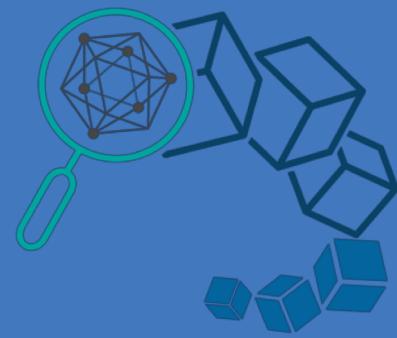




HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS



Hyperledger Overview -- Projects and Community

Baohua Yang
Mar, 2019

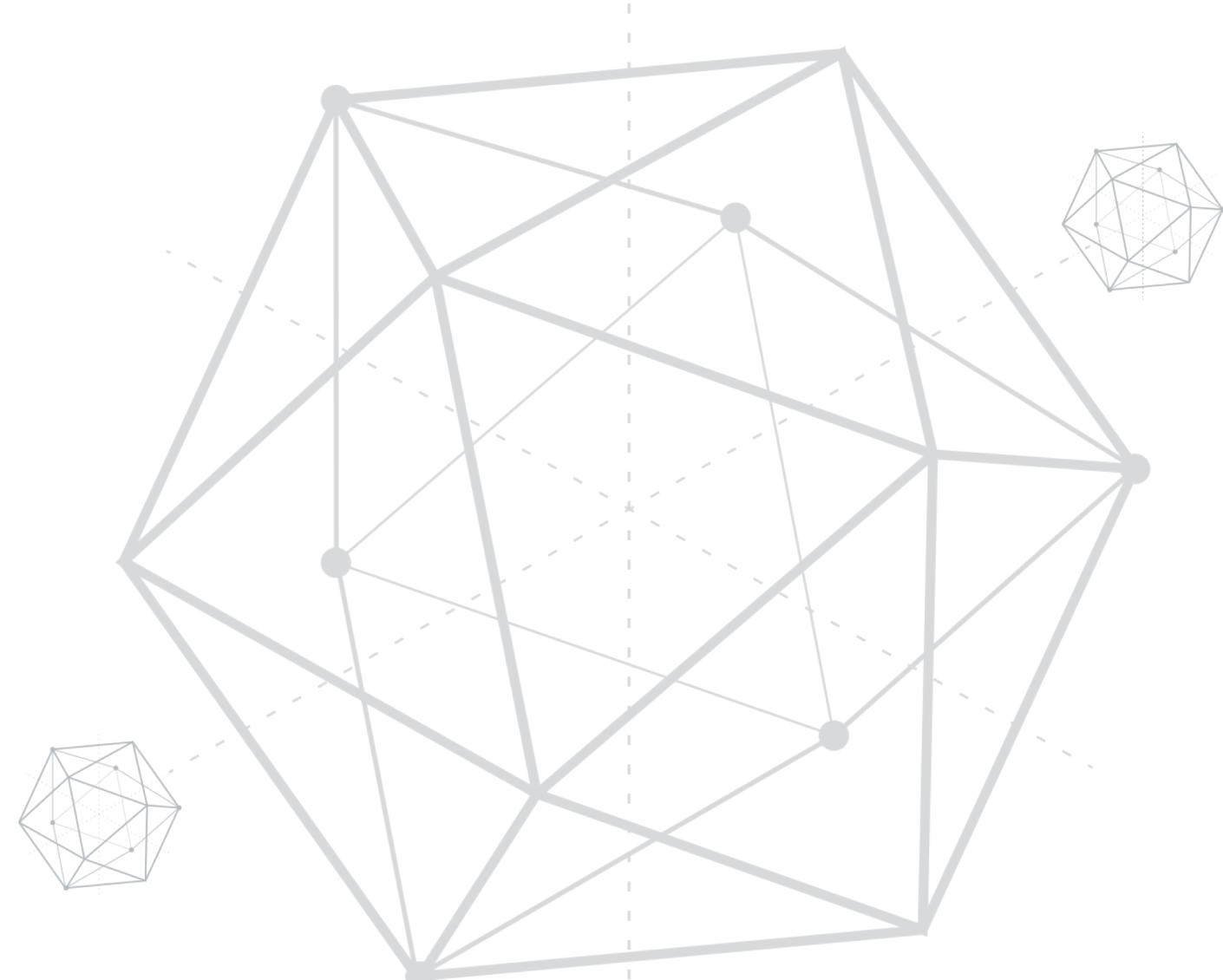
About Me

- **Interested Areas**
 - Distributed System, Data Science
- **Technical Leader**
 - Lead the blockchain development in Oracle
- **Open-Source Contributor**
 - [Hyperledger](#), [OpenStack](#), [OpenDaylight](#), etc.
- **Hyperledger Developer**
 - Core designer & committer of [Fabric](#), [Cello](#), [sdk](#) etc.
 - [Hyperledger Technical Steering Committee \(TSC\) Member](#)
 - [Hyperledger Technical Working Group China Co-Chair](#)



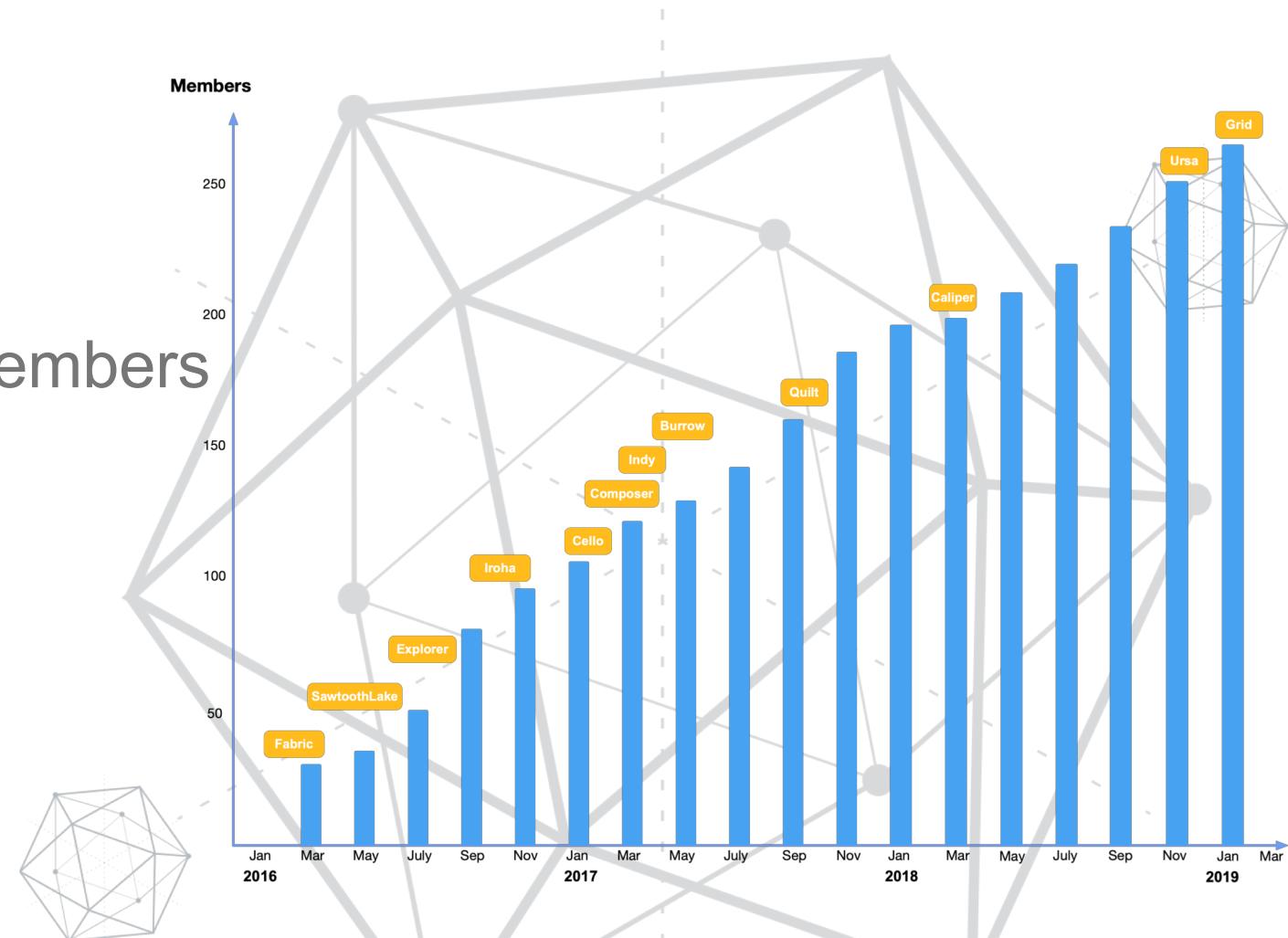
Outline

- Community
- Top Projects
- How to Contribute
- Q&A



Hyperledger Projects – Open-source DLT

- Since Dec 17, 2015
 - Apache v2 License
 - 30 Founding Members
 - 18/50+/280+ Premier/China/Members
 - 12 Top Projects
 - 800+ Developers
 - 70K+ Commits
 - 11M+ Lines of code
- Enterprise grade, open source distributed ledger framework!

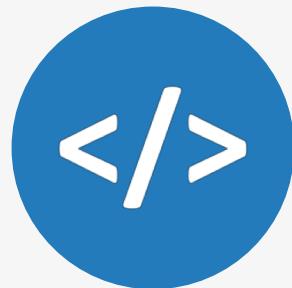


Hyperledger Goals

**Where open source teams build diverse approaches
for business blockchain technology systems**



Create enterprise grade, open source, distributed ledger frameworks & code bases
to support business transactions



Provide neutral, open, & community-driven infrastructures
supported by technical and business governance



Build technical communities
to develop blockchain and shared ledger POCs, use cases, field trials and deployments



Educate the public
about the market opportunity for blockchain technology

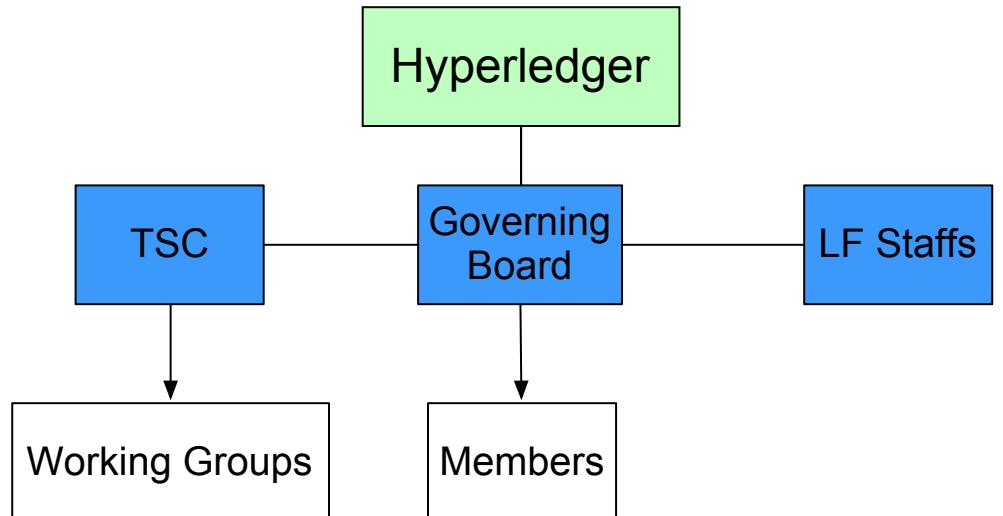


Promote our community of communities
taking a toolkit approach with many platforms and frameworks

Hyperledger Community



- Linux Foundation Supported
- Organizations
 - Technical Steering Committee
 - Governing Board
 - Linux Foundation Staffs



Online Course

edX Courses ▾ Programs ▾ Schools & Partners About ▾ Search:  Sign In Register

Home > All Subjects > Business & Management > Blockchain for Business - An Introduction to Hyperledger Technologies



Blockchain for Business - An Introduction to Hyperledger Technologies

A primer to blockchain and distributed ledger technologies. Learn how to start building blockchain applications with Hyperledger frameworks.



About this course

Discover the power of business blockchains and distributed ledger technologies with an overview of Hyperledger and introductions to its key frameworks. All over the global market there are ledgers that organizations and individuals alike must trust. Blockchain technologies record promises, trades,

 Length: 8 weeks

 Effort: 3 to 4 hours per week

 Price: FREE
Add a Verified Certificate for

Working Groups and Special Interests Groups

- 6 Working Groups

- Architecture
- Identity
- Learning Materials Development
- Performance and Scale
- Smart Contracts
- Technical Working Group China



- 5 Special Interest Groups

- Healthcare
- Public Sector
- Social Impact
- Telecom
- Trade Finance



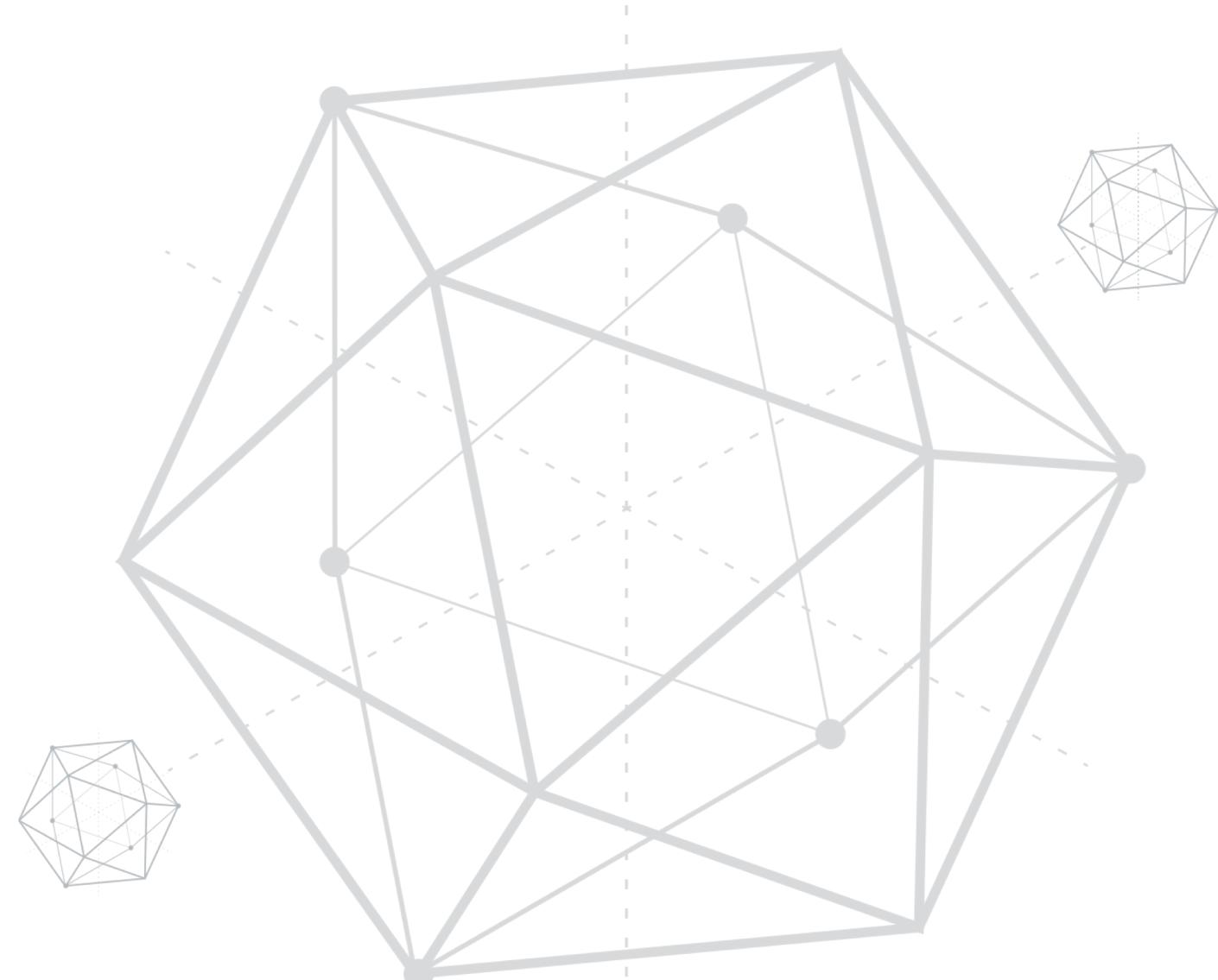
Technical Working Group China

- Founded at Dec, 2016
 - Supported by Hyperledger TSC, Governing Board, and LF
- Responsibilities
 - Help build technical community in Greater China area
 - Promote the Hyperledger technical development and adoptions
 - Bridge and develop the Open-source culture
- Communications
 - twg-china@lists.hyperledger.org
 - <https://wiki.hyperledger.org/display/TWGC>
 - Biweekly meeting at 10 AM Wednesday

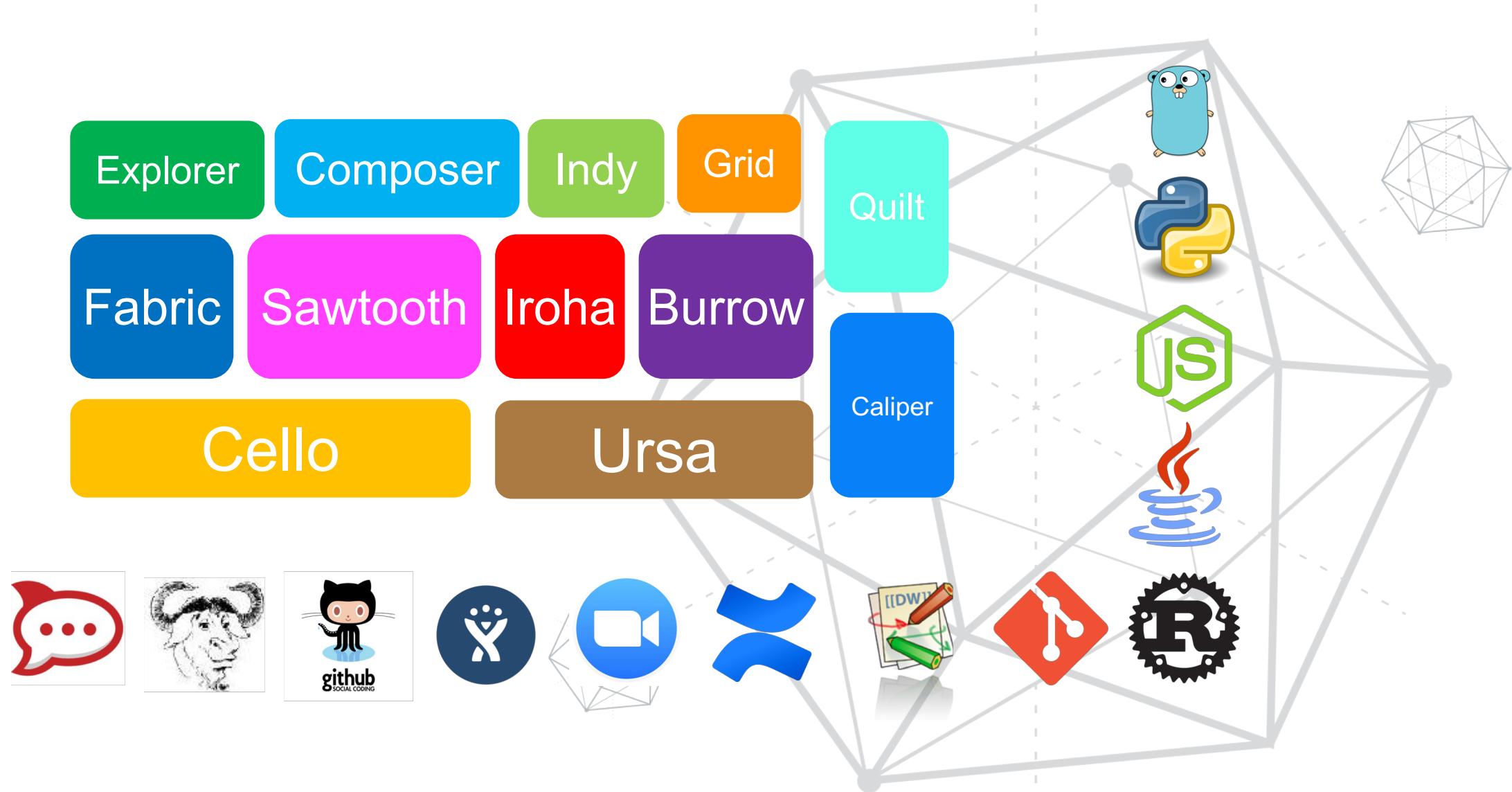


Outline

- Community
- **Top Projects**
- How to Contribute
- Q&A



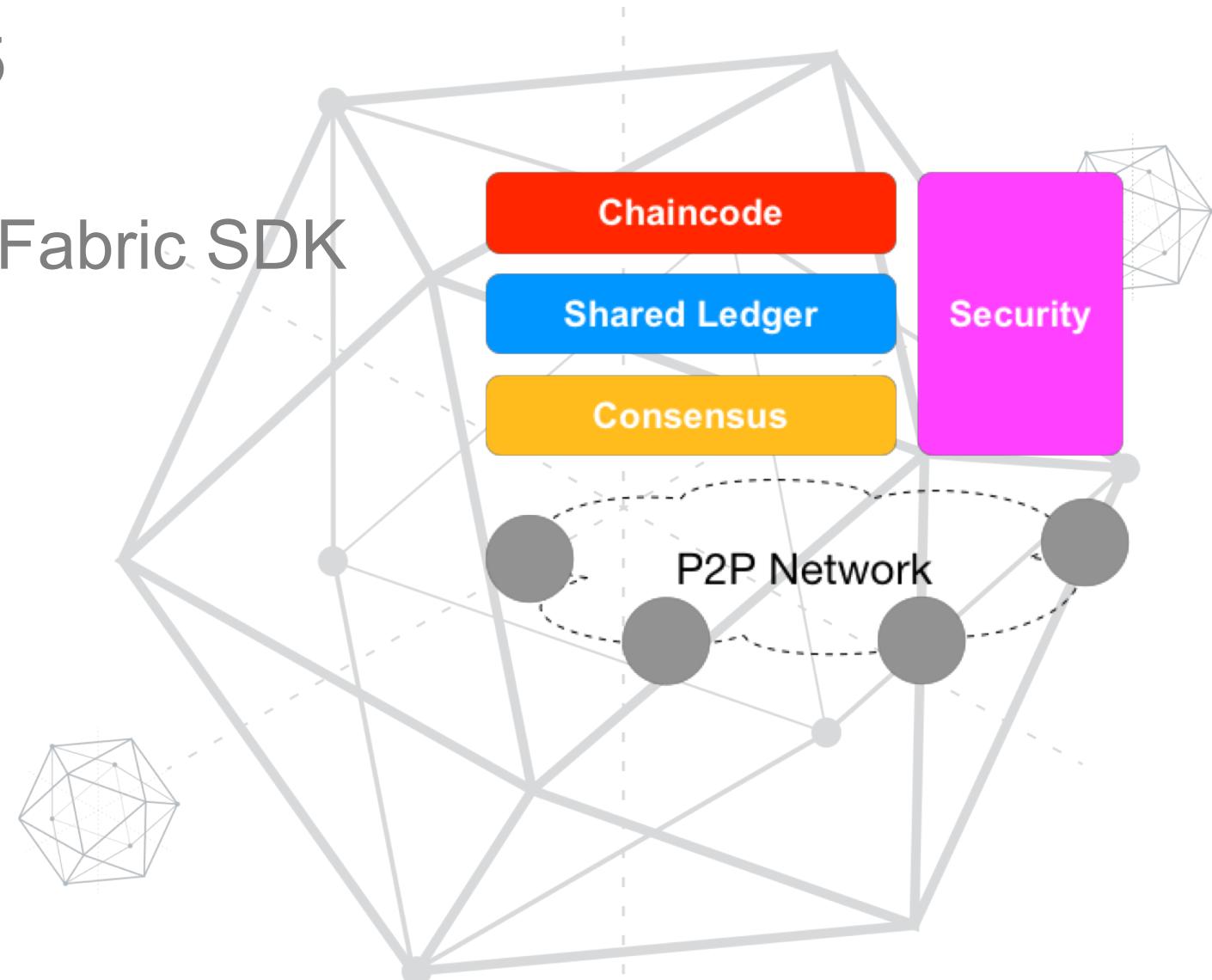
12 Hyperledger Top Projects



Hyperledger Fabric

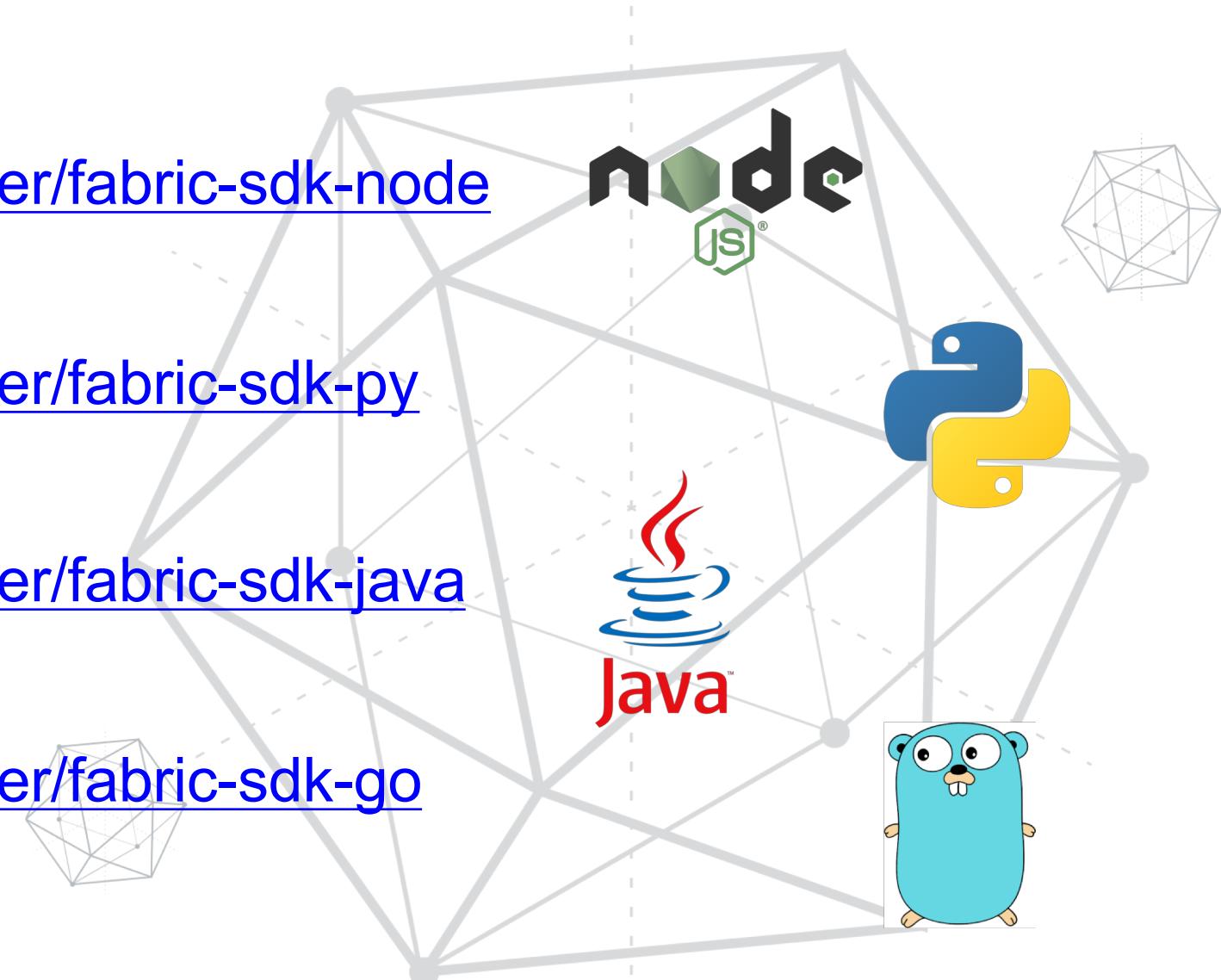


- Open-sourced at Dec, 2015
- Proposed by IBM and DAH
- Golang: Fabric, Fabric CA, Fabric SDK
- Core code (lines):
 - v0.6.0: ~49k
 - v1.0.0: ~91k
 - v1.3.0: ~130k
 - v1.4.0: ~147k
- Latest release: 1.4.0



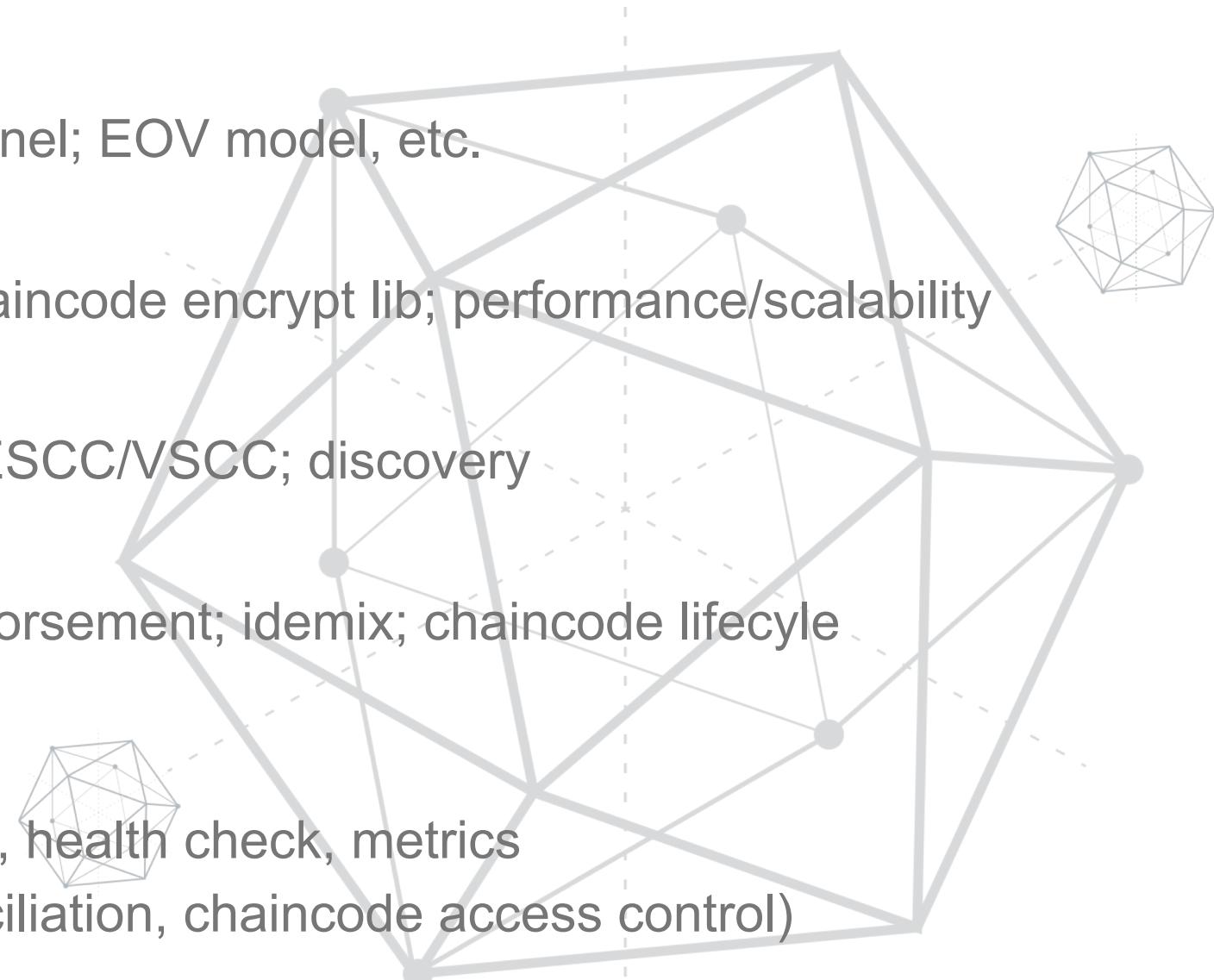
Hyperledger Fabric SDK

- Node.js
 - <https://github.com/hyperledger/fabric-sdk-node>
- Python
 - <https://github.com/hyperledger/fabric-sdk-py>
- Java
 - <https://github.com/hyperledger/fabric-sdk-java>
- Golang
 - <https://github.com/hyperledger/fabric-sdk-go>



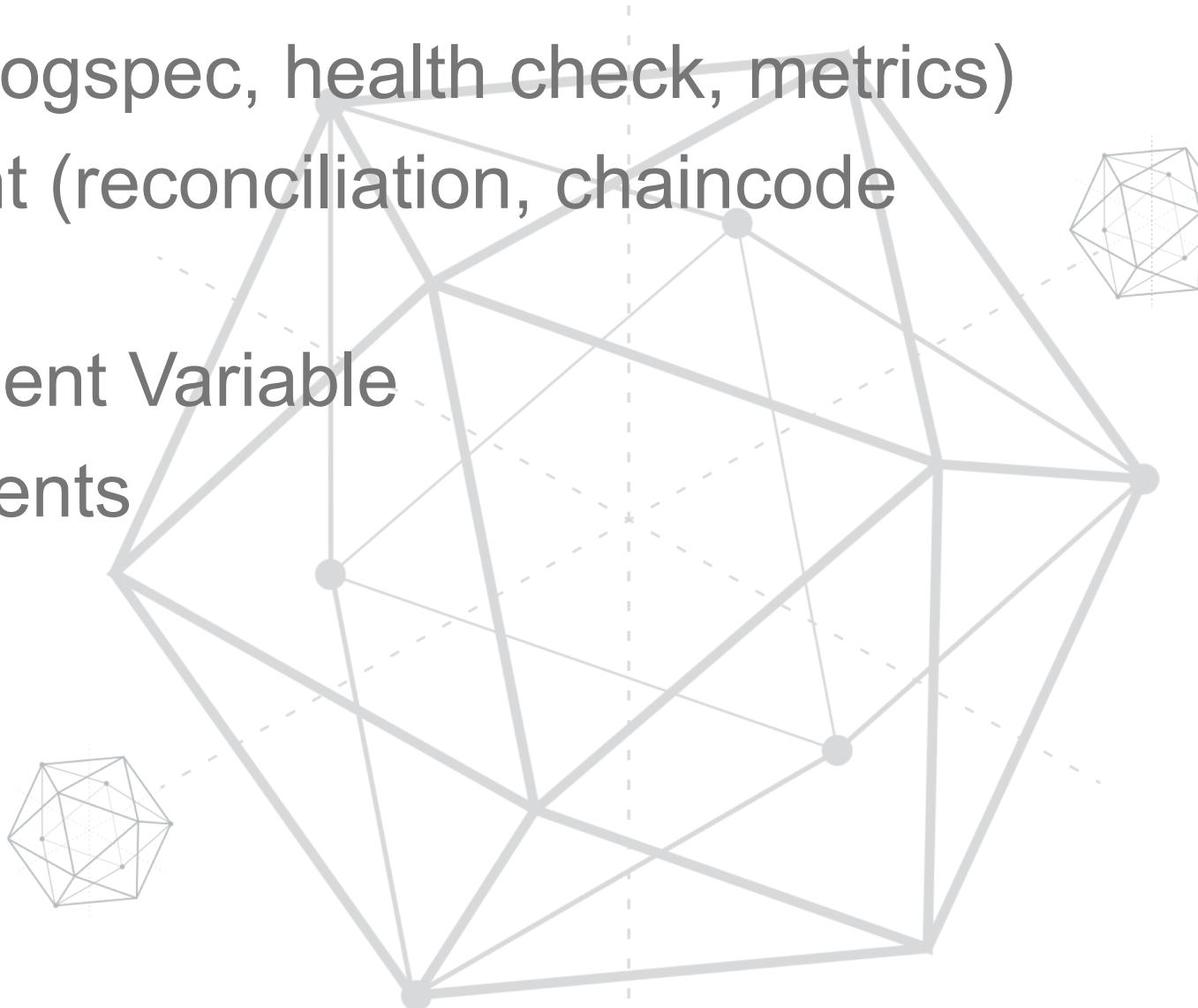
v1.x Releases Highlights

- **v1.0.0: 2017-07-11**
 - Re-arch for scalability; multi-channel; EOV model, etc.
- **v1.1.0: 2018-03-15**
 - Node chaincode; Mutual TLS; chaincode encrypt lib; performance/scalability
- **v1.2.0: 2018-07-04**
 - sideDB; flexible ACL; pluggable ESCC/VSCC; discovery
- **v1.3.0: 2018-10-10**
 - Java chaincode; state-based endorsement; idemix; chaincode lifecycle management
- **v1.4.0 (LTS): 2019-01-09**
 - Operation RESTful APIs: logspec, health check, metrics
 - Enhance the private Data (reconciliation, chaincode access control)



Fabric v1.4.0 important changes

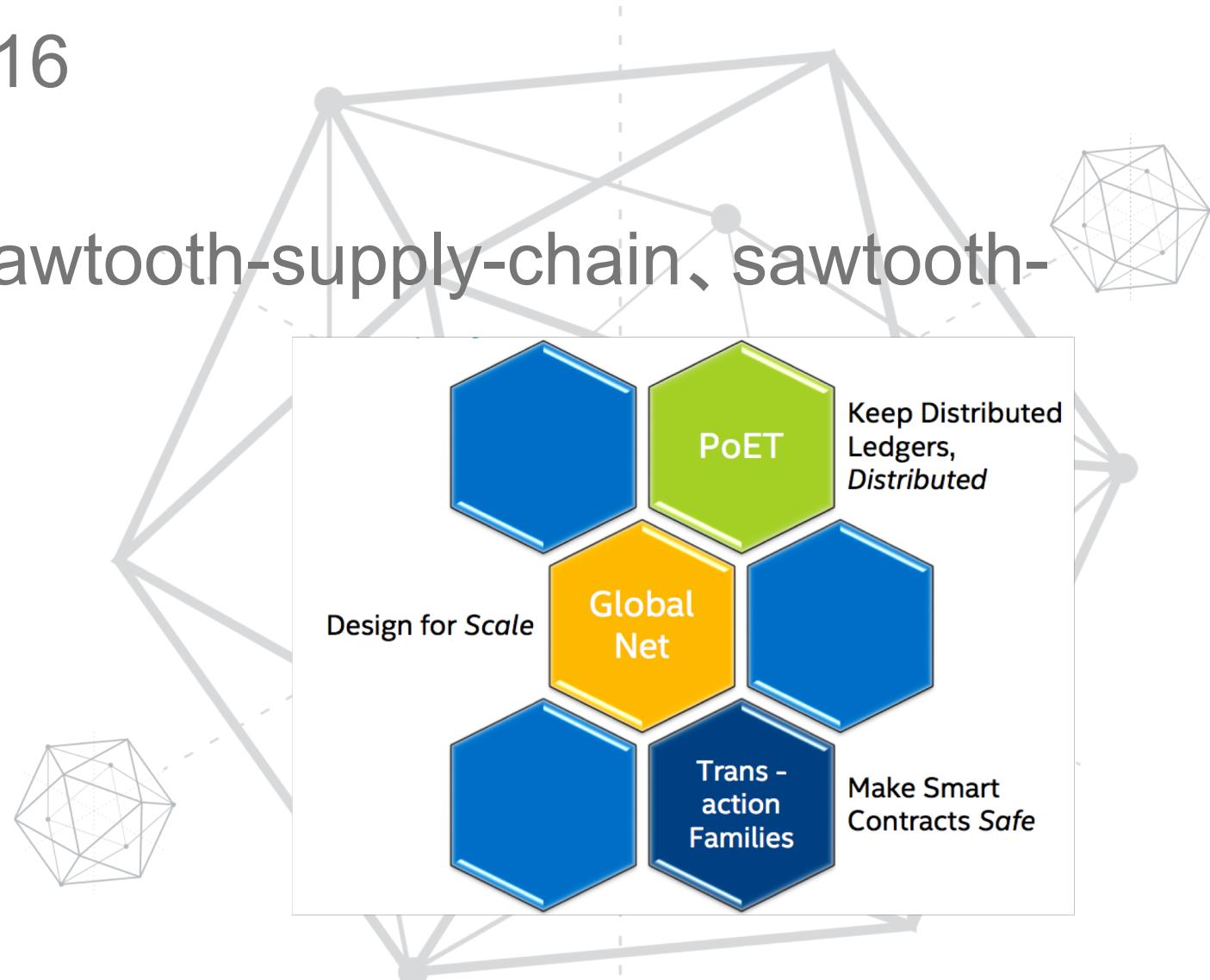
- Operation RESTful APIs (logspec, health check, metrics)
- Private Data Enhancement (reconciliation, chaincode access control)
- New Log Config Environment Variable
- Documentation Improvements



Hyperledger Sawtooth



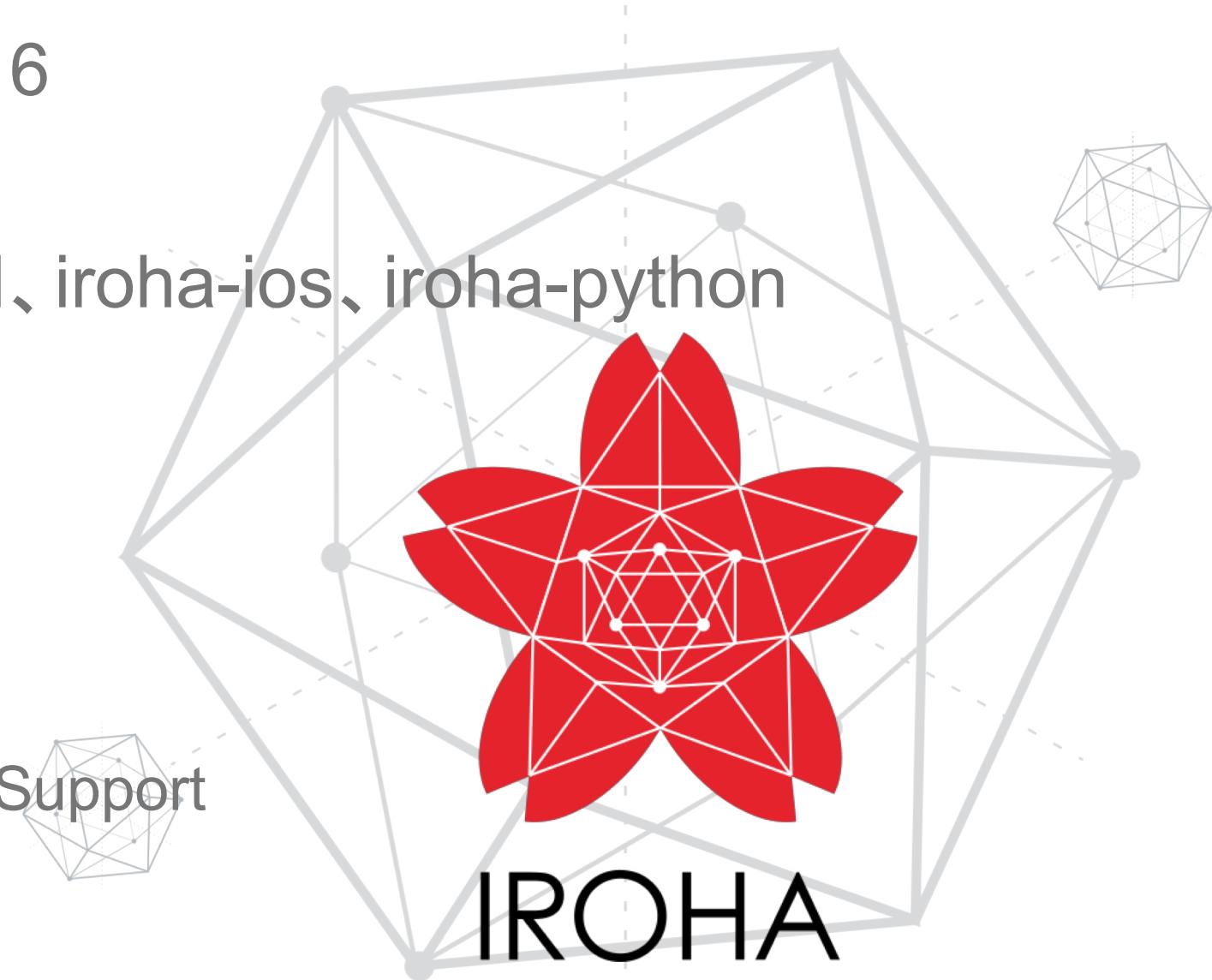
- Open-sourced at April, 2016
- Proposed by Intel
- Python: sawtooth-core, sawtooth-supply-chain, sawtooth-marketplace, etc
- 70+ contributors
- 8000+ commits
- Key features
 - PoET consensus
 - Transaction Families
 - Scalability



Hyperledger Iroha



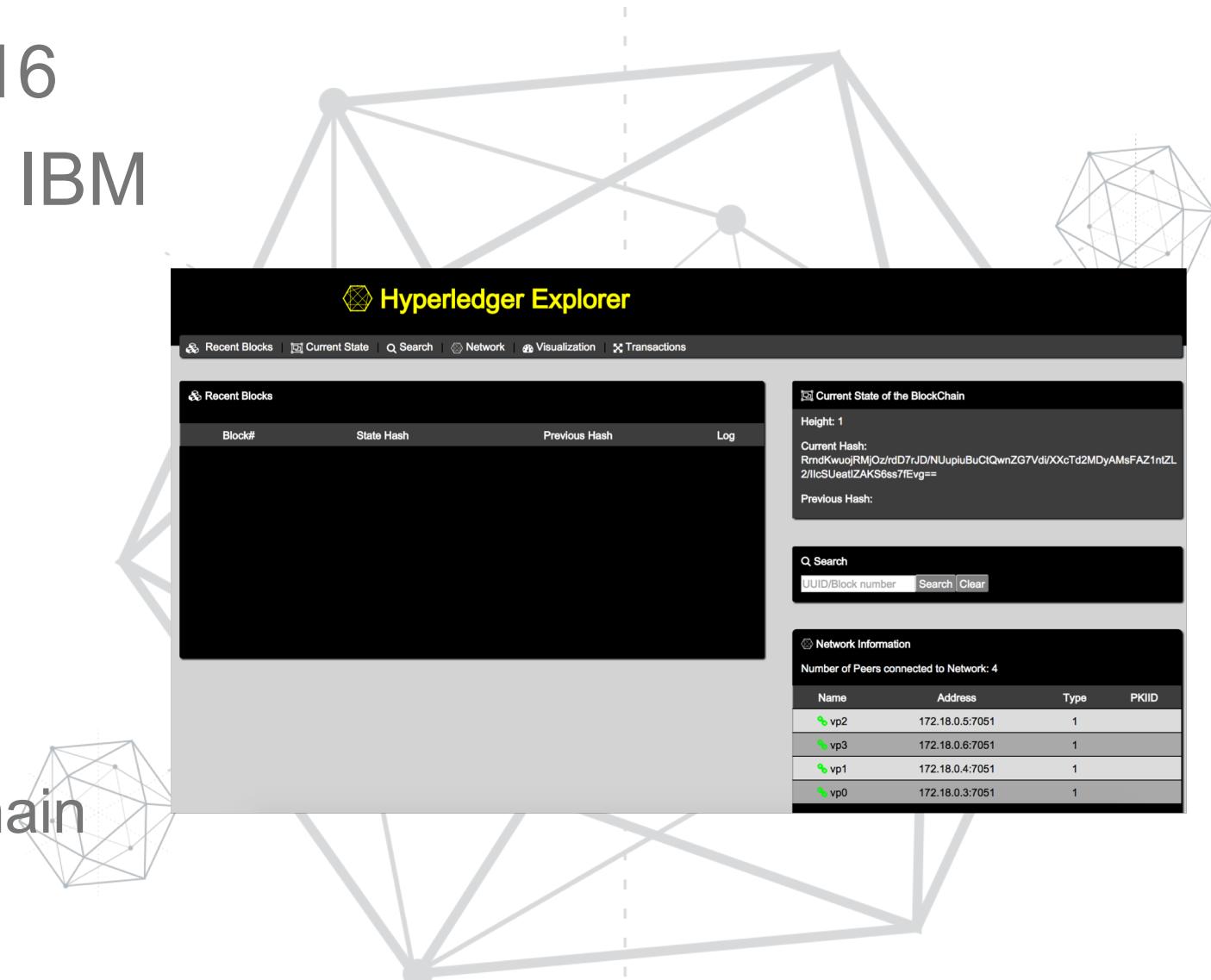
- Open-sourced at Oct, 2016
- Proposed by Soramitsu
- C++ : iroha, iroha-android, iroha-ios, iroha-python
- 50+ contributors
- 7000+ commits
- Key features
 - C++ environment
 - Mobile and Web application **Support**
 - Sumeragi consensus



Hyperledger Explorer

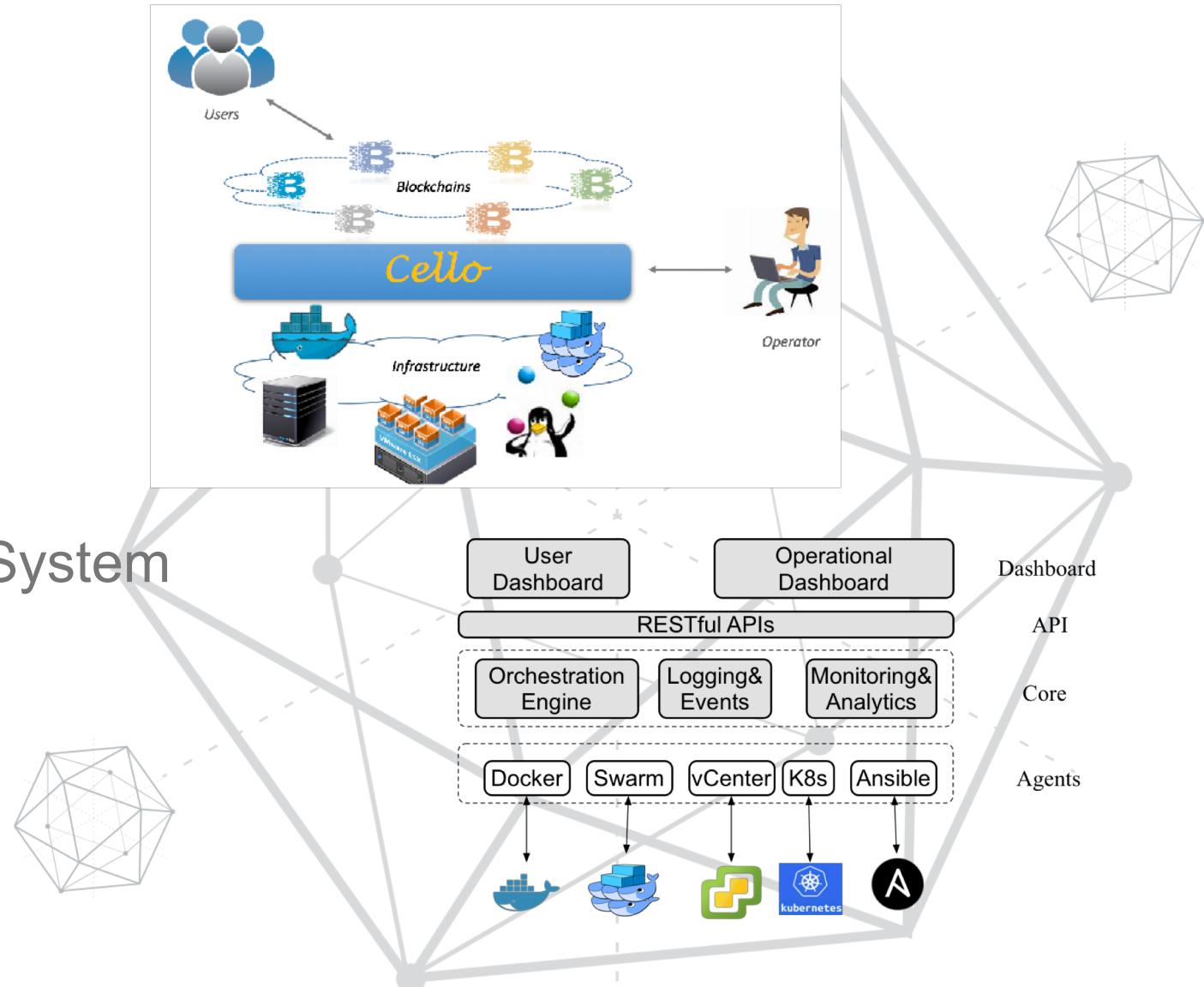


- Open-sourced at Aug, 2016
- Proposed by Intel, DTCC, IBM
- UI to interact with ledger
- Node.js
- 40+ contributors
- 350+ commits
- Key features
 - Web UI to explorer a blockchain
 - Single-Page Application



Hyperledger Cello

- Open-sourced at Jan, 2017
- Proposed by IBM
- Python, JavaScript
- 40+ contributors
- 1000+ commits
- Key features
 - Targets Blockchain Operation System
 - Support various infrastructures
 - High-performance
 - Scalability
 - Pluggability



Roadmap

Cello v0.6.0

Support Fabric v0.6
Support Docker Host
Support Swarm
Operational Dashboard
System Monitoring

Cello v0.7.0

Support Fabric v1.0
Support Ansible agent
User Dashboard and API
Start vSphere & Kubernetes
Agent support

Cello v0.8.0

Integrate blockchain-explorer
Enhance user-dashboard
Support fabric kafka mode
Create images at Dockerhub
Support x86, ppc64le, s390x

Cello v0.9.0

Add kubernetes agent
Enable dynamic credential
Redesign operational dashboard

Cello v1.0.0

Support new
governing model
Support importing
existing network

June 2017

Dec 2017

Mar 2018

Nov 2018

June 2019

Hyperledger Indy



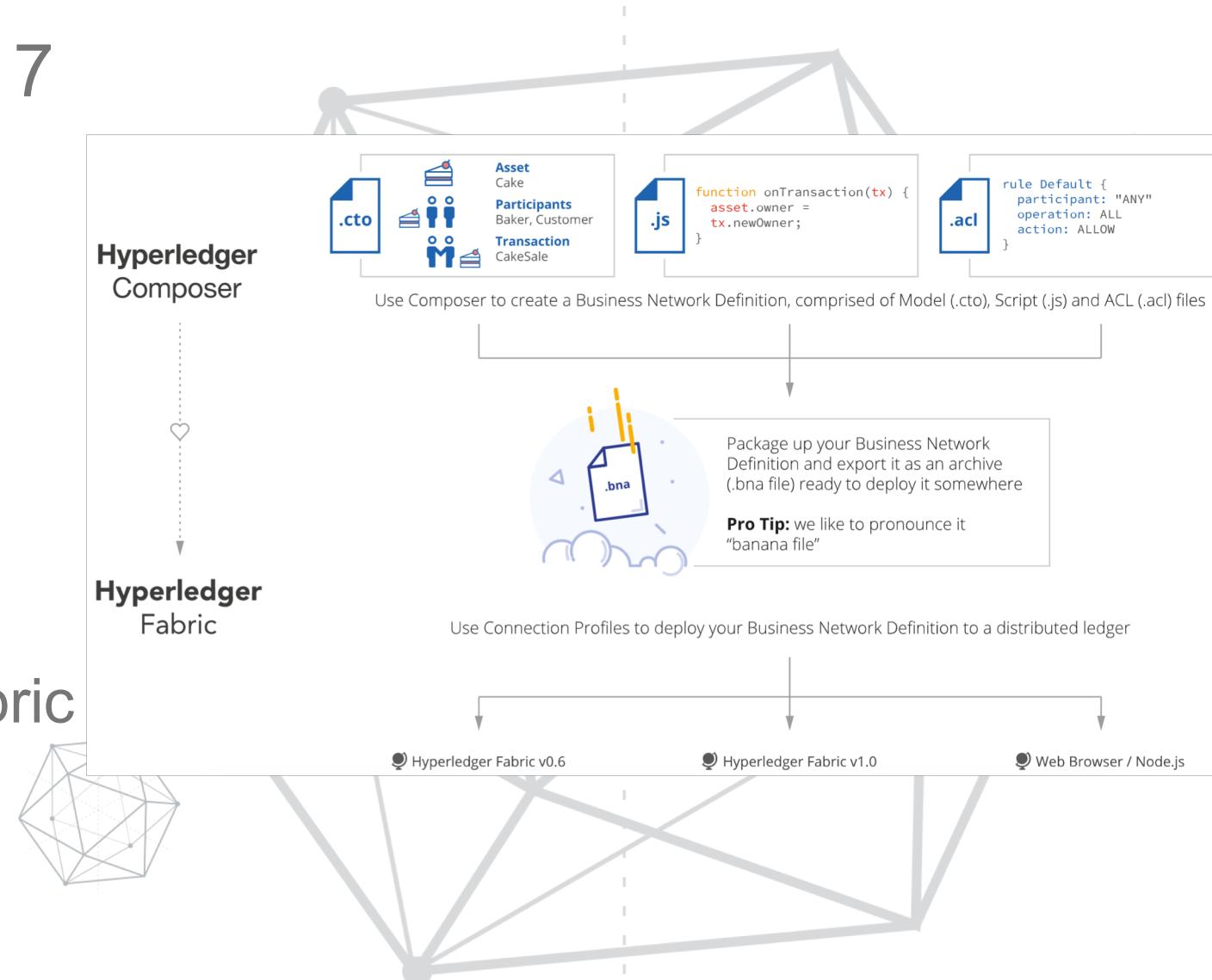
- Open-sourced at April, 2017
- Proposed by Sovrin Foundation
- Written in Python: `indy-node`, `indy-sdk`, `indy-plenum`
- 60+ contributors
- 5000+ commits
- Key features
 - Digital ID management
 - Cross-chain, cross-application



Hyperledger Composer



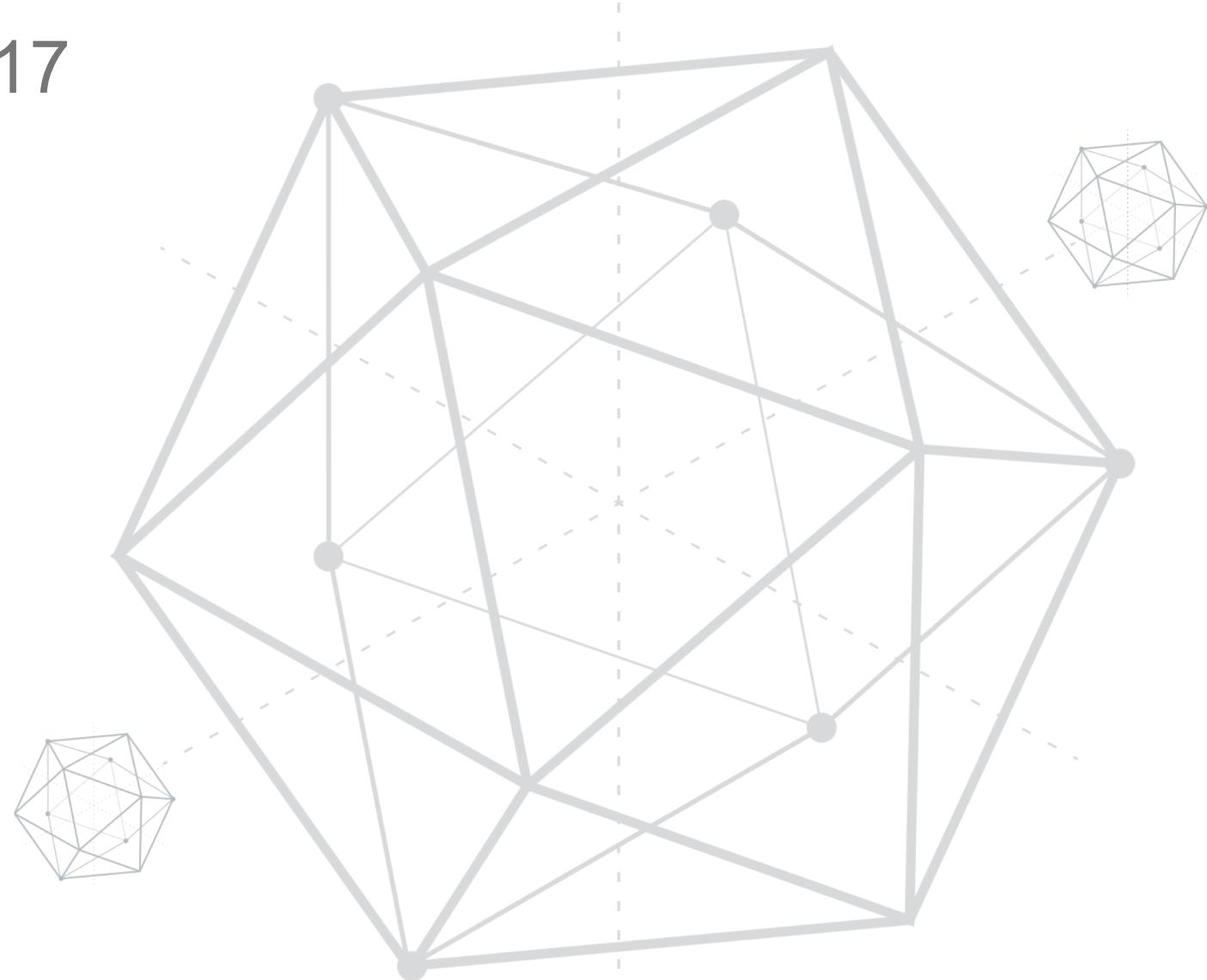
- Open-sourced at Mar, 2017
- Proposed by IBM
- JavaScript
- 80+ contributors
- 4000+ commits
- Key features
 - Quick app dev demo with fabric
 - Asset management models



Hyperledger Burrow



- Open-sourced at April, 2017
- Proposed by Monax, Intel
- Written in Golang
- 20+ contributors
- 2000+ commits
- Key features
 - From eris-db
 - Ethereum vm support
 - Proof-of-Stake



Hyperledger Quilt



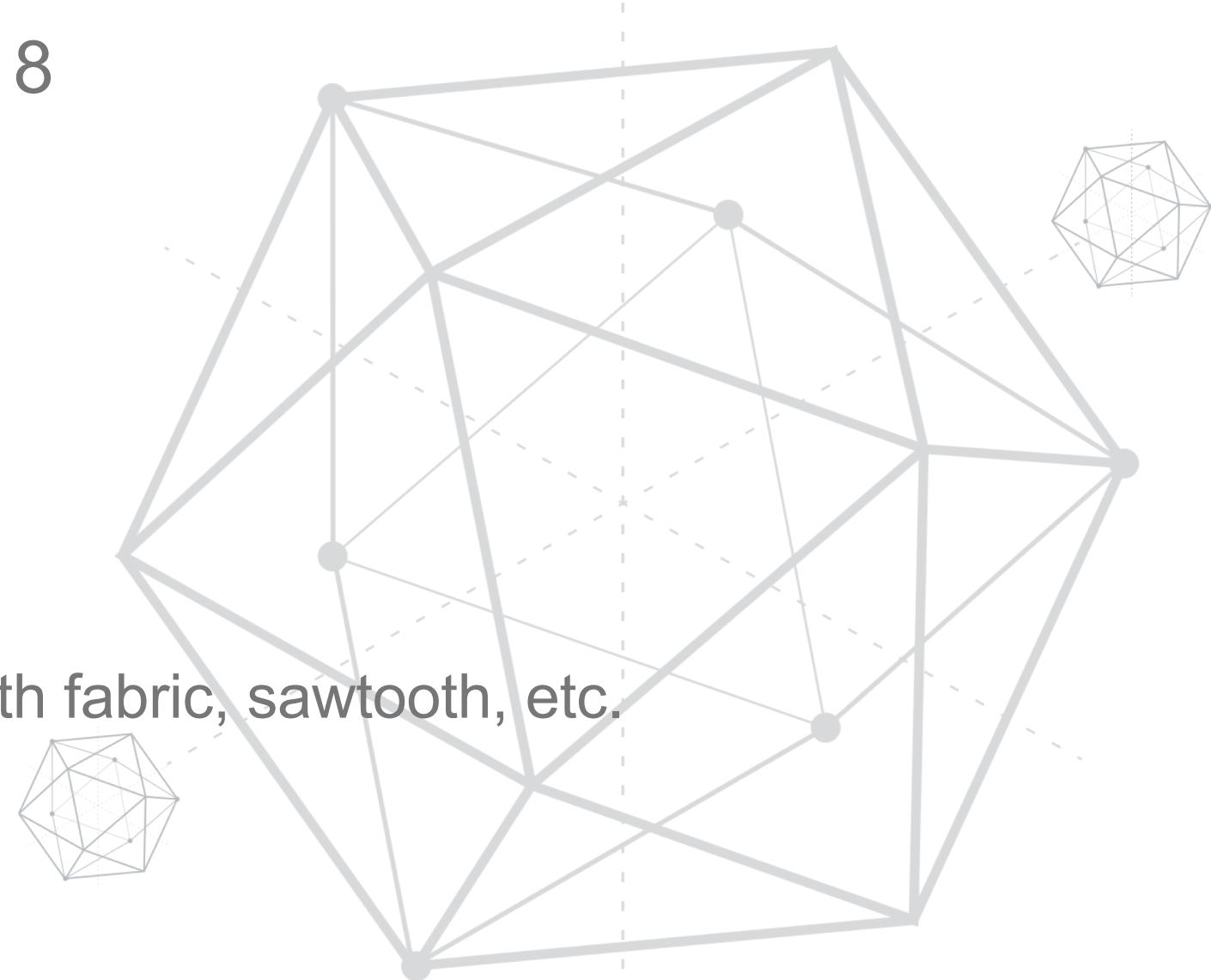
- Open-sourced at Oct, 2017
- Proposed by Everis, Ripple, Applied Payments
- Written in Java
- 10+ contributors
- 100+ commits
- Key features
 - Interledger Protocol by W3c
 - Cross-chain payment transfer



Hyperledger Caliper

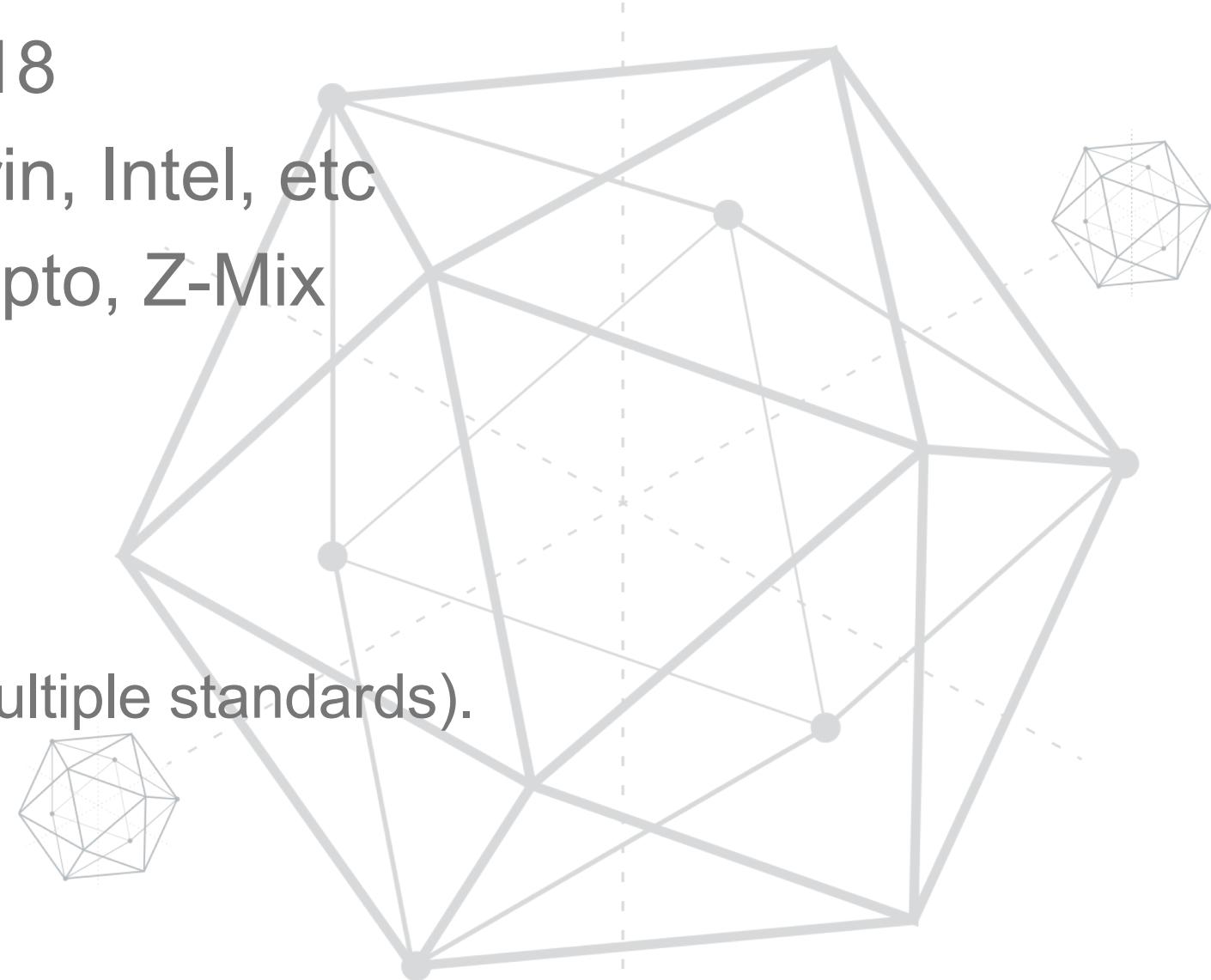


- Open-sourced at Mar, 2018
- Proposed by Huawei
- Written in Node.js
- 20+ contributors
- 300+ commits
- Key features
 - Evaluate the performance with fabric, sawtooth, etc.



Hyperledger Usra

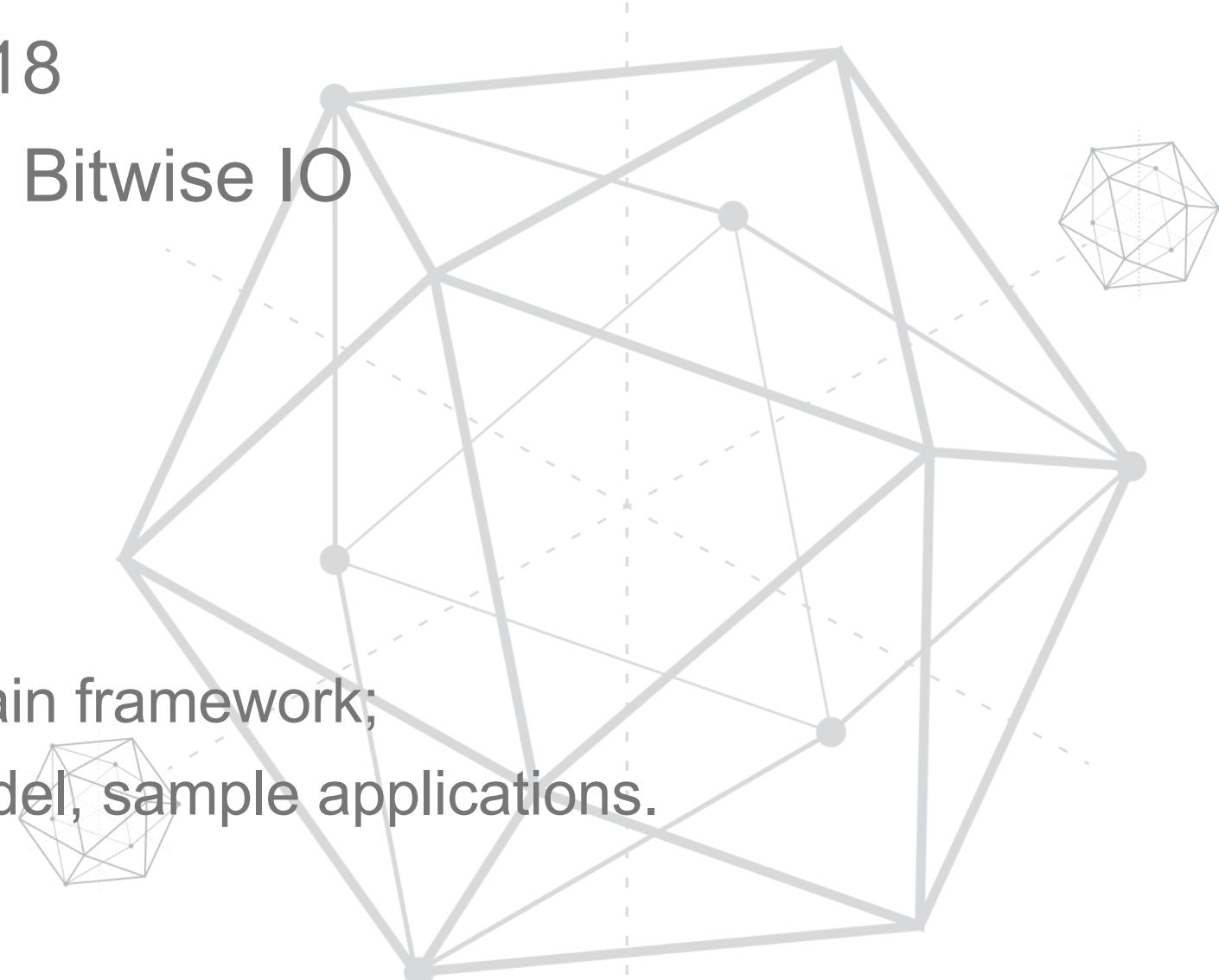
- Open-sourced at Nov, 2018
- Proposed by Fujitsu, Sovrin, Intel, etc
- Written in Rust: Base Crypto, Z-Mix
- 10+ contributors
- 400+ commits
- Key features
 - Modern crypto tool suites (multiple standards).
 - Zero-knowledge libraries.



Hyperledger Grid

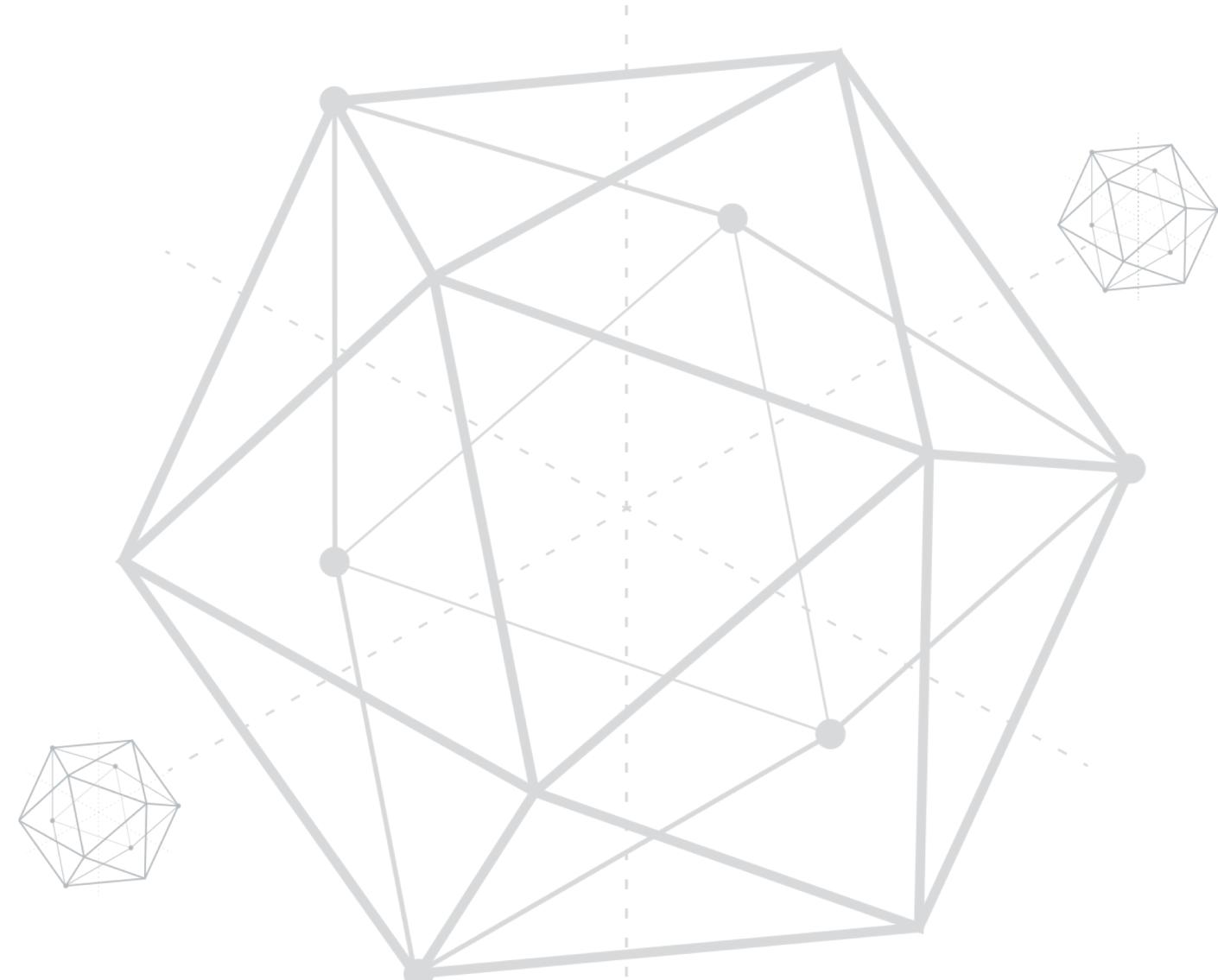


- Open-sourced at Dec, 2018
- Proposed by Cargill, Intel, Bitwise IO
- Written in Python
- 40+ contributors
- 5000+ commits
- Key features
 - Blockchain based supply chain framework;
 - Smart contracts, domain model, sample applications.

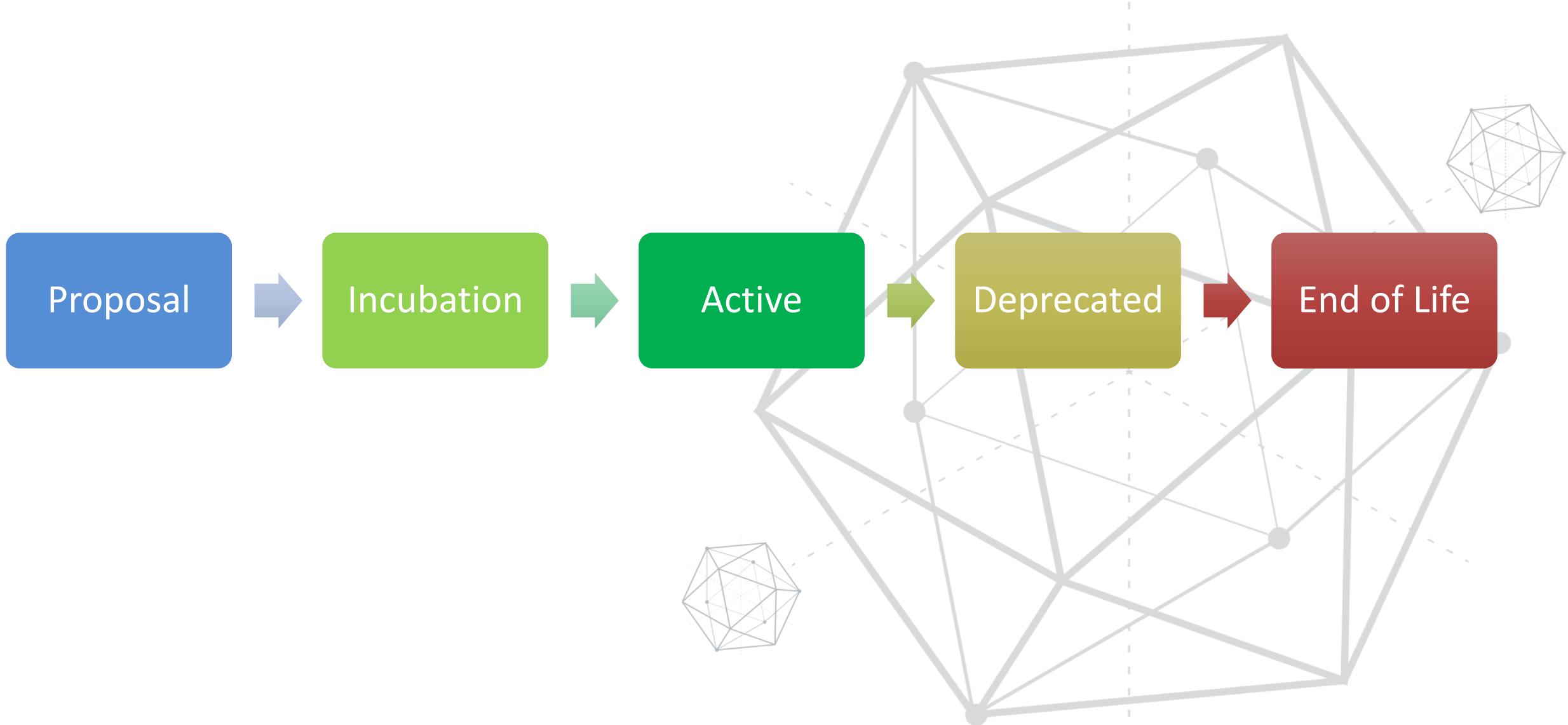


Outline

- Community
- Top Projects
- **How to Contribute**
- Q&A



Hyperledger Projects Lifecycle



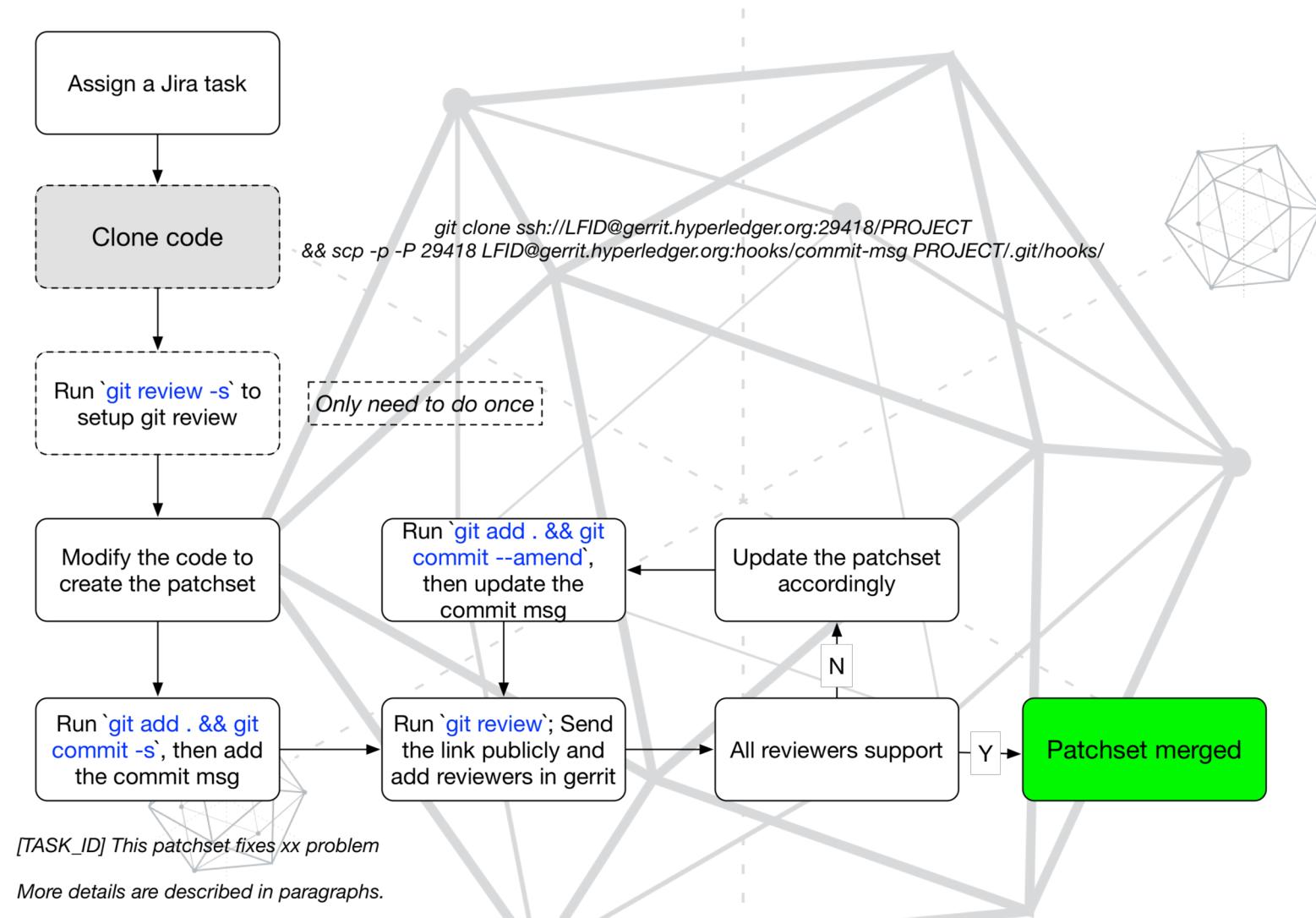
Proposing a Hyperledger Project

- Create a [proposal](#)
- Collect sponsors
- Send email to tsc@lists.hyperledger.org
- TSC will vote in weekly meetings
- How to increase the acceptance chance?
 - Align with Hyperledger scope
 - Collaborate with existing projects
 - Strong development team with good diversity



How to Contribute (Fabric for example)

- Linux Foundation ID
- Jira to manage tasks
- Gerrit to host code
- RocketChat
- Mail list



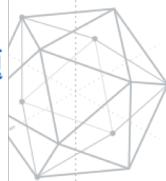
How To Ask Questions The Smart Way

• How To Ask Questions The Smart Way

在你准备要通过电子邮件、新闻群组或者聊天室提出技术问题前，请先做到以下事情

1. 尝试在你准备提问的论坛的旧文章中搜索答案。
2. 尝试上网搜索以找到答案。
3. 尝试阅读手册以找到答案。
4. 尝试阅读常见问题文件 (FAQ) 以找到答案。
5. 尝试自己检查或试验以找到答案
6. 向你身边的强者朋友打听得以找到答案。
7. 如果你是程序开发者，请尝试阅读源代码以找到答案

- 使用有意义且描述明确的标题
- 使问题容易回复
- 用清晰、正确、精准并合法语法的语句
- 使用易于读取且标准的文件格式发送问题
- 精确的描述问题并言之有物
- 话不在多而在精
- 别动辄声称找到Bug
- 可以低声下气，但还是要先做功课
- 描述问题症状而非猜测
- 按发生时间先后列出问题症状
- 描述目标而不是过程
- 别要求使用私人电邮回复
- 清楚明确的表达你的问题以及需求
- 询问有关代码的问题时
- 别把自己家庭作业的问题贴上来
- 去掉无意义的提问句
- 即使你很急也不要再在标题写紧急
- 礼多人不怪，而且有时还很有帮助
- 问题解决后，加个简短的补充说明





HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS



Questions?

Thank You!
@baohua

Reference

- Hyperledger Project
- 《区块链原理设计与应用》
- 《Docker 技术入门与实战》
- 《超级账本 Fabric 源码剖析》
- github.com/yeasy/blockchain_guide

