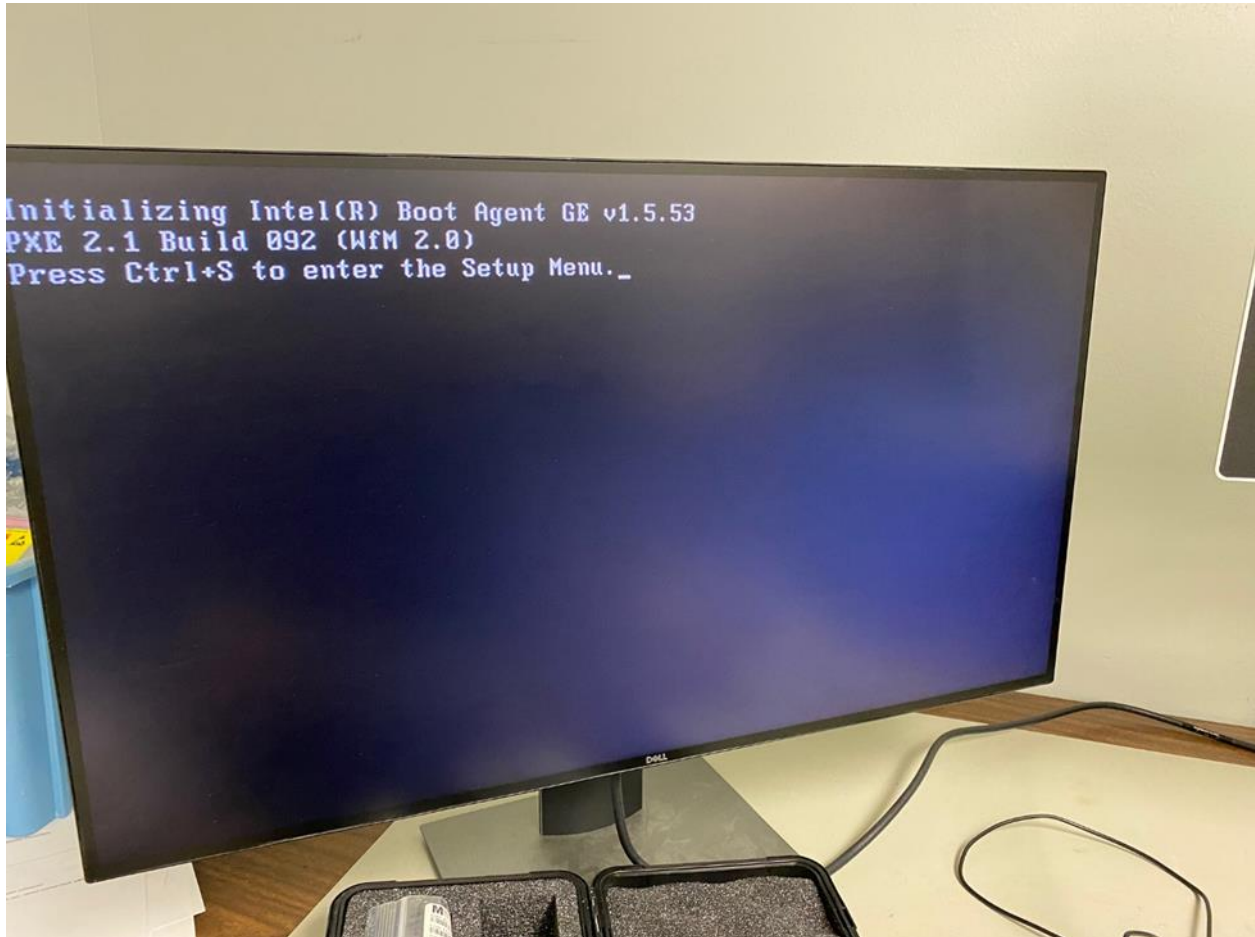


*Step 4:*

Once the program formats the USB drive (as FAT32) and installs the BIOS update on the USB drive, you will see the following confirmation that the USB drive was successfully formatted and programmed.

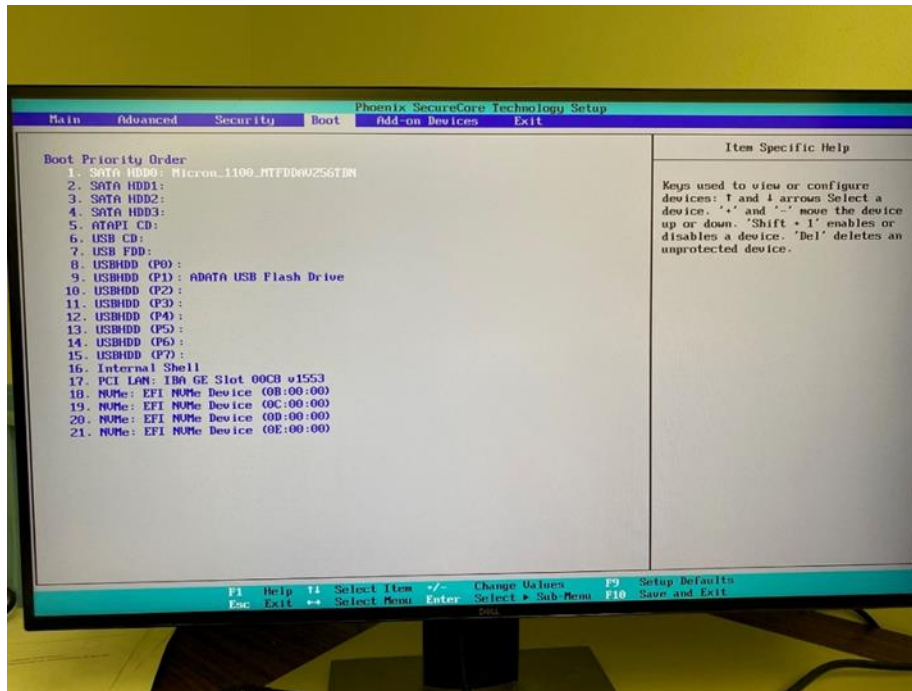# Ranger Firmware and Software Upgrade Procedure

***Step 5:***

At this point press any key to close the terminal window, eject the BIOS Upgrade CD, and reboot the unit. As you reboot, start tapping F2 to get the system BIOS to come up (CTRL + S does not always work). Alternatively, if you are using a wired mouse, turn the mouse upside down and start tapping F2 when the LED lights up.
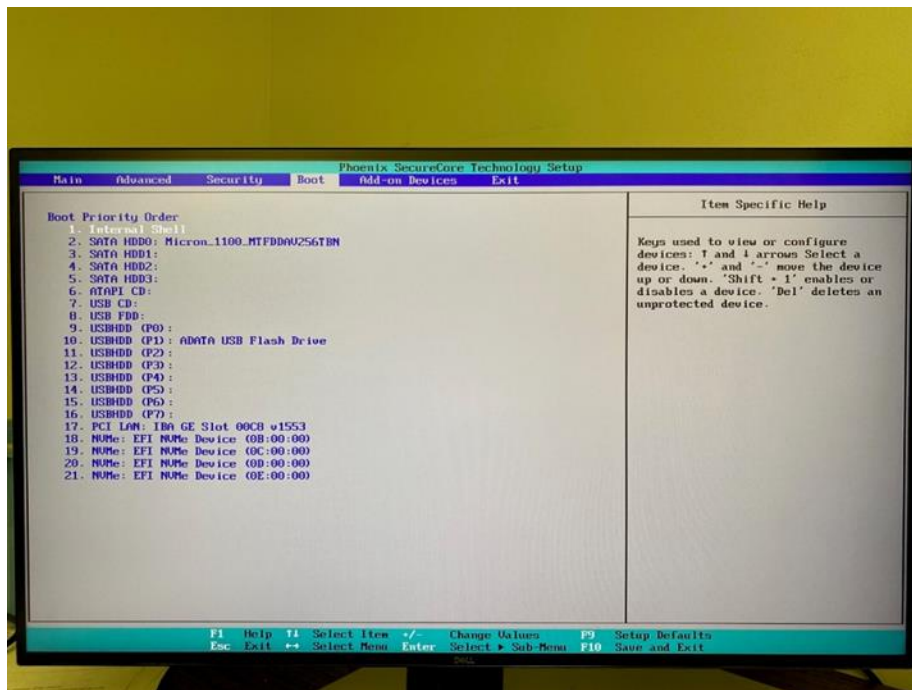


***Step 6:***

If you are selecting F2 when the above screen appears, the BIOS will open, and you will need to cursor over to "Boot".
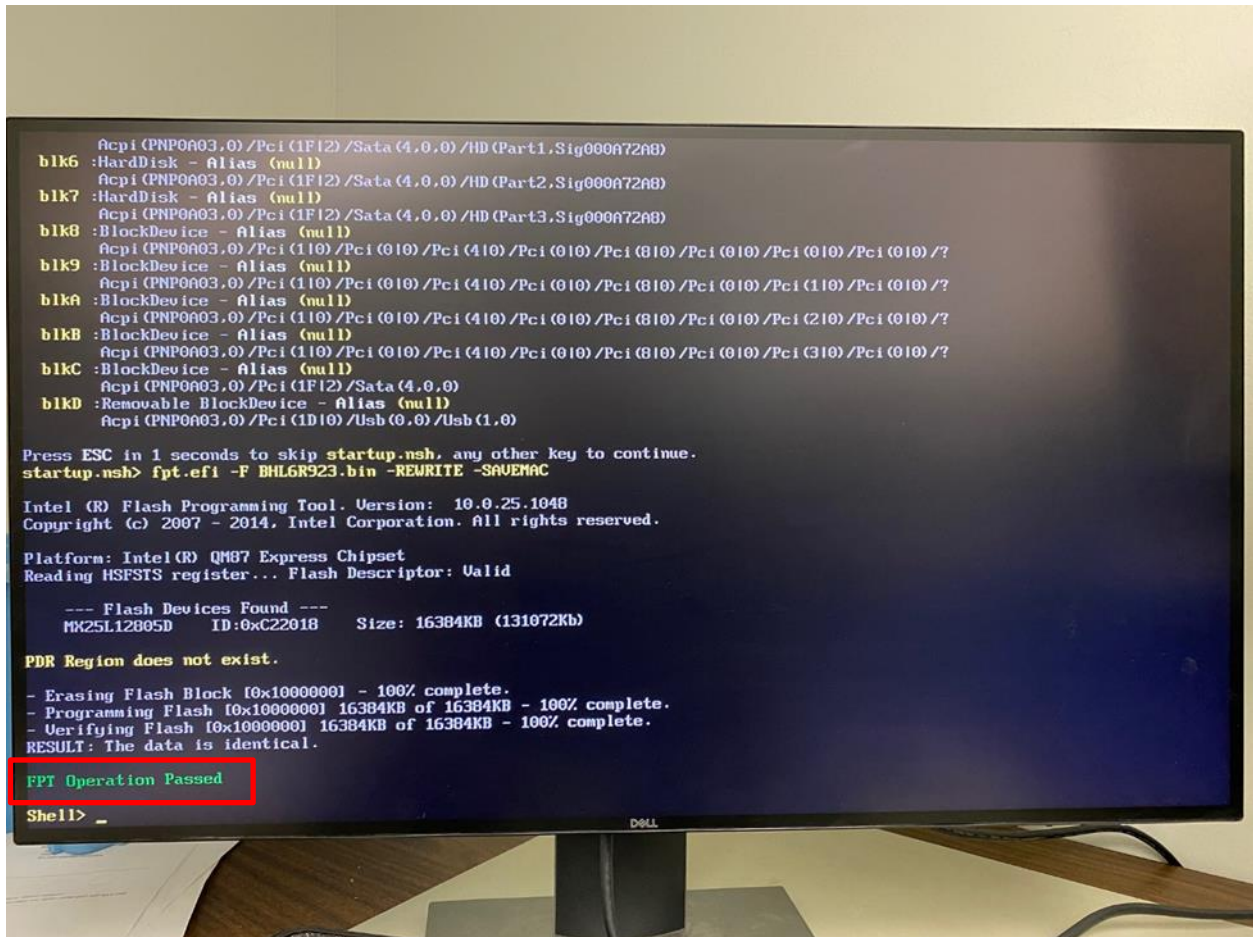
# Ranger Firmware and Software Upgrade Procedure



Using "+", move "Internal (EFI) Shell" to the top of the boot order, as pictured below.



*Step 7:*

Once you have the Internal (EFI) Shell at the top of the boot order and have a properly formatted USB drive in a front panel USB port, press F10 to save and exit. This will reboot the unit. When the unit reboots with the properly formatted USB drive in the front panel, it will install the BIOS on the CMP. When it finishes, you will see the message "FPT Operation Passed".

# Ranger Firmware and Software Upgrade Procedure



## Step 8:

At this point you can reboot the unit; the new BIOS is installed. You do not need to worry about resetting the boot order; it will automatically reset itself. You may either leave the USB drive in or remove it. Either way, it will boot to the Linux Red Hat Desktop.

**Ranger Firmware and Software Upgrade Procedure**

## Scrape Disc Upgrade Instructions *RHEL 7.9*

### *Step 1:*

Prior to attempting to scrape your unit's OS, save off /opt/SignalWorkshop and /opt/Sequencer folders to preserve their licenses (which will be necessary for Signal WorkShop and EMS Sequencer to open, once they are reinstalled), as well as preserving your settings for each of these applications.

### *Step 2:*

Boot up and immediately start tapping F2. (Do not hold down F2 because the system will think the key is stuck and ignore it.) This may take a minute or more, so keep tapping F2. Alternatively, if you are using a wired mouse, turn the mouse upside down and start tapping F2 when the LED lights up.

### *Step 3:*

Connect a USB CD/DVD with the RHEL 7.9 scrape disc installed. Be sure to use a Y adapter cable (shown), so that the USB CD/DVD has plenty of current for spinning up its motor.
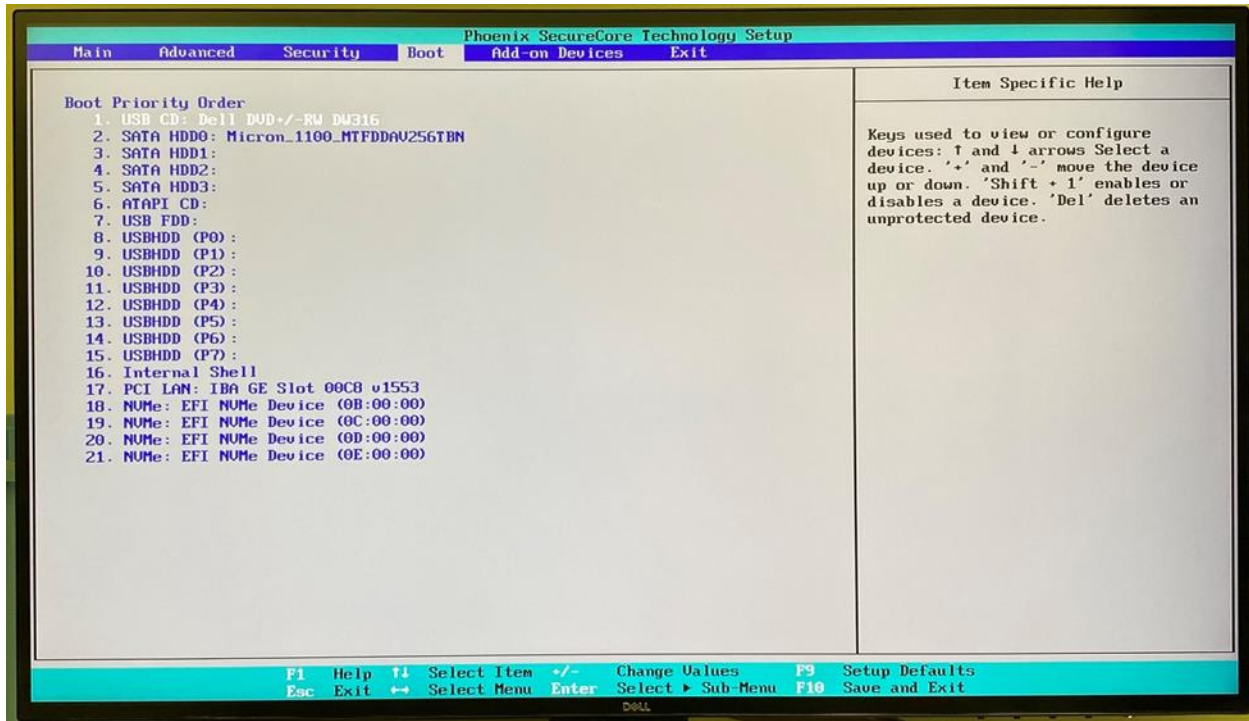


**NOTICE:**
If the USB CD/DVD current starves while spinning up the drive, it can fail, but gives the user no warning. Therefore, a Y adapter cable is highly recommended.

# Ranger Firmware and Software Upgrade Procedure

### Step 4:

Using the "right" cursor, move to the "Boot" tab and cursor down to the USB CD. Using the "+" key, move the USB CD selection to the top of the boot order as shown below:
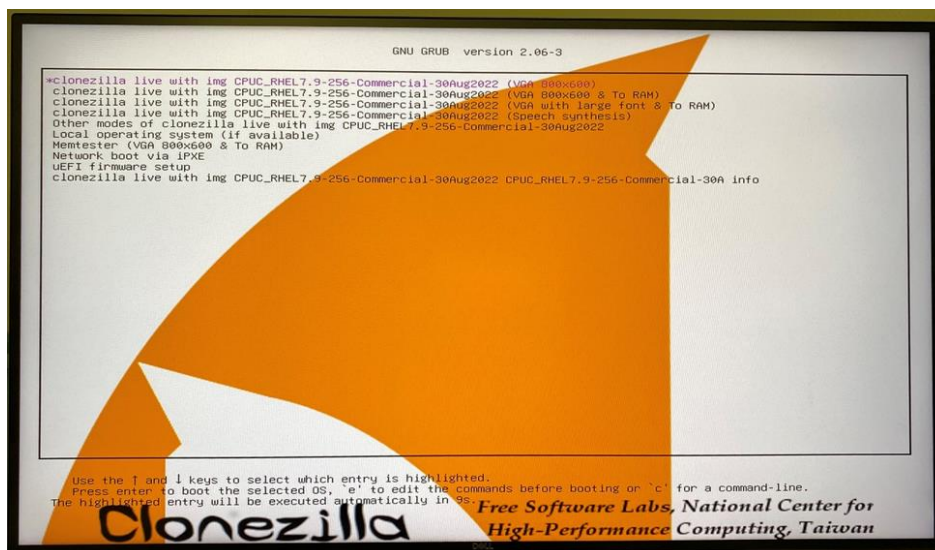


### Step 5:

Press F10 to save and exit.

### Step 6:

Once it saves and exits, the system will boot to this orange CloneZilla screen:
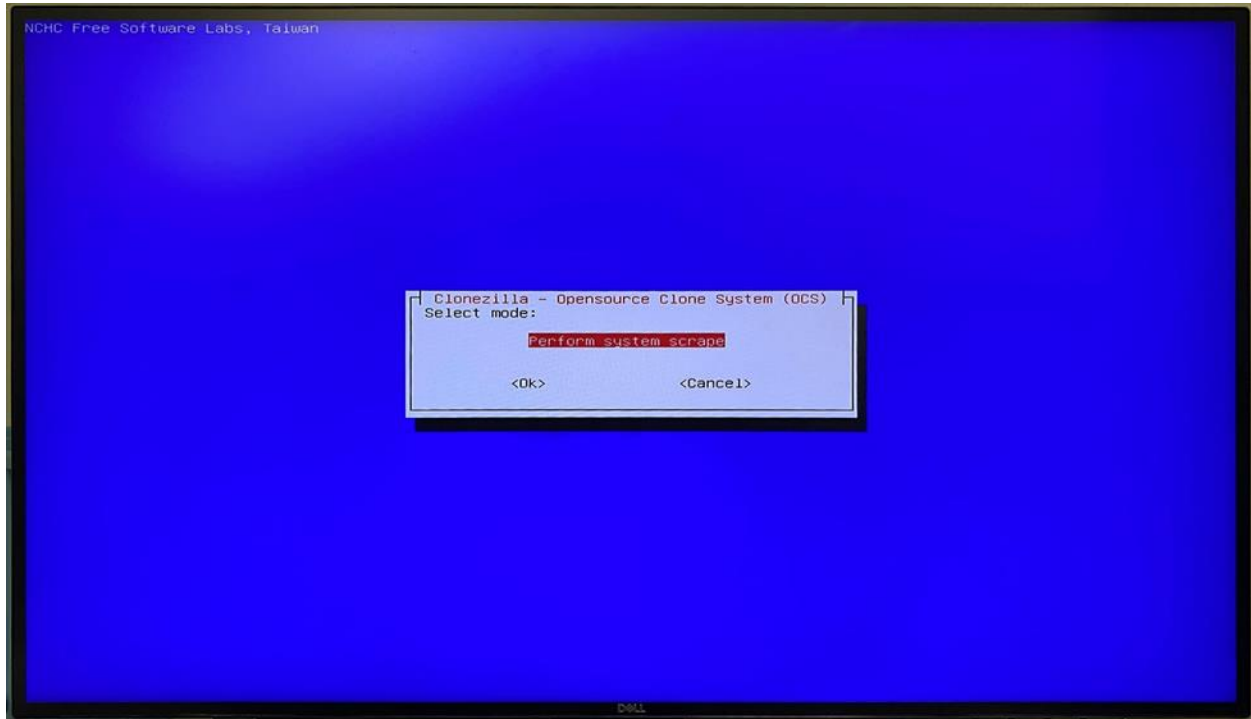
# Ranger Firmware and Software Upgrade Procedure

**Step 7:**

Either just wait and it will execute or, to speed it up, press return, and it will use the defaults to start preparation to scrape.

**Step 8:**

After running some code, it will ask for confirmation that you want to scrape the Ranger system by showing the following screen:



**Step 9:**

Select OK. This will typically take 20 minutes to finish a scrape.

**Step 10:**

Select the option to go to a command prompt *and* eject the DVD*.*

**Step 11:**

Unplug the CD/DVD *player,* shut down *the system,* and then reboot the system.

**Step 12:**

At this point, you will need to reinstall Signal WorkShop and then reinstall any missing licenses and/or customized user settings. The SWS license "LicensedFeatures.script" will have to be restored to /opt/SignalWorkshop/config if it has not been preserved.  Also, if you have purchased EMS Sequencer, its license will have to be restored to "/opt/Sequencer/bin", if it has not been retained after the scrape.  SWS settings folder will have to be restored, if desired, and the same will be true for EMS Sequencer.

# Signal WorkShop (SWS) Software Update Procedure

> **NOTICE**
>
> PLEASE HAVE A PRINTED VERSION OF THESE SWS UPDATE INSTRUCTIONS WHILE ATTEMPTING TO UPDATE THE SYSTEM. IN CERTAIN CIRCUM-STANCES, THE SYSTEM MAY HAVE TO BE REBOOTED SEVERAL TIMES, AND WILL NOT BE ABLE TO PROVIDE FURTHER GUIDANCE UNTIL AFTER IT HAS BEEN SUCCESSFULLY UPDATED.

**PROCEDURAL NOTE:**

For purposes of this software update procedure, the user is not to use the front panel power button to power the unit down. Rather, the user is instructed to remove the A/C Power Mains from the rear panel of the unit (or use a power strip, so you can switch off A/C power) and wait for the chassis power to discharge until the power button goes dark. Then, the user will restore A/C power to the unit and wait for the button to finish flashing and go solid yellow before pressing the button to power the unit back on.

***Step 1:***

> **CAUTION:** It is highly recommended that the user check to see that all the modules show up in the chassis web UI and that the IP addresses for each module appears normal to make ensure the unit has not inadvertently booted in a bad state, before proceeding with a Signal WorkShop software upgrade.

First open a web browser on the unit and type in "localhost" for a web address. This will bring up the CPUC (mA-3011) web page (see Fig. 1). Copy the Chassis IP address, open a second tab, and paste that address into the second browser window (see Fig. 2) to view the chassis web page.
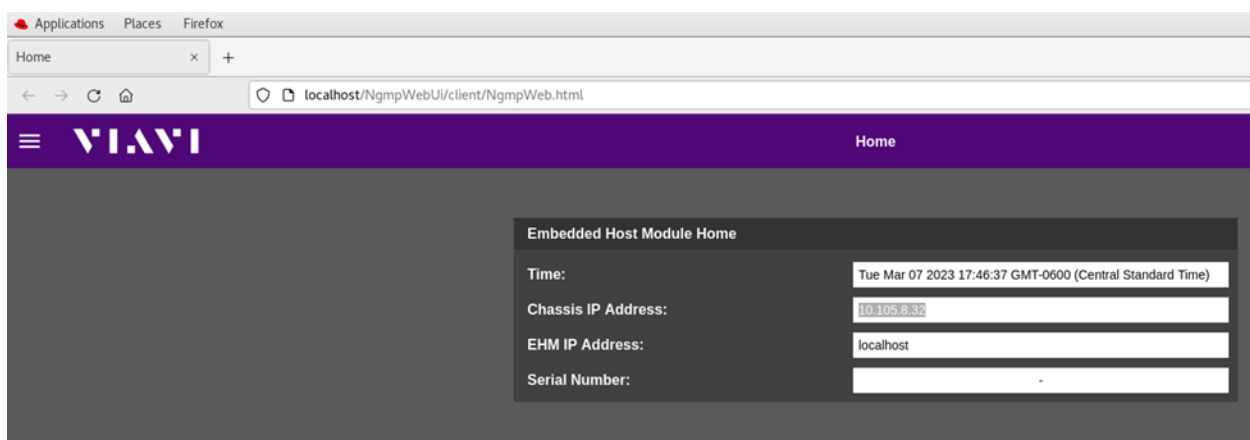


Figure 1

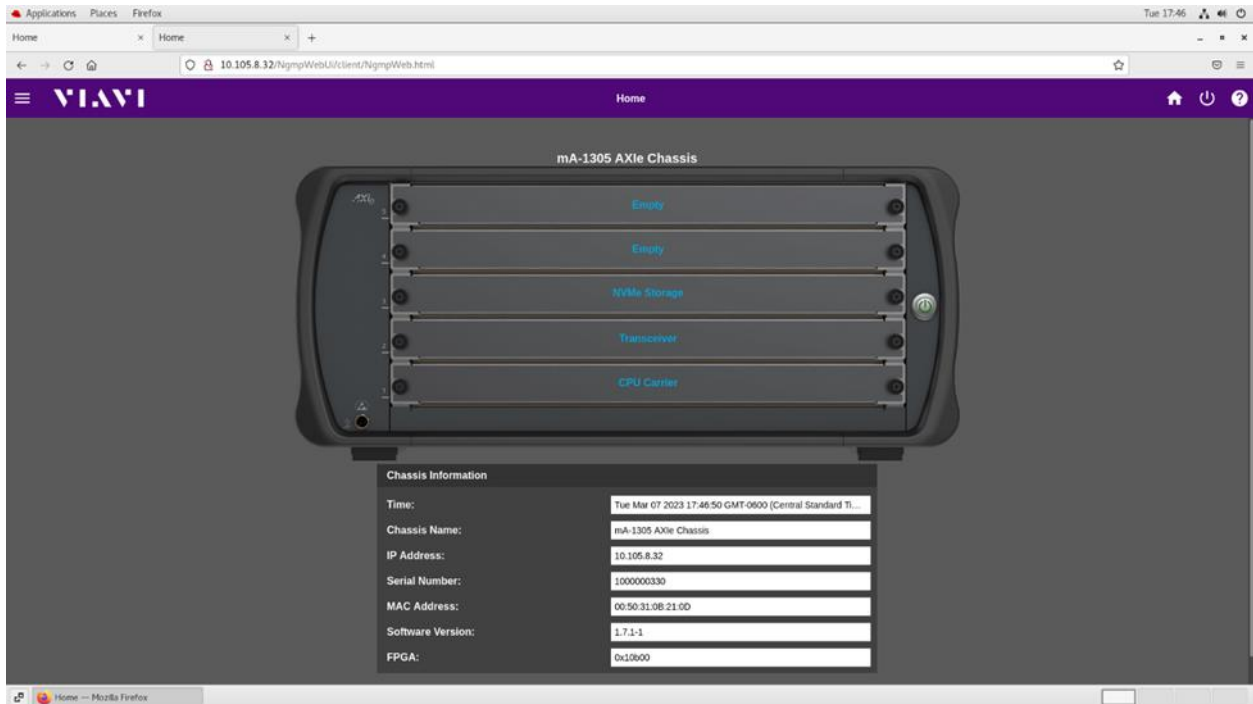# Ranger Firmware and Software Upgrade Procedure



Figure 2

You should see all the modules properly registered in the chassis, just as they are in the unit. If not, contact customer service for assistance. Now press the three-line icon on the top left (Fig. 3)
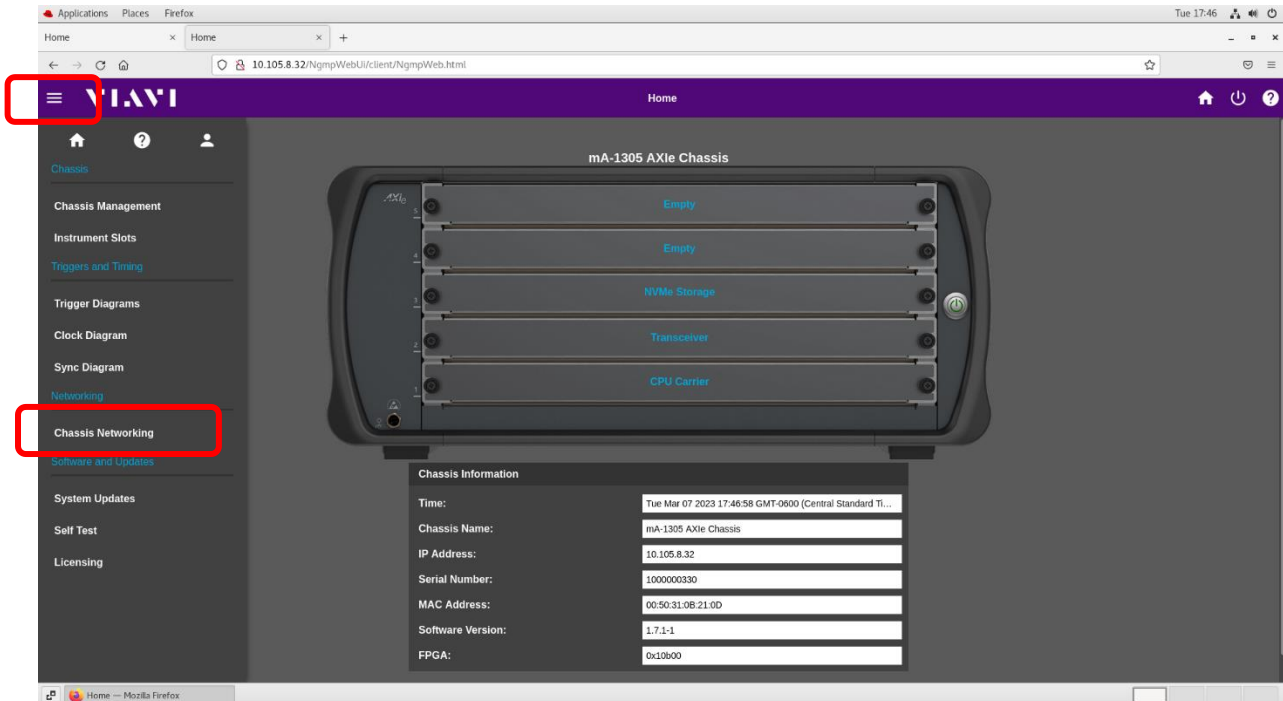


Figure 3

# Ranger Firmware and Software Upgrade Procedure

At this point, you will select Chassis Networking from the drop-down menu, which will show the chassis networking page (Fig. 4). Check to make sure all installed modules appear in the list and are in white, not grey (indicating the chassis sees it but the module is not available). Specifically, the chassis will appear at the top. Inside the box below are all installed modules. BHL6 is the internal name for the CPUC (mA-3011), which may be a dual (slot 1, 1 and slot 1, 2). All installed VST's should also appear in the list. If not, please contact customer service for assistance.
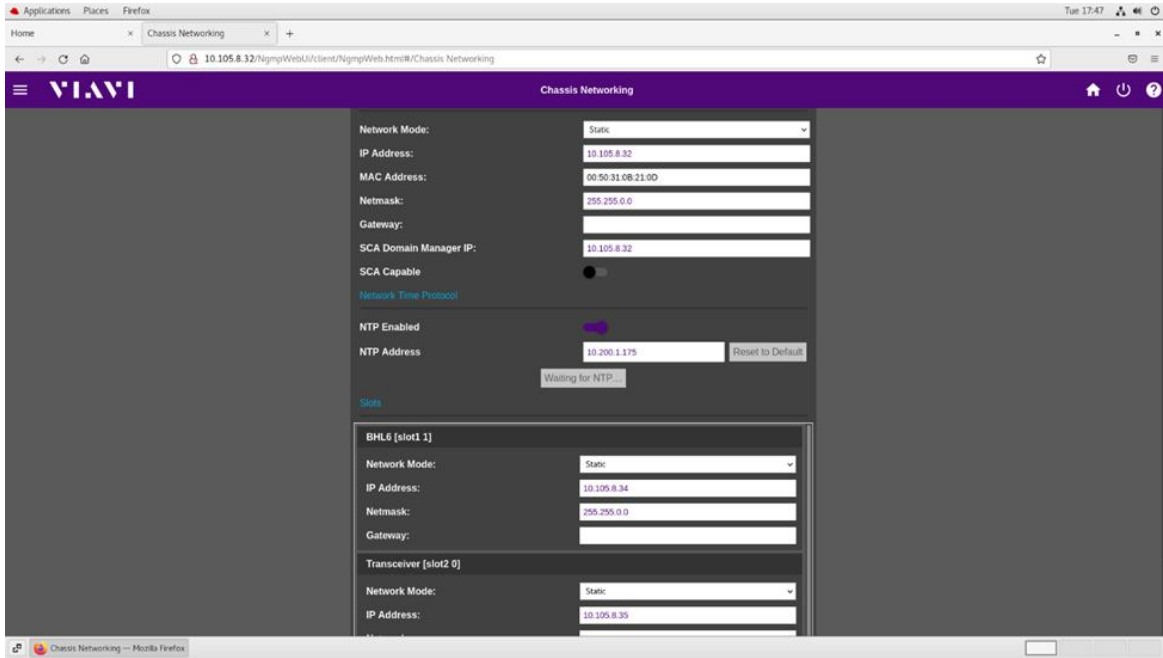


Figure 4

***Step 2:***

Connect the USB CD/DVD drive to the Ranger CPUC to be updated (using any front panel USB port). It is highly recommended to use a USB CD/DVD drive with a Y cable to increase the supply current available to the external CD/DVD, along with the Signal WorkShop (SWS) software update DVD. Insert the SWS update DVD.

***Step 3:***

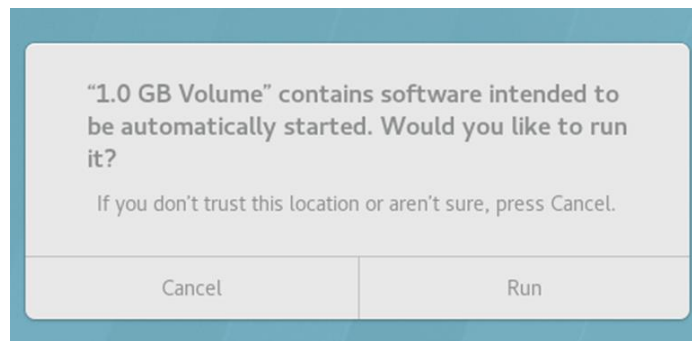When Ranger reads the device, it will give you a prompt like the following in Fig. 5:



Figure 5

# Ranger Firmware and Software Upgrade Procedure

***Step 4:***

After selecting "Run", you will get something like the follow screen in Fig. 6:
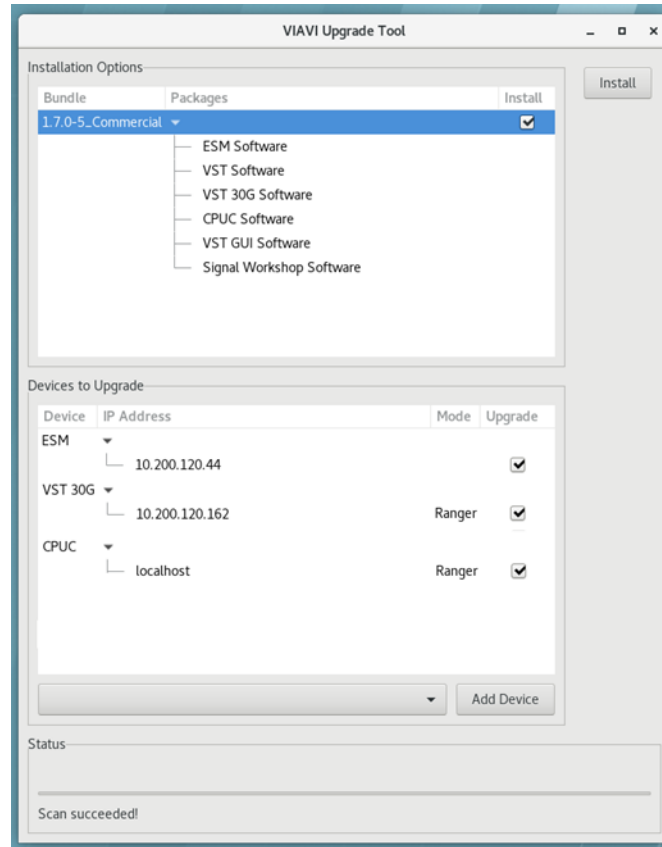


Figure 6

At this screen, make sure all devices (i.e., ESM (the chassis), all VSTs, and all CPUCs) are selected, then click "Install". The installation process will take roughly 20 minutes.

***Step 5:***

When Upgrade Tool is finished with the update, one of two messages will appear: either, (a) you will be instructed to simply reboot the system and begin using the system (in which case it did not find any firmware needing to be updated) or (b) you will receive the following urgent warning in Fig. 7, indicating that the Update Tool found certain firmware that needs to be updated:

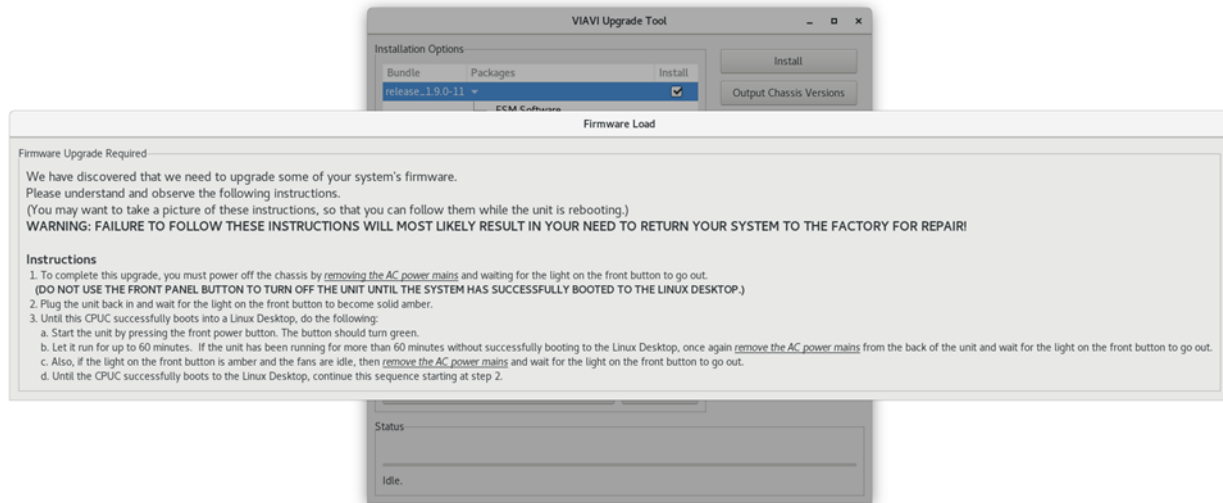# Ranger Firmware and Software Upgrade Procedure



Figure 7

It is very important that you follow these instructions to remove the A/C Power Mains from the back of the chassis to power the unit off. This may seem unusual but, until the unit boots into the Linux desktop, it is very important that you DO NOT USE THE POWER BUTTON, but rather REMOVE THE A/C POWER and wait for the light on the front button to go out. This may also require multiple reboots. Failure to follow these instructions may result in the need to return the system to the factory for repair.

### Step 6:

Once you have removed the power cord from the back of the unit (or switched off the power to the unit) and the power button light has turned off, restore power to the unit and wait for the power button light on the front of the unit to turn from flashing yellow to solid yellow.

### Step 7:

Restart the unit by pressing the front panel power button, which will turn green

### Step 8:

Again, until this CPUC boots into a Linux Desktop, do the following:

### Step 8a:

Let the unit run for up to 1 hour.

### Step 8b:

If the unit has been running for more than 1 hour but the Linux desktop has not come up, (without turning the system off) remove AC mains power again and wait for the light on the front button to go out.

### Step 8c:

Also, if the unit turns itself off and light on the front button is yellow and the fans are idle, then remove AC mains power and wait for the light on the front button to go out. Then restore AC mains power, wait for a solid yellow light, and power on again.

# Ranger Firmware and Software Upgrade Procedure

***Step 8d:***

Until the CPUC boots successfully into the Linux Desktop, continue to return to step 6 and retry until you get the unit to boot to the Linux Desktop. This may require several attempts to restart the unit in this manner.

***Step 8e:***

Once the unit boots into the Linux Desktop, the unit is successfully updated.