### **BLUEPAPER**



# Actinium

Building and Supporting the Lightning Network

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### Who We Are

- Actinium began as a hobby project, designed & written by a single developer. This project was created mainly to provide direct competition to the overwhelming influx of scams, shady developers, and blatant abuse of open-source technology.
- The Actinium Network was launched on April 25th, 2018, with no pre-mine, no pre-sale, no founders rewards, and the development team owns no significant share of (ACM) coins.
- > The Actinium development team has always been—and will always be—publicly visible.
- Actinium leverages the latest Bitcoin and Litecoin codebases with a specific focus on the perpetual development of future technologies and the empowerment of users through an intuitive user experience.
- Actinium provides stability against volatile speculation through our highly-motivated development plan that prioritizes longevity over short-term price action.
- Actinium was created for everyone because we believe that it is People who collectively determine the value to things. Therefore, a cryptocurrency must work for everyone in order to be of any value.
- The Actinium team takes pride in offering a truly ethical, motivated, and technologically advanced cryptocurrency.

### Goals

- Paper Wallets & Address-Generators
- > Mobile Wallets for Android & iOS
- > Hardware Wallet Integration
- Electrum Servers & Clients
- > Tor Integration
- SegWit & Bech32 Addresses
- > Lightning Network
- > Atomic Swaps
- > Smart Contracts
- > Exchanges
- Education in Blockchain Technology, Security, and Lightning Network

### Technology

- The Actinium codebase is built using the Litecoin code and follows the Bitcoin development branch.
- The Actinium development team continuously integrates the latest blockchain technology features like Segregated Witness, Bech32 addresses, Tor, and much more.
- Actinium is actively implementing second layer solutions such as Lightning Network by developing & porting tools for stable, simple on-boarding and adoption.
- Actinium has successfully integrated Tor libraries because we firmly believe Privacy and Anonymity *must* be available to every cryptocurrency user via user-friendly applications.
- Maintaining the Safety and Security of all user(s) funds is of the utmost importance.
   Thus, Actinium has full Hardware Wallet compatibility with Ledger Nano and Ledger Blue. (pending the approval of the Ledger HQ Co.)
- Actinium aims to support as many different miners as possible, therefore, we use the GPU-friendly Lyra2z algorithm that works effectively with both NVIDIA & AMD cards.
- To further secure the network Actinium utilizes the LWMA as our preferred difficultyadjustment algorithm.

### Specifications

- Launched: 25th April 2018
- Fair Launch: no premine, no airdrop, no ICO, no "founder rewards"
- > Mining: PoW with GPU (NVIDIA & AMD)
- Algorithm: Lyra2z since block 55,000
- Maximum Supply: 84,000,000 coins
- Block Reward: 50 ACM halving every 840,000 blocks (approx. every 4 years)
- **Block Time: 2.5minutes**
- SegWit: active since block 64,512
- > Bech32 Addresses: supported prefix acm1
- LWMA difficulty retargeting adjustment algorithm since block 85,000
- **Tor Integration: activated with a single parameter since version 0.17.5.0**

## Mining

Actinium uses Lyra2z as a Proof-Of-Work Algorithm.

#### Advantages of Lyra2Z:

- Energy efficient algorithm
- Keeps GPU cards from overheating
- Lowers efficiency-gap between AMD and NVIDIA GPUs.
- Currently ASIC, FPGA, & Botnet resistant
- > LWMA difficulty readjustment algorithm

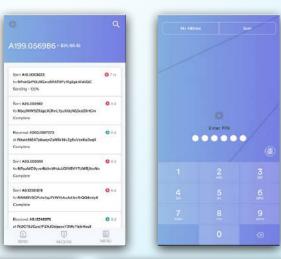
#### > Advantages of LWMA:

- Proven to be more effective at stabilizing hash-rate than the 2016-block algorithm used by Litecoin & Bitcoin.
- Readjusts the difficulty every block; taking into account the calculations of the last 60 blocks
- Reacts quickly to large spikes in hash-rate.

### > Mobile Applications

- Actinium Mobile Wallet is available for <u>Android</u>
- > iOS coming soon!









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### Hardware Wallets

- Actinium is compatible with
   Ledger Nano S and Ledger Blue.
- We have successfully completed tests of our integration code.
- Awaiting Ledger HQ's final approval.



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### **Electrum Support**

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ne to electrum1.actinium.org, an Actinium Electrum node maintained by

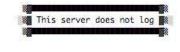
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Balance: 0.00 ACM (No FX rate available)

- To make using blockchains easier for our users we operate specialized Electrum Servers that support Actinium
- We also offer an alternative Electrum SPV Wallet.

### **Tor Integration**

- Actinium has supported the Tor anonymity protocol since v0.17.5.0.
- To activate Tor, users need only enter a single parameter into their configuration file everything else will be done automatically.
- Additionally, we support Pluggable Transports to ensure censorship resistance against high-level Tor traffic blocking systems.

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### Zerocash, Zerocoin, and Stealth Addresses

- Actinium is currently testing the Zerocoin, Zerocash, and Stealth Addresses.
- The Zerocash & Zerocoin protocols help anonymize user transactions making the Actinium Blockchain impervious to chain-analysis.
- Zerocash enables confidential transactions by creating specialized Actinium coins that obfuscate any-and-all transaction data including transaction amounts, sender/ receiver identification information, and more.
- Zero-Knowledge Proofs confirm the validity of confidential transactions without revealing any details.
- Stealth Addresses prevent any possible public association of a transaction with a recipient's wallet address. They conceal actual destination addresses thereby hiding the receiver's identity on Actinium's network.

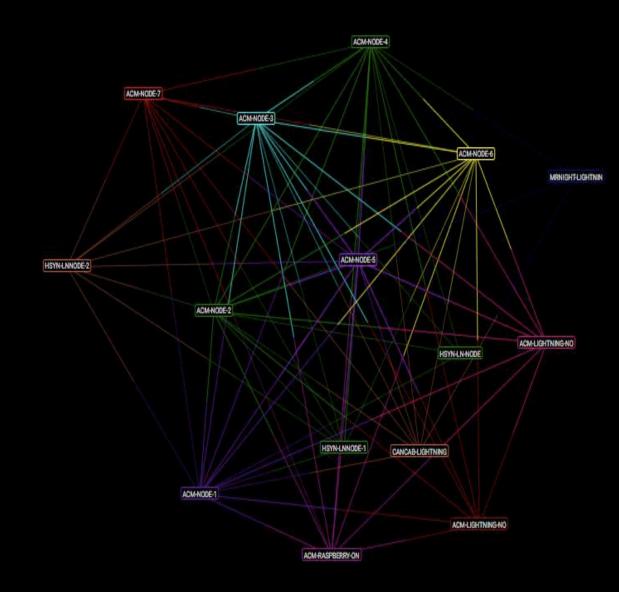
## Lightning Network

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too tiny

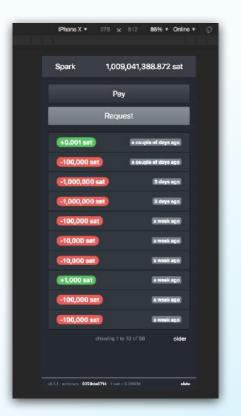
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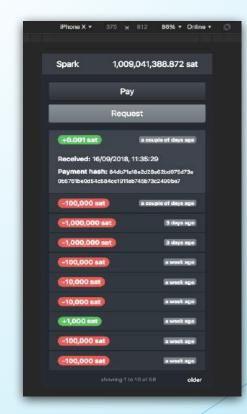
- Actinium's main priority is facilitating the adoption of the Lightning Network.
- We support SegWit, a necessary protocol for Lightning Network.
- We also have activated our own
   Lightning Network that is based on
   c-lightning BOLT implementation.
- <u>https://ln-explorer.actinium.org</u>



### Lightning Network Mobile Wallets

- > We support the Spark-Wallet, a mobile wallet available for Web, Android, and iOS.
- Visit our Wiki for detailed information on how to install it on your device.





### Links

- <u>https://actinium.org</u>
- <u>https://github.com/Actinium-project</u>
- <u>https://github.com/Actinium-project/Actinium/wiki</u>
- <u>https://paperwallet.actinium.org</u>
- <u>https://faucet.actinium.org</u>
- <u>https://explorer.actinium.org</u>
- <u>https://explorer2.actinium.org</u>
- <u>https://ln-explorer.actinium.org</u>