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FIlecoin mining configuration-how to mine!

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file

**

lotus-miner

**

English

Recommended configuration

CPU: AMD 3970X or Ryzen Threadripper other models

Memory: 256 GB

SSD: 2 TB * 2

Operating system: Ubuntu 18.04

Minimum configuration

Not tested. If you have any questions, you can raise an issue.

-CPU: AMD with SHA extension

- Memory: 128 GB
- SSD: 1 TB
- Operating System: Linux
-

Features

After the first startup, all subsequent operations are automated without manual intervention.

The packaging operation is completely completed by the worker, and there is no network transmission except for the final sealed sector (about 33 GB) to return the miner.

Automatically discover idle workers and start packaging operations.

After the program is exited, it can be resumed after restarting. If there is an unrecoverable situation, you can file an issue.

Based on the recommended configuration, a single machine can run in parallel with two sectors, and the daily output capacity is more than 200 GB.

The FIL_PROOFS_MAXIMIZE_CACHING environment variable is automatically set.

By default, LOTUS_STORAGE_PATH is not used to store files and separate directories.

note

Before starting, make sure that there is enough free memory.

Please make sure that all devices can connect to the Internet normally.

Installation configuration

The mining program, necessary libraries, time calibration, graphics driver, ulimit, swap memory (64 GB) will be installed.

download

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Switch to root account

```
sudo su
```

Perform installation

```
./script/install.sh
```

After installation, you can exit back to the previous account

If you install the graphics card driver for the first time, you need to restart to take effe ct

First start

Several configurable environment variables can be set according to your needs.

The catalog of lotus, miner, worker, zero-knowledge proof parameters. It is recommen ded to set to the directory on the SSD

```
export LOTUS_PATH="$HOME/lotus"
export LOTUS_STORAGE_PATH="$HOME/lotusstorage"
export WORKER_PATH="$HOME/lotusworker"
export FIL_PROOFS_PARAMETER_CACHE="$HOME/filecoin-proof-parameters"
```

Set the domestic zero-knowledge proof parameter download source

```
export IPFS_GATEWAY="https://proof-parameters.s3.cn-south-1.jdcloud-oss.com/ipfs/"
```

Manually download the zero-knowledge proof parameters to the FIL_PROOFS_PARA METER_CACHE directory, there are 200GB

```
lotus fetch-params 32GiB
starts lotus.
```

Determine the version

```
lotus -v
lotus version 0.4.17+git.045440aa
```

Start lotus

```
nohup lotus daemon> ~/lotus.log 2>&1 &
```

View log

```
tail -f ~/lotus.log
```

Generate account. You need to go to https://faucet.testnet.filecoin.io/ to receive test c oins and create a miner account

```
lotus wallet new bls
```

Wait for node synchronization to complete

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Use the miner registration result to initialize the miner

```
lotus-storage-miner init --actor=xxx --owner=xxxxx
```

If the miner and worker are not on the same machine, the IP of the miner needs to be configured

Cancel the comments in front of ListenAddress and RemoteListenAddress, and change their IP to LAN IP

```
vi ~/.lotusstorage/config.toml
```

Start miner.

--Max-parallel indicates the number of sectors allowed to be parallel for each worker.

When there is 256 GB of memory, 64 GB of swap and 1.4 TB of free hard disk space, 2 sectors can be paralleled.

When there is 128 GB of memory, 64 GB of swap and 0.7 TB of free hard disk space, one sector can be paralleled.

```
nohup lotus-storage-miner run --max-parallel 2> ~/miner.log 2>&1 &
```

View log

```
tail -f ~/miner.log
```

storage attach, which tells miner where the data is actually stored. Please select the directory under the mechanical hard disk or network disk

```
lotus-storage-miner storage attach --init=true --store=true /path/to/storage
```

View miner information

```
lotus-storage-miner info
starts the worker.
```

If the miner and the worker are not on the same machine, you need to copy the api and token files under the LOTUS_STORAGE_PATH of the miner machine to the LOTUS_STORAGE_PATH of the worker machine

Optional environment variables

The following settings will make the worker use GPU to calculate PreCommit2.

```
export FIL_PROOFS_USE_GPU_COLUMN_BUILDER=1
export FIL_PROOFS_USE_GPU_TREE_BUILDER=1
```

The following settings will make the worker not use GPU to calculate Commit2, but use CPU instead

```
export BELLMAN_NO_GPU=true
```

```
2 export RUST_LOG=debug
```

To start the worker, you need to add the LAN IP

```
1 lotus-seal-worker run --address xxx.xxx.xxx.xxx:3456> ~/worker.log 2>&1 &
```

View log

Tail -f ~/miner.log

advanced: worker uses multiple SSDs

```
1 lotus-seal-worker run --address xxx.xxx.xxx.xxx:3456 --attach /path/to/another/ssd/directory> ~/work
```

Observe the operation. Execute on the miner machine. Commonly used commands are listed below.

```
1 lotus-storage-miner info
2 lotus-storage-miner storage list
3 lotus-storage-miner workers list
4 lotus-storage-miner sectors list
```

Or use a block explorer, such as https://filfox.io/, to view.