

Hyperledger Fabric Setup

Baohua Yang
December 25, 2016

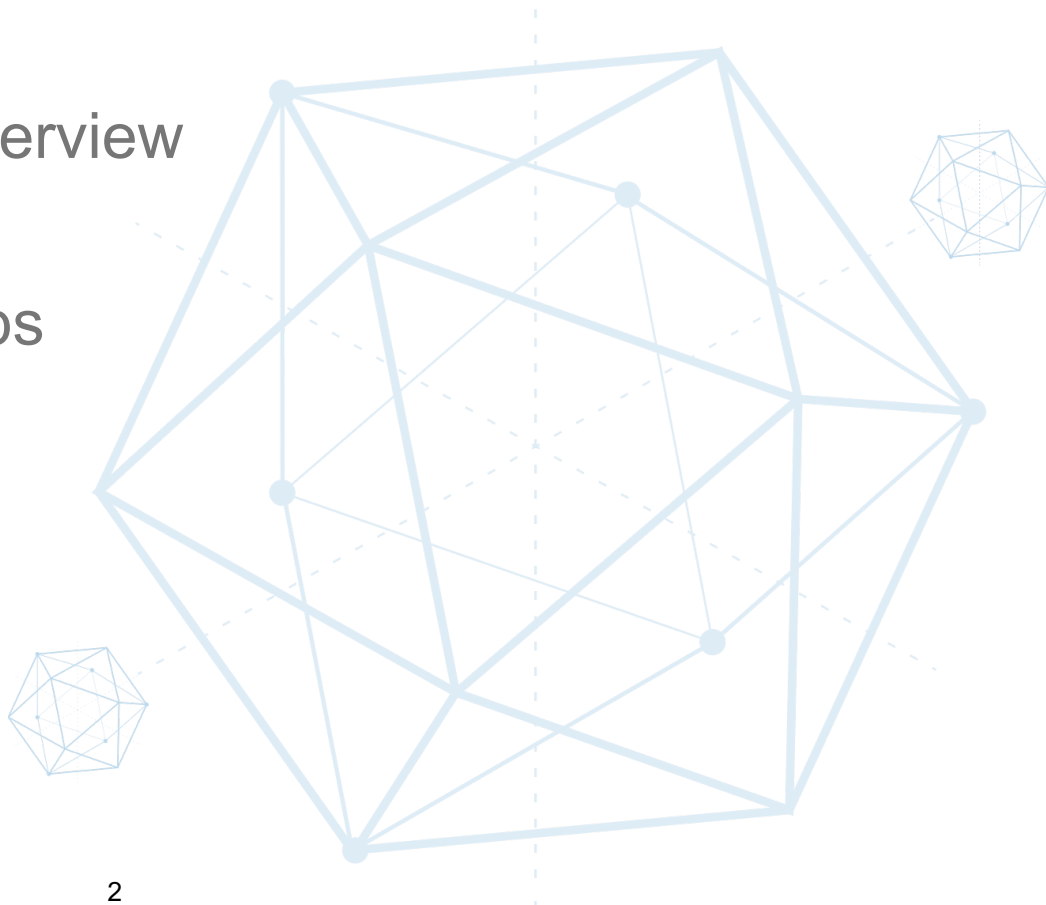
About Me

- **Researcher in IBM**
 - Fintech, Cloud and BigData
- **Open-Source contributor**
 - OpenDaylight, OpenStack, Hyperledger, etc.
- **Hyperledger fan**
 - Code committer to [fabric](#), [blockchain-explorer](#), etc.
 - PTL of [fabric-sdk-py](#) project, drafter of [fabric sdk spec](#)
 - Chair of Hyperledger [Technical Working Group China](#)



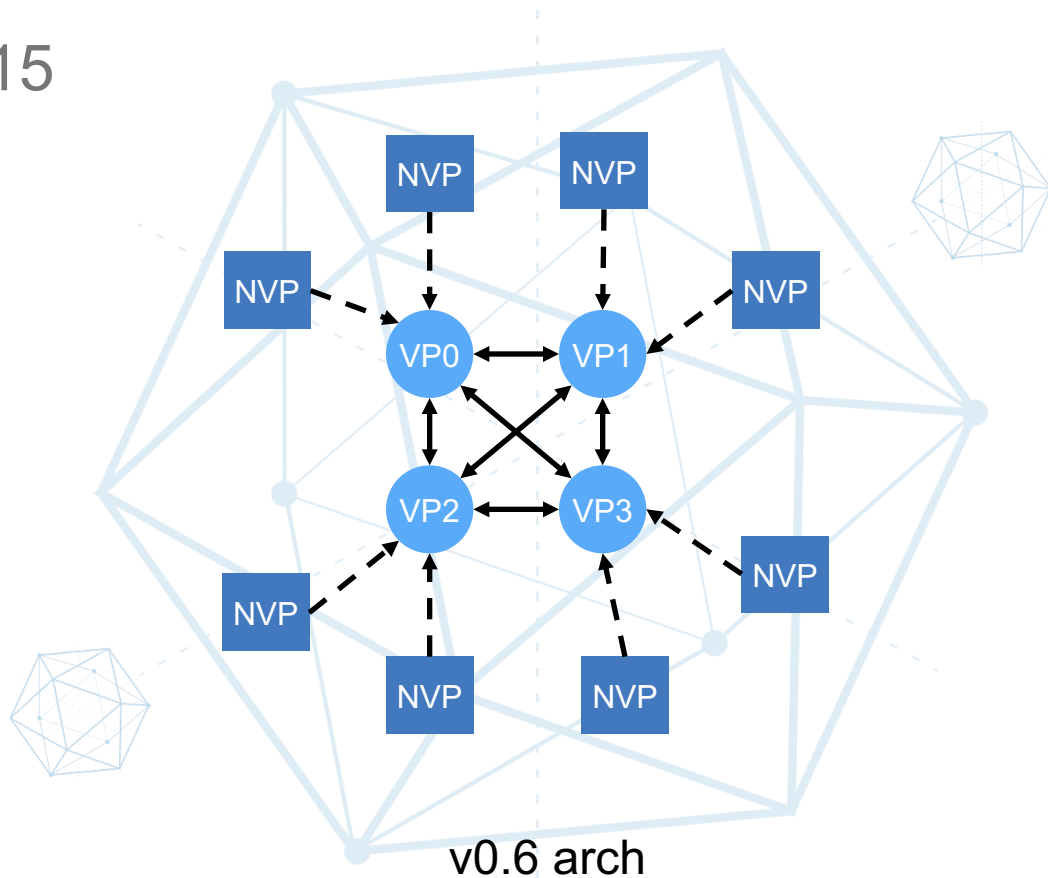
Outline

- Hyperledger Fabric Overview
- Docker Setup
- Fabric Bootup in 3 steps
- Test cases
- Q&A

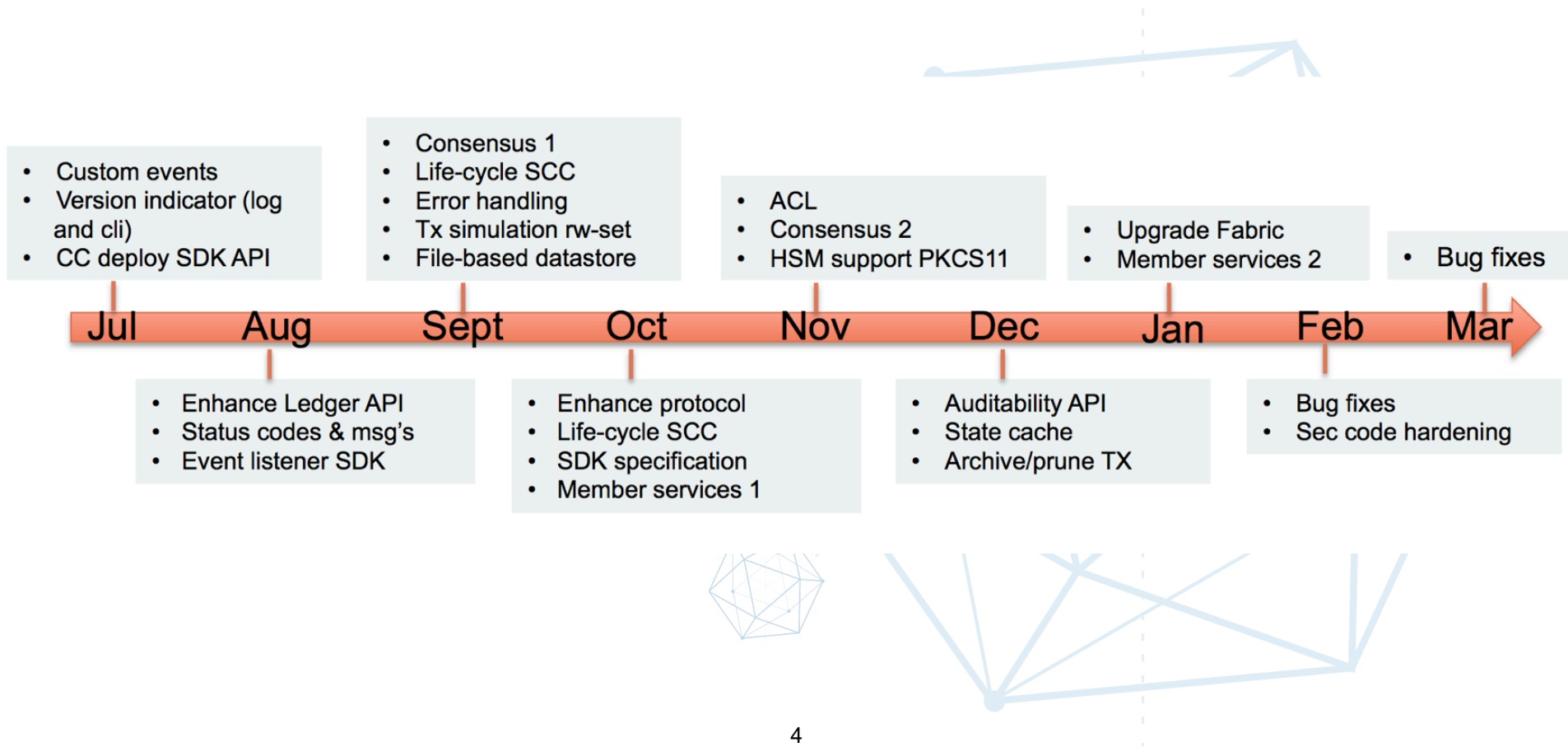


Hyperledger Fabric Overview

- Open-sourced at Dec, 2015
- 100+ contributors
- ~5k commits
- ~79k loc in v0.6
- New arch for 1.0
 - Performance
 - Scalability
 - Pluggability
 - Isolation/Security
 - Operability

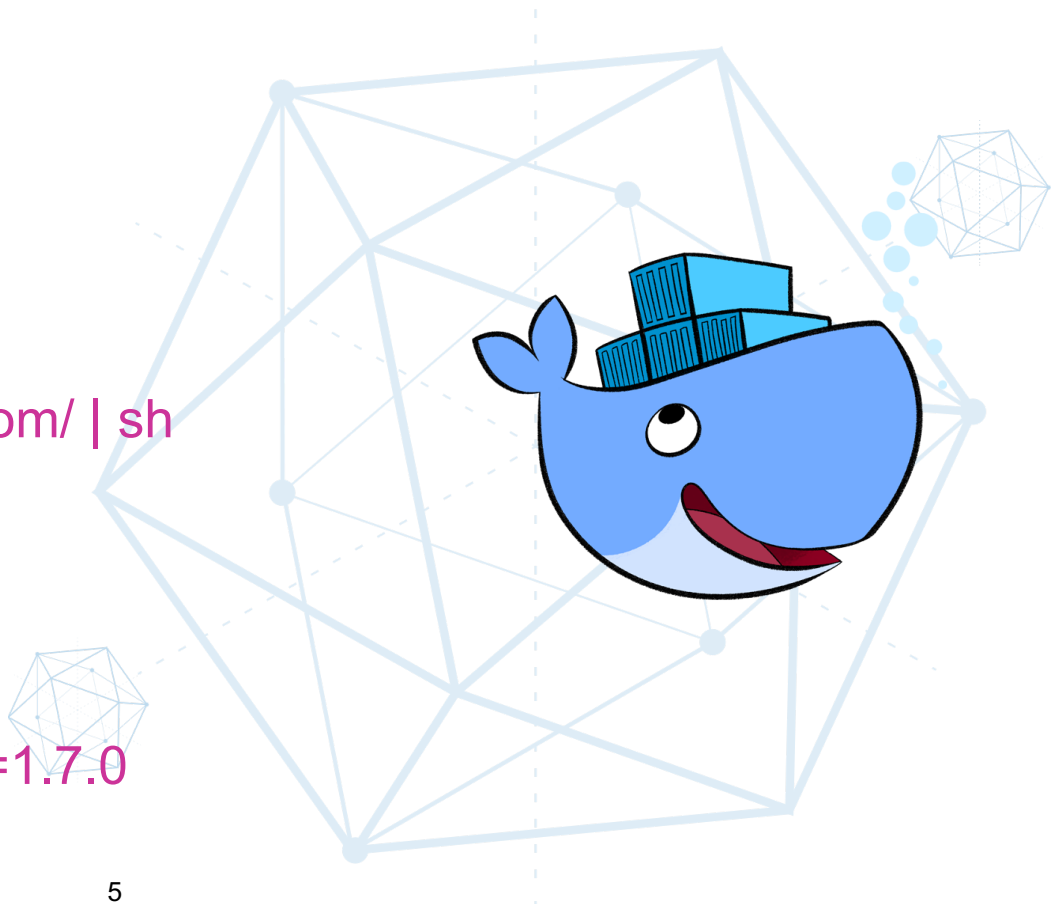


Roadmap 1.0



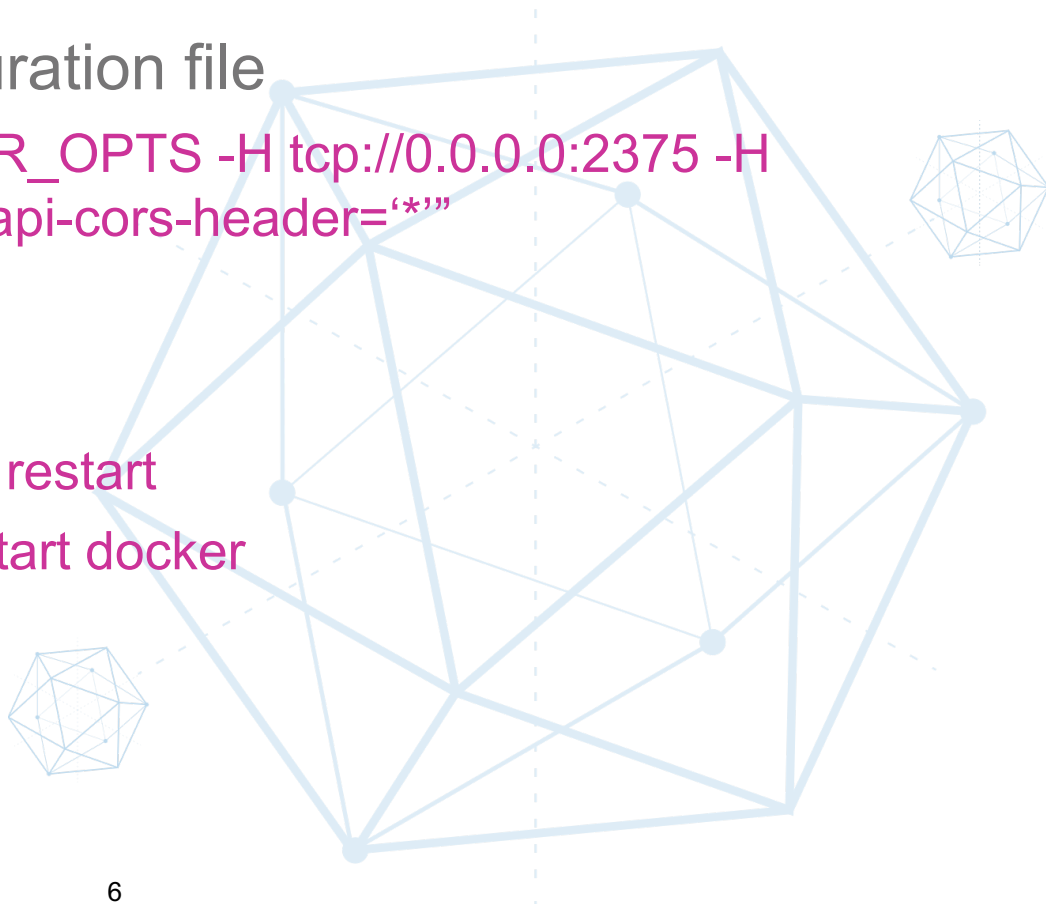
Docker Setup - Installation

- Docker 1.12+
- Linux
 - 64 bit
 - kernel 3.10+
 - `curl -sSL https://get.docker.com/ | sh`
- Mac
 - [Docker for Mac](#)
- Docker-Compose 1.7.0+
 - `pip install docker-compose>=1.7.0`



Docker Setup - Configuration

- Modify the Docker configuration file
 - `DOCKER_OPTS="$DOCKER_OPTS -H tcp://0.0.0.0:2375 -H unix:///var/run/docker.sock --api-cors-header='*'"`
- Restart Docker Daemon
 - Upstart: `sudo service docker restart`
 - Systemd: `sudo systemctl restart docker`



Fabric Bootup in 3 steps

- Get Docker images

- <https://github.com/yeasy/docker-compose-files/tree/master/hyperledger#preparation>
- <http://www-31.ibm.com/ibm/cn/blockchain/>

- Get Compose file

- `git clone` <https://github.com/yeasy/docker-compose-files>

- Start fabric

- `cd hyperledger/0.6/pbft;`
- `docker-compose -f 4-peers.yml up`

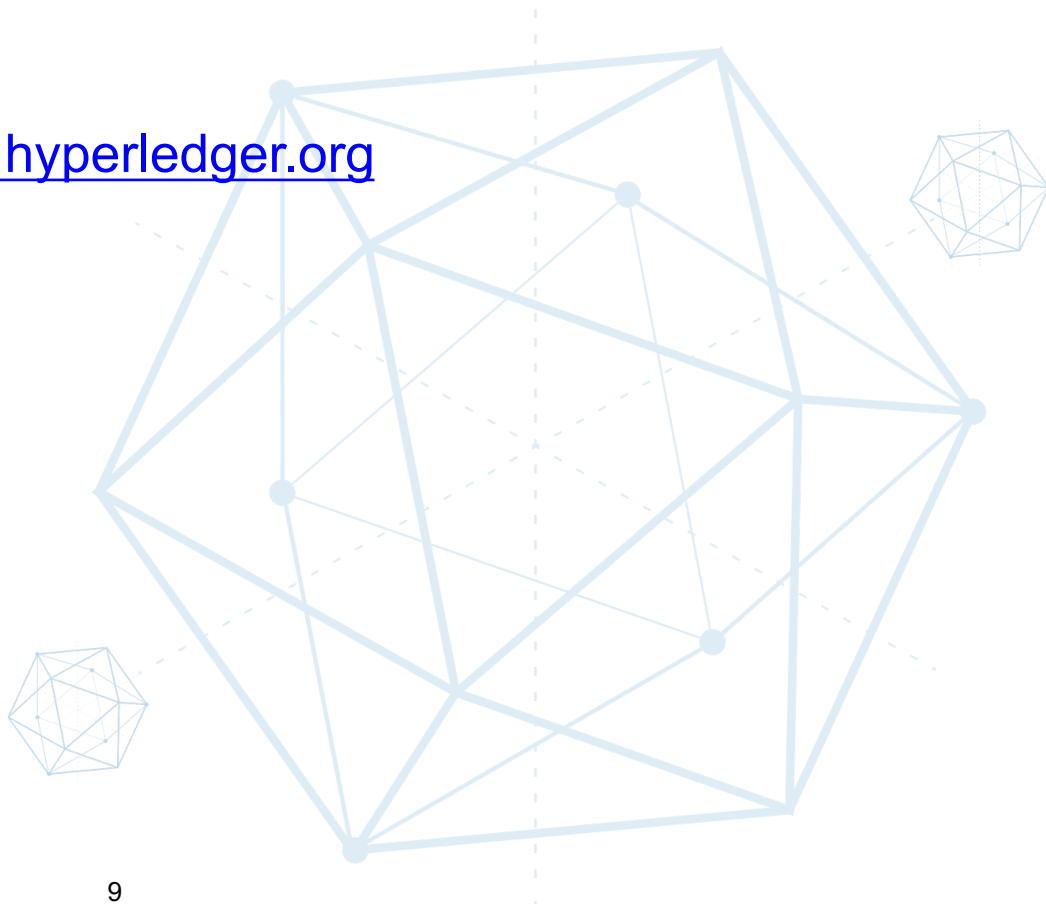


Test cases

- Get network node status
 - peer network ls
- Deploy/invoke/query chaincode
 - peer chaincode deploy -p github.com/hyperledger/fabric/examples/chaincode/go/chaincode_example02 -c '{"Function": "init", "Args": ["a", "100", "b", "200"]}'
 - Get CC_ID from deployment result
 - peer chaincode query -n \${CC_ID} -c '{"Function": "query", "Args": ["a"]}'
 - peer chaincode invoke -n \${CC_ID} -c '{"Function": "invoke", "Args": ["a", "b", "10"]}'

Technical Working Group in China

- Mail-list
 - hyperledger-twg-china@lists.hyperledger.org
- Slack
 - twg-china
- Hyperledger Hackathon
 - Mar, 2017, Shanghai
- Recent meetups
 - Dec, 2016, Beijing
 - Jan, 2017, Shenzhen
 - Feb/Mar, 2017, Shanghai



Ref

- 《区块链技术指南》
 - https://github.com/yeasy/blockchain_guide
- Hyperledger Fabric Compose files
 - <https://github.com/yeasy/docker-compose-files/tree/master/hyperledger>
- IBM 区块链
 - <http://www-31.ibm.com/ibm/cn/blockchain/>
- 《Docker 从入门到实践》
 - https://github.com/yeasy/docker_practice

Questions?

Thank You!
@baohua

Slides available at tinyurl.com/hl-meetup