



REAPCHAIN

White Paper
Ver 0.9

Table of Contents

01. Who is ReapChain?

| | |
|------------------------|---|
| Mission & Vision | 3 |
|------------------------|---|

02. Why ReapChain?

| | |
|---|---|
| 2-1. Limitations of Blockchain Technology | 5 |
|---|---|

| | |
|---|---|
| 2-2. ReapChain's Development Directions | 6 |
|---|---|

03. Blockchain in Global Market

| | |
|-------------------------------------|---|
| Blockchain Global Market Size | 8 |
|-------------------------------------|---|

04. What is ReapChain?

| | |
|--------------------------|----|
| ReapChain Protocol | 10 |
|--------------------------|----|

| | |
|---------------------------------|----|
| 4-1. Shell-Core Structure | 10 |
|---------------------------------|----|

| | |
|--------------------------|----|
| 1) ReapMiddleChain | 11 |
|--------------------------|----|

| | |
|---------------|----|
| 2) PoDC | 12 |
|---------------|----|

| | |
|--------------------------|----|
| 4-2. ReapChainBaaS | 13 |
|--------------------------|----|

05. Where to apply ReapChain?

| | |
|-------------------------|----|
| 5-1. IoT Industry | 14 |
|-------------------------|----|

| | |
|-----------------------------|----|
| 5-2. Fintech Industry | 15 |
|-----------------------------|----|

| | |
|--------------------------|----|
| 5-3. Game Industry | 16 |
|--------------------------|----|

06. ReapChain Token Economy

| | |
|----------------------------------|----|
| ReapChain Token Allocation | 18 |
|----------------------------------|----|

| | |
|----------------------------------|----|
| ReapChain Token Allocation | 18 |
|----------------------------------|----|

07. ReapChain Ecosystem

| | |
|---------------------------|----|
| ReapChain Ecosystem | 20 |
|---------------------------|----|

08. Road Map of ReapChain

| | |
|-----------------------------|----|
| Road Map of ReapChain | 21 |
|-----------------------------|----|

09. ReapChain & People

| | |
|--------------------------|----|
| ReapChain & People | 22 |
|--------------------------|----|

10. ReapChain & Partners

| | |
|----------------------------|----|
| ReapChain & Partners | 24 |
|----------------------------|----|

Disclaimer

| | |
|------------------|----|
| Disclaimer | 25 |
|------------------|----|

The Fourth Industrial Revolution has been advocated during the World Economic Forum in 2016. It is the next industrial revolution with 'Intelligence' and 'Connectivity' as keywords. Blockchain was listed as one of the most important technologies of The Fourth Industrial Revolution together with the Internet of Things, artificial intelligence, and big data. It is expected that Blockchain will lead to the expansion of the big data market by strengthening control over individual data as well as data security in the Fourth Industrial Revolution where the collection and operation of large amounts of data become crucial¹.

Since the development of the first generation of Bitcoin, the second generation of Ethereum, and the third generation of EOS along with numerous main nets, blockchain is considered as a high growth potential technology. However, its use is limited as a cryptocurrency that proves the rights to owned assets. Because the blockchain operates based on a distributed network to secure transaction transparency and reliability, the relatively slow transaction processing speed and expansion problems² are limiting factors in boosting the blockchain-based industry.

ReapChain is not just trying to implement the main net for cryptocurrencies. ReapChain aims to implement the main net to solve the problems of the data processing speed and scalability of existing private and public blockchains and be practically used in various industries.

ReapChain presents the following mission and visions.

Mission & Vision

· Mission

ReapChain aims to establish a secure and transparent ecosystem of the blockchain industry for all the Decentralized Application (DApp) service providers by providing a practically usable blockchain.

· Vision

To solve the trilemma of blockchain by implementing a new hybrid blockchain with Shell-Core structure unique to ReapChain

- To implement a double-layered chain structure that connects with various main net protocols.
- To implement a real-time data processing algorithm for DApp through the pre-confirmation process of a transaction.
- To implement a decentralized algorithm through the PoDC consensus structure.

¹. Lee, J.Y. & Woo, C.W. (2018). Prospects, limitations and implications of blockchain technology. *FUTURE HORIZON*, (38), 12-15.

². Ibid, 12

To implement various types of middlechain tailored to the characteristics of each industry through ReapMiddlechain.

- To establish a blockchain by blockchainifying the end-to-end section through the middlechain that is specialized in the IoT industry.
- To establish a development environment in which the non-professionals of the blockchain can easily develop DApp.

ReapChain defined the problems of DApp and the main net using the existing blockchains as the following four problems, and these four problems confirm the validity of ReapChain's mission and vision.

· The four problems

- 1) The security vulnerability of private blockchain
- 2) Problem of real-time data processing speed
- 3) Problem with different technical characteristics of the main net required by various industry-related DApps
- 4) Problem in developing DApps without specialized technology for blockchain

As a solution to the four problems, ReapChain provides the main net protocol specialized for each industry through ReapChain's unique blockchain-based technology innovation to overcome the limitations of existing main net protocols. Also, ReapChain implements a practically usable main net protocol that can solve the scalability and versatility problems that DApps are struggling to solve. ReapChain selected the IoT industry as the first step in applying the developed protocol. Starting with the IoT industry, ReapChain as a blockchain applicable to all industries will play a leading role in popularizing the blockchain technology and creating a new blockchain-based business model.

Such innovation is possible because ReapChain possesses the unique blockchain structure, shell-core structure, the new consensus process, pre-confirmation, and ReapMiddleChain which can be customized according to the characteristics of individual industries. It is the ReapChain protocol's core philosophy to realize practically usable blockchain for all industries with ReapChain's unique technology.

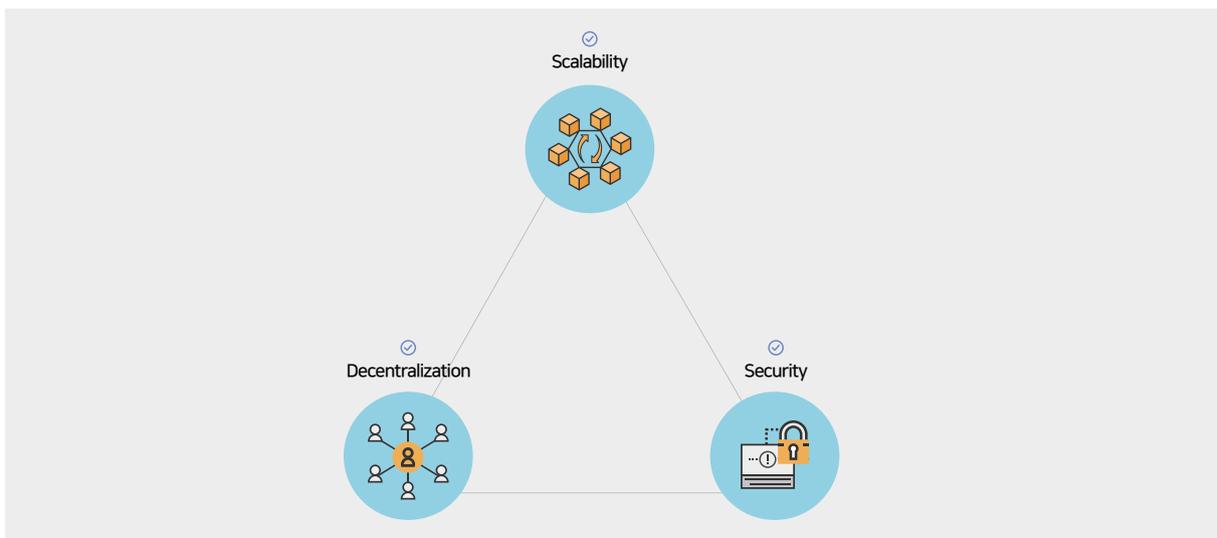
02

Why ReapChain?

2-1. Limitations of Blockchain Technology

Bitcoin, the first-generation blockchain, first introduced its blockchain technology to the world in 2009 and showed its potential as a currency through a distributed ledger. To further enhance the practicality of the blockchain technology, Ethereum, the second-generation block chain, released the Smart Contract and showed a new direction for the blockchain. Despite technological advances such as Smart Contract, Ethereum also had a few limitations such as slow consensus speed and heavy network load. To solve the problems of Ethereum, EOS, a third-generation blockchain, was launched. Although EOS was developed through PBFT(Practical Byzantine Fault Tolerance) consensus algorithm to solve the problem of slow consensus speed and heavy network load, it doesn't fundamentally solve the scalability and processing speed problem that arise as the number of applications increases.

Vitalik Buterin, who developed Ethereum, and many IT professionals agree that the three most important technical aspects when applying blockchain technology to real business are security, decentralization, and scalability. Buterin has named the current situation, the Trilemma of Blockchain that requires three characteristics of blockchain technology to be secured at the same time, but only two of the three characteristics are satisfied due to technical limitations³. For the commercialization of the blockchain, resolving problems regarding the transaction's slow processing speed and blockchain's scalability is required. To solve the problem, a private blockchain is rapidly spreading, but security issues are always being raised because of the limited number of nodes on the private blockchain when verifying the reliability. In other words, private blockchains are not resolving the Trilemma of Blockchain same as the existing public blockchains.



[Figure 1. Trilemma of Blockchain]

³. Vitalik Buterin Lays Roadmap for Ethereum Visa Levels Quadratic Sharding [Website]. (2017, November 25). Retrieved from <https://www.trustnodes.com/2017/11/25/vitalik-buterin-lays-roadmap-ethereum-visa-levels-quadratic-sharding>

2-2. ReapChain's Development Directions

1) Solving Trilemma of Blockchain

Although various private blockchains are being developed to solve the scalability problem of public blockchains, it is impossible to obtain multiple nodes due to the characteristic of private blockchains. As a result, it dilutes the concept of decentralized ledgers, making the security vulnerable and decentralization difficult, which also negates the meaning of data sovereignty. To overcome the limitations, ReapChain implemented a hybrid blockchain with a Shell-Core Structure. By flawlessly combining scalability-specialized private blockchains and public blockchains which guarantee decentralization and security with ReapChain's inherent chain structure, Shell-Core Structure, we solved the Trilemma of Blockchain.

2) Upgrading Real-Time Data Processing Speed

Applications of the existing legacy system operate by sending and receiving data through servers in real-time. Especially payment, IoT, and game industry-related applications on legacy systems require real-time data exchange. However, on existing blockchains, processing data in real-time is impossible because they establish transparency and reliability of transactions through accomplishing consensus among all network participants.

ReapChain adopted the concepts of 'Temporary Ledger' and 'Permanent Ledger' from the securities industry to resolve the transaction processing speed problem. By adopting a pre-confirmation process in which the private blockchain consents on a transaction by transaction basis, 99.9% reliable transaction results are recorded in a temporary ledger and immediately provided it to DApp to process data in real-time, enabling the commercialization of the blockchain.

By making blocks for transactions processed in the temporary ledger on the public blockchain and recording them in the permanent ledger, the real-time processing of data can be made real without sacrificing security or decentralization.

3) Implementing Industry-Specialized MiddleChain

Because the technical characteristics of main net protocols required by DApps require vary from industry to industry, each industry needs specialized main net protocol. But to develop main net protocols for different industries can be very inefficient and can also lead to compatibility issues between protocols.

Reapchain provides ReapMiddleChain, a middle chain that is specialized for the characteristics of individual industries, making it easy for DApps to implement industry-specialized blockchain-based services. Also, by providing ReapMiddleChain with a single main net protocol, ReapChain supports the requirements of individual industries. At the same time, ReapChain solves compatibility problems by integrating multiple main net protocols. Ultimately, ReapChain expands the platform ecosystem into the data industry for open data sharing by unifying data from all industries with a single main net protocol.

4) Providing DApp Service Provider-Friendly Development Environment

Although developers use various languages such as java, c#, c++, and php to develop platforms, existing main net protocols are not compatible with such languages. As a result, for developers to develop DApp, they need to learn new the language and blockchain's structure used in main net protocols. The hassle is being pointed out as one of the obstacles to DApp activation.

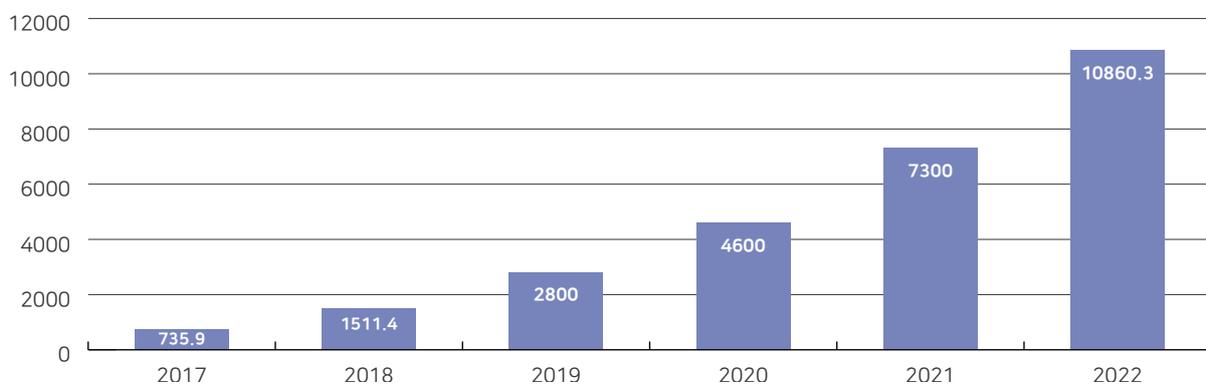
ReapChain aims to achieve ReapChain's activation by offering ReapSDK, which supports the compatibility of various developing languages such as java, c#, and c++ and providing a DApp-friendly development environment so that developers without knowledge of blockchain can easily develop blockchain-based services.

| Blockchain Global Market Size

According to the Worldwide Semiannual Blockchain Spending Guide of IDC(International Data Corporation), a global IT market analysis and consulting firm, the global blockchain market was worth \$1.5 billion in 2018 and is expected to grow 76% CAGR to \$10.9 billion by 2022.

Blockchain Market Forecast(IDC)

(Unit: USD mil)



[Figure 2. Global Blockchain Market]

Since blockchain is very a rapidly growing market, there are big differences in market size estimates for each market research company. However, all research companies are agreeing about the blockchain market's growth potential and the steep growth rate.

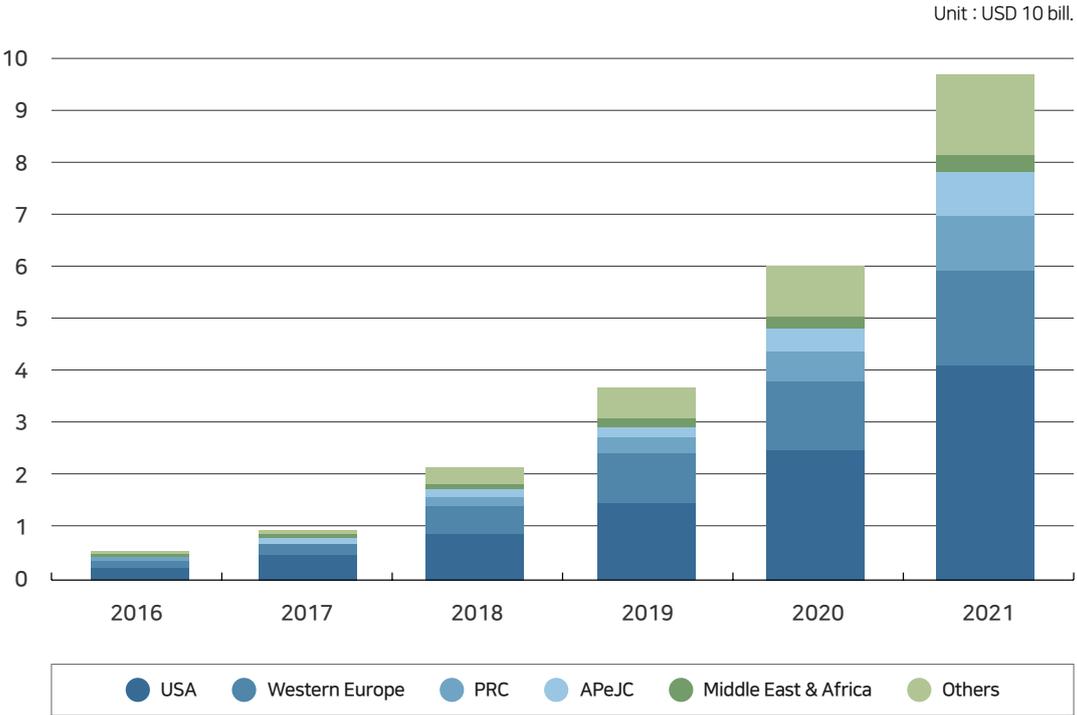
(Unit: USD mil , %)

| Research Firm | Base Year | Market Size | Forecast Year | Estimate | Annual Growth Rate |
|------------------------|-----------|-------------|---------------|----------|--------------------|
| Market and Markets | 2017 | 411 | 2022 | 7,683 | 79.6 |
| IDC | 2017 | 735 | 2022 | 10,860 | 71.3 |
| Accuray Research | 2016 | 210 | 2025 | 16,300 | 62.1 |
| Statista | 2016 | 210 | 2021 | 2,312 | 61.5 |
| Market Research Future | 2016 | 168 | 2022 | 2,000 | 51.0 |
| Netscribes | 2018 | 3,351 | 2023 | 19,900 | 42.8 |
| Grand View Research | 2016 | 604 | 2024 | 7,589 | 37.2 |
| Average | 2017 | 813 | 2023 | 9,521 | 58.4 |

Source: Study on the Impact of Employment in Blockchain Industry)

[Chart 1. Blockchain Market Forecast by Research Organizations]

By country, the United States has the largest blockchain market with 1.1 billion dollars in 2019, followed by Western Europe with 0.67 billion dollars, and China with 0.32 billion dollars.



[Figure 3. Blockchain Market Forecast by Country]

In the service sector, the use of Blockchain as a Service (BaaS) is increasing. According to Bank of America, even if only 2% of servers become blockchain nodes, BaaS is expected to form a 7 billion dollar market. As the companies that can take the most advantage of the recent shift to BaaS, BaaS service providers such as Amazon, Microsoft, and Oracle, and blockchain-based online service providers such as IBM, Salesforce.com, VMware, Redfin, Zillow, and LendingTree are being mentioned⁴.

⁴. Heo, J. (2018). Blockchain market outlook and company trends in major countries. MONTHLY SOFTWARE ORIENTED SOCIETY, (54), 37-47.

04

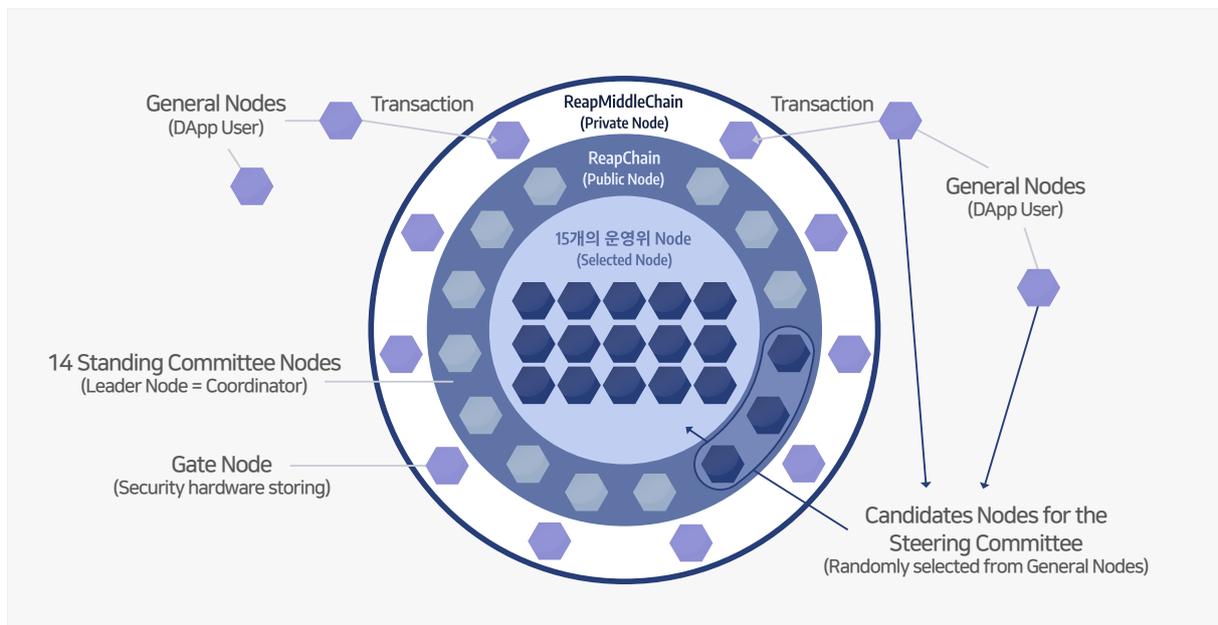
What is ReapChain?

ReapChain is a hybrid blockchain that solves the 'Trilemma of Blockchains' to enable the commercialization of blockchain and implements the blockchain based DApp services.

I ReapChain Protocol

4-1. Shell-Core Structure

Shell-Core Structure is a core of the ReapChain protocol that integrates a private blockchain and a public blockchain perfectly to form a double-layered chain. As shown in [Figure 4.] Shell-Core Structure places the private blockchain, ReapMiddleChain on the outer layer, and processes transactions first. Then the result from the processed transaction is provided to DApp immediately solving the commercialization problems of blockchains. The public blockchain is placed on the inner layer and blockchainifies the transaction results processed in the private blockchain using the PoDC consensus algorithm of ReapChain to solve the decentralization and security problems.

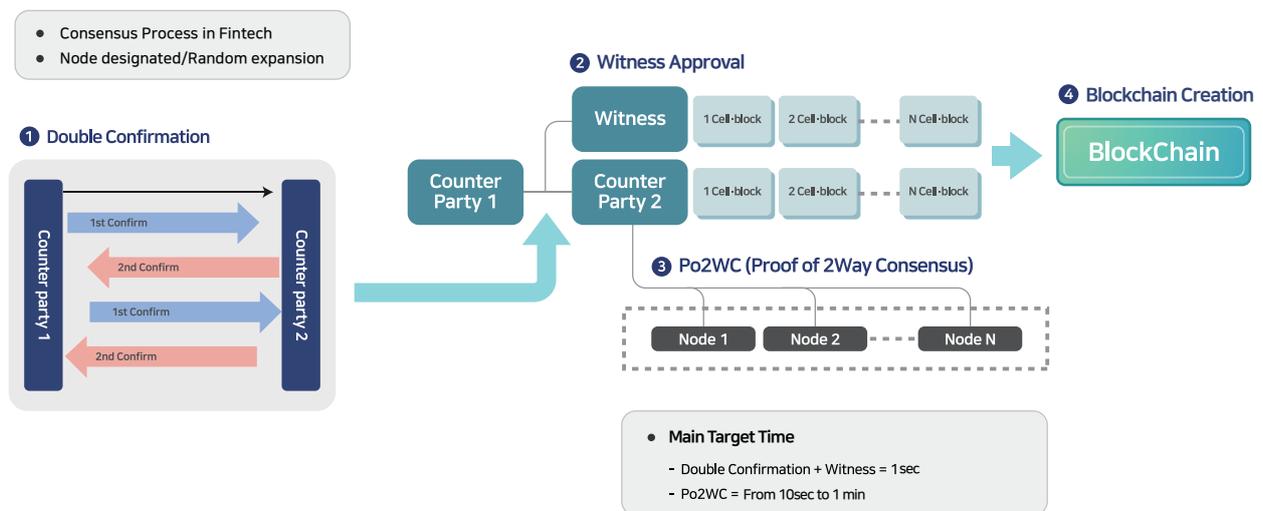


[Figure 4. Shell-Core Structure]

1) ReapMiddleChain

RepChain adopts the concept of 'Temporary Ledger' and 'Permanent Ledger' from the securities industry to solve the problem of the transaction processing speed.

ReapMiddleChain, a private blockchain, introduces the concept of a temporary ledger. When a transaction occurs, both sides of the transaction confirm the transaction twice (Double Confirmation) as shown in [Figure 5]. Then the consensus is reached through a Proof of Triple Confirmation process in which one of the 10 gate nodes is the witness. The consensus result is considered pre-confirmed as it goes through a Proof of Triple Confirmation process. The pre-confirmed result is considered 99.9% reliable data and is transferred to both sides of the transaction enabling fast transaction data processing. The pre-confirmed result is then made into a block on ReapChain, a public blockchain, and is recorded in permanent ledger.

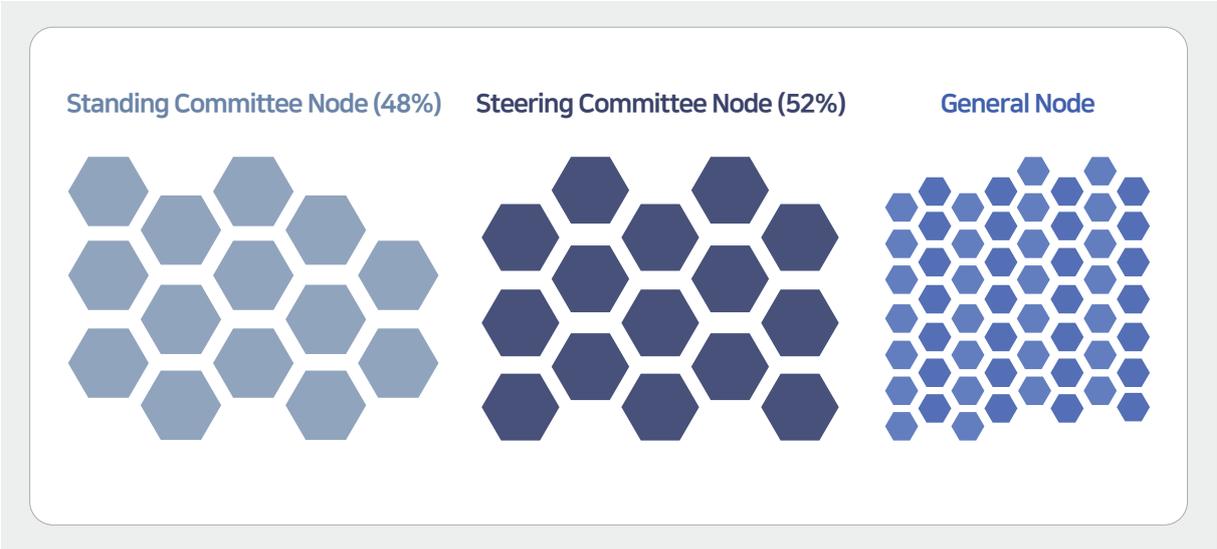


[Figure 5. Proof of Triple Confirmation Process]

2) PoDC(Proof of Double Committee)

The consensus algorithms such as PoW(Proof of Work), PoS(Proof of Stake), DPoS(Delegated Proof of Stake), and BFT(Byzantine Fault Tolerance) used in blockchains have limitations regarding delayed consensus, energy-consuming hardware computing structure, centralization by limited delegates, and vulnerability to a 51% external attack. To overcome such limitations, ReapChain developed a PoDC(Proof of Double Committee) consensus algorithm which improved DPoS and PBFT(Practical Byzantine Fault Tolerance) algorithm.

In the PoDC consensus algorithm, 14 standing committee nodes and 15 steering committee nodes randomly selected from general nodes using quantum random numbers participate in the consensus process. Although the network is expanding as the number of participating node increases, only 29 nodes (14 standing committee nodes and 15 steering committee nodes) participate in the consensus process, maintaining the data processing speed of ReapChain. Of 29 nodes participating in the consensus process, the ratio of the steering committee nodes is maintained over 51% to ensure the fairness of the consensus process enabling decentralization.



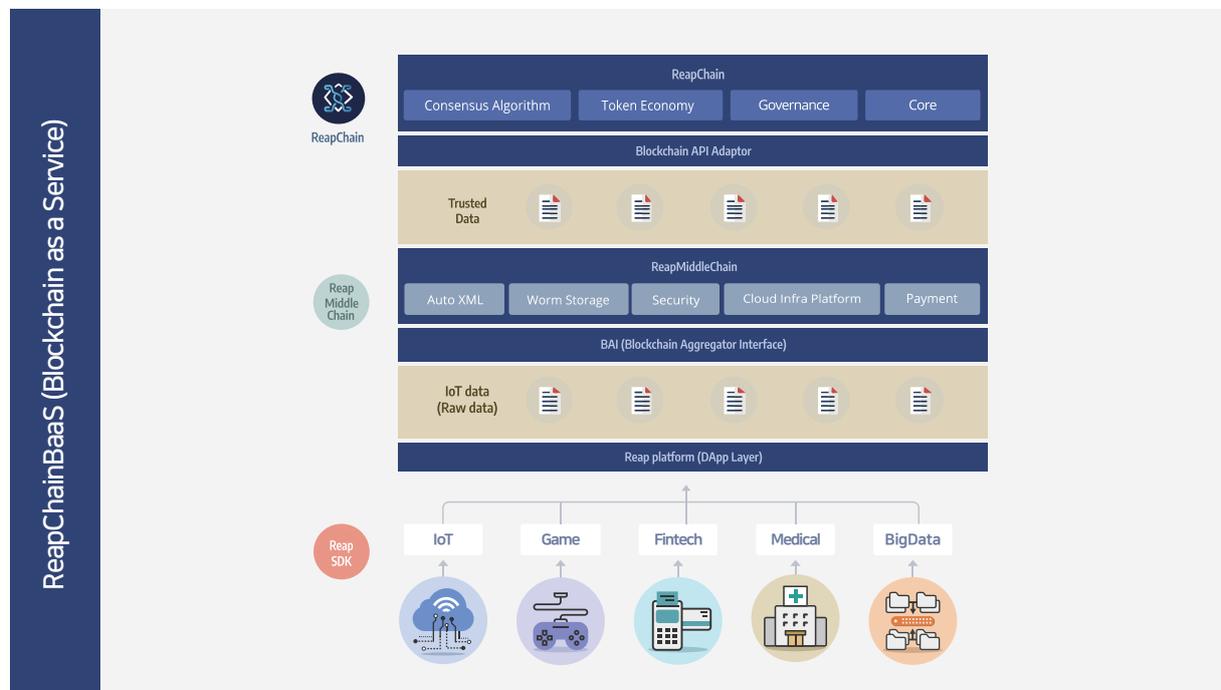
[Figure 6. PoDC (Proof of Double Committee)]

4-2. ReapChainBaaS

BaaS (Blockchain as a Service) is a cloud computing platform that provides blockchain-based software development environment. Since ReapChain services are provided in the form of BaaS, it is easy and convenient to develop and operate blockchain-based services without new hardware adoption or architecture configuration.

ReapChainBaaS consists of ReapMiddleChain, ReapChain main net, and ReapSDK. ReapMiddleChain is responsible for real-time processing of DApp data and for linking with external modules. ReapChain main net enables data security and decentralization. ReapSDK is a tool for developing blockchain services for different DApp service providers. It enables to implement various blockchain functions such as the creation of the smart contract, the transmission of the token, inquiry of block, etc. on the blockchain network without special knowledge of the blockchain.

ReapChain will apply its unique IoT security technology, PID of things to ReapChainBaaS to provide ReapChainBaaS to the IoT industry that has been selected as a priority industry. ReapChain will eventually expand service areas of ReapChainBaaS to other industries to prove the generality of the ReapChain protocol.



[Figure 7. Configuration of ReapChainBaaS]

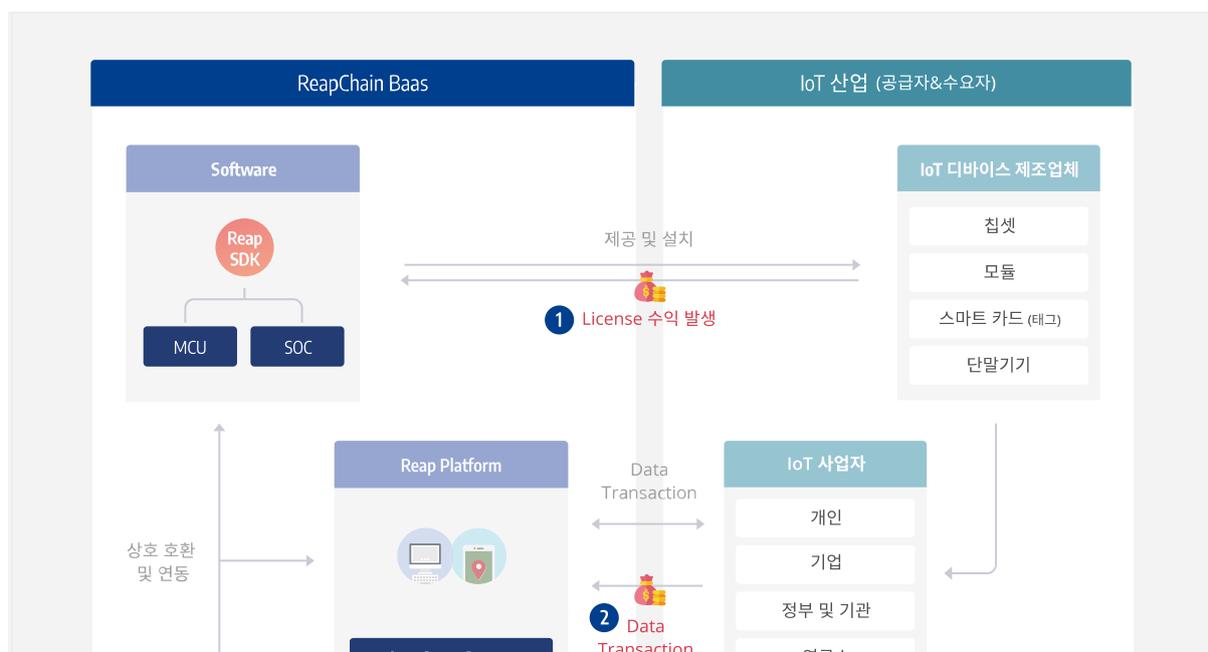
05

Where to Apply ReapChain?

The technical characteristics of middlechain and main net protocols required by DApps vary by industry. ReapChain offers middlechain that is industrially specialized and compatible with various main nets, making it easy for DApps to implement their blockchain-based services in various industries.

5-1. IoT Industry

Commercially applying the existing blockchains to the IoT industry had limitations such as lack of reliable ID authentication and data verification system for individual devices, weak security issues for IoT devices, and real-time processing of large amounts of data. ReapChain can block unpredictable transactions from unauthorized devices to each IoT device, and verify and filter the forged data by utilizing its own IoT security technology, the PID of things technology. Moreover, by using private blockchain (ReapMiddleChain)'s consensus algorithm and indigenous data processing method, ReapChain can handle real-time processing problems of large amounts of IoT based data flexibly and efficiently. As a result, ReapChain can be used in various IoT industries such as distribution and logistics, smart homes, and smart grid.

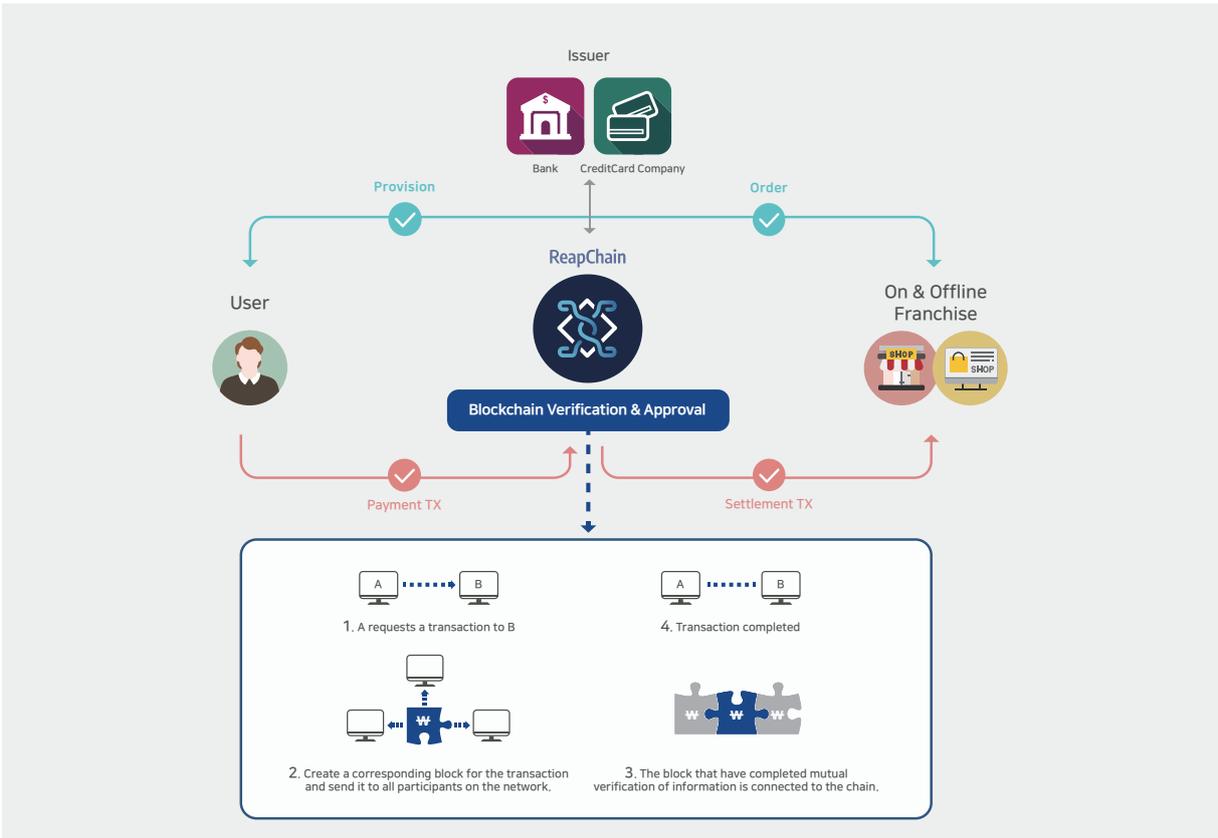


[Figure 8. ReapChainBaaS-based smart grid]

5-2. Fintech Industry

Globally, people who don't receive traditional financial services like banks, the so-called financially underprivileged classes, are estimated to be about two billion⁵. To those classes that can't use existing financial services due to lack of credit or financial infrastructure, financial services utilizing the concept of blockchain's decentralization are emerging as a solution. However, to apply blockchain to the Fintech industry such as payment service requires real-time processing of numerous transactions and resolution of security problems for privately owned assets.

ReapChain can be applied to FinTech industries such as payment, credit transaction, and remittance because it can process transactions quickly through Proof of Triple Confirmation consensus process on the private blockchain (ReapMiddleChain), and on the public blockchain (ReapChain) security and decentralization problems are solved by applying ReapChain's unique consensus algorithm, PoDC.



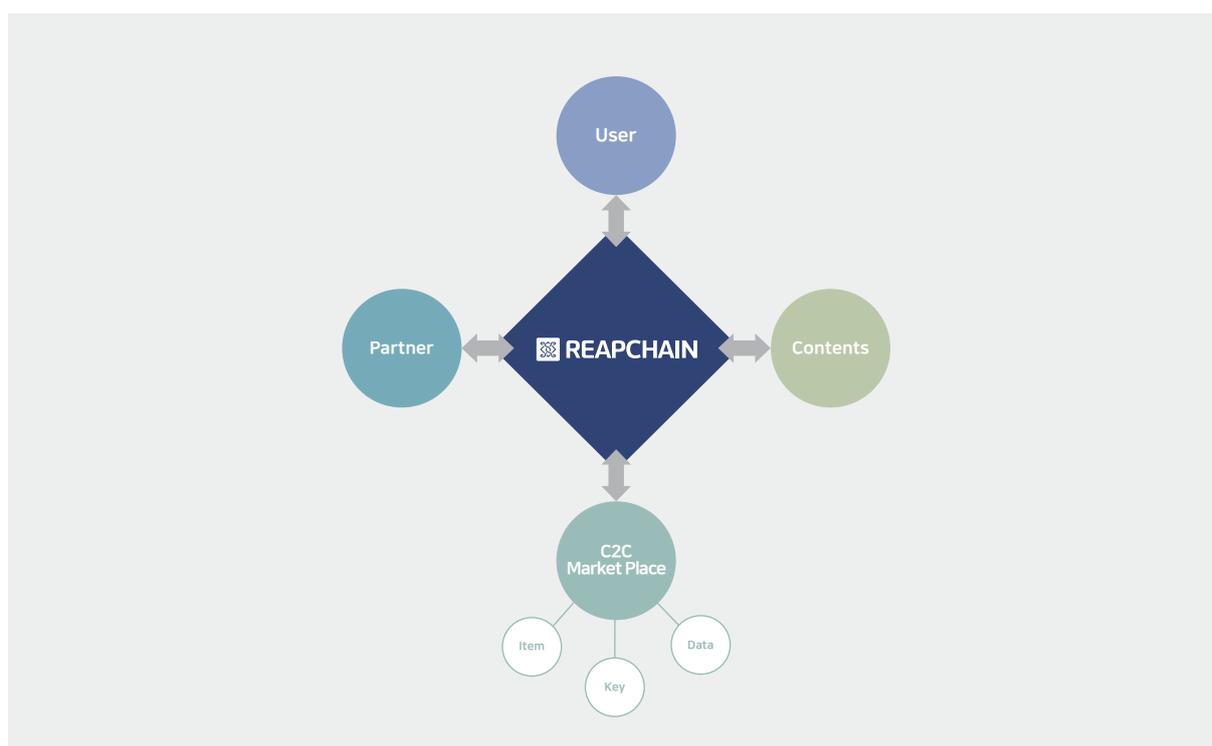
[Figure 9. ReapChainBaaS-based payment]

⁵ Koh, R. & Lee, Y.J. (2018). *Next Money*. DASAN Books.

5-3. Game Industry

The game industry has become a red ocean as a competition among service providers gets very fierce and competition has spread throughout the world. Blockchain can be a new growth engine for the red oceanized game industry.

Since the incentive system based on the cryptocurrency of the blockchain is easy to accept for gamers who are familiar with the concept of digital assets from game trading, the entry barrier of launching the blockchain technology to the game industry is lower than other industries⁶. Practically, however, the biggest impediment to blockchain games is processing speed. ReapChain makes it possible to apply blockchain to game services by increasing transaction processing speed dramatically through a unique consensus algorithm of the private blockchain, ReapMiddleChain. Furthermore, ReapChain allows real-time P2P transactions of Non-Fungible Token (NFT) items which can be an additional business model for game DApps by utilizing blockchain technology.



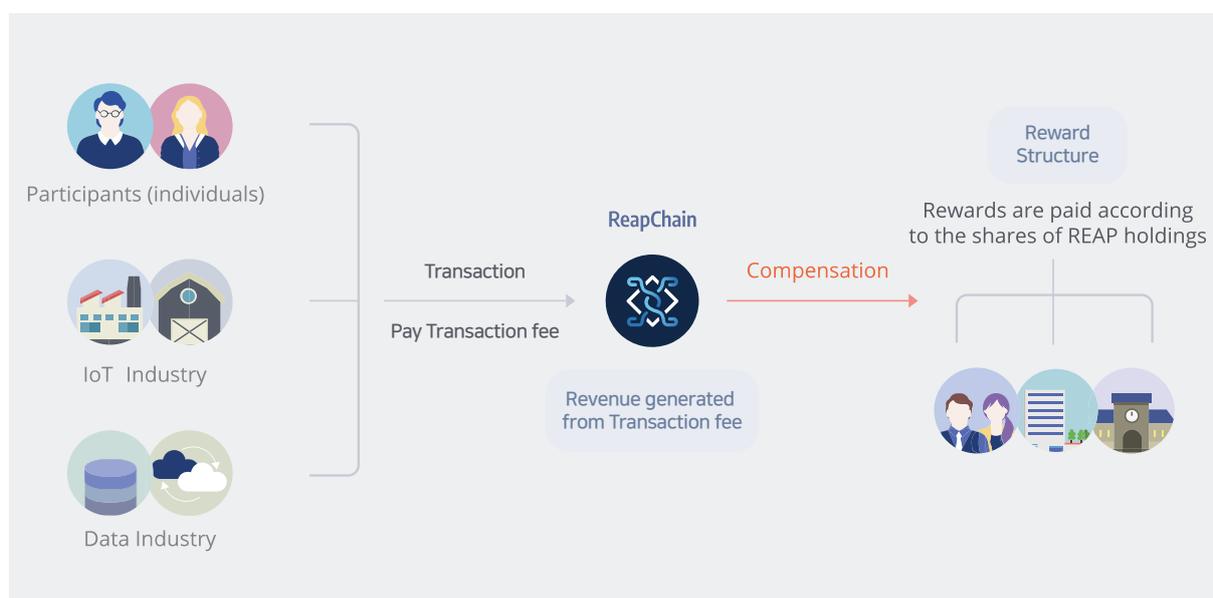
[Figure 10. ReapChainBaaS-based Game]

⁶. Impending Blockchain Game Era, No.1 Corporate Goal [Website]. (2020, June 26). Retrieved from <https://m.post.naver.com/viewer/postView.nhn?volumeNo=28643977&memberNo=49631020&vType=VERTICAL>

06

ReapChain Token Economy

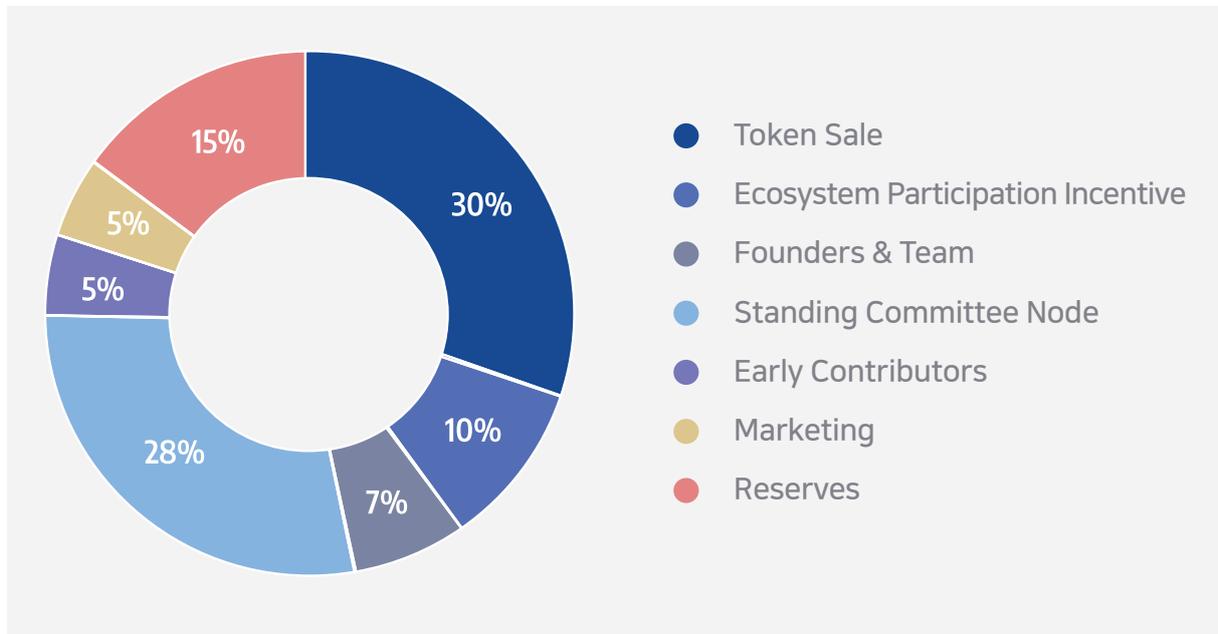
ReapChain provides economic incentives to the participants of the ReapChain network to encourage them to invigorate the ReapChain ecosystem voluntarily. In general, the nodes in which mine blocks get rewarded in the PoW(Proof-of-Work) system. In the PoS(Proof-of-Stake) system, participants get rewarded only by depositing cryptocurrencies over a certain amount. On the other hand, in ReapChain, anyone who holds REAP or just participates in the ReapChain ecosystem can be rewarded.



[Figure 11. ReapChain Token Economy & Reward System]

- ① REAP serves as a fuel in the ReapChain ecosystem. REAP is paid as rewards to holders of REAP who maintain the ReapChain network through transaction verification or block creation proportional to their shares from the accumulated transaction fee.
- ② Rewards are paid from gross transaction fee when one of two conditions is met. Rewards are paid at random when 100,000 to 110,000 blocks are created or are paid when the amount of accumulated transaction fee reaches 1 million REAP. If the accumulated amount of transaction fee exceeds 1 million REAP at the time of distribution, rewards are paid including the exceeded amount of transaction fee.
- ③ ReapChain pays rewards to REAP holders, standing committee nodes, steering committee nodes, and steering committee candidate nodes to invigorate the ecosystem of ReapChain. The allocation ratio of the rewards is 70% for REAP holders, 20% for the steering committee nodes and its candidate nodes, and 10% for the standing committee nodes. Double dipping is allowed.

I ReapChain Token Allocation



[Figure 12. Token Allocation]

1. Token Allocation

Total REAP issued: 4,900,000,000 REAP (4.9billion REAP)

Unit Price of REAP: 0.03 USD

- Token Sale 30%**
 30 % of the total REAP issued will be sold with a lock-up period applied.
- Ecosystem Participation Incentive 10%**
 10% of the total REAP issued will be distributed by 1% a year over for 10 years as incentives for participating in the ReapChain ecosystem. The payment will be made according to the contribution to standing committee nodes, steering committee nodes, and stake nodes when every 1.2 millionth block is created.
- Founders & Team 7%**
 7 % of the total REAP issued will be allocated to founders and team members who contribute their effort to the success of the project. The token is distributed among founders and team members according to their contribution. Lock-up for 50% of the tokens allocated for founders and team members will be lifted after 12 months and the lock-up for the rest of 50% will be lifted after 24 months from the date of receiving tokens.

- **Standing Committee Node 28%**
Since 2% of the total REAP issued is required to be selected as a standing committee node, 28 % of the total REAP issued will be allocated to the 14 standing committee nodes.
- **Early Contributors 5%**
5 % of the total REAP issued will be allocated to Early Contributors who support our project from the beginning. The token is distributed among Early Contributors according to their contribution. Lock-up for 50% of the tokens allocated for Early Contributors will be lifted after 12 months and the lock-up for the rest of 50% will be lifted after 24 months from the date of receiving tokens.
- **Marketing 5%**
5 % of the total REAP issued will be allocated to the marketing budget for various types of global marketing campaign to promote the ReapChain project. Lockup period for the allocated tokens for marketing will be determined for each marketing campaign.
- **Reserves 15%**
15 % of the total REAP issued is for the corporate reserve. ReapChain will manage the corporate reserve to be maintained at 5% to 15 % of the total REAP issued.

2. Use of Proceeds from Token Sales

Proceeds from token sales will be distributed and operated as follows. (The allocation ratio will be calibrated according to priority considering the business condition.)

| Field of Use | Allocation Ratio |
|----------------------|------------------|
| Market Stabilization | 40.0% (Buyback) |
| R&D | 36.3% |
| Operations | 11.0% |
| Marketing | 10.0% |
| Capital Reserves | 2.7% |

3. Use of Platform Revenue

Revenues generated from ReapChain will be used for technical support, project promotion, and operation of ReapChain and its affiliated companies. Buyback can be executed using the revenue generated from ReapChain to stabilize the value of REAP when necessary.

07

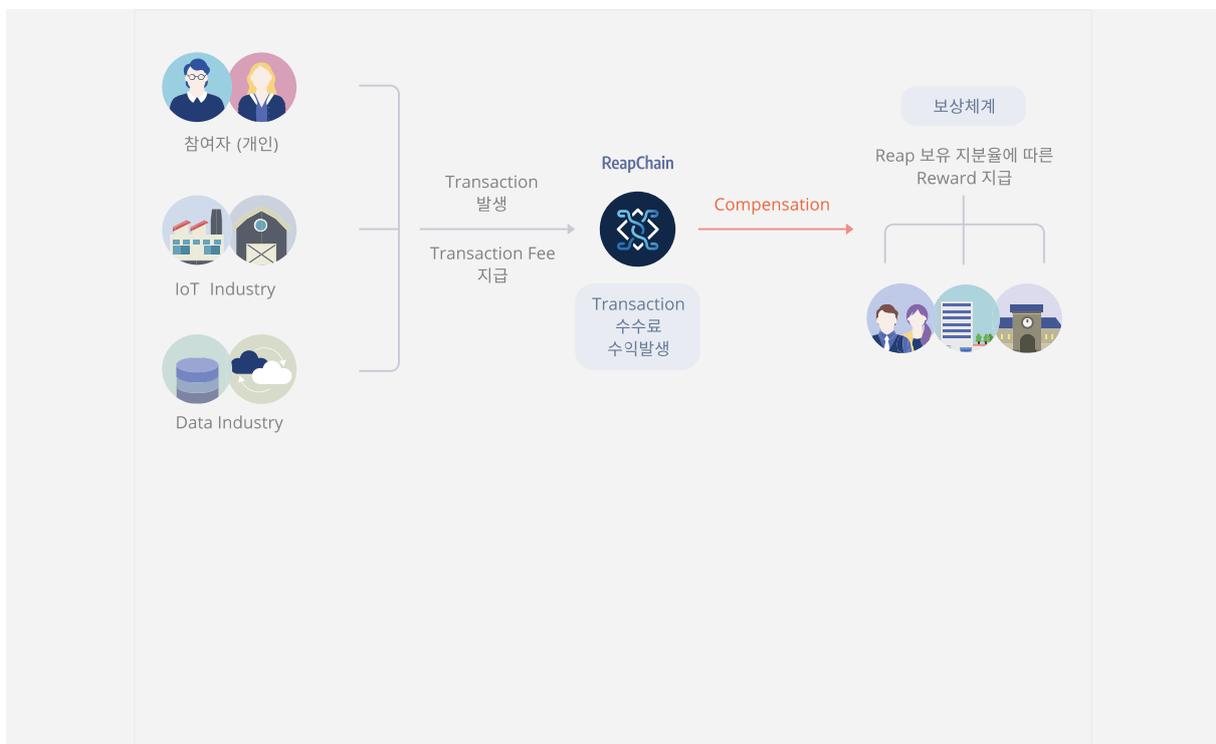
ReapChain Ecosystem

Starting with the IoT industry, ReapChain will realize a shared economy ecosystem in which blockchain-based DApp service providers and service users grow together through profit-sharing in industries such as FinTech and games.

Expanding the Platform Ecosystem into the Data Industry

'Data Economy' can be defined as the use of data as a catalyst for the development of other industries and the creation of new products and services. The concept of Data Economy is known to first appear in a 2011 report by The Gartner Group, an American IT research firm⁷. Various players such as companies, individuals, and the public sector will generate massive data in real-time and utilize it at the same time.

Starting with the IoT industry, ReapChain will accomplish a blockchain-based data economy ecosystem that can share data generated and collected from various industries such as FinTech, games, distribution, and logistics on a single platform.

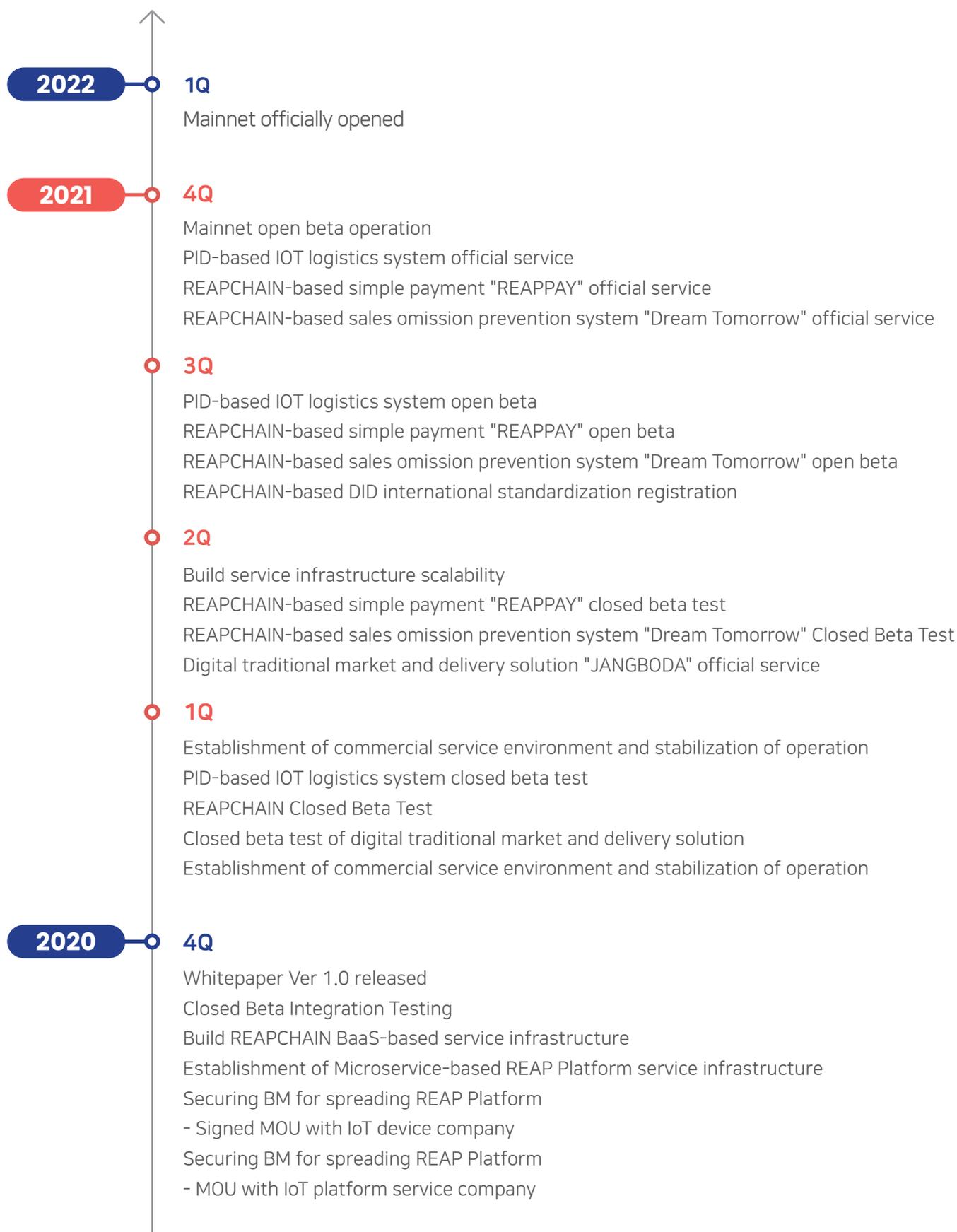


[Figure 13. Future plan of ReapChain]

⁷ The era of the data economy, capture data to gain hegemony [Website]. (2020, June 4). Retrieved from <https://blog.naver.com/businessinsight/221989622310>

08

Road Map of ReapChain



Core Members



JUSTIN KIM
CEO

B.S. Washington State University in Electrical Engineering
M.B.A. Columbia University

23 years of asset management and investment operation at Samsung Investment Trust, Information and Communication Research Promotion Agency, Hana INS, etc.



JAKE LEE
co-CEO

B.S. Youngnam University in Mechanical Engineering

a member of the North Gyeongsang Youth Policy Committee. a member of the Special Committee on Blockchain in North Gyeongsang Province. Start-up, 13 years of Management in Fintech.



KHAN KIM
CSO

B.S. New York University Stern school of business
M.B.A Columbia University

Optima Consultingm, LG Investment & Securities, LendLease, KPMG



SUHO KWON
R&D CTO

Sogang University Computer Science, Operating System Lab.

Samsung Electronics, New Media Life, Samsung Techwin(Hanwha Techwin), SK Hynix, Pax Datatech

Present) Head of Education Center, KBIPA (Korea Blockchain Promotion Association)

Present) Head of ReapChain Research Center

More than 20 Years Experience in Embedded System Development and Software Quality Engineering



JAY YOO
CMO

University of Seoul, Ph.D. Candidate in Marketing Strategy

University of Minnesota (Twin Cities) MBA

Korea University B.A.

Present) ReapChain, General Manager

Present) SoongEui Women's College, Adjunct Professor

Former) 25 years of experience in marketing and strategy at Cheil Communications, Hyundai Corporation and Hyundai Motor Company



SUNGJIN KIM
CTO

M.S. Busan University in Computer Science

A mentor specializing in Samsung Multicampus blockchain and big data Korea Communications Commission & TTA DMB/IPTV Technical/Service Standards Committee ISO/IEC MPEG-2/4 International Standard Committee, etc.

Advisors



SEUNGHUN HAN

KAIST(Korea Advanced Institute of Science and Technology)Faculty of Technology Management AACSB AOL (Assurance of Learning) Associate Professor Korea Information Sociology Society Director and Vice Chairman. University of Central Florida Finance Ph.D University of South Carolina Statistics M.S



CHULHO LEE

KAIST(Assistant Professor, Department of Business and Technology Management) Ph.D. in Management Science, The University of Texas at Dallas, USA M.A. in Business Administration, Pusan National University, KOREA



TAEHONG KANG

Professor of Soongsil University Graduate School of Information Science Vice President of ROBOPIA INVESTMENT INC. CTO Professor of Soongsil University Graduate School of Information Science Former) Advisory Councilor, KOSCOM INC. Former) Vice President, DELIGHT CHAIN INC. CTO



HYUKJUN KWON

Soonchunhyang University, Department of Economics and Finance, Assistant Professor KOMSCO Blockchain Advisory Professor B.S. in Information Systems of School of Business, Virginia Commonwealth University, USA



CHEOLHWAN KIM

Professor at Hanyang University Advisor, International Genuine Management Association Advisor, AVI U Systems Co. Ltd. Consulting for Gdynet Korea Productivity Center Blockchain Lecture ICT Polytech Blockchain Lecture Graduated from Seoul National University in Electronic Engineering



HYUNWOO YI

Law Firm (Limited) - DR & AJU Law Firm (Limited) - BARUN lawyer member Advisory Committee, Legal Advisory Group, International Investment Dispute, Ministry of Justice Member of the Legislative Analysis Review Committee Member of the Regulatory Review Committee of the Ministry of Employment and Labor



DAVID LEE

CEO of DESCENTREHdac Operation Director Advisor of FORESTING Advisor of B21Advisor of FLETA MBA, Hanyang University, Graduate School of BusinessSWSsoftware Convergence Council Blockchain Advisory Council



JONGWON KIM

Executive director of Korea Blockchain Industry Promotion Association Former) CEO of Governtech Former) Outside Director, Seoul Metro Graduate from Department of Metal Engineering, Seoul National University



HYEONSANG EOM

Ph.D. Computer Science, the University of Maryland at College Park (UMCP), Maryland (MD), USA, 2003 Distributed Processing and Computer/ Embedded System Computer System/Network/ Application/Software Performance Engineering Mobile Application/Middleware (Including Security) 15 years of experience at Seoul National University Professor Distributed Computing Systems LAB

10

ReapChain & Partners

Partners



Advisory group



Disclaimer

Please read carefully all the details of the disclaimer. The content below is applicable to all people who read this whitepaper. The information and materials contained in this ReapChain whitepaper (hereafter referred to as "the whitepaper") are prepared and provided "As is". As a result, ReapChain Inc. (hereafter referred to as "the company") reserves the right to make any changes and updates to any information contained in this document at any time at the company's own discretion. In addition, any information shared herein is subject to change anytime in the future.

We strongly advocate an engagement of the services of appropriate experts including but not limited to an accountant, lawyer, or other specialists before purchasing, if there are questions pertaining to any information shared in this whitepaper.

1. The primary purpose of this whitepaper is to introduce ReapChain and the summary of the project under preparation by ReapChain Inc. This whitepaper does not legally bind ReapChain or ReapChain Inc., and any statement featured in this document is not intended to compel subscription, purchasing, investment proposal or investments of any kind.

2. Any information and analysis herein shall under no circumstances be used as grounds for making investment decisions and be construed as an offering of investment proposal or advice. Certain forward-looking statements and data are from estimates and are subject to change for any reason at any time. Accordingly, no warranty whatsoever is given and no liability whatsoever is accepted for the content.

3. Directors, agents, employees, contractors and sales partners in connection with ReapChain Inc. do not claim liability for loss or damage of any kind, including direct and indirect, which may be incurred by information contained in this whitepaper: (1) accuracy and completeness of the content of a contract according to this whitepaper; (2) errors or omissions in the whitepaper; (3) inability to use this whitepaper by any party due to unknown reason; (4) loss or damage of any kind relating to, or arising from this whitepaper or use thereof.

In addition, ReapChain Inc. expressly denies all responsibilities for the following loss that may be incurred through decision-making activities based on the use of information contained herein, even if a prior warning is given, or the loss concerned is predictable: (1) profits, revenues, liabilities and any financial loss in all kinds of forms; (2) loss of incomes, sales and capital, debts and other loss, arising out of business transactions, business activities and operating profit-related activities; (3) data loss or corruption; (4) incidental or special loss; (5) ill-spent or lost management time; (6) indirect or inevitable loss

4. The content of the whitepaper may be updated or changed in accordance with ongoing business of ReapChain, changes in market, technological advances and ICO or token regulation. However, ReapChain Inc. shall be under no obligation to notify or report changes to readers on cases, platform, future plans, estimated figures, and other alterations within the margin of error, specified in this whitepaper.

Disclaimer

5. Please note that the information in the field of law, tax, regulation, finance and accounting does not constitute legal advice. Material loss including material assets paid for purchasing REAP may be caused to REAP holders. Prior to purchasing REAP, we strongly recommend to engage in the services of appropriate experts on tax, regulation, finance, law, etc. in relation to the potential risk, returns and other consequences that may arise from REAP transactions.

6. It is each REAP purchaser's responsibility to carefully review the legal and regulatory requirements within their own jurisdiction for acquisition and/or disposal of REAP including income tax and for any foreign exchange restriction.

7. The publication and distribution of this whitepaper is prohibited in a jurisdiction, where for any reason, its publication and distribution is prohibited. The information in this document has not been verified or approved by any regulatory authorities, and any action against the law will have no effect on ReapChain Inc. It shall not be guaranteed that this whitepaper complies with all regulations of the country where it has been published and distributed.

8. The whitepaper is an official material described about ReapChain and prepared originally in Korean. It may be translated into other languages and be used as a bridge for written and oral communication with prospective and existing purchasers. This process may entail corruption, misinterpretation and loss of some information. Therefore, please be mindful that the accuracy on such an alternative tool for communication may not be guaranteed. The information of this official material written in Korean shall precede all others in the event of inaccurate communication.

9. The content of the whitepaper is copyrighted. Individual sections in this document may be allowed to be downloaded or printed only for personal use, and only when other proprietary notices are preserved. The whitepaper may not be reproduced, in whole or in part, by using electronic means or other methods, and may not be modified, linked and used for public and commercial purposes without a prior written approval from ReapChain Inc.

Investment Risk

ReapChain Inc. is notifying a variety of risks to purchasers including the probability of occurrence of substantial loss relative to payments made for purchasing REAP. This document does not provide any guarantee as to the accuracy of the information about the burden of risk or uncertainties enumerated hereunder.

Trading and holding of REAP constitutes agreement to such purchasing of REAP by purchasers who have recognized the burden of risk that is inherent as they stand, explicitly without any type of guarantees.

1. **Blockchain Risk:** transaction processing may take longer than expected or be nullified due to congestion in the blockchain system. Notably, a smart contract, intended to issue and distribute REAP, is based on Ethereum's blockchain technology. The Ethereum protocol may contain both weakness and vulnerability, and various bugs including a bug that causes loss of REAP may be occurred. In addition, those Ethereum blockchain-related issues may incur material damages to ReapChain Inc. and REAP purchasers.

2. **Privacy Risk:** personal information of users is required for distributing and controlling REAP that are stored in users' digital wallets. Accordingly, those REAPs stored in purchasers' digital wallets may be lost upon the exposure of personal information. Even worse, the exposure of personal information may allow the third party to have access to digital wallets for stealing REAPs.

3. **Security Risk:** like all other cryptocurrencies, Ethereum is also vulnerable to mining attacks such as a 'double-spend attack' or a '51% attack'. Hackers or other groups with malevolent intention may attack ReapChain Inc. or REAP by using any of the assaults stated above, and the success of the intended assault on a blockchain may badly damage the transaction of REAP and REAP itself.

4. **Digital Wallet Compatibility Risk:** users shall use a digital wallet that is technically compatible with REAPs for buying and storing them. Digital wallets that are not compatible may not allow users to access to the purchased REAP.

5. **Force Majeure Risk:** ReapChain is still under development and ReapChain Inc. uses reasonable efforts for ReapChain to develop and to stay to true to the source of the whitepaper. However, the details of the content including laws, design, technology, administrative regulations and others are subject to change for various factors. Irresistible events such as changes in the regulatory framework, required permission and license or in tax policies, and the emergence of a platform or open source that would have an adverse effect on ReapChain Inc. or ReapChain, lack of interest in market and other similar situations may arise in the journey of developing ReapChain. ReapChain Inc., in this regard, shall be free from all the liabilities and compensation for damages such as on the decrease of REAP value as well as for liquidity loss arising from those factors.