Sanpō Token Whitepaper

Executive Summary

Sanpo Association

- Based in Tokyo
- Develop Sanpō's technology infrastructure and promote content business development
- Promoting the global standard token business used for Sanpō content trading, etc.

Safe and secure content business infrastructure

- **Blockchain：Sanpō Blockchain**
- **Token : Sanpō Token（SPT）**

Evolution of the digital content market

- Distribute content around the world through a distributed co-creation network
- Bringing content protection and content data persistence to achieve mass adoption of WEB3

Fundraising with Sanpō Token

- Listing on the global market Fall-Winter 2023
  Expected 50M USD～

Background

- **Nearly all blockchain infrastructures are optimized for financial services.** A simple example of this is the existence of a transaction fee (GAS).
  In financial services, transactions are mission-critical, involving the movement of money, such as remittances and transfers, and it is only natural that payments are made directly for these services.

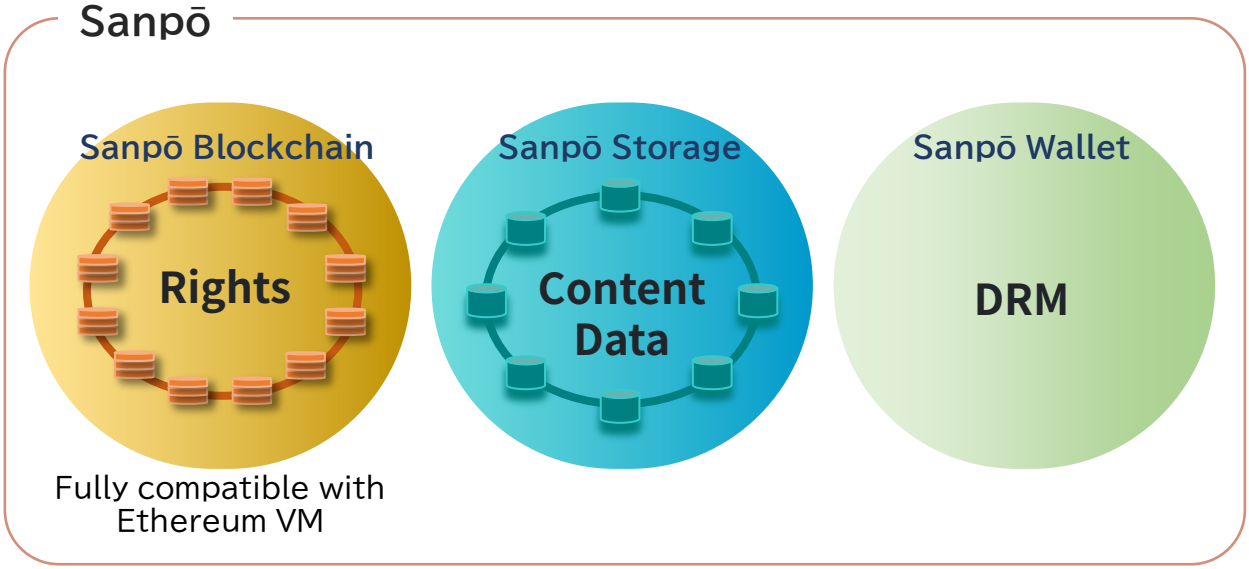
- **However, in the content business, it is not necessarily the case that an infrastructure optimized for financial services** is the optimal solution, and we have devised an infrastructure that is considered to be the optimal solution. The network opened to the public in fall 2021 as an Open Source project.

What is Sanpō?

Sanpō : Network infrastructure for content business

- Preserve terms, rights, and contract information on public blockchains (transaction fees are completely free)
- Blockchain-linked public storage prevents content data loss
- Deterring unauthorized content infringement by incorporating DRM technology into the wallet

The Japanese word 'sanpo yoshi', which is the origin of the word Sanpō, means that business activities must be carried out in a way that satisfies three sides: good for oneself, good for the other party, and good for society.

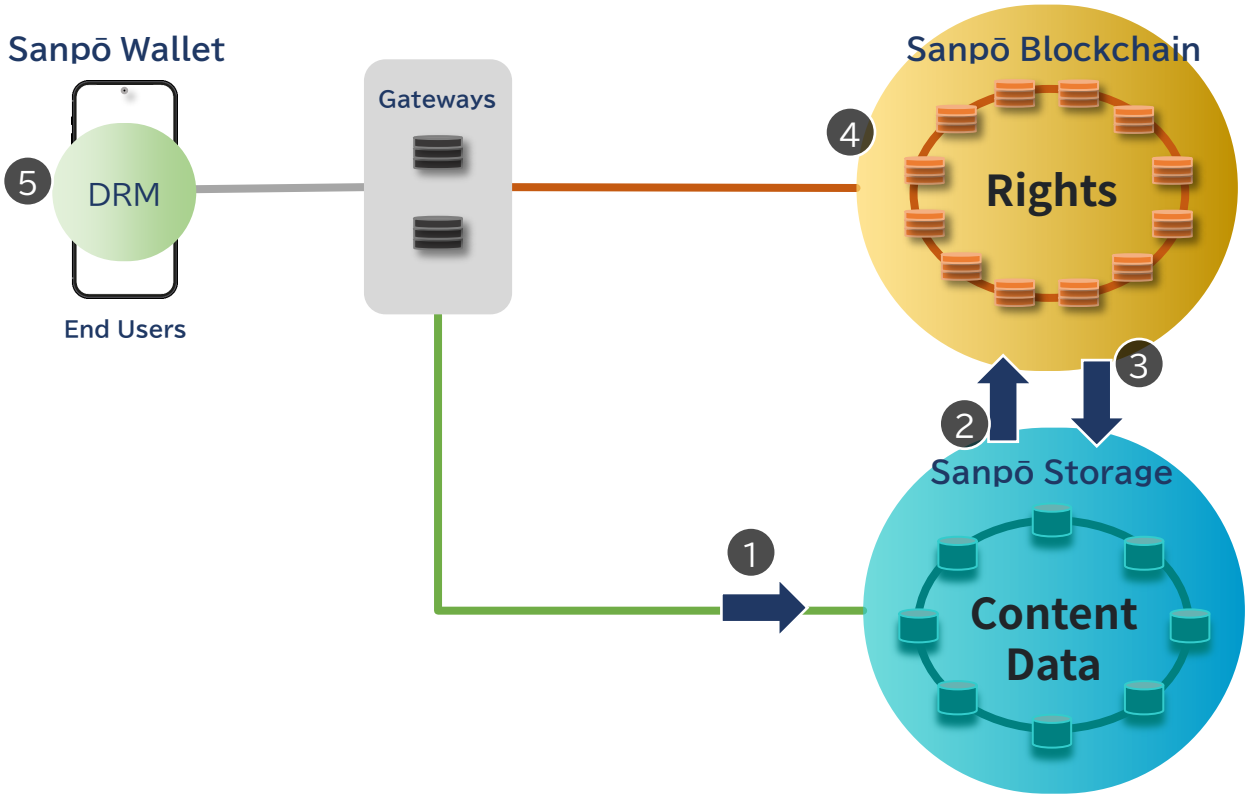


Complete services for web3 content

What is Sanpō?

Content Data Service

Service	Explanation
① Content data is stored in Distributed public storage	• Check the latest list of public storage operators registered on the blockchain and request storage of eligible operators to store data. • Data storage performers are selected from among eligible operators in a round-robin fashion on a case-by-case basis. • Data to be saved (moving images, images, audio) is subjected to a virus check, encrypted and saved in the storage. (Encryption prevents unauthorized access)
② Register data storage history in blockchain	• Meta information (storage ID, storage capacity, data type, file name, success or failure of saving) of content data saved in public storage is registered in the blockchain.
③ Grant SPT to storage operator	• Sanpō Token(SPT) is given to the storage operator according to the amount of data stored.
④ Update storage operator information	• Update public storage operator list and register on blockchain. • Conduct a review vote on the amount of compensation for the storage operator.
⑤ DRM protection when playing content	• Provide a wallet that incorporates DRM technology to prevent unfair infringement of copyrights and other rights held by content publishers (using WideVine/FairPlay)



What is Sanpō?

SPT(Sanpō Token)

- Token for content business. The token with a basic design different from the token implemented in the blockchain that focuses on financial services was born. That is the Sanpō Token.

SPT(Sanpō Token)	General blockchain
Service Fee	GAS (Transaction Fee)
Usage fees for applications and content services	Network usage fees paid to blockchain node operators
Deposit	
User deposits tokens to enable application functionality provided on the blockchain	
Providing file storage	Staking/Mining
Get rewarded for providing file storage	Mechanism for contributing to the maintenance of the blockchain and earning rewards

What is Sanpō?

Comparison of Sanpō and other platforms

- Various reports from the Japanese government and ruling parties mention Sanpō Blockchain as a recommended practice for content protection and content data persistence.

Comparison with other blockchain platforms that focus on the use of content areas

point of view		Sanpō	Oasys	FLOW
Business	On-chain data storage	○ **No transaction fees Flexible on-chain data storage**	○ No fee for Layer2	△ low fees
	Persistence of content data	○ **Permanent storage of media data in public storage**	△ Build a separate file server	△ Build a separate file server
	Providing NFT apps	○ **Ethereum-based**	○ Ethereum-based	△ Proprietary specification using Cadence language and high threshold
Infrastructure	Network persistence	○ **Distributed joint operation by JCBI and open source community**	△ In principle, it is necessary to build a unique Layer2 network for each application	△ Centralized operation by Dppar Labs
	Development organization	○ **Developed by JCBI and the open source community**	○ Open source development by Oasys Project	○ Open source development by Dppar Labs

What is Sanpō?

Examples of business models and use cases

Content registration

- Product registration

MANGA/
ANIME

MUSIC

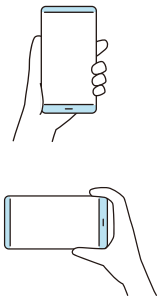
OHTER

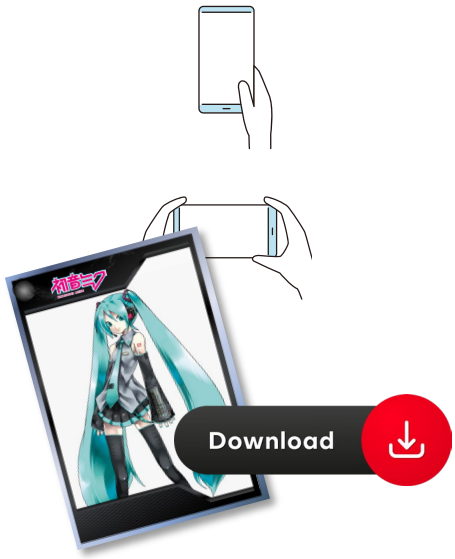
Content screening by national agents

- Determining delivery products
- Site provided in each country's language

NFT purchase = Streaming

- NFT = Buy streaming viewing rights.
- With rights to download copyrighted images





Origin of character image : https://piapro.net/pages/character

Sanpō Wallet

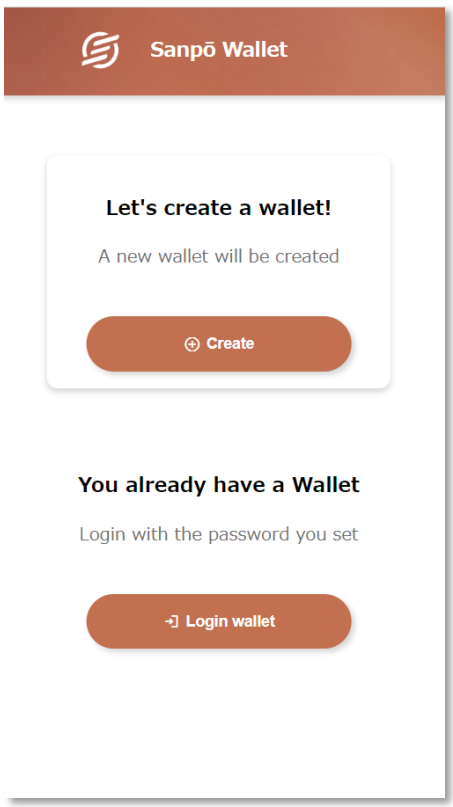
- **Activate NFT service with Sanpō tokens**
  By depositing a certain amount of Sanpō tokens into the Sanpō wallet, it is possible to store data in decentralized public storage and issue NFTs.

- **Content protection**
  Unauthorized copying by DRM technology is deterred when the issued NFT is played on the wallet.

  Examples of DRMs

  WIDEVINE FairPlay

- **Target number of accounts for the first few years: 10 million**

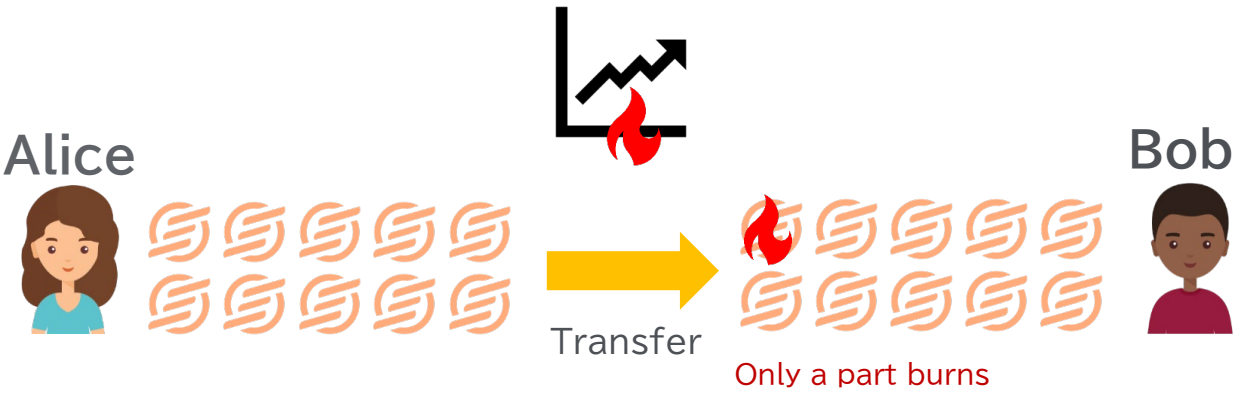


Token Specification

- **Token Name** : Sanpō Token (symbol:SPT)
- **Total amount of issue** : 200,000,000
- **Characteristics**

  Sanpō Tokens are ERC-20 model tokens with a partial token burn for each token transmission.

  The burn rate can be changed by a vote of the holders of a majority of the total token supply.



Finally, when total supply reaches 20,000,000 (= 10% of initial total supply), the burn rate is permanently changed to zero.

Token Specification

Elements	Contents
Token Name	Sanpō Token
Ticker code	SPT
Date of Issue	March 1, 2023
Issue ceiling	200 million Issue. Limit will be progressively lowered by the Burn function and eventually fixed at 20 million.
Main Purpose of Use	Payment related to content services Use of technical services related to content services
Technical Basis for Distributed Networks	Go Ethereum (PoA algorithm:Clique)
Characteristics of Distributed Networks	It is a blockchain infrastructure focused on the content industry, with no transaction fees. The network uses a PoA consensus algorithm, and Authority Nodes are operated by multiple companies that provide content distribution services. At the same time, nodes in the network are free to participate in the network as nodes without validation (only receiving data). If a majority of the nodes collude, it is theoretically possible to create another chain in the network so that the records of that chain are considered correct.
Validator	Decentralized management by 7 organizations (as of March 2023)
Token Price	To be determined after listing on the exchange
trade unit designation	SP
Minimum Unit	1 san (0.000000000000000001SP)
Issuing Entity	Sanpō Technology Association, Inc. It was co-founded by the board of directors of SingulaNet Corporation (headquartered in Tokyo, Japan), which has been developing the Sanpō blockchain since 2019, and Original Corporation (headquartered in Shanghai, China), which specializes in copyright services and other services.
Location of the issuing entity	Atlas Building THE HUB Azabujuban, 1-5-10 Azabujuban, Minato-ku, Tokyo
Attributes of the Issuing Entity	General Incorporated Association
Issuer Profile	A jointly established corporation by the board members of blockchain technology developer SingulaNet Corporation (headquartered in Japan) and Original Corporation (headquartered in China).Supporting the maintenance and development of the network through the operation of the blockchain network, research, development and open source donation of blockchain software.
Method of issue	Bulk issue when deploying smart contracts
Confidentiality of Holder's Personal Data	Only the information of the address will be made public, not personal information.
Signature Format	Elliptic curve cryptography (secp256k1) public/private key scheme

Token Function

Funciton	Processing
Token Isuue	● Issue the token
Token Transfer	● Transfer token Check. ● Token Transfer Permission Grant Amount. ● Defines the total amount of tokens that can be transferred by others. ● Someone else transfers the token
Burn Rate Setting	● Suggest a burn rate. ● Take a burn rate vote. ● Close Burn Rate Voting. ● Cancel Burn Rate Voting.
Referencing Basic Token Information	● Get token name. ● Get token symbol. ● Get the definition of the number of digits after the decimal point of the token. ● Get the current total token supply. ● Get the amount of tokens held by each account.
Referecing Burn Rate	● Get the latest burn rate. ● Get burn rate history.
Referecing Burn Rate Voting Information	● Get the burn rate vote definition information. ● Check if a user has voted for a specific burn rate. ● Get a list of users who have voted for burn rate. ● Get burn rate voting participation history per user. ● Get the date when a burn rate voter's token will beunlocked. ● Get burn rate proposal history.

Sanpō token is designed so that the token is always burned when updating functions are executed, but the burn rate can be changed by token holders' votes. In order to propose a new Burn Rate, it is necessary to hold 100,000 SP or more tokens, and it will be passed if a majority of the total token issuance has voted in favor within 30 days after the proposal.
If the vote is passed, it will be possible to apply the Burn Rate from 10 minutes after the completion deadline, but after 72 hours or more from the completion deadline, the function to apply the Burn Rate will not be able to execute. This is to prevent malicious users from creating Burn Rate inventory and trading in their favor.
When executing approve, if the amount of allowance is 10,000 or more, the calculation of Burn Amount follows the formula below. Burn Amount = Allowance × Burn Rate
On the other hand, the calculation of Burn Amount when the allowance is less than 10,000 follows the formula below. Burn Amount = 10,000 san × Burn Rate
However, there is a minimum amount limit for Transfer, and you cannot Transfer less than 10,000 san tokens.

Token Function

Sanpō Token Vulnerability Assessment Result Report
No threat remains.

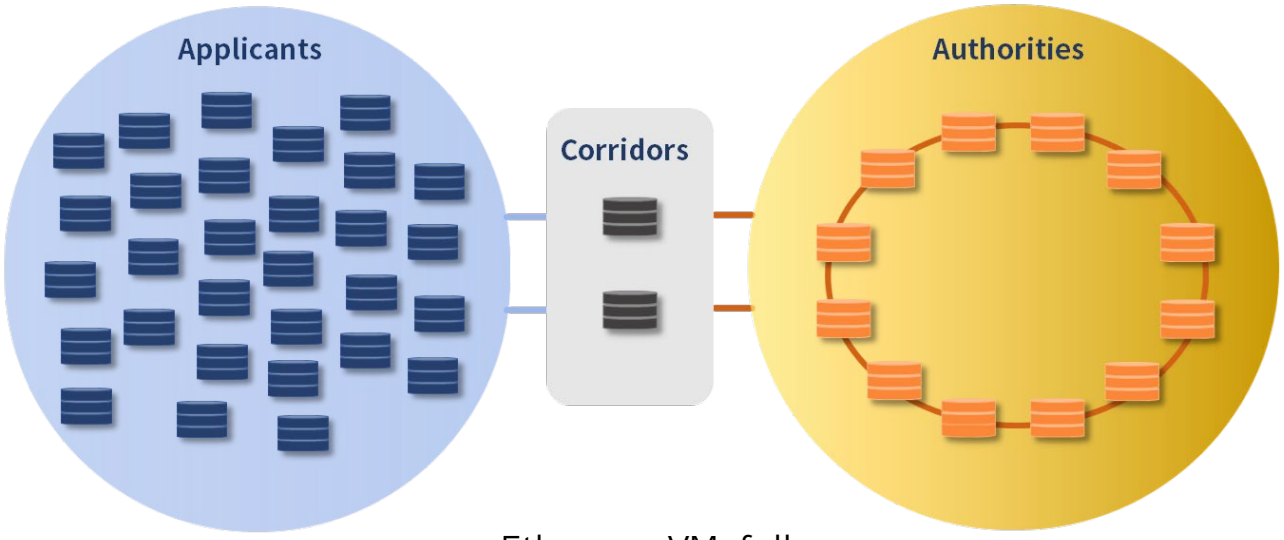
（Reassessment）

※ MIRAI token is a codename under development

Blockchain Specification

- Sanpō Blockchain adopts a rather complex network configuration as a security infrastructure for its network. In general, a public blockchain consists of a single network, and adopts reward payment (= incentive type) algorithms such as PoW and PoS for its synchronization method.

- However, Sanpō Blockchain has a vision of a blockchain for content business, and does not adopt a network that is premised on transaction fees.
  Instead, connect and operate two networks: a validator network (=Authorities) for updating data that adopts the PoA algorithm and a network for viewing data (=Applicants) in which anyone can participate as a node operator. This realizes an energy-saving and highly secure network.



Ethereum VM fully compatible

Blockchain Specification

The requirements for these node operators are as follows.

Requirements	Applicant	Authority	Corridor
Building a Blockchain node	✔	✔	✔
Continuous operation of Blockchain nodes	✔	✔	✔
24/7 monitoring of Blockchain nodes		✔	✔
Keep Slack's Authorities community informed when a Blockchain node fails		✔	✔
Start investigation within 3 hours after detection of Blockchain node failure		✔	✔
Start restoration work within 6 hours after starting investigation of Blockchain nodes		✔	✔
Implementation of server environment security diagnosis (load test/DDoS simulation test)		✔	✔
WEB vulnerability diagnosis (use of OWASP/ZAP, etc.)			✔
Blockchain node technology research and source code sharing to the open source community			✔
Publishing a node's operator name or organization name		✔	✔
Public disclosure of Corridor IP addresses			✔

Blockchain Specification

Number of transactions per second

Sanpō Blockchain can stably process approximately 1,000 transactions per second.
Reference: Function-Level Bottleneck Analysis of Private Proof-of-Authority Ethereum Blockchain
https://ieeexplore.ieee.org/document/9146870

The above analysis is the result of a joint analysis by A*STAR SIMTech of Singapore and SingulaNet of Japan on the processing capability of Ethereum's PoA algorithm. Issues such as insufficient utilization of parallel operation of CPU cores in the process of decrypting keys have been identified.By solving these problems, the Sanpō Blockchain is aiming to be able to execute 10,000 transactions per second in the future.

Blockchain and Token

VulnerabilityCountermeasuresThe Sanpō Blockchain functions as a combination of two networks: the Authorities network, which employs the PoA consensus algorithm, and the Applicants network, which is composed of nodes that can freely participate without having the right to establish blocks.
In order to connect a node to the Authorities network, it is necessary to obtain the approval of a majority of existing Authorities node operators (= validators). In addition, each validator must clearly indicate the existence of the responsible person by submitting information such as contact information and organization affiliation to the Authorities community. In this way, the effectiveness of mutual oversight of validators is maintained.
Node operators belonging to the Applicants network do not hold validation authority to finalize blocks, but they can hold all data in the blockchain.
WEB applications can execute transactions on the Sanpō Blockchain by sending transactions to nodes that act as a bridge between the Applicants network and the Authorities network, called Corridor nodes, regardless of whether they operate these nodes.
By adopting such a network configuration, we are developing a progressive network that combines the characteristics of a PoA network with high security strength and a public network.
MIRAI Token is a utility token based on ERC20 with extended functions of Burn. Its security strength has undergone a vulnerability inspection by GMO Cybersecurity by Ierae, Inc., and has been confirmed to be a secure smart contract. The specific security design policy is in line with the security guidelines published by CoinBase.

Token Security Guideline

1. You have uploaded your source code to a trusted platform
2. Add code to easy-to-share repositories
3. If it can be upgraded, it is a separate release
4. Use of common and well-tested standard implementations
5. If it includes functions other than tokens, it complies with the relevant EIP for that function
6. Prohibition of asset freezing, asset loss, and asset transfer without permission
7. Require user consent for token upgrade process
8. If IDs 6 and 7 cannot be achieved, there is a document with a key management system in the form of 'management by a third party + keys do not appear until a quorum is available'
9. The contract should be separated to include only the functions related to the token, and the functions included in the token contract should be kept to a minimum.
10. Reduce dependencies on external tokens
11. The contract used to implement the token is not redundant
12. Externally audited
13. A project details document exists that describes what is required
14. NatSpec is used
15. Correspondence between code and documentation
16. Solidity version is the latest stable
17. If you need to interoperate with contracts below 0.5.0, define an interface
18. Fixed Solidity version for all contracts
19. Basic unit tests are performed for each function
20. End-to-end testing for critical flows
21. Use of automated testing tools

Roadmap

2022

Test Net/Main Net Launch

Content-NFT Publication of reference implementations

Sanpō Blockchain explorer

Reference implementation of a simple version of Content-NFT

Sanpō Validator DAO Operation Start

MIRAI Token Development

2023

Sanpō Token Launch

Sanpo Wallet Launch

Sanpō token exchange listing (overseas)

2024

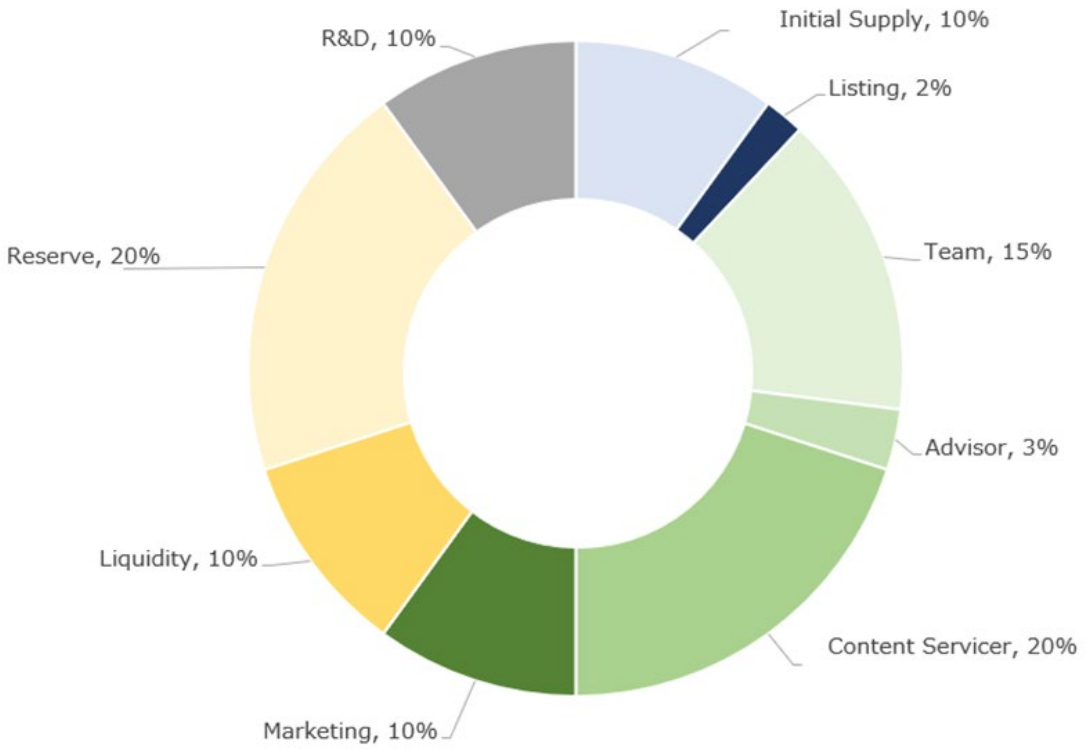
Sanpō Wallet DRM implementation

Sanpō token exchange listing (Japan)

Start using Sanpō token payment

Token Allocation

Allocation



Basting

Team

Event	Fixed Rate
Launch of services for businesses using SPT	20%
Launch of personalized services using SPT	20%
Listing on the Japanese Crypto Asset Exchange	20%
Listing on crypto asset exchanges outside Japan	20%
Listing on a crypto asset exchange outside of Japan (2nd country)	20%

Other Parties Involved at initial sale

20% vests every 180 days from the date the tokens are allocated (initial unlocking of the lockup is contingent upon listing on the first exchange, repeated every period thereafter).

The definition of Besting after the initial sale will be published after it is decided.