# Namecoin

# **Namecoin**

- Similar to DNS

- Allows anyone to register a name

- Decentralized, no trusted third party

- First fork of Bitcoin!

# Namecoin

- Extension to Bitcoin script with 3 new opcodes
  - NAME_NEW
  - NAME_FIRST_UPDATE
  - NAME_UPDATE

NAME_NEW: Hash(random_nonce, "agervais")

Is there something to consider?

Wait for 12 blocks, preventing frontrunning!

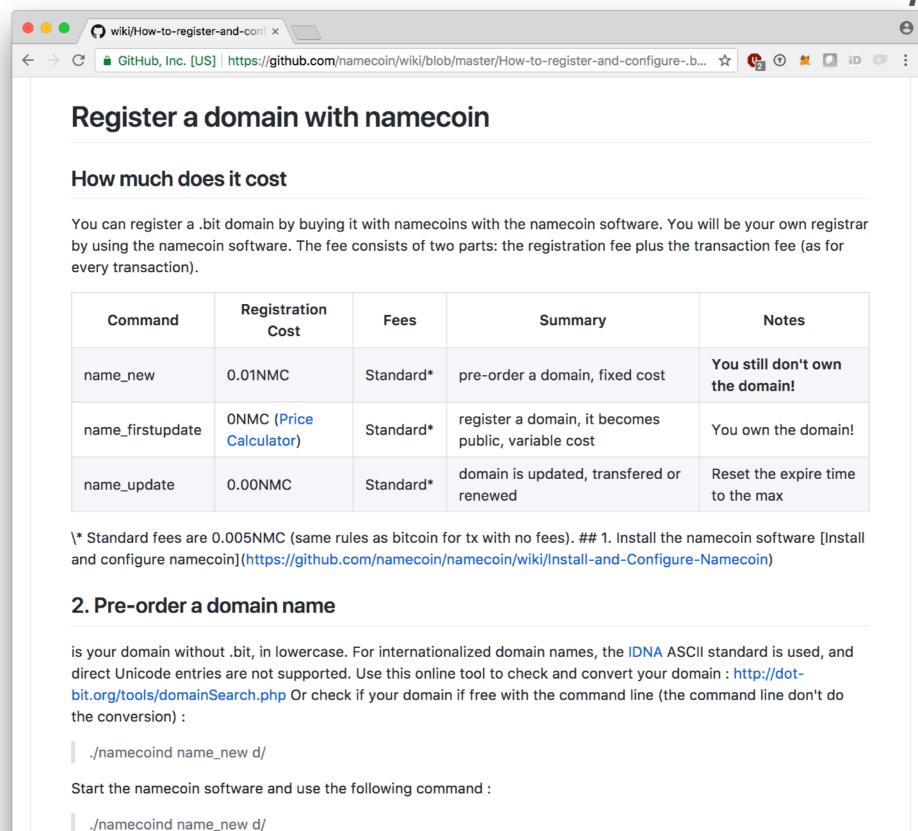NAME_FIRST_UPDATE: random_nonce, "agervais", {"ip":"234.22.34.23"}

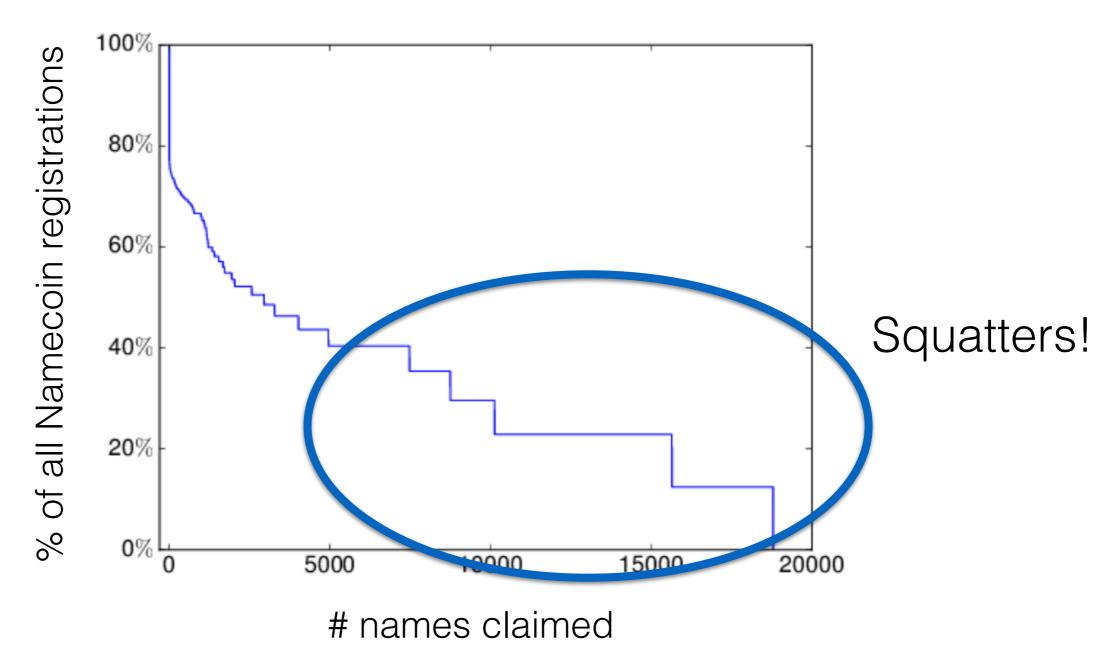NAME_UPDATE: random_nonce, "agervais", {"ip":"234.22.34.24"}

Time

# Namecoin Fees

## Register a domain with namecoin

### How much does it cost

You can register a .bit domain by buying it with namecoins with the namecoin software. You will be your own registrar by using the namecoin software. The fee consists of two parts: the registration fee plus the transaction fee (as for every transaction).

| Command | Registration Cost | Fees | Summary | Notes |
|---|---|---|---|---|
| name_new | 0.01NMC | Standard* | pre-order a domain, fixed cost | You still don't own the domain! |
| name_firstupdate | 0NMC (Price Calculator) | Standard* | register a domain, it becomes public, variable cost | You own the domain! |
| name_update | 0.00NMC | Standard* | domain is updated, transfered or renewed | Reset the expire time to the max |

\* Standard fees are 0.005NMC (same rules as bitcoin for tx with no fees). ## 1. Install the namecoin software [Install and configure namecoin](https://github.com/namecoin/namecoin/wiki/Install-and-Configure-Namecoin)

### 2. Pre-order a domain name

is your domain without .bit, in lowercase. For internationalized domain names, the IDNA ASCII standard is used, and direct Unicode entries are not supported. Use this online tool to check and convert your domain : http://dot-bit.org/tools/domainSearch.php Or check if your domain if free with the command line (the command line don't do the conversion) :

    ./namecoind name_new d/

Start the namecoin software and use the following command :

    ./namecoind name_new d/

# Namecoin's Bad Incentive Structure



Squatters!

An empirical study of Namecoin and lessons for decentralized namespace design, Kalodner et al., WEIS 2015

# New Functionality for Bitcoin

| new addition | Purpose | In Namecoin | In OpenBazaar/ Futurecoin |
|---|---|---|---|
| **Global State** | Track application data | Register name | merchants, ask and bid |
| **Opcodes** | Write to global state | NAME_NEW, etc. | OPEN_MARKET, etc. |
| **Fees** | Limit spam, computation and storage read/write | Registration fee to limit squatting, expiry | Transaction fees for trades |

# New Functionality for Bitcoin

| new addition | Purpose | In Bitcoin |
|---|---|---|
| **Global State** | Track application data | **UTXO set** |
| **Opcodes** | Write to global state | **Transactions** |
| **Fees** | Limit spam, computation and storage read/write | **Implicit with transaction fees** |