



By Dan Plummer



What is cryptocurrency?

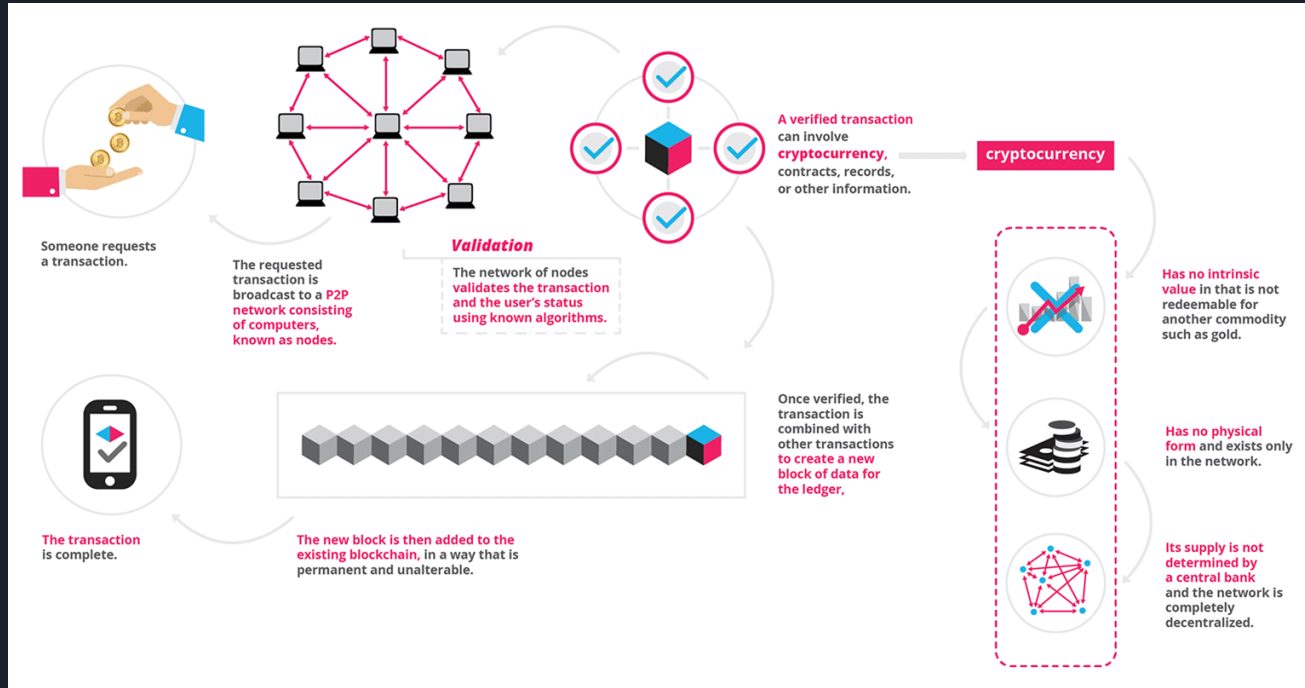
Cryptocurrency is a digital currency that exists as a record in an open-source, decentralized database known as a blockchain.

- Nonphysical
- Decentralized
- Verified
- Unalterable
- Transparent

The most well known and popular cryptocurrency on the market is



What is crypto mining?





Project Scope

1. Research cryptocurrency and available options for mining on consumer-grade hardware and identify potential viable options for use on provided hardware.
2. Install and configure necessary software for cryptocurrency mining on multiple platforms.
3. Monitor progress of cryptocurrency mining software. Maintain system uptime and make necessary adjustments to improve mining viability.
4. Perform a cost/benefits analysis of the use of each, determine which option is the most viable.

Budget



\$0

The computers I would be using for this project are already available. The software used to mine cryptocurrency is free.

\$26.99

Etekcitcity 2 Pack Voltson Wi-Fi Smart Plug Mini Outlet with Energy Monitoring



Altcoin selection

Litecoin, Feathercoin and Ethereum



LTC

\$155.02 USD
(3.97%)



FTC

\$0.246778 USD
(4.28%)



ETH

\$694.38 USD
(3.59%)

Coin wallets and exchanges



Wallets

- Download and install
- More secure



Exchanges

- Online
- Exchange options
- Less secure

CoinPayments

CoinPayments

Coin Request Supported Coins Store Directory Merchant Tools Contact Language Log In Sign Up

Accept and #hodl over 70 altcoins now for only 0.50%

Integrated payment gateway for cryptocurrencies such as Bitcoin and Litecoin

Get Started

Running an ICO?
Let CoinPayments help with:
- Accepting payments from over 70 different coins
- Holding funds in escrow for the duration of your sale
[Find Out More](#)

\$PayByName ^{new}
One unique \$tag to receive payments from all coins.
[Example Profile](#)
\$ Look up your \$tag [Check if available](#)

CoinPayments is an online exchange that supports many different types of cryptocurrency such as Bitcoin, Litecoin, Dash, Dogecoin, Ethereum, and Komodo.

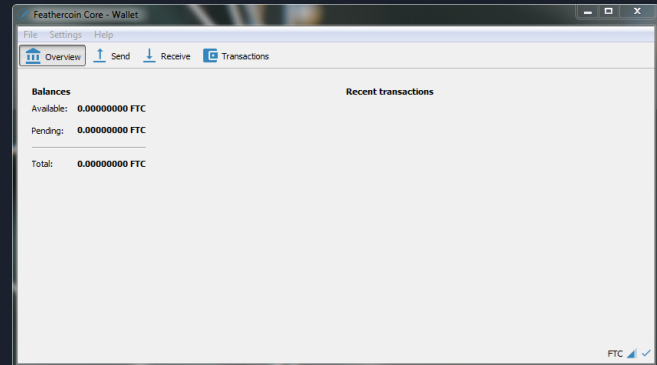
I registered an account at <https://www.coinpayments.net/> for storing Litecoin and Ethereum.

Feathercoin was not among the supported altcoins.

Feathercoin Core

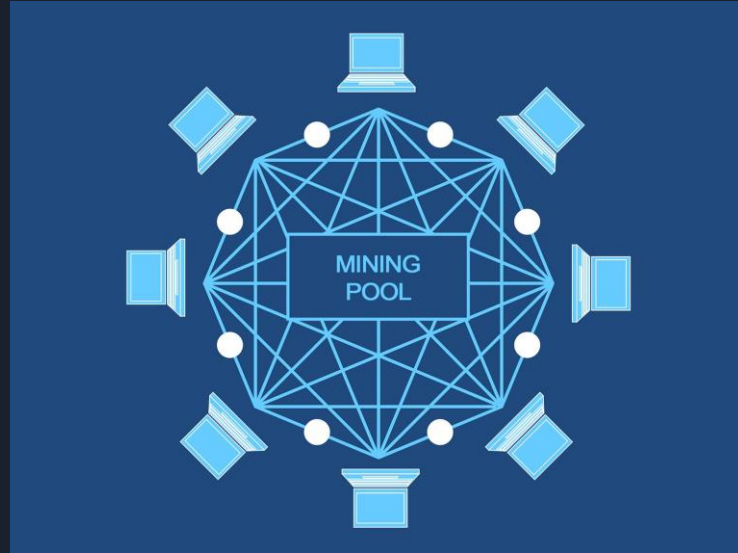
For Feathercoin, I went ahead and downloaded Feathercoin Core from their official website, <https://www.feathercoin.com>

Once installed, feathercoin core needed to sync with the feathercoin blockchain, which was nearly 6 years worth of records and took about three hours to download.

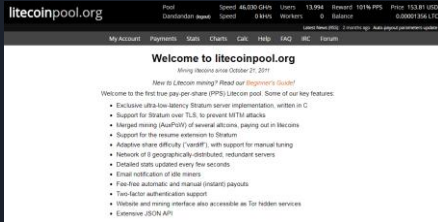


Mining pools?

- Pool together resources
- Split workload
- Split profits
- Faster mining

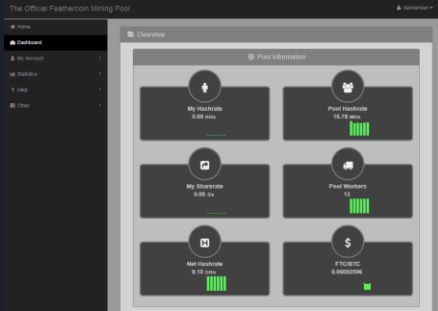


Jumping into mining pools



Next I joined mining pools for each of the altcoins I would be mining.

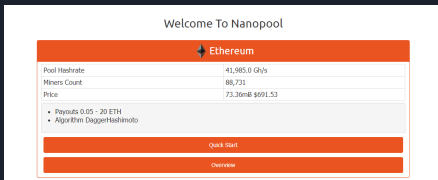
For Litecoin, I set up an account at <https://www.litecoinpool.org>



For Feathercoin, I joined the official feathercoin mining pool at <https://pool.feathercoin.com>

And for Ethereum, I found a website that allows you to join mining pools for several different altcoins without registering an account called Nanopool.

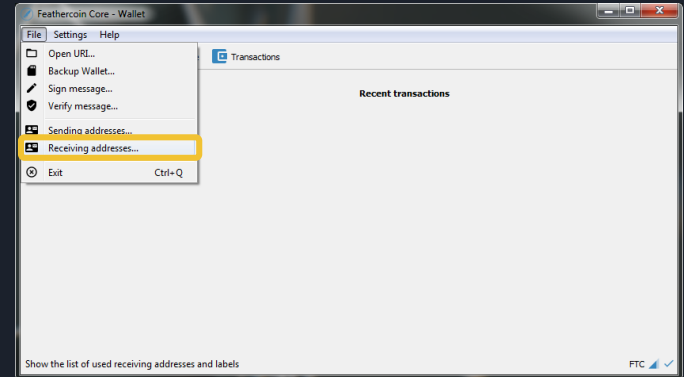
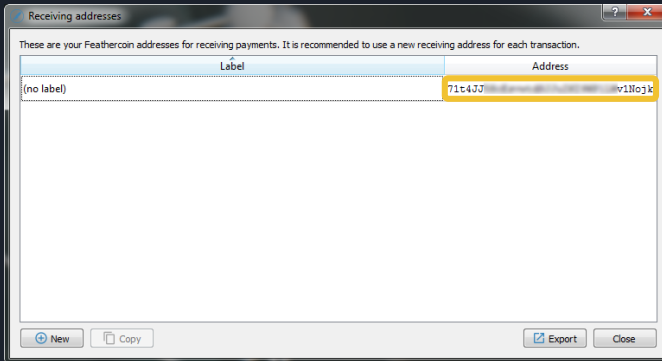
<https://nanopool.org>



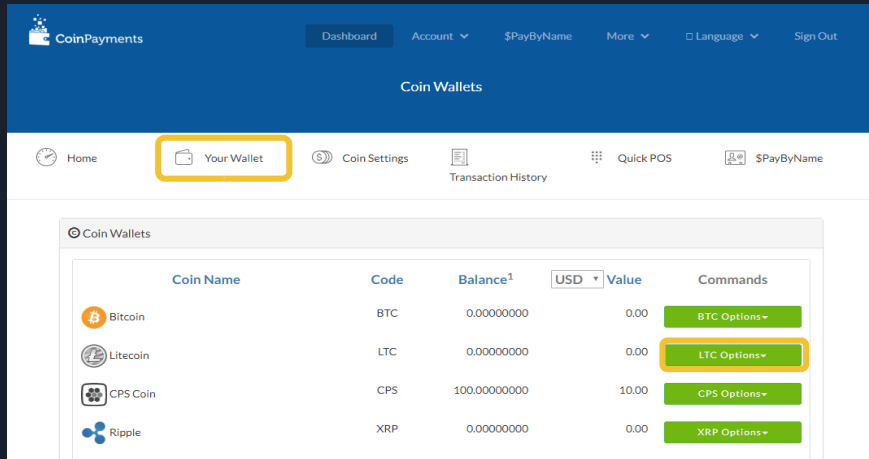
Connecting to the wallet

Next, the mining pools will need to be connected to their respective wallets. To do this, we must first find the address for the wallet.

For Feathercoin, launch Feathercoin Core and wait for the application to fully load and sync with the blockchain. Then, click on File, then **Receiving Addresses...**

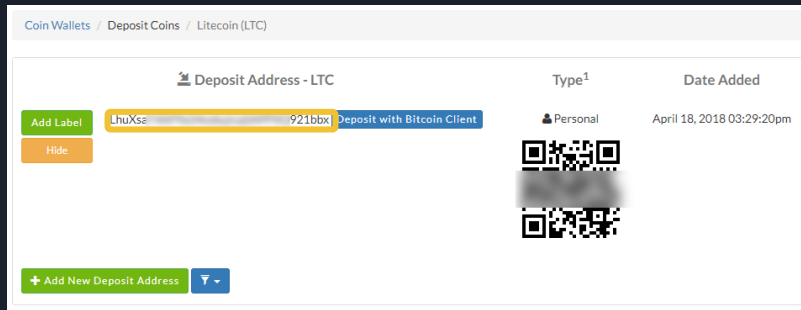
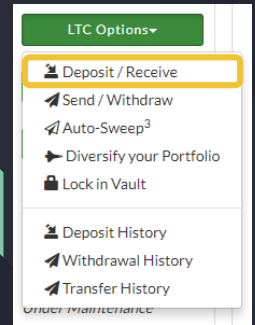


Your wallet's receiving address is located in the right column, under **Address**.



Alternatively, from the CoinPayments dashboard, click on **Your Wallet**. You will now be at the Coin Wallets page shown to the left. Look for the altcoin you're mining on the list and click the **Options** button listed in the Commands column of your altcoin.

This will open the menu shown to the right. From here, we will select **Deposit / Receive**



From here you can find the **Deposit Address** for your altcoin wallet. You can see my Litecoin wallet deposit information in the example on the right. I have blurred out sections of my address as well as the QR for security.

Now that we have our wallet address, we need to update our account settings back at the mining pool.

For the Litecoin, log into your account at <https://www.litecoinpool.org>, then click My Account from the navigation bar across the top.

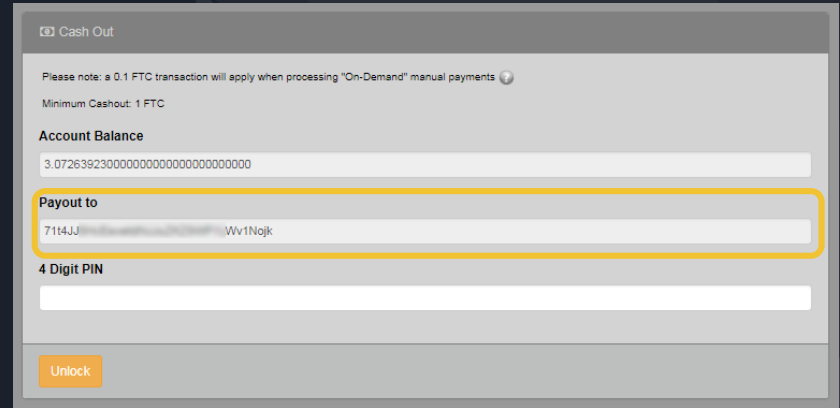
Scroll down to the section labeled Account Settings. The setting we're looking for is labeled **Payment address** and is located near the bottom. We want to copy and paste the payment address from our wallet to this location. Once that's done, click the **Save Settings** button near the bottom.

Account Settings

Time zone	UTC
Main Currency	US Dollar (USD)
Email	...@gmail.com (change)
Password	Change Password
Two-factor Login	Disabled
IP binding	<input checked="" type="checkbox"/> Bind login sessions to my IP address
Notifications	<input type="checkbox"/> Send me an email every time a successful login occurs <input checked="" type="checkbox"/> Send me an email every time the payment address is changed (cannot be disabled)
Privacy	<input type="checkbox"/> Hide my username from public statistics
Layout	<input checked="" type="checkbox"/> Show account balance in the page header
Account activity	See recent logins...
Public key	110920bf
API key	9a5b62948ebdbd910948648a340c125 (view QR code) (reset)
API links	JSON (QR code), HTML, iPhone interface
Donation	0.0 % (0-100%)
Payment address	LhuXsa...921bbx (lock)
This must be a Litecoin address, starting with L, M, or 3 (in the case of legacy P2SH addresses).	
Warning: For your own security, any time your payout address is modified all payouts are suspended for 24 hours.	
Auto-payout threshold	0.10 LTC (0.01-50 LTC)
Auto-payout logic	<input checked="" type="checkbox"/> Send payments in multiples of the auto-payout threshold (only applies while mining)
Auto-payout interval	12 hours minimum (0.5-24 hours)
Intervals below 6 hours can only be set if your auto-payout threshold is set high enough.	
<input type="button" value="Save Settings"/>	

For Feathercoin, log in to your account at <https://pool.feathercoin.com> and click My Account in the navigation bar. A submenu will open. Click on Edit Account here. Once your account page loads, scroll down to the section labeled Cash Out.

The official Feathercoin mining pool requires two-step authentication to make edits to your account. Click the Unlock button at the bottom. An email will be sent to the address associated with your account. This email contains a link that allows you to edit your account information. You will want to copy your wallet address from Feathercoin Core and paste it into the **Payout to** section. Type your 4 digit pin, and save your settings.



Cash Out

Please note: a 0.1 FTC transaction will apply when processing "On-Demand" manual payments ⓘ

Minimum Cashout: 1 FTC

Account Balance

3.07263923000000000000000000000000

Payout to

7114JJ [redacted] Wv1Nojk

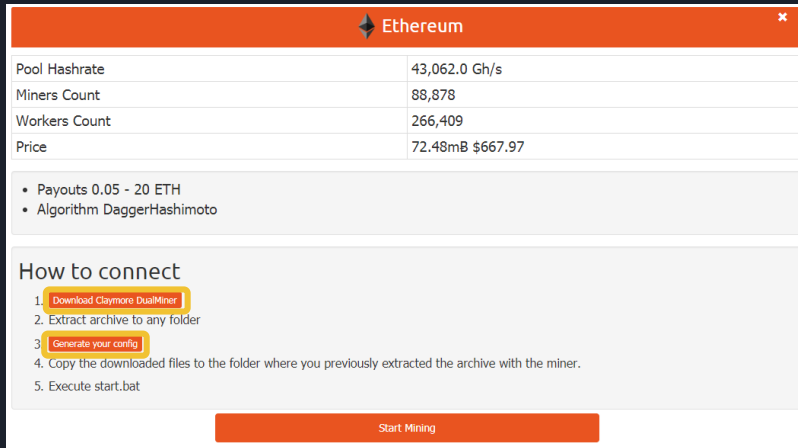
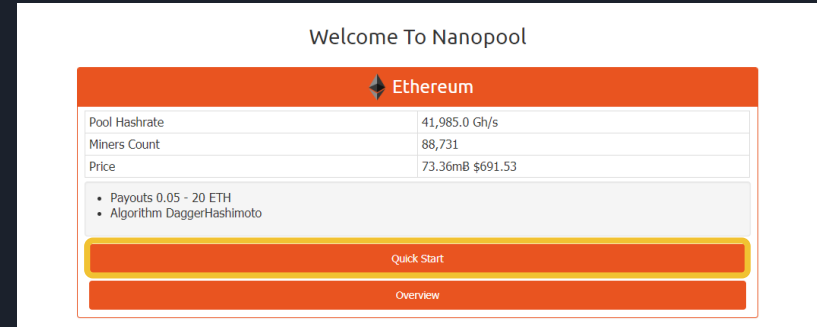
4 Digit PIN

[redacted]

Unlock

For Ethereum, we won't need to log in as <https://nanopool.org> doesn't require one. Instead, we simply click on the button labeled **Quick Start**.

This process will be a bit different as we'll need to configure our worker (miner) alongside connecting our wallets, as we don't have an account to save this information to.



Once on the Quick Start screen, you'll find there is a set of instructions at the bottom of the page. The first step is a button labeled **Download Claymore DualMiner**. This is the mining software you will be running to mine ethereum. If the button does not work, you can download DualMiner from GitHub at <https://github.com/nanopool/Claymore-Dual-Miner/releases>

Once extracted, click the second button listed under step 3, **Generate your config**.

From there you will be taken to the config generator page. Select the options that correspond with your computer. I mined using two different computers; A laptop and a desktop. Both machines had Nvidia graphics cards and ran on Windows, however the desktop was running Windows 7 whereas the laptop was running Windows 10.

The Worker name is the nickname that you want to give to your miner. I named mine desktop and laptop for simplicity. You will also furnish it with an email address and select the nearest server location. First algorithm should default to Ethereum, and you'll want to change Second algorithm to None. Copy and paste your wallet address into the **First algorithm address** text field.

Finally, click the button labeled **Generate**.

A file will begin downloading. This is your customized configuration file for Claymore DualMiner. You'll want to extract these files to the same folder as the mining application. Copy over any existing files of the same name.

Claymore DualMiner config generator (beta test)

OS Windows Linux

GPU vendor NVIDIA AMD

Worker name

Email

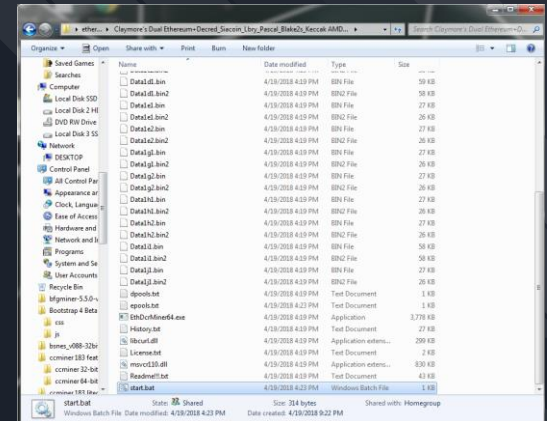
Main server

First algorithm

First algorithm address

Second algorithm

Generate **Close**



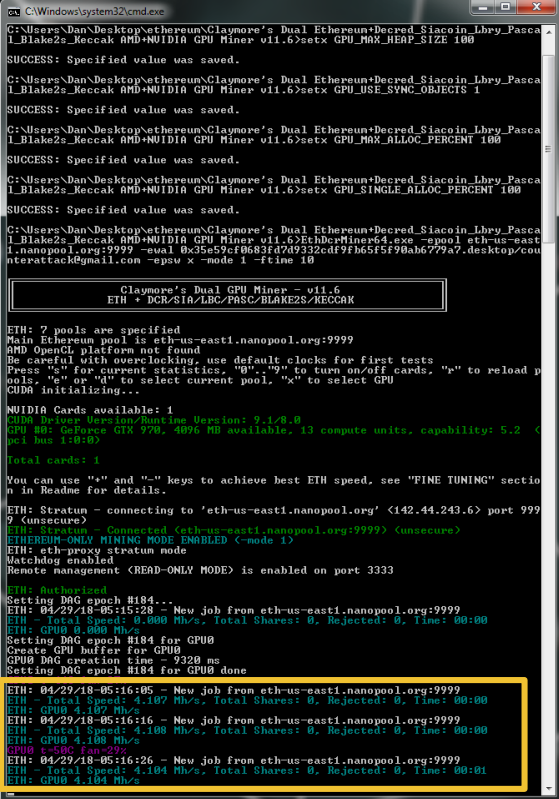
Claymore's DualMiner

Now that you've downloaded Dualminer and replaced start.bat with your customized version, you can run the start.bat file to begin mining.

The mining application will run in a command prompt window and provide you with information about the hardware that is handling the bulk of the load. You can track your hash rate and the temperature of your GPU on here.

Eventually, after running for several minutes, you will start to see **messages** like the ones near the bottom that let you know the program is working.

Expect to see drastically reduced performance from your computer while running DualMiner.



```
C:\Windows\system32\cmd.exe
C:\Users\Dan\Desktop\Netheruin\Claymore's Dual Ethereum\Decred_Siacoin_Libry_Pasca
1_Blake2s_Keccak_AMD\NVIDIA_GPU_Miner_v11.6>setx GPU_MAX_HEAP_SIZE 100
SUCCESS: Specified value was saved.
C:\Users\Dan\Desktop\Netheruin\Claymore's Dual Ethereum\Decred_Siacoin_Libry_Pasca
1_Blake2s_Keccak_AMD\NVIDIA_GPU_Miner_v11.6>setx GPU_USE_SYNC_OBJECTS 1
SUCCESS: Specified value was saved.
C:\Users\Dan\Desktop\Netheruin\Claymore's Dual Ethereum\Decred_Siacoin_Libry_Pasca
1_Blake2s_Keccak_AMD\NVIDIA_GPU_Miner_v11.6>setx GPU_MAX_ALLOC_PERCENT 100
SUCCESS: Specified value was saved.
C:\Users\Dan\Desktop\Netheruin\Claymore's Dual Ethereum\Decred_Siacoin_Libry_Pasca
1_Blake2s_Keccak_AMD\NVIDIA_GPU_Miner_v11.6>setx GPU_SINGLE_ALLOC_PERCENT 100
SUCCESS: Specified value was saved.
C:\Users\Dan\Desktop\Netheruin\Claymore's Dual Ethereum\Decred_Siacoin_Libry_Pasca
1_Blake2s_Keccak_AMD\NVIDIA_GPU_Miner_v11.6>EthDcrMiner64.exe -epool eth-us-east
1.nanopool.org:9999 -email 0c35e59ef0683f74932caf9f65f5f90ab6779a7.desktop/cou
nterattack@gmail.com -epvw x -mode 1 -ftime 10

Claymore's Dual GPU Miner - v11.6
ETH + DCR/SIA/LBC/FRSC/BLAKE2S/KECCAK

ETH: 7 pools are specified
Main Ethereum pool is eth-us-east1.nanopool.org:9999
AMD OpenCL platform not found
Be careful with overclocking, use default clocks for first tests
Press "s" for current statistics, "0"-"9" to turn on/off cards, "r" to reload p
ools, "e" for "E" to select current pool, "x" to select GPU
CUDA initializing...
NVIDIA Cards available: 1
CUDA Device Version/Runtime Version: 9.1/8.0
GPU 00: GeForce GTX 970, 4096 MB available, 13 compute units, capability: 5.2 <
pci bus 1-18>
Total cards: 1
You can use "+" and "-" keys to achieve best ETH speed, see "FINE TUNING" sectio
n in README for details.
ETH: Stratum - connecting to 'eth-us-east1.nanopool.org' (142.44.243.6) port 999
9 (consecutive)
ETH: Stratum - Connected (eth-us-east1.nanopool.org:9999) (unsecure)
ETHEREUM-ONLY MINING MODE ENABLED (-mode 1)
ETH: eth-proxy stratum non
Watchdog enabled
Remote management (READ-ONLY MODE) is enabled on port 3333

ETH Authorized
Setting DAG epoch #184...
ETH: 04/29/18-05:15:28 - New Job from eth-us-east1.nanopool.org:9999
ETH - Total Speed: 0.000 Mh/s, Total Shares: 0, Rejected: 0, Time: 00:00
ETH: GPU0 0.000 Mh/s
Setting DAG epoch #184 for GPU0
Create GPU buffer for GPU0
GPU0 DAG creation time - 9320 ms
Setting DAG epoch #184 for GPU0 done

ETH: 04/29/18-05:16:05 - New Job from eth-us-east1.nanopool.org:9999
ETH - Total Speed: 4.107 Mh/s, Total Shares: 0, Rejected: 0, Time: 00:00
ETH: GPU0 4.107 Mh/s
ETH: 04/29/18-05:16:16 - New Job from eth-us-east1.nanopool.org:9999
ETH - Total Speed: 4.108 Mh/s, Total Shares: 0, Rejected: 0, Time: 00:00
ETH: GPU0 4.108 Mh/s
GPU0 t=50c fan=29%
ETH: 04/29/18-05:16:26 - New Job from eth-us-east1.nanopool.org:9999
ETH - Total Speed: 4.104 Mh/s, Total Shares: 0, Rejected: 0, Time: 00:01
ETH: GPU0 4.104 Mh/s
```

Claymore's DualMiner (continued)

If you were to open start.bat with notepad, you can see the commands issued that tell the mining software which pool to connect to and what credentials to use.

```
1 setx GPU_FORCE_64BIT_PTR 0
2 setx GPU_MAX_HEAP_SIZE 100
3 setx GPU_USE_SYNC_OBJECTS 1
4 setx GPU_MAX_ALLOC_PERCENT 100
5 setx GPU_SINGLE_ALLOC_PERCENT 100
6 EthDcrMiner64.exe -epool eth-us-east1.nanopool.org:9999 -ewal
0x35e779a7desktop/ @gmail.com -epsw x -mode 1 -ftime 10
```

Line 6 begins with the mining program, followed by a command telling the program that a mining pool will be used. The address for the mining pool. Then the address for the Ethereum wallet. Finally the name given to my worker computer followed a '/' and by the email address I used.

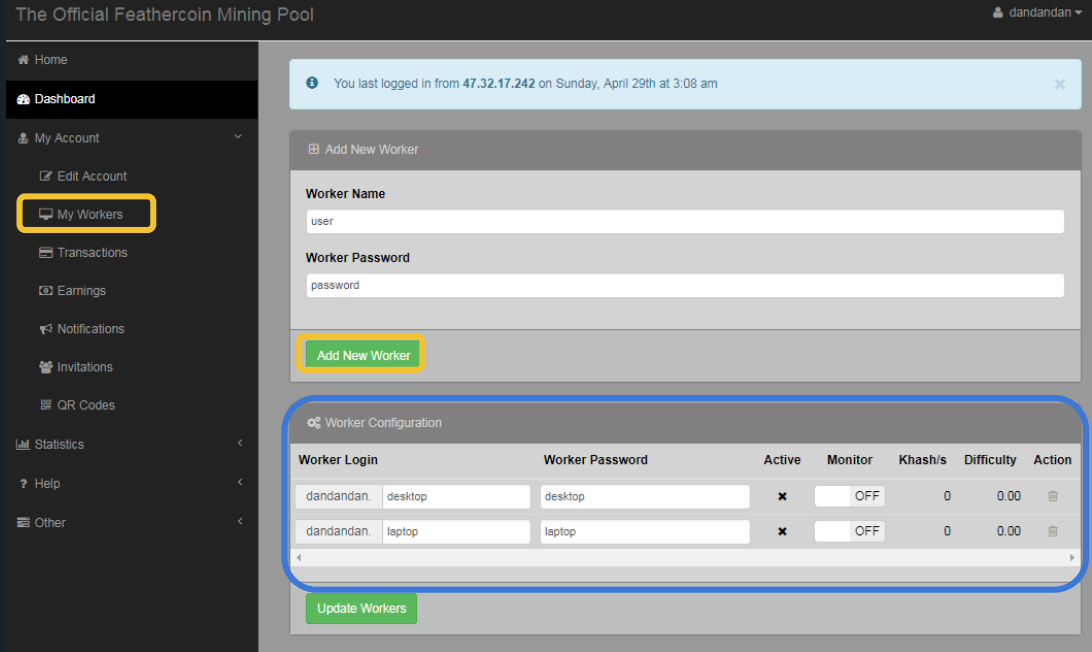
For the other two altcoins, we will be writing our own .bat files.

Setting up workers for Litecoin and Feathercoin

For Feathercoin, log back into your account on the feathercoin mining pool, click on My Account on the navigation menu, and then click **My Workers** on the submenu.

From here, we can add a worker by entering the Worker Name and Worker Passwords we want to use. You can make these whatever you like. Once you've done that, click the **Add New Worker** button.

For simplicity, I set my logins and passwords to just 'desktop' / 'desktop' and 'laptop' / 'laptop'. You can see them [to the right](#).



The screenshot shows the 'The Official Feathercoin Mining Pool' dashboard. The user is logged in as 'dandandan'. The navigation menu on the left includes 'Home', 'Dashboard', 'My Account', 'Edit Account', 'My Workers' (highlighted with a yellow box), 'Transactions', 'Earnings', 'Notifications', 'Invitations', 'QR Codes', 'Statistics', 'Help', and 'Other'. The main content area shows a notification: 'You last logged in from 47.32.17.242 on Sunday, April 29th at 3:08 am'. Below this is the 'Add New Worker' form with fields for 'Worker Name' (containing 'user') and 'Worker Password' (containing 'password'), and an 'Add New Worker' button (highlighted with a yellow box). At the bottom, the 'Worker Configuration' table is shown, containing two workers:

Worker Login	Worker Password	Active	Monitor	Khash/s	Difficulty	Action
dandandan. desktop	desktop	✘	OFF	0	0.00	🗑️
dandandan. laptop	laptop	✘	OFF	0	0.00	🗑️

Below the table is an 'Update Workers' button (highlighted with a green box).

The feathercoin mining pool website has a section under Help titled Getting Started that offers links to download mining software and some brief instructions on how to configure them.

They suggest BFGMiner, Fabulous Panda Miner, and MinerD for Feathercoin mining. They have also provided some sample configuration files. These samples contain the **address to the mining pool**, along with some placeholders for our **worker names and passwords**.

? Getting Started Guide

- 1. Create account.**
 - Register [here](#), or login if you already have account
 - Create a [worker](#) that will be used by the miner to login
- 2. Download a miner.**
 - [Intel/ATI/AMD BFGMiner Linux/Windows](#): Download [here](#)
 - [Fabulous Panda Miner Mac OS X](#): Download [here](#)
 - [MinerD CPU Miner Mac/Linux/Windows](#): Download [here](#).
- 3. Configure your miner.**

If your using Linux, Then type the following into the console:

 - CGMiner

```
./cgminer -o stratum+tcp://pool.feathercoin.com:6056 -u WebLogin.WorkerName -p WorkerPassword
```
 - BFGMiner

```
./bfgminer -c stratum+tcp://pool.feathercoin.com:6056 -t WebLogin.WorkerName -p WorkerPassword
```

If you want to mine on a **Windows Operating System**, then you'll need to create a batch file to start your miner.

Simply open notepad and then copy and paste the following:

 - CGMiner

```
cgminer -o stratum+tcp://pool.feathercoin.com:6056 -u WebLogin.WorkerName -p WorkerPassword
```
 - BFGMiner

```
bfgminer -c stratum+tcp://pool.feathercoin.com:6056 -u WebLogin.WorkerName -p WorkerPassword
```
 - MinerD

```
minerD -a -t 6 -s 4 -o stratum+tcp://pool.feathercoin.com:6056 -u WebLogin.WorkerName -p Worker
```

You then need to change "-u WebLogin.Worker -p Worker password" to reflect your own account. Eg, "-u Steve.StevesWorker -p StevesWorkerPassword" then go to "File > Save as" and save the file as "RunMe.bat" in the same folder containing your miners application files. You are now ready to mine, double click on "RunMe.bat" to start mining. If you want, you can create additional workers with usernames and passwords of your choice [here](#)
- 4. Create a Feathercoin address to receive payments.**
 - Downloading the client & block chain: Download the Feathercoin client from [here](#). Generate a new address and input it on your account page to receive payments.

Workers

Username	Password	Speed	24-hour	Shares	Stale shares	Invalid shares	Blocks	Rewards	24-hour	Email				
Dandandan.	desktop	desktop	0.0 kH/s	0.0 kH/s	154,368	1,024 (0.66%)	0 (0.00%)	0	0.0000 £	0.0000 £	<input type="checkbox"/>	Save	Reset	Delete
Dandandan.	laptop	laptop	0.0 kH/s	0.0 kH/s	102,912	0 (0.00%)	0 (0.00%)	0	0.0000 £	0.0000 £	<input type="checkbox"/>	Save	Reset	Delete
Dandandan.												Add Worker		

Share counts are updated every minute. Current speed estimates are based on the last 60 minutes.

The process for setting up your workers at <https://www.litecoinpool.org> is similar to what we did in our Feathercoin pool. Simple log in to your litecoinpool account and click on **My Account** in the navigation bar at the top.

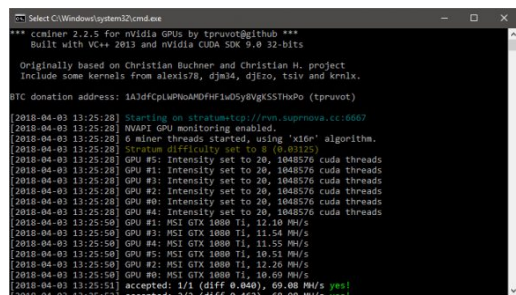
At the top of your account page are your workers. We select a username and a password just the same as we did before, and then click the **Save** button on the right hand side.

Search Results

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New ccMiner tpruvot fork v2.2.5 With X12, X16r and X16S Support

3, apr 2018



```
Select C:\Windows\system32\cmd.exe
*** ccminer 2.2.5 for nvidia GPUs by tpruvot@tithub ***
Built with VC++ 2013 and nvidia CUDA SDK 9.0 32-bits

Originally based on Christian Buchner and Christian H. project
Include some kernels from alex1978, djm14, djtzo, tsiv and krmk.

BTC donation address: 1A3dfcPLkPhoMDFH1v05y8Vgk5StHoP (tpruvot)

[2018-04-03 13:25:28] Starting on stratumtcp://rom.supernova.cc:6607
[2018-04-03 13:25:28] NVAPI GPU monitoring enabled.
[2018-04-03 13:25:28] 6 miner threads started, using 'x16r' algorithm.
[2018-04-03 13:25:28] Stratum difficulty set to 8.1803125
[2018-04-03 13:25:28] GPU #5: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:28] GPU #1: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:28] GPU #3: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:28] GPU #2: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:28] GPU #0: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:28] GPU #4: Intensity set to 20, 1048576 cuda threads
[2018-04-03 13:25:50] GPU #1: MSI GTX 1080 TI, 12.10 MH/s
[2018-04-03 13:25:50] GPU #3: MSI GTX 1080 TI, 11.24 MH/s
[2018-04-03 13:25:50] GPU #4: MSI GTX 1080 TI, 11.55 MH/s
[2018-04-03 13:25:50] GPU #5: MSI GTX 1080 TI, 10.51 MH/s
[2018-04-03 13:25:50] GPU #2: MSI GTX 1080 TI, 12.26 MH/s
[2018-04-03 13:25:50] GPU #0: MSI GTX 1080 TI, 10.69 MH/s
[2018-04-03 13:25:51] accepted: 1/1 (diff 0.040), 69.00 MH/s yes!
```

There is a new official release of tpruvot's ccMiner fork version 2.2.5 available ([source](#)) that adds support for a few new mining algorithms, namely X12, X16r and X16S. The latest release also fixes issues on Heoscrypt and Equihash for the Nvidia Volta cards according to the developer. The two new X16 variants are getting a lot of attention lately – the X16r used by Ravencoin (RVN) and X16S used by Pigeoncoin (PGN). For people looking to mine X16r or X16S this may not be the fastest implementation out there, there are a lot of different ccminer forks and miners supporting that might provide better performance, so you might want to play around with these as well.

The latest official release version 2.2.5 from tpruvot is available as both 32-bit and 64-bit Windows binary releases for everyone using Windows and not keen on compiling the miner from source. The Windows binaries built with CUDA 9 for SM 3.0 or later Nvidia GPUs, so make sure you have up to date video drivers installed with support for CUDA 9.0 on your mining rigs.

– To download the latest ccMiner version 2.2.5 fork by tpruvot Windows binaries...

In: [Mining Software](#) Tags: [ccminer](#), [ccminer 2.2.5](#), [ccminer nvidia](#), [ccminer PGN](#), [ccminer Pigeoncoin](#), [ccminer Ravencoin](#), [ccminer RVN](#), [ccminer tpruvot](#), [tpruvot](#), [X12](#), [X16r](#), [X16S](#)

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ccMiner

To mine Litecoin and Feathercoin, I used a mining program known as ccMiner. You can download the latest version of ccMiner from <http://cryptomining-blog.com>, which is also a great resource for news and information on cryptocurrency markets and mining.

For this project, I used ccMiner version 1.8.3, which I downloaded at <http://cryptomining-blog.com/8271-updated-ccminer-1-8-3-git-fork-by-tpruvot-with-improved-lbry-support/>

Search for:

ccminer

Categories

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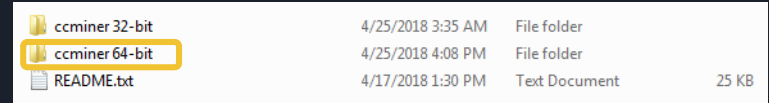
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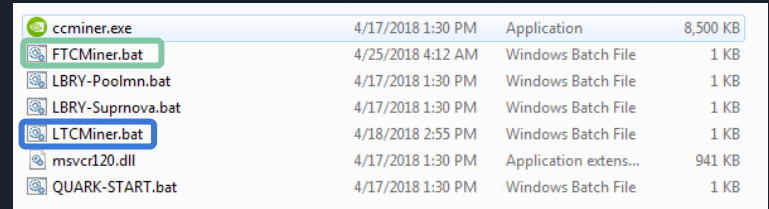
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ccMiner (continued)

Once you've extracted the ccMiner files from the zip, open the location where the files have been extracted to. You will see two folders in here, along with a README file. Both machines I used for mining were running 64-bit hardware and operating systems. So I used the software in the **ccminer 64-bit folder**.



File Name	Date Modified	Type	Size
ccminer 32-bit	4/25/2018 3:35 AM	File folder	
ccminer 64-bit	4/25/2018 4:08 PM	File folder	
README.txt	4/17/2018 1:30 PM	Text Document	25 KB



File Name	Date Modified	Type	Size
ccminer.exe	4/17/2018 1:30 PM	Application	8,500 KB
FTCMiner.bat	4/25/2018 4:12 AM	Windows Batch File	1 KB
LBRY-Poolmn.bat	4/17/2018 1:30 PM	Windows Batch File	1 KB
LBRY-Suprnova.bat	4/17/2018 1:30 PM	Windows Batch File	1 KB
LTCMiner.bat	4/18/2018 2:55 PM	Windows Batch File	1 KB
msvcrt120.dll	4/17/2018 1:30 PM	Application extens...	941 KB
QUARK-START.bat	4/17/2018 1:30 PM	Windows Batch File	1 KB

Inside, you will find `ccminer.exe`, which is the mining application. Along with several other files, which you won't need to interact with. What we need to do now is create our `.bat` files, which contain our mining configuration. I named mine **FTCMiner.bat** and **LTCMiner.bat** for Feathercoin and Litecoin respectively.

To create the .bat files, open up notepad or your preferred text editing software. I used notepad++.

I copied and pasted the bulk of my .bat file's information from examples I found online.

```
1 ccmminer -a neoscrypt -o stratum+tcp://pool.feathercoin.com:6056 -u  
dandandan.desktop -p desktop -d 0 -i 0  
2 pause
```

```
1 ccmminer --algo=scrypt --url=stratum+tcp://us.litecoinpool.org:3333  
--userpass=Dandandan.desktop:desktop  
2 pause
```

Both of the .bat files begins with a command to run the ccmminer application; The next **bit of text tells ccMiner which algorithm to use** for mining. Feathercoin uses neoscrypt while Litecoin uses scrypt.

Next we have the **URL for our mining pool**, followed by our username and worker name, then the passwords we set for those workers.

Once you've written your config files, save them as .bat files and name them whatever is most convenient for you.

To start mining coins, just run the .bat file that you created. Like before, when we used DualMiner, you can expect to experience a noticeable performance drop in your computer while running the mining software.

Here on the right, we can see ccMiner running with our Feathercoin configuration.

Below we see ccMiner running with our Litecoin configuration.

```
C:\Windows\system32\cmd.exe

C:\Users\Dan\Desktop\ccminer 183\ccminer 64-bit>ccminer -a neoscrypt -o stratum+
tcp://pool.feathercoin.com:6056 -u dandandan.desktop -p desktop -d 0 -i 0
*** ccminer 1.8.3 for nVidia GPUs by tpruvot@github ***
Built with UC++ 2013 and nVidia CUDA SDK 7.5

Originally based on Christian Buchner and Christian H. project
Include some of the work of djm34, sp, tsiv and klausI.

BTC donation address: 1AJdfCpLWPNoAMDfHF1wD5y8UgKSSTHxPo (tpruvot)

[2018-04-29 17:04:33] Starting on stratum+tcp://pool.feathercoin.com:6056
[2018-04-29 17:04:33] NUML GPU monitoring enabled.
[2018-04-29 17:04:33] NVAPI GPU monitoring enabled.
[2018-04-29 17:04:33] 1 miner thread started, using 'neoscrypt' algorithm.
[2018-04-29 17:04:33] Stratum difficulty set to 256 (0.00391)
[2018-04-29 17:04:34] GPU #0: Intensity set to 13 (<+5), 8192 cuda threads
[2018-04-29 17:04:54] GPU #0: GeForce GTX 970, 453.17 kH/s
[2018-04-29 17:04:54] accepted: 1/1 (diff 0.004), 453.17 kH/s yes!
[2018-04-29 17:05:07] GPU #0: GeForce GTX 970, 448.67 kH/s
[2018-04-29 17:05:07] accepted: 2/2 (diff 0.010), 448.67 kH/s yes!
```

```
C:\Windows\system32\cmd.exe

Originally based on Christian Buchner and Christian H. project
Include some of the work of djm34, sp, tsiv and klausI.

BTC donation address: 1AJdfCpLWPNoAMDfHF1wD5y8UgKSSTHxPo (tpruvot)

[2018-04-29 17:12:41] Starting on stratum+tcp://us.litecoinpool.org:3333
[2018-04-29 17:12:41] NUML GPU monitoring enabled.
[2018-04-29 17:12:41] NVAPI GPU monitoring enabled.
[2018-04-29 17:12:41] 1 miner thread started, using 'scrypt' algorithm.
[2018-04-29 17:12:42] Stratum difficulty set to 65536 (1.00000)
[2018-04-29 17:12:42] GPU #0: 32 hashes / 4.0 MB per warp.
[2018-04-29 17:12:44] GPU #0: Performing auto-tuning, please wait 2 minutes...
[2018-04-29 17:12:44] GPU #0: maximum total warps (BxW): 863
[2018-04-29 17:12:52] scrypt block 1412624, diff 8329064.751
[2018-04-29 17:13:19] Stratum difficulty set to 16384 (0.25000)
[2018-04-29 17:13:30] GPU #0: 428548.47 hash/s with configuration I25x15
[2018-04-29 17:13:30] GPU #0: using launch configuration I25x15
[2018-04-29 17:13:30] GPU #0: Intensity set to 13.4648, 12000 cuda threads
[2018-04-29 17:13:30] scrypt factor set to 9 (1024)
[2018-04-29 17:13:31] GPU #0: GeForce GTX 970, 410.55 kH/s
[2018-04-29 17:14:04] Stratum difficulty set to 4096 (0.00391)
[2018-04-29 17:14:06] GPU #0: GeForce GTX 970, 408.84 kH/s
[2018-04-29 17:14:40] Stratum difficulty set to 1024 (0.0013)
[2018-04-29 17:15:24] Stratum difficulty set to 256 (0.00391)
```

The command prompt window that opens will give various detailed information about the mining process, settings, and your hash rate.

For this project, I installed and configured mining software for three different altcoins on two computers with different hardware and operating systems.

Desktop: Custom build

- Windows 7 Ultimate 64-bit
- Intel Core i5-3570K CPU @ 3.40 GHz
- 16 GB RAM
- Nvidia GeForce GTX 970 4GB

Laptop: MSI GE62 6QF

- Windows 10 Home 64-bit
- Intel Core i7-6700HQ CPU @ 2.60 GHz
- 16 GB RAM
- Nvidia GeForce GTX 970m 3GB



Litecoin Mining



LTC

\$155.02 USD
(3.97%)

Desktop

~400 kH/s hash rate

~0.0000032 LTC / 8 hrs

~\$0.0005 / 8 hrs

Laptop

~200 kH/s hash rate

~0.0000017 LTC / 8 hrs

~\$0.00026 / 8 hrs

Feathercoin Mining



FTC

\$0.246778 USD
(4.28%)

Desktop

~450 kH/s hash rate

~0.63 FTC / 8 hrs

~\$0.16 / 8 hrs

Laptop

~250 kH/s hash rate

~0.35 FTC / 8 hrs

~\$0.09 / 8 hrs



Ethereum Mining



\$694.38 USD
(3.59%)

Desktop

~400 kH/s hash rate

~0.00012 ETH / 8 hrs

~\$0.08 / 8 hrs

Laptop

~ 190 kH/s hash rate

~0.000054 ETH / 8 hrs

~\$0.036 / 8 hrs

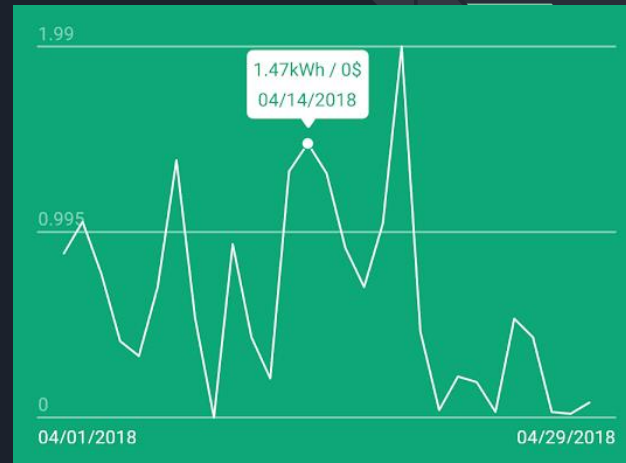
Power consumption

On the nights when altcoin miners were running, the power consumption nearly doubled for each respective machine.

\$0.091 / kWh



Desktop



Laptop

The value of an altcoin changes on a near-hourly basis. I've seen both Ethereum and Litecoin jump or fall as much as \$6 in a single day.

You can see from these graphics that the values of these two coins can change drastically in a relatively short amount of time.



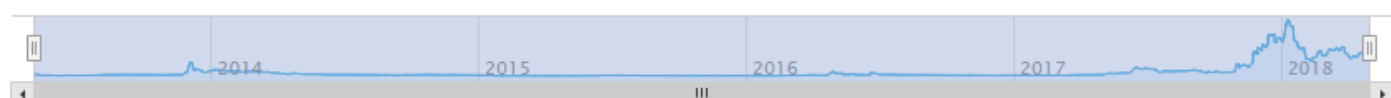
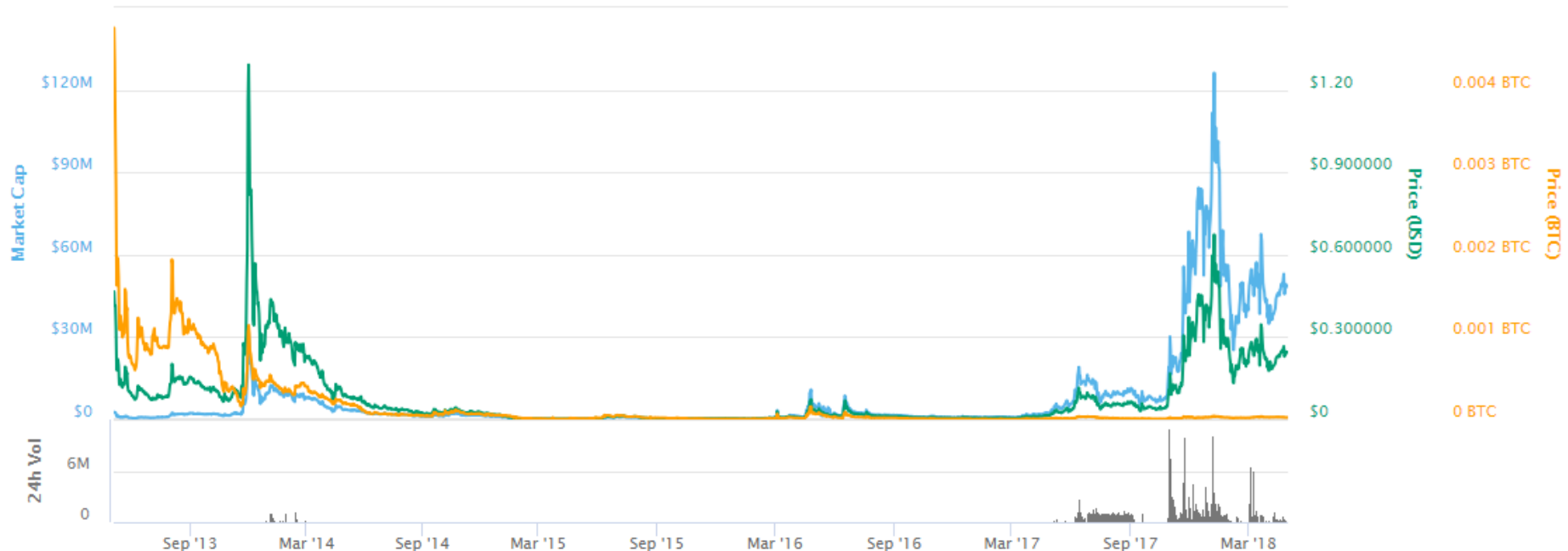
<http://www.coinmarketcap.com>

Feathercoin Charts

Linear Scale Log Scale  

Zoom 1d 7d 1m 3m 1y YTD **ALL**

From May 2, 2013 To Apr 29, 2018



— Market Cap — Price (USD) — Price (BTC) ● 24h Vol