Hyperledger Sawtooth

Hyperledger Sawtooth offers a flexible and modular architecture that separates the core system from the application domain, allowing smart contracts to specify the business rules for applications without needing to know the underlying design of the core system. Sawtooth supports a variety of consensus algorithms, including Practical Byzantine Fault Tolerance (PBFT) and Proof of Elapsed Time (PoET).

Originally contributed by Intel, Sawtooth is a blockchain suite designed for versatility and scalability. Distributed Ledger Technology has potential in many fields with use cases ranging from IoT to Financials. This architecture recognizes the diversity of requirements across that spectrum. Sawtooth supports both permissioned and permissionless deployments. It includes a novel consensus algorithm, Proof of Elapsed Time (PoET). PoET targets large distributed validator populations with minimal resource consumption. Transaction business logic is decoupled from the consensus layer into Transaction Families that allow for restricted or unfettered semantics.

Key Characteristics

- Pluggable consensus algorithms (Change consensus on the fly by transaction)
- Includes Proof of Elapsed Time (PoET) consensus
- Write smart contracts in almost any language
- Ethereum contract support via Hyperledger Burrow integration
- Supply Chain example out of the box
- Parallel transaction execution for added throughput

Documentation

- Main doc
- Application Developers Guide
- Examples

Project Management

- Jira

Repositories

- Github
Communication

Mailing List

- sawtooth

Chat (for questions and ephemeral discussions)

- #sawtooth
- #sawtooth-announce
- #sawtooth-consensus-dev
- #sawtooth-core-dev
- #sawtooth-governance
- #sawtooth-infra
- #sawtooth-next-dev
- #sawtooth-next-directory
- #sawtooth-next-pr-review
- #sawtooth-next-scrum
- #sawtooth-outreach
- #sawtooth-pr-review
- #sawtooth-release
- #sawtooth-sabre
- #sawtooth-sdk-dev
- #sawtooth-seth
- #sawtooth-supply-chain

Meeting

Discussions are conducted on the mailing list to allow for worldwide participation.

In addition, sprint planning and tech forum meetings happen on a bi-weekly basis. More information can be found on the community calendar. The sprint planning and tech forum meetings are held on Zoom. Recordings of previous meetings can be found on a shared Google Drive folder.

Process Notes

- Release Notes: Release notes will be provided for release 1.0 and thereafter.
- The project will follow the Hyperledger security bug process and identify any security vulnerabilities fixed in the release.
  - Security bugs: Security bugs can be reported to security@hyperledger.org.
  - The Sawtooth project will follow the HyperLedger security process and will respond within 14 days.
- Static analysis: The Sawtooth project will follow the Hyperledger security process and address bugs found by static analysis in a timely manner.
- Dynamic analysis: The Sawtooth project will perform dynamic analysis prior to major releases will follow the Hyperledger security process and address bugs found by static analysis in a timely manner.

History

- Proposed by Mic Bowman, Intel Corporation (mic.bowman@intel.com) and Richard Gendal Brown, R3cev
- Approved by the TSC on April 14, 2016
- Moved out of Incubation on May 18, 2017

- Request
- TSC Approval
- TSC Updates

- Hyperledger Sawtooth Update, October 2018
- Hyperledger Sawtooth Update, July 2018
- Hyperledger Sawtooth Update, Apr 2018
- Hyperledger Sawtooth Update, Jan 2018
- Hyperledger Sawtooth Update, Oct 2017

Recent space activity

- Ry Jones
- Mark Ford

Space contributors

- Ry Jones (218 days ago)
- Mark Ford (801 days ago)
- Dan Anderson (804 days ago)
- Arun S M (806 days ago)
- William Katsak (865 days ago)
- ...