

ZainoD – The Zcash Indexing Server v0.2.0

Zainod is the core executable of the Zaino server - a high-performance, Rust-based indexing platform for the Zcash blockchain. It consolidates critical chain fetch and transaction submission functionalities into a single, efficient service, providing a streamlined alternative to traditional full-node integrations (e.g., Zcashd).

Crates:

- zainod
- zaino-Serve
- zaino-State
- zaino-Fetch
- zaino-Proto
- zaino-testutils
- integration-tests

Zaino State:

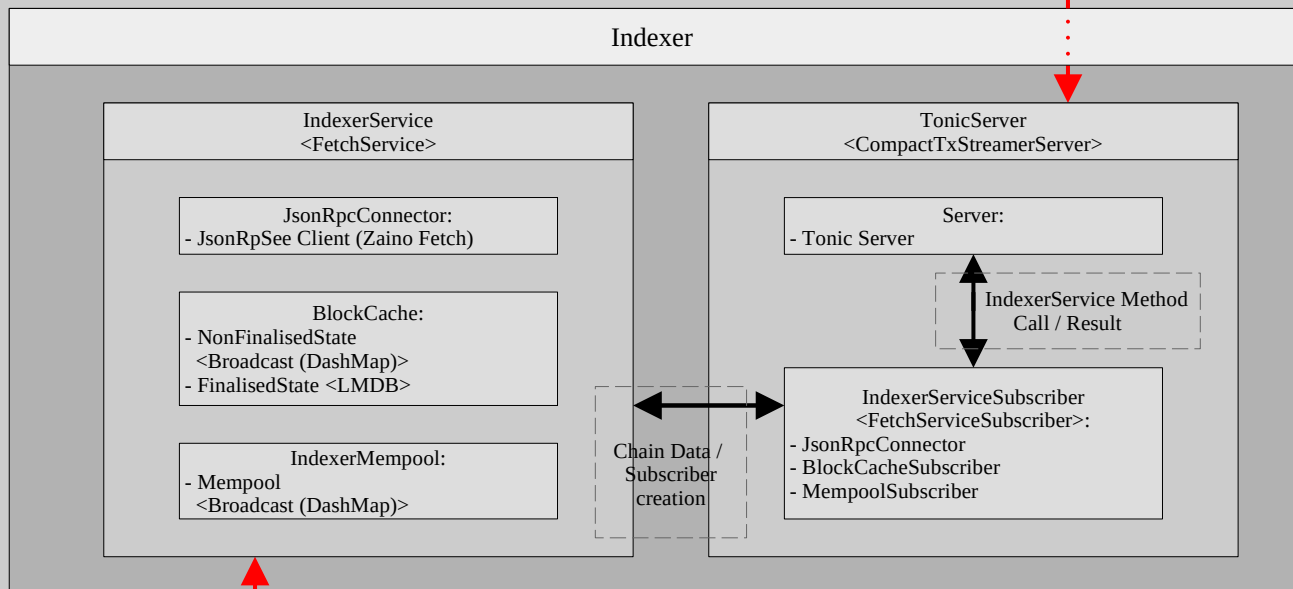
Zaino-state provides a high-performance chain fetch and transaction submission service for Zcash. Designed to handle high concurrency workloads, it offers all the functionality non-validator clients—such as wallets and block explorers—need to interact with Zcash blockchain without the overhead of integrating with a full node (validator).

Future Enhancements:

- Json RPC Server: Replacing functionality in zcashd.
- Nym Backed RPC Server: Enabling clients to obfuscate their identities from Zcash servers.
- Unified ZcashIndexer RPC Service: Unify multiple RPC services and add / update services where required to simplify chain fetch.

Indexer (ZainoD)	Internal Modules (ZainoD)	TonicServer (Zaino Serve)	GrpcClient (Zaino Serve)
<ul style="list-style-type: none">- Contains:<ul style="list-style-type: none">- TonicServer (Zaino Serve)- IndexerService <FetchService> (Zaino State)- AtomicStatus- Methods:<ul style="list-style-type: none">- start, spawn, close, status, log_status.	<ul style="list-style-type: none">- config (pub):<ul style="list-style-type: none">- Configuration structs and logic.- error (pub):<ul style="list-style-type: none">- Custom error types.	<ul style="list-style-type: none">- Contains:<ul style="list-style-type: none">- tonic::transport::Server- AtomicStatus- Methods:<ul style="list-style-type: none">- spawn, status, close.	<ul style="list-style-type: none">- Contains:<ul style="list-style-type: none">- IndexerServiceSubscriber <FetchServiceSubscriber>- Implements traits:<ul style="list-style-type: none">- CompactTxStreamer
Internal Modules (Zaino Serve)	JsonRpcConnector (Zaino Fetch)	Internal Modules (Zaino Fetch)	Development Crates
<ul style="list-style-type: none">- config (pub):<ul style="list-style-type: none">- Configuration structs and logic.- error (pub):<ul style="list-style-type: none">- Custom error types.	<ul style="list-style-type: none">- Contains:<ul style="list-style-type: none">- Validator url- Request id counter- Authentication method- Request Json RPC Client (to be updated to JsonRpSee)- Methods:<ul style="list-style-type: none">- Creation and meta fetch methods- Zcash rpc service call Methods	<ul style="list-style-type: none">- JsonRPC response types and custom deserialisation logic.- error (pub):<ul style="list-style-type: none">- Custom error types.- chain (pub):<ul style="list-style-type: none">- Block and transaction deserialisation and parsing Logic.	<ul style="list-style-type: none">- Zaino Proto:<ul style="list-style-type: none">- Holds a copy of LibRustZcash's lightwallet service proto definitions.- Zaino Testutils:<ul style="list-style-type: none">- Zaino test functionalit.- Integration Tests:<ul style="list-style-type: none">- Wallet to Validator tests.

Lightwallet gRPC Services



Zcash RPC Services