Gravitymaster's SimpleMining OS FAQ

Note: I do not work for SMOS this is all IMO

Also Donation or Mine to, of you do please PM me in rocket chat so I can give you credit:

ETH	0x6d0260E509F9DBd745e45E5F4F892cE3871CA21a	**BTC**	3P2kRnEg2vMVFPgnwHqgm2iNEEQBsemNED
ETC	0x8527771ACd876A1b36f344FDCf118B25d62fF8B6	**ZEC**	t1PiNxvLsmTDy6WjVrjuDAqRDfuFrGYr3Fw
	Miningpoolhub gravitymaster.donate		**Suprnova.cc** gravitymaster.donate

Join merit.me and start mining with my invite code!
https://wallet.merit.me/?invite=gravitymaster
Invites are limited first come first serve, I only get 1 a day (Maybe)!

This is just a very cool way to track all your crypto made for miners!
https://mycryptostats.com/?ref=1f00c132

First donations from tricio454, tytanick, John2017 (Much thanks!!)!!

How to's

How to Install Merit.me Miner and miner the coin

- First sign up for the wallet using my invite code https://wallet.merit.me/?invite=gravitymaster and enter an choose your username (alias)
  - Make sure to write down the seed code!!
  - Invites are limited I only have a few at a time will add first come first serve
- Download and install the native wallets from the website (Windows or Linux), do not use the web wallet to keep the coins safe!
  - Enter the seed code from above to enter the wallet
  - Click on Receive Merit to get your address for the miner
- First prep the SMOS system, ssh into the system, click on the shell icon under actions in the SMOS web GUI to open a ssh session :

```
sudo dpkg-reconfigure locales
export LC_ALL="en_US"
export LANG="en_US"
export LANGUAGE="en_NZ"
export C_CTYPE="en_US"
export LC_NUMERIC=
export LC_TIME=en"en_US"

sudo apt-get update
sudo apt-get -y install software-properties-common python-software-properties
sudo add-apt-repository -y ppa:ubuntu-toolchain-r/test
sudo apt-get -y update
sudo apt-get -y upgrade libstdc++6
sudo reboot
```

- Download the precompiled miner from my github:

```
wget https://github.com/tonymorella/linux/raw/master/merit-minerd
```

- Next pick an an old miner from SMOS for example ethminer-v0.14.0 and restart the miner, SMOS will download and create a new directory under /root/miner_org
- Next copy the merit-minerd over the old miner

```
sudo cp ./merit-minerd /root/miner_org/ethminer-v0.14.0/ethminer
```

- Next configure a new rig group, will need to create a new group for each rig that has a different number of cards for example:

```
--address=MQp6qUpHpPdpXCQb3YndaXoJb83R4xWpsc --url=stratum+tcp://pool.merit.me:3333 --cores 0 --gpu=0 1 2 3 4 5
--address=MQp6qUpHpPdpXCQb3YndaXoJb83R4xWpsc --url=stratum+tcp://pool.merit.me:3333 --cores 0 --gpu=0 1 2 3 4 5 6
must be related to the P2 power state, the GTX1050Ti is in P0, but the GTX1070 is in P2 :-( no way to force that with
nvidia-smi :-(--address=MQp6qUpHpPdpXCQb3YndaXoJb83R4xWpsc --url=stratum+tcp://pool.merit.me:3333 --cores 0 --gpu=0 1 2 3 4 5
6 7
--address=MQp6qUpHpPdpXCQb3YndaXoJb83R4xWpsc --url=stratum+tcp://pool.merit.me:3333 --cores 0 --gpu=0 1 2 3 4 5 6 7 8
```

- As this point you should be mining
  - Few notes:
    - This will have a high CPU rate 100%, its expected would run on an I5 but I am running 6 cards on and Celeron with not problems
    - Works best with 1070, 1070 TI, 1080 or 1080 TI (Nvidia Only!)
    - Start with 0/0 overclock at 70% power levels and up the core to see if it makes a difference
      - Keep and eye on the graphs/s number it will give you an idea how you are doing, it increases slow over time give it 15 min to top out.

- graphs: 187804 cycles: 4510 shares: 204 graphs/s: 72.0652 cycles/s: 1.73062 shares/s: 0.0782809

- **Read the white and blue paper at the website www.merit.me to understand the game theory that is at play, I really like it :) Also please use my invite code, the more I get setup the more invites I can get for the group. Only get 1 or 2 a day so it's not easy to get into this which makes it even more fun :P**
- http://blockstats.merit.me/calculator
    - Find the cycles/s in the miner readout and you can find out how much merit per day you can make

Script to show details via SSH:

- `sudo apt-get install bc -y && sudo wget -O /root/utils/amdgpu-status.sh https://raw.githubusercontent.com/tonymorella/linux/master/amdgpu-status.sh && sudo chmod +x /root/utils/amdgpu-status.sh`

```
miner@simpleminer:~$ sudo amdgpu-status.sh
        GPU0:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 152.135W    Voltage: 1209.51mV        Temp: 71C    Fanspeed: 55%
        GPU1:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 123.198W    Voltage: 1145.51mV        Temp: 69C    Fanspeed: 60%
        GPU2:    CoreClk: 1225 MHz   MemClk: 2050 MHz   Power: 140.183W    Voltage: 1190.204mV        Temp: 62C    Fanspeed: 47%
        GPU3:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 124.98W    Voltage: 1126.204mV        Temp: 70C    Fanspeed: 61%
        GPU4:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 129.142W    Voltage: 1152.0mV        Temp: 71C    Fanspeed: 48%
        GPU5:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 131.212W    Voltage: 1164.153mV        Temp: 71C    Fanspeed: 47%
        GPU6:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 138.16W    Voltage: 1158.204mV        Temp: 70C    Fanspeed: 80%
        GPU7:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 138.211W    Voltage: 1158.204mV        Temp: 69C    Fanspeed: 47%
        GPU8:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 132.17W    Voltage: 1152.0mV        Temp: 71C    Fanspeed: 61%
        GPU9:    CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 128.42W    Voltage: 1139.102mV        Temp: 70C    Fanspeed: 60%
        GPU10:   CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 139.34W    Voltage: 1177.51mV        Temp: 71C    Fanspeed: 60%
        GPU11:   CoreClk: 1179 MHz   MemClk: 2050 MHz   Power: 144.38W    Voltage: 1209.51mV        Temp: 70C    Fanspeed: 60%

        Current hashrate: 346.404 MH/s
        Current AMD Total Powerdraw: 2235.531W
        Efficiency of Claymore Dual ETH Miner: 0.15 MH per WATT

        Showing total of 12 GPU information
        Of which 12 are AMD and 0 are NVIDIA

        Rig Kernel: 4.16.0-rc6-smos+,    Rig Uptime: up 1 day, 9 hours, 26 minutes,      IP:  10.220.11.26
```

How to set a static IP in SMOS?

- Edit /etc/network/interfaces

```
# The primary network interface
auto eth0
iface eth0 inet static
    address 10.0.0.41
    netmask 255.255.255.0
    network 10.0.0.0
    broadcast 10.0.0.255
    gateway 10.0.0.1
```

How to restart all jobs and miner on a timer:

- Edit crontab and add restart line at the end:
    - `nano /etc/crontab`
    - `*/30 * * * * root bash /root/utils/rclocal.sh`

Get watt info for AMD cards

```
for i in {0..8}; do sudo cat /sys/kernel/debug/dri/$i/amdgpu_pm_info |grep "GPU Voltage"; done
```

Setting up the remote access id *very* easy. (provided by mirelle)

- Press Ctrl+Alt+F3 (it will open new terminal window)
- login with username/password "miner" (you will not see the password because of security reasons, just type it and press Enter)
- run this: `curl https://www.teleconsole.com/get.sh | sh`
- and this: `teleconsole`
- It will give you Connection ID. You can use it for yourself or send to anyone.
- More info here https://www.teleconsole.com/

Where are logs for miners?

- /var/tmp/miner/<miner name>

Enable system logs on a miner (provided by mirelle)

Login via putty to the rig

```
user: miner
password. miner
get root access:
sudo su -
```

Enable at bootup system log and start system log

```
systemctl enable rsyslog && systemctl start rsyslog
```

You can check system log status with:

```
systemctl status rsyslog
```

should get some output if running like:

```
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2018-01-30 11:11:01 CET; 2h 37min ago
```

All system logs are stored in:

```
/var/log
```

Real time log watch:

```
tail -f -n 100 NAME_LOG_FILE
escape CTRL+C
```

Watch log file:
`less NAME_LOG_FILE`
u can go up and down by ARROW UP DOWN or PAGE UP DOWN
escape with q
Last boot message u can check with:
`dmsg`
and scroll up
if u wanna search a string in boot log
`dmsg | grep SEARCH_STRING`

See Public IP within SSH Terminal (provided by mirelle)
`press in SSH Terminal CTRL+ALT+F3 and type following code:  `curl ipinfo.io/ip`

Install AMDMEMINFO
```
wget http://54.67.59.249/amdmeminfo.tar.gz && tar xvfz amdmeminfo.tar.gz && sudo mv amdmeminfo
/usr/local/bin
`sudo amdmeminfo
```

How to auto sell mined coins for BTC or other coins.

- https://bittrex.com/Lab/AutoSell
    - Standard trade fees apply
- https://miningpoolhub.com/
    - Click on “Auto Exchange” select the coin you want to exchange to and which coins you want to exchange from
    - .2% fee for service

How to write image under Linux

- `unzip -p /home/clintar/Download/simpleminer-R-v1118.img.zip |dd of=/dev/sdh bs=1M`

Show GPU to PCIe slot info

- `cat /var/log/Xorg.0.log | grep "NVIDIA" | grep GPU`

How to open more console locally?

- Ctrl + Alt + F3 or Ctrl +Alt + F2

How to login via SSH?

- Download PuTTY from http://putty.org Install, run
- Go to simplemining.net to find out your IP address
- Open putty, enter IP like this and click Open
- Press Accept
- Default username and password: miner
- Can gain root by typing “sudo -i”

How do I gain root access via SSH?

- After login type `sudo -i`

How do I see the running miner via SSH?

- Login via ssh (user: miner / password: miner) (do not sudo -i)
- screen -x miner

How to change email address via SSH?

- nano /mnt/user/config.txt

How do I flash to a SSD using etcher.io?

- Click on gear in top right and then click unsafe mode

How do I overclock each GPU at different values as well as power?

- You can set them to different values using a comma between each each setting for example:
    - Memory 1000,1100,1000,800,900,900
    - Core 100,90,90,90,100,100
    - Power 80,100,80,100,80,100

How do I add a new miner to SMOS?

- Request anything like this in the #SUPPORT channel do not spam th #GENERAL Channel
- SMOS is running linux, you can compile and install new miners any time you want.
    - Also can integrate into the SMOS GUI by replacing old miners under /root/miners_org/

How to change voltage on AMD cards, this is not a persistent command

- `for (( i = 0; i < $num; i++ )); do`
- `sudo /root/utils/wolfamdctrl -i $i --volt-state 0 --vddc-table-set 975`
- `done`

How do I see the Motherboard details

- `sudo dmidecode -t 2`

How to see details about cards?

- lspci -nnk | grep -i VGA -A2

- lspci -nnkq | grep -i VGA -A2 #slow does PCI lookup of unknown devices via external DB
- lspci | grep 3D
- nvidia-smi -L
- AMD Memory Details and Manufacture
    - ```
      wget https://www.dropbox.com/s/e9bnlia1lyymxkk/amdmeminfo.tar.gz
      tar -zxvf amdmeminfo.tar.gz
      sudo cp amdmeminfo /usr/local/bin/
      sudo amdmeminfo
      ```

How can I update the bios on the cards without using Windows on the same system?

- Get a list of the cards
    - `sudo /root/utils/atiflash -ai`
- Save existing bios from card
    - `sudo /root/utils/atiflash -s <card number> <rom file name>`
- Use winscp to download the files to local Windows Computer
- Edit bios with SRBPolaris V3 - BIOS editor
- Use winscp to upload to bios to rigs
- Write Bios back to cards
    - `sudo /root/utils/atiflash -p <card number> <rom file name>`
- Option if all cards are the same write all of them at once:
    - `sudo /root/utils/atiflash -pa <rom file name>`

Error and Issues

Fix /usr/bin/xauth: timeout in locking authority file /home/miner/.Xauthority (slow logins also)

```
cd /home/miner
sudo mv .Xauthority .Xauthority.old
sudo touch .Xauthority
sudo chown miner:miner .Xauthority
sudo chmod +x .Xauthority

And set
```

- `X11Forwarding no in /etc/ssh/sshd_config`

Fix missing Intel Firmwares for i915 chipset

```
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/skl_dmc_ver1_27.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/skl_dmc_ver1_27.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/kbl_dmc_ver1_04.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/cnl_dmc_ver1_07.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/skl_guc_ver9_33.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/kbl_guc_ver9_39.bin
wget https://git.kernel.org/pub/scm/linux/kernel/git/firmware/linux-firmware.git/tree/i915/bxt_guc_ver9_29.bin
sudo mv ./*.bin /lib/firmware/i915
sudo update-initramfs -u
```

Rig overlapping in Rig List

- If your rig appears in your RigList and then disappear over and over then probably flashing bios erased the MAC address on the integrated LAN card. Here is some info how to fix: https://www.asrock.com/support/download/mactool.asp

My rig is not shown in dashboard or as OFF?

1. power failure / internet outage* (check internet connection and if rig is working)
2. pen drive corruption* - boot rig and see if it is booting properly, connecting to simplemining and starts mining
3. pendrive corruption/ rare case* - sometime email can revert to its original “admin@simplemining.net” - check if you have your email in config or is the file corrupted
4. cloudflare ban* (to check this you need to enter simplemining.net website and see if there is some kind of block message or captcha to solve)
5. dns problem* - your ISP problem, you can solve this by using google dns (8.8.8.8 & 8.8.4.4), also you can reboot router to see if that helps.

OC-Panel or Riglist is not getting loaded?

logout → clear cache & cookies → close & open Browser → login

how to increase SWAP

https://www.digitalocean.com/community/tutorials/how-to-add-swap-space-on-ubuntu-16-04

RIG NOT SHOWN IN DASHBOARD

`cat /mnt/user/config.txt`

check if you will see your email here if not use nano to edit

`nano /mnt/user/config.txt`

my rig is not shown in dashboard or as OFF? (provided by mirelle)

1. power failure / internet outage (check internet connection and if rig is working)
2. pendrive corruption - boot rig and see if it is booting properly, connecting to simplemining and starts mining
3. pendrive corruption/ rare case - sometime email can revert to its original “admin@simplemining.net” - check if you have your email in config or is the file corrupted
4. cloudflare ban* (to check this you need to enter simplemining.net website and see if there is some kind of block message or captcha to solve)
5. dns problem* - your ISP problem, you can solve this by using google dns (8.8.8.8 & 8.8.4.4), also you can reboot router to see if that helps.

Overclock / FAN not working? (provided by mirelle)
```

All overclock fields needs to be filled, if you will leave one field blank then OC wont work. You can set them to different values using a comma between each value:

- Core 100,90,90,90,100,100
- Memory 1000,1100,1000,800,900,900
- Power 80,100,80,100,80,100 → NVIDIA

Error in dmesg on Nvidia rigs:
"ACPI Warning: _SB_.PCI0.RP01.PXSX._DSM: Argument #4 type mismatch - Found [Buffer], ACPI requires [Package] (20150930/nsarguments-95)"

- Add to /etc/default/grub
  - GRUB_CMDLINE_LINUX_DEFAULT="acpi=off"

Getting error
No protocol specified
Failed to connect to Mir: Failed to connect to server socket: No such file or directory
Unable to init server: Could not connect: Connection refused
ERROR: The control display is undefined; please run `nvidia-settings --help` for usage information.

- Via SSH run
  - `sudo nvidia-xconfig -a --cool-bits=31 --allow-empty-initial-configuration`
- Edit /root/utils/oc_nv.sh and change all instances of "nvidia-settings" to:
  - `DISPLAY=:0 XAUTHORITY=/var/run/lightdm/root/:0 nvidia-settings`
- `Reboot`

How to fix power issues on AMD cards (updated with new image)

- Edit /root/utils/oc_dpm2.sh change line to look like this:
  - `/root/utils/wolfamdctrl -i $x --core-state $coreState --mem-state $memoryState --core-clock ${coreArray[$i]} --mem-clock ${memoryArray[$j]} --volt-state $coreState --vddc-table-set 950`

Get an error with "an illegal memory access was encountered cryptonight_extra_cpu_final line 235"

- Each algo uses a GPUs differently over clock settings for one will not work for another. If you get this error drop over clock settings down and retest the cards for best results.

Why is AMD cards slow on SMOS?

- A fix has been found for the DAG and updated in experimentation release. RX image with DAG file size fix
  - Can do this manually via SSH look below under "**Mining ROCM Kernel AMD Drivers for Dag fix"**
  - **Linux Driver for Blockchain Compute 17.30.1029**

Why are cards not showing up in SMOS?

- Make sure to update the latest BIOS!
- If Motherboard does not have these options will be limited in the amount of cards it can support
  - Enable 4G encode
  - PCIe support to Auto or GEN2
  - Also set:
    - Power on after lost of power
    - Disable everything that is not used, serial ports audio etc.
    - Disable virtualization
- Test one card/riser at a time to make 100% both are working then add the next cards/riser rebooting each time to confirm things are working.
- Power each card of only one PSU! Do not put power from one PSU to GPU and power from other PSU to riser. This causes strange problems.

Why are Overclock / FAN not working when I set them?

- Both Over Clock settings need to be set, do not level them blank use 0

Why are the Overclock settings for Nvidia not 1 to 1?

- The settings on the GUI for Core are half of what gets applied to the card, for example 100 will apply 200 to the card. Look at the Core/Mem column in the UI see the true OC settings.

Why does SMOS keep rebooting?

- Most likely Over clock is set to high. Start by setting core and memory to 0 and let the system run for a few hour. If all is well use the follow as a starting point and go up or down as need, these numbers come from my own rigs. The ranges are different cards, you want to set the values for each card so they are the same on the console dashboard for each.

Card	Coin	Algo	Core	Memory	Watts	PWR Pins	Hash / Sols	Miner	Intensity
GTX 1050TI ($123-155)	ZEC	Equihash	125-150	800	40W	0	165-170 Sol/s	EWBF	
GTX P106/1060 ($219-259)	ZEC	Equihash	125-150	800-1100	70-75	1x 6	290-300 Sol/s	EWBF	
GTX 1070 ($389-424)	ZEC	Equihash	125-150	800	100-115	1x 6 or 8	420-440 Sol/s	EWBF	
GTX 1070TI ($429-469)	ZEC	Equihash	125-150	800	100-115	2x 8	500-520 Sol/s	EWBF	
GTX 1080 ($480-500)	ZEC	Equihash	110-200	100	225	1x 8	500-525 Sol/s	EWBF	
GTX 1080TI ($699-800)	ZEC	Equihash	110-200	100	225	2x 8	700-730 Sol/s	EWBF	
GTX 1080TI	ZEC	Equihash	110-200	100	210	2x 8	650-660 Sol/s	EWBF	
GTX 1080TI	ZEC	Equihash	110-200	100	165	2x 8	600-620 Sol/s	EWBF	

GTX 1050TI	ETH	Ethash	-50	1050-1100	70-75	0	11-15 MH/s	Claymore-ETH	
GTX P106/1060	ETH	Ethash	-50	1050-1100	70-75 4Sol/W	1x 6	23-24 MH/s	Claymore-ETH	
GTX 1070	ETH	Ethash	-50	1100-1200	85-100	1x 6 or 8	30-31 MH/s	Claymore-ETH	
GTX 1070TI	ETH	Ethash	-50	1100-1200	90-100	2x 8	30-33 MH/s	Claymore-ETH	
GTX 1080TI	ETH	Ethash	200	1000	160-180	2x 8	34-35 MH/s	Claymore-ETH	
GTX 1080TI with Pill	ETH	Ethash	50	500	160-180	2x 8	49-54 MH/s	Claymore-ETH	
GTX P106/1060		NeoScrypt	125-150	0	90-100	1x 6	710-740 kH/s	ccminer tpruvot	15
GTX P070		NeoScrypt	135-150	0	115	1x 6 or 8	900-1000 kH/s	ccminer tpruvot	21-22
GTX 1080TI		NeoScrypt	110-200	0	225	2x 8	1.3-1.4 Mh/s	ccminer tpruvot	22-23
GTX P106/1060		lyra2v2	100	0	100	1x 6	24-25 MH/s	ccminer tpruvot	15
GTX 1070		lyra2v2	100	0	136	1x 6 or 8	41-42 MH/s	ccminer tpruvot	21-22
GTX 1080TI		lyra2v2	110-200	0	200	2x 8	57-63 MH/s	ccminer tpruvot	22-23
GTX P106/1060		groestl	125-150	800-1100	80	1x 6	30-34 MH/s	ccminer tpruvot	15
GTX 1070		groestl	125-150	800	100-115	1x 6 or 8	34-37 MH/s	ccminer tpruvot	21-22
GTX 1080TI		groestl	110-200	100	165-200	2x 8	57-63 MH/s	ccminer tpruvot	23
GTX P106/1060	XMR	Cryptonight				1x 6			
GTX 1070	XMR	Cryptonight				1x 6 or 8			
GTX 1080TI	XMR	Cryptonight				2x 8			

Dual mine LBRY best for NVidia add about 10-25W per card

Card	Coin	Algo	Core	Memory	Core UV	Watts	Hash / Sols	Miner	Intensity
RX 470 ($209-250)	ETH	Ethash	1150	1900	825	70-80	27.25	Claymore-ETH	
RX 570 ($209-259)									
RX 580 ($219-269)	ETH	Ethash	1130	2100	975	90	29.5	Claymore-ETH	
Vega 56 ($369-420)	ETH	Ethash				105	38-40	Claymore-ETH	
Vega 56	XMR	Cryptonight				105	2000 Sol/s	Claymore-ETH	

Dual Mine DCR/SIA/PASCAL best for AMD 10-25W per car

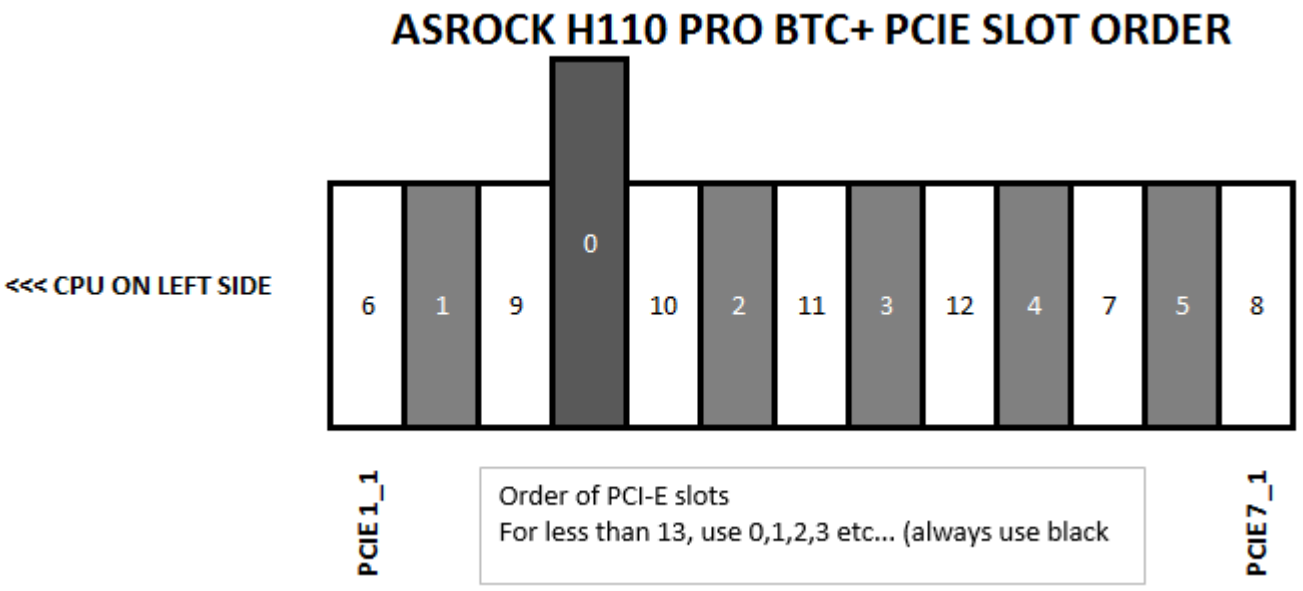
Why does SMOS Crash?

- Don’t use low quality USB stocks. Some mining software uses more disk access than others (Claymore uses RAM where Etherminer uses disk) and will wear them out quick. The price of a good USB is the cost of a 120GB SSD, I would go with the SSD.
    - I use SSDs only the cost just a little more than USB, note in Etcher need to click settings then “Unsafe mode” to show SSD in the list of devices
- Don’t use anything less than a GOLD level PSU or put more than 80% MAX load unless you will not have a stable RIG. Make sure to check power using an inline watt meter.
    - **DO NOT** put more than two risers per Molex or SATA cables it will get to hot and cause problems or physical damage

Miscellaneous Information and Details

PCI-E Slot Order:

- **ASROCK Pro btc+ (13 Slots)**
  - Starting from left to right from the CPU end... 6,1,9,0 (full slot), 10,2,11,3,12,4,7,5,8



What is the default login and password via SSH?

- Login: miner
- Password: miner

Can both AMD and Nvidia Cards be put in the same rig?

- Simple answer no, each image is optimized for each card type
- But, you could ssh into the OS and install the drivers / CUDA / OpenCL at the core it's just Linux OS

How many cards does SMOS Support?

- SMOS supports up to 15 cards but most motherboards have a hard I/O limit of 13 when using PCI expanders.

Power

- PSU are at peak efficiency between 55% and 60%, will also create a lot more heat when above 75%. Buy large PSU and use 60-65% of rated power.

Required Efficiency depending on % of Rated Load

80 PLUS Certification	115V Internal Non-Redundant			230V Internal Redundant			
% of Rated Load	20%	50%	100%	10%	20%	50%	100%
80 PLUS	80%	80%	80%	N/A			
80 PLUS Bronze	82%	85%	82%	---	81%	85%	81%
80 PLUS Silver	85%	88%	85%	---	85%	89%	85%
80 PLUS Gold	87%	90%	87%	---	88%	92%	88%
80 PLUS Platinum	90%	92%	89%	---	90%	94%	91%
80 PLUS Titanium	---	---	---	90%	94%	96%	91%

Links to miniers and documents

- Claymore's Dual Ethereum AMD+NVIDIA GPU Miner v10.1 (Windows/Linux)
- Claymore's CryptoNote AMD GPU Miner v10.2 (Windows/Linux)
- Claymore's ZCash AMD GPU Miner v12.6 (Windows/Linux)
- Etherminer Docs
- ccminer-skunk-krnlx
- SGminer
- EWBF CUDA
- xmr-stak-amd
- xmr-stak-nvidia

CMD Utilities

- nvidia-smi
- rocm-smi
- Windows CMD OC for Nvidia
- Windows CMD OC for AMD

SMOS on Bitcointalk.org

- https://bitcointalk.org/index.php?topic=1541084.0

How to I know the best coin to mine?

- https://whattomine.com/
- https://www.coinwarz.com/

AMD Card Utilities

- SRBPolaris V3 - BIOS editor for RX4XX and RX5XX cards
- PolarisBiosEditor v1.6.1

Example Miner Configuration strings:

EWBF Miner BTG

```
--server eu.pool.gold --user GPXtSb35UVFUe8fYMEkfVqXoAw11fT5VRX.$rigName --pass x --port 3044
--server btg.suprnova.cc --user gravitymaster.$rigName --pass x --port 8816
```

EWBF Miner ZEC

```
--server asia.equihash-hub.miningpoolhub.com --user gravitymaster.$rigName --pass x --port 20570 --pec --api 0.0.0.0:42000
--log 1 --logfile zcash.log

--server asia1-zcash.flypool.org --user t1U9dp31osZvpSQNmvwtECjWSNLx4mFDiqJ.$rigName --pass x --port 3333 --pec --api
0.0.0.0:42000 --log 1 --logfile zcash.log
```

EWBF Miner KMD

```
--server kmd.suprnova.cc --user gravitymaster.$rigName --pass x  --pass x --port 6250 --pec --api 0.0.0.0:42000 --log 1
--logfile zcash.log
```

EWBF Miner HUSH

```
--server hush.suprnova.cc --user gravitymaster.$rigName --pass x --port 4048 --pec --api 0.0.0.0:42000 --log 1 --logfile
zcash.log
```

EWBF Miner BitcoinZ

```
--server mining.miningspeed.com --user t1QtKZrMTaRRWfkCkqQutQH9K5LTgMNoSfv.$rigName --pass x --port 3072 --pec --api
0.0.0.0:42000 --log 1 --logfile zcash.log
```

Claymore ZEC 12.6 BTG AMD

```
-zpool eu.pool.gold:3044 -zwal GPXtSb35UVFUe8fYMEkfVqXoAw11fT5VRX.$rigName -zpsw x -allpools 1
-zpool btg.suprnova.cc:8816 -zwal gravitymaster.$rigName -zpsw x -allpools 1
```

Claymore ZEC Komodo (KMD)

```
-zpool stratum+tcp://kmd.suprnova.cc:6250 -zwal gravitymaster.$rigName -zpsw x
```

CCMINER XMR

```
-a cryptonight -o stratum+tcp://asia.monero.miningpoolhub.com:20580 -u gravitymaster.$rigName -p x -i 23
```

CCMINER Electroneum (ETN)

```
-a cryptonight -o stratum+tcp://etn.suprnova.cc:8875 -u gravitymaster.$rigName -p x
```

CCMINER Groestl

```
-a groestl -o stratum+tcp://asia1.groestlcoin.miningpoolhub.com:20486 -u gravitymaster.$rigName -p x -i 23
```

CCMINER Vertcoin (https://github.com/Nanashi-Meiyo-Meijin/ccminer)

```
-a lyra2v2 -o stratum+tcp://hub.miningpoolhub.com:20507 -u gravitymaster.$rigName -p x -i 23
```

CCMINER Mona (https://github.com/Nanashi-Meiyo-Meijin/ccminer)

```
-a lyra2v2 -o stratum+tcp://mona.suprnova.cc:2995 -u gravitymaster.$rigname -p x -i 23
-a lyra2v2 -o stratum+tcp://hub.miningpoolhub.com:20593 -u gravitymaster.$rigname -p x -i 23
```

Claymore 10 Pirl

```
-wd 1 -r 1 -tstop 90 -allpools 1 -allcoins 1 -epool stratum+tcp://pirl.minerpool.net:8004 -ewal
0xb75bb0052c65063649a4cd8632c754a4d7c88bfc -epsw x -gser 2 -eworker $rigName -mport 0.0.0.0:3333

-wd 1 -r 1 -tstop 90 -allpools 1 -allcoins 1 -epool stratum+tcp://pirl.pool.sexy:6006 -ewal
0xb75bb0052c65063649a4cd8632c754a4d7c88bfc -epsw x -gser 2 -eworker $rigName -mport 0.0.0.0:3333
```

Claymore 10 Dual mine ETH/DCR

```
-wd 1 -r 1 -gser 2 -esm 2 -minspeed 15 -tstop 90 -allpools 1 -allcoins 1 -epool asia.ethash-hub.miningpoolhub.com:17020 -ewal
gravitymaster.$rigName -eworker gravitymaster.$rigName -epsw x -mport 0.0.0.0:3333 -dpool dcr.suprnova.cc:3252 -dwal
gravitymaster.$rigName -dpsw x -dcoin dcr -dcri 15
```

Claymore 10 Dual mine PIRL/DCR

```
-wd 1 -r 1 -gser 2 -minspeed 15 -tstop 90 -allpools 1 -allcoins 1 -epool stratum+tcp://pirl.minerpool.net:8004 -ewal
0xb75bb0052c65063649a4cd8632c754a4d7c88bfc -epsw x -eworker $rigName -mport 0.0.0.0:3333 -dpool dcr.suprnova.cc:3252 -dwal
gravitymaster.$rigName -dpsw x -dcoin dcr -dcri 15
```

Claymore 10 Dual mine ETH/SIA

```
-wd 1 -r 1 -minspeed 15 -tstop 90 -allpools 1 -allcoins 1 -esm 0 -epool stratum+tcp://eth-cn.dwarfpool.com:8008 -ewal
0x$walletETH/$rigName -epsw x -mport -3333 -dpool stratum+tcp://hub.miningpoolhub.com:20550 -dwal gravitymaster.$rigName
-dpsw x -dcoin sc

-wd 1 -r 1 -minspeed 15 -tstop 90 -allpools 1 -allcoins 1 -esm 2 -epool asia.ethash-hub.miningpoolhub.com:17020 -ewal
gravitymaster.$rigName -eworker gravitymaster.$rigName -epsw x -dpool stratum+tcp://hub.miningpoolhub.com:20550 -dwal
gravitymaster.$rigName -dpsw x -dcoin sc
```

Claymore 10 Dual mine UBIQ/SIA

```
-wd 1 -r 1 -epool stratum+tcp://ubiq.hodlpool.com:8009 -ewal $walletETH -esm 0 -allpools 1 -mport -3333 -asm 1 -dpool
stratum+tcp://sia-us-east1.nanopool.org:7777 -dwal $walletSC -dcoin sia -allpools 1
```

Etherminer .0.11 Nvidia ETH

```
-U -F  http://eth-cn.dwarfpool.com:80/0xAEd0067C5294d352BBf07BEC98afBc7F98F89232/$rigname --farm-recheck 200
-U -S asia.ethash-hub.miningpoolhub.com:20535 -O  gravitymaster.$rigName:x  --farm-recheck 2000
```

Etherminer .0.11 Nvidia PIRL

```
-U -S pirl.minerpool.net:8004 -O 0xb75bb0052c65063649a4cd8632c754a4d7c88bfc.$rigName --farm-recheck 2000 -SP 1
```

```
-U -S pirl.pool.sexy:6006 -O 0xb75bb0052c65063649a4cd8632c754a4d7c88bfc.$rigName --farm-recheck 2000 -SP 1
```

SSH commands and extra code

Upgrade old install of SMOS to latest:

Update linux

- Need to start with a new install of SMOS with the latest kerner to get the deb file to upgrade the old system
- On new system install “sudo apt install dpkg-repack”
- Run “`dpkg-repack linux-image-4.17.1-smos`” to create the deb file for the kernal
- Use SCP to copy the deb file to all the systems you want to upgrade for example
    - “`scp ./linux-image-4.16.0-rc6-smos+_2_amd64.deb miner@10.220.11.23:/home/miner`”
- On the old system run the following to clean up the system

```
# Fix any permission issues with home dir
sudo chown -R miner:miner /home/miner

#clean up if exist
sudo rm -rf /var/cuda-repo-8-0-local-ga2/*
sudo rm -rf /lib/firmware/4.11.12-041112-generic/radeon
sudo rm -rf /lib/firmware/4.10.13-041013-generic
sudo rm -rf /lib/firmware/4.11.0-041100rc3-generic
sudo rm -rf /lib/firmware/4.11.0-041100rc8-generic
sudo rm -rf /lib/firmware/4.11.12-041112-generic
sudo rm -rf /lib/firmware/4.11.4-041104-generic
sudo rm -rf /lib/firmware/4.12.4-041204-generic
sudo rm -rf /lib/firmware/4.13.0-041300rc2-generic
sudo rm -rf /lib/firmware/4.4.0-21-generic
sudo rm -rf /lib/firmware/4.9.24-040924-generic
sudo rm /usr/lib/x86_64-linux-gnu/libnvidia-glcore.so.387.22
sudo rm /usr/lib/i386-linux-gnu/libnvidia-compiler.so.387.22
sudo rm /usr/lib/i386-linux-gnu/libnvidia-eglcore.so.387.22
sudo rm /usr/lib/i386-linux-gnu/libnvidia-glcore.so.387.22

#Optional to fix locals
export LANGUAGE=en_US.UTF-8
export LANG=en_US.UTF-8
export LC_ALL=en_US.UTF-8
sudo locale-gen en_US.UTF-8
sudo dpkg-reconfigure locales

#clean up if exist
sudo apt -y purge linux-headers-4.11.12-041112 linux-headers-4.13.10-smos+ linux-headers-4.15.2-smos+
linux-image-4.11.12-041112-generic linux-image-4.13.10-smos+ linux-image-4.15.2-smos+

#clean up if exist
sudo rm -rf /root/Desktop
sudo rm -rf /root/Documents
sudo rm -rf /root/Downloads
sudo rm -rf /root/Music
sudo rm -rf /root/Pictures
sudo rm -rf /root/Public
sudo rm -rf /root/Templates
sudo rm -rf /root/Videos
sudo rm -rf /home/miner/Desktop
sudo rm -rf /home/miner/Documents
sudo rm -rf /home/miner/Downloads
sudo rm -rf /home/miner/Music
sudo rm -rf /home/miner/Pictures
sudo rm -rf /home/miner/Public
sudo rm -rf /home/miner/Templates
sudo rm -rf /home/miner/Videos

#Install libs and upgrade
sudo apt update -y && sudo apt upgrade -y && sudo apt dist-upgrade -y
```

Install AMDMEMINFO

```
wget http://54.67.59.249/amdmeminfo.tar.gz && tar xvfz amdmeminfo.tar.gz && sudo mv amdmeminfo
/usr/local/bin
sudo amdmeminfo
```

Check logs if no change reboot

```
#!/bin/sh
#Pre-Reqs: apt-get install libio-socket-ssl-perl libnet-ssleay-perl sendemail

CLAYMOREDIR=/usr/local/claymore

RIGID=08
GMAIL=user@gmail.com
GPASS=password

SIZECHECK1=`ls -lt $CLAYMOREDIR | grep log | head -1 | awk '{print $5}'`
sleep 15
SIZECHECK2=`ls -lt $CLAYMOREDIR | grep log | head -1 | awk '{print $5}'`

if [ "$SIZECHECK1" = "$SIZECHECK2" ]
      then
      sleep 15
      SIZECHECK2=`ls -lt $CLAYMOREDIR | grep log | head -1 | awk '{print $5}'`
      if [ "$SIZECHECK1" = "$SIZECHECK2" ]
            then
            sendemail -f $GMAIL -t $GMAIL -u "Mining Rig $RIGID Rebooted @ `date`" -m "Miner Rig $RIGID was rebooted at
            `date` due to Claymore hang." -s smtp.gmail.com:587 -o tls=yes -xu $GMAIL -xp $GPASS
      sleep 3
      echo "Claymore hung, rebooting..."
      echo "Miner Rig $RIGID was rebooted at `date` due to Claymore hang." >> $CLAYMOREDIR/script-reboot.log
      /sbin/reboot
      fi
fi
```

Reboot if no network connection:
Create check_inet script

```
cat <<EOT >> /root/utils/check_inet.sh
#!/bin/bash
TMP_FILE=/tmp/inet_up
# Edit this function if you want to do something besides reboot
no_inet_action() {
    shutdown -r +1 'No internet.'
}

if ping -c5 google.com; then
    echo 1 > $TMP_FILE
else
    [[ `cat $TMP_FILE` == 0 ]] && no_inet_action || echo 0 > $TMP_FILE
fi
EOT
```

Change the permissions so it is executable
chmod +x check_inet.sh

Edit /etc/crontab using sudo and add the following line (replace yourname with your actual username):

```
*/30 * * * * /home/yourname/check_inet.sh
```

Sm-monitor: A monitoring and log collection script for simpleminingOS
https://github.com/dacrypt/sm-monitor

Changed to /etc/sysctl.conf that help reboot system in bad state

```
kernel.softlockup_panic = 1
kernel.panic = 20
kernel.panic_on_warn = 1
kernel.panic_on_rcu_stall = 1
kernel.panic_on_io_nmi = 1
kernel.panic_on_unrecovered_nmi = 1
kernel.panic_on_oops=1
```

Misc commands

```
watch -n 5 "nvidia-smi --format=csv
--query-gpu=gpu_name,gpu_bus_id,vbios_version,power.draw,fan.speed,temperature.gpu,clocks.video,clocks.mem,c
locks.gr"
```

XMR-MINER

```
sudo apt update && sudo apt install git-core && git clone
https://github.com/kusayuzayushko/xmr-miner-smos.git && cd xmr-miner-smos && ./install.sh
```

On github

- Git vram type from AMD cards
  - https://github.com/sling00/amdmeminfo/network
- **OhGodATool**
  - Allows you to edit PowerPlay in the VBIOS, or in the kernel's pp_table. You can edit clock, memory, or voltage tables.

Stop.sh script

```
#!/bin/bash
killall xterm -9
killall screen -9
screen -wipe
ps -efw | grep CRON  | grep -v grep | awk '{print $2}' | xargs kill
ps -efw | grep fanspeed  | grep -v grep | awk '{print $2}' | xargs kill
ps -efw | grep watchdog  | grep -v grep | awk '{print $2}' | xargs kill
ps -efw | grep update_status  | grep -v grep | awk '{print $2}' | xargs kill
ps -efw | grep emergency  | grep -v grep | awk '{print $2}' | xargs kill
```

How to flash bios on all cards of the same type

```
#!/bin/bash
num=`sudo /root/utils/atiflash -i | grep pass | wc -l`
romurl=http://<REPLACE WITH URL>/
romfile=<REPLACE WITH ROM FILE>
echo "$num cards detected"
echo "Downloading ROM file"
wget http://$romurl/$romfile -P /home/miner
echo "killing miner program"
sudo killall -9 screen && screen -wipe
for (( i = 0; i < $num; i++ )); do
  Echo “Backing up card :$1”
  sudo /root/utils/atiflash -s $i /home/miner/$i.rom
  echo "Flashing card: $i"
  sudo /root/utils/atiflash -p $i /home/miner/$romfile
done
rm -f /home/miner/$romfile
```

Update Nvidia 3.96 and CUDA 9.2

```
#!/bin/bash
echo "#####################################"
echo "Delete local cuda old and i386 stuff "
echo "#####################################"
sudo rm -rf /etc/apt/sources.list.d/cuda-8-0-local-ga2.list*
sudo rm -rf /etc/apt/sources.list.d/amdgpu-pro.list
sudo rm -rf /var/cuda-repo-8-0-local-ga2/*
sudo apt-get purge `dpkg --get-selections | grep ":i386" | awk '{print $1}'`
sudo dpkg --remove-architecture i386
#echo "#####################################"
#echo "Add Nvidia PPA                      "
#echo "#####################################"
sudo apt update
sudo apt install -y software-properties-common
sudo add-apt-repository -y ppa:graphics-drivers/ppa
sudo apt update
echo "#####################################"
echo "Download and install cuda update     "
echo "#####################################"
wget
https://developer.download.nvidia.com/compute/cuda/repos/ubuntu1604/x86_64/cuda-repo-ubuntu1604_9.2.88-1_amd
64.deb
sudo dpkg -i cuda-repo-ubuntu1604_9.2.88-1_amd64.deb
sudo wget -qO - http://developer.download.nvidia.com/compute/cuda/repos/ubuntu1404/x86_64/7fa2af80.pub |
sudo apt-key add -
sudo apt update
echo "#####################################"
echo "Download and install generic kernel  "
echo "#####################################"
sudo sudo apt install linux-headers-4.15.0-24-generic linux-image-4.15.0-24-generic  --no-install-recommends
#Edit /boot/grub/grub.conf with new kernel info in default and reboot
sudo dpkg -r linux-image-4.17.1-smos
echo "#####################################"
echo "Download and install Nvidia          "
echo "#####################################"
sudo apt update -y && sudo apt upgrade -y && sudo apt dist-upgrade -y
sudo apt install -y cuda-runtime-9-2 cuda-cudart-9-2 cuda-cudart-9-1 --no-install-recommends
#sudo mv /etc/vdpau_wrapper.cfg /home/miner/
```

```
#sudo apt-get -f -y install
#sudo apt -y autoremove
#sudo mv /home/miner/vdpau_wrapper.cfg /etc
echo "########################################"
echo "              cleaning up               "
echo "########################################"
sudo apt clean -y && sudo apt autoclean -y && sudo apt autoremove -y
sudo rm -rf /var/lib/apt/lists/*
sudo rm cuda-repo-ubuntu1604_9.2.88-1_amd64.deb
#reboot
```

#Install nvidia driver 387.21 with Cuda 9 via APT (Old do not use)

```
sudo apt-get download nvidia-387 nvidia-settings
sudo dpkg --remove --force-depends nvidia-384 nvidia-384-dev nvidia-libopencl1-384 nvidia-modprobe
nvidia-opencl-icd-384 nvidia-settings
sudo dpkg --install nvidia-387_387.12-0ubuntu0~gpu16.04.1_amd64.deb
sudo dpkg --install nvidia-settings_387.22-0ubuntu0~gpu16.04.1_amd64.deb
```

AMD Mining ROCM Kernel AMD Drivers for Dag fix (Old do not use)

```
#!/bin/bash
CONFIG_FILE="/root/config.txt"
source $CONFIG_FILE
MODULE_AMDGPU=`lsmod | grep amdgpu | wc -l`
if [ $MODULE_AMDGPU -gt 0 ]; then
cd /var/tmp/
wget -qO - http://repo.radeon.com/rocm/apt/debian/rocm.gpg.key | sudo apt-key add -
sudo sh -c 'echo deb [arch=amd64] http://repo.radeon.com/rocm/apt/debian/ xenial main >
/etc/apt/sources.list.d/rocm.list'
sudo apt-get remove -y --allow cuda-repo*
sudo apt-cache clean -y
sudo apt-cache autoclean -y
sudo apt-get update -y
sudo apt-get install rocm -y
sudo sed 's/nk=0/nk=0 amdgpu.vm_fragment_size=9 /' -i /etc/default/grub
sudo apt-get purge -y `dpkg --list | grep "linux-headers\|linux-image" | grep -v "rocm" | awk '{print $2}'
|tr "\n" " "`
sudo update-initramfs -u
sudo update-grub
sudo apt-cache clean -y
sudo apt-cache autoclean -y
echo "Beta ROCM update completed, reboot in 60 seconds"
sync &
sleep 60
sync
echo "Rebooting"
sudo reboot
sleep 3600
else
echo "This RX OS doesnt have any AMD GPU plugged in. Aborting"
sleep 60
reboot
exit
fi
```

Wattage and efficiency reports when hovering over rig name (By clintar)(Old do not use)

Create a new file called mod1.sh

```
#!/bin/bash
ROCM_POWER=`/opt/rocm/bin/rocm-smi -P |sed -e 's/=//g'|sed 1,4d|head -n -3|sed -e "/\bCannot\\b/d"|sed -e
"s/ \t\t: Average GPU Power: //g"`
ROCM_POWER_CLEANED=`echo "${ROCM_POWER}"|sort -t [ -k 2|sed -e ':a;N;$!ba;s/\n/<br>/g'`
AMDGPU_VERSION+="<br>"
AMDGPU_VERSION+=${ROCM_POWER_CLEANED}
NVIDIA_SMI=''
if [ -x /usr/bin/nvidia-smi ] ; then
    NVIDIA_SMI=`nvidia-smi --format=csv --query-gpu=name,power.draw `
    AMDGPU_VERSION+="<br>"
    AMDGPU_VERSION+=${NVIDIA_SMI}
fi
if netstat -nlp|grep \:3333 >/dev/null ; then
    CLAYMORE_LINE=`echo '{"id":0,"jsonrpc":"2.0","method":"miner_getstat1"}' | nc localhost 3333`
    CLAYMORE_ETH_TOTAL=`echo "${CLAYMORE_LINE}"|jq '.result[2]'|sed -e "s/\"//g"|awk -F "\;" '{print $1}'`
    CLAYMORE_2ND_TOTAL=`echo "${CLAYMORE_LINE}"|jq '.result[4]'|sed -e "s/\"//g"|awk -F "\;" '{print $1}'`
    TOTAL_WATTS=`echo "${ROCM_POWER}"|awk '{sum += $2;} END {print sum;}'`
    TOTAL_WATTS=`printf "%.0f" ${TOTAL_WATTS}`
    CLAYMORE_ETH_EFFICIENCY=$(($CLAYMORE_ETH_TOTAL / $TOTAL_WATTS))
```

```
    CLAYMORE_2ND_EFFICIENCY=$(($CLAYMORE_2ND_TOTAL / $TOTAL_WATTS))
    AMDGPU_VERSION+="<br>Efficiency: ETH: "
    AMDGPU_VERSION+=`printf "%0.2f" ${CLAYMORE_ETH_EFFICIENCY}`
    AMDGPU_VERSION+=" kH/W, DUAL: "
    AMDGPU_VERSION+=`printf "%0.2f" ${CLAYMORE_2ND_EFFICIENCY}`
    AMDGPU_VERSION+=" kH/W"
fi
```

Next edit /root/utils/stats_json.sh and put "source /root/utils/mod1.sh" above ## LOAD DATA TO JSON line

See the public IP on the dashboard:
Edit /root/utils/stats_json.sh comment out the original ip Addresshis is e line and insert these lines:

```
privateIpAddress=`/sbin/ifconfig eth0 | grep 'inet addr:' | cut -d: -f2 | awk '{ print $1}'`
publicIpAddress=`curl -s http://ipv4.icanhazip.com`
ipAddress="Private: $privateIpAddress Public: $publicIpAddress"
```

Update etherminer

```
sudo -i
cd /root/miner_org/
wget
https://github.com/ethereum-mining/ethminer/releases/download/v0.12.0rc3/ethminer-0.12.0rc3-Linux.tar.gz
tar xvzf ethminer-0.12.0rc3-Linux.tar.gz
mv bin/ethminer ./ethminer-0.11.0/ethminer
rm -rf bin/
rm ethminer-0.12.0rc3-Linux.tar.gz
```

Change repo to local country

- From PL to US

```
sudo sed -i -e 's/pl.archive/us.archive/g' /etc/apt/sources.list
```

- From PL to KR

```
sudo sed -i -e 's/pl.archive/kr.archive/g' /etc/apt/sources.list
```

Install updated ccminer-tpruvot to work with CUDA 9(Old do not use)

- Install system and driver updates
- Install CUDA 9RC

```
sudo -i
apt-get install git cmake automake libssl-dev
git clone https://github.com/tpruvot/ccminer.git
mv ./ccminer ccminer-tpruvot-git
cd ccminer-tpruvot-git
./build.sh
cp ./ccminer /root/miner_org/ccminer-tpruvot-v2.1/ccmine
```

Install Webmin

```
sudo -i
echo "deb http://download.webmin.com/download/repository sarge contrib" >
/etc/apt/sources.list.d/webmin.list
wget http://www.webmin.com/jcameron-key.asc
apt-key add jcameron-key.asc
rm jcameron-key.asc
apt-get update
apt-get install -y apt-transport-https
apt-get install -y webmin
```

How to set the CPU to MAX Performance and make it persistante

```
#!/bin/bash
echo "performance" >/sys/devices/system/cpu/cpu0/cpufreq/scaling_governor
echo "performance" >/sys/devices/system/cpu/cpu1/cpufreq/scaling_governor
#Change this to the max CPU speed
echo 2900000 > /sys/devices/system/cpu/cpu0/cpufreq/scaling_min_freq
echo 2900000 > /sys/devices/system/cpu/cpu0/cpufreq/scaling_min_freq
```

Stat info

```
sudo apt-get install python-setuptools python-dev build-essential python-pip dstat
mkdir -p /home/miner/.cache/pip/http
sudo chmod 777 /home/miner/.cache/pip/http
pip install --upgrade pip
Sudo pip install --upgrade virtualenv
```

```
sudo pip install nvidia-ml-py
wget https://raw.githubusercontent.com/datumbox/dstat/master/plugins/dstat_nvidia_gpu.py
sudo mv dstat_nvidia_gpu.py /usr/share/dstat/
```

Install tmux/tmuxinator

```
sudo apt install -yqqu python-software-properties software-properties-common
sudo add-apt-repository -yqqu ppa:hnakamur/tmux
sudo apt update
sudo apt install tmux
# Install Powerline Fonts
git clone https://github.com/powerline/fonts.git --depth=1
cd fonts
sudo ./install.sh
cd ..
rm -rf fonts
# Powerline Fonts End
# tmux config
git clone https://github.com/gpakosz/.tmux.git
ln -s -f .tmux/.tmux.conf
cp .tmux/.tmux.conf.local .
#tmuxinator
sudo apt install -y ruby
sudo gem install tmuxinator
mkdir -p ./config/tmuxinator
wget https://raw.githubusercontent.com/tmuxinator/tmuxinator/master/completion/tmuxinator.bash
mv ./tmuxinator.bash  ./config/tmuxinator/tmuxinator.bash

#add to ./bashrc
export EDITOR='nano'
source ~/.config//tmuxinator/tmuxinator.bash

# tmuxinator
export EDITOR='nano'
tmuxinator new smos

windows:
  - Monitor:
      layout: tile
      # Synchronize all panes of this window, can be enabled before or after the pane commands run.
      # 'before' represents legacy functionality and will be deprecated in a future release, in favour of
'after'
      # synchronize: after
      panes:
        - screen -x miner
        - watch -n 5 "nvidia-smi --format=noheader,csv
--query-gpu=gpu_name,gpu_bus_id,vbios_version,power.draw,fan.speed,temperature.gpu,clocks.video,clocks.mem,c
locks.gr"
        - htop
        - cd /home/miner
```

Fix local settings:

```
export LANGUAGE=en US.UTF-8
export LANG=en_US.UTF-8
export LC_ALL=en_US.UTF-
locale-gen en_US.UTF-8
dpkg-reconfigure locales
```

Install ccminer alexis78 fork Ubuntu 16.04(Old do not use)

```
cd /root/miner_org
git clone https://github.com/alexis78/ccminer.git
mv ./ccminer ./ccminer-alexis78
cd ./ccminer-alexis78
export LD_LIBRARY_PATH=/usr/local/cuda/lib
export PATH=$PATH:/usr/local/cuda/bin
./build.sh
echo "Finished"
exit
```

Nodes and other ways to make money

Staking Node

- Stratis

Storage

- Storj: Installs NTP sync and Storj, change ETH address with your own that you have the private KEY! (MEW), also change the size you want to allow storj to use.

- Setup UPNP or port forwarding on router, if port forward need to setup a rule for each server and change the range in config json file.

```
cat <<EOT >> install-storj.sh
#!/bin/bash
sudo sed -i -e 's/kr.archive/us.archive/g' /etc/apt/sources.list
sudo sed -i -e 's/pl.archive/kr.archive/g' /etc/apt/sources.list
sudo apt install -y git ntpdate libssl-dev nodejs python build-essential
sudo dpkg-reconfigure tzdata
sudo ntpdate 0.asia.pool.ntp.org ntp.ubuntu.com pool.ntp.org
sudo wget https://deb.nodesource.com/setup_6.x
sudo chmod +x  setup_6.x
sudo ./setup_6.x
sudo rm  ./setup_6.x
sudo apt-get -y install nodejs
sudo npm install --global storjshare-daemon --unsafe-perm
sudo mkdir /mnt/storj
sudo chmod 777 /mnt/storj
EOT

chmod +x install-storj.sh
./install-storj.sh

sudo -i
cat <<EOT >> /etc/cron.daily/ntpdate
sudo pip install --upgrade pip #!/bin/bash
sudo ntpdate 0.asia.pool.ntp.org
EOT
exit

#!/bin/bash
rm -rf .config/storjshare/config/
storjshare create --noedit --size 90GB --storj=0x0517414451423b1C36f101f68f021E2781cfd2AC
--storage=/mnt/storj/ --logdir /tmp --rpcport 4025 --tunnelportmin 4026 --tunnelportmax 4028
rm start-farming.sh
cat > start-farming.sh <<'EOF'
STORJ=$(ls /home/miner/.config/storjshare/configs/*)
storjshare killall
storjshare daemon
rm /home/miner/.config/storjshare/logs/*
storjshare start --config $STORJ
EOF

chmod +x start-farming.sh
./start-farming.sh

cat > ./storj-watchdog.sh <<'EOF'
#!/bin/bash
STORJ=$(ls /home/miner/.config/storjshare/configs/*)
#echo $STORJ
APP=$(ps aux | grep -v grep | grep storjshare)
#echo $APP
if [ -z "$APP" ];
then
echo "Restart storjshare-daemon" storjshare daemon
fi
APP=$(ps aux | grep -v grep | grep 'farmer.js --config')
#echo $APP
if [ -z "$APP" ];
then
echo "Restart farmers"
storjshare start --config $STORJ
fi
EOF
chmod +x storj-watchdog.sh

sudo -i
cat >  /etc/cron.hourly/storj-watchdog <<'EOF'
#!/bin/bash
/home/miner/storj-watchdog.sh
EOF
Exit

#remove
sudo storjshare killall
sudo apt -y purge nodejs
sudo rm -rf /usr/lib/node_modules
sudo rm -rf /home/miner/.npm
```

```
sudo rm -rf /home/miner/node_modules
sudo rm -rf /home/miner/.config/storjshare
sudo rm -rf /mnt/storj/
```

Master Node

- Dash, PIVX, MartxCoin, Pirl, akroma.io

Passive income by staking

- COSS.IO, PIVX, NAV, LISK, TenX

Server Node

- ZenCash Setup

Lending on exchange using Bots

- **BitBotFactory/poloniexlendingbot**

Renderfarms

- **RNDR**
    - ICO Going on now will have product Beta Q2 2018. This could be a major revenue generator for GTX 1080TI cards. Think about buying them over the next 6-12 months so you are ready when this goes live. They are looking at $80 a day per card!

Test notes
rsync -avv /root/utils/ miner@10.220.11.24:/root/utils/
rsync -avv /root/miner_org/ miner@10.220.11.24:/root/miners_org/
rsync -avv /root/*.sh miner@10.220.11.24:/root/

sudo -i
cd miner_org/
tar -xvzf z-enemy-1.10-cuda90.tar.gz
mv ./z-enemy ./z-enemy-v1.09a/z-enemy-c90
tar -xvzf z-enemy-1.10-cuda80.tar.gz
mv ./z-enemy ./z-enemy-v1.09a/z-enemy-c80
tar -xvzf z-enemy-1.10-cuda91.tar.gz
mv ./z-enemy ./z-enemy-v1.09a/z-enemy-c91
cd ./z-enemy-v1.09a
chmod 777 ./*
mv z-enemy z-enemy-org
cp z-enemy-c90 z-enemy

Temp clean up info

```
sudo rm -rf /etc/apt/sources.list.d/cuda-8-0-local-ga2.list*
sudo rm /etc/apt/sources.list.d/amdgpu-pro.list
#apt purge cuda-*
#apt purge nvidia-*
```

```
scp ./linux-image-4.17.1-smos_2_amd64.deb miner@10.220.11.23:/home/miner/
```