
Galaxy Networks Inc.

GNC White Paper

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1. Purpose/Introduction

With continuous development of blockchain, we stride into blockchain 3.0 eras. GNC takes the cross chain communication protocol to solve problems of data transmission between blockchains, such as user can easily achieve the exchange of money between different tokens, significantly reduce conversion fee for tokens, as well as the DAPP different stages of the performance of the chain needs, as to achieve the DAPP optimal processing method.

1.1 Problem Statement

Bitcoin has established itself as the «digital gold», and Ripple has proved to be an efficient platform for International trading. However, there is no current standard cryptocurrency used for the regular exchange of value in the daily lives of ordinary people. The blockchain ecosystem needs a decentralized counterpart to everyday money — a truly mass-market cryptocurrency. Despite their revolutionary potential, existing cryptocurrencies lack the qualities required to attract the mass consumer. There are three main hurdles in today's environments:

The established blockchain networks — Bitcoin and Ethereum — play important roles in the ecosystem, but don't have the capacity to replace VISA or Mastercard. In their current architecture they are limited to a maximum of only **7 transactions per second for Bitcoin and 15 transactions per second for Ethereum**,resulting in insufficient speeds and higher transaction costs.

Regular users starting to engage with Bitcoin and similar technologies **often get confused** when trying to buy, store, and send their coins.

The market of goods and services that can be bought with cryptocurrencies is limited, and the **demand** for crypto-assets **comes mainly from investors, not consumers.**

The current state of blockchain technology resembles automobile design in 1870: it is promising and praised by enthusiasts, but inefficient and too complicated to appeal to the mass consumer. As a result, no cryptocurrency or decentralized platform has gone truly mainstream, and centralized solutions continue to dominate the market.

1.2 Outline of the Vision

Exchanging value should be as easy as exchanging information, and blockchain technology offers the ideal foundation to make this a reality. To reach mainstream adoption, a cryptocurrency —and its underlying blockchain design and ecosystem — requires:

Speed and scalability that allows for processing millions of transactions per second and accommodating hundreds of millions of active users and millions of applications.

Intuitive user interfaces and develop environment that enable an average developer to easily write, debug, deploy decentralized applications as well as generate users in a natural way.

An engaged user base that serves as the pre-existing critical mass necessary for the ecosystem to grow and eventually become adopted by hundreds of millions of users.

GNC is uniquely positioned to establish the mass-market cryptocurrency by providing a platform that combines these properties.

Galaxy Networks will use its expertise in blockchain technology to develop GNC Chain, a fast and scalable smart contract platform. GNC Chain can be regarded as a next generation of smart contract platform. By enable the scalability into decentralized smart contract platform. GNC Chain can become a Etherum/NEO alternative for the new decentralized base chain.

The Galaxy Networks Team will rely on its expert silicon valley based product management team in building user-friendly interfaces for tens of millions to create IDE, VM, community and identification services that will allow developers to get on board with DAPPs in an intuitive way.

With Its unique Characteristics，the GNC Chain will become the world’s most adopted smart contract platform.

GNC will use its **existing ecosystem** of communities, developers, publishers, advisors and partners to drive demand and functions for GNC Chain. A whole new platform saturated with developers and applications using blockchain technology will be born - similar to Apple’s fiat-based marketplace, but not confined to a centralized service.

1.3 A Brief History of GNC

We are a US-based Silicon Valley technology company; we focused on building the next generation blockchain technology. Our goal is to build the best blockchain or cryptocurrency related product and support worldwide developers/customers.

The product of Galaxy Networks reflects its founders' belief in larger decentralization. Galaxy Networks grows a distributed community world wide to help world wide users whoever want the freedom of data and money processing.

2. Background

2.1 Definition of Public Blockchain

A Blockchain was designed to securely cut out the middleman in any exchange of asset scenario. It does this by setting up a block of peer-to-peer transactions. Each transaction is verified and synced with every node affiliated with the blockchain before it is written to the system.

Until this has occurred, the next transaction cannot move forward. Anyone with a computer and internet connection can set up as a node that is then synced with the entire blockchain history.

While this redundancy makes public blockchain extremely secure, it also makes it slow and wasteful.

The electricity needed to run each transaction is astronomical and increases with every additional node. The benefit is every transaction is public and users can maintain anonymity.

A public blockchain is most appropriate when a network needs to be decentralized.

It is also great if full transparencies of the ledger or individual anonymity are desired benefits. Costs are higher and speeds are slower than on a private chain, but still faster and less expensive than the accounting systems and methods used today.

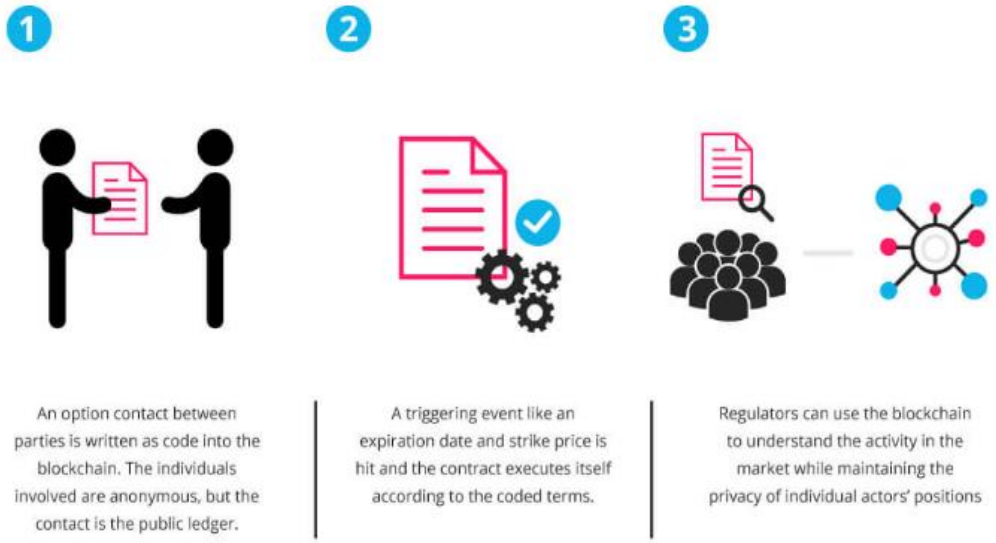
This is a good trade-off for a cryptocurrency like Bitcoin.

Security is key to their users, a decentralized network is at the heart of the project and their competitors in the finance industry are still significantly more expensive and slower than a public blockchain network despite its slowness when compared to a private blockchain.

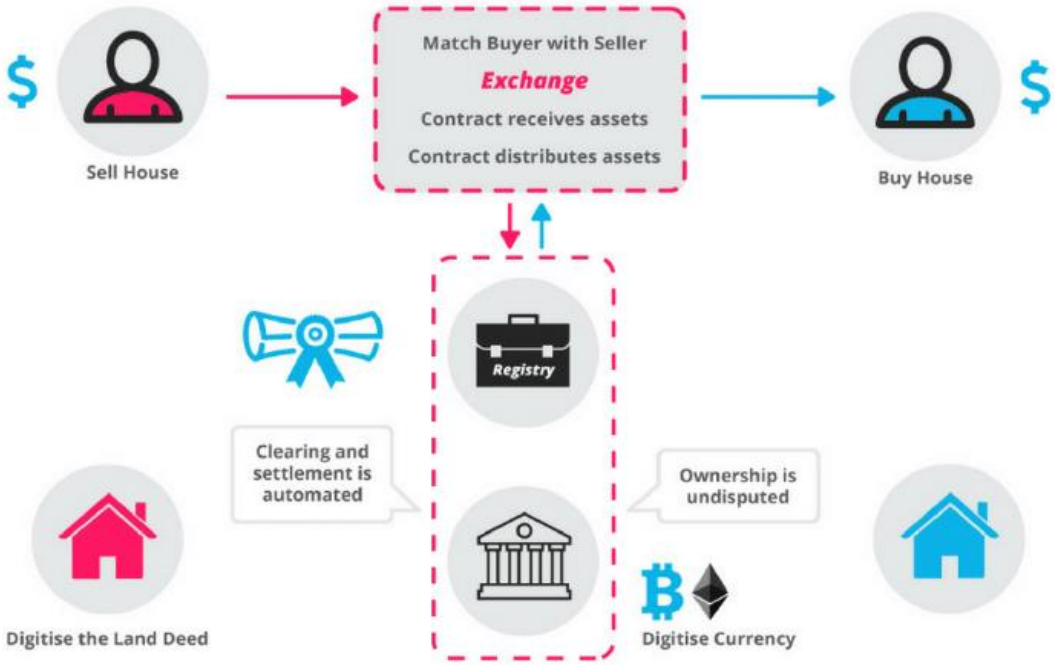
2.2 Smart Contract Platform

Smart Contract is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Smart contracts allow credible transactions without third parties. These transactions are trackable and irreversible.

The aim of smart contracts is to provide security that is superior to traditional contract law and to reduce other transaction costs associated with contracting. Various cryptocurrencies have implemented types of smart contracts.



How Smart Contract Works



2.3 What Smart Contract can give you

Autonomy – There's no need to rely on a broker, lawyer or other intermediaries to confirm. Accidently, this also knocks out the danger of manipulation by a third party, since execution is managed automatically by the network, rather than by one or more, possibly biased, individuals who may occur errors.

Trust – Your documents are encrypted on a shared ledger. There's no way that someone can say they lost it.

Backup – Imagine if your bank lost your savings account. On the Blockchain, each and every one of your friends has your back. Your documents are duplicated many times over.

Safety – Cryptography, the encryption of websites, keeps your documents safe. There is no hacking. In fact, it would take an abnormally smart hacker to crack the code and infiltrate.

Speed – You'd ordinarily have to spend chunks of time and paperwork to manually process documents. Smart contracts use software code to automate tasks, thereby shaving hours off a range of business processes.

Savings – Smart contracts save you money since they knock out the presence of an intermediary. You would, for instance, have to pay a notary to witness your transaction.

Accuracy – Automated contracts are not only faster and cheaper but also avoid the errors that come from manually filling out heaps of forms.

2.4 Definition of Consensus Algorithm

A consensus algorithm is a process in computer science used to achieve agreement on a single data value among distributed processes or systems. Consensus algorithms are designed to achieve reliability in a network involving multiple unreliable nodes.

Solving that issue -- known as the consensus problem -- is important in distributed computingand multi-agent systems. To accommodate this reality, consensus algorithms necessarily assume that some processes and systems will be unavailable and that some communications will be lost. As a result, consensus algorithms must be fault-tolerant.

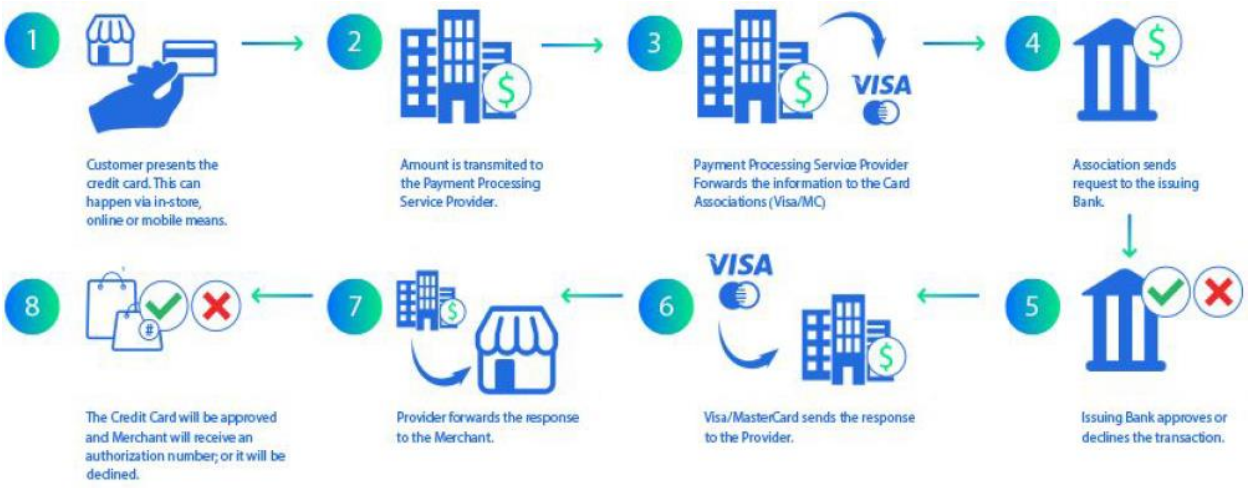
3. Problems we are facing today

As the new technology continues changing the world, people are looking for better and easier way to deal with daily life event. From eat, clothing, living to traveling in all fields. For example, add freezing air into ice cream, the growth of Panda Express in US, the growth of O2O housing market (airbnb) and the growth of high-speed railway in the worldwide. Almost every 2 years we will see some amazing ideas changing the world and grow into a huge company. We need the blockchain 3.0 which is next generation technology will change the world and grow our company into next huge firm.

3.1 Expensive and long payment process

Despite having a wide variety of different payment gateways and processing companies, the following major problems still exist for merchants:

- Costly and complex transaction settlements with **up to 16 steps to accept and settle transactions**.
- Up to 15 different type of fees including a **transaction fee of between 2% to 6%**, and a refund fee of **USD 20**.
- Extremely high cross-border transaction fees.
- Long transaction times ranging from **2 days to several weeks** to receive their money. E-commerce payment processors often hold merchants' money for a week due to higher probability of chargebacks during first week after purchase.
- Mobile payments. Mobile payment solutions are fragmented and not available universally or simply not easy to use despite a strong consumer appetite to leverage them. Payment processors **rarely offer a simple solution for a merchant to accept mobile payments**.



Merchants have to pay up to 15 different types of fees in order to accept payments from their customers.

- Transactional fees stand somewhere between 2% and 6% per transaction plus a fixed fee which is between USD 0.1 and USD 0.7. For example: every time someone makes a transaction for USD 10, the merchant on average payment => 10*((0.02+0.06)/2) + ((0.1+0.7)/2) = USD 0.8 for banks, credit card associations, payment gateways and processors.

- Retrieval Request Fee and Chargeback Fee are paid when someone claims for a refund. The best-known payment gateways such as PayPal and Stripe charge merchants a refund fee of USD 15. In addition to the refund fee, there is one work to be done by the retailer to authenticate the transaction has been done subject to the rules. This consumes time and money. When some information is missing, the charge is reversed even if it was legit.

- Flat fees include: Terminal fees to buy the needed terminal for retail merchants, PCI fees paid to payment card industry for compliance OR noncompliance, and others, such as: Annual fees, Monthly fees, Monthly minimum fees, IRS reporting fees, network fees, etc.

- Incidental fees that consist of: Address Verification Service(AVS), Voice authorization Fee(VAF), Batch Fee, and NFS fees.

- Cross-border fees. Paypal, for example, charges the merchant a transaction fee of 4.4% + fixed fee (depends on the currency), instead of 2.9% + fixed fee (depends on the currency) if the funds the merchant is receiving comes from outside of the U.S.

Long fund transfer time

Finally, some payment gateways and/or processing companies like to keep the structure hidden or totally incomprehensible to the average merchant.

As there are a lot of different parties involved in moving the money from one bank account to another (or from one country to another), it often takes up **3 days to settle the transaction**. For international payments, it can take **up to a week or even more**. Moreover, payment gateways more often than not hold your money for a week.

That often causes **cash flow problems for small merchants**.

3.2 Hardness of creation DAPPs and tokens

One of the most common problems with the Ethereum Wallet application is keeping the blockchain in sync with the Ethereum network. This page describes some of the common issues users may encounter while trying to sync the blockchain and potential methods to work around the problems.

Note that Ethereum wallet will not display your account balance correctly when it is not synced fully or correctly.

A lot people were not able to sync blocks due to server selection. NTP (Network Time Protocol) server is requested.

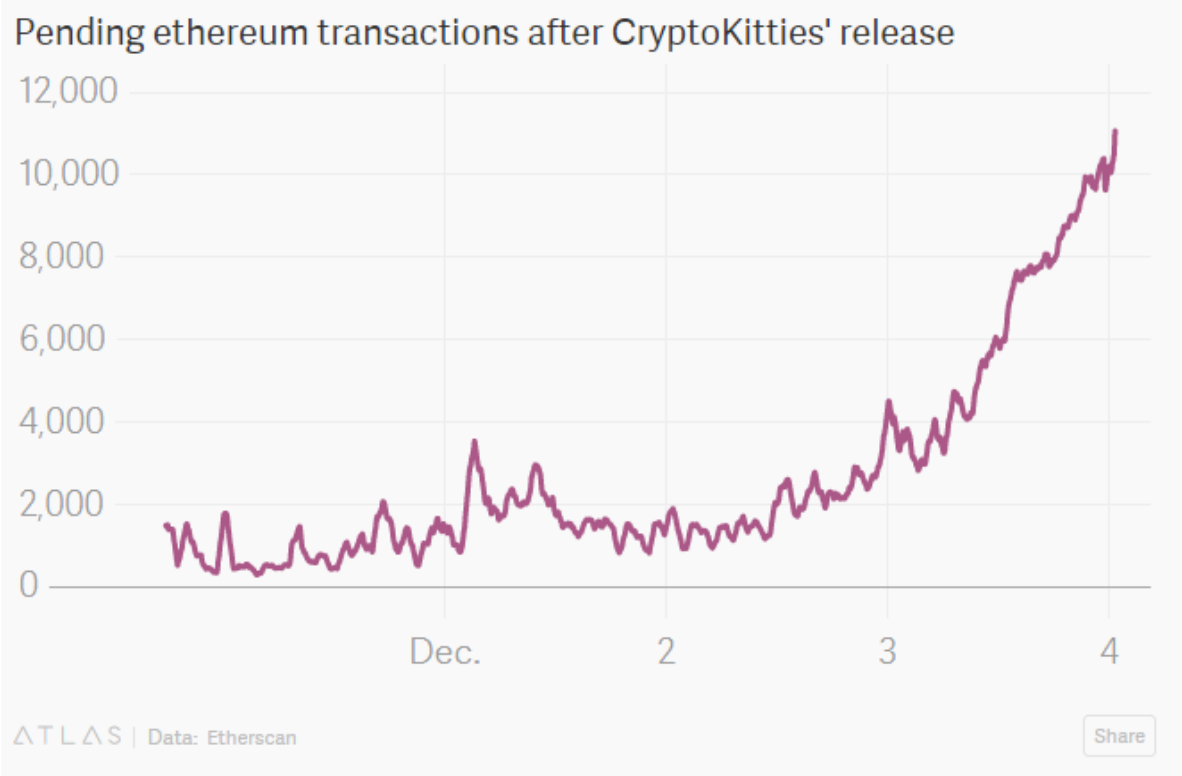
And a lot user was encountering problems syncing Ethereum Wallet (or Mist) to the Mainnet blockchain. A common problem when syncing Ethereum Wallet's blockchain data is that the syncing slows down between last part of blocks due to attack on the Ethereum network. (reference Why is my node synchronization stuck/extremely slow at block 2,306,843?).

For example, the syncing also slows down between blocks 2,675,055 and 2,717,576 due to the state clearing process to remove the 20 million empty accounts created by the network attack.

The above image showed stuck on syncing blocks after 12 hours of syncing data.

3.3 The congestion of famous blockchain

Even though blockchain is changing the world, we found there are still some issues we are facing today still can be improved. Too many transactions need to be handled within short time. The most famous crypto currencies are struggling to handle this problem. Bitcoin can only handle 2 TPS in average. And Ethereum can handle 15 TPS. Here is a chart of pending ethereum transactions after the famous game crytokitties' release.



Cartoon kittens are having a big impact on a certain cryptocurrency. Collectors of the digital tchotchkes are clogging up the ethereum network, delaying transactions, and causing a pile-up of unprocessed transactions. The collectors are playing CryptoKitties, a game built on the ethereum blockchain where players spend ether—the digital token used by ethereum—to breed cartoon kittens or trade with other players. Unprocessed ethereum transactions have risen about six-fold since CryptoKitties was released on Nov. 28, according to data provider Etherscan. Which means user can wait up to 12h for their transaction go through. And also failures will happen during high pending volumes.

The popularity of CryptoKitties, and the resulting congestion on the ethereum network, lays bare the central challenge for blockchain architects: Decentralizing an application can potentially make it very valuable, as in the case of the immutable kittens in the game. Yet no one has yet designed a way to make these decentralized platforms deliver the speed and scale we've come to expect of the most popular internet applications. The bottleneck for ethereum's decentralized apps will be how its own infrastructure copes with clamoring demand—which is a good problem to have, for proponents of the "world computer."

3.4 Token-enabled digital asset economy

The market cap of all the Ethereum tokens is growing extraordinarily fast. Ether reached a market cap of USD 36bn as of June 14th. But most importantly, a totally new market of digital assets is being created: tokens of projects that are built on Ethereum platform. The rise of new kind of digital assets enables the creation of a token-based digital asset economy.

There is a video talking about the digital asset economy: the correspondent of Bloomberg talks attached here, starting from 2:00.

The World Bank estimates that 10% of global GDP will be generated on blockchains by 2025. The GDP estimated for 2025 is $100T, thus the value generated through blockchain is expected to be $10T (10%).

Today, merchants don't have an opportunity to access that money. They will have a considerable incentive to participate in the token economy within the next few years.

3.4.1 Characteristics of GNC smart contract

GNC Smart Contract 1.0 includes the following features: certainty, high performance, scalability. The types of contract include: verification contract, functional contract and application contract.

From a performance standpoint, GNC uses a light-weight GNC VM(virtual machine) as the execution environment for its smart contracts, which starts up very fast and consume less resources, making it suitable for short programs like contracts. Static compilation and caching of hot-spot smart contracts can be significantly improved with JIT (Instant Compiler) technology. GNC VM command set provides a series of built-in cryptography instructions to optimize the contract which can only use the password algorithm is the efficiency of the implementation. In addition, data manipulation instructions directly support arrays and complex data structures. These will enhance the GNC only contract 1.0 operating performance

The GNC Smart Contract 1.0 approach to scalability is to achieve through its high concurrency and dynamic partitioning, combined with its low-coupling design. Low-coupling contracts are executed in one virtual machine (GNC virtual machine) and communicate with the outside through the interaction service layer. As a result, most upgrades to the smart contract feature can be made by adding an API to the interactive service layer.

3.4.2 DPOS: Delegated Proof of Stage, Certification of Entitlement

The DPoS mechanism of the bit shares, the Chinese name is called the proof of stock authorization mechanism (also known as the trustee mechanism), its principle is to let everyone who holds a bit of shares to vote, resulting in 101 as a representative, we can understand it as 101 super nodes or pools, and the 101 super nodes have the same power with each other. From a certain point of view, DPOS is a bit like a conference system or a Congress system. If

delegates can not fulfill their policies (when they turn up, they can not generate blocks) they will be dismissed and the network will elect a new super node to replace them. The emergence of DPOS is mainly due to the emergence of mining machines, wolf's calculations do not understand or concern about persons who own Bitcoin, similar to scalpers in a concert, a lot of votes regardless of what the concert is about.

3.4.3 PBFT: Practical Byzantine Fault Tolerance

Using the Byzantine Fault Tolerance algorithm, PBFT is a copy of the state machine copy algorithm, that is, the service is modeled as a state machine and the state machine replicates at different nodes in a distributed system. Copies of each state machine save the state of service, but also to achieve the operation of the service. A collection of all replicas is represented by the capital letter R and one copy is represented by an integer from 0 to | R | -1. For convenience of description, it is assumed that | R | = 3f + 1, where f is the maximum number of copies that may fail. Although more than 3f + 1 copies can exist, the extra copy can not improve reliability. Insteadly, it will degrade the performance.

4. GNC’s solution

Galaxy Networks Inc. is building blockchain 3.0 smart contract platform with functions like adjustable consensus algorithm, easily used and scalable development environment and cross chain communication.

4.1 Adjustable consensus algorithm

In order to solve slowness of some of the public chain, GNC has decided to implement an innovative idea for smart contract and token platform. Developers using our platform can determine which consensus algorithm to use. We’ve listed the advantages and disadvantages of different consensus algorithms. See P5. Developers can choose PBFT for game development to reach maximize performance for their decentralized games. And for other DAPPs, maybe POS would be good for them. It is very stable and decentralized.

In our platform, developers can not only choose their desired consensus algorithms but also will see the security level and transaction speed for each algorithms. And they will see the security level and transaction speed for each algorithms. This will help them build the best DAPPs in the world.

4.2 Easily used development environment

GNC has been working hard to bring best user experiments. We are focusing on developing the best integrated development environment. Only when the developers are happy and they will be able to build better dapps to attract more satisfied users. Outstanding UI design, customized user friendly functions, easily used debugging system to help them to build apps with happiness. We have PM team from Facebook to design and implement the 1st class development environment. We also prepared bug list for users to actively receive feedback from user to continuously improve our product.

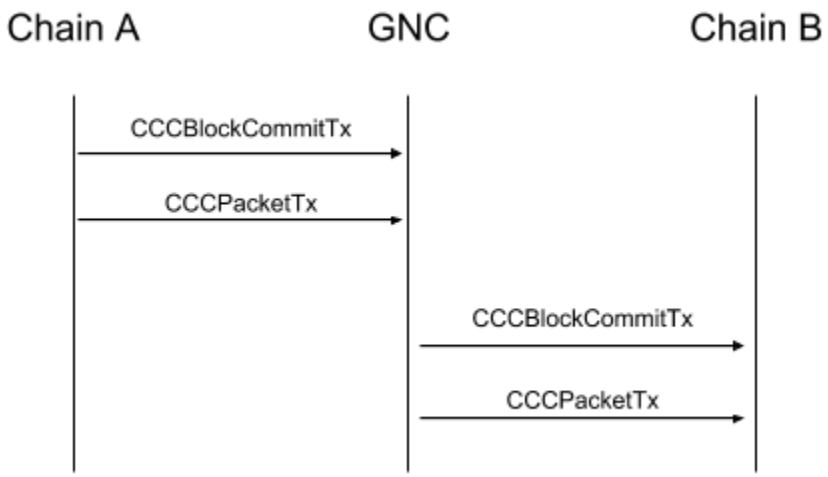
All of codes will be open source. We welcome talented developers come to our repository and commit their code. Build the best open source community is our goal as well. In addition, we will use MVC architecture to build the product. Easily able to be cloned to develop other kind of UI based on our core source code.

4.3 Cross chain Communication

Now we look at how the GNC and chains communicate with each other. For example, if there are three blockchains, "Chain A", "Chain B", and "GNC", and we wish for "Chain A" to produce a packet destined for "Chain B" going through "GNC". To move a packet from one blockchain to another, a proof is posted on the receiving chain. The proof states that the sending chain published a packet for the alleged destination. For the receiving chain to check this proof, it must be able keep up with the sender's block headers. This mechanism is similar to that used by sidechains, which requires two interacting chains to be aware of one another via a bidirectional stream of proof-of-existence datagrams (transactions).

The CCC protocol can naturally be defined using two types of transactions: an CCCBlockCommitTx transaction, which allows a blockchain to prove to any observer of its most recent block-hash, and an CCCPacketTx transaction, which allows a blockchain to prove to any observer that the given packet was indeed published by the sender's application, via a Merkle-proof to the recent block-hash.

By splitting the CCC mechanics into two separate transactions, we allow the native fee market-mechanism of the receiving chain to determine which packets get committed (i.e. acknowledged), while allowing for complete freedom on the sending chain as to how many outbound packets are allowed.



In the example above, in order to update the block-hash of "Chain A" on "GNC" (or of "GNC" on "Chain B"), an `CCCBlockCommitTx` transaction must be posted on "GNC" with the block-hash of "Chain A" (or on "Chain B" with the block-hash of "GNC").

4.4 Roadmap

The GNC Chain and GNC token roadmaps include the following milestones:

Galaxy Networks Inc. will also continue shipping monthly product updates that are not related to GNC Chain.

5. GNC Use cases (Application scenario)

GNC public chain will provide a clea path to cryptocurrencies for millions of people. GNC will have detailed tutorial document on how to develop DAPPS on GNC platform. From create a token; build crypto kitties to more difficult DAPP tutorials. We are also building worldwide development community to use blockchain technology to improve the world.

5.1 Gaming developers will love to join our platform

Our large capacity 10k TPS supports explosive games like the ether kitty. This novel game of ether kitty attracts the attention of a large number of users for a time. This game has been bringing a large amount of traffic to Ethereum while blocking and paralyzing its network. Ethereum had to forcibly fork its design flaws so that the user base was also diverted to lessen the influence of its main body in the currency. And we made this high TPS processing power; it will be able to attract more DAPP developers to our platform for game development.

As same logic Microfinance usually has a large amount of data transaction characteristics and so on. The feature of adjustable consensus mechanic on our platform will be able to perfectly support their requirements on the blockchain.

Also Enterprise companies like Uber, Airbnb, FLAG with huge user base, traffic generated by the DAPP also need our high volume data processing platform.

5.2 Everyone want to create their own token

Everyone want to create their own token，from individual to government. On-blockchain token systems have many applications ranging from sub-currencies representing assets such as USD or gold to company stocks, individual tokens representing smart property, secure unforgeable coupons, and even token systems with no ties to conventional value at all, used as point systems for incentivization. Token systems are surprisingly easy to implement in Ethereum. The key point to understand is that all a currency, or token system, fundamentally is a database with one operation: subtract X units from A and give X units to B, with the proviso that (1) A had at least X units before the transaction and (2) the transaction is approved by A. All that it takes to implement a token system is to implement this logic into a contract.

The basic code for implementing a token system in Serpent looks as follows:

```
def send(to, value):
    if self.storage[msg.sender] >= value:
        self.storage[msg.sender] = self.storage[msg.sender] - value
        self.storage[to] = self.storage[to] + value
```

This is essentially a literal implementation of the "banking system" state transition function described further above in this document. A few extra lines of code need to be added to provide for the initial step of distributing the currency units in the first place and a few other edge cases, and ideally a function would be added to let other contracts query for the balance of an address. But that's all there is to it. Theoretically, Ethereum-based token systems acting as sub-currencies can potentially include another important feature that on-chain Bitcoin-based meta-currencies lack: the ability to pay transaction fees directly in that currency. The way this would be implemented is that the contract would maintain an ether balance with which it would refund ether used to pay fees to the sender, and it would refill this balance by collecting the internal currency units that it takes in fees and reselling them in a constant running auction. Users would thus need to "activate" their accounts with ether, but once the ether is there it would be reusable because the contract would refund it each time.

5.3 Cross-chain Interoperability

In the foreseeable future, there will be many public chains and thousands of alliance chains or private chains in existence worldwide. These isolated blockchain systems are islands of value and information, which are not interoperable with each other. Through the cross-chain interoperability mechanism, numerous isolated blockchains can be linked, so that the values in different blockchains can be exchanged with each other, to achieve the true value of the Internet.

GNC provides support for the implementation of cross-chain interoperability, ensuring consistency within cross-chain asset exchange, cross-chain distributed transactions, and execution of smart contracts on different blockchains.

Also GNC use the GMSP consensus algorithm. Multi-application integration can be achieved. Now it operates as a GMSP application in a space that maintains the security and interactivity of public GNC networks without sacrificing control of underlying services. So GNC can provide the best environment for anyone who wants to use Blockchain technology and who does not want to give control over to distribute third parties.

5.4 Ethereum DAPP

Bitcoin created the era of blockchains and electronic cash, and Ethereum created the era of smart contracts. Ethereum, the pioneers of smart contract on the blockchain, has made great contributions to the design idea, economic model and technological realization of a smart contract system. At the same time, the Ethereum platform has seen many DAPPs (distributed applications), where functionalities including: gambling agreements, digital assets, electronic gold, gaming platform, medical insurance, marriage platform, with widespread use over many industries. In theory, all of these DAPPs can be easily transplanted onto the GNC Contract platform, as a GNC application.

Again, we propose a large-capacity public chain that is implemented using Blockchain 3.0 technology. We first discussed its three characteristics, and then described some of its practical scenarios. All of its strengths are the desires to make it easy for developers who need strong underlying support to do what they want. This technology chain also allows developers to communicate data between apps via our GMSP technology. Furthermore saving development costs and improving user experience.

6. Market opportunity and business model

The global e-commerce market size in 2016 was USD 1.9 trillion and is expected to rise to USD 4 trillion in 2020. At the same time, the global retail payments industry was worth USD 16 trillion in 2015. It is estimated to increase to USD 21 trillion in 2020. Global payment revenue was USD 1.8 trillion in 2015 and should reach USD 2.2 trillion in 2020.

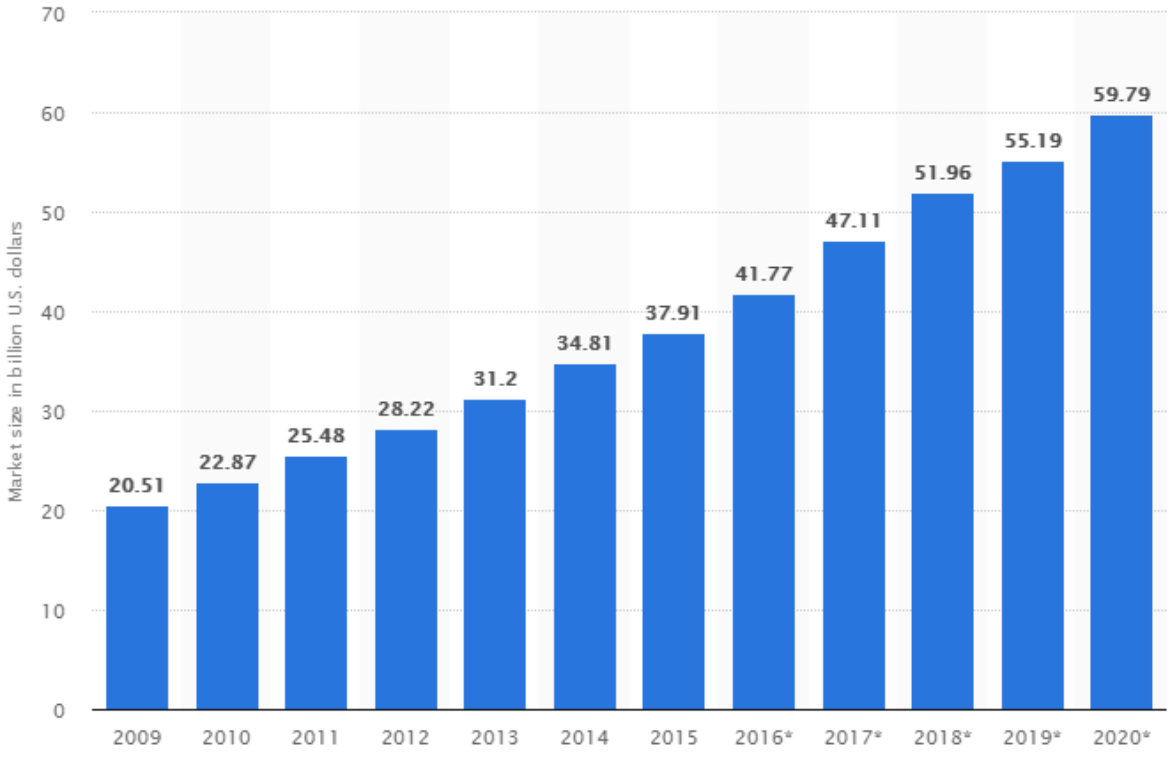
According to Boston Consulting Group, the payment industry is about to experience a huge shift towards mobile payments:

- Mobile payment volume was USD 8.6 billion in the US. It is expected to increase tenfold by 2021 to reach $274bn only in US.
- Mobile share of total ecommerce is expected to increase to 48.5% of total e-commerce by 2020. It was 23.6% in 2015.
- Merchant mobile payment acceptance network to grow 10X by 2020.

6.1 Market opportunity

6.1.1 Online gambling market

The statistic shows the size of the global online gambling market from 2009 to 2015, with forecasted figures from 2016 to 2020. In 2015, the online gaming market had a volume of 37.91 billion U.S. dollars, this figure was forecasted to increase to 59.79 billion U.S. dollars in 2020.



Online gaming, or gambling, is the wagering of something of value, usually money, on the outcome of an event or game using the internet. Online gaming includes such activities as poker, casinos (where people can play traditional casino games, like roulette or blackjack, but online), sports betting, bingo and lotteries. Of these, casino games and sports betting make up the largest share of the market. The market volume of online gaming was forecasted to reach 51.96 billion U.S. dollars in 2018, more than doubling since 2009.

In 2015, the U.S. casino gaming market revenue amounted to 71.1 billion U.S. dollars, and Las Vegas received 42.31 million visitors in the same year. Despite the rapid growth of online gaming, land-based gambling still dwarfs the internet activity.

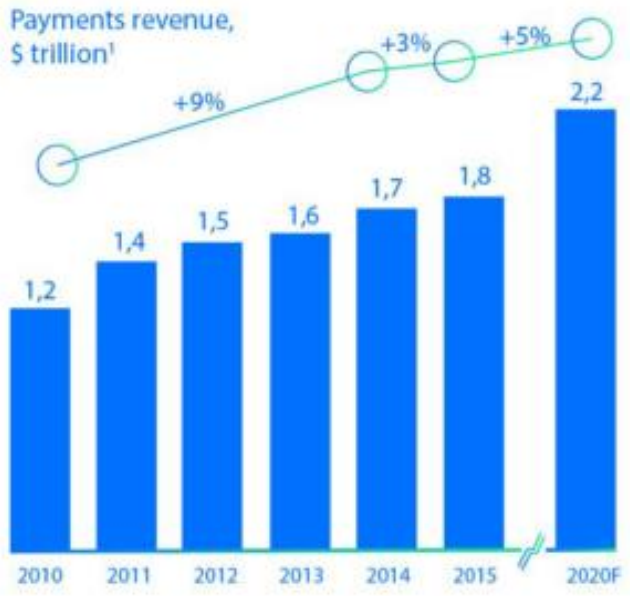
Land-based gambling is split into roughly the same categories as online gaming. Perhaps the most commonly associated activity with gambling is visiting casinos. In a spring 2016 survey by Nielsen Scarborough, almost 83 million Americans admitted to having visited a casino in the past 12 months.

6.1.2 Transaction volume and global payment revenues

The payments industry is enormously big. The total value of global retail payments transactions was estimated at USD 16 trillion in 2015. This is estimated to increase to USD 21 trillion by 2020. The estimation comprised consumer-to-merchant transactions across retail verticals such as good and grocery, apparel, consumer durables etc. Digital payments contributed to 8 percent, which is USD 1.26 trillion, of the overall global retail payments market in 2015 and is projected to increase to 18-24 percent by 2020, which is USD 6.3 trillion.

The global payments revenue market size is approximately USD 2 trillion and steadily rising. In most cases, global payments are the payments revenues that include direct and indirect revenues generated by non-cash payment services (excluding interbank transfers). Simply speaking, it's the total revenues collected by financial services companies around the globe.

As shown in the graph, the global payment revenues should reach USD 2.2 Trillion over the upcoming few years.



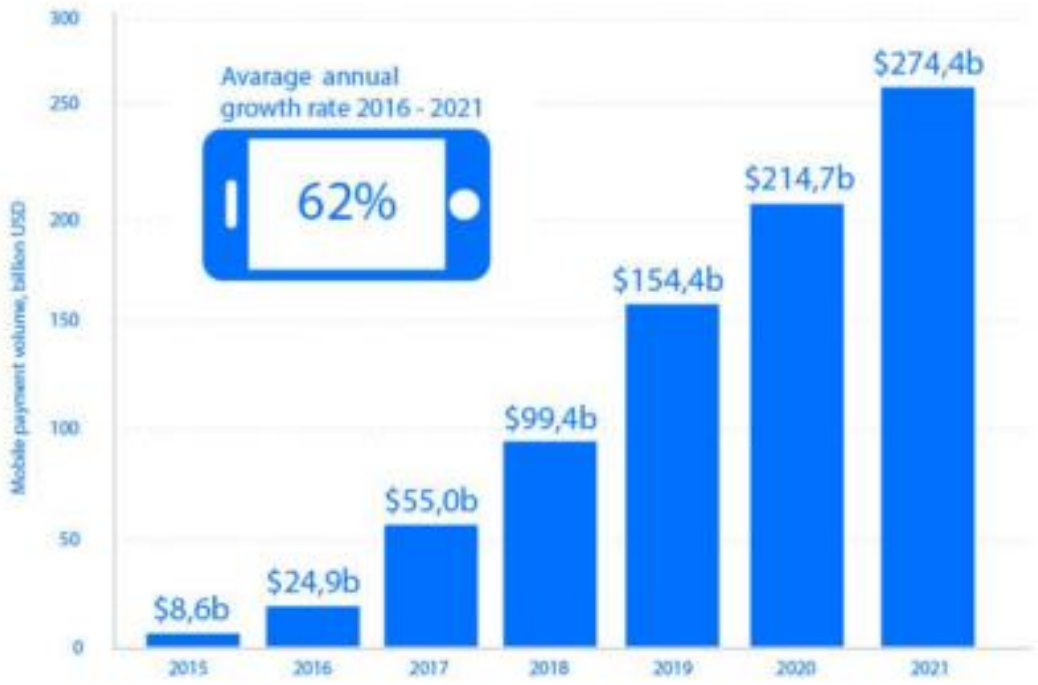
6.1.3 Explosive growth of mobile and digital payments

According to Boston Consulting Group, the digital payments space is about to witness significant disruption in coming years. Some trends are starting to become clear that will transform the payments landscape globally over the next few years:

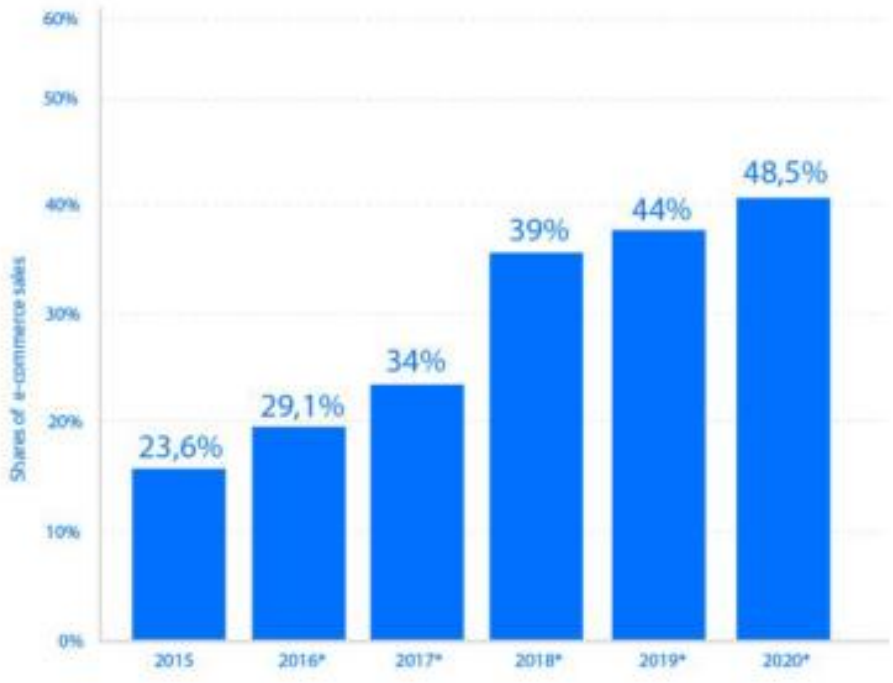
- Technology will make digital payments simpler: smartphone penetration, blockchain and crypto currencies, ubiquitous connectivity, biometrics, tokenization, cloud computing, and the internet of Things are a few trends that will shape the way consumers will transact in the future.

- Merchant mobile payment acceptance network to grow 10X by 2020; Mobile based payment solutions and proprietary payment networks will drive merchant acquisition by offering low-investment solutions that will create economic incentives for merchants and acquires, resulting in over 10 million merchant establishments that will accept digital/mobile payments.

Mobile payment volume is expected to increase to $274bn by 2021 in the US alone. Chinese mobile payments were nearly 50 times greater than those in the US last year, according to Financial Times. Mobile payment with Alipay or WeChat is much more streamlined and only requires scanning a QR code from a retailer's point-of-service terminal or a smartphone.



Moreover, as shown in the graph below, the mobile share of total e-commerce is expected to increase to 48.5% of total e-commerce.



In-app payments and proximity transactions are expected to be key catalysts of growth in the days ahead. However, in a breakout scenario, given a possible disruption by convenience, security and Internet of Things, the growth rate of mobile and digital payments could be even higher.

6.2 Business model

Stage 1: Galaxy Networks will provide B2B blockchain solution and service to companies is planning to integrate blockchain technology to their existing systems. Estimate growing market is about 500 small companies, 100 mid size companies and 10 enterprise companies in US are planning to start using blockchain technology per month. Galaxy Networks will provide middle class of tech analysis and solution to those companies. We are looking to grow our B2B market by 25% each quarter.

For example, if one of tradition company sell vine to marketplace. And they are interested in using blockchain technology to track the source and year and vine. Galaxy Networks will provide the business analysis to check how GNC will able to integrate the blockchain solution into their existing system and provide info whenever user need to check it.

Stage 2: As the community grow into billion level. Galaxy networks will charge a 0.5% transaction fee from developers. Of that, 0.2% will go to a “smart contract” in a form of GTK for GNC token holders for an ability to use that in the GNC ecosystem and other 0.3% will go to the company as revenues.

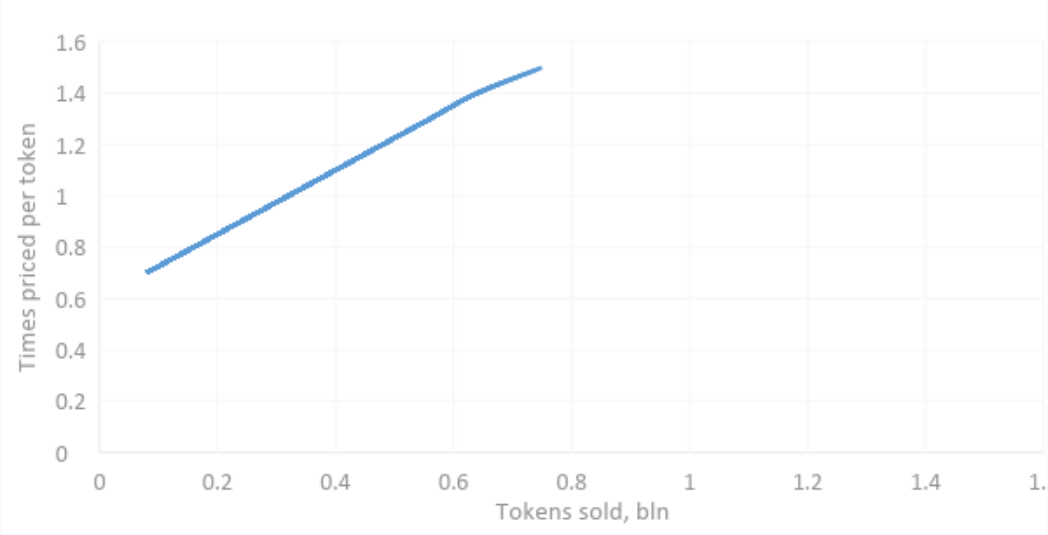
An interesting fact is that the average traditional payment gateways take approximately only 2.5% +0.1 from total fee as their revenue. This 0.25% +0.1 is a mark-up fee to the interchange rates.

For example, if the total transaction fee that merchat is charged is 2.35%= $0.2, the 2.1% + $0.2 is that interchange part that banks, credit card associations and others are dividing and 0.25% + $0.1 is the markup part, which payment gateways take home as revenue. We not only decrease the transaction fee that merchant has to pay, let alone the other fees that he will not have to worry about anymore, but we are also left with approximately four times the rate to do business with.

7. Crowdsale details

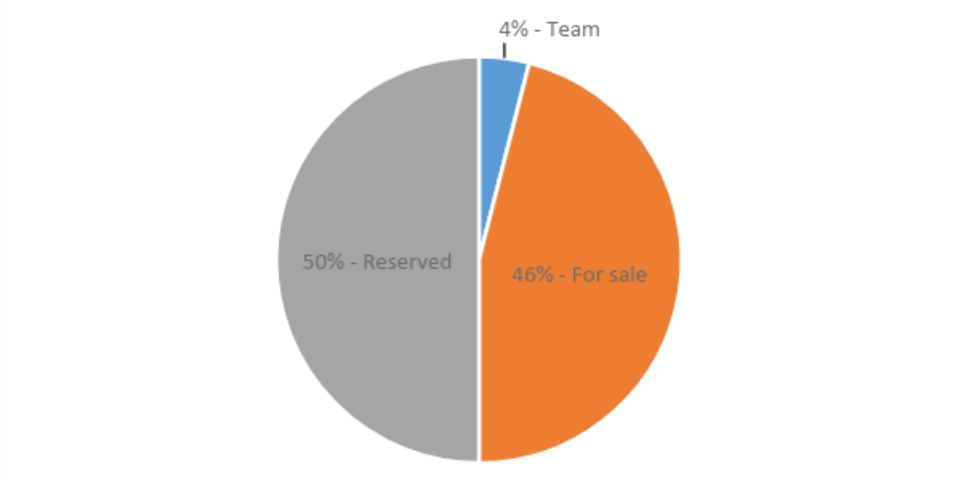
7.1 Token Distribution

The price of the first token to be sold will be 0.007 USD, with and each successive token will be priced 0.001 USD higher than the previous one. Regarding volume of sales, it will be 0 to 750M. The price is based on the formula: P(n) = 1.3n+0.525



Note: The final price of token on ICO is subject to remaining volume of tokens.

4 percent of the supply will be reserved for the development team. During the initial stage of development, at least 50 percent of the entire supply will be retained to protect the cryptocurrency from speculative trading and to maintain flexibility at the early stages of the evolution of the system. The remaining 46 percent can be sold.

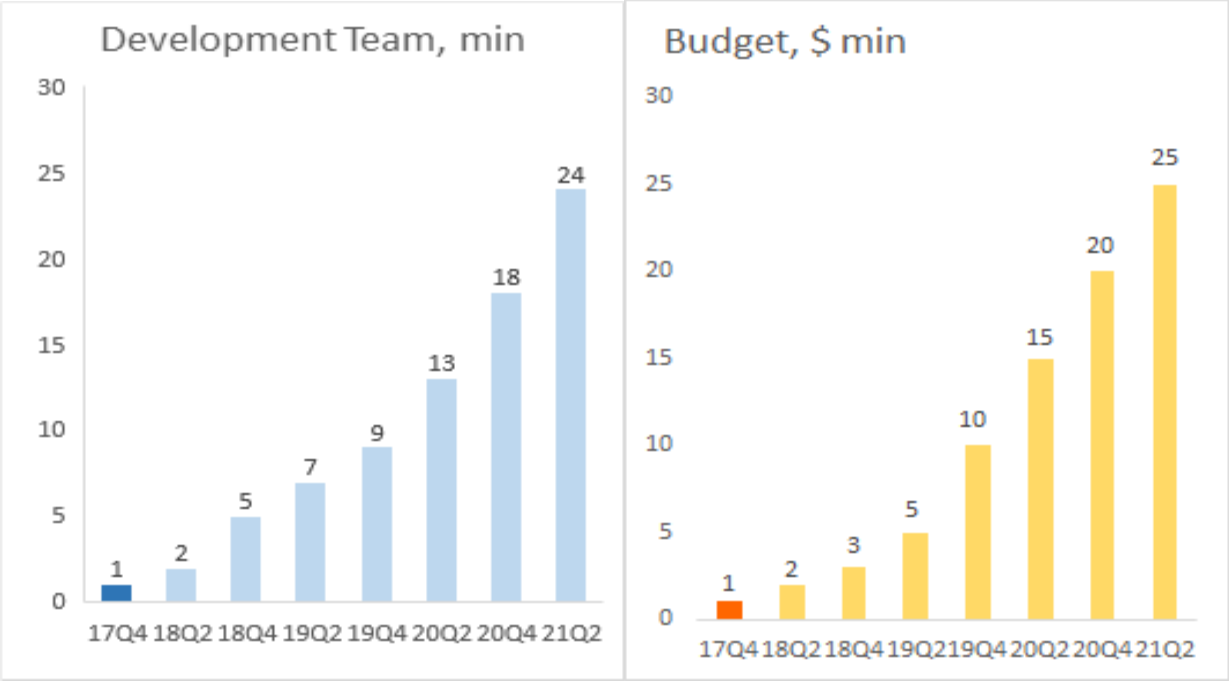


7.2 Use of Funds

Funds raised during the GNC ICO will be used for the development of GNC Product, GNC Token and GNC Team expending and for the ongoing expenses required to support the growth of the ecosystem.

More than 60 percent of collected funds will be spent on development and team growing. The rest will be allocated for marketing, sales, business development, offices, legal and consulting services.

The annual budget of GNC in 2018 Q1 amounted to $50,000, out of which $30,000 were spent on forming company, foundation and lawyers costs. GNC spending is projected at $35 million in the next three years (approximately $ 5 million in 2018, $10 million in 2019, and $20 million in 2020). A total spending of about $15 million to develop next generation blockchain technology to finish all 3 core functions. Release GNC 3.0 at public. $10 million in use of market growth. In target of partnership with more than 3 Billion level enterprise companies, 7 hundred- millions companies and 10 million level companies. Community grow to 10,000 developers world wide. The rest $10 million used in collective investment in 10 blockchain startups. A total spending of about $ 50 million to support continuing grow of the company to reach half billion company vale by January 1,2022.



7.3 Governance

The funders of Galaxy Networks Inc. will be responsible for the efficient use of funds resulting from any sale of tokens from the GNC Reserve. Over time, all responsibilities related to GNC and its Reserve will be transferred to the GNC Foundation.

By 2020 the initial GNC vision and architecture will have been implemented and deployed. GNC will let go of the GNC token in its name and become the public chain.

From then on, the continuous evolution of the GNC Blockchain will be maintained by the GNC Foundation.

GNC Chain will serve as launch pad for GNC Token, ensuring its technological superiority and widespread adoption on the initial stages, but the future of GNC is in the hands of the global open-source community.

8. Legal

8.1 General information

The GNC token does not have the legal qualification of a security, since it does not give any rights to dividends or interests. The sale of GNC tokens is final and non-refundable. GNC tokens are not shares and do not give any right to participate to the general meeting of GNC Inc. GNC tokens cannot have a performance or a particular value outside the GNC Platform. Gnc tokens shall therefore not be used or purchased for speculative or investment purposes. The purchaser of GNC tokens is aware that national securities laws, which ensure that investors are sold investments that include all the proper disclosures and are subject to regulatory scrutiny for the investors' protection, are not applicable. Anyone purchasing GNC tokens expressly acknowledges and represents that she/he has carefully reviewed this white paper and fully understands the risks, costs and benefits associated with the purchase of GNC.

8.2 Knowledge required

The purchaser of GNC tokens undertakes that she/he understands and has significant experience of cryptocurrencies, blockchain systems and services, and that she/he fully understands the risks associated with the crowdsale as well as the mechanism related to the use of cryptocurrencies (incl. storage). GNC shall not be responsible for any loss of tokens or situations making it impossible to access GNC tokens, which may result from any actions or omissions of the user or any person undertaking to acquire GNC tokens, as well as in case of hacker attacks.

8.3 Risks

Acquiring GNC tokens and storing them involves various risks, in particular the risk that Galaxy Networks may not be able to launch its operations and develop its blockchain and provide the services promised. Therefore, and prior to acquiring GNC tokens, any user should carefully consider the risks, costs and benefits of acquiring GNC tokens in the context of the crowdsale and, if necessary, obtain any independent advice in this regard. Any interested person who is not in the position to accept or to understand the risks associated with the activity (incl. the risks related to the non-development of the GNC platform) or any other risks as indicated in the Terms & Conditions of the crowdsale should not acquire GNC tokens.

8.4 Important disclaimer

This white paper shall not and cannot be considered as an invitation to enter into an investment. It does not constitute or relate in any way nor should it be considered as an offering of securities in any jurisdiction. This white paper does not include or contain any information or indication that might be considered as a recommendation or that might be used as a basis for any investment

decision. GNC tokens are just utility tokens which can be used only on the GNC platform and are not intended to be used as an investment.

The offering of GNC tokens on a trading platform is done in order to allow the use of the GNC platform and not for speculative purposes. The offering of GNC tokens on a trading platform does not change the legal qualification of the tokens, which remain a simple means for the use of the GNC platform and are not a security.

Galaxy Networks is not to be considered as an advisor in any legal, tax or financial matters. Any information in the white paper is provided for general information purposes only and Galaxy Networks does not provide any warranty as to the accuracy and completeness of this information.

Galaxy Networks is not a financial intermediary according to Swiss law and is not required to obtain any authorization for Anti Money Laundering purposes. Acquiring GNC tokens shall not grant any right or influence over Galaxy Networks' organization and governance to the Purchasers. Regulatory authorities are carefully scrutinizing businesses and operations associated to cryptocurrencies in the world. In that respect, regulatory measures, investigations or actions may impact Galaxy Networks' business and even limit or prevent it from developing its operations in the future. Any person undertaking to acquire GNC tokens must be aware of the GNC Networks business model, the white paper or terms and conditions may change or need to be modified because of new regulatory and compliance requirements from any applicable laws in any jurisdictions. In such a case, purchasers and anyone undertaking to acquire GNC tokens acknowledge and understand that neither Galaxy Networks nor any of its affiliates shall be held liable for any direct or indirect loss or damage caused by such changes.

Galaxy Networks will do its utmost to launch its operations and develop the GNC platform. Anyone undertaking to acquire GNC tokens acknowledges and understands that Galaxy Networks does not provide any guarantee that it will manage to achieve it. They acknowledge and understand therefore that Galaxy Networks (incl. its bodies and employees) assumes no liability or responsibility for any loss or damage that would result from or relate to the incapacity to use GNC tokens, except in case of intentional misconduct or gross negligence.

8.5 Representation and warranties

By participating in the crowdsale, the purchaser agrees to the above and in particular, they represent and warrant that they:

- have read carefully the terms and conditions attached to the white paper; agree to their full contents and accept to be legally bound by them;
- are authorized and have full power to purchase GNC tokens according to the laws that apply in their jurisdiction of domicile;
- are neither a US citizen or resident;
- live in a jurisdiction which allows Galaxy Networks to sell GNC tokens

through a crowdsale without requiring any local authorization;

- are familiar with all related regulations in the specific jurisdiction in which they are based and that purchasing cryptographic tokens in that jurisdiction is not prohibited, restricted or subject to additional conditions of any kind;
- will not use the crowdsale for any illegal activity, including but not limited to money laundering and the financing of terrorism;
- have sufficient knowledge about the nature of the cryptographic tokens and have significant experience with, and functional understanding of, the usage and intricacies of dealing with cryptographic tokens and currencies and blockchain-based systems and services;
- purchase GNC tokens because they wish to have access to the GNC platform;
- are not purchasing GNC tokens for the purpose of speculative investment or usage.

8.6 Governing law and arbitration

Any dispute or controversy arising from or under the crowdsale shall be resolved by arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Chamber of Commerce in force on the date when the Notice of Arbitration is submitted in accordance with these Rules. The arbitration panel shall consist of one arbitrator only. The seat of the arbitration shall be Lugano, Switzerland. The arbitral proceedings shall be conducted in English.

9. Team

Loui Gu
Co-founder

Graduated from Tsinghua University. Experienced in business as an entrepreneur. He also initiated the SV Café, a crowd-funding and networking platform.

Yang Chen
Co-founder

US ARMY Veteran. Graduated from KSU. Expertise in blockchain technology. Participated in many cryptocurrency projects. Received No. 2 ranking in ACM competition. 4 years of software engineer experience and have worked in 2 startup previously.

Wei Xu
Co-founder

NYU CS Graduate. Economics/Math/Management Undergraduate.

• Technical Lead at Facebook (Mar 2015 – Present)

Video Ads, Core Growth,Intern Manager, Bootcamp mentor

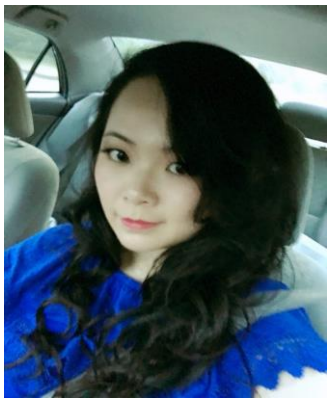
- Founder of DiăoD1B Studio (Dec 2015 - Present)
- Cofounder of NYBBS.US (Jan 2014 – Mar 2015)

www.nybbs.us is a popular forum for Chinese students in Greater New York area. The nybbs.us provides students the best resources including social events, housing information, marketplace, etc.

Simon Lee
VP of Marketing

Designer of Nuclear Power. Worked at Bechtel, one of the most respected global engineering, construction, and project management companies.

Has been engaging in e-payment and e-commerce trade in many countries in the world.



Amber Cui
Software Engineer

Graduated from Stanford University, US, and University of Birmingham, UK. Master of computer science. Excellent maths and engineering background. Specializes in software engineering area. Has work experience in the US, UK and in China.

Jeremy Sun
Senior Software Testing Engineer

Graduated from NUS Singapore. Worked at Agile, Oracle and some high scale companies. Engaged in many enterprise applications testings.

- Test Lead at Compass (Jan 2016 – Aug 2016)
- Senior Software Test Engineer at Oracle (Oct 2011 – Dec 2015)