

Grant Proposal for Improved block explorer infrastructure

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Motivation and overview

I currently operate the block explorer at <https://zcashnetwork.info> (and its legacy non-ssl url <http://insight.mercerweiss.com>), which is also a publicly accessible bitcore node for broadcast of transactions and similar api calls, either manually or by wallets.

Block explorers are not “easily monetizable” websites in general, as users tend to be privacy conscious and resist targeted ads, which are the only ones that are at all lucrative enough to support the server infrastructure a professionally administered block explorer requires.

Currently it is just one node, and this grant would be for expansion of it to have multiple, geographically redundant nodes and their operation for the 12 month grant period.

Technical approach

In addition to the front end services provided by CloudFront, multiple back end servers will be deployed with various network and hosting providers, with an additional redundancy and monitoring layer

between the raw Insight nodes and CloudFront. Updating to and deploying new nodes with the latest version of zcashd patched for bitcore is also in scope for this project.

Team background and qualifications

Aside from operating zcash block explorers most of the last year, I did the first installation automation for @str4d's port of Insight to zcash, and assisted with porting it to support additional currencies. In my "pre-blockchain" career, summarized at <https://david.mercerweiss.com> I have a deep background in designing, deploying and automating Internet services at scale.

Evaluation plan

Availability for <https://www.zcashnetwork.info> and related services would have...any 9's? of reliability. Quarterly reports of uptime stats, incident counts, etc, and a lessons learned report at the end of the grant period.

Security considerations

What are the implications of this project to the privacy, integrity, availability and decentralization of Zcash? Does it create, or mitigate, potential attacks? Is user education needed to use it securely? This is especially relevant for technical projects.

Block explorer availability is crucial for any cryptocurrency, and there are as yet only a few public block explorers for zcash. Locating servers and content delivery endpoints in additional locations also improves availability for users who may not have good connectivity to the US or EU.

Schedule

Initial node deployments, upgrades and network provider configurations are estimated to be doable in less than one calendar week of funding. Additional nodes beyond basic 2x failover redundancy and full deployment of enhanced monitoring should be done within one calendar month of funding.

Budget and justification

Funding levels:

A. 1 pair of 64 gig RAM nodes: \$200/mo

B. 1 pair 128 gig RAM : \$300/mo

Labor: Initial setup: ~US\$1000

Ongoing maint and admin: ~US\$250/month