



oasys

Whitepaper V1.2
April 2022

Blockchain for The Games

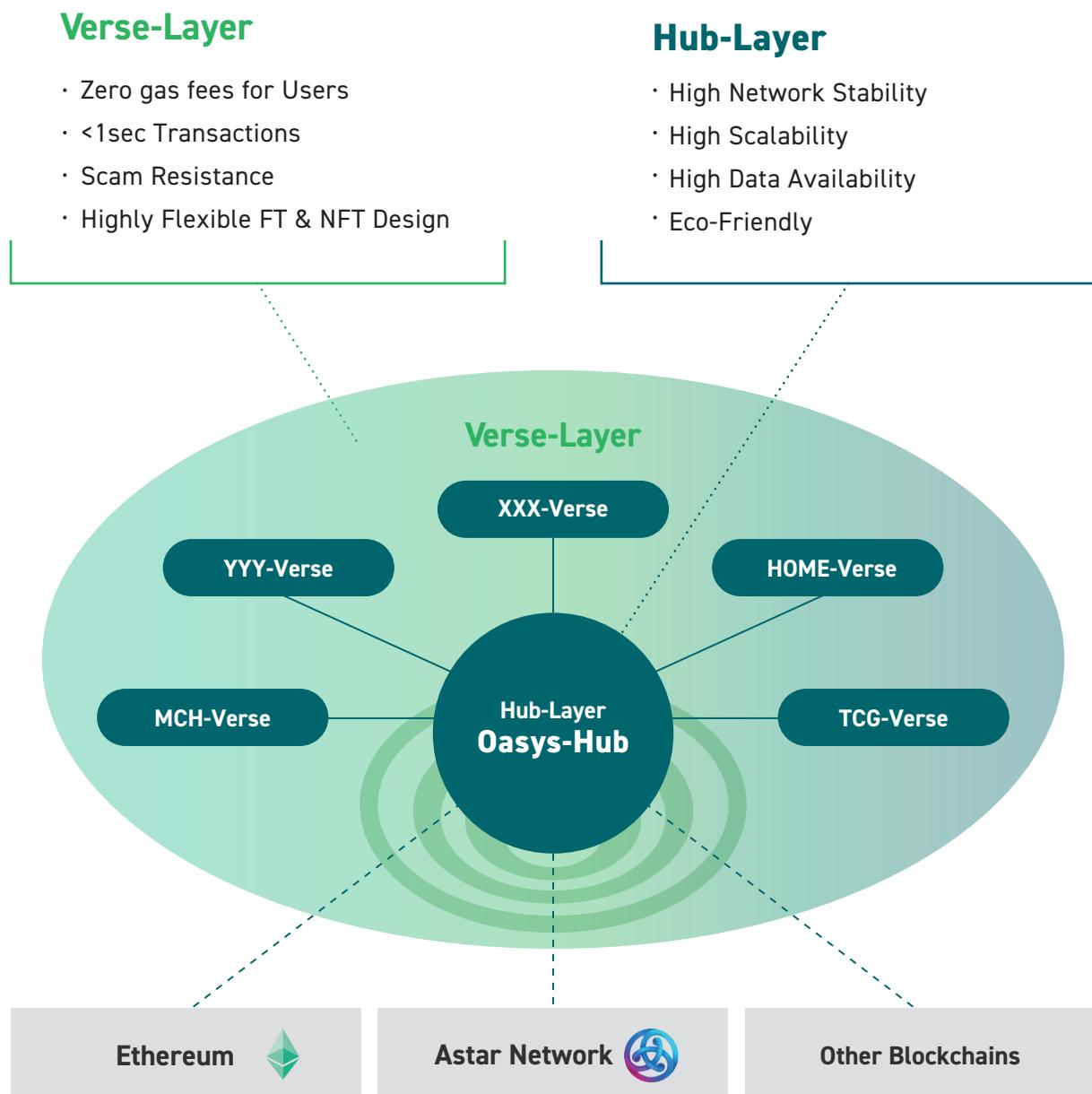
TABLE OF CONTENTS

1. Introduction	03
2. Vision	04
2-1. Vision	04
2-2. Market Trends	06
2-3. Vision Map	09
3. The Problems Oasys Solves	10
3-1. Overview	10
3-2. Differences between DeFi and Blockchain Games	10
3-3. Blockchain Suitable for DeFi or Games	12
3-4. Requirements for a Gaming Blockchain to reach Mass Adoption	13
4. Solutions - Oasys Architecture	15
4-1. Ecosystem Design	15
4-2. FT / NFT Design	19
5. Technologies	21
5-1. Hub-Layer	21
5-2. Verse-Layer, with Incredibly High UX	23
5-3. NFT Bridging	23
6. Tokenomics	25
7. Governance	28
8. Founding Team & Partners	31
9. Appendix	34

1. Introduction

Oasys is a public blockchain specializing in games. It is launching with support from renowned game companies to revolutionize “**Blockchain for The Games.**”

Oasys is an EVM-Compatible protocol that adopts the **Oasys Architecture**. This unique architecture consists of a multi-layered structure: Hub-Layer, a highly scalable Layer 1; and Verse-Layer, a special Layer 2 using Ethereum's Layer 2 scaling solution.



2. Vision

2-1. Vision

From Metaverse to Multiverse



In 2021, the NFT market exploded from the beginning of the year, followed by the rapid growth of blockchain games. The word and concept of **Metaverse** also went viral after a particular big tech company changed its name in November.

Nowadays, millions of people use the term, **Metaverse**, to describe the Digital World in 3D space, VR, Social Communities and more. This possibly means each company, game, and content creator may have a different view of the digital world; thus, we can expect different Metaverses in numerous forms can be built.

From a user's perspective, we can imagine a future where we go into different Metaverses throughout the day, just like we use social media in our everyday life. This is what we call the **Multiverse Era**.

In this future of multiverses, you can express your identity through avatars, user handles, wearables, or machines you drive, and you'll be able to use them across all the different Metaverses. This is similar to the worlds you often see in movies and animation.

Leading the World to the Multiverse

There are various issues on interoperability among different Metaverses, which need to be tackled. First and foremost, we need to have a mechanism to guarantee the ownership of digital assets for each Metaverse. The best solution at the moment is to use blockchain and NFT technologies.

How Oasys Contributes to the Multiverse

We believe that blockchain and NFT technologies will play more critical roles in the future of the multiverse. However, the existing Layer 1 blockchain technologies are not sufficiently user-friendly. Extremely slow transactions or high gas fees make the user experience incapable of breaking through to the mainstream and reaching mass adoption. Back in 2018, it wasn't easy to overcome these challenges. However, by 2021, Layer 2 solutions started becoming available and transactions could be completed at similar speeds as normal servers.

As of 2022, most Layer 2 technology solutions are built based on Ethereum, which can transact fast, but at a relatively high gas fee. Therefore, Oasys developed a Layer 1 (Consensus Layer), the EVM public sidechain specialized for games. On the Oasys blockchain, users will rarely use Layer 1 directly because the logic of games will run on Layer 2 (Execution Layer). Game developers can run their own Layer 2 for each Metaverse which will cover all the gas fees for the users. This will allow users to enjoy the Metaverse without worrying about gas fees. Furthermore, we use the environmentally friendly PoS algorithm, which does not require unnecessary power consumption.

With Oasys Architecture, game developers can build a Layer 2 Metaverse that is highly usable, flexible, and eco-friendly and as a result, users can enjoy blockchain games with great UX comparable to Web 2 platforms.

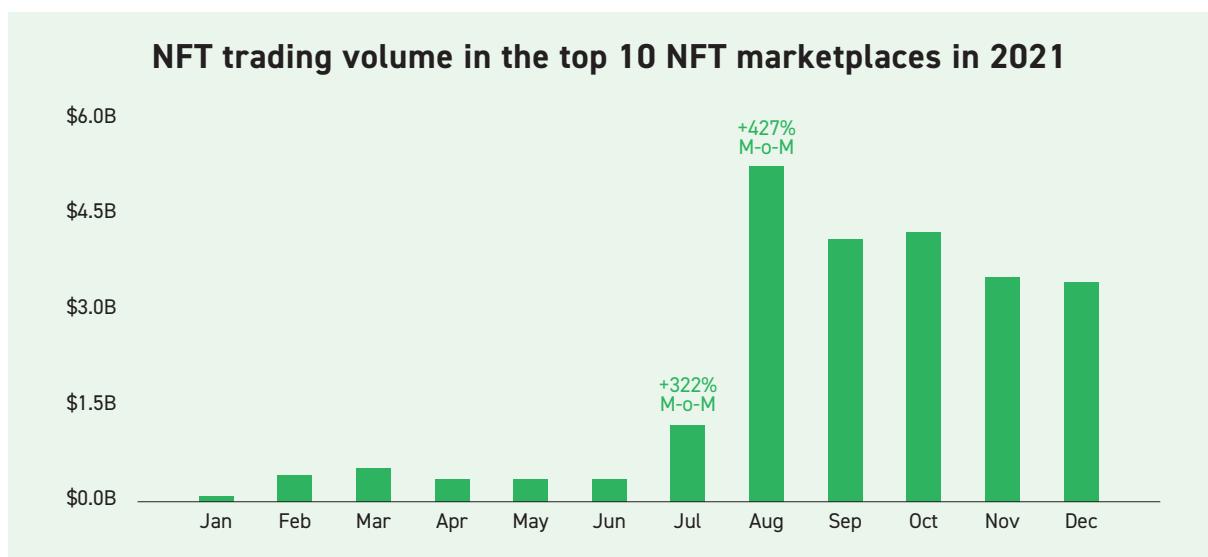
Oasys will be the Hub of the Multiverse

The era of the multiverse, Layer 2 technology, the NFT boom, and many other factors have come together at the right time for Oasys. However, these trends alone are not enough to make Oasys a reality; we need the game developers, the gaming community, and most of all, the fans to support us to rebuild the future of gaming.

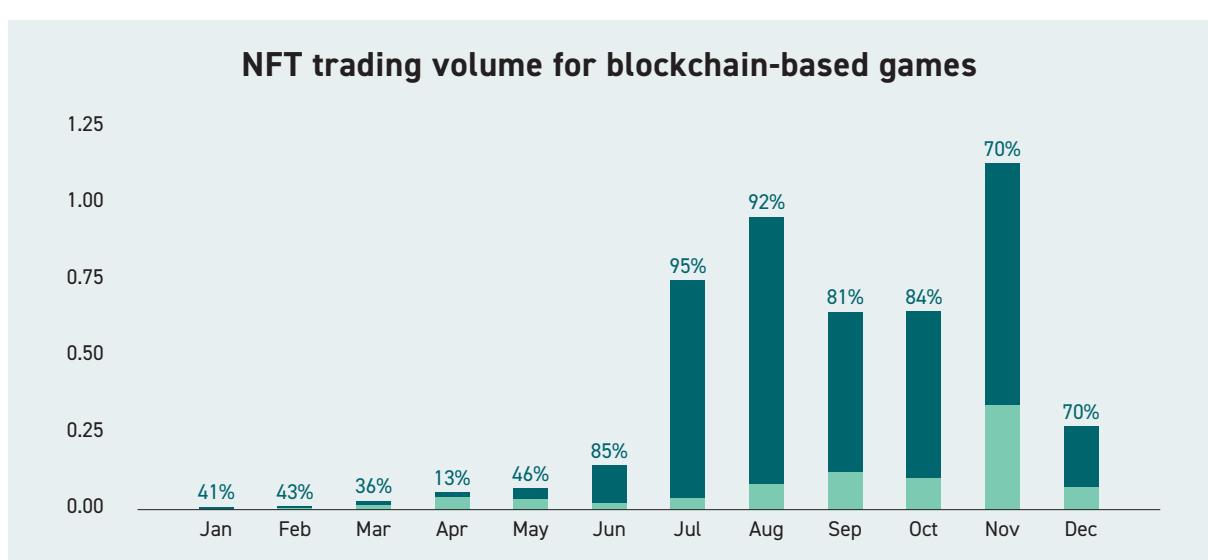
2-2. Market Trends

The Blockchain Market

- The global blockchain market grew from \$1.49 billion in 2020 to \$4.9 billion in 2021. It is expected to grow at a CAGR of 68.4% to \$67.4 billion by 2026.¹⁾
- The NFT and Game segment, in particular, has experienced significant growth. The NFT market hit an annual growth rate of 5,438% in 2021, with the total transaction volume of the top 10 NFT marketplaces climbing to \$23.9 billion.²⁾



- The market for blockchain-based games, which are games using FTs and NFTs, will also grow to over \$1 billion in monthly transaction volume.³⁾

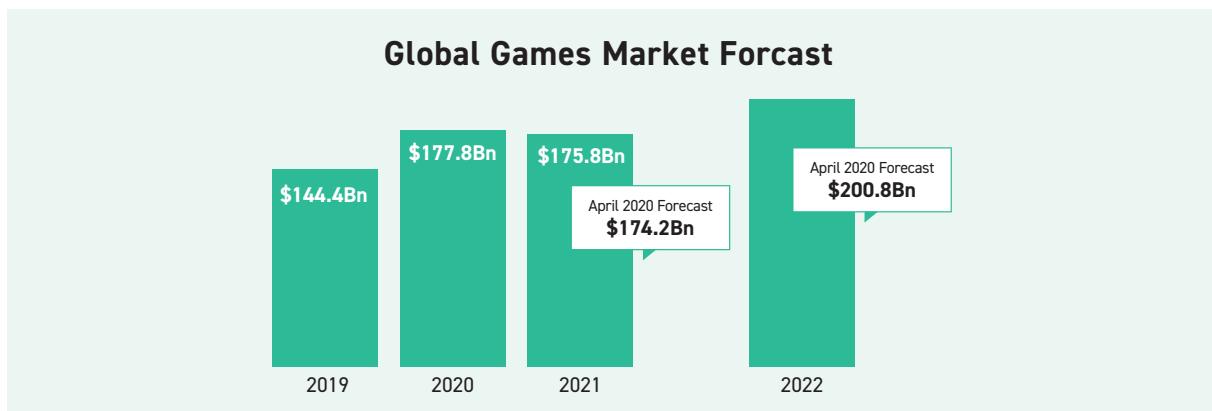


The Gaming Market

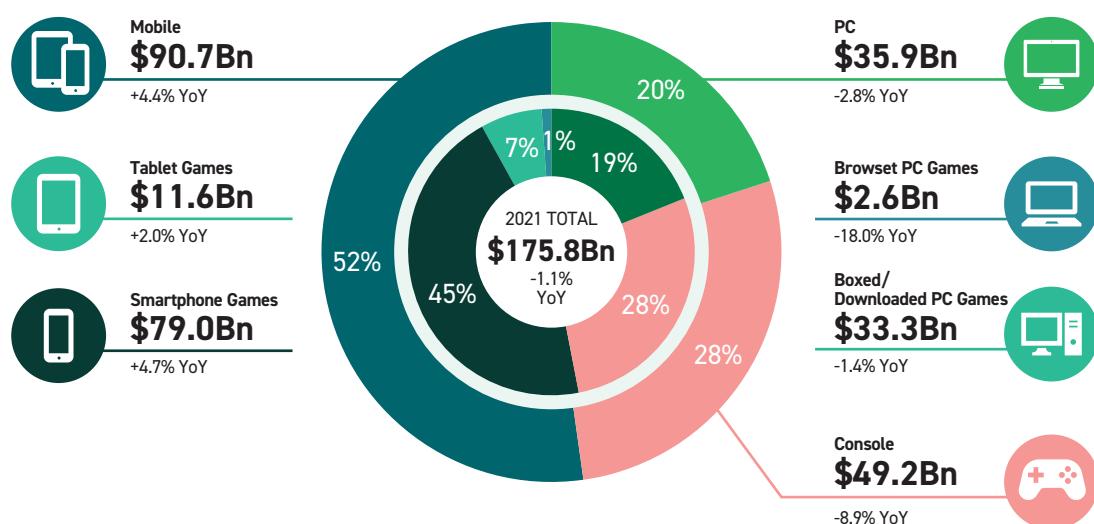
The size of the global games market is expanding rapidly. While the impact of COVID-19 was positive in that the games market grew ahead of expectations, there were also negative impacts, such as the lockdown in the first half of 2020 that affected the way game studios work and the pandemic disrupting the global supply chain. 5)

The breakdown of the games market is assumed to be PC games at \$35.9 billion, console games at \$49.2 billion, and mobile games at \$90.7Bn, with mobile games accounting for more than half of the total.

The global games market will continue to grow for the next few years and is expected to exceed \$20 billion by the end of 2023. The games market is forecast to grow at a CAGR of +7.2% to \$204.6 billion between 2019 and 2023.

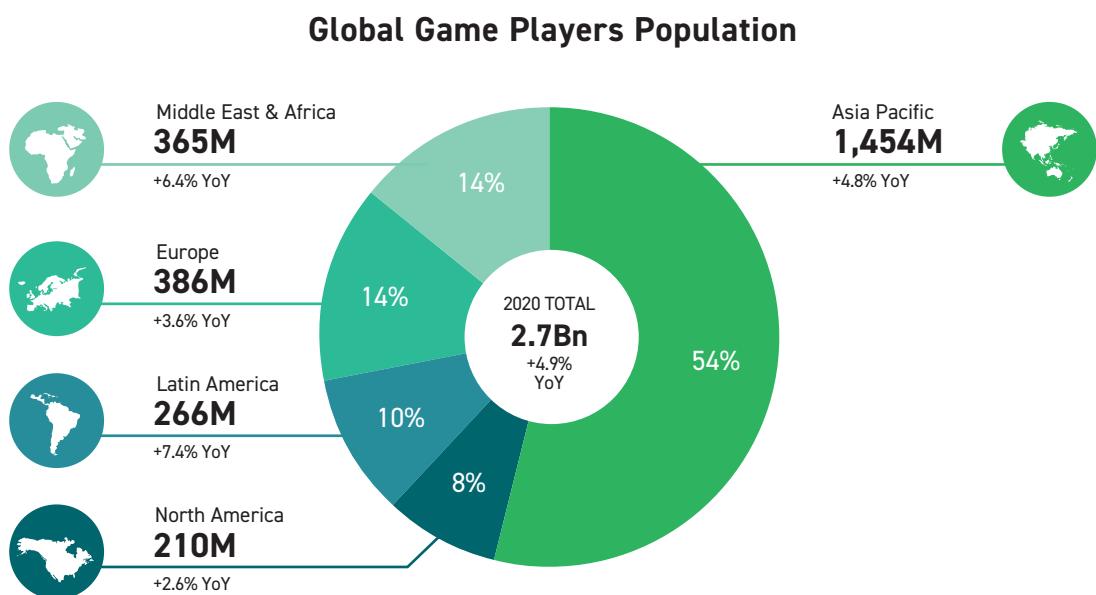
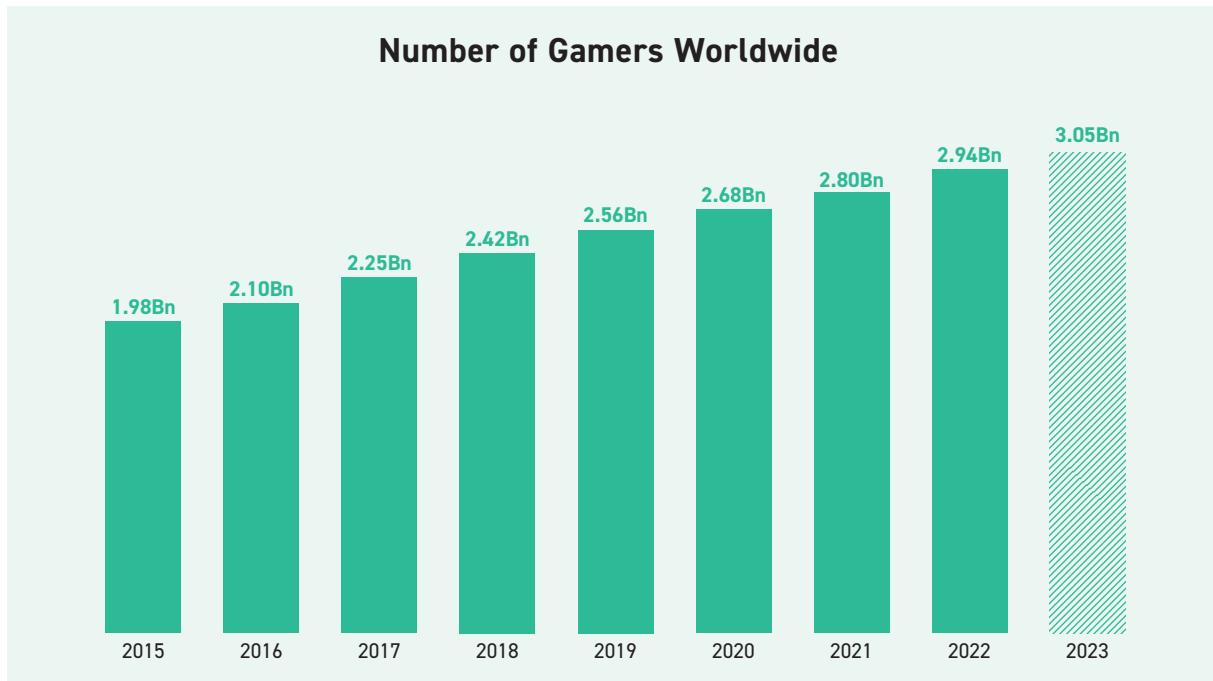


2021 Global Games Market



The number of gamers is also expected to show steady growth, with the global game player population growing at a CAGR (2015-2023) of +5.6% to surpass the 3 billion mark in 2023.³⁵

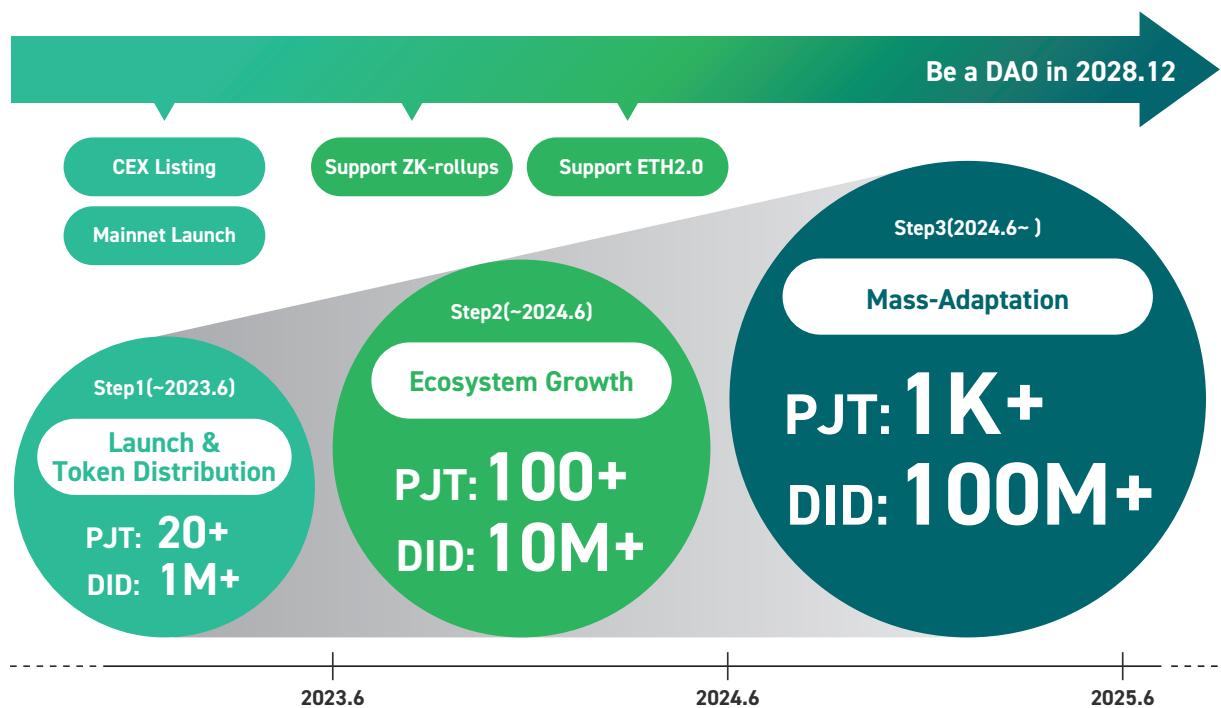
A large share of this growth will come from mobile gamers. Due to growth markets in regions such as Asia Pacific, Middle East & Africa, and Latin America, the player population in these regions is expected to continue to grow over the next few years.



Source: Newzoo - Global Games Market Report

2-3. Vision Map

Oasys will become a sustainable public blockchain run entirely by DAOs in 6 years.



PJT : The number of Projects in Oasys
DID : The number of Decentralized ID

NEXT PAGE

3. The Problems Oasys Solves

3-1. Overview

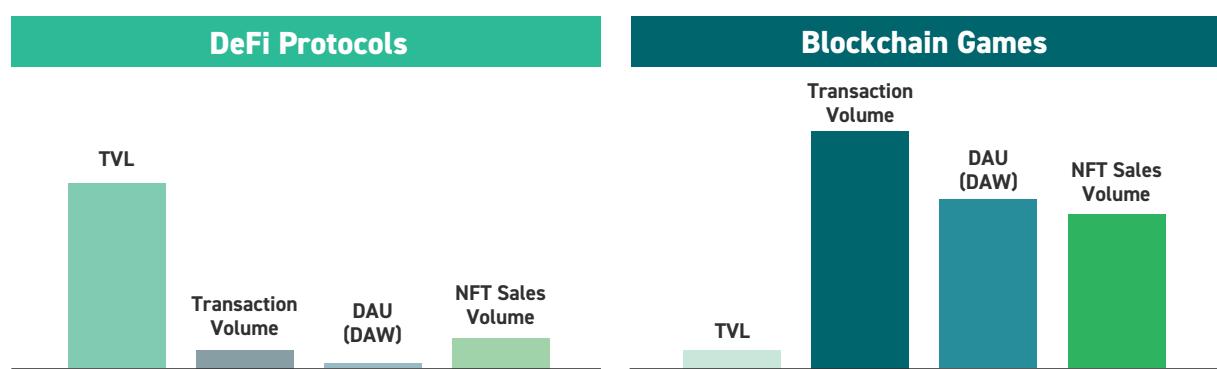
The core team of the Oasys project has been working on blockchain games and NFTs since 2018, developing many well-known titles such as My Crypto Heroes.

DeFi dramatically increased awareness and expanded the market in 2020, as did NFTs in 2021. Thanks to the market's growth, many blockchain games have been developed. However, we have realized many problems with the existing blockchain to implement blockchain technology on widely played games.

3-2. Differences between DeFi and Blockchain Games

Differences in Indicators Between DeFi and Blockchain Games

Games and DeFi Applications require different capabilities from a blockchain since they operate differently.



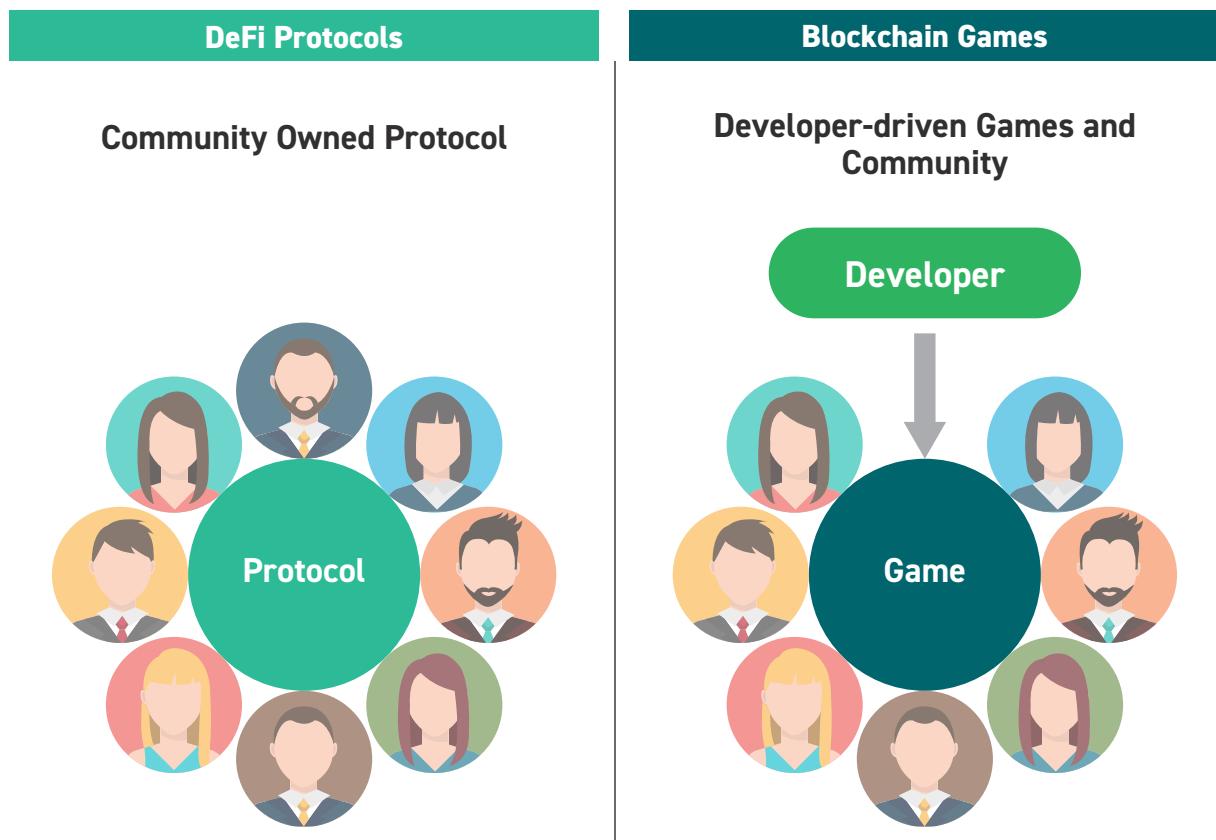
TVL(Total Value Locked)

TVL refers to the total amount locked to a particular contract and is the primary measure of DeFi's traction. Considering DeFi's characteristics of locking funds, TVL is a rational indicator of DeFi's reliability and popularity. On the other hand, locking funds is less common in blockchain games, so TVL is not an appropriate measure for many blockchain games.

Transactions Volume

The transaction volume of blockchain games is massive compared to DeFi. The transaction volume will be incomparably more significant than DeFi's for widely acceptable full-scale blockchain games. The blockchain needs to be designed to withstand this.

Are we really becoming a DAO?



Foundations and developers develop DeFi Applications with the end goal of having them managed by a DAO eventually. The ultimate plan is to have a perfect system that is bug-free, secure, and stable.

On the other hand, blockchain games require continuous updating of game contents and service operations. The goal is to improve the game continually. Daily content updates, new playable characters, or item drops are essential to maintain the user engagement high and the churn rate low.

For these reasons, DeFi can become a DAO, decentralized autonomous organization. However, blockchain games cannot become a DAO, since a game cannot be automatically developed or updated.

Similarly many game developers developing blockchain games will have a plan to monetize their games over time as it runs. Therefore, they are expected to offer games based on tokenomics and community, but not necessarily DAOs.

3-3. Blockchain Suitable for DeFi or Games

Given the above characteristics, DeFi and games require different functionalities of a blockchain.

	Blockchain suitable for DeFi Protocols	Blockchain suitable for Blockchain Games
 Gas Fees	Better to have low gas fees. But if it's too cheap, Scams will increase.	Zero Gas Fees. (for the masses.)
 Transaction Speed	Faster speed is better. But if too fast, the blockchain will stop.	Super high speed. For the masses, need as much speed as in mobile games.
 Decentralization	Highly decentralized.	Less important than in DeFi. Games, the contents, depend on game developers.
 Data Availability	High data availability is better.	High data availability. To not be too dependent on the developer
 Network Stability	Better to be a stable network. This is not essential as not trading at high frequencies	High stability is necessary. Due to the large number of Transactions.

Blockchain Suitable for DeFi

Since DeFi Applications lock up funds, a high level of security is of the utmost importance. Therefore, decentralization and data availability are prioritized, and network stability and transaction speed are less important due to low transaction volume.

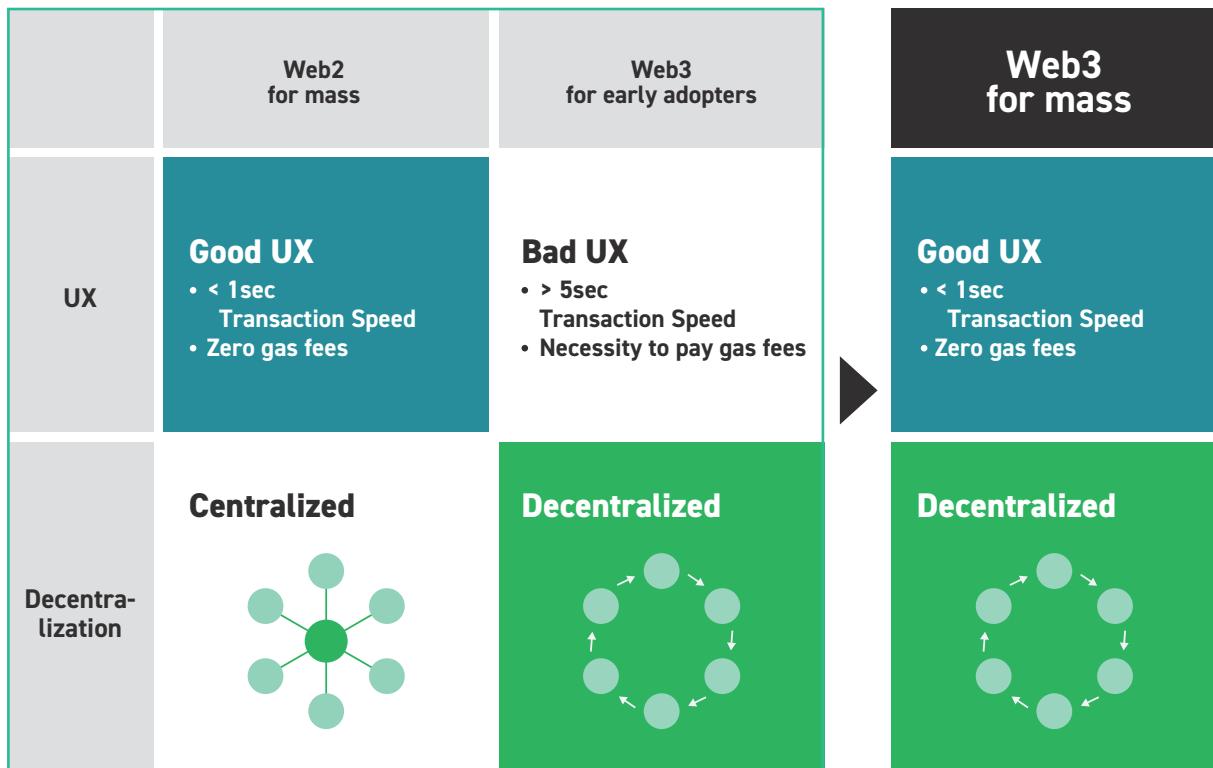
At this point, Ethereum is a promising blockchain for DeFi, even if gas fees are high.

Blockchain Suitable for Game

Currently, some of the newest blockchains take advantage of low gas fees and high transaction speeds. Transaction speed often slows down or doesn't stay stable when transactions are concentrated. Therefore, those blockchains are not appropriate for games with a large number of transactions. There are several ways to keep networks running stable, such as making block time longer, raising gas, making block sizes smaller, and restricting the number of nodes. Still, none of these are essential solutions because they fail decentralization or cause high gas fees. For blockchain games to reach mass adoption, they need to be user-friendly with a transaction speed as fast as an off-chain server and zero gas fees, so users will feel like they're not even using blockchain technology.

3-4. Requirements for a Gaming Blockchain to reach Mass Adoption

The Web3 Dilemma



Once Web3 UX exceeds Web2, Web3 will be eating Web2.

As a result of decentralization, many of the current Web3 products have a poor user experience due to the need to pay for gas and slower processing speeds compared to Web2 products. If this Web3 dilemma can be resolved, we can expect an irreversible migration of users from Web2 centralized products to Web3 decentralized products. We are solving this Web3 dilemma from two sides, end-users, and game developers.

User Experience for Mass Adoption

Many of the current Dapps have significant user experience (UX) challenges that hinder mass adoption. We, blockchain experts who have confronted this problem since 2018, have concluded the following three answers.

Zero Gas Fees

The issue is not whether the gas fee is high or low, but the **need to pay gas fees** and the **need to set aside some reserves for gas fees** are obstacles. For most users, obtaining tokens for gas is a big hurdle, and it is a significant factor preventing mass adoption. Therefore, it is essential to eliminate gas fees to welcome the casual audience into blockchain games.

Instant Transaction

Fifteen seconds of transaction time would be tremendous stress when playing a game. Even taking one second for a transaction is too slow and stressful for the masses who enjoy mobile, PC and consumer games. Transaction speed needs to be as instantaneous as Web2 products.

Scam Resistance

The current public blockchains have great products, but on the other hand, many scams or inferior products exist, putting users' assets at risk. These threats need to be eliminated for the average user to feel comfortable entering blockchain games.

Developer Experience

There are several reasons why it is difficult for traditional game developers to start building blockchain games.

Operational Aspect - Permissionless and Permissioned

Traditional corporations consider it risky to use a public blockchain which all kinds of users, companies and DAOs use. This risk includes not only security risks but also reputational risks. The current blockchains host not only valuable Dapps, but also many scams. Operating Dapps in a full permissionless environment is too much risk for these companies and developers.

Development Aspect - Developer Experience

Blockchain engineers prefer EVM-Compatible blockchains because of the technical assets accumulated by Ethereum, the availability of great OSS tools, and the opportunity of learning cutting-edge development languages. In addition, developing Dapps on Layer 2 is relatively easy due to instant transactions.

Design Aspect - Flexible Design of FT/NFT

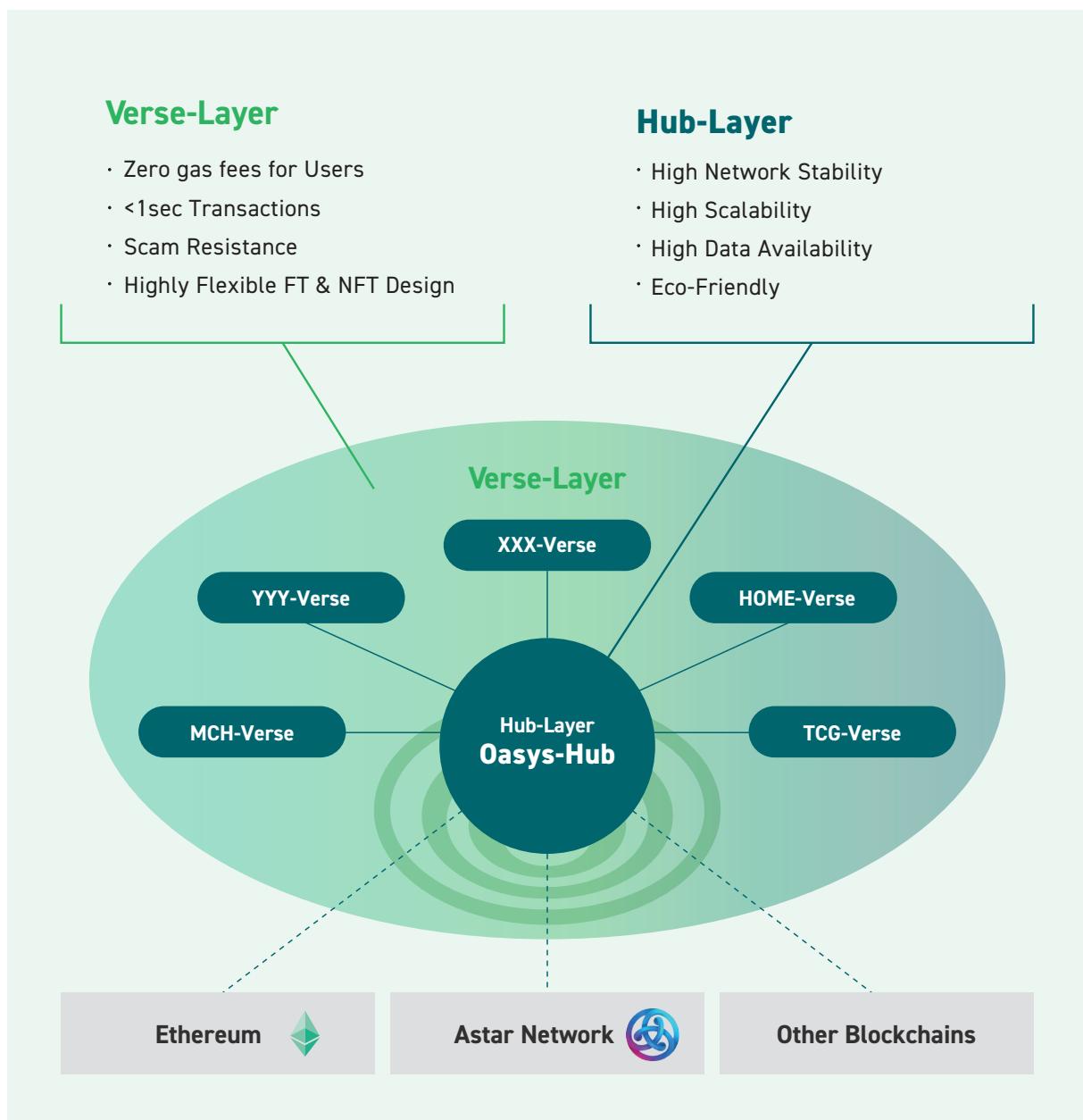
When developing blockchain games, implementing Fungible Tokens (FT) and Non-fungible Tokens (NFT) is essential for building an ecosystem. The current FT/ NFT standard on the blockchain makes designing a gaming ecosystem highly complex, as it is difficult to control the supply using in-game coins to avoid a dump, or to implement NFTs for IP protection purposes. Therefore, there is a need to provide a choice of FT/NFT implementation models that allow more flexible design for game operators.

4. Solutions - Oasys Architecture -

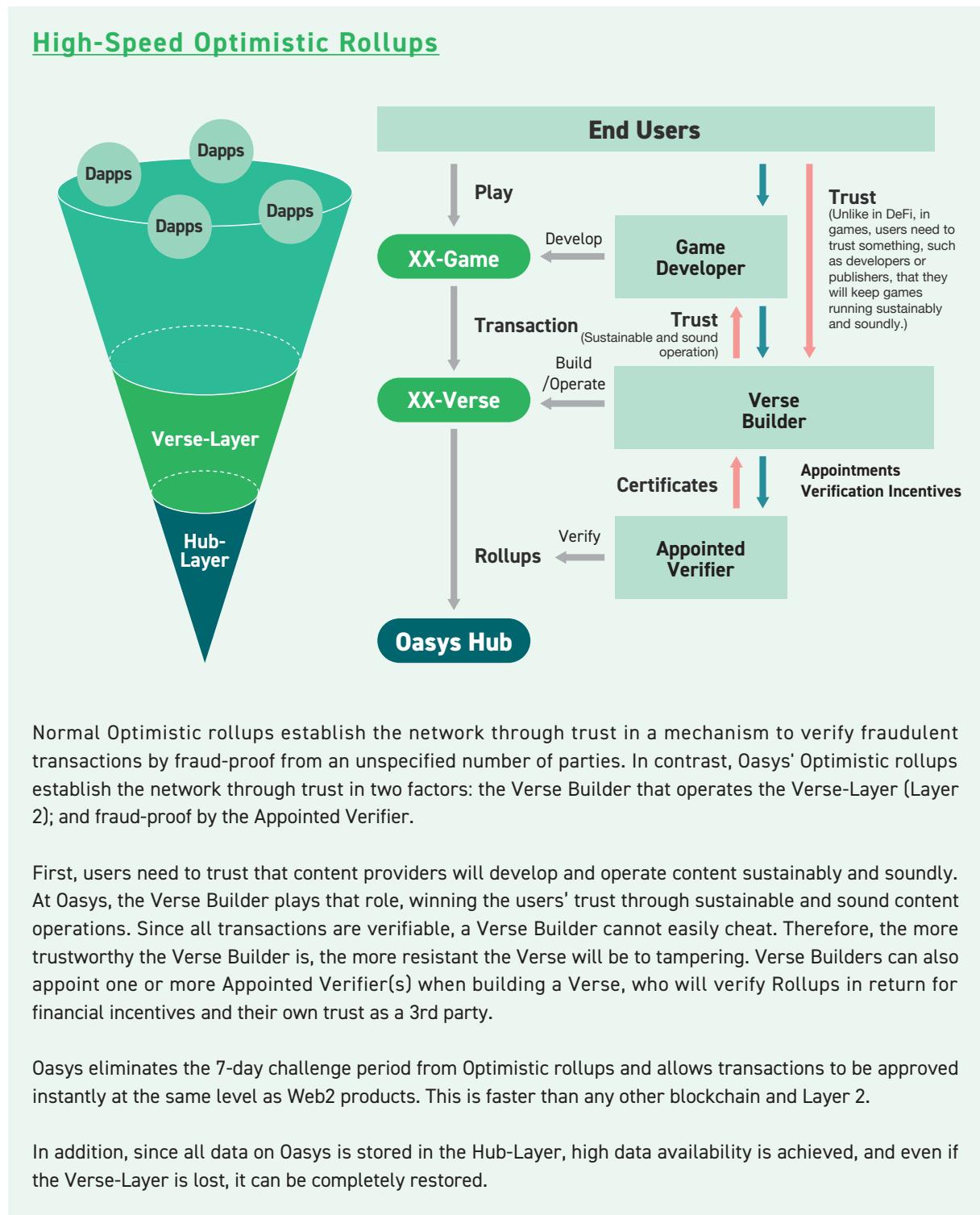
4-1. Ecosystem Design

Overview

Oasys is a multi-layered EVM-Compatible PoS public blockchain that solves some of the pain-points game developers experience on other blockchains. Oasys blockchain consists of a highly scalable Layer 1 called Hub-Layer and a Layer 2 called Verse-Layer.



Verse-Layer (Layer 2)



Private Layer 2, Not Private Blockchain

	Private Layer-2 (with Layer 1)	Private Sidechain (Permissioned Chain)
 Data Availability	★ ★ ★	★ ★ ★
 Scalability	★ ★ ★	★ ★ ★
 Transaction Speed	★ ★ ★	★ ★ ★

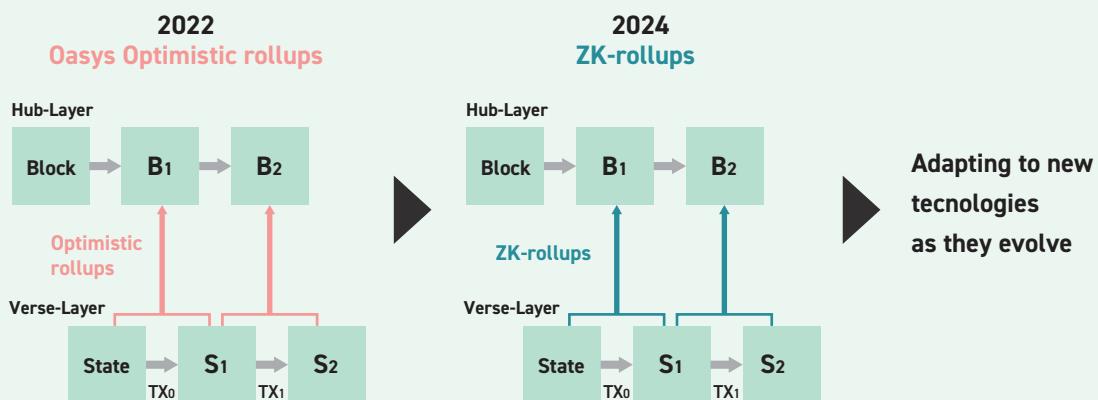
In order to achieve a multi-layered structure that can solve the Web3 dilemma, we concluded that using Layer 2 technology in blockchain games is the best solution in terms of Data Availability, Scalability, and Transaction Speed, rather than implementing a Private Sidechain.

Since the permanent existence of game assets is crucial for blockchain games, Layer 2 technology is suitable for these games. By using rollups, all data on Layer 2 is reflected on Layer 1. This means that even if Layer 2 is down, the data is technically guaranteed to be restored as long as Layer 1 is running (high data availability). However, in the case of a private sidechain, it is not technically guaranteed.

Thanks to private Layer 2 transaction speed, users can experience the same seamless experience as traditional online games on Web2, which existing blockchain solutions cannot provide.

Support for ZK-rollups and New Technologies

We believe that several Layer 2 solutions would be optimal for Oasys, but at this moment, we only support Optimistic rollups. As the development of Ethereum scaling solutions continues to progress, we will launch other suitable technologies at the right time.



Scam Resistance

The Hub-Lyer specializes in storing and exchanging data securely and in a stable manner, so it does not allow applications to run directly. Since Verse Builders manage the Verse-Layer, each can be designed to be permissioned, semi-permissioned or permissionless, with limited or no restrictions on Dapps deployed. Through their authority, the Verse Builders can reduce scam projects and encourage high quality Dapps allowing them to confidently invite a wide variety of users into their Verse Layer.

Hub-Layer (Layer 1)

High Network Stability

Block time is set to 15 seconds, the same as Ethereum, which is enough time to transfer data to globally distributed nodes. The Hub-Layer has enough resilience to operate with thousands of Verse-Layers connected, without the risk of network failure due to trouble with nodes.

High Scalability

In principle, the Hub-Layer can only be used for FT, NFT, Bridge, and Rollup contracts, only the Verse Layer will experience heavy traffic. Exceptionally, some contracts may be deployed on the Hub-Layer via governance approval, but these are controlled by the governance, so the stability of the blockchain remains unaffected. Also, when posting Verse-Layer transactions to the Hub-Layer, rollups are used to minimize the number of transactions onto the Hub-Layer. This enables scalability that does not depend on an increase of Verse-Layer transactions.

High Data Availability

Transaction data on the Verse-Layer (Layer 2) is reflected on the Hub-Layer (Layer 1), so any event in the Verse-Layer is verifiable.

Eco-Friendly

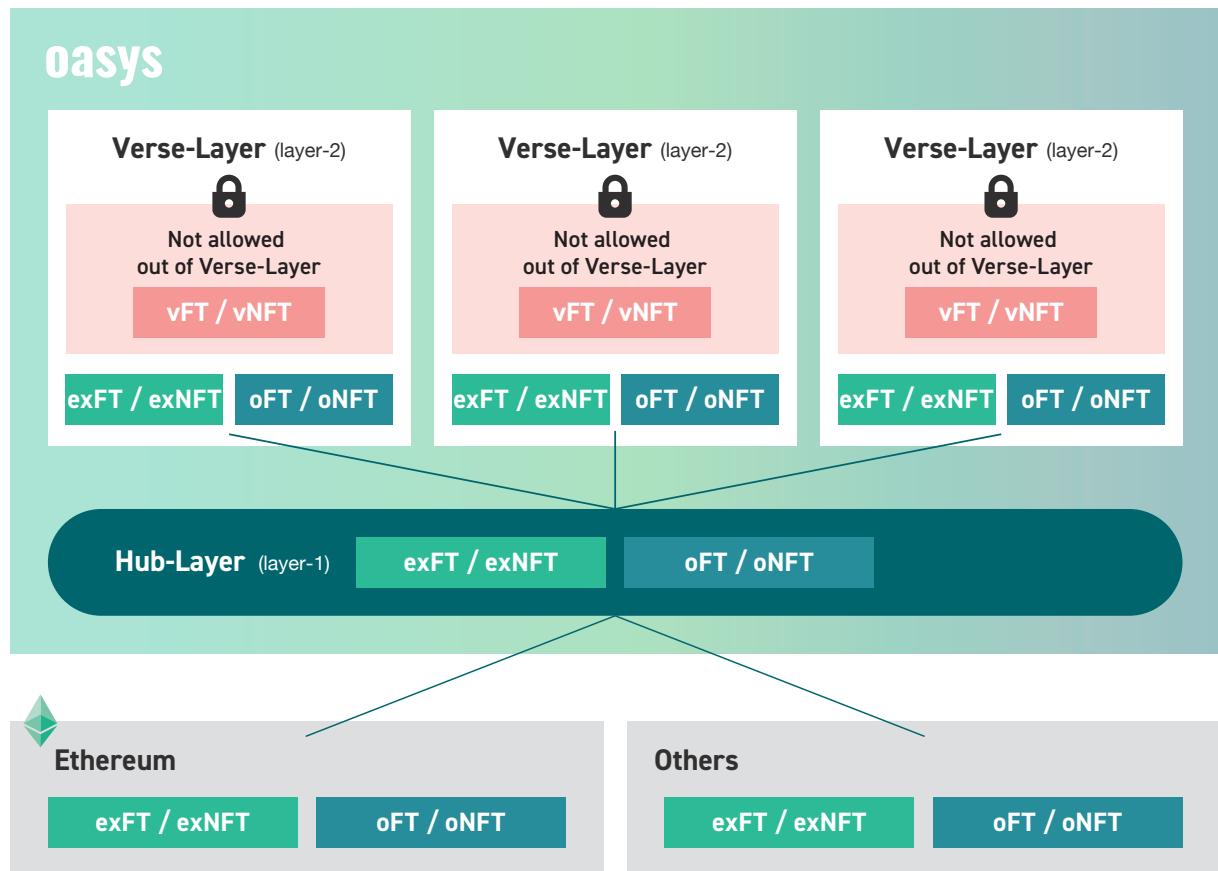
Oasys is an environmentally friendly blockchain that doesn't consume energy unnecessarily because of its PoS-based consensus mechanism, so the cost of gas fees for developers will be minimal.

NEXT PAGE

4-2. FT / NFT Design

Highly Flexible Token Design

Fungible Tokens (FT) and Non-Fungible Tokens (NFT) are essential assets for tokenomics in the ecosystem. Oasys' unique layer structure allows three types of token designs for FT and NFT.



1. vFT/vNFT, Restrictive-Use Tokens

vFT/vNFT can be minted on the Verse-Layer. The token can only be used with certain Verse-Layers. This type of FTs (e.g. in-game currency) and NFTs (e.g. IP) can not be cross-chain bridged.

2. oFT/oNFT, Highly Interoperable Tokens

oFT/oNFT can be minted on the Hub-Layer. The token is interoperable and is available on all Verse-Layers. Also, it can be sent to another network such as Ethereum by a cross-chain bridge.

3. exFT/exNFT, Minted in External Network Tokens

exFT/exNFT is a token minted on a network outside of Oasys. They are available on Oasys' Hub-Layer and Verse-Layer via cross-chain bridges.

Cross-Chain Bridge for FT / NFT

FT/NFT bridges are available: vFT and exFT for FT; and vNFT and exNFT for NFT.

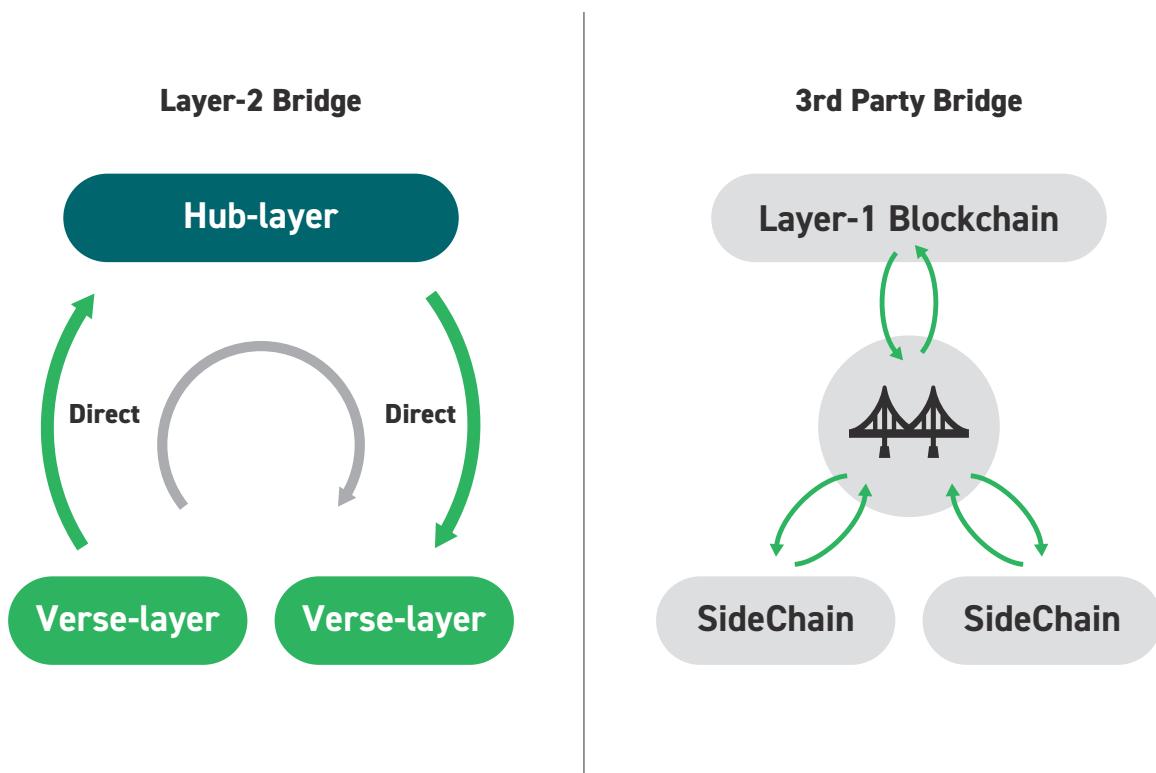
Oasys NFT Bridge

For NFT transfers between Verses, Oasys provides an official bridge. The genuine bridge uses the Lock & Mint method. Tokens are locked on the chain before the bridge and minted on the chain after the bridge.

High-security Cross-chain Bridges

Many cross-chain bridges are vulnerable to being targeted by hackers because they hold large amounts of money in reserve as liquidity. Once exploited, the problem can spread throughout the entire ecosystem, posing a significant risk.

Oasys enables secure bridging between Hub-Layer and Verse-Layer and between Verse-Layers without the intervention of a centralized third-party bridge operator.



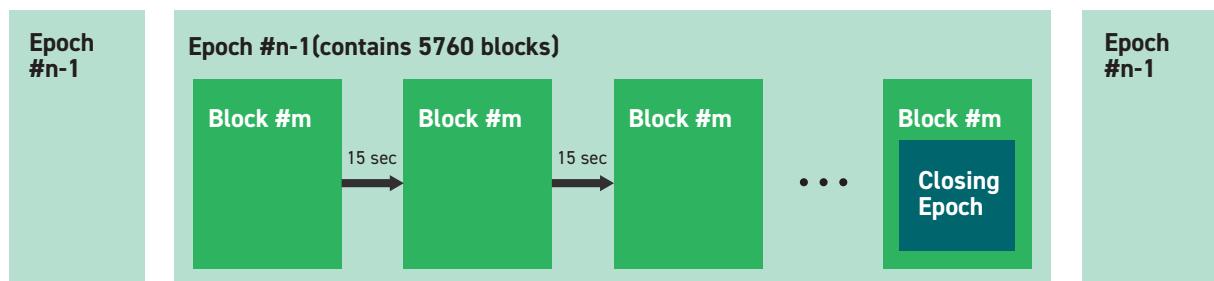
5.Techologies

5-1. Hub-Layer

Outline

The Hub-Layer is an EVM-Compatible public blockchain of Layer 1 in Oasys. The node implementation is based on a forked version of geth (Go Ethereum) with minimal modifications and adopts PoS (Proof of Stake) as the consensus algorithm. The public nature of blockchain operation is ensured by allowing users to become node operators (validators). In order to provide a stable blockchain network, in principle, application execution is left to the Verse-Layer. The Hub-Layer is restricted to limited uses for rolling up batches of transactions, FT/NFT management, managing bridge information, and so on. Exceptionally, some contracts may be deployed on the Hub-Layer via governance approval, but these are controlled by the governance, so the stability of the blockchain remains unaffected.

Mining



The Hub-Layer stores the data gathered on Oasys securely and in a stable manner, but doesn't run applications directly. To ensure stable propagation of information to globally distributed nodes, blocks are generated every 15 seconds to avoid excessively short block times. Also, to avoid meaningless transaction execution, we will avoid excessively low gas costs and set an appropriate minimum gas cost. The goal is to achieve a minimum gas cost of approximately 1 cent per transfer, depending on the prevailing market price.

Block generation is performed by a node called the validator, which is selected by PoS (weighted random shuffling) based on the number of OAS tokens staked. A period of time called epoch is set every 5760 blocks (about one day). When the last block of each epoch is executed, the staking reward for the epoch is determined, and the next validator is determined (incorporation of a new validator or withdrawal of an existing validator). Validator information is managed by a special validator contract.

Validator

Anyone can become a validator as long as they have at least 10 million OAS staked through the validator contract. First, the validator candidate registers their address with the validator contract. Then the OAS token holders may stake towards any validator or validator candidate's address, and will also be able to unstake at any time. Staking and unstaking are reflected in the last block of this epoch. A validator candidate can become a validator from the next epoch by declaring itself as a validator and having 10 million OAS or more staked to its address. Conversely, if the total amount of staking falls below 10 million OAS, the validator will be automatically dropped from the next epoch.

The validator signs signatures using the registered address for block signing. If a validator is out of service for some reason, the next validator performs the block generation work that the validator has failed to do. The staking reward is determined at each epoch based on the operation time of the validator. For example, if the validator has been inactive for a long time, it will not be eligible to earn staking rewards. However, the staked OAS will not be harmed. If a validator fails to generate blocks more than a threshold number of times, it will be considered inactive and excluded from block generation.

Smart Contract

Deployment of new smart contracts to the Hub-Layer is not allowed by design. Only smart contracts accepted by Oasys will be deployed. Transaction execution can be done by paying gas in OAS. Accepted smart contracts are those related to FT/NFT, Rollup, and Bridge.

5-2.Verse-Layer, with Incredibly High UX

Outline

The Verse-Layer is Oasys' Layer 2 Blockchain. While we believe there are several optimal Layer 2 solutions that meet Oasys' requirements, the only implementation we currently support is Optimism. Optimism's node implementation was forked, and only minimal necessary modifications have been added. The Verse-Layer is expected to be operated as a Permissioned Layer 2 in most cases.

Fraud Proof on Permissioned Layer 2

It takes 7 days for decentralized fraud-proof for Optimistic rollups. However, we believe that the 7-day challenge period can be minimized because any fraud on a permissioned Layer 2 can become a reputational risk for the entity that operates the verse. Occurred events can be verifiable as the transaction data on Layer 2 is reflected on Layer 1 for data availability.

Verse Builder

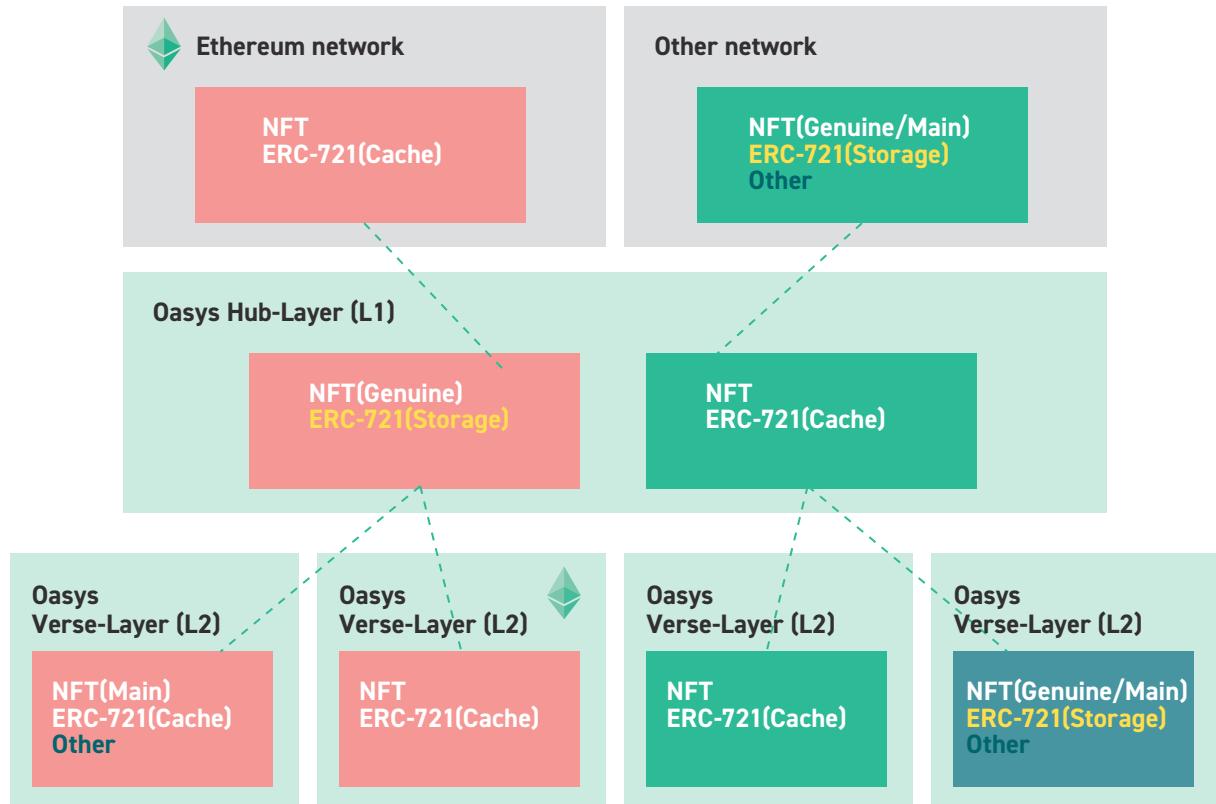
Anyone can build a verse if they deposit more than 1 million OAS on the verse contract. On the Verse-Layer, a Verse Builder takes care of node operations and is required to operate the server properly. Also, you can configure what smart contracts can be deployed and what transactions can be executed without using any gas.

5-3. NFT Bridging

Outline

The NFT's ownership information is passed between Oasys Hub-Layer (Layer 1) and other networks (Ethereum, Astar Network, etc.) via a PoS bridge. Various functions can be added to the NFT, however, the ownership information specified on ERC-721 can be bridged. NFTs are bridged via the bridge contracts deployed on each network.

Handling of NFTs



The idea is that the NFT is minted on the Genuine Chain first and actually used on the Main Chain. In terms of NFT information, the ownership information defined on the ERC-721 resides on the Genuine Chain, while the other information resides on the Main Chain. In this situation, only the ownership information of the ERC-721 is subject to the NFT Bridge, and the status of the bridge destination is considered to be Cache until the ownership information is reflected on the Genuine Chain.

Bridge Contract

1. Genuine Chain to Other Chain

Initially, consensus bridge by Council Members will be used, and in the future, PoS bridge will be used. In the PoS bridge, Locking an NFT by transferring it to the Bridge Contract with approval for multiple signatures on PoS, the NFT is minted on the Other Chain as the bridge destination.

2. Other Chain to Genuine Chain

Initially, consensus bridge by Council Members will be used, and in the future, PoS bridge will be used. In the PoS bridge, Burning an NFT on the Bridge Contract with approval for multiple signatures on PoS, the NFT is transferred to the Genuine Chain as the bridge destination.

3. Other Chain to Other Chain

Initially, consensus bridge by Council Members will be used, and in the future, PoS bridge will be used. In the PoS bridge, Burning an NFT on the Bridge Contract with approval for multiple signatures on PoS, the NFT is transferred to the Other Chain as the bridge destination.

6.TOKENOMICS

Overview

A sustainable, public, decentralized network can be maintained by incentivizing network participants with tokens. It is also important for Oasys to create a token-based ecosystem, Tokenomics.

Tokenomics throughout Oasys is based on a multi-token economy, not a single token economy using only OAS tokens, Oasys' native token. Oasys includes OAS Token, the primary token for Oasys, Verse Token, the primary token for Verse, and Game Token and Dapps Token, the primary tokens for games and Dapps.

The reason for adopting a multi-token economy instead of a single-token economy is to allow Verse Builders and Game Developers the opportunity to create their ecosystems freely. As Oasys expands its ecosystem as a gaming chain, it is necessary to prepare for various types of Verses and multiple genres of games to be deployed in the ecosystem. Some Verses are permissionless and are intended for games and Dapps of many different genres to be deployed. In contrast, others may only allow limited IP content to be deployed to create a unique worldview. Games on each Verse include many genres, from light casual games to heavy FPS and MMORPGs. The differences in the type of content and businesses of these Verses and games require flexibility for developers in the token design.

In a single-token economy, the total number of tokens issued and their allocation is initially determined, making it difficult for Verse and games to allocate tokens as they come onto the Oasys ecosystem one after the other. Also, tokens on Verse, games, and Dapps are linked to the entire Oasys ecosystem, making the utility more complex.

Oasys is building an ecosystem based on a multi-token economy: OAS tokens, the native tokens that are the infrastructure of the Oasys ecosystem; Verse Tokens, which are used to create an ecosystem for each Verse; and Game Tokens and Dapps Tokens, which are used for games and Dapps within the Verse. Tokenomics is structured in this way with multiple layers. Each Verse Builder can build its own ecosystem of token utilities, the total number of tokens issued, allocations, etc., according to the characteristics of its Verse. For example, a permissionless Verse can set gas fees as the Verse Token utility, while a Verse, which limits deployments to only its own IP content to preserve its worldview, can provide tokens to existing fans. Games and Dapps can also issue tokens, and the tokenomics can be designed optimally for each game or Dapp. For example, an MMORPG can grant tokens based on a user's contribution to the community, whereas a casual game can grant tokens for completing the game, and so on.

Token Utilities

Oasys' native token is the OAS token which is the highest level token in the entire Oasys ecosystem and is issued on the Oasys public chain to maximize Oasys Tokenomics. And the total supply at launch is 10 billion tokens. Six years after the mainnet launch, OAS token holders will determine the additional supply of staking rewards through decentralized governance.

OAS tokens have the following utilities.

1. Gas Fees

Due to the architecture of Oasys, the performer of the contract pays gas fees when rolling up transactions from a Verse Layer to the Hub Layer, when using a Bridge contract, or when running a contract on the Hub Layer.

Gas fees for rolling up are paid by Verse Builder, and as the Oasys ecosystem grows, the more Verse Layers and the more Transactions per Verse, the higher the gas fees. However, Oasys is designed so that the increase in gas fees will be gradual. By accelerating the growth of Verse Builder's business through the growth of the entire ecosystem, the disadvantage of rising gas fees is minimal.

2. Verse Building Deposits

Anyone can build a Verse if they deposit more than 1 million OAS toward the verse contract. By imposing a certain amount of initial Verse Building Deposits, the ecosystem can be soundly expanded to prevent the sprawl of scammy Verses and to ensure a long-term commitment by Verse Builders.

3. Decentralized Governance

OAS token holders can participate in Oasys' decision-making through decentralized governance. Proposals include changes in inflation rates through staking, treasury uses, Vote to decide which contract to build on Hub-Layer, etc.

4. Staking Rewards

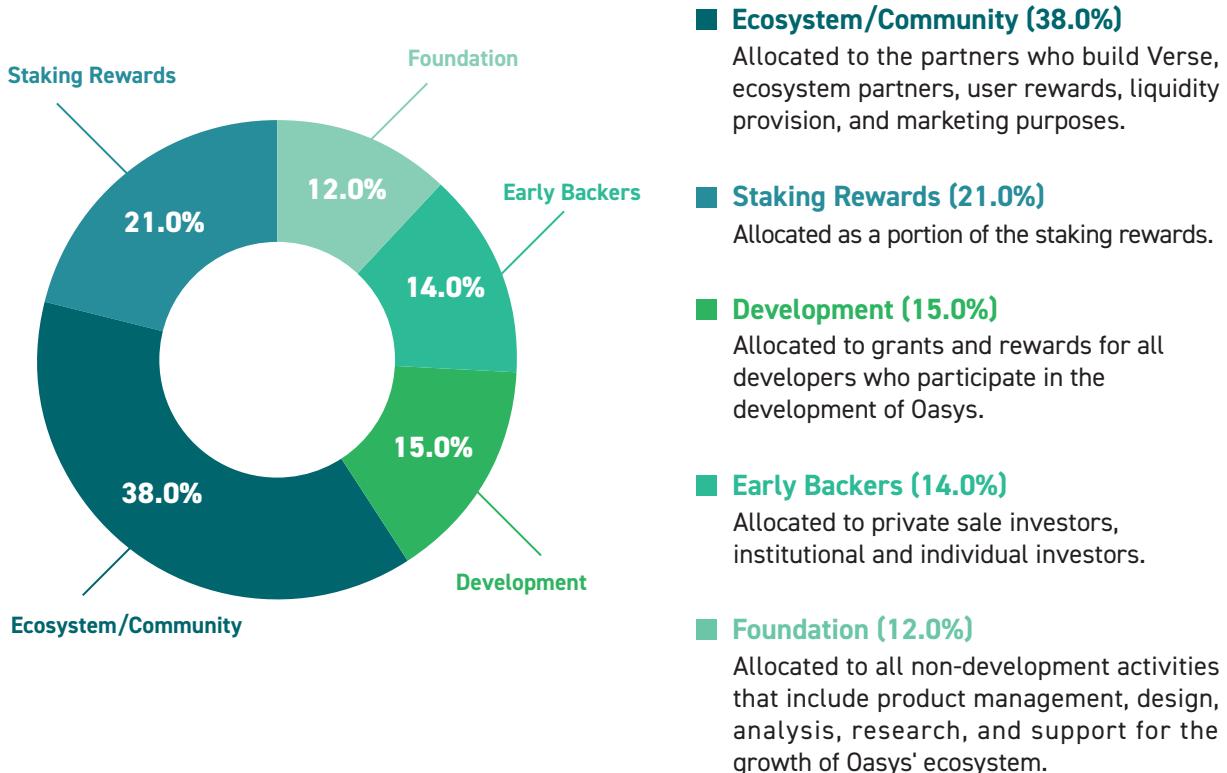
Staking OAS tokens allows you to receive staking rewards. Anyone staking 10 million OAS or more through a validator contract can become a validator.

5. Payment

In many games, a large number of micropayments are made daily through primary distribution of digital content. In the Oasys ecosystem, OAS tokens can be used for many micropayments in and out of the games. OAS tokens will serve as the key currency in the entire Oasys ecosystem. This is similar to the way ETH tokens stand in the Ethereum ecosystem.

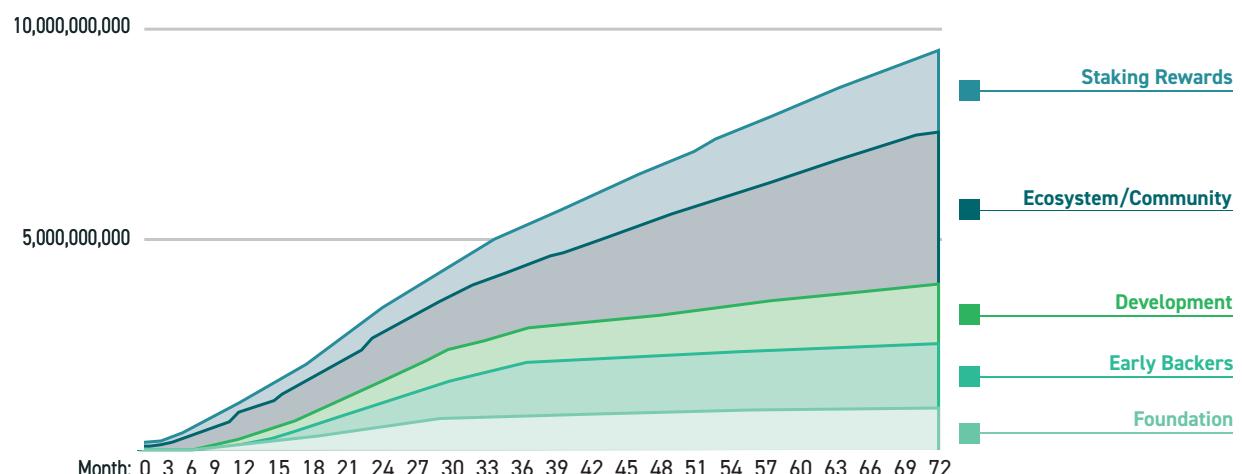
Initial Token Allocation

The total initial supply is 10 billion OAS tokens which will be distributed according to the following allocations.



Token Supply Curve

Circulating supply must be a well-balanced design that considers the long-term growth and sustainability of Oasys.



7. Governance

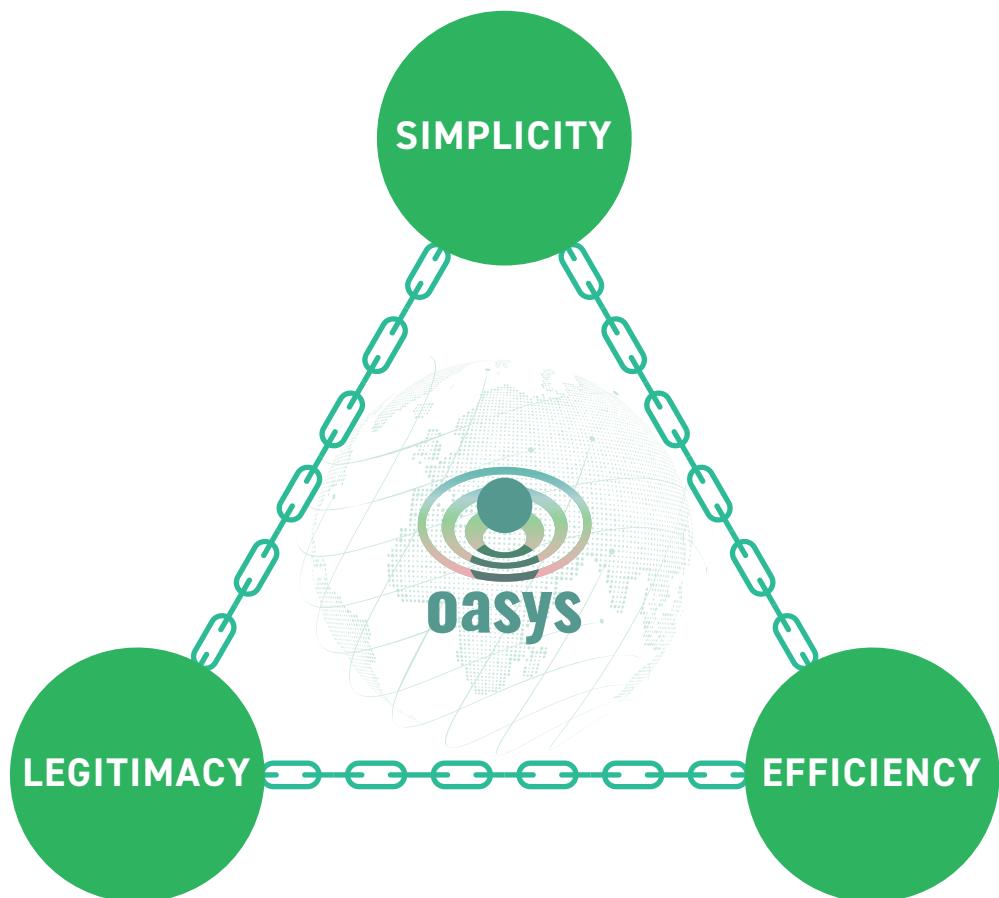
Overview

Oasys employs sophisticated decentralized governance and operates in an autonomous decentralized manner through the use of tokens.

It is designed as community-driven on-chain governance. Specifically, Oasys uses an indirect democratic approach that combines decision-making by a referendum and a council. The council is independent of the token holders and composed of members elected and delegated by the community. This governance mechanism keeps the legitimacy of decision-making while maintaining decentralization.

Principle

Oasys' governance is designed with the following three principles.



1. Simplicity

Complex governance mechanisms lead to a lower turnout of voters and make it less robust. Therefore, the design should be simple to make it easy for token holders to participate in governance.

2. Legitimacy

It is difficult to confirm the legitimacy of a decision without incorporating an evaluation by experts or knowledgeable people in the decision-making process. Oasys creates legitimacy in decision-making by indirect democracy.

3. Efficiency

The decision-making process takes time. Even if it takes time, most decisions should be carefully made by voting. However, some decisions need to be resolved quickly, such as when a critical bug is found on the network. Therefore, it is necessary to design an efficient system that can respond flexibly without significantly compromising decentralization

Decision-making Bodies

1. OAS Token Holders

Any holders of OAS tokens can participate in decentralized governance. There are two ways to participate: proposal and voting.

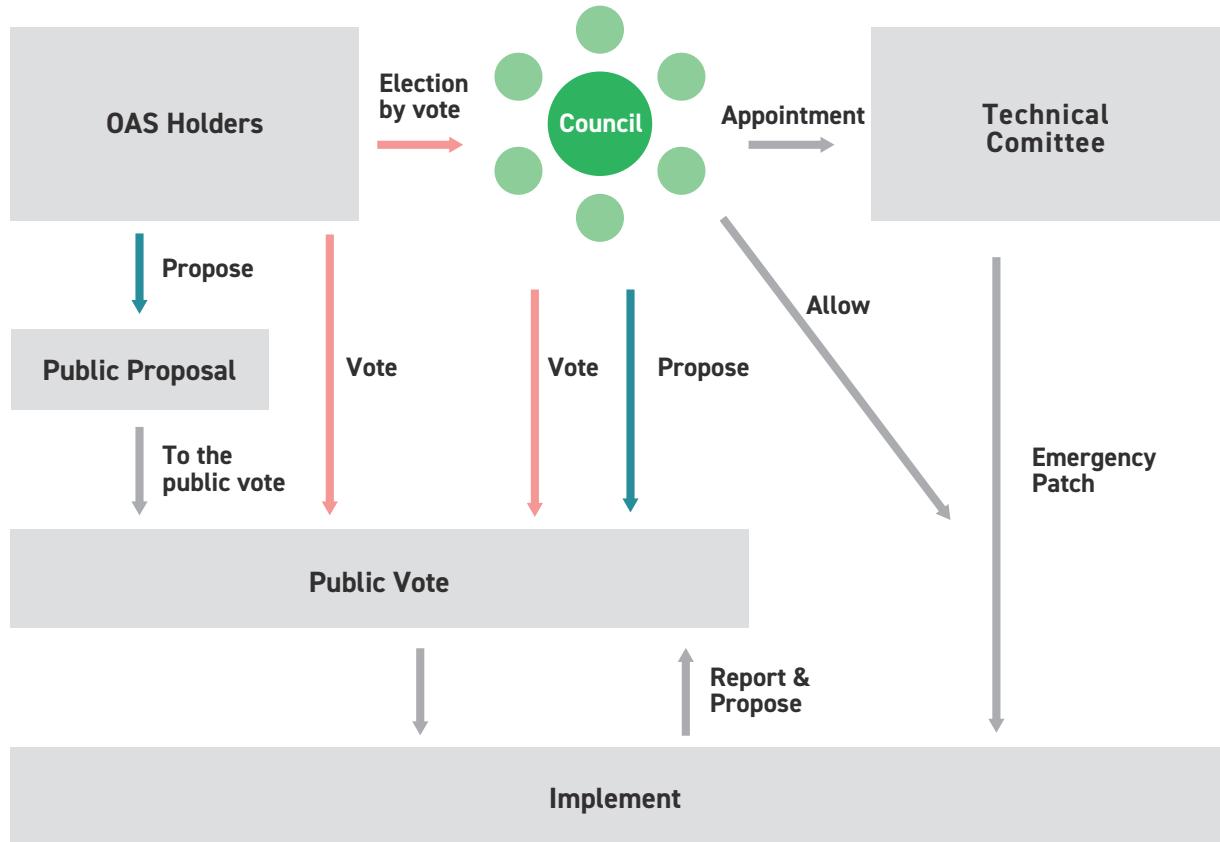
2. Council

The council is composed of members elected and delegated by the community. It is mainly responsible for submitting council proposals and approving public and technical proposals. The maximum number of council members is twenty-one, and their term of service is two years.

3. Technical Committee

The committee comprises members who developed Oasys. The people who excel at certain technologies are selected by the council. In case of emergencies, the committee is responsible for fixing bugs following the technical proposal. Same as the council, the committee members can be added or removed by a majority council vote.

Proposals



1. Public Proposal

You can have the right to submit a proposal to the forum as you stake OAS tokens. The token holders and the council need to approve the proposal to be adopted. The proposal will be quickly incorporated into the development schedule as soon as approval is granted.

2. Council Proposal

This is a proposal by the council. Since the council has already approved it, it only needs to be approved by the token holders to be implemented. The proposal will be quickly incorporated into the development schedule as soon as approval is granted.

3. Emergency Proposal

This is for emergency patching in case of bugs or defects. In order to resolve problems quickly with implementation, only a proposal needs to be submitted to the Council. However, it is obligatory to make a Public Proposal after the implementation is completed.

8. Founding Team & Partners

Founding Team Members

Oasys is founded by the industry's top game developers and Web3 companies and organizations. The Founding Team is formed by representatives from these companies and organizations.



Gabby Dizon —— Co-Founder of play-to-earn gaming guild, Yield Guild Games.

Hajime Nakatani —— President and CEO of Bandai Namco Research.

Hironobu Ueno —— CEO of double jump.tokyo.

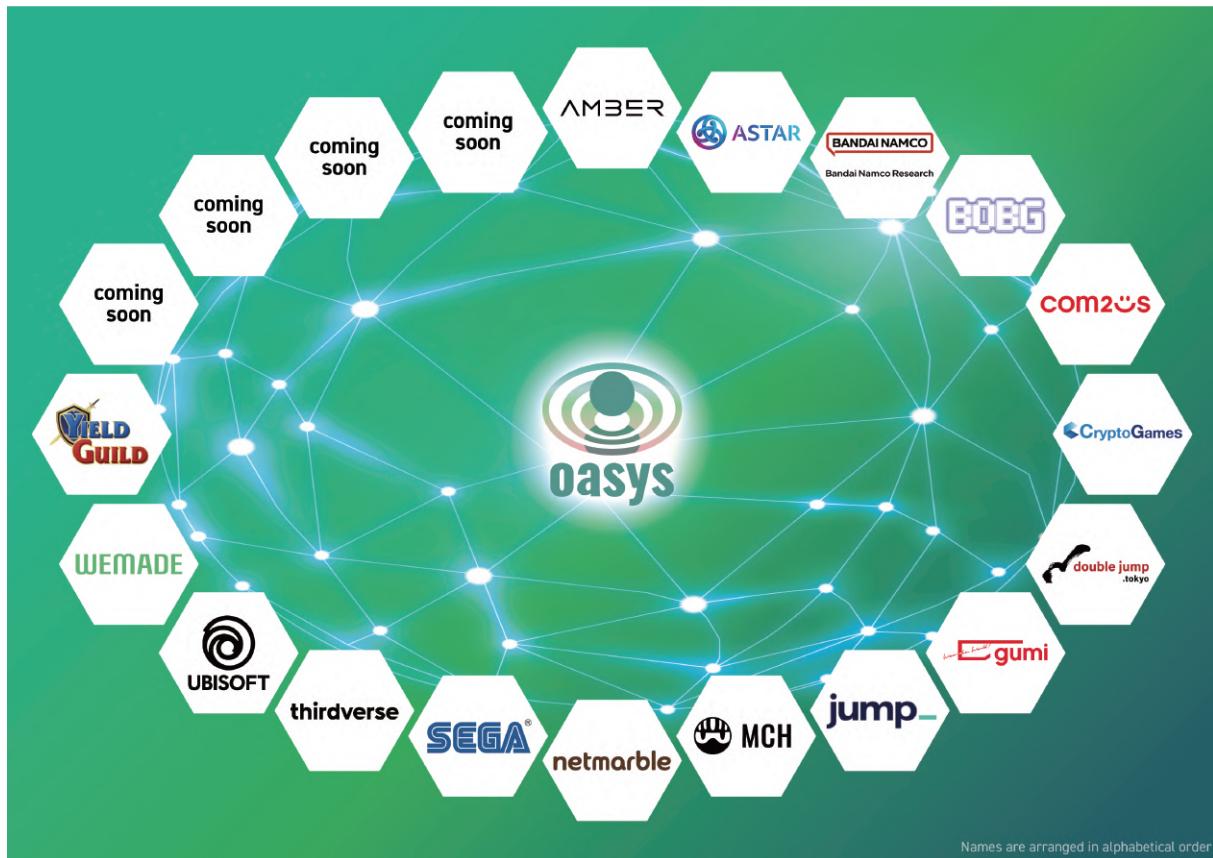
Hironao Kunimitsu — Founder of gumi and CEO of Thirdverse.

Shuji Utsumi —— entertainment business innovator and founding member of PlayStation, co-founder of Q Entertainment, and currently Co-COO of SEGA CORPORATION.

Initial Validators

Start with 21 validators from the world's leading game developers and blockchain technology companies.

After the launch of Oasys' mainnet, we plan to allow more than 21 validators.



NEXT PAGE

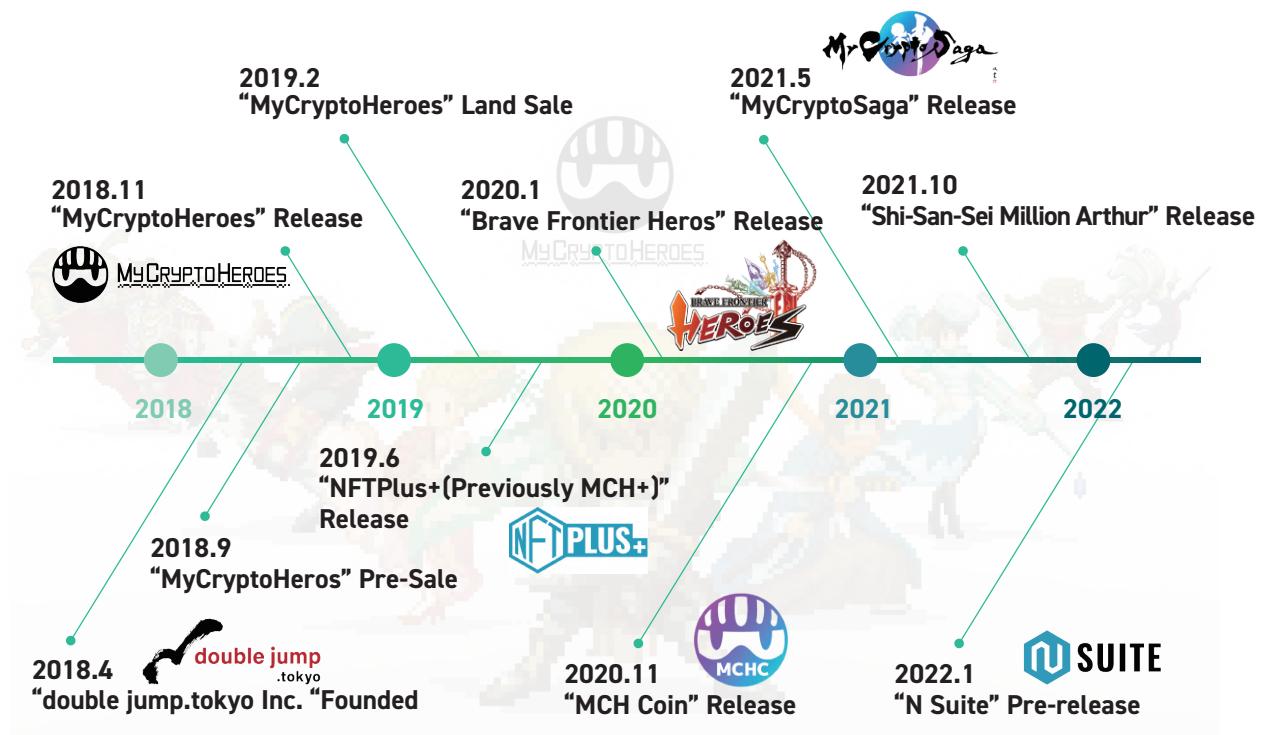
Developers

Oasys is developed by three organizations that have been developing and operating blockchain games and blockchain services since 2018.

Developer	Crypto Projects			
 double jump.tokyo				
 CryptoGames	 NFTStudio		 TCG Verse	
 MCH	 		 MyCRYPTOHEROES	

double jump.tokyo Inc. is the primary developer of Oasys, which has developed and operated several blockchain games and blockchain services, including My Crypto Heros.

History of double jump.tokyo Inc.



9. Appendix

Profile

Entity Name	OASYS PTE. LTD.
Main Address	16 RAFFLES QUAY #16-05, HONG LEONG BUILDING, Singapore, 048581
	http://www.oasys.games/
	https://github.com/oasysgames
	https://twitter.com/oasys_games
	https://discord.gg/3ysgR3yw8z
	https://medium.com/@oasys

NEXT PAGE

Disclaimers

In relation to any and all information specified in this whitepaper, you hereby unconditionally and irrevocably accept and agree to the following.

No Viewing in a Restricted Territory

It may not be lawful for individuals or certain categories of individuals in certain jurisdictions to view this document. Individuals who view this document must first confirm they are not subject to any laws or regulations that prohibit or restricts them from viewing this document.

In particular, unless permitted by any applicable laws and regulations, any offering of the tokens mentioned in this document should not be made, nor any documents should be sent, directly or indirectly, in or into, countries where participating in the sale of the Tokens are prohibited.

Oasys shall not be responsible for individuals who access this document from any jurisdiction, the laws or regulations which prohibit or restrict such access.

Information only

This whitepaper published by Oasys is provided for information purposes only without any kind of warranties including the following. Any conclusion or business plan found in this whitepaper is not guaranteed in its accuracy or completeness and no representations and warranties whether express or implied are made.

1. No warranty of merchantability, no warranty of fitness for a particular purpose, no warranty of the title or non-infringement
2. No warranty that this whitepaper contains no error and that it is proper for any kind of purpose
3. No warranty that such contents do not infringe upon the right of any third party

All warranties are hereby expressly disclaimed. The Writer Parties shall not be responsible for any and all kinds of loss or damage (including, but not limited to, direct, indirect, special or consequential loss, actual or conclusive loss, and damages, and collectively hereinafter referred as "damage") that arise as a result of any use, error, omission, reference, dependence, the reliance of any information contained in this whitepaper.

This whitepaper may be modified or amended, and the latest version hereof will be distributed through the representative website. No notification will be provided in each and all modification or amendment to the white paper.

This whitepaper is provided for information only, and it is essentially a business proposal and shall not be legally binding in any case.

Information such as reports specified within this whitepaper contains estimates for the future as prospective in nature, and as it contains uncertainties as they are yet unknown, there may be crucial disparities between those estimates and the actual result. The information contained in this whitepaper may include statements that are deemed to be "forward-looking statements," which are not statements of historical facts. These forward-looking statements inherently contain risks and uncertainties as they relate to events or circumstances in the future. Accordingly, any information, opinions, and prospective information including estimates, if contained herein, in relation to the expected vision maps, roadmaps, development, and anticipated conditions and performances of the relevant entities, are subject to update, expansion, revision, independent verification, and amendment.

The Writer Parties, except otherwise required by any law, expressly make no undertaking to update or amend any forward-looking statements and make no representation or warranty that any events mentioned in those forward-looking statements will actually occur in reality. The Writer Parties intend to achieve all goals specified in this whitepaper but in the event of any unpredicted circumstances, such goals may not be achieved and the Writer Parties do not bear any responsibility or obligation to notify you in such cases.

No Offer

All information contained in this whitepaper is not intended for information for an offer or solicitation of investment in any specific form or is not a proposal or an offer to solicit the purchase of any form of securities in any jurisdiction. It is for information purposes only to promote understanding of the business.

This whitepaper does not constitute or form, and is not intended to be, an offer or solicitation of an offer to buy or sell, subscribe for, underwrite or purchase any form of investment or securities or other financial instruments, nor shall it or any part of it form the basis of, or be relied upon, in any way in connection with, any contract or investment decision relating to the same.

No Advice

No content contained in this whitepaper constitutes any legal, financial, tax or other advice. You must conduct your own due diligence and shall comply with all local laws relating to virtual assets, taxes, securities and other regulations of the respective jurisdiction. You hereby fully acknowledge and agree that you are encouraged to independently consult with professional consultants.

No Agreement

This whitepaper shall not form any basis of investment decision or decision to enter into any contract, and shall not be relied on in any case.

No Advertisement

This whitepaper is for general information purposes only, and it does not consist of any promotional material and shall not be used to propose or solicit subscription or investment on behalf of the Token issuer.

The distribution of this whitepaper may be restricted or prohibited by the applicable laws or government authority of a jurisdiction. Any recipient of this whitepaper shall acknowledge and comply with all such restrictions or prohibitions, and the Writer Parties shall never be liable for any party in relation to the foregoing.

Regulatory Risks

This whitepaper is not prepared pursuant to any judicial jurisdiction, regulation or act of any specific country, and no regulatory authority or government entity has examined or approved this whitepaper.

No act, regulation or regime with respect to virtual assets, blockchain games and relevant applications have been introduced or implemented in numerous jurisdictions around the world. If any regulatory authority or government entity introduces any laws or regulations to regulate such virtual assets, blockchain games and relevant applications, or makes changes to existing laws, regulations and/or rules, it may have a material adverse effect to any individuals or entities in relation to this whitepaper or the Tokens, and it may disable the implementation or operation of plans as referred to in this whitepaper, and/or impair the ability of any relevant entity referred to in this whitepaper to function or operate as intended, or at all.

Market Volatility

Any relevant blockchain system or tokens may become no longer commercially viable or operable where there may be changes in political, societal, economic, or stock or virtual asset market conditions, or where the market value of, or the demand for, virtual assets or the relevant blockchain systems may go down or become trivial.

Other Disclaimers

Even with their best efforts, the Writer Parties may not be able to implement or maintain the objectives, business strategies, and plans as specified in this whitepaper. The vision map and roadmap specified in this whitepaper has been prepared on the basis of the current technical infrastructure and know-hows, but there may be potential business or technical barriers in the future which might impair or disable their actual operation.

This whitepaper is a document containing certain information about the Writer Parties and the content hereof is subject to change in accordance with changes in the relevant laws and regulations, business circumstances and industry prospects, or the judgment of the management body, etc.

To the fullest extent permitted by applicable laws, no Writer Parties shall be liable for any liability, claim, demand, loss or damage (including, but not limited to, negligence claims) arising out of or in any way related to your acceptance or reliance on the information contained in this whitepaper regardless of whether you have been advised of the possibility of such damages.

If any references have been made to any third-party website or information source, we may not have sought further verification on the accuracy, completeness and timeliness of the information specified therein, and no warranties of any kind are made with respect to the same.

With respect to your purchase, exchange or acquisition of any Tokens, if any, you are hereby deemed to fully understand and agree as follows:

1. Virtual assets, including the Tokens, have no limit to their upper/lower limit price, and have demonstrated extreme volatility in their values in accordance with various factors such as speculative demands or changes in domestic or international regulatory conditions, having unique characteristics related to the market conditions of a 24/7/365 worldwide transaction service.
2. It is at your own risk and responsibility with respect to any investment decisions in virtual assets, and any and all possible losses and damages will be borne solely by you.
3. No warranties whatsoever with respect to the Tokens or their values are made or secured by any government, the Writer Parties or any third party.
4. The Tokens are not to constitute capital market products such as securities or derivatives of any form, and they are not issued or registered under any Security Act or other similar laws of any specific country or jurisdiction in which any potential holder of the Tokens is located.
5. You shall not, are not eligible to, sell or use the Token in and from any jurisdiction in which any sale or use of certain digital currencies, digital assets, virtual assets or cryptocurrencies is prohibited, and any person in violation of such shall be solely responsible for such violation, and the Oasys and its relevant parties shall not be responsible for any such cases.

Reference

- 1) TechNavio, Global Blockchain Market, 2020
- 2) CoinGecko, 2021 Yearly Cryptocurrency Report
- 3) DappRadar, Dapp Industry Overview: August 2021, 2021.08
- 4) DappRadar, BGA Blockchain Game Report Q3 2021, 2021.10.14
- 5) Newzoo - Global Games Market Report