

SLP Token Indexer

🕒 Funded 2 months ago

📖 29.00 / 29.00 BCH

HELP US CREATE A BETTER SLP INDEXER

The [SLPDB indexer](#) gave rise to a prolific token economy on the Bitcoin Cash blockchain. The early days of the SLP ecosystem is documented in [this video](#). In order for this token economy to continue to flourish, a reliable SLP indexer is required. SLPDB is no longer maintained, and the computational requirements in order to operate it grow by the day. It is longer possible to run the software on a system with less than 32GB of memory. The number of SLPDB operators is in steady decline.

SLPDB diverges significantly from other indexers in the BCH ecosystem, such as [Fulcrum](#) or the transaction index in the BCHN full node. It's architecture has lead to significant issues. These issues are documented in [this SLP Indexing Review report](#).

This Flipstarter Campaign seeks 29 BCH to fund the development of [this indexer prototype](#). The goal is to take it from working prototype to a production-ready, scalable SLP indexer. Upon successful funding, development will be executed and managed by the [Permissionless Software Foundation](#), the organization behind [FullStack.cash](#).

HOW TO DONATE

Flipstarter produces a plugin for the Electron Cash wallet. You can [follow these directions](#) to install it and make a donation.

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For those who do not have the time or technical proficiency to install the Flipstarter plugin, you can send BCH to the address below. Any funds recieved will be forwarded on this Flipstarter campaign. If you add a message in the OP_RETURN of a transaction, it will be included when forwarding the funds to this campaign.



bitcoincash:qq25qc360hx99qszp8r73t07unrwurep8y6dutavhq

The campaign has been funded.

🎉 Celebrate! ec95eba...

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WHO WE ARE

The [Permissionless Software Foundation](#) is a collective of JavaScript developers with deep interests in the freedom-enforcing capabilities of blockchain technology. Our mission is to develop, promote, and maintain software that makes it easy for individuals to protect their privacy, circumvent censorship, and engage in economic activity. The Foundation will focus on the growth of open source software and the adoption of Bitcoin Cash across the globe, as the primary means of achieving its goals.

It's founder is [Chris Troutner](#), who helped in the creation of SLPDB and [slp-sdk](#), one of the first JavaScript libraries for working with SLP tokens. He is lead maintainer for [bch-js](#) and [bch-api](#), which power the services offered at [FullStack.cash](#), the commercial arm of the PSF. He has been helping to support the SLP token economy since the very first days of its existence.

OUR GOAL

The funds from this campaign will financially support Chris Troutner as he develops a replacement indexer for SLPDB. The goal is to take the lessons learned from [this report](#) and use them to build out an indexer to replace SLPDB.

The new SLP indexer will have the following databases:

- Addresses
- Token Statistics
- Transactions

The Address database will track this information for each address:

- Aggregate balance of SLP tokens
- SLP UTXOs associated with the address
- SLP Transaction history

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The Token Statistics database will track this information for each token:

- Mint baton status
- Tokens in circulation
- Tokens burned

The Transactions database will track this information for each SLP transaction:

- TX data hydrated with SLP information and addresses for each input and output.
- Allows for fast re-indexing since non-SLP txs can be ignored.

The Token and Address databases can be used to compute rich data. For example, all the addresses that hold a specific token can be easily queried. That's required information for important use-cases, such as performing an air-drop. These rich queries are provided by SLPDB, but are not provided by any other alternative SLP indexer.

This new SLP indexer will have the following architectural features:

- Written in [standard JavaScript](#), using the [Clean Architecture](#) design pattern.
- 100% unit test coverage. This allows for operational reliability and easy code collaboration.
- [MIT Licensed](#) to encourage wide adoption and unrestricted use through the BCH ecosystem.
- [LevelDB](#) used for fast, efficient indexing and querying.
- Drastically reduced memory usage.
- High uptime and reliability, compared to SLPDB.
- Docker container for easy deployment and horizontal scaling.

MILESTONES

- The first milestone has already been achieved. An anonymous donor paid for the initial indexer research and prototype, documented in [this report](#).
- This Flipstarter campaign will fund the second milestone, which is to take [this prototype](#) and build it out into a production-ready indexer that can be used to power wallets, exchanges, and other critical infrastructure. The cost of this milestone is estimated to be 29 BCH (approximately \$16K USD), and the

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expected timeline is 2 months.

- Once a production-ready indexer has been completed, a second Flipstarter campaign will be launched to pay for ongoing maintenance and feature improvements. The cost of this milestone is estimated to be 43 BCH (\$24K USD). This milestone is optional and will depend on the community's willingness and trust, based on the accomplishments in milestone 2.

OTHER OPTIONS

As discussed in [the report](#), there are alternative options to building a new indexer. The reasoning below is not an attempt to criticize or belittle other projects in the space. This is merely an attempt to explain why the indexer funded by this Flipstarter campaign is a superior solution.

- [BCHD](#) is a full node that also includes SLP indexing. This is a fine alternative for users proficient with the Go programming language. Over the last six months, [code commits](#) have been sparse, and support in their [Telegram channel](#) has been lacking (as documented in [this PSF meeting](#)). The Go code does not fit well into a workflow for web developers or the [Cash Stack](#). With a footprint of over 230GB, it's cumbersome to operate for the sole sake of an indexer. It's not used by miners, so using it as the primary full node to power a business adds risk. But the biggest reason this is not a good solution is because the market has not adopted it. Before James Cramer left the space, he wrote the BCHD SLP indexer and endorsed it as the next incarnation of SLPDB. However, it does not provide the rich data that SLPDB provides, and SLPDB operators have not flocked to BCHD. Apps continue to rely on SLPDB. Very few new SLP-focused apps have been built on BCHD.
- [bcash](#) is another full node that includes SLP indexing. The code is JavaScript, which makes it a better fit for fullstack web developers. However, it is currently maintained by a single, unpaid developer. The codebase has fallen in and out of consensus several times as it has been abandoned by previous maintainers, over the years since its creation. It is also not used for mining, and its SLP indexing capabilities are new, and have not been widely implemented. However, the PSF has integrated bcash into [bch-api](#). This allows bcash to operate as a short-term solution if SLPDB ever went down from a fatal bug. This integration also encourages wider use of the new indexing capabilities, growing its user-base and confidence.

By replacing MongoDB with LevelDB, and by leveraging [modules](#) based on SLPDBs core code, the indexer funded by this campaign will consume around ten times (10x) less memory than SLPDB. The open nature of JavaScript

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will make it easy to modify. A blockchain-map of SLP transactions makes it incredibly fast to re-index the database. Because it's based on node.js and packaged as a Docker container, it's easy to deploy and easy to scale. It will be node-agnostic, able to interface to any BCH full node, by using the common JSON RPC interface.

 1 recipients



Permissionless Software Foundation *29 BCH*

 14 contributors

52% **molecular**
 "It's important we care about SLP. Thanks for doing this!"

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28%	Milton Friedman "You think Russia doesn't run on greed?"	8.05 BCH
9%	Anonymous "Forwarded by CT for anonymous donor. Thank you!"	2.47 BCH
4%	read.cash "yes, please"	1.10 BCH
3%	Ekliptor "PSF provides good APIs & JS tools for others to build upon"	1.01 BCH
2%	Joemar Taganna "Long live SLP!"	0.50 BCH
1%	MobTwo "Chris has helped me present my project during my last hackathon and I usually remember people who had been kind to me."	0.20 BCH
1%	Token Fan "Keep up the good work, Chris!"	0.18 BCH
1%	Aaron Shoemaker	0.16 BCH

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0%

sambo

0.09 BCH



0%

George Donnelly

"BitcoinCashSite.com"

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0%

Rowan Skye

"We need this, people, help the PSF!"

0.05 BCH



0%

Mr. MGTOW

"Keep up the great work."

0.05 BCH



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