

# Hyperledger Fabric Setup

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# About Me

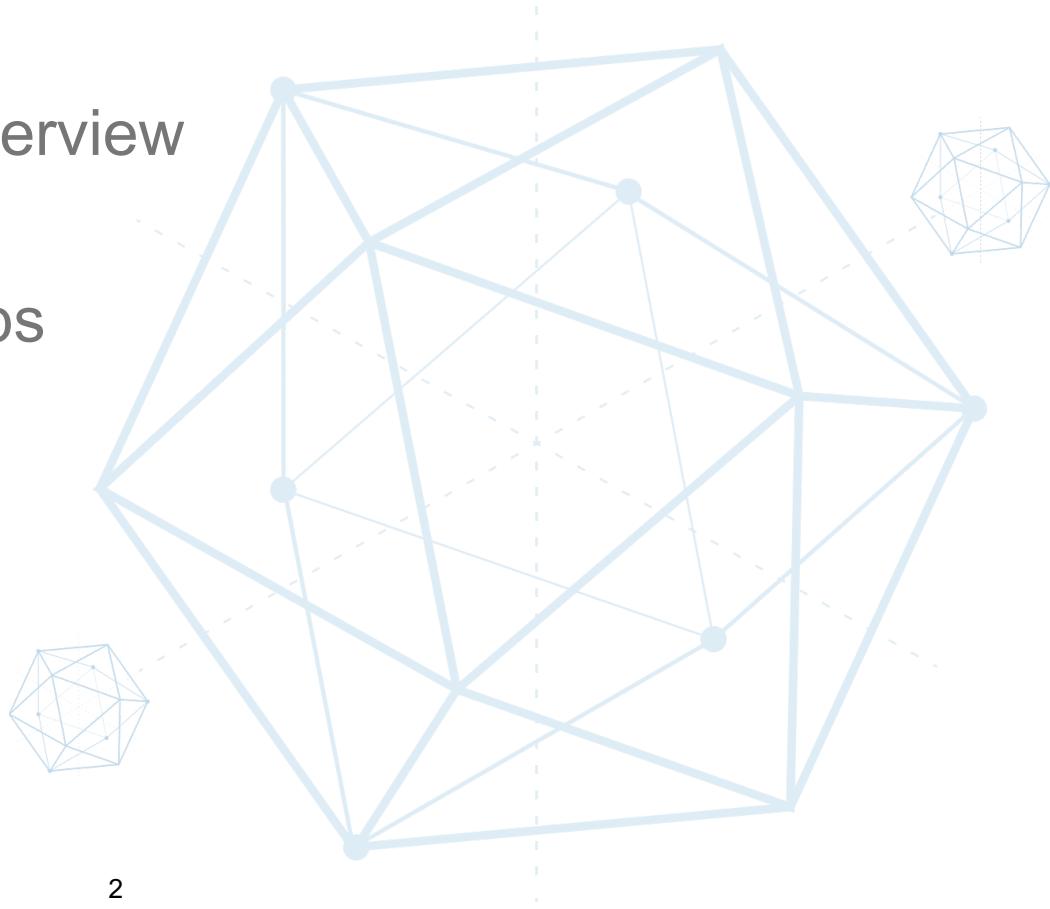
- **Researcher in IBM**
  - Fintech, Cloud and BigData
- **Open-Source contributor**
  - OpenDaylight, OpenStack, Hyperledger, etc.
- **Hyperledger fan**
  - Code committer to [fabric](#), [blockchain-explorer](#), etc.
  - PTL of [fabric-sdk-py](#) project, drafter of [fabric sdk spec](#)
  - Chair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



# Outline

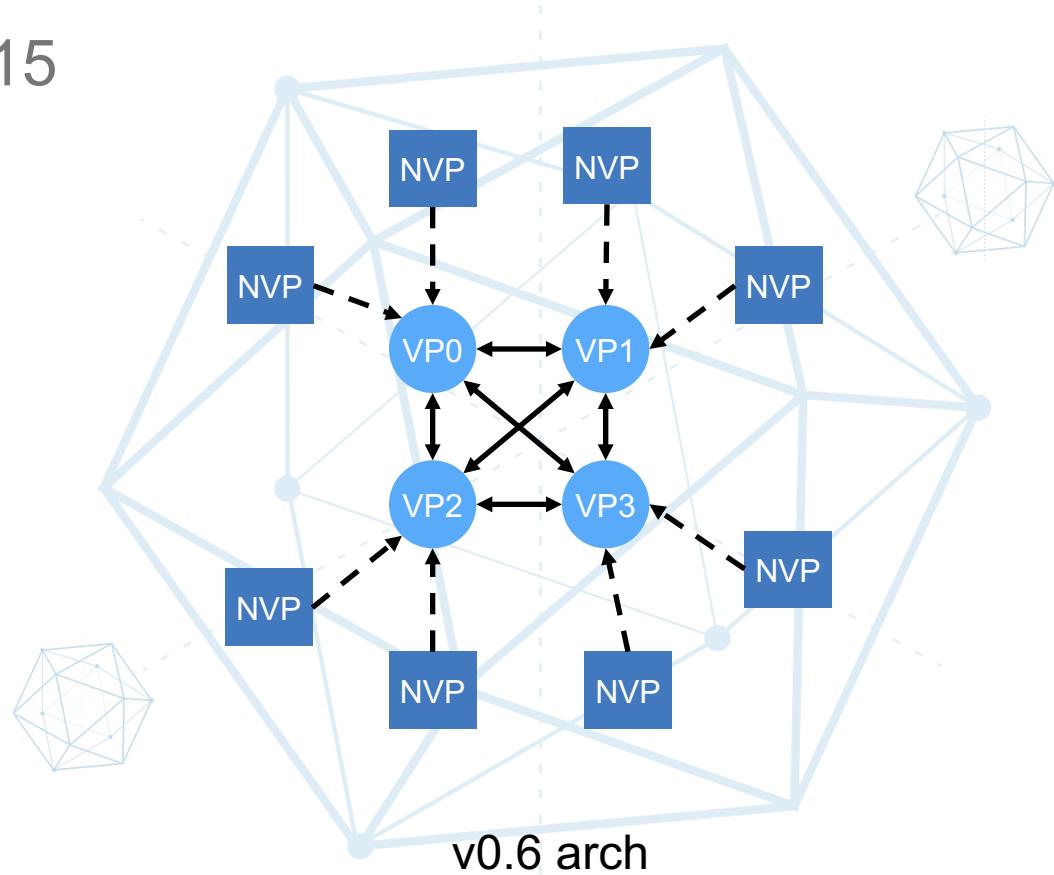
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- Hyperledger Fabric Overview
- Docker Setup
- Fabric Bootup in 3 steps
- Test cases
- Q&A

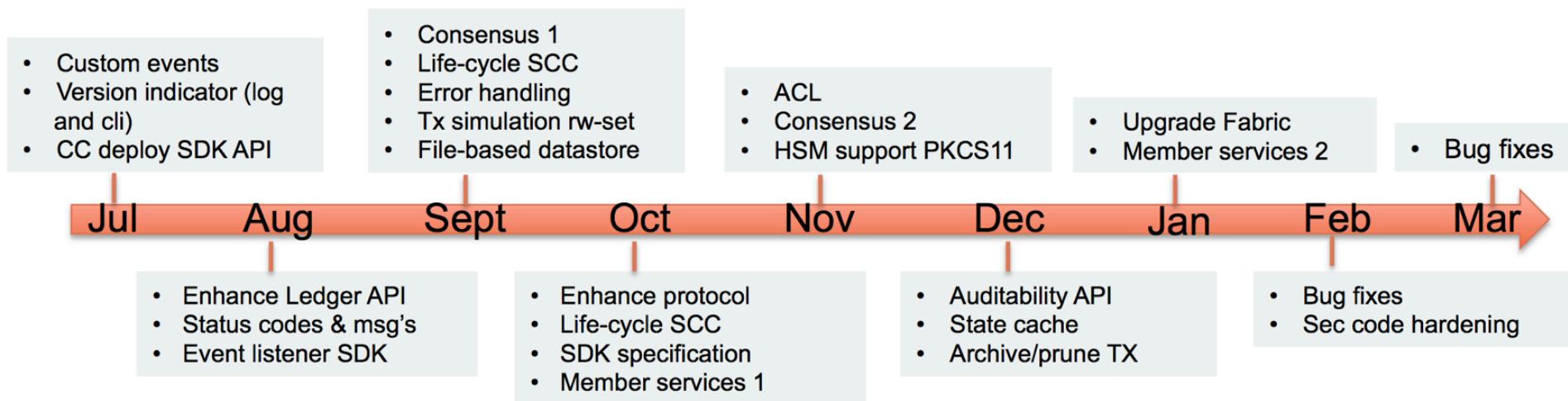


# Hyperledger Fabric Overview

- 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

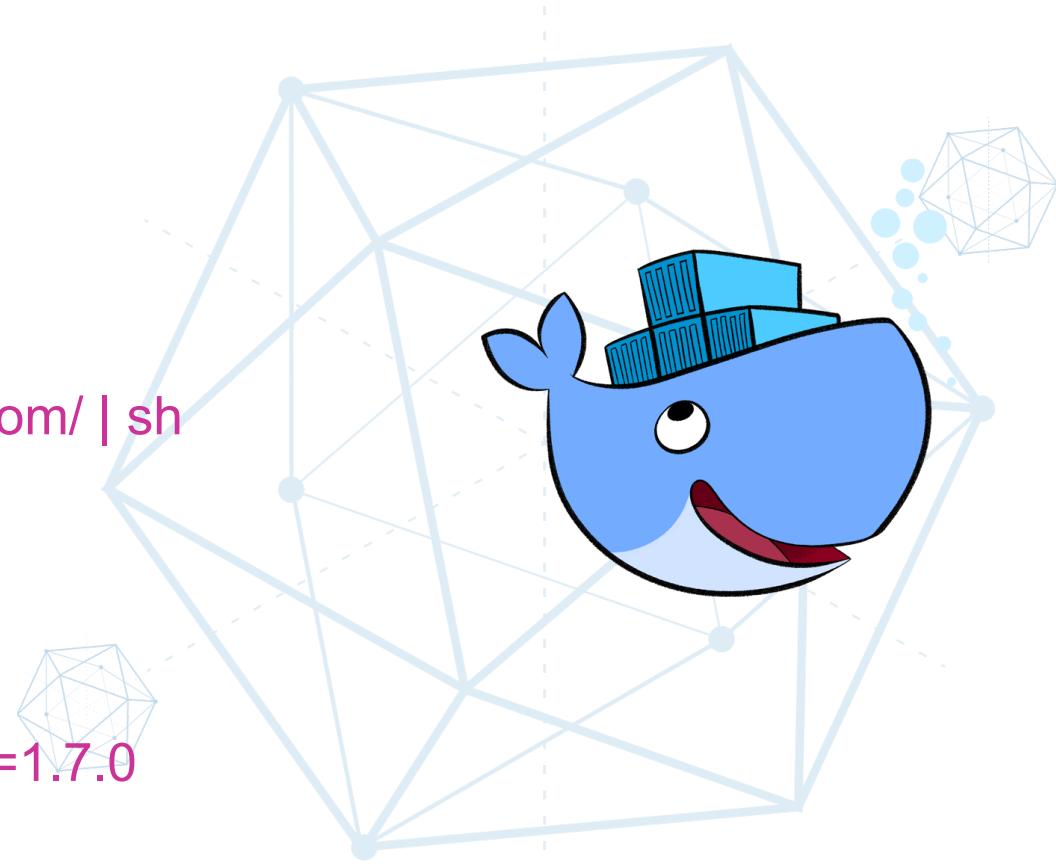


# Roadmap 1.0



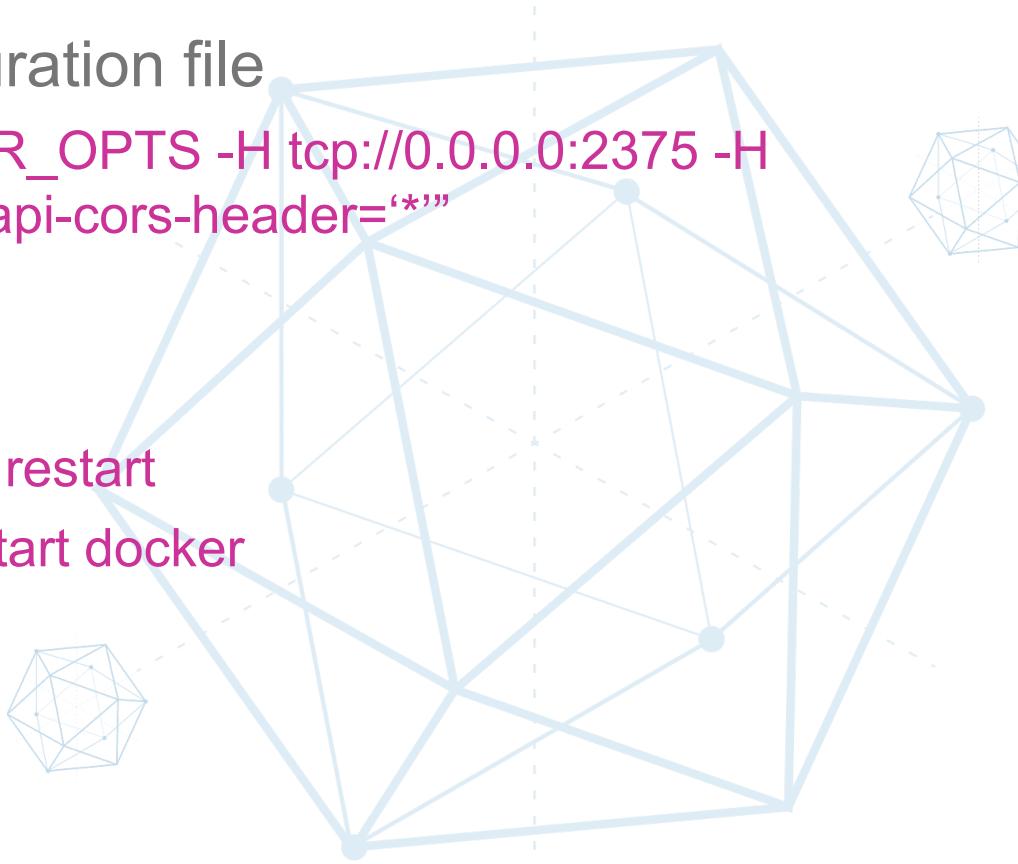
# Docker Setup - Installation

- 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

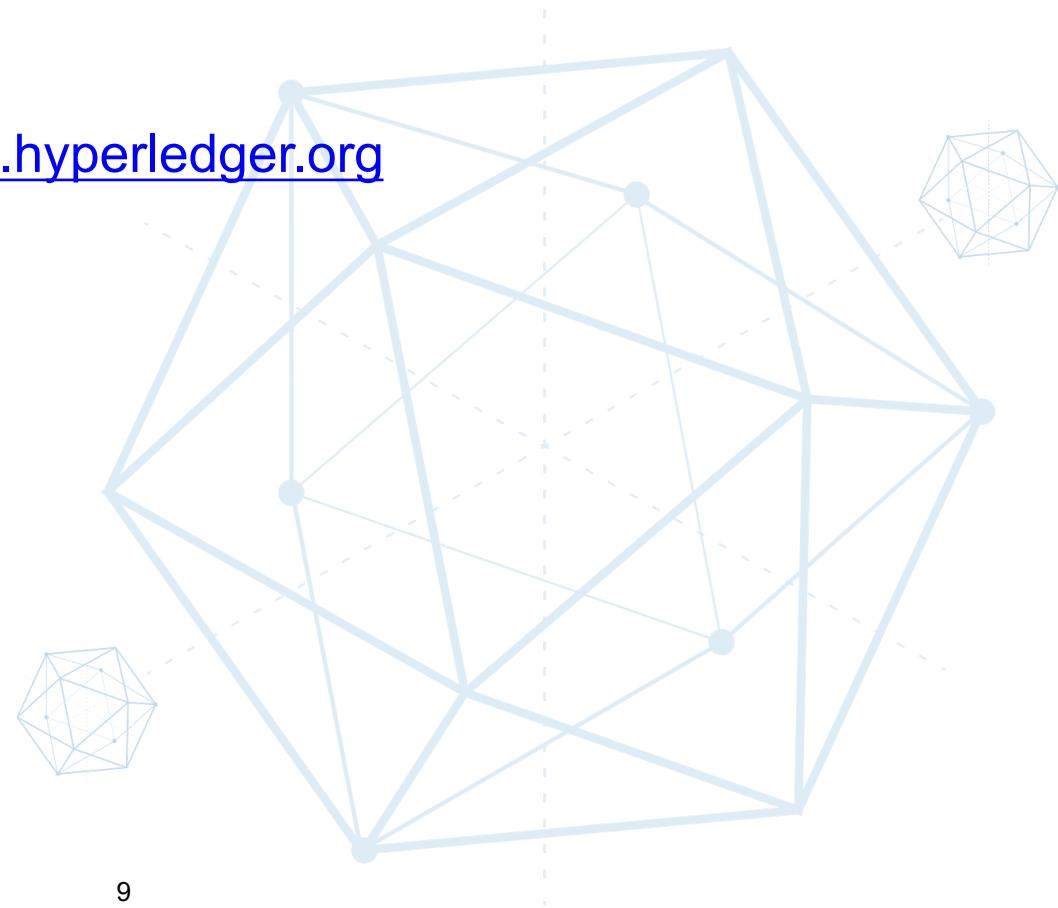


# Test cases

- Get network node status
  - peer network ls
- Deploy/invoke/query chaincode
  - peer chaincode deploy -p [github.com/hyperledger/fabric/examples/chaincode/go/chaincode\\_exam ple02](https://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"]}'

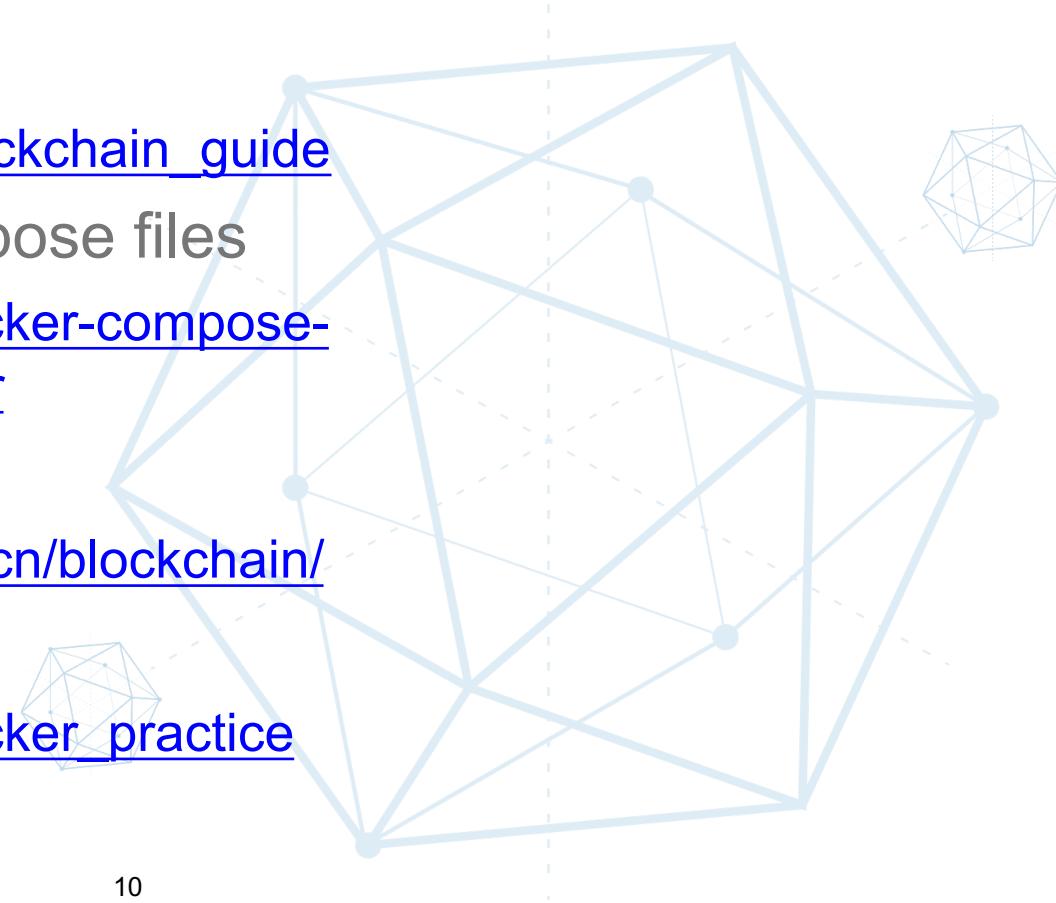
# Technical Working Group in China

- Mail-list
  - [hyperledger-twg-china@lists.hyperledger.org](mailto:hyperledger-twg-china@lists.hyperledger.org)
- Slack
  - twg-china
- Hyperledger Hackathon
  - Mar, 2017, Shanghai
- Recent meetups
  - Dec, 2016, Beijing
  - Jan, 2017, Shenzhen
  - Dec/Mar, 2017, Shanghai



# Ref

- 《区块链技术指南》
  - [https://github.com/yeasy/blockchain\\_guide](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](https://github.com/yeasy/docker_practice)



# Questions?

Thank You!  
@baohua

*Slides available at [tinyurl.com/hl-meetup](http://tinyurl.com/hl-meetup)*