





# Linfinity: A Blockchain System for Supply Chain

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## Abstract

The current supply chain industry has issues that can be mitigated by utilizing the blockchain technology in a meaningful way. One major problem, for instance, is that a transparent overview of a supply chain's network is challenging to achieve, leading to difficulty in ensuring the quality and integrity of raw materials and products along supply chains. What often result are contamination and counterfeiting that are undesirable. The longer and more complex a supply chain is, the greater the chance of fraud andnegligence.

More generally, today's global supply chains are slow and inefficient, involving unnecessary friction costs, inefficiencies, and nontransparency in each process. Traceability of goods and materials as well as accountability has become difficult to manage over time, incurring administrative costs and paperwork, which the blockchain technology can help solve.

As a result, we present Linfinity, the world's first distributed supply chain platform based on block-chain, Internet of Things, and Big Data technology. Linfinity is a platform with reliable data, transparent information, and interconnected network to cope with the practical business pain points and development demand of corporate users, while allowing an organic ecosystem with a competitive token model catering to all participants in the ecosystem to promote aligned incentives.



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# 1.Background Introduction

# 1.1 What is Blockchain, and How is it Relevant Today?

According to the Bank of England, blockchain is "a technology that allows people who don't know each other to trust a shared record of events." More broadly, it is a technology that allows authenticated data communication between each player in a system without the intermediation of a trusted central organization or authority, hence creating a decentralized ecosystem.

A blockchain is made of a "chain" of information-storing "blocks," where each block contains information such as transactions made, amounts, and parties involved. It is possible to access all previous blocks linked together in the chain, so a blockchain database retains the complete history of all the assets and instructions executed since the very first one, i.e. the genesis block. This promotes transparency of data, which is crucial and extremely relevant in multiple industries, absolutely including the supply chain industry for example. As a result, efficiency can be achieved in case situations arise where one has to trace back certain pieces of data via the blockchain technology and hence does not have to incur unnecessary friction costs.

Bitcoin, the earliest blockchain implementation, has triggered widespread experimentation of blockchain led primarily by the financial services industry for this reason.

As blockchain gains publicity, large corporations and startups alike are exploring and inventing new uses of the technology outside of the financial services industry [6]. Many organizations such as IBM, Samsung, Huawei, etc. are already experimenting with blockchain solutions to fulfill their needs. According to a recent study conducted by Deloitte, 35 percent of respondents surveyed were planning aggressive deployments of blockchain in 2017.

# 1.2 Advantages of Using Blockchain

- Distributed and Decentralized: In the traditional centralized network, aneffective attack to a central node can destroy the entire system. This SPOF (Single Point of Failure) attack cannot occur in a truly distributed system.
- Trustless System: In the blockchain network, any behaviors of malicious deception to the system will be rejected and inhibited by other nodes through algorithms such as PoW (Proof of Work), PoS (Proof of Stake), DPoS (Distributed Proof of Stake), etc. Therefore, changes to the blockchain don't depend on support and credit endorsement of central authorities that users are traditionally forced to trust in a centralized system.
- Tamper-Resistance and Encryption Security: Due to the irreversibility of time, any behaviors that try to tamper with data information on the blockchain can be traced easily. Thus, invalid alteration will be rejected by other nodes so as to restrict the related illegal behaviors, whereas it is known that a significant amount of the network (e.g. 51% attack on the Bitcoin network) must collude or act maliciously in order to reverse transactions in a blockchain, which is an extremely unlikely condition to be satisfied. Additionally, the security of blockchain depends on time-tested cryptographic primitives such as one-way hashing algorithms (e.g. Equihash), digital signature schemes (e.g. ECDSA, BLS signature scheme), and general asymmetric encryption schemes such as Elliptic Curve Cryptography. All relevant cryptographic schemes are a hot field of research and development at the moment, as certain schemes contribute to important parameters of blockchain such as privacy, decentralization, and



# 2.The Supply Chain Industry

## 2.1 Introduction

Asupply chain is asystem of organizations, people, activities, information, and resources involved in moving a product or service from the source to the customer. Supply chain activities involve the transformation of rawstarting materials and components into a finished product that is delivered to the end customer. In sophisticated supply chain systems, used

products sometimesre-enter the supply chain at any point where residual valueis recyclable.

Supply chains have enabled the growth of manufacturing, trade, and innovation around the world and has been at the heart of globalization and industrialization over the past few decades. The technologies and methods used to run these supply chains havenot however kept pace with the growing interconnectedness and complexity of

# 2.2 Problems

Global Picture: According to a McKinsey report, supply chain stakeholders can no longer maintain an adequate overview of their networks, leading to an increasing difficulty in ensuring the quality and integrity of raw materials and finished products along the supply chain. Contamination and counterfeiting are rampant as well. Handling distribution and client logistics operations have also gotten significantly more difficult.

The longer and more complex the supply chain is, the greater the chance of fraud and negligence. In a world that is growing increasingly complex, it is only natural to expect a huge rise in malicious actors for supply chains as well. Over time, we have seen a reduction in transparency and accountability in addition to the aforementioned problems.

Commercial: Today's global supply chains are slow and inefficient. They make procedures long and arduous for participants, especially smaller producers and distributors. Complex chains also imply complicated governance structures, which are becoming more and more difficult to manage over time. There also exists an incentive problem to do so, from the side of producers.

Consumer: End consumers are demanding greater levels of transparency about the origins of their products, as well as more personalization for the items they desire. This is evident especially in the food and cosmetics industries, where there has been a new movement in consumers demanding food sourced directly from the farm and for cosmetics products to demonstrate the use of natural sources. This puts increased pressure on supply chains to

The following [3] are facts and events that confirm the gravity of the situation:

- 461 billion USD of imported fake goods in circulation globally.
- Regular authenticity and food safety scandals in China and fake pharmaceuticals in play around the world.
- At least 63 babies died in Fuyang and rural areas of Anhui after consuming fake baby milk.
- 6 infants killedand 54,000 hospitalized. China reported 300,000 victims in total (2008 baby food scandal in China)
- 64% of pharmaceuticals in Nigeria are fake (World Health Organization).

While there are more general issues with the supply chain system, it is clear that there are very real consequences for the end consumers, as the above delineates.



# 2.3 Motivation for Blockchain in Supply Chain

The overall solution to improving supply chain efficiency is to handle data at each of the points in a chain in a secure, simple, digitized, and verifiable manner. However, the problem is that it is difficult to gather data regarding the state of the whole chain. Even when the data is available it is still challenging to collect, aggregate, and share while ensure data's accuracy and integrity.

Furthermore, even if there are actors willing to perform the functions of checking the accuracy and integrity of the data and product at a given point in the supply chain, there isn't any incentive for these actors to behave in this manner for a prolonged period of time since such behavior is not rewarded adequately by the system itself. Conversely, malicious

(intentional or not) behaviors do not incur any opportunity cost.

- Advances in sensor technology
- IoT developments and RFIDs Radio Frequency Identification (RFID) technology is a communication technology that can identify specific targets and read and write rel evant data through radio signals without any contact between the recognition system and specific targets. RF tags are the physical carrier of the electronic product code (EPC) attached to traceable items. They are identifiable, readable, writable, and can be circulated all over
- Smart contracts and dApps With different blockchains being spun out, the notion of smart contracts came into full play, Smart contracts allow the execution of logic once specific conditions are met. These contracts themselves belong to the blockchain and are recorded for everyone to see, for transparency purposes as well as to automatically settle the terms of a contract in an instant manner.

It is utilizing the three developments mentioned above that we arrive at the possibility of using blockchain technology to alleviate the problems faced in supply chain.

# 2.4 Leveraging Blockchain

Supplychain has become asurprisingly applicable and prominent use case for blockchain, since it offers:

- Enhanced Transparency. We can document a product's journey across the supply chain from origin to destination, increasing trust and helping eliminate distrust and suspicion. Manufacturers can also reduce recalls by sharing logs of activities along the chain with OEMs and regulators.
- Scalability. Virtually any number of participants can belong to the supply chain and participate in the transfer of information since it is all digitally stored on the blockchain.
- Better Security. A ledger such as the blockchain with codified rules (smart contracts being the further abstraction) would eliminate audits required by internal systems and processes, which traditionally have been time-consuming, costly, and manual at times. This is a huge improvement upon the inefficiencies in the system.
- Engaging Stakeholders. As the system engages stakeholders via the token model involving a cryptocurrency and a system of smart contracts automating payments and settlement in an instantaneous manner, transactions can be made fast. More importantly, engaging stakeholders in the ecosystem leads to an incentive alignment within the system that has never been carried out before in traditional settings, organically allowing an active ecosystem benefiting all parties involved in each encounter.
- Increased Innovation. Once we have a blockchain system in place, we can use smart contracts to increase efficiency as well as integrate with the rest of the system. As innovations in the chain architecture themselves come about (e.g. new dApps and protocols leveraging smart contracts), we can analogously find innovations in the

In summary, enabling transparency between untrusted partners and traceability through out the production and movement processes are the core functions of blockchain insupply chain. We can achieve an open, immutable, and global ledger for transactions, allowing a verification mechanism as well as better incentive alignment through our token ecosystem.



# 2.5 Supply Chain Applications

There have been plenty of applications of blockchain in supply chain over the past few years as well as startups dealing with supply chain for specific goods. Some prominent examples are: Chronicled, Everledger, Skuchain, Blockverify, ubirch, and Provenance. However, many of these projects such as Everledger deal with specific use cases (e.g.diaonds) while the general chains do not address the issue of possible fraud in the supply chain in an efficient, secure way. Large corporate players such as IBM, Microsoft, Walmart, Maersk, and BHP Billiton have also begun to run proof-of-concept studies, committing significant resources to building new platforms and fostering international collaborations while fulfilling client requests from other corporations.

Some promising case studies include the following:

- Blockchain in shipping logistics: It was reported that IBM and Danish shipping giant Maersk teamed up to use blockchain to manage freight tracking, providing buyers, sellers, and officials with a mechanism to track goods shipped around the world. In shipping, which involves long distances and constant movement of products, traveling across borders may require review and approvals from dozens of parties before arrival. This creates a large amount of paperwork and potential for fraud at multiple points. In fact, billions of dollars in maritime fraud are committed each year. Through collaboration with customs authorities, the shipping company streamlined the approvals process by creating a secure record of transactions and approvals and reduced the time needed to transport goods. Similar use cases illustrate blockchain has the potential to reduce administrative and logistics timelines in shipping by more than 85% from more than one week to less than one day.
- Blockchain in food production: A startup is using blockchain as part of an effort to increase supply chain transparency of the second-largest traded commodity in the world: coffee beans. The company is using a distributed, decentralized protocol for real-time mobile transactions, recording data about the transactions and allowing all involved parties to access the record of payments at any time. The system increases transparency as the coffee beans progress through the supply chain and helps to ensure farmers receive proper fair-trade payments.
- Blockchain inluxury manufacturing: Alogistics company has introduced acloud based blockchain solution to digitally certify diamonds and protect against unauthorized tampering with supply chain records. Diamonds are held to strict certification
- requirements to ensure they are sourced ethically, but fraudulent certificate reports and insurance claims can disrupt the safeguards set in place. To combat this, the company uses over 40 diamond characteristics including color and clarity to create unique diamond IDs (Everledger). The blockchain allows for immutability and security for the supply chain data and provides the necessary transparency between diamond certification houses and global diamond suppliers for the certification process. More than one million diamonds have been digitized in this manner so far.
- Blockchain in pharmaceuticals: Another promising area for blockchain solutions is provenance (tracking of assets across a supply chain) within the pharmaceutical industry. Tracking active pharmaceutical ingredients during the manufacturing process is difficult and faces increased challenges from the widespread and lucrative counterfeit drug operations around the globe. Rubix by Deloitte identified three key use cases within pharmaceuticals - how drugs are manufactured, how they move from manufacturer to end consumer, and how public safety issues for consumers are addressed. Blockchain's immutability provides a basis for traceability of drugs from manufacture to end consumer, identifying where the supply chain breaks down. There is potential not only to reduce the \$200 billion in losses each year but also to increase public safety and prevent some of the estimated one million deaths per year

It is clear that the applications of blockchain to supply chain are numerous and well thought out. Many more appear every day. What we propose is a novel system that is an improvement to the general supply chain model by incorporating IPFS (Inter-Planetary File System), cutting-edge sensor technology, and IoT integration that allows devices to

communicate effectively.



# 3. Linfinity Project

As a distributed business platform based on blockchain, Internet of Things, and Big Data technology, Linfinity is a platform with:

- Reliable data
- Transparent information
- Efficient cooperation and interconnected network to cope with the practical business pain points and development demand of corporate users

With the revolution of blockchain, the experience of our Research and Development team, and the experience of our product implementation teams' service experience for both domestic and international Fortune 500 enterprises distributing in the industries of food, tobacco, clothing, and medicine, Linfinity will provide a supply chain solution that is truly

# 3.1 Linfinity Development Outlook

With blockchain as the underlying technology of the Linfinity core business platform, the supporting role of LoRa as the core of the IoT Intelligent hardware and the combination of frontier technologies such as big data, edge computing and machine learning, the core business platform conceived by Linfinity will take blockchain technology as its underlying layer to provide enterprises with the business platform services, including supplier chain tracing, anti-counterfeiting, electronic signature, IoT monitoring, equipment management, and predictive maintenance. The application of the entire blockchain ecosystem will be significantly expanded through the good management and supervision of the inter-trusting, transparency, and efficiency of corporate upstream and downstream supply chain, instant commercialization and monetization of business model mentioned in the first stage and the technology accumulation and progress of the current Linfinity team.

- 2018 Q3, to successfully embed the current Linfinity supply chain tracking/anti-counterfeiting in blockchain 2.0 as well as introducing it to different business entities. To monetize businesses with the SaaS approach, as well as solidifying the fundamentals for following smart data promotion with the accumulated terminal customers. With the current solutions and platforms, Linfinity has already confirmed cooperation intention with various business entities ranging from tobacco, Chinese liquor to pharmaceutical corporations. In the near future, Linfinity platform will march into the fields of food and agricultural products. To achieve the period goal of later stages, Linfinity platform will realize the corporate supply chain solution of "from farm to the meal table and from the raw material origin place to customer terminus" with the adoption of blockchain technology.
- 2018 Q4, to accomplish the strategic objective of the second stage completion of the current Linfinity TQM and achievement of electronic evidence platform in blockchain. Combined with the source-tracking/anti-counterfeiting platform in operation, the demand of customers' hope of a reliable ToC and improvement of quality management of corporates along with its upstream suppliers can be both satisfied. With Linfinity platform resource integration and data-empowering as well as the advantages of blockchain technology, the inter-trusting mechanism between supply chain upstream and downstream can be substantially improved. Consequently, the corporate product management and control system can be promoted, which to a huge degree helps reduce the management cost of upstream and downstream spot check, supervision, and control. Hence, corporates can achieve actual values.



- 2019 Q1, to achieve the implementation of Linfinity blockchain+loT main platform. With the resource accumulation of loT Intelligent Gateway, applications, dApps, and Big Data supervision platform, the current team of Linfinity will upgrade the blockchain structure to provide businesses with clustered cloud deployment and blockchain deployment. Notably, consideration is both given to functionality and secure, reliable, and tamper-resistant service assurance. With the goal completion of two previous stages, Linfinity business platform will not only offer software solution, but also provide corporates with the most detailed real-time supervision and management in production, transportation, and storage. This can thus ensure product quality, store the genuine and detailed data feedback, and guarantee the final step of Linfinity ecosystem.
- 2019 Q2-3, to achieve the implementation of smart data platform. To further upgrad he corporation data valuesuch as smart control of energy consumption, smart promoion, and predicted protection with the accumulated business users and data and related real-time analysis technology. To complete the last step of Linfinity busines platform - the completion of the closed loop of data gathering, combination, analysiempowering, and general development. Through the blockchain-based sharing anmotivation mechanism, Linfinity will encourage corporations to share their resource under the promoted security level and to expand business ecosystem applications.

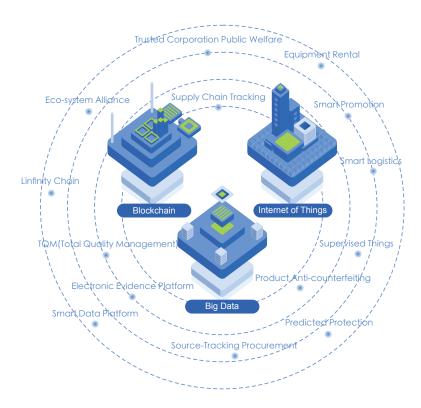


Figure 1: Linfinity Development Route Vision

# 3.2 Linfinity Application Scenes

From the actual landing cases of the blockchain, we can find that blockchain technology application is applicable to the environment in which strong centralization or credibility does not exist, and it should integrate the current market and law environment to solve actual problems according to the actual demands. Yet, in big data transactions, there are still many problems and pain points. With authenticity and reliability ensured by blockchain characteristics, values can be brought to enterprises in the process of solving these pain points by landing multiple business scenes combined with big data, IoT, and intelligent analysis.



First, the data registration system is not perfect, leading to the opacity of data sources and transfer processes, uncontrollability of data collection quality and the poor effect of [11] data analysis. Uneven data quality not only affects the data mining effect, but even leads to incorrect data analysis results. With the fact that data can be replicated during the data transaction, a transaction intermediary cannot be trusted for any data transactions since transaction information may be replicated by an intermediary and sold for multiple times privately. However, if the data generation, analysis and utilization are stayed within the enclosed environment without transactions and circulations, then the effect of data isolated islands will reduce the data values, while the true value of big data is the loading and integrating of data from multiple sides.

Besides the hidden danger of being maliciously replicated during the data transaction, data privacy is also a problem. How to open the data sharing, transaction and use are big problems under the premise of data privacy protection. Linfinity solves the privacy problem during the data use with a form of performing distributed computing and outputting the results for the data under the condition of privacy protection. The transaction of big data can transfer to the transaction of data use right. The data is fixed on the blockchain by encrypted form when it is generated. The data purchase from a buyer will trigger the computing behavior for specific data. The process of computing will consume tokens and the results of computing will directly use the public key held by buyer. Each step of data computing and result outputting will be saved on the blockchain. Both the questions about the source of the data or the responsibility for the buyer's private replication can be solved by using the blockchain trace-

# 3.3 Linfinity Supply Chain Information Tracking Platform

The construction of blockchain 2.0 underlying technology along with the current supply chain tracking and anti-counterfeiting platform of Linfinity will help achieve the fact that material purchasing, production, fabrication, logistics, sales and the whole life cycle of commodities become trackable. Combined with current customer practice of Linfinity on industries of tobacco, liquor and medicine, the business realization can be implemented rapidly by cloud service piecework charge mode.

As an example of a well-known cigarette brand in China, the producer stores the digitized cigarette ID on the blockchain network through "one code for one product, both codes and products can be traceable" mode, and records each step on the blockchain, including data collection, transaction, circulation, computing and analysis. This means that the data quality can obtain strong trust endorsement and the correctness of data analysis result, and the effect of data mining can be promised. With the current front-end implementation of Linfinity, consumers can look up the "information of each link from material to production and sales" of the cigarettes by scanning the QR code on the cigarette package with multiple approaches such as WeChat, mini-program, or Alipay. The blockchain-based smart contract ensures the publicity, transparency, reliability, and tamper-resistance so as to greatly enhance the anti-counterfeiting capability of brand products, especially high-end products.

After binding customers by their scanning, the end customers become the Linfinity ecosystem seed users who can provide to and share with all enterprise users in the ecosystem at the same time. Blockchain-based smart contracts can help enterprises to perform market promotion through Linfinity platform after the launch of smart marketing data platform, which increases the stickiness and participation enthusiasm of customers as well as accumulating relevant data to form a forward loop.

Combined with the production, logistics and channel sales of enterprises, Linfinity cloud analysis platform also can provide enterprises with the intelligent analytic services of user [12] grouping, user portrait, user behavior analysis and so on to assist enterprises to make precision marketing decision. In addition to the current SaaS charge mode, Linfinity platform will also support payment with fuel currency (i.e. gas) in the future, which means enterprises can contribute their idle computing resources to obtain the benefit that can deduct their charge of data and platform service obtaining so as to reduce the daily operating cost of enterprises themselves to lay a good foundation for the subsequent construction of the Linfinity ecosystem.



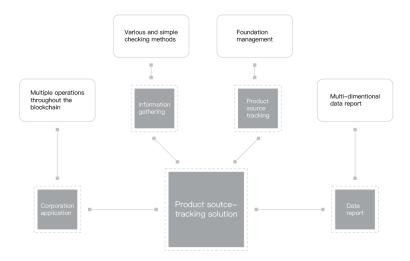


Figure 2: Linfinity's Commodity Trading Solution

# 3.4 Linfinity Quality Management and Electronic Evidence Platform

The core of TQM (total quality management) is "three-total" and "four-all" in summary. Namely, it refers to total quality management, total process management, and total personnel participating management, and then all for users, all for precaution, all by data, and all with PDCA circulation.

The formation of products is a whole process containing a series of activities. The process includes market investigation, research, design, trial-manufacture, the design and manufacture of process and process installation, raw material supply, manufacturing, factory inspection and sales service. The improvement of product quality depends on the improvement of the quality of each link in the process of upstream and downstream of the supply chain. With the continuous upgrade of state quality systems and the complexity of multiple domestic and international standards, the requirements of quality management cloud service platform have also emerged. Based on current TQM cloud management and combined with the blockchain technology implementation, Linfinity has built the QBBSS of "Five-in-one." On the one hand, it provides material additive check (such as GB2706) [13] for the current users by cloud computing method; on the other hand, it deploys the quality control system of supply chain upstream and downstream on the blockchain, and it combines with the electronic document management and evidence platform to form traceable mutual trust system and reduces the cost of supply chain communication risk control.



Figure 3: Linfinity Foundation TQM Platform System

By SHA256 hash encryption algorithm, the current Linfinity electronic evidence platform extracts meta data with fixed length from the quality control documents, quality check vouchers and electronic contracts required by supply chain upstream and downstream as the "digital fingerprinting" of meta data and packages blocks for writing them into blockchain network to form reliable consensus. In this way, it can ensure that nobody can restore and decrypt the feature code he or she obtains, and it can also ensure that if the meta data have any changes, then the deviation between the meta data and electronic evidences will be incurred, which has the effect of truth verification.



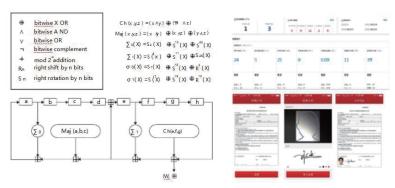


Figure 4: The Encryption Algorithms and Platform Screenshots of Linfinity Electronic Evidence Platform

At present, Linfinity electronic evidence platform has completed the joint to the third-party certification authority of international certification. By CA certificate issued by the third-party certification authority, the identity of the evidence submitter can be determined; by digital signature and electronic sealing, the signature of legal documents such as contracts can be completed on the cloud platform with one step; by blockchain distributed storage, the security and tamper-resistance of the documents can be increased further and the version tracing function of document modification records can be provided. Besides hash electronic evidence, enterprise users also have the requirements of document classifying, approval, archiving and retrieval in the routine businesses. Based on the current technology, the Linfinity electronic evidence platform provides enterprise users with flexible options - cloud service solutions, or integration with OA system of the enterprises seamlessly by developing API. Meanwhile it adopts SSL encryption transmission to protect privacy and cuts down the management cost of the

# 3.5 Linfinity Blockchain Intelligent Gateway and Intelligent IoT Big Data Platform

Recently, the idea of applying blockchain technology to the IoT field is growing vigorously. According to the experience that Linfinity has accumulated on IoT hardware and platform in these years, the best practice of blockchain on the IoT in the future is to provide the enterprise IoT with equipment authentication, network consensus, record and tracing, building efficient, reliable and secure distributed IoT network by the method of SDK implanting. Coupled with blockchain intelligent gateway, it will help reduce the enterprise TCO with the Linfinity future intelligent big data analysis platform to achieve the longterm vision of "Internet of everything and sharing with mutual trust."

The Linfinity team has researched IoT intelligent gateway based on LoRa network since 2017, which is an improvement after trying pain points of multiple protocols such as ZigBee in the actual business scenes. LoRa adopts star network architecture, and it has the lowest delay and simplest network structure compared with mesh network architecture. Based on the LoRa spread spectrum chip, it can implement the direct network connection between nodes and concentrators to constitute a star-shape; for nodes in a distance, it can use gateway equipment to relay for network connection. Compared with cellular IoT communication standards such as NB-IoT, LoRa network is similar to WLAN that we use now, which can implement rapid networking and configuring only by setting up local IoT network with simple LoRa intelligent gateway equipment and can implement convenient networking both in environments of WAN and LAN in the future.

LoRa adopts spread spectrum modulation technology that can modulate the noise under 20 dB, which ensures the network connection with high sensitivity and reliability. The transmission speed of spread spectrum system can be changed by using different spread spectrum factors, and changeable spread spectrum factors improve the system capacity of the whole network, because the signals using different spread spectrum factors can coexist in the same channel. Compared with traditional FSK system using fixed speed, the star topological structure of LoRa protocol eliminates the synchronization overhead and hops, which decrease the power consumption. Generally, 95% of the nodes only occupy 10% of the total energy consumption. In practical application, the wireless communication distance of IoT equipment adopting LoRa protocol is more than 15 kilometers (suburb environment) with the battery service life being more than 10 years. The excellent indexes such as extremely strong transmissibility and low



Figure 5: Linfinity Intelligent IoT Gateway Demo

A massive number of equipments will be connected on the IoT, making it difficult to control centrally from the terminal effectively. Therefore, connection security precaution is always the most significant priority. The type of IoT equipment vulnerabilities can be divided into permission bypass, DoS, information leakage, cross-site scripting, command execution, buffer overflow, SQL injection, weak password and design flaw, etc. According to the statistics, the vulnerabilities amounts of permission bypass, DoS and information leakage rank top three, which account for 23%, 19%, and 13% of the total recorded vulnerabilities amounts, respectively. So, the security, which should be considered from the combination of initial software and hardware design and development, needs to consider not only the strict confidentiality of the cryptographic algorithm, but also the energy consumption and aging of the IoT equipment.

The current Linfinity intelligent IoT gateway adopts self-created Linfinity KV IoT key algorithm. It constitutes the IoT key authentication process under the simple low data environment first, completing self-update, parameter update and key update by creating the network key with Elliptic Curve Cryptography. Then it replaces high cost time functions by IoT physical layer parameters to further decrease the time and space consumption of key algorithm management for the IoT equipment. This kind of method has great advantages in speed, space occupancy, and operational energy consumption, especially meeting to the IoT characteristics such as the large amount of equip-

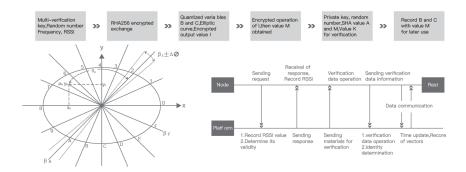


Figure 6: Brief Process and Diagrams of Linfinity KV IoT Key Algorithm

In the future, Linfinity will continue to improve this algorithm coupled with the blockchain characteristics, dividing the IoT nodes according to the capabilities of computing, storage, and communication. It will use distributed computing, decentralized zero knowledge authentication method and low amount of data IoT key negotiation protocol to increase the security and authentication speed.

The Linfinity blockchain gateway will upgrade Linfinity IoT SDK on the current basis. Linfinity gateway will obtain various IoT data in real time by connecting to the sensors of the equipment with the LoRa protocol. It will be uploaded by Linfinity self-encapsulated MQTT protocol with the method of grid encryption after edge computing filtering; after the completing of sequential arrangement and flow analysis, it will be stored on the blockchain to ensure that the data are traceable and tamper-resistant. Meanwhile, the registration and connection of new equipments are completed by blockchain verification. With the combination of Linfinity IoT protocol and distributed ledger blockchain peer-to-peer network, the congestion problem of data communication caused by block size limitation of past traditional blockchain network can be solved such that business scenes landing can be implemented.



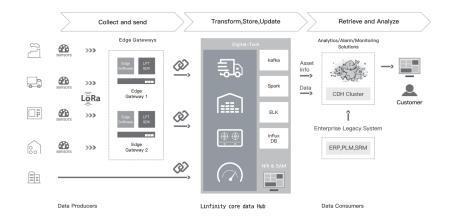


Figure 7: The Overall Architecture of Linfinity Intelligent IoT Platform

The future Linfinity blockchain intelligent gateway will upgrade the configurable capability of the edge computing, which can further create more application scenes in the Linfinity ecosystem coupled with smart contracts on the blockchain. For example, a large fresh chain supermarket requires their cold chain storage and transport service providers who serve it to comply with very strict temperature control standard. However, due to lack of real-time monitoring feedback means and big data accumulation, its service providers can only execute the unified strict standard in all regions and in all seasons. The quality control and audit departments of the party A also need high frequency spot checks according to the process, which increases the supply chain cost of the enterprise greatly.

After it has connected to the Linfinity intelligent IoT platform, it can monitor the full operating data in real time with 7\*24 hours only by sensor output and PLC control connection to the current equipment. It can explore characteristic equipment control parameters based on the differences of regions and seasons so as to save energy consumption cost. By the method of Linfinity smart contract, the party A enterprise may download the business standards and adjusted time period equipment parameters to the equipment through the blockchain intelligent gateway. The platform will compare the real-time parameters collected from equipments and commitment stored on the blockchain to ensure the control and management effect of transparency and trust at regular intervals, which can guarantee the high standard of enterprise quality service system and save the costs of actual energy consumption and human power. When using Linfinity platform cloud services, the enterprises are required to pay for a certain amount of LFT Token that also can be gained by sharing their desensitization experience data

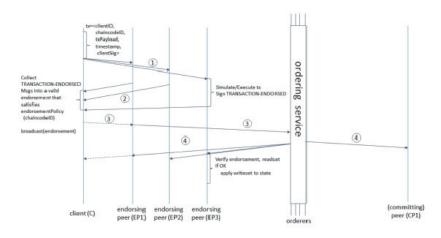


Figure 8: The Demo of Linfinity Smart Contract Synchronization Mechanism



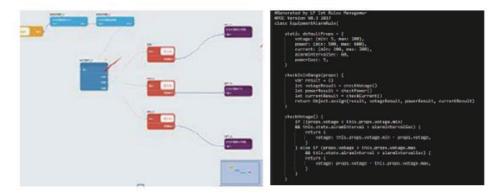


Figure 9: The Linfinity Visual, Programmable Functionality IoT Smart Contract Platform

With the increase in connected commercial entities and equipment, Linfinity intelligent big data platform will explore, clean, verify, integrate, mine and distribute data from different sources intelligently by operating IoT equipment data. Combined with AI training model, it will continue to iterate model algorithms to energize the data for the enterprises in the DT era better. By IoT, Linfinity intelligent platform closely combines the upstream and downstream of the enterprises successfully. The data collected by IoT will produce the value of geometric times by big data intelligent drive, which will bring more imaginary space to the enterprises coupled with the sharing mutual trust characteristic of blockchain.

Nowadays, data is wealth. No matter digital marketing, precision advertising or consumer behavior portrait, they all focus on "people" while the connection of "things" driven by blockchain on the IoT will produce more disruptive business ecological modes.

The new generation Linfinity intelligent data platform will be based on the big data solution of Linfinity. Combined with the blockchain technology, it will construct more open and effective ecosystem of cloud services. Different enterprises can use machine learning and neural network to perform model training and iteration debugging with the data of its own or industry to obtain business optimizing practice based on the comparison results of gray scale release finally. These accumulated data and AI algorithms practice can implement business realization by the mode of blockchain smart contracts so that the forward cycle of the entire ecosystem can be promoted.

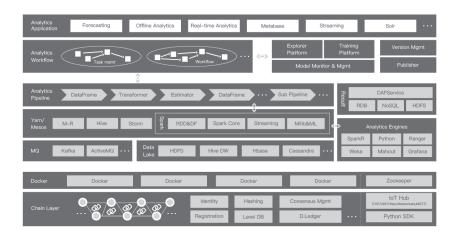


Figure 10: Linfinity IoT Smart Contract Data Platform Technological Structure Conception



# 4. Token Model and System Architecture

The native token in our system will be LFT as per traditional ERC-20 standards. We believe the Ethereum network has been tested enough to demonstrate enough robustness although other chains such as NEO are also possibilities. As of now in the short term at the very least, building on Ethereum not only mitigates the cost of development of the platform, but also provides security as well as a smooth circulation of the LFT tokens due to the one-to-one correspondence between a LFT token owner and an Ethereum address (allowing communication with other cryptocurrencies on the Ethereum blockchain as well).

Over time, a transition into a different blockchain could be necessary. LFT will be used to reward participants in the system and align incentives. One of the most critical pieces of the blockchain related supply chain projects with native tokens is the token model and system architecture, but we have found other projects in the space to be severely lacking in an explanation as to why the token is required in their corresponding systems.

# 4.1 Comparative Token Models

Take the following two competitor token models for existing supply chain projects:

1. A model used by a prominent Chinese supply chain project - Once products are labeled as having been produced through the supply chain overseen by the trusted corporation X, consumers are able to purchase the products with the native token. Tokens can be mined by purchasing the same products and through "marketing" activities.

Problem: The only incentive in this system for holding tokens is to buy end products, only tailored to end consumers. It is highly unlikely that this use case alone will lead to a widespread adoption of the token between the key participants within the supply chain ecosystem combining multiple parties and interests involved. There is in fact no incentive for any parties involved in the supply chain per se to hold the native token. End customers typically would pay

2. A model used by protocol-focused supply chain projects - There exist projects each self-described as a blockchain-based ecosystem for supply chains that ensures the origin, quality, compliance, and proper handling of items tracked by the network. The token in this system is used to keep information on the network up to date as products move across the supply chain without requiring a centralized actor to maintain resources. This token enables a transparent ecosystem with trustworthy data that can be freely accessed by interested parties. The token itself is data-bonded and bonds real-life data to its corresponding product. Tokens are bonded to aproduct until they are "let-go" upon successful delivery or purchase of the end-product byend customers.

Problem: The economics in such a system is less skewed than the previous, given the firm incentive for the producers to hold tokens to use the chain given the extreme focus at the protocol level which makes the token a far more valuable tool. However, the tokens are bonded from the point of binding until the point of release at the sale of the product. This is an issue since the validating devices in the chain are not rewarded adequately, meaning there does not exist much incentive for enterprises, distributors, and verifiers acting and partaking in the middle of the supply chain perse.



# 4.2 Linfinity's System Architecture

While substantial research and development are still on the way when it comes to Linfinity's overall architecture, the following broad design has been adopted:

- 1. Shared data storage among producers and supply chain nodes
- 2. Smart contracts specified by producers with requirements for data measurements as aforementioned (e.g. fat content in food, moisture level in a chemical mixture, temperature of a source product, etc.)
- 3. IPFS for data storage optimization if applicable

As for specific components that are necessary to realize this architecture in a user-friendly way, the following are included: front-end app for customers, front-end app for employees, marketplace for enterprises, back-end system for data analytics, smart contracts for stamping as well as transactions (and meta-transactions) related to each stamping, authentication system, and interaction mechanism between IoT and blockchain gateways.

- Front-end app for customers: This is meant to perform fast and reliable checks of various products' unique identifiers in a read-only mode with positive UI and UX. The app should natively support device-wise interaction between user's device and each product whose supply chain is relevant in Linfinity's ecosystem.
- Front-end app for employees, distributors, producers, or verifiers: The same goes here except read and write should both be allowed for employees in the app
- Marketplace for enterprises: There is a marketplace for enterprises when it comes to exchanging (big) data, specific transactional exchanges pertaining to IoT or dApps, etc.
- Back-end system for data analytics
- Smart contracts for stamping and transactions related to each stamping
- Authentication system: Users do not have to authenticate themselves whereas employees must in order to join the ecosystem.
- Integration and interaction between IoT and blockchain gateways

The Linfinity Supply Chain Smart Contract System is built by using tiered and scalable technology. In the blockchain industry, the conflict between the unchangability of data, the expansion compatibility of future system and user availability are resolved for the first time.

In terms of overall structure, the contract system is divided into user control layer and traceability application layer. The user control layer provides users with a lifetime unique identity. Once users accidentally loses the control account, the voting mechanism is used to reset the control account through one or more authorized accounts specified when the user logs in, the upstream and downstream friends' accounts and the National Bureau of Standards' account. Thus, users' control of their own assets can be recovered. The traceability application layer provides dynamically expandable commodity traceability contracts, whereby mode-commodity traceability such as "One-Object-One-Contract" and "One-Class-One-Contract" mode, and asset transactions can be realized.

In terms of extensibility, the contract system skillfully utilizes the contract invocation assembly instructions provided by native Ethereum, so that the return value of the invoked contract function can be obtained within the contract, thus constructing a dynamic smart contract that can be updated on demand. Therefore, the system can support new traceability anti-counterfeiting models that may occur in the future. At the same time, all these operations and data are publicly verifiable and checkable, thereby achieving a balance between credibility and usability.



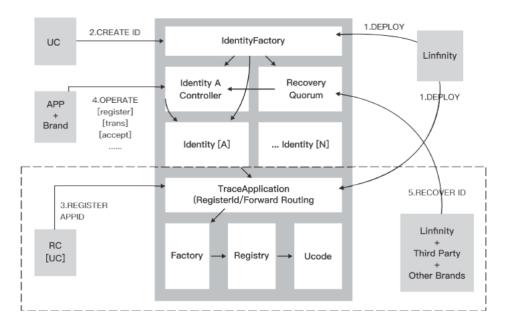


Figure 11: Linfinity Supply Chain Smart Contract System

As shown in the figure, the core steps of the system can be summarized into the following five steps:

- 1. Original Contract Deployment (DEPLOY): When the system is initialized, it deploys a transparent user "Identity Factory" contract and "Traceability Application" contract. After the traceability application contract is generated, it forms a well-known contract entry of the system, and the address cannot be changed.
- 2. Create a Permanent Identity (CREATE ID): This is executed when the user logs in. It can generate a permanent user identity contract, user control contract and user account recovery contract through the "Identity Factory" contract. These contracts are the core entry for future user identification, control of user assets, and recovery of user account control.
- 3. Register Traceability Mode (REGISTER APP ID): It is invoked when the system is initialized and upgraded to add a new traceability mode, and a certain mode of the traceable commodity is registered. Mode-traceability sub-contracts such as "One Object-One Contract" can be generated through the factory.
- 4. Commodity Contract Operation (OPERATE): The contract owner controls the contract and operates his/her assets through the account. The entry to the operation passes through the well-known contract entry determined in the first step.
- 5. User Account Recovery (RECOVERY ID): It is generated when the user logs in. The voting mechanism is used to reset the user control account through one or more authorized accounts specified when the user logs in, the upstream and downstream friends' accounts and the National Bureau of Standards' account. Thus, users' control of their own assets can be recovered.

At a high level, the above solution will introduce several services that should be delivered through mobile applications as well as (internal-facing) web applications, which would contribute to the further development of the project. To promote flexibility in the development process, the system is made in a way that can be broken down as individual modules, where these individual modules may be deployed independently as micro-services at a later stage.



#### 4.3 Token Model

There are several parts to the Linfinity model. Producers in the supply chain, for instance, enter the system at the very beginning of the system. There could be other producers further down the chain, who use the chain to reduce their costs and keep track of products at a later point in the chain. Any producer that wants to use the system must use LFT tokens that are bound to the node of the supply chain at which the producer enters initially.

Meanwhile, those IoT and sensor devices that can be installed by both external providers as well as producers partake in the ecosystem by measuring the data relevant to each product and by checking and stamping the data abiding by the smart contract that delineates the germane requirements that certain products must satisfy in order to be moved down the supply chain. These devices are rewarded LFT tokens for validating data such as temperature, moisture content, etc. at the designated node in the supply chain. The amount to be rewarded is decided by the producer, but external validators can sell this data to the producer and bid for the best price. Furthermore, validators receive ratings based on previous work done decided by producers who have bought their data attestations before.

From an end user's perspective, consumers can purchase the byproducts or the finished products near the final stages in the supply chain. They receive a discount specified by the market at the time if they use LFT tokens to purchase the product. This discount will be important in the initial stages, as decided by the Linfinity team, so that market adoption can rise steadily. Upon purchase of a product, the LFT tokens are not data bound to the products any more and hence are distributed to the players in the supply chain (e.g. employees who have met certain criteria outlined by relevant smart contracts that they interact with) according to the respective rewards guideline. As aforementioned at the same time, the marketplace for big data and data analytics as well as cloud services in a decentralized manner would allow enterprises that partake in Linfinity's supply chain ecosystem to utilize LFT tokens in a meaningful way. More generally, corporate users need to use their LFT in order to use Linfinity's platform services

(e.g. PaaS and SaaS services), which again the Linfinity team has a strong background in. It is in these ways that participants acting in the middle of the supply chain in an active way are also incentivized in a beneficial way contributing to the dynamics of the Linfinity ecosystem, as opposed to solely appealing to end customers.

All in all, the above model provides a good balance between the buy and the sell pressures, unlike other token models that we have seen in the supply chain realm of the blockchain industry. This means that LFT has real value as a utility token, and thus as more and more customers as well as producers onboard Linfinity's ecosystem, the

# 4.4 LFT Token Sale Plan

Linfinity will issue a total amount of 3 billion (3,000,000,000) LFT tokens; 10% among which 300,000,000 tokens will be used to sell to the angel investors to raise funds.

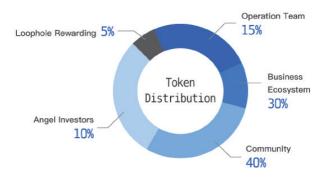


Figure 12: LFT Token Distribution

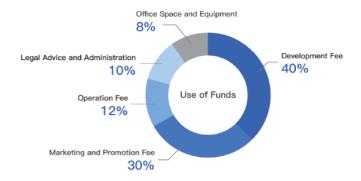


Figure 13: Use of Funds



# 5.Team

# 5.1 Team Members

## Anndy Lian - CEO

An all-rounder business strategist with more than 15 years of experience in Asia. He has provided advisory across a variety of industries for local, international pubic listed companies. He was previously playing a key management role in not-for-profit and quasi government linked organisations such as Singapore Institute of International Affairs and Singapore Business Federation. He is also a true believer in healthcare and has since invested and incubated a few health related companies. He believes that what he is doing now will revolutionize and redefine businesses. Annay holds a MBA from the University of Wales, UK.

#### Brian Tse - COO

Co-founder of EVO Capital; Co-founder of Hunan Yidake Techonlogy Company Ltd; Consultant of Hong Kong Blockchain Consultant Ltd. Brian is an I.T solutions expert with more than 18 years of experience in Hong Kong and China (e.g. Intrasia, SAP, HKIOA). Have successfully incubated more than 5 projects with a total capital value of over 100 million USD. Highly experience in company operation especially in I.T solution and Blockchain.

#### Xuecai Yu - CTO

Graduated from Harbin Institute of Technology and got a Ph.D degree in Computer Science and Technology, Mr. Yu has a plenty of experience of more than ten years in the position of Engineering and Education. He previously served in Wanxiang Blockchain Labs as a senior software engineer and participated in the preparation of the Chinese White Paper led by the Ministry of Industry and Information Technology. Now he is a lead instructor for MBA and advanced programmer training.

## Wenbo Ligo - CIO

Graduated from Neusoft Institute Guangdong. He has rich Internet marketing and promotionexperience. Early stageBlockchain investors. Angel investor of Qbao Network. He leads the global community development.

## Enzo Wang - Genaral Manager (China)

Graduated from The University of Edinburgh with MSc. Management, he has senior investment and management practice in fields of blockchain, education, and video livestream projects. Strategic operation work experience for large multinational corporation such as Intel and Hamburger Hafen. Rich consulting and management experience in fields of corporate strategy and start-up development.

# Eric Yoon - General Manager (Korea)

He is an early member of the South Korean encrypted token exchange and a blockchain expert with a deep understanding of the blockchain industry. With the CFO experience of Korean SNS, he has a high understanding of the flow of currency and currency value changes. He also accumulated extensive experiences in international trade and SCM when he worked in JS Future Industry China. He has served as President of Umi International, where he gained rich planning and operating experiences. He used to be the B/D of the Korea Exchange -Coin Nest ,and he has the ability to develop blockchain projects.



#### 5.2 Consultants

### Yuqing Wen - Business Advisor

Cheung Kong Graduate School of Business EMBA. With his excellent brand operating philosophy, visionary investment philosophy and outstanding leadership in more than 20 years business practice, Mr. Wen successfully created a number of well-known brands, including "Wuyeshen," "Alishan," "Hougongfang," and many other brands which have wide spread social influence and cultural value. Currently, chairman of Wuyeshen Corporation Group, President of Dabaihui Group, chairman of Hougongfang Wine Co., Ltd., chairman of Alishan Group Co., Ltd., and vice president of Guangdong Hakka Chamber of Commerce.

#### Peter Du - Blockchain Community Advisor

Famous Blockchain Investor, Rednova CIO. Mr. Peter Du is known as the legend of the blockchain community for earning more than a billion yuan in return for investing in the iota three years ago. In addition to iota, Mr. Peter Du is an early investor in several well-known blockchain projects, including, of course, Linfinity. Mr. Peter Du will assist in the operation of the Linfinity community and the establishment of the Linfinity ecosystem.

# Liang Ran - Blockchain Technology Advisor

Previously, he served as the development manager of the Asia Pacific Region of State Street. Well-known Blockchain Technology Expert, Senior Researcher of ChinaLedger (China Distributed GeneralLedger Basic Agreement Alliance), Project Manager of Wanxiang Blockchain Labs. He also participated in the preparation of the ChinaLedger Technical White Paper, China Blockchain Technology and Application Development White Paper (organized by the Ministry of Industry and Information Technology) and so on. Mr. Liang Ran is the founder of RippleFox (RippleFox is China's largest Ripple and Stellar gateways). Mr. Liang Ran will assist in the operation of the Linfinity technology and the establishment of the Linfinity ecosystem

# Henry He - Legal Advisor

Graduated from The University of Edinburgh with LLM, Mr. He is currently practicing law in Shanghai Allbright (Shenzhen) Law Offices. Specializing in fields of corporate securities, foreign investment, M&A and banking finance, he has rich experience in representing transnational enterprises, private enterprise domestic and overseas financing and M&A. He took part in various projects distributing in many industries, including but not limited to TMT, health care, aeronautics and astronautics, real estate, energy, and tourism.

## Dmytro Budorin - Security Advisor

Mr. Budorin is a co-founder of Hacken (Hacken is a market platform providing bug restoration token for white hat hackers). He is ACCA, and he worked for Deloitte for 8 years and became the winner of Deloitte CIS Audit Challenge with his Audit Big Data SAP solution which was widely implemented in CIS offices. He is one of the top executives with in Ukraine's military defense industry after its large-scale reform was launched by the government in 2014-2015.



# 5.3 Management Structure

As a decentralized international community, the Linfinity Foundation has been established as a non-profit entity in Singapore in order to carry out the development and maintenance of the Linfinity Platform (and services and products thereon), development and operation of the community, and management of contributions.



Figure 14: Linfinity Foundation Structure

- 1. Decision Committee: The Decision Committee is responsible for appointing or dismissing the Executive Director(s) and the responsible person of each subordinated Committee, making important decisions, and holding emergency meetinas.
- 2. Executive Director: The Executive Director is elected by the Decision Committee, and will be responsible for daily operation and management of Linfinity Foundation, collaboration of subordinated Committees, hosting meetings of Decision Committee, and making periodic progress reports to the Decision Committee.

#### 3. Subordinated Committees

- Application Committee: The Chief Product Experience Officer is responsible for guiding the Application Committee to set the direction for the application development orientation of Linfinity Platform, to explore the implementation the application scenarios, and to create a good product application ecosystem.
- Code Audit Committee: It is composed of the core development teams of Linfinity Platform, and is to be responsible for continued development of Linfinity Platform, development of SDK and API, code audit, keeping up to date on the latest developments of blockchain technology, understanding the trends and hot points of thecommunity on Linfinity platform at any time.
- Financial and Personnel Administration Committee: It is responsible for the application and audit of contributions for projects, compensation management of developers, personnel employment, daily operation cost, and shall prepare weekly and monthly financial reports.
- Market and Public Relations Committee: It is responsible for serving the community, promotion of products on Linfinity latform, popularization of the dApp technology, product marketing, and public relations.



# 6.Legal Note

### 6.1 Disclaimer

This document is only used for introduction to the token sale of LFT token in international market with China excluded and any part thereof and any copy thereof must not be taken or transmitted to any country where distribution or dissemination of this document is prohibited or restricted.

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No information in this document should be considered to be business, legal, financial or tax advice regarding Linfinity or LFT token. Each potential participant should consult its own legal, financial, tax or other professional adviser regarding Linfinity and its business and operations and the LFT token.

Linfinity expressly states that intended users understand the risk of Linfinity platform clearly. Once they involve in the investment, it means that they understand and accept the project risk and are willing to bear all corresponding effects or consequences.

Linfinity expressly states that it does not undertake any direct or indirect losses caused by any involvement in the

- The reliability of all information provided by this document
- · Any errors, negligence or inaccurate information resulting from this
- Or any behaviors resulting from this

To the maximum extent permitted by the applicable laws, regulations and rules, Linfinity shall not be liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this document or any part thereof.

LFT token is a cryptocurrency used on the Linfinity platform. LFT token cannot be used to purchase related goods or services when the paragraph is written; LFT token is not a kind of investment. We cannot ensure, while we have no reasons to believe indeed, that LFT token will be value-added. But in some cases, it may have the possibility of a decline in value, those who do not sincerely and correctly use LFT token will lose the right of using LFT token and may even lose their LFT token.

LFT token is not a kind of ownership or control power. The control of LFT token does not represent the ownership of Linfinity or Linfinity applications. Linfinity does not entitle any individual to participate, control or make decision for Linfinity and Linfinity applications.



# 6.2 Representations and Warranties

Linfinity does not make or purport to make, and hereby disclaims, any representation, warranty or undertaking in any form whatsoever to any entity or person, including any representation, warranty or undertaking in relation to the truth, accuracy and completeness of any of the information set out in this document.

# 6.3 Cautionary Note on Forward-Looking Statements

The statements contained in this document may include statements of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. Some of these statements can be identified by forward-looking terms such as "goal", "project", "if", "will", "may" or other similar terms.

However, these terms are not the exclusive means of identifying forward-looking statements. All statements regarding business strategies, plans and prospects and the future prospects of the industry are forward-looking statements. These forward-looking statements involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements.

## 6.4 Risk Statement

## 1. The Risk of Losing LFT Token Caused by Certificate Losing

LFT token of a buyer's is likely to be associated with a Linfinity account before allocated to him or her. The only way to access the Linfinity account is the relevant login credentials chosen by the buyer. Losing these credentials will lead to LFT token losing. The best way to safely store the login credentials is that the buyer should keep them in one or several

#### 2. The Risk of Ethereum Core Protocols

The development of WET is based on Ethereum core protocols. Therefore, any breakdowns triggered by Ethereum core protocols, unexpected functionality problems or vicious cyber-attack may lead to the unforeseeable operation suspension and malfunction of Linfinity application. Besides, the value of accounts in Ethereum protocols might rise and fall just as the way the value of LFT token does (not only limited to LFT token, but other forms may take place). More information about Ethereum protocols: http://www.ethereum.org.

#### 3. The Risk of Buyer's Payment Evidence

Any third party who obtains the login evidence or the private key of our LFT token buyers can directly have control over the Linfinity assets. To minimize such risks, buyers of LFT token must ensure his/her electronic device is under good protection and his/her electronic device can deny the visit from unverified sources.

# 4. The Risk of Judicial Supervision

The blockchain technology is now under supervision in most major countries in the world. If the main body of such supervision intervenes in or impose influence on Linfinity application and LFT tokens, LFT token is likely to be affected. For instance, decrees may impose restrictions on the use, sales and functionality of LFT token and even Linfinity system; intervene in and even terminate the development of Linfinity application.

## 5. The Risk of a Lack of Public Attention on the Linfinity Application

There is a chance that Linfinity application is not widely used by individuals or organizations, which means that the public does not show sufficient interest in the development of such distributed applications. A lack of social spotlight therefore may draw negative effects on Linfinity and its application.



6. The Risk of the Fact That Linfinity and Its Related Application Fail to Satisfy the Expectation of Linfinity Initiators and Buyers

Linfinity is currently undergoing the development stage, certain (major) alternation may therefore take place prior to its official launch. Linfinity self-induced or buyers' expectation and imagination on Linfinity application or Linfinity function or form (including the behavior of participants) may not be (fully) realized. Meanwhile, any erroneous analysis or alternation in Linfinity design may lead to the conditions mentioned.

# 7. The Risk of Hackers and Theft

The operation of Linfinity application and its token function may be interrupted by hackers, other organizations or nations with the approaches of (including but not limited to) service attack, Sybil attack, vicious software attack or organized consistent attack, etc

8. The Risk of System Loophole or a Rapidly Leaping Development of Cryptography

The leaping development of current cryptography or huge progress in other kinds of technology such as the development of quantum computation may present risks to cryptocurrencies and Linfinity platform. And this may consequently lead to the loss of LFT token.

### 9. The Risk of a Lack of Maintenance and Usage

In the first place, LFT token should not be regarded as a type of investment, even LFT32 token may enjoy investment value with time. However, if there is a lack of maintenance or usage of Linfinity, the investment value may go lower. If this case takes place, there may be few or even no second-movers to this platform, which puts Linfinity, obviously, at a disadvantageous place.

# 10. The Risk of Not Being Insured

Unlike bank accounts or accounts in other financial organizations, contents stored in Linfinity accounts or in Ethereum network are normally not insured. In no event shall any individuals or organizations be held reliable for your loss. However, if you are a beneficiary of an insurance firm such as FDIC or any other private insurance firm, they may be held

# 11. The Risk of Linfinity Application Malfunction

Malfunction caused by different reasons may lead to the fact that Linfinity platform becomes unable to serve its duties, while under some serve circumstances, Linfinity user information may lose.

## 12. The Risk of Unexpected Situations

Cryptography is a brand-new yet not fully tested technology, therefore, there exists other risks which are not fully covered in this White Paper or unmentioned by the Linfinity ad I ministration team or even not fully expected. In addition, there may be some unalarmed risks or risks above-mentioned coming into existence in bundle.

### 13. Additional Risk Warning

As a type of cryptocurrency, LFT token is not a kind of currency in the true sense of word, which means it is a digital commodity and cannot circulate in the market out of blockchain. Thus, this is an event in which all market entities voluntarily participate, and they are all able to shoulder the unpredictable risks on their own.



# 6.5 Market and Industry Information

This document includes market and industry information and forecasts that have been obtained from internal surveys, reports and studies, where appropriate, as well as market research, publicly available information and industry publications. Such surveys, reports, studies, market research, publicly available information and publications generally state that the information that they contain has been obtained from sources believed to be reliable, but there can be no assurance as to the accuracy or completeness of such included information.

While Linfinity has taken reasonable actions to ensure that the information is extracted accurately and in its proper context, Linfinity has not conducted any independent review of the information extracted from third party sources, verified the accuracy or completeness of such information or ascertained the underlying economic assumptions relied upon therein. Consequently, neither Linfinity nor its directors, executive officers and employees acting on their behalf makes any representation or warranty as to the accuracy or completeness of such information and shall not be obliged to provide any updates on the same.

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