

# Stratis Sidechain Masternode FAQ

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## Where are the logs

Mainchain logs: %appdata%\StratisNode\stratis\StratisMain\Logs\node.txt

Sidechain logs: %appdata%\StratisNode\cirrus\CirrusMain\Logs\node.txt

## Where is the node data folder

Mainchain logs: %appdata%\StratisNode\stratis\StratisMain

Sidechain logs: %appdata%\StratisNode\cirrus\CirrusMain

## What are the wallet types on the masternode

- mainet multisig/federation wallet – keeps all funds transferred to the sidechain
- sidechain multisig/federation wallet – keeps all unallocated sidechain funds
- sidechain normal wallet – wallet used to collect fees on the sidechain or make sidechain transactions

## What are the mnemonics of the Mining Wallet on the masternode sidechain (50k nodes only)

The sidechain **Mining Wallet** uses the same mnemonics and password as federation. The password and passphrase are both set to the same value and are equal to the federation password.

## I can see MISS in the PoA Miner

This is expected if not all miners (i.e. either 10k or 50k nodes) are online. The first 4 digits correspond to the miner's public key

```
=====PoA Miner=====
Mining information for the last 20 blocks.
MISS means that miner didn't produce a block at the timestamp he was supposed to.
[02b8]-MISS-MISS-MISS-MISS-MISS-MISS-MISS-MISS-[03e8]-MISS-MISS-MISS-MISS-[0377]-
[03d8]-MISS-MISS-MISS-MISS-MISS-
```

## Receiving cancelled

The message below states that the node couldn't establish a connection with another node. This could be to a valid reason (i.e. node protection against sybil attack, invalid node type/version, etc.) This doesn't indicate any issue unless the node cannot connect to anyone.

```
info: Stratis.Bitcoin.Connection.ConnectionManagerBehavior[0]
Peer '[:ffff:45.32.14.111]:63617' connected (inbound), agent 'StratisNode:3.0.5 (70012)', height
1350510
info: Stratis.Bitcoin.Connection.ConnectionManagerBehavior[0]
Peer '[:ffff:45.32.14.111]:63617' offline, reason: 'Peer from the same network group.'.
info: Stratis.Bitcoin.Connection.ConnectionManagerBehavior[0]
Peer '[:ffff:30.212.14.35]:55299' connected (inbound), agent 'StratisNode:1.0.0 (70000)', height
397
```

```
info: Stratis.Bitcoin.Connection.ConnectionManagerBehavior[0]
Peer '[:ffff:30.212.14.35]:55299' offline, reason: 'Peer from the same network group.'
```

## How can I verify that the node is running correctly

Mainnet node: All heights (i.e. headers, consensus, blockstore, wallet, address indexing) are at the network height (could be verified against <https://chainz.cryptoid.info/strat/>)

Sidechain node: The node has connections to other peers, there are some new blocks every 16 sec (sometimes less frequently if not all miners are online)

## How can I check if my sidechain node is mining blocks

Sidechain network mines one new block every 16 seconds. With the current number of sidechain members it is expected that every sidechain miner will create a new PoA block every 14 minutes.

Following line in %appdata%\StratisNode\cirrus\CirrusMain\Logs\node.txt is an indication that the node is mining.

```
Block was mined 556-4231c0f573d0242dba9d43c74e4a2d3a7e9891ca93007dd430d2b63388c1c6a3-
FullyValidated.
```

Alternatively it is possible to verify that the node is mining by looking for the first 4 digits of the federation public key in the output below. In that example node with public key starting with **02b8** was the last one to mine PoA block on the sidechain.

```
=====PoA Miner=====
Mining information for the last 20 blocks.
MISS means that miner didn't produce a block at the timestamp he was supposed to.
[02b8]-MISS-MISS-MISS-MISS-MISS-MISS-MISS-MISS-[03e8]-MISS-MISS-MISS-MISS-[0377]-
[03d8]-MISS-MISS-MISS-MISS-MISS-
```

## How can I check if my node is connected to any other node

Please look for following console output in the command window. In the example below the node has 3 inbound connections and 1 outbound connection.

```
=====Connection===== agent StratisNode:1.0.0 (70000) [in:3 out:1] [recv: 0.49 MB sent: 0.24 MB]
>>> AddNode:
OUT Peer:[:ffff:40.122.34.35]:16179, (r/s/c):397/397/0 R/S MB: 0.46/0.20
agent:StratisNode:1.0.0 (70000)
<<<
IN Peer:[:ffff:81.212.177.213]:53323, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
IN Peer:[:ffff:41.42.154.148]:61940, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
IN Peer:[:ffff:11.24.72.119]:60982, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
```

## How can I verify that I have configured the firewall correctly for inbound connections

Please look for following console output in the command window. In the example below the node has 3 inbound connections which confirms that the firewall has been configured correctly. Please note that the fact that there is no inbound connection doesn't mean that the firewall has been configured wrongly.

```
====Connection==== agent StratisNode:1.0.0 (70000) [in:3 out:1] [recv: 0.49 MB sent: 0.24 MB]
>>> AddNode:
  OUT Peer:[::ffff:40.212.34.35]:16179, (r/s/c):397/397/0 R/S MB: 0.46/0.20
agent:StratisNode:1.0.0 (70000)
<<<
  IN Peer:[::ffff:88.122.277.113]:53323, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
  IN Peer:[::ffff:35.11.154.248]:61940, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
  IN Peer:[::ffff:4.11.32.219]:60982, (r/s/c):397/397/0 R/S MB: 0.01/0.01
agent:StratisNode:1.0.0 (70000)
```

For a more definitive answer on the correct firewall configuration please use <https://www.yougetsignal.com>

## How can I correctly stop the node

Please do not close the process by pressing red X in the top right corner of the command window. This could cause integrity problems with the blocks database and the node might need to resync.

The preferred way is to use swagger (/api/Node/shutdown) or pressing CTRL+C in the console window.

Please stop the PowerShell script (if it is still running) before stopping any of the nodes.

**Mainnet swagger:** <http://127.0.0.1:37221/swagger>

**Sidechain swagger:** <http://127.0.0.1:37223/swagger>

Please verify in the task manager that the node has been stopped before starting it again.

You can also stop both masternode nodes using PowerShell script

```
Invoke-WebRequest -Uri http://localhost:37221/api/Node/shutdown -Method post -Body "true" -
ContentType "application/json" | Out-Null
Invoke-WebRequest -Uri http://localhost:37223/api/Node/shutdown -Method post -Body "true" -
ContentType "application/json" | Out-Null
```

## How to verify if the federation is active

Please look for following console output in the command window. In the message below the federation status is Active.

```
==== Federation Wallet ====
Federation Wallet: Confirmed balance: 99998794.10957964 Reserved for withdrawals:
0.00000000 Federation Status: Active
```

## Why the federation is inactive (50k nodes only)

That could happen if you have copy-pasted the mnemonics or password from the Excel into the PowerShell script. In order to avoid this please first paste the text into Notepad and then into the PowerShell window.

## How to activate federation (50k nodes only)

The federation should be activated automatically as part of the PowerShell script. If the federation didn't activate you could do this manually using swagger.

**Mainnet swagger:** <http://127.0.0.1:37221/swagger>

**Sidechain swagger:** <http://127.0.0.1:37223/swagger>

- Navigate to swagger page in your browser (see above for URL)
- Click on **/api/FederationWallet/enable-federation** to expand it
- Click on **Try it out** button
- Enter your federation details

```
{
  "mnemonic": "your_mnemonics",
  "password": "your_password",
  "passphrase": "your_password"
}
```
- Click **Execute** button

## AddressIndexer height is not advancing

- Have you started the sidechain masternode with a clear data folder
- Have you killed the node or made it close ungracefully
- Are there any exception messages in the logs or console

There is a known issue related to the underlying database LiteDB which will prevent the AddressIndexing from advancing. If you can see the following message in the console logs please follow the below recovery procedure.

```
AddressIndexer.indexingTask RegisteredTask Faulted
* Fault Reason: Unable to cast object of type 'LiteDB.EmptyPage' to type 'LiteDB.IndexPage'.
```

### Recovery Procedure

- Ensure that the node is not running by checking in Windows Task Manager for **dotnet** processes
- Navigate to: `%appdata%\StratisNode\stratis\StratisMain`
- Remove **addressindex.litedb** file
- Start the node again using the PowerShell script

## Backing up AddressIndexer database

The AddressIndexer database could get corrupted if the node crashes due to unplanned system restart. That could be a result of killing the node process (e.g. using task manager or by closing the console window with the X icon) or machine restarting/crashing unexpectedly.

If the node is not running on a dedicated server backed up by the UPS it might be beneficial to backup the **addressindex.litedb** file.

If at any time the node crashes and needs to be started again follow the restore procedure. The AddressIndexer will still need to catch up after the restore but the synchronisation time will be much shorter.

### Backup Procedure

- Stop the Stratis mainnet node (ideally using swagger)
- Ensure that the node is not running by checking in Windows Task Manager for **dotnet** processes
- Navigate to: %appdata%\StratisNode\stratis\StratisMain
- Make a copy of **addressindex.litedb** file
- Start the node again using the PowerShell script

### Restore Procedure

- Ensure that the node is not running by checking in Windows Task Manager for **dotnet** processes
- Navigate to: %appdata%\StratisNode\stratis\StratisMain
- Remove **addressindex.litedb** file
- Copy a backup **addressindex.litedb** file into %appdata%\StratisNode\stratis\StratisMain
- Start the node again using the PowerShell script

### Cannot access swagger

If the API port will be printed out to the console and log file when the node is starting up. Please look for the following line in the node.txt log file.

The port number will be different for mainchain and sidechain nodes. The example below is for stratis mainnet.

```
INFO: Stratis.Bitcoin.Features.Api.ApiFeature.InitializeAsync API starting on URL  
'http://localhost:37221/'
```

### If my sidechain node is mining blocks, can I get the reward (in Strat)

The sidechain rewards are earned in CRS currency and are kept in the sidechain wallet. The Stratis Core wallet will be able to transfer sidechain funds in CRS from the sidechain wallet directly to the mainchain wallet in STRATs.