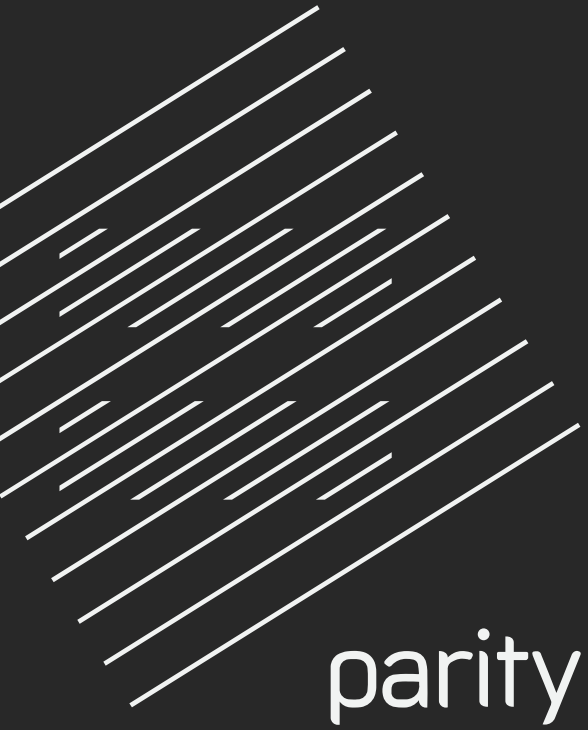

Substrate Node Integrations

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Users

- Wallets, Custodians, Validators
- These services run core infrastructure for users to access your chain

Main Concerns

- Knowing which transactions affect their accounts
- Key security and signing processes
- Can any user action lead to loss of funds
- External sources of truth
- Test environments

Node Interaction

- Org structures and trust models
- How do different people interact with a node
- In what format

Approaches to Integration

- Document
- Build tools
- Change the protocol

Education

- Assumptions Substrate breaks:
  - Transaction hash is a unique identifier
  - State changes are due to transactions
  - Upgrades require hard forks
  - Block production and finality are part of the same protocol
  - An account nonce always represents the number of transactions
  - Gas fee model
  - The node gives JSON, human readable responses

- https://wiki.polkadot.network/docs/en/build-integration

Substrate API Sidecar

- REST service for “human readable” interaction
- Lets orgs provide HTTP endpoint to their node with limited access
- Off-chain fee calculation in Rust

TxWrapper

- Wrapper around Polkadot JS transaction construction
- Construction, signing, decoding, payload construction

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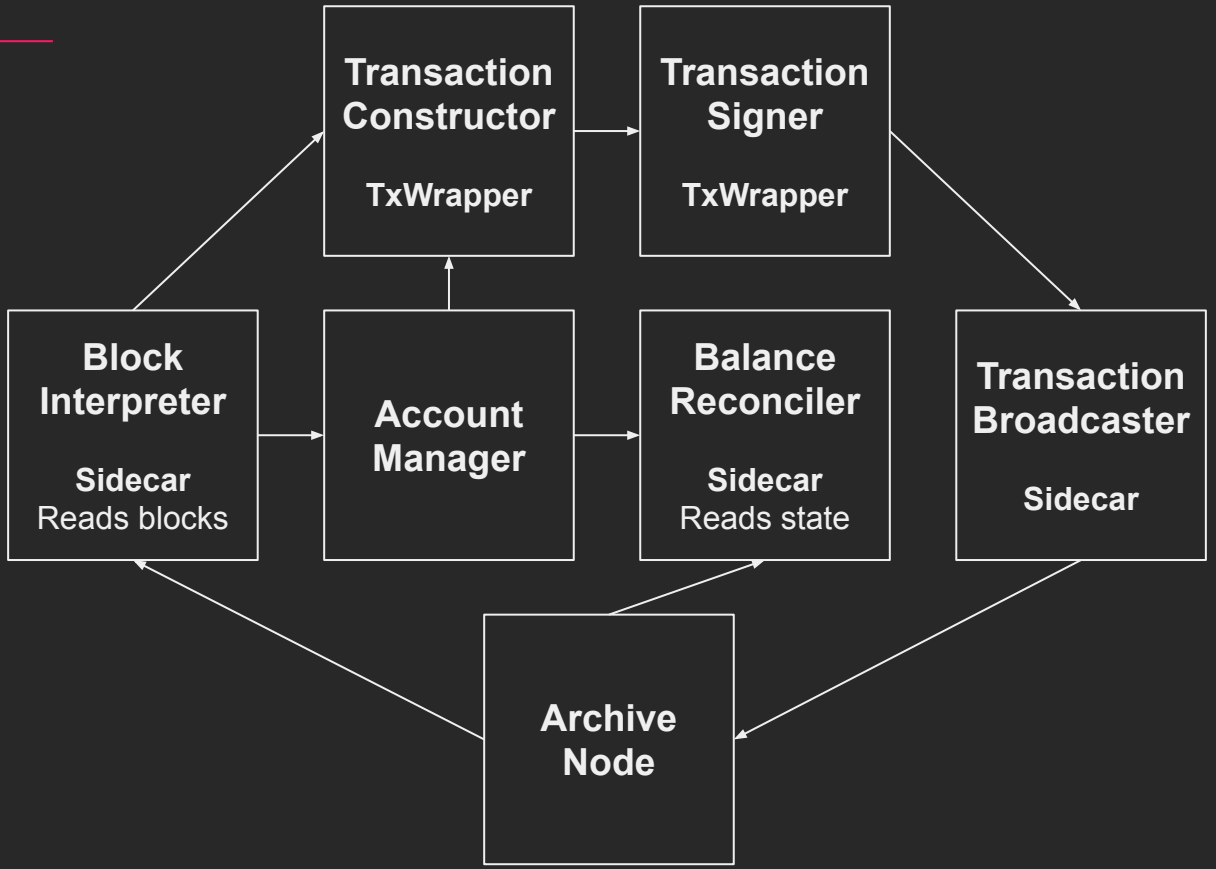
Architecture



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Protocol/Client Changes and Discoveries

- Events
- Transaction version

Upcoming

- Sidecar & TxWrapper for your chain
- State tracing

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