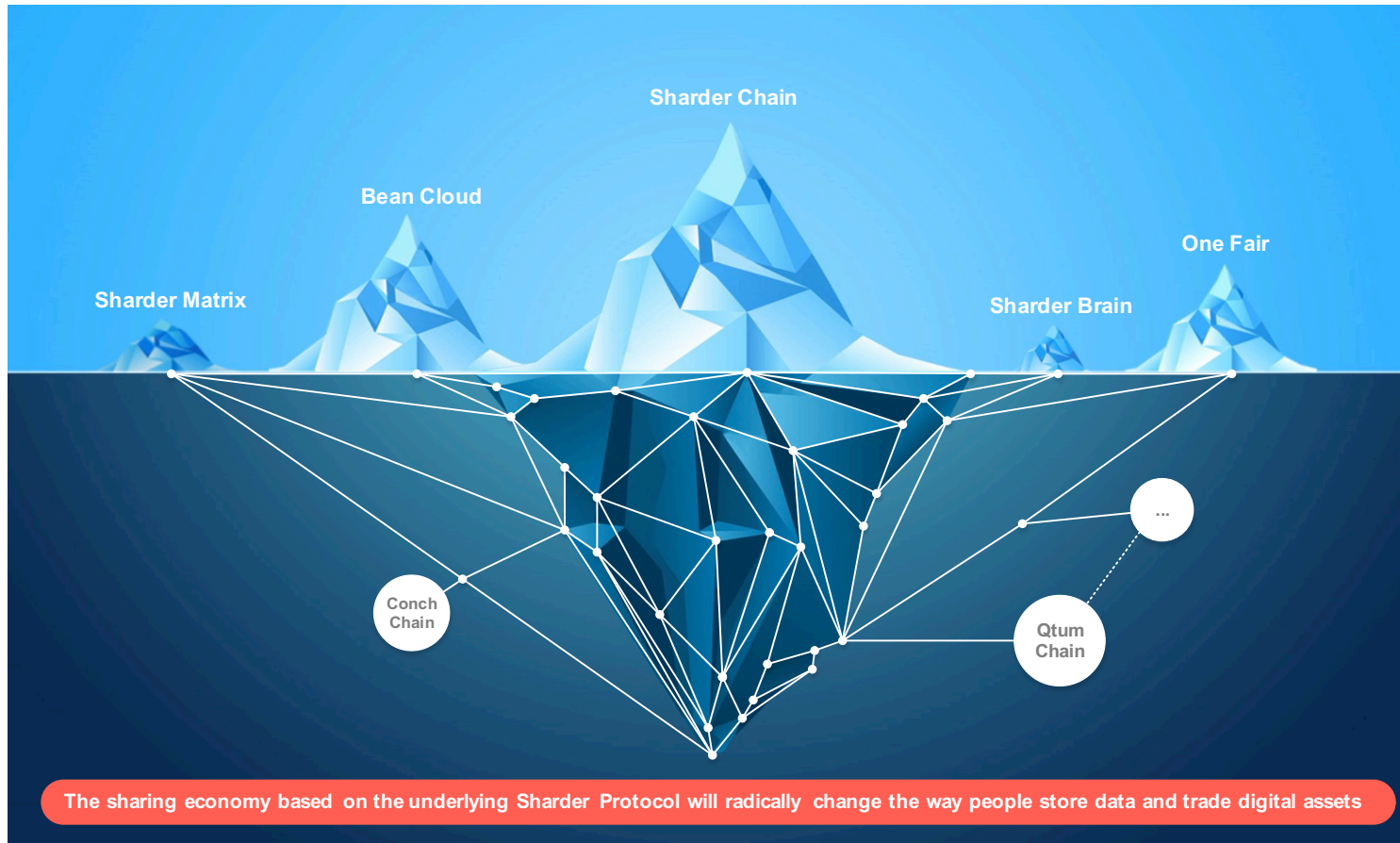


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Ecosystem



- Sharder is the distributed storage protocol developed by Sharder Foundation, which was established in Singapore.
- Sharder realized the optimization or innovation in cross-chain deployment, multiple-chain architecture, sharing storage economy, contribution, data privacy, data credential, and mining.
- Sharder Chain is the first Sharder-Pool that deploys Sharder Protocol. It has all the characteristics of Sharder Protocol and works as the anchoring network in Sharder multiple-chain ecosystem. There are 4 applications operating on Sharder Public Chain – Bean Cloud, Sharder Matrix, Sharder Brain, and One Fair.
- Sharder will become the global blockchain storage service provider that does not use hard disks, and establish the future blockchain ecosystem comprising of data generation, data storage, data valuation, and data circulation. The user will be guaranteed ownership of data, valuation of data, and non-idle data.

Pain Points & Solutions

Data Explosion: The Petabyte level data is increasingly common with the explosion in data growth. An IDC report points out that the global datasphere size is skyrocketing at an annual rate of **58%**, which will be even bigger in the years ahead. The global datasphere size was 8.6 ZB in 2015 and will be **44 ZB** in 2020, i.e. **5,500 GB** per capita. The global storage capacity is from **382 EB** to **1.8 ZB**, of which cloud storage accounts for 88%. Although global storage capacity growth is soaring, it lags far behind data storage and will cause great shortages in storage capacity.

Storage Share: There is a great amount of storage space across the globe left unused. Similar to Airbnb or Uber, the potential storage capacity could be expanded by sharing with others. The sharers could get incentives by contributing storage space to the network.

Pain Points in Centralized Storage

#1 Data breach and invasion of privacy

For instance, Equifax, one of the three major credit bureaus of the U.S., was compromised by hackers in September 2017 and exposed personal information of 145 million Americans.

#2 Access latency

Most of the time the centralized storage servers are deployed far from end users, prone to access latency, and are not user-friendly.

#3 High cost

Centralized data centers are capital intensive and the big companies charge users a lot to breakeven. The end users have no bargaining power against the big companies.

#4 Idle storage space

While the big companies spend tons of money on centralized data centers, an enormous amount of storage capacity across the global lies unused.

#5 Mutable and legally invalid

In the case of dispute, the unnotarized information including investment records, payment statements, emails, and other digital data are not recognized as valid evidence since they don't have public credibility or judicial effect.

#6 Impermanent Storage

The centralized storage center could arbitrarily terminate its service and thus the storage is impermanent.



Sharder Solutions

Sharder establishes a decentralized and autonomous sharing ecosystem based on blockchain 3.0 technology, it not only solves the pain points of centralized storage systems, but also radically reform the way data and value circulates.

#1 Offline encryption keeps data secured.

#1 Spontaneous data sharding and distributed storage.

#1 The initiative Sharder-UTXO and Sharder-PAIR technology guarantees the data could not be accessed without permission.

#2 The distributed network comprises of countless nodes, and is vastly expandable with cross-chain technology.

#2 The Watcher nodes synchronize the full network status, reduce the redundant copies and adjust the data distribution to guarantee 24/7 accessibility. The smart routers also greatly optimize the traffic performance.

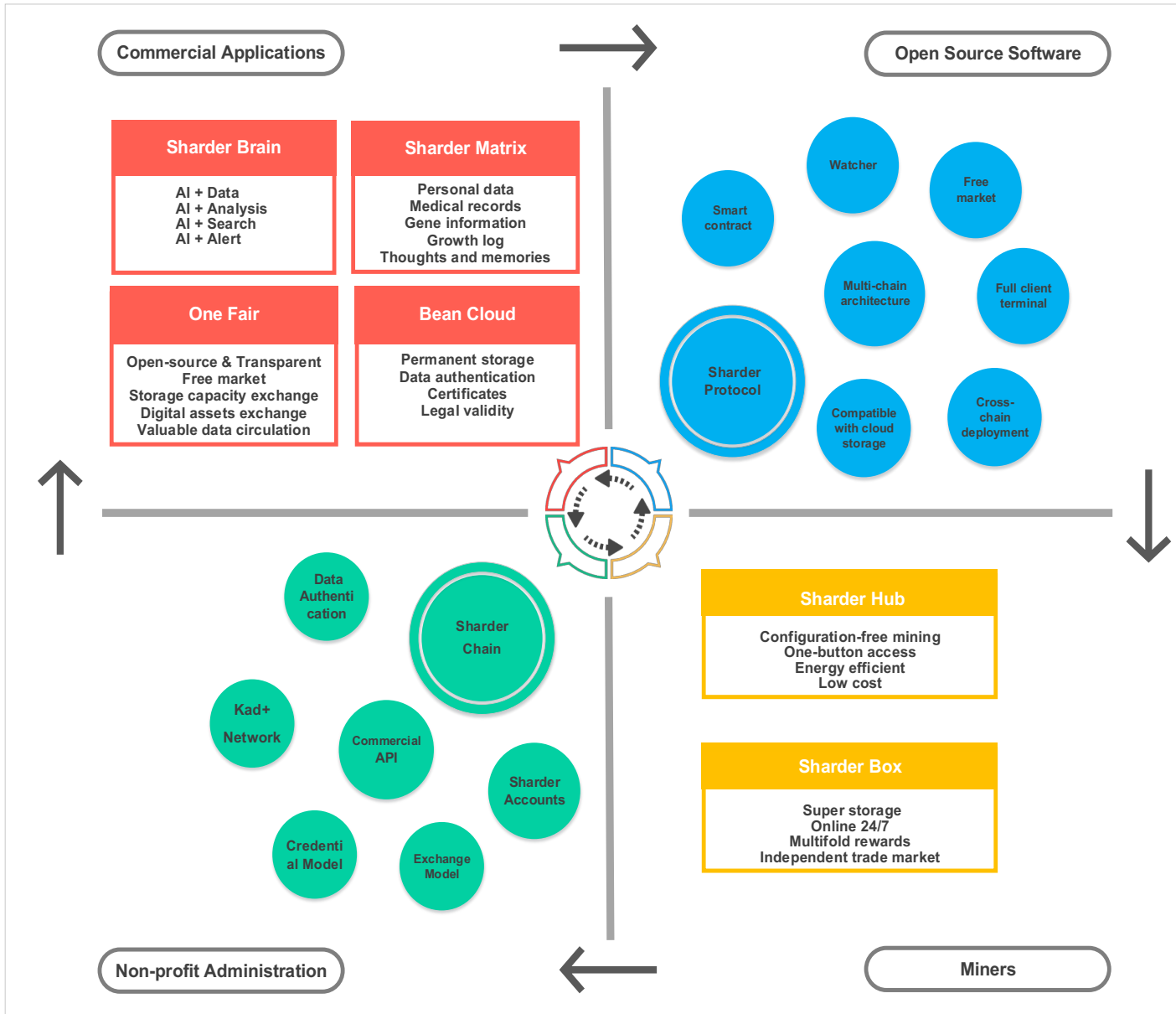
#3 The Sharder ecosystem is a transparent, open-source, peer-to-peer free market, where the price is set by users and market demand. The sharing economy excludes monopoly and provides high quality storage service at the lowest price possible.

#4 Similar to Airbnb and Uber, Sharder's sharing economy and incentive mechanism encourages the subscribers to bring their idle storage space to the market and get rewarded. Additionally, Sharder is releasing the Sharder Hub which allow subscribers to get multifold rewards for contributing their computing power and storage capacity.

#5 Provers such as notaries, judicial organs, or copyright bureaus provide the immutable data that are stored on the Sharder chain with authenticity and notarization so as to endow the data with public credibility and judicial effect.

#6 The decentralized and autonomous Sharder-Network store data on distributed nodes and will always be online. Subscribers could trust their data with Sharder forever.

Product Matrix



Sharder Protocol

Sharder Protocol is a cross-chain open-source protocol that defines the storage and usage of data in Sharder storage network.

Sharder Chain

Sharder Chain, as a public chain and the first blockchain that deploys Sharder Protocol, provides data storage with blockchain technology as well as offline encryption, auto-replication, sharding, smart routing, archiving, etc.

Storage Sharing

Users could connect personal or professional storage devices to the Sharder Network with Sharder clients or Sharder hardware miners, get rewarded by sharing storage space, and safeguard the Sharder Network simultaneously.

Commercial Application

The Sharder-Chain-based commercial applications such as Bean Cloud, Sharder Matrix, One Fair, Sharder Brain will be implemented into the Sharder data service.

Sharder Ecosystem

Sharder's sharing economy will incubate more blockchain applications and build a product matrix that complements one another. Ultimately, it will form a free, equal, mutually-beneficial, autonomous, and prosperous Sharder Community.

Highlight | Cross-Chain & Sharing Economy

Measurability All subscribers' contribution to the network is quantified and measurable. Give more and get more.

Privacy All subscribers enjoy absolute privacy

Cross-Chain Compatible with all kinds of public chains and various storage networks.

Decentralization Limitless expandibility, permanent storage, 24/7 uptime.

Watcher Synchronizes the full network status in real time, dynamically adjusts the data distribution with 99.9% security and availability, reduces the redundant copies and increases utilization rate. Smart routing.

Sharder is the "Airbnb" of the blockchain storage field, and could be one of the biggest storage providers that does not use hard disks.

Prover Mechanism With your authorization, the prover is able to provide the proof of social credibility and legal validity based on the data extracted from Sharder Network.

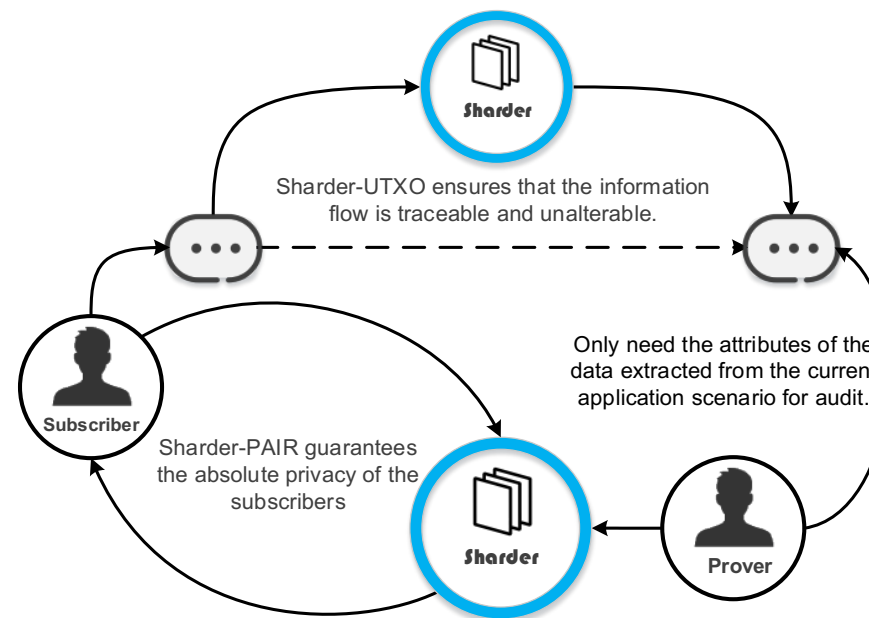
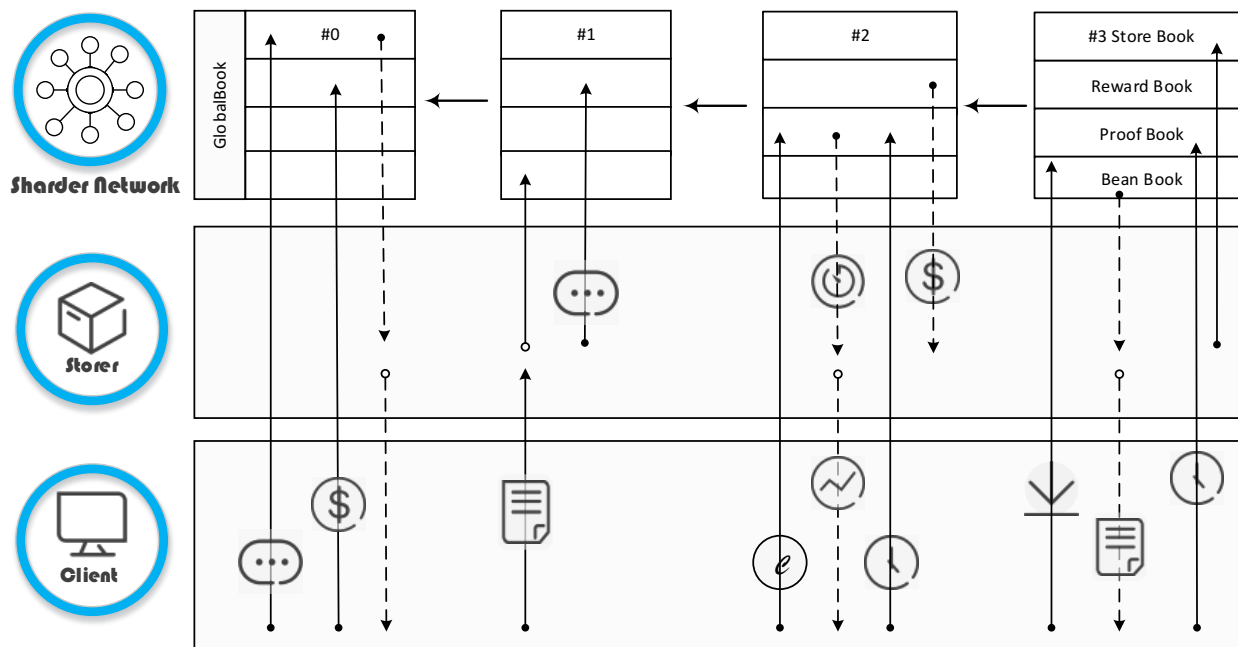
Sharder Miners Sharder will release Sharder Hub and Sharder Box to allow subscribers enjoyment of multifold rewards by contributing to the Sharder Network.

Sharing Economy All roles on the Sharder Network together form a distributed, secure, efficient, and permanent ecosystem of sharing economy.

Multi-chain Architecture The multi-chain mining and cross-chain deployment guarantees the secure and efficient transfer of data and value.

One Fair Transparent, open-source, peer-to-peer, free transaction of your digital assets.

Highlight | SHARDER-UTXO&PAIR



Multiple certification methods, contributions are recorded and measurable
PoST + PoR + PoC

Initiates Sharder-PAIR and Sharder-UTXO credit models, which allow the Prover to efficiently implement data audit and certification with subscribers' data privacy protected.

Sharder Hub

Micro node miner

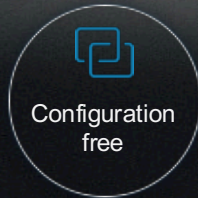


Sharder Box

Storage & Mining All-in-one



Tailor-made
microchips



Configuration
free



Multifold
rewards



Super storage

No more arms race! No more waste of computing power and storage space! Get a Sharder Hub and reap the rewards from mining or get a Sharder Box and earn multifold rewards (mining, storage, watcher) at the simultaneously. We will become the Bitmain of blockchain storage.

Benchmarking

Comparison among storage systems

						
Network	Centralized	Centralized	Decentralized	Decentralized	Decentralized	Decentralized
Online time	Occasionally offline	Occasionally offline	Online 24/7	Online 24/7	Online 24/7	Online 24/7
Privacy	Low	Low	Very high	Very high	Very high	Very high
Security	High	High	Very High	Very High	Very High	Very High
Mining time	-	-	10 sec - 2 min	30 min	-	-
Public chain	-	-	Yes	Yes	-	-
Miner	-	-	2 lines	No	No	No
Cross-chain	-	-	Yes	No	No	No
Smart Contract	-	-	Turing complete	Yes	No	No
File System	Yes	Yes	Cloud Aqua+	No	KFS	No
Peer-to-peer Market	No	No	Yes	No	Yes	No
Data Sharding	-	-	Smart sharding	No	Automatic sharding	No
Erasure correcting	Yes	Yes	Yes	No	Yes	No
Nodes in China	Yes	Yes	Yes	Yes	Yes	No
Upload speed	No data	No data	Smart-adjustable	1M/s	0.3M/s	No data
Dapp	-	-	Dapps Bean Cloud Sharder Matrix Sharder Brain One Fair	No	No	No

Updated 2017-12-01

Team

Ben Xiong

CEO • CTO / xy@sharder.org



15 years of experience in programming ,B.Eng. in software from Shanghai Jiaotong University, Architect of Seachange, Chief Architect of Yiji Pay, Co-founder and CTO of Taogushen.com, Founder of Conch Chain

Jeffrey Zhu

COO / jeffrey@sharder.org



8 years of experience in programming,finance, operating and entrepreneurship, B.S. in computer science from Peking University, Co-founder of Beiming, Co-founder of Chain Renaissance Capital

Rick Wang

CMO / wb@sharder.org



6 years of experience in marketing, channel development and entrepreneurship, Marketing Director of Huangcheng Technology Co., Ltd., General Manager of Zebra Environment Technology Co., Ltd.

R&D Team



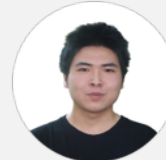
Vitty Xiong
Architect



Bruno Jiang
Architect



Patrick Liu
Lead Programmer



Johnny Fan
Lead Programmer



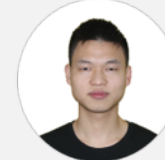
Willis Wu
Lead Programmer



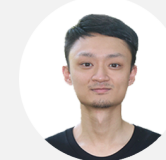
Chandler Wang
Product Manager



Thomas Huang
Programmer



Vincent Lei
Programmer



Quincy Zhang
Programmer



Lynn Yu
Programmer

Marketing & Operations Team



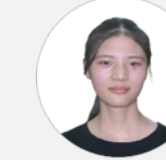
Kaka Zuo
Channel Director



Cola Young
Operations Director



Walter Chen
Operations Specialist



Moon Qiu
Operations Specialist



Yao Xiong
Financial Specialist

Global Community



Aaron Zhang
Operations Lead



Yuen Wong
Marketing Lead



Erik Hohmann
Marketing



Joe Chan
R&D (Network Layer)



Pranav Burnwal
R&D (Smart Contract)



Chris Wong
Operations

- R&D Team led by network architects with 10+ years of experience in programming
- Multiple programmers with 5+ years of experience in blockchain
- Marketing & Operations Team with experience in various successful projects
- Young but down-to-earth and experienced visionaries
- Global community in the U.S., Hong Kong, Australia, Philippines, and counting.

Administration & Partnership

Sharder Foundation was established in Singapore and constitutes policy-making, supervisory, and executive bodies. In an open, transparent, and nonprofit manner, the foundation is in charge of the R&D of the Sharder Protocol and Sharder chain, the issuing and distribution of the Sharder token (hereinafter referred to as SS), the administration of Sharder community, and the promotion of Sharder products and culture.

Policy-making Comprises of CEO, CTO, COO, CMO, angel investors, community enthusiasts, professionals, and advisers. They are in charge of the daily administration, operations, and strategic planning under the direction of the Council Director.

Supervisory Comprises of legal and financial advisors. They are in charge of the legal and financial compliance.

Executive Comprises of the R&D team, financial and auditing team, administrative team, marketing team, operating team, overseas teams. They are in charge of the development, application, and marketing of Sharder Protocol and Sharder chain.

Partnership Sharder Foundation cooperates with the following partners on application development and Sharder ecosystem construction. (listed in no particular order, and some are not listed due to privacy)

Partner



Advisor & Investor



Hao Wang
Doctor from Chinese Academy of Sciences
Technology Advisor



Rui Zhao
Blockchain Expert
Technology Advisor



Changyong Liu
Ph.D in economics from Peking University
Operating Advisor



Yuan Zhou
CEO of JFH.com of Chinasoft International
Marketing Advisor



Huasen Jiang
CEO of BornSoft
Angel Investor

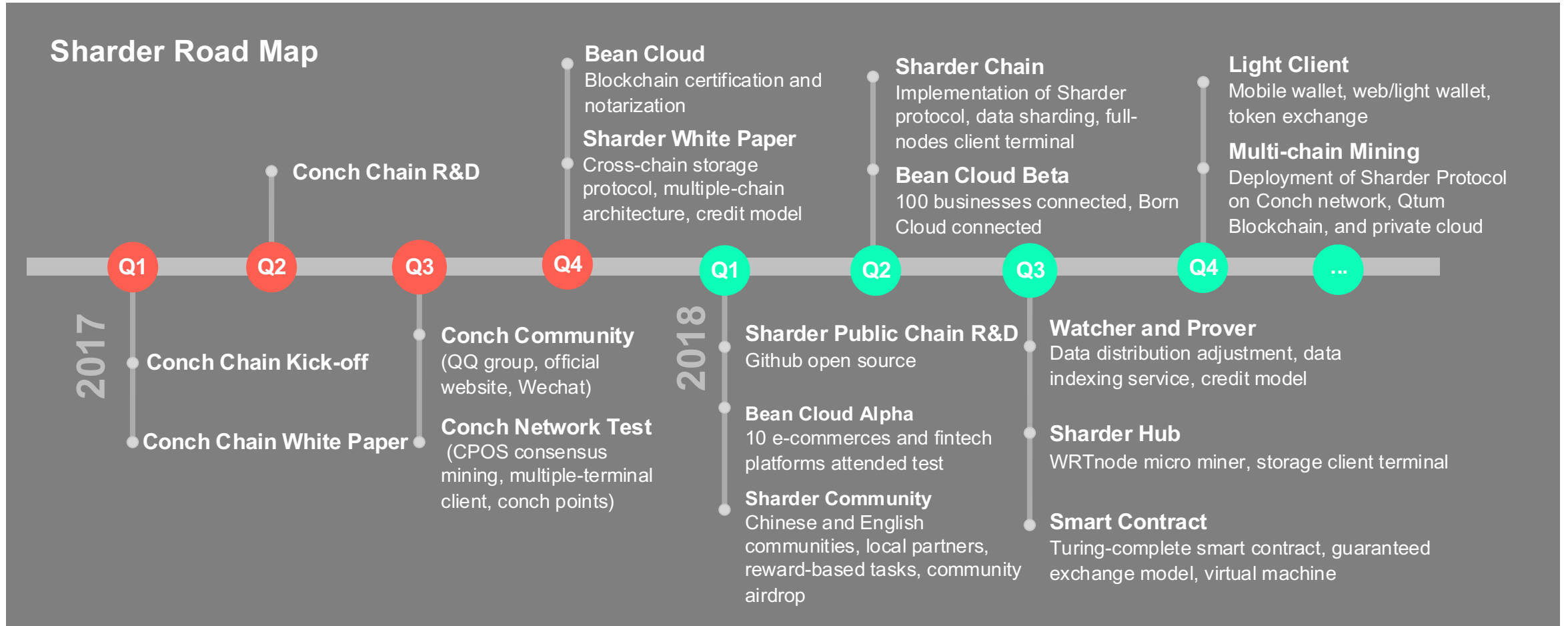


1911 Capital



Nirvana Capital

Road Map



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<https://twitter.com/SharderChain>



<https://github.com/Sharders>



hi@sharder.org



https://t.me/sharder_talk



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