

Monero multi-signatures  
ExaWallet  
Fastsync protocol



# Multi-signatures



# Monero multi-signatures: origins

- 1 N/N and N-1/N are not enough
- 2 Works only with complex exchange of key images and partial keys in CLI
- 3 Requires secure channel for data exchange

# Multi-signatures: extended

- Research current state and prepared a report
- Implemented M/N generalized multi-signature scheme
- Fixed some bugs along the way





# Exa Wallet

- Supports classic and multisignature wallets up to M/N
- Uses open-source backend component to work with multisignatures
- Allows fully encrypted data exchange with own key pair
- Mobile optimizations

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← Create shared wallet

Wallet name  
demo

Wallet password  
.....

Wallet password confirmation  
.....

Signatures need 3 Total members 5

Mnemonic language  
English

Node  
monero-stagenet.exan.tech:38081

CONTINUE

# Current state

- Beta releases in AppStore & Play [stagenet]
- WIP version for desktop (Electron JS)
- Backend protocol v1 is completed
- Backend protocol v2 (total encryption) is testing

# We're looking for beta-testers

## Apply via form



Light wallets





# Monero light wallet

- 1 Popular use case
- 2 OpenMonero is hard to setup & maintain
- 3 Requires special wallet type and full resync

# Monero Fastsync protocol

<https://github.com/exantech/monero-fastsync>

- Seamless switch between classic / fastsync nodes
- Ready-to-use backend solution (w/ libwallet patch)
- Uses secret view & public spend keys
- Optimized for wallet restore procedure

# Performance

## Server

H/w: PX61-SSD

S/w: PostgreSQL 9.6, nginx, FastSync daemon 0.1.3

## Desktop wallet (~234k blocks)

Full resync, origin daemon: 280 sec.

Full resync, fastsync, “cold” address: 270 sec.

Full resync, fastsync, “warm” address: 64 sec.

# Performance

## **Server**

H/w: PX61-SSD

S/w: PostgreSQL 9.6, nginx, FastSync daemon 0.1.3

## **Mobile wallet**

Android Galaxy S9, Exa Wallet

Full resync, origin daemon: 950 sec.

Full resync, fastsync, “cold” address: 540 sec.

Full resync, fastsync, “warm” address: 175 sec.



# Monero & Exantech

- <https://monero.exan.tech/>, <https://monero-stagenet.exan.tech/>
- Nodes: monero-stagenet.exan.tech, monero.exan.tech, monero5sjoz5xmjn.onion
- <https://exan.tech/en/projects/monero/>
- <https://wallet.exan.tech/>



# Thank you!

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