

# TrueChain White Paper

— — High Performance Commercial Public Blockchain  
Starting from Digital Advertising Industry

TrueChain Foundation

## Abstract

TrueChain (TRUE) is developing a public blockchain for real commercial decentralized applications. The blockchain is based on an improved PBFT consensus protocol that provides fast peer-to-peer communication, value transfer, and efficient smart contract infrastructure. TrueChain starts with digital advertising industry D-applications, but is preparing for supporting all commercial D-applications. As the needs for performance-demanding commercial Dapps emerge, TrueChain is going to become the next-generation public chain for commercial applications.

Technology Perspective: TrueChain not only provides protocol for faster digital asset transfer, it breaks some limitations of PBFT blockchains. TrueChain implements CsC (consensus contract) and builds four functionalities on the blockchain: 1. Node incentivization; 2. Delegation protocol for unlimited validation nodes; 3. PBFT node incentivization protocol. TrueChain is building a strong development team & community globally.

Application & Commercial Perspective: The needs to develop Dapps from every industry is booming. Many Dapps will require high performance and low cost. However, supporting multiple performance-demanding Dapps is very hard on existing platforms. TrueChain provides such an infrastructure to host “real” Dapps from various industries. TrueChain will implement an abstraction layer of commercial contracts based on the business logic, and provide tools for developers, Dapp managers to friendly access the smart contracts. TrueChain wallet is easy to integrate as Dapps on TrueChain could publish their own digital assets and connect their mobile apps / website applications to TrueChain’s infrastructure.

Community Governance Perspective: TrueChain Foundation has been setup to build transparent governance structure. The obligation of TrueChain foundation is to best serve the development of TrueChain project. The foundation has its own governance structure to offer technology management, community management, PR & marketing management, financial management, financial disclosure.

## Why Digital Advertising First?

Over years, advertisers pay huge amount of money to buy fake clicks and fake users while publishers desperate to create robots to consume advertisers' budgets, and platforms like ADX and DSP systems are non-transparent at all to both advertisers and publishers.

One of the fundamental reasons why frauds happen so often in digital advertising industry is that Internet based systems only solve the problem of connection. However, the industry needs transparency to cultivate honest business environment. Big data and AI solely cannot solve the problems because of lack of transparency and trust. Giant Internet companies may provide clients with some degree of trust but very little transparency, and clients pay much more than they should (a.k.a. the cost of trust). To solve this problem, we need both transparency and accuracy in a same system. Therefore blockchain-based digital advertising applications are needed.

For example, a decentralized ad exchange will provide an environment that is transparent, fair, and more cost-effective. Together with data and algorithms, it enables the three parties of advertisers, publishers and users to use shared data and find the right media for targets.

However, there is no infrastructure available in the market to support such Dapps. But we envision a future of blockchain backed ecosystem to give transparency back to participants in the industry, and reduce the level of cost for trust.

Many Dapps under the context of digital advertising will be performance demanding. Successful experience in such an industry will help TrueChain expand to many other fields and provide similar infrastructure with different business logic.

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# I. Background

Year 2017, blockchain is already a technology every industry is looking at and talking about. With serious players joining, the requirement of a better infrastructure is emerging.

Blockchain technology is evolving. BitCoin represents the first generation of blockchain applications. Ethereum and several other projects built turing-complete language into a POW blockchain so that any state transition functions can be implemented via smart contracts. Ethereum-like approaches could achieve great decentralization but have huge costs. Most of commercial-type of applications will not tolerate. There are projects trying to combine POS & POW to improve performance, but their improvement ceiling is not high (e.g. 10x faster will not solve the problems).

In contrast, there are blockchains built upon BFT consensus, e.g. Ripple, Hyperledger. BFT chains builds consensus by solving the Byzantine Generals Problem. Honest validation nodes are working together instead of competing with each other to help update the ledger. Nodes verify transactions via communication instead of consuming computational power. BFT chains could achieve high performance, but have limitation on the number of validation nodes. As communication cost rises quickly, the network is not possible to host arbitrary number of validation nodes. Currently, BFT chains such as hyperledger are deployed to serve specific institutions.

TrueChain is building a public BFT blockchain, and an improved version of Practical BFT blockchain, with several improvements to meet the demand of high-performance, commercial D-applications.

Certainly there are different types of demands asking for different types of infrastructures, TrueChain focuses on one important category: commercial D-applications.

We consider such D-applications require the following features:

1. High Performance (~10000tps)
2. Low Cost & Low Energy Consumption
3. Stable and Efficient Contract Execution Environment
4. Easy to Develop, Deploy and Manage D-Applicaitons

Another feature of such Dapps is that corporates are primary entities to publish and maintain smart contracts.

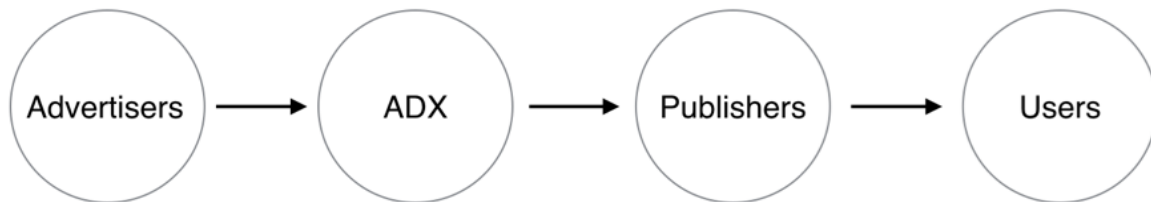
Therefore we consider TrueChain is building a commercial consortium public blockchain. It is public because anyone could publish smart contracts on TrueChain. However, it has consortium feature because validation nodes are approved by community of existing validation nodes, and any modification or update of consensus contract has to be approved by the group of existing validation nodes.

## **II. Status-Quo of The Global Digital Advertising Market**

Middlemen in the global digital advertising market (ad exchanges) has more than 3 trillion dollars market cap in stock markets, a huge industry connecting large numbers of participants.

Advertisers

- Ad Exchanges
  - Ad platforms from Internet Giants
  - Medium and small ADXs
- Publishers
  - Applications
  - Websites
- Users on Internet



## The Digital Advertising Industry Dominated by Internet Giants

Giant Internet companies like Facebook, Alibaba, Google, Baidu have most of their revenue from digital advertising. They have been building data mining products and AIs to help advertisers better target their users. Many of them connect to smaller DSPs and publishers including websites and apps in addition to their own products. They form “traffic alliances” with small publishers so that their huge advertising budgets can be consumed.

However, there is a big important thing these giants do not provide: Transparency. When advertisers (especially those who do not have enough bargain power) use giants’ services, they generally do not know how many real user clicks happened on their ads. In reality, advertisers often gains much less than what they should get from working with giants. In contrast, medium and small publishers only get very limited income because giants strong bargain power.

More severely, giants monopolize trust, advertisers are force to trust them. Therefore advertisers always pay more than they should, and publishers always get less money than they should. There is one example, a Baidu advertiser could pay as high as 15 USD for a single click, while the Baidu ad exchange only pays its publishers 0.15 USD for that click. Although advertisers have rights to choose, they always pay too much.

The problem comes from monopoly and non-transparency.

## The Part Led by Medium and Small Ad Exchanges

Many advertisers and publishers do not accept the lack of transparency and high price in the giant dominated market, they started to work with ADXs like

IronSource, Duomob. In this part of the industry, advertisers lower their cost a lot, and publishers raise their revenue by at least 10%.

However, trust remains a big issue. Although ADX'es lowered their own profit and gave back more to advertisers and publishers, they do not have basis to acquire trust and they cannot provide trust endorsement to advertisers and publishers.

As many ADXs emerge, fraud became common, Gresham's Law dominated. Many ADXs created robots of their own to click on their own clients' ads to get more revenue. On the other hand, with cpa and cps, a lot of advertisers would not pay even when publishers finished their jobs. In the end, the market is less efficient than giants' dominated market.

Trust became a huge intangible cost to the whole industry. ADX was broken because it failed to build trust.

### **Global Digital Advertising Industry: A Dilemma**

Advertisers have hard choices: Huge Pay Checks to Buy Trust, or Get Frauds. The core of this problem is trust. The core of trust in this industry is building transparency.

## **III. Market Cap**

### **Market Cap of Global Digital Advertising Middleman**

By the year 2017, There are more than 3 trillion dollars in the stock markets.

### **Global Digital Advertising Market Cap**

The global digital advertising reached 200 Billion USD market value in 2017. US has the largest share, China is now the second. US and China will continue being the largest two in the coming years. The growth of US and Chinese digital advertising expense takes around 50% of the whole world.

### **Advertisers and Publishers**

In 2016, Baidu announced that there are have more than 450k publishers on their platform. The Baidu Advertisement Union has 800k publishers.



Globally, there could be more than 10 million advertisers and more than 20 million publishers.

## Ad Exchanges

Statistics shows that there are more than 40 thousand ADX in China, including programmatic & non-programmatic ad exchanges. There are more than 400k ADX in the world.

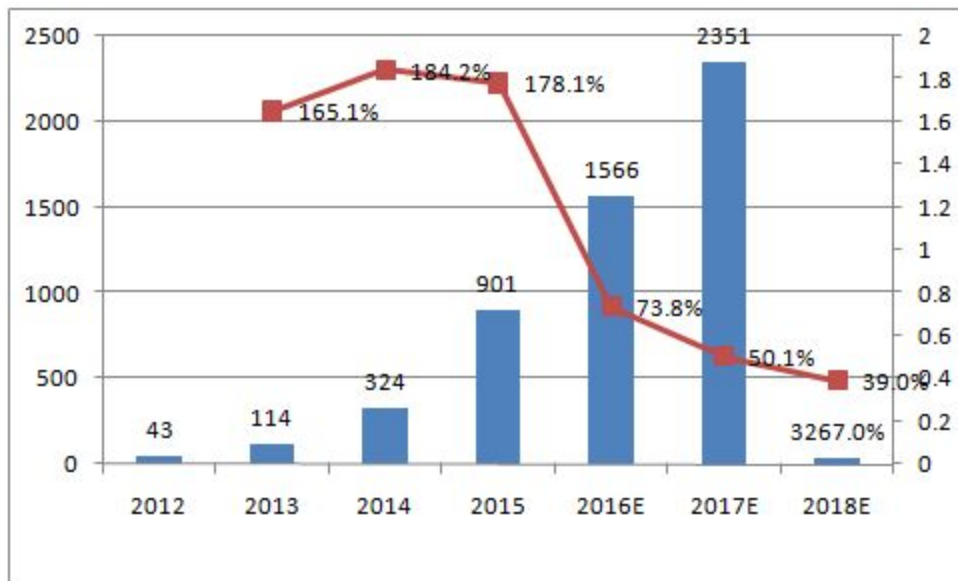


Figure. The Chinese Digital Advertising Market Still Grows at 36% Annually. Market Cap in 2017 is 235.1 Billion RMB.

## The Lack of Low-Cost Solutions to Build Trust

Although ADX, DSP, SSP and other players are corrupted now, they are crucial in the global digital advertising market. With the current market, it's difficult for giants to open up due to obvious reasons, and it's also hard for medium and small platforms to solve trust problems.

Internet based centralized market is not possible to reform itself to low cost, fair, transparent agents. This is where blockchain comes in.

## The Lack of Underlying Protocol to Build Transparency

If the millions of advertisers and publishers choose to work with Internet giants led centralized ad exchanges, they will have to pay for high for the trust provided by giants and the lack of transparency increased the amount to be paid. On the other hand, if advertisers choose to work with small ADXs, although their ROI could improve at least 30%, they might suffer from fraud. Because of frauds on every part of the process, the real ROI could be even lower than what giants have been providing. Efficiency is also lower.

Internet giants play as a third party and provides endorsement. advertisers and publishers pay for this endorsement (more than 50% of the total cost). Besides, all parties take the risk of non-transparency.

Therefore, under the Internet model, it is not possible to create a low-cost, fair, transparent environment.

## **IV. TrueChain -- The High Performance Infrastructure for Digital Advertising Blockchain Applications**

As depicted above, there are two problems that lead to TrueChain's solution.

The first is market. The global digital advertising is corrupted and calling for transparency. Blockchain provides the right mechanism to solve this problem.

The second is technical. There are no existing blockchain infrastructure that could support real performance-demanding commercial applications.

### **Why Blockchain?**

There are certain important features from blockchain that are important.

1. Decentralization
2. Openness
3. Self-Governance
4. Anonymity
5. Information Un-alterability

### **Demands from Global Digital Advertising Market**

## **Trust and Transparency**

- Data / Audience Reliability Advertisers and Publishers
- Payment Security between Advertisers and Publishers
- Transparency between ADXs and Everyone Else

## **Data Sharing and Privacy**

Privacy data is protected everywhere in the world. All data from advertisers, users, publishers and TrueChain have to be obtained legally.

## **User Participation**

Users have been passive to be advertised for many years, now we need to involved users for better advertisement experiences.

## **Better AI for Accuracy**

AI helps matching everyone's data and achieve high target reaching accuracy.

# **The TrueChain Solution**

## **Build Infrastructure**

TrueChain is a public blockchain infrastructure for organizations and corporates to build decentralized applications that build transparency and creating trust in the digital advertising industry.

TrueChain also designs an abstraction layer for digital advertising smart contracts. For example, advertising exchange contracts enables ADX, DSP and SSP to open up transaction data. Data exchange contracts enable more than 20 million data provider and more than 2 billion users to involve in data exchange activities with protection.

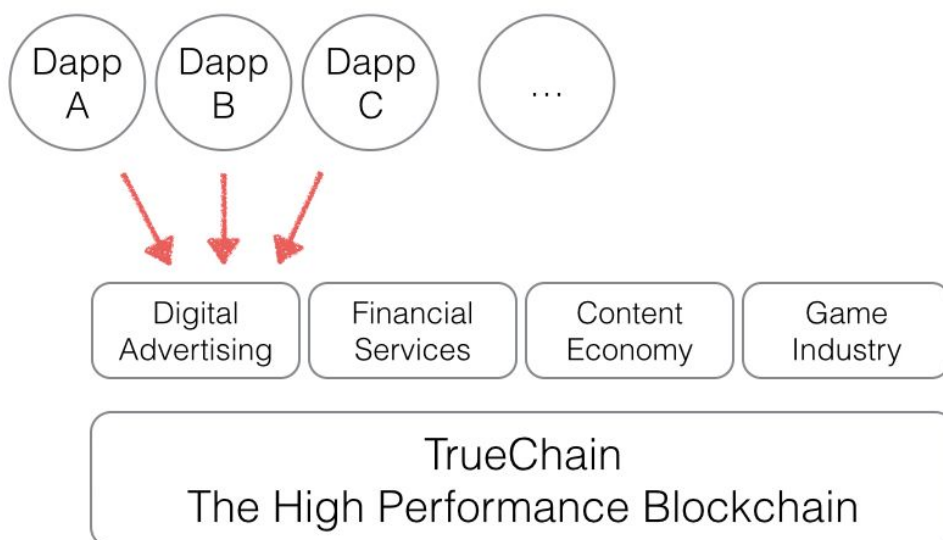
## **Lower Cost**

Comparing to Internet business model, TrueChain enables applications to eliminate high “endorsement fee”. A decentralized ad exchange could lower fee by 80%, allowing publishers to gain 70% of the total revenue stream and allowing users to earn 20% of the value back.

## **User Involvement**

Digital advertising industry has no user involved. With TrueChain infrastructure, users will join the process and securely contribute data and attention. Through TrueChain applications, users can earn TRUE or other digital assets provided by applications.

## The TrueChain Economy



## V. Technology Roadmap

TrueChain's technology is about building high performance infrastructure, industry-specific middleware, and usability.

- A. Build underlying blockchain infrastructure
- B. Build abstraction layer for digital advertising contracts
- C. Build usability tool kits

### 1. The Architecture



Figure. TrueChain Four-Layer Structure

TrueChain will build a four-layer network:

**Consensus Layer:** An improved version of practical BFT protocol. Achieves peer-to-peer data transmission, decentralized ledger, and transaction signatures. Client terminal generates public and private keys, public keys are used for TRUE transactions and communication with other clients. In addition to communication and value transfer, the protocol solves a few key problems: node incentivization, connectivity check, delegate validation.

**Smart Contract:** A smart contract deployment infrastructure, allowing every eligible entity to publish turing-complete smart contract. Implements asynchronous contract execution.

**Contract Abstraction:** Incorporate basic business logics (e.g. in digital advertising industry) into contracts and build an abstraction layer for developers to easily implement complicated contracts.

**Applications:** Corporate / organization - owned high performance decentralized applications.

## 2. Consensus

BFT systems solve the Byzantine Generals Problem. If communications happen synchronously, the network can tolerate more than  $(n-1)/3$  Byzantine failures, limiting its speed to process. In the case of asynchronous communication, such networks validate very quickly and reliably. The original FaB Paxos achieves  $(n-1)/5$  Byzantine fault tolerance, and later BFT-CUP achieves  $(n-1)/3$  Byzantine fault tolerance.

TrueChain is implementing an improved version of what we call the Practical Byzantine Fault Tolerance that achieves  $(n-1)/3$  failure rate in asynchronous communication, with certain ways to configure the connectivity of the network. Thus TrueChain implements strong correctness with 67% validation nodes agree on a same ledger.

A simple version of the consensus algorithm is as follows:

1. unclosed ledger accepting new tx until no more new tx coming in
2. validating nodes close ledger
3. validating nodes building consensus on ledger
4. asynchronously proceed for several rounds: if unseen tx received then vote no otherwise vote yes.
5. validate voting results: if  $\geq 67\%$  agree then add tx set to proposal set otherwise redo the process and increase correctness requirement by 20%

The whole process is to convert an “unclosed ledger” to a “closed ledger” and build consensus upon this ledger.

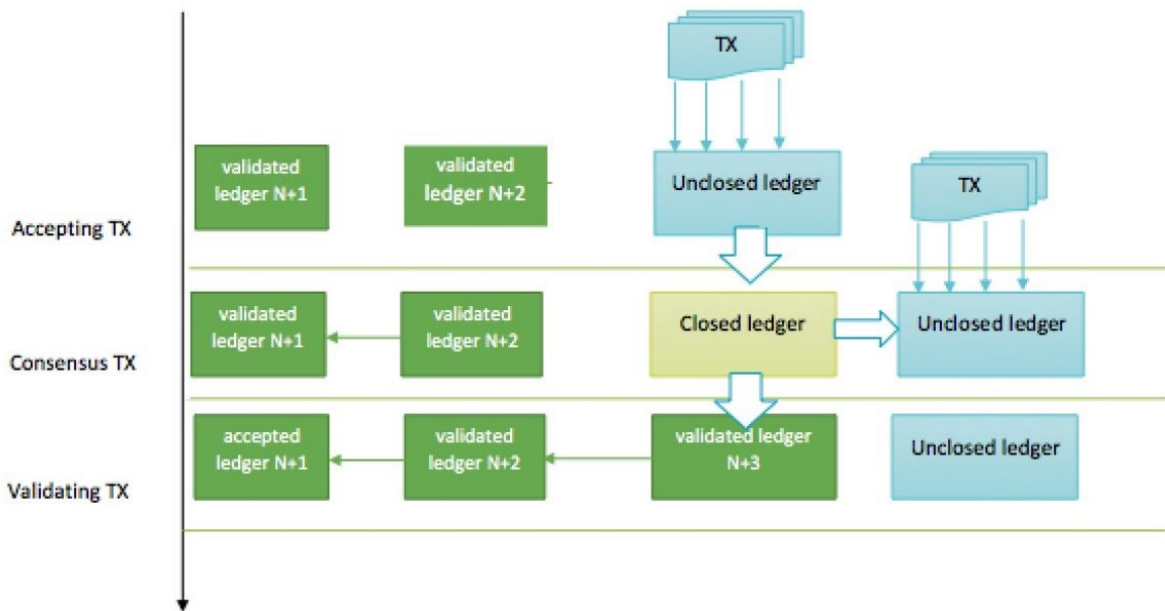


Figure. Illustrating Transaction Validation Process

## Transaction Structure

Transaction is structured as:

```
{addr_from, addr_to, value, gas, sign_pubkey, timestamp, tx_sig, hash, ledger_id, status, validated}
```

Ledger is structured as:

```
{accepted, account_has, close_time, close_time_readable, close_time_resolution, closed, hash, ledger_hash, ledger_index, parent_hash, seqNum, total_coins, transaction_hash}
```

## 3. TrueChain Smart Contracts

TrueChain has the most efficient smart contract system by time. TrueChain implements a smart contract scripted in Lua, and ran in C++, consistent with TrueChain's underlying technology.

TrueChain contracts support two kinds of transactions in general: contract deploy & contract call.

To deploy a contract with curl, one can write the following command:

```
curl -X POST -d '{"method": "submit", "params": [ {  
  "secret": "snoPBjXtMeMyMHUVTgbuqAfg1SUTb", "tx_json": {  
    "TransactionType": "ConfigContract",  
    "Account": "jHb9CJAWyB4jr91VRWn96DkukG4bwdtyTh", "Method": 0,  
    "Amount": "100000000", "Payload": data} } ]}' 127.0.0.1:5050
```

If successfully deployed, a contract address will be returned.

To call a contract, one can write the following command:

```
curl -X POST -d '{ "method": "submit", "params": [ {  
  "secret": "snoPBjXtMeMyMHUVTgbuqAfg1SUTb", "tx_json": {  
    "TransactionType": "ConfigContract", "Account":  
    "jHb9CJAWyB4jr91VRWn96DkukG4bwdtyTh", "Method": 1, "ContractMethod":  
    "666f6f", "Destination": "jBjprZbEjNu4NYD68HCMqQ7B5n8mqGZ4Wg",  
    "Args": [ { "Arg"{  
      "Parameter": "6a486239434a41577942346a7239315652576e3936446b756b47  
      3462776474795468" } } ] }  
  } ]}' 127.0.0.1:5050
```

The smart contract running environment is going to handle the request and process certain functions. Functions are able to take parameters.

An example of multi-sig payment contract can be written as:

```
result={} function Init(...) a={} for k,v in ipairs({...}) do a[k]=v end  
name={'destination','signerlist','amount'} size =table.maxn(name) for i=1,size,1  
do result=scStateStorage(a[size+1],name[i],a[i],a[size+2],a[size+3]) end return  
result end; function foo(...) a={} for k,v in ipairs({...}) do a[k]=v end  
result=scMultisign(a[1],a[2],a[3]) if result['res']== 'success' then  
des=scStateGet(a[1],'destination'); amount=scStateGet(a[1],'amount');  
result=scPayment(a[1],des['res'],amount['res'],a[2],a[3]) return result end;  
More complex contracts can be scripted in Lua.
```

## Asynchronous Call of TrueChain smart contract

Smart contracts get initiated from transactions (TX). If account ADT would be modified, a transaction will occur and get sync'ed to a lower level TX, which will all be kept on the underlying blockchain. This approach is good for the following points:

A. Transactions on TX level will not be affected by contracts



## B. Contract related transactions on TX

### **Contract Processing Speedup**

Ethereum is slow in many business applications because it is limited to consensus algorithms. On TrueChain blockchain, we will process smart contracts by segmentation. All smart contract servers can be configured at runtime and process different contracts in the system, leading a 10-time to 100-time improve on throughput.

There are a few other techniques we will apply in TrueChain system to improve speed in general:

- A. Separation of reading & writing: optimize parts that are read-only
- B. Separation of business: push different demands to different servers
- C. Fast Transaction: TrueChain provides an additional layer for fast transaction upon CTS to improve transaction response time. We set up a cache in this layer to achieve this goal.

### **Custom Token**

Any organizations that would use TrueChain as infrastructure are able to define and distribute their own token, or currency. TrueChain currency is different from Ethereum. On TrueChain, tokens or currencies can be issued and all token / currency transaction are sharing the same ledger TRUE uses.

## **4. Consensus Contract**

Traditional BFT chains are used mostly as private chains or purpose-specific chains. They have following characteristics:

- A. Used within organizations
- B. No node incentives
- C. Manually configured
- D. Fixed number of validation nodes

TrueChain will be used in a cross-organizational manner. Validation nodes join with community approval, and there is no limit number of validation nodes. Therefore, the connectivity of nodes have to be configured dynamically. Since validation node on a BFT blockchain is not self-aware, and validation node is not competing with each other, we employ “consensus contract” into the TrueChain consensus.

Consensus contract works as coordinator and monitor to achieve global node governance with delay of one ledger update cycle.

On TrueChain, consensus contract achieves three functionalities:

- A. Validation node incentive
- B. Connectivity check
- C. Validation node delegation

## Connectivity

we guarantee node-connectivity so that the consensus does not break. As already discussed in several PBFT related blockchain design theories including Ripple, connectivity should be maintained to satisfy:

$$|CLIQUE_i \cap CLIQUE_j| \geq (1/3) \max(|CLIQUE_i|, |CLIQUE_j|) \forall i, j$$

Where a CLIQUE is a group of nodes that are relatively separated from other groups among all validating nodes.  $i, j$  are indexes of any nodes.  $\cap$  operator has cliques as input and their common nodes as output.

In asynchronous BFT communication, the linkage of any two cliques have to be greater than the weak correctness defined by the consensus algorithm. In TrueChain's case, 33.3%.

## Validation Node Delegation

With unlimited number of validation nodes, the cost of communication increase. We employ a delegation mechanism into TrueChain, a group of core validation nodes are voted by all validation nodes. Core validation nodes updates ledger and executes contracts in the network. The voting process is done by delegation contract's algorithm. The period of voting is approved by community of validation nodes.

This approach promises unlimited number of validating nodes with fixed validating time to reach consensus similar to a PBFT network with less than 30 validations nodes (5 s/block and ~10000 tps).

## Validation Node Incentive

Validation nodes' contributions are measured when ledger is closed by incentive contract, approved and built in the consensus. The criterias include computing power consumed on contract execution and ledger verification, as well as data storage contributed.

Incentives come with two sources: a decaying pool of TRUE for incentives and transactions fees users pay in the network. Over years, TRUE distributed will decline exponentially, while the number of transactions will increase.

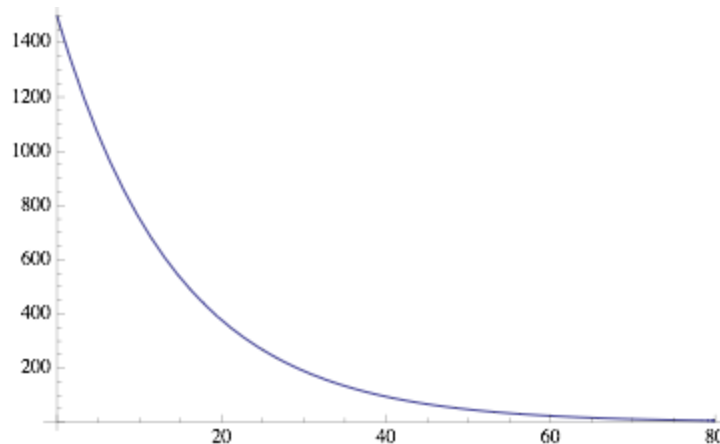


Figure. TRUE for Node Incentives. 15 Million TRUE Distributed in Years.

## 5. Abstraction: Contracts for Digital Advertising Industries

TrueChain is building an abstraction layer of smart contracts for digital advertising industry. Basic, repetitive and complicated functions are written into the abstraction layer, providing a friendly development interface for every organization in the industry to create advertising Dapps.

TrueChain specifically focus on the following three main categories:

- A. User Incentive Application Contracts (UIAC)
- B. Ad Exchange Contracts (ADXC)
- C. Data Exchange Contracts (DECC)

TrueChain offers special support for all these functionalities including user incentive tokenization, ad exchange, and data exchange and verification. Normally in this industry, there are platforms, exchanges, apps and websites owned by various companies. To help digital advertising companies make an app a Dapp, TrueChain provides an easy-to-use SDK and a set of APIs for token distribution, wallet integration, and payment supports.

## 6. Cross-Chain Transaction Support

Cross-Chain Consensus has to meet consensus requirements for both chains. TrueChain uses smart contracts to solve this problem. TrueChain starts with communicating with Ethereum. Imagine someone Jeff wants to buy  $n$  ethers with  $t$  TRUE's, from Bob.

First two smart contracts have to be deployed on both chains to accomplish a cross-chain transaction. On Ethereum, a contract is a contract. However, TrueChain provides a facility to create a consensus subchain and starts to call cross-chain transaction contracts on other blockchains, e.g. Ethereum.

Then we need to process and agree on two transactions. On Ethereum, there is a transaction ( $n1 \rightarrow n2$ ) which transfers ether from Bob to Jeff. On TrueChain, there is a transaction ( $t1 \rightarrow t2$ ) which transfers TRUE from Jeff to Bob.

The real process happens through smart contracts on both sides. The transactions will not be completed until both transactions are verified. After that, smart contracts send  $n$  to Jeff, and  $t$  to Bob. Otherwise, a `revert()` function is required on both sides get refund.

## 7. TrueChain's Circulating Currency — TRUE

TRUE is served as a digital currency on TrueChain. It's carrying TrueChain's market value, acting as gas, transaction fee, value storage, and a central digital asset to exchange others in the ecosystem.

Number of TRUEs: 100 million in total, fixed

Block Processing Time: 5 seconds

Concurrent Transactions: 10000tps

## 8. Usability

One of the biggest problem that limits blockchain applications is usability. Most of the infrastructures existing at the moment of writing is primitive. Blockchains are lack of debugging environment, management tool, etc. Therefore usability development is at core of TrueChain.

TrueChain focuses on the following products:

- A. Cloud computing compatibility
- B. Contract management tool
- C. Development SDK
- D. Optimized blockchain browser
- E. TrueChain Dapp Store

## 9. TrueChain Wallet and Wallet SDK

As a BFT blockchain wallet, TrueChain's wallet is an interface to TrueChain blockchain. TrueChain wallet supports to receive, send, and manage all TrueChain digital assets.

One potential need from many TrueChain applications is to incorporate their digital assets into existing applications, e.g. apps or websites. TrueChain wallet provides APIs to incorporate TrueChain wallet functionalities into other products. This allows any digital asset on TrueChain to spread across products and give TrueChain digital assets flexibility to be included in many scenarios.

## VI. Team

### Founding Team

Larry Lin, President of TrueChain Foundation

Co-founder of Jiou Technology. Larry was in charge of Baidu Baike, the largest content sharing community in China. He has over 10 years of experience in digital advertising and internet industry. As an expert in internet marketing and community operation, author of the best-selling books "WeChat Marketing and Operations", "Weibo and WeChat Marketing Tactics".

James Cheng

Founder & Chairman of Jiou Technology ([www.jiou.me](http://www.jiou.me)). Jiou runs Ji Meng, one of the largest WeChat ad exchanges in China, WeChat Sea, a leading mobile advertising SaaS. Jiou has more than 30k clients in China, its platforms connected to nearly 1 million publishers. James is involved in the following organizations and activities:

Member of Chang An Club, the most exclusive business club in China;  
Vice President of Black Horse Club (2015-2016);

Member of Chang Cheng Club;  
Author of “WeChat Marketing Decoding” (220k Prints)

Eric Zhang

Founder of TopHacker Group, running one of the largest technology & hacker platform in China, connecting professional tech teams to enterprises to solve problem. TopHacker has helped several blockchain teams build core technology.

Lando Yang

Blockchain developer, graduated from Tsinghua University.

Yuanwen Wu

CEO of Jingtum Technology Co. Ltd. Director of UN WOGC Blockchain Institute.

### **Advisor Team**

Jinglong Zhou

Chang Cheng Club’s partner, the largest Internet Company Organization.

Jun Zou

Authored popular book “A Guide to Blockchain Technology”, Zhong Guan Cun Blockchain Industry Union expert, PhD in Service Contract. Jun was previously an IBM Australia’s chief architect in Finance Applications. He published more than 200 papers on IEEE, including one which is best PhD paper of IEEE ICWS.

Haoran Cheng

Hao Ran is investor of Hu Dong Tong, one of the most successful digital ad exchange in China.

Binke

COO of TMall at Alibaba Group before 2015 and president of Shopin+ at Shopin.net by 2017. Binke is now running a retail digitizing company and owns more than 470k advertisers on his platform.

## Supporting Organizations

### JIOU Tech

JIOU technology team has ten years of experience in advertising trading platform, has thousands of advertisers and a wide range of digital marketing industry system, and with tens of thousands of global media interface to open up. Provide extensive advertising and media resources and digital advertising exchange experience support for the TrueChain team.

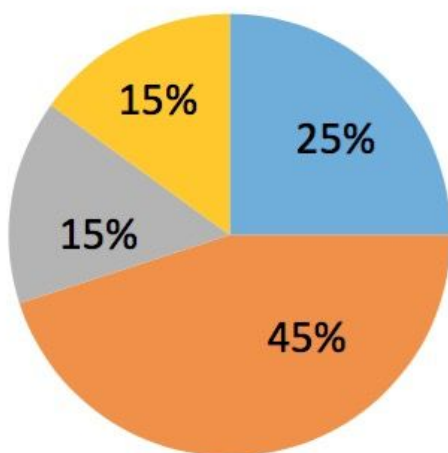
### TopHacker

TopHacker is one of the largest , has a strong artificial intelligence, block chain technical personnel and thousands of free developers, to provide an endless stream for the TrueChain team.

### Jingtum

Jingtum is a Chinese technology company originated in Silicon Valley. The company's core staff include Silicon Valley and China's top blockchain developers, and top experts in telecommunication and security.

## VII. TRUE Distribution



PE Fundraising	25%
Founding Team	15%
TrueChain Foundation	15%

Incentives 45%

Incentives breaks down to three parts:

- A. 15% for validation node incentives
- B. 15% for investment
- C. 15% for community support